CONSULTING EARTH SCIENTISTS

STAGE 1 PRELIMINARY SITE INVESTIGATION:
LOT A BURLEY ROAD, HORSLEY PARK EMPLOYMENT PRECINCT, NSW

PREPARED FOR JACFIN PTY LTD

REPORT ID: CES100606-JBA-01-F
Revision: 0.4

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Document Control

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EXECUTIVE SUMMARY

Consulting Earth Scientists Pty Ltd (CES) were commissioned by Jacfin Pty Ltd (Jacfin) to undertake a Stage 1 Preliminary Site Investigation (PSI) at the site located at Burley Road, Horsley Park Employment Precinct, Kemps Creek (Lot A in DP 392643), New South Wales (NSW) hereinafter referred to as the site.

The Stage 1 PSI had been requested by Jacfin as part of a Concept Plan which will identify the provision of necessary infrastructure including roads, drainage, utilities and communication services to support a proposed industrial and employment estate development.

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

The purpose of the PSI was to identify and assess likely contaminants or potential environmental issues, resulting from past and/or present activities undertaken on or adjacent to the site which may affect the sites suitability for the proposed commercial/industrial land use.

The Stage 1 PSI comprised a site history and information review, a detailed site inspection and preliminary sampling programme. The desktop review included the examination of the following information:

- Current land title records for ownership and leases;
- Deposited Plans;
- Council records including Section 149 Certificate and land use;
- Historical aerial photographs;
- Maps detailing the site geology, soils, topography and acid sulphate soil risk;
- Available hydrogeological information; and
- Other anecdotal evidence including site interviews.

Fieldwork was undertaken on 13 and 14 July 2010 and comprised the collection of surface soil samples from twenty five grid sampling locations and one targeted location across the site.

Boreholes were advanced with the aid of a decontaminated hand auger with samples collected at 0.1 to 0.5 mBGL. Each soil sample was taken directly from the decontaminated hand auger using a new pair of nitrile/latex gloves and placed into a jar.

The findings of the PSI are presented below:

Site Information Summary

- The site address is Lot A Burley Road, Horsley Park Employment Precinct, Kemps Creek, NSW;
- The current legal description of the site is Lot A in Deposited Plan 392643;
- The site is currently owned by Jacfin Pty Ltd;
- The latitude and longitude coordinates for the approximate centre of the site are 150º49'02"E and 33º50'05"S;
- From provided survey information, the site is 'L' shaped and covers an area of 100 hectares;
- The site is bound entirely by a wire cattle fence, by grazing land to the north, west and south, low density residential properties in the southern east, and a quarry and former landfill on the north eastern boundary;
- The State Environmental Planning Policy (Western Sydney Employment Area) 2009 applies to the land. Under this Policy the land is zoned partly Zone IN1 General Industrial and partly Zone E2 Environmental Conservation;
- The site has an approximate elevation of 70 - 80 m Australian Height Datum (AHD) and is generally undulating. The main elevated areas on the site are the northern and southern portions. A tributary drainage line to Ropes Creek travels east to west through the centre of the site;
- A review of the Penrith 1:100 000 Geological Series Sheet 9030 (Department of Lands, 1991) indicated that the site and surrounding area is situated on the low hills of the Bringelly Shale;
- Surface water runoff and shallow groundwater on the northern ridge line would flow off site to the east and west. While surface water runoff and shallow groundwater along the southern portion would flow into the tributary drainage line and travel off site to the north west;
- A search of the NSW Natural Resource Atlas indicated that ten registered bores which exist within a 2 km radius from the centre of the site, three of which were located on site. With the exception of one monitoring bore (GW100290) which was located on site adjacent to the north western boundary, no information was available for the registered bores, including the bore which was present on the site;

- A search of the NSW DECCW licences register indicated that there are currently no Environmental Protection Licences or remediation orders issued by the NSW DECCW relating to the site or adjoining properties;
- The Section 149 planning certificates indicated that there are no notices regarding site contamination issued for the site under Section 9(2) of the *Contaminated Land Management Act 1997*;
- With the exception of a residential dwelling and sheds in the south eastern corner, and a corrugated iron shed on the southern west boundary, the site was vacant of any structures. The residential dwelling was a single story brick house with corrugated iron roofing. The house and shed were bordered by a wire fence in an area of approximately 50 x 20 m;
- A site inspection was carried out by CES in July 2010. At the time of the inspection, no chemicals or waste of any kind were observed to be stored on the site; and
- Although disturbed terrain/fill material was noted during the field investigation (July 2010), there was no indications that significant quantities of imported fill had been brought onto the site or any considerable filling activities having taken place on the site.

Site History Summary

The title search indicated that the site has been owned by farmers and graziers since 1920 to present day.

A review of the historical information and anecdotal information from the site owners indicated that the site had remained as grazing land for cattle and horses since the 1920's. No sheep, stock dips or crops had been present on the site at any time.

Results Summary

The soil types encountered during the field investigation (to a maximum depth of 0.5 m below ground level) included:

- Fill material – Fine to coarse grained blue metal gravels;
- Disturbed material (surrounding dams only) – Reworked natural clay comprising brown/orange mottled clay which was dry with no unusual odours or staining. No waste materials were encountered within the disturbed materials;
- Top soil – Grass cover underlain by dark brown loose clay that was dry with no odour or alluvial sandy clay which was light brown and dry; and
- Clay – Generally brown/orange mottled clay that was moist with medium plasticity. A humic odour was noted at some locations.

The concentrations of potential contaminants including heavy metals, hydrocarbon compounds (TPH, BTEX and PAH), pesticides (OCP), Polychlorinated Biphenyls (PCB) and asbestos in each soil sample analysed were below the adopted site assessment criteria for commercial/industrial land use.

Conclusions

Based on a review of the site history and a detailed site inspection, no significant potentially contaminating activities associated with current and historical site usage were identified on the site.

It was considered that the greatest soil contamination risk would have been from the application of pesticides used on stock. These were tested through the analysis of soil samples for pesticide compounds including heavy metals, hydrocarbons and pesticides. None of the samples analysed reported heavy metal, hydrocarbon and pesticide concentrations above the site assessment criteria. Hydrocarbon and pesticide concentrations were not reported above laboratory levels of reporting.

Based on observations of site topography and field investigation results, the presence of significant volumes of imported fill is considered unlikely.

CES conclude that based on the results of the investigation with regard to soil contamination, the site is considered suitable for the proposed industrial/commercial development. However, it is recommended that a Stage 2 Detailed Investigation be undertaken.

LIST OF ABBREVIATIONS

AGST	Aboveground Storage Tank
CES	Consulting Earth Scientists Pty Ltd
DA	Development Application
DCP	Development Control Plan
DEC	Department of Environment and Conservation
DECC	Department of Environment and Climate Change
DECCW	Department of Environment, Climate Change and Water
DNR	Department of Natural Resources
DWE	Department of Water and Energy
EPA	Environment Protection Authority
ESA	Environmental Site Assessment
Jacfin	Jacfin Pty Ltd
LEP	Local Environment Plan
LGA	Local Government Area
LPI	Land and Property Information
mAHD	metres Australian Height Datum
mBGL	metres Below Ground Level
NEPM	National Environment Protection Measure
NLA	National Library of Australia
NSW	New South Wales
OHS	Occupational Health and Safety
PSP	Project Safety Plan
PASS	Potential Acid Sulfate Soil
SEPP	State Environmental Planning Policy
UST	Underground Storage Tank

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1 INTRODUCTION

Consulting Earth Scientists Pty Ltd (CES) was commissioned by Jacfin Pty Ltd (Jacfin) to undertake a Stage 1 Preliminary Site Investigation (PSI) at the site located Burley Road, Horsley Park Employment Precinct, Kemps Creek (Lot A in Deposite plan (DP) 392643) NSW referred to hereinafter as the site.

The Stage 1 PSI had been requested by Jacfin as part of a Concept Plan which will identify the provision of necessary infrastructure including roads, drainage, utilities and communication services to support a proposed industrial and employment estate development.

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

[1] The DECCW incorporates the NSW Environment Protection Authority (NSW EPA).

2 OBJECTIVES AND SCOPE

The objectives of the Stage 1 PSI were to:

- Identify any past or present land uses on and/or adjacent to the site that may have resulted in contamination, as possible from the information available;
- Assess whether any potential contamination represents a risk to future site occupants or the environment considering the sites proposed commercial/industrial land use and the receiving environments; and
- Prepare a report, in accordance with DECCW guidelines, providing a preliminary assessment of contamination at the site.

To attain the objectives, CES undertook the following:

- A review of available information on the history of the site and general site information;
- A detailed site inspection including preparation of a Project Safety Plan (PSP);
- Analysis of selected soil samples collected from grid pattern sampling and from areas considered to be potential sources of contamination; and
- A report detailing the results of the investigation.

3 METHODS

3.1 SITE HISTORY AND INFORMATION REVIEW

The site history and information review comprised the examination of the following:

- Current land title records for ownership and leases;
- Deposited plans;
- Council records including Section 149 planning certificates and land use;
- Historical aerial photographs;
- DECCW records for contamination notices and environment protection licences;
- Maps detailing the site geology, soils, topography and acid sulphate soil risk;
- Available hydrogeological information; and
- Other anecdotal information sources including site interviews.

3.2 SITE INSPECTION

To identify activities on the site that may have resulted in environmental contamination, the detailed site inspection assessed the following:

- Physical site description including topography, site drainage, surface conditions and vegetation;
- Summary of surrounding land uses;
- Identification and location of site buildings and features;
- Inventory of site infrastructure and storage areas (chemicals, waste, batteries, transformers, etc);
- Identification of visible contamination and any unusual odours or staining;
- Location of underground services including storage tanks;
- Location and description of imported fill; and
- Interview with persons having anecdotal information regarding the history of the site.

3.3 SAMPLING AND ANALYSIS PROGRAMME

To achieve these objectives of the PSI, CES undertook the following sampling and analysis programme:

- Hand auguring at sampling locations set out in a grid pattern across the site so that statistical analysis could be employed to assess the suitability of the site for commercial industrial use. A total of twenty five sample locations (which equates to a sample density of 1 sample points per 4 hectares) were drilled;
- Soil samples were collected from0.1 to 0.5mBGL; and

- Soil/fill samples were analysed for metals and metalloids (As, Cd, Cr, Cu, Ni, Pb, Zn and Hg), Total Petroleum Hydrocarbons (TPH); Benzene, Toluene, Ethylbenzene and total Xylenes (BTEX); Polycyclic Aromatic Hydrocarbons (PAHs); Organochlorine Pesticides (OCPs); Polychlorinated Biphenyls (PCBs) and asbestos fibres.

3.4 REPORTING

Following completion of the site history and information review, detailed site inspection and preliminary sampling programme, this report:

- Incorporates the results of the Stage 1 PSI;
- Summarises the results of the review and site inspection;
- Presents the results of the preliminary soil sampling and analysis programme compared against adopted Site Assessment Criteria (SAC) for commercial/industrial land use; and
- Discusses the suitability of the site for the proposed commercial/industrial land use, as well as recommendations for any further investigations that may be required including the need for further assessment of soil and/or groundwater.

4 SITE INFORMATION

4.1 SITE IDENTIFICATION

The site is located within the Penrith Local Government Area (LGA) at Kemps Creek within Precinct 8 of the Western Sydney Employment Area. The site's legal description is Lot A in DP 392643 within the Parish of Melville and County of Cumberland. From provided survey information, the site is 'L' shaped and covers and area of 100 hectares.

The latitude and longitude coordinates for the approximate centre of the site are 150º49'02"E and 33º50'05"S and the general locality of the site is shown in Figure 1. The site is bound entirely by a wire cattle fence, by grazing land to the north, west and south, rural residential properties to the south east, and a quarry and decommissioned landfill on the north eastern boundary.

4.2 SITE ZONING AND LANDUSE

Under the Penrith Local Environmental Plan No. 201(Rural Lands) the land is zoned as Zone No. 1(a) (Rural "A" Zone – General). However, the State Environmental Planning Policy (Western Sydney Employment Area) 2009 applies to the land. Under the terms of this Policy the land is zoned partly Zone IN1 General Industrial and partly Zone E2 Environmental Conservation. A copy of the Section 149 Planning Certificate and the objectives of the individual zones are provided in Appendix 1.

4.3 TOPOGRAPHY AND DRAINAGE

A review of the Penrith 1:25 000 topographic map, Sheet 9030 (Department of Lands, 2001) indicated that the site has an approximate elevation of 60 to 80 m Australian Height Datum (AHD). Observations made by CES during the site inspection (July 2010) revealed that the site is generally undulating. The main elevated areas on the site are the northern and southern portions. A tributary drainage line to Ropes Creek travels east to west through the centre of the site.

The only sealed areas of the site are those covered by a dwelling and farm shed. Therefore, infiltration into the subsoil from rainwater falling onto the site would be considerable as no sealed stormwater collection points are present. Surface water runoff and shallow groundwater on the northern ridge line would flow off site to the east and west, and then to the north. While surface water runoff and shallow groundwater along the southern portion would flow into the tributary drainage line and travel off site to the north west.

4.4 GEOLOGY AND SOILS

4.4.1 Regional Geology

A review of the Penrith 1:100 000 Geological Series Sheet 9030 (Department of Lands, 1991) indicated that the site and surrounding area is situated on the low hills of the Bringelly Shale. Bringelly Shale forms part of the Mezazoic Era Wianamatta Group and comprises shale, carbonaceous claystone, laminate, fine to medium grained lithic sandstone, rare coal and tuff.

4.4.2 Soils

A review of the Penrith 1:100 000 Soil Landscape Series Sheet 9030 (Soil Conservation Service of NSW, 1989) indicated that the site and surrounding area is situated on the Blacktown Landscape Group. The Blacktown Landscape Group consists of gently undulating rises on Wianamatta Shale, local relief to 30m, slopes usually <5%, broad rounded crests and ridges with gently inclined slopes and cleared eucalypt woodland and tall open forest (dry sclerophyll forest)

Soils of the Blacktown Landscape Group comprise shallow to moderately deep hardsetting mottled texture contrast soil, red and brown Podzolic soils on crests to yellow Podzolic soils on lower slopes and drainage lines.

4.4.3 Vegetation and Land Use

A review of the Soil Conservation Service of NSW Soil and Land Resources Series (Natural Resources Information Unit: Version 1.0, 2008) and observations made during the site inspection indicated that the site and surrounding areas are almost completely cleared of tall open forest (wet sclerophyll) and woodland (dry sclerophyll) for cattle grazing land.

Minor to moderate sheet and gully erosion was observed in some locations across the site.

4.5 HYDROGEOLOGY

The exact direction of groundwater flow could not be determined from the available information; however, it is likely that shallow groundwater will follow the regional topography and flow generally with the tributary drainage line to the north west. The nearest down gradient water receptor is a Ropes Creek tributary and Ropes Creek located approximately 1km to the west of the site.

A search of the NSW Department of Natural Resources (DNR) Groundwater Works database (DNR, 2008) indicated that that there were ten registered bores which exist within a 2 km radius of the centre of the site. Three registered groundwater bore were located on the site. With the exception of one monitoring bore, no information was available for the registered bores, including those on the site.

GW100290 was located on site adjacent to the north western boundary. The coordinates of the well are 150º48'59"E and 33º49'41"S. The bore is geographically up gradient of the site, however it is anticipated that groundwater at this location will follow the local topography and flow towards the west. The bore was registered as a monitoring bore, has a final depth of 80.0 mBGL and a screened interval of 23.40 to 79.40 mBGL. The bore was drilled through clay to 2 mBGL, sandstone and interbedded siltstone to 10 mBGL, interbedded siltstones to 61 mBGL and interbedded shales to base of the bore hole at 80 mBGL.

The remainder of the bores were located hydraulically upgradient of the site with no information other than their location recorded. A copy of the groundwater bore location map and groundwater summary sheets are provided in Appendix 2.

4.6 ACID SULPHATE SOIL RISK

No Acid Sulphate Soil (ASS) Risk Map for the Horsley Park / Kemps Creek area exists; therefore no map was available to be reviewed. The Section 149 Certificate indicates that no ASS risk is present in the Horsley Park / Kemps Creek area. During the site inspection and field investigation it was noted that the soils located across the site are unlikely to contain actual ASS.

5 SITE HISTORY

Several sources have been investigated to determine the history of the land use of the site. A summary of the information provided by each source is provided below.

5.1 HISTORICAL TITLE INFORMATION

Copies of historical title deeds for the site, held by the Land Titles Office of NSW, were obtained to review previous site owners and previous potential site use. A summary of the results is discussed below, while copies of the title documents are provided in Appendix 3.

1979 – To Date	Jacfin Pty Ltd
1975 – 1979	Ray Fitzpatrick Holdings Pty Ltd
1972 – 1975	Rae Edwina Cottle (married women) & Jacquelyn Isobel Waterhouse (married women)
1969 – 1972	Clare Isobel Fitzpatrick (widow) and Ronald George Patterson (bank manager)
1960 – 1969	Raymond Coward Fitzpatrick (farmer and grazier)
1946 – 1960	Florence Alberta Richardson (spinster)
1920 – 1946	Dorothy Grace Richardson (spinster) Florence Alberta Richardson (spinster)
Prior to 1920	Crown Land

The search indicated that the site had been privately owned by farmers and graziers since 1920 to present day.

5.2 AERIAL PHOTOGRAPH INTERPRETATION

Historical aerial photographs from the NSW Department of Lands, Land and Property Information Division (LPI) were examined for the years: 1947, 1955, 1961, 1965, 1970, 1978 and 2005. In addition, the approximate 2008 aerial photograph acquired by Google Earth was examined. Copies of the photographs are provided in Appendix 4. The findings of the aerial photograph investigation are as follows:

Year	Description
1947	**Site:** The site was cleared grazing land with no defined boundary. The entire site had a sparse covering of trees, while the south western portion comprised a fenced paddock. The centre contained the present day dam which drained to the north west into a Ropes Creek tributary. A small dry dam was located adjacent to the north western boundary. A small building was located in the north west corner. An unsealed road travelled north/south through the centre of the site. **Surrounding area:** The land due east of the centre of the site comprised dense tree coverage, whereas the areas directly north and south of this area had been cleared. A small number of buildings were spread over the cleared areas. A road travelling east west to the south formed the southern boundary. East of the south eastern corner were scattered small buildings, access was via the road which formed the southern boundary. Directly south of the site was an adjoining property which contained a fenced paddock and small buildings. The area to the west of the southern portion of the site comprised dense tree coverage while the area west of the northern portion comprised a cleared fenced property. Within the centre of western adjoining property were several paddocks with small buildings in the north east. Ropes Creek is located approximately 400 m west of the site. Dense riparian vegetation is noted along the length of Ropes Creek and further vegetated areas were observed west of the site. There was a road running along the northern boundary of the site. Adjacent to the northern boundary were areas of cleared farmland and the Sydney Water pipeline which travelled in an east north east direction.
1955	**Site:** As per 1947 aerial photographs. However, vegetated areas appeared to have increased in size and density. **Surrounding area:** As per 1947 aerial photographs. However, vegetated areas appeared to have increased in size and density. The medium density developed area to the east of the site appeared more extensive, including an increase in defined properties and a greater number of buildings and several new dams. A small dam had been constructed on the Ropes Creek tributary to the west of the site.
1961	**Site:** As per 1955 aerial photographs. A dam, with a surface area approximately half that of the large on site dam, had been constructed on the south eastern boundary. **Surrounding area:** As per 1955 aerial photographs. Developments to the east and south east of the site had been further extended. An area of dense vegetation to the west of the site had been cleared, while riparian vegetation along Ropes Creek remained dense. Crop fields were developed adjacent to the buildings east of the south eastern corner.

1965 **Site:** As per 1961 aerial photographs.

Surrounding area: As per 1961 aerial photographs. Development of quarry/brick pit to the north east of the site had begun. An increase in development was noted beyond the eastern, south eastern and southern boundaries of the site. Electrical stanchions were located to the north north east of the site. A smaller dam had been constructed adjacent to the south east boundary.

1970 **Site:** As per 1965 aerial photographs. Paddock in the south western corner is no longer evident.

Surrounding area: As per 1965 aerial photographs. The quarry/brick pit development was more extensive. Developments to the east, south east and south of the site were more extensive with several more roads and properties evident throughout these areas, these developments seem to be residential in nature. Crop fields east of the south eastern corner of the site had been extended to cover a larger area.

1978 **Site:** As per 1970 aerial photographs.

Surrounding area: As per 1970 aerial photographs. The quarry/brick pit had extended further to the south west and north. The residential developments had extended further to the east, south east and south of the site.

2005 **Site:** As per 1978 aerial photographs.

Surrounding area: As per 1978 aerial photographs. The quarry/brick pit had undergone extensive expansion along the north eastern boundary of the site and to the north east of the primary quarry location. Land to the east and south east of the site was considerably more developed with several more buildings.

2008 **Site:** As per 2005 aerial photographs.

Surrounding area: As per 2005 aerial photographs.

5.3 WORKCOVER NSW RECORDS

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 storage of dangerous goods on the site.

5.4 PENRITH CITY COUNCIL

The Section 149 planning certificates for the site were obtained from Penrith City Council to determine if any notices regarding site contamination had been issued under Section 9(2) of the *Contaminated Land Management Act 1997*. No such notices had been issued on the site. A copy of the certificate is provided in Appendix 1.

5.5 RECORD OF DECCW NOTICES

A search of the DECCW licences register indicated that there are currently no Environmental Protection Licences or remediation orders issued by the NSW DECCW relating to the site or adjoining properties.

5.6 ANECDOTAL INFORMATION

A site inspection was undertaken on 5 July 2010 by experienced CES Staff. Anecdotal information indicated that the site had been in the family for approximately 50 years and had always been used as grazing land for cattle and horses. CES understand that fuels, machinery oils and rural chemicals had not been stored on the site.

5.7 INTEGRITY ASSESSMENT

Historical and site information was sourced mainly from reputable NSW 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.

6 SITE CONDITION AND THE SURROUNDING ENVIRONMENT

6.1 CURRENT OCCUPIER AND OPERATIONS

In accordance with the current land titles (Appendix 3), the site is currently owned by Jacfin Pty Ltd. At the time of the inspection, with the exception of a small cottage on the south eastern ridge, the site was vacant of any structures and was used to graze cattle and horses.

6.2 SITE DESCRIPTION

The site description is based on observations made during a site inspection by Luke Jenkins of CES on 5 July 2010 and during the field investigation carried out by Caroline Aylott and Mark Picket of CES on 13 and 14 July 2010. Site photographs are provided in Appendix 4.

The site is located to the south of the Sydney Water Pipeline while access is via Old Wallgrove Road to the east. From provided survey information, the site is 'L' in shape and covers an area of 100 hectares. At the time of the investigation the site was bound by a wire cattle fence.

With the exception of a residential dwelling and two sheds in the south eastern corner, and a corrugated iron shed on the southern west boundary, the site was vacant of any structures. The residential dwelling consisted of a single story brick house with corrugated iron roofing. A water tank was attached to the eastern corner of the house, while a corrugated iron shed (marginally smaller than the house) was located to the north east. A smaller urban backyard style shed was positioned south of the house. The house and sheds were bordered by a wire fence in an area of approximately 50 x 20 m. No landscaped areas were present surrounding the house and sheds.

Each shed was constructed on a concrete slab which had a covering of decomposing hay. At the time of the field investigation, the sheds were vacant.

The site had generally been cleared of any trees. The grass generally appeared to be in good health with no significant signs of stress. Small pockets of bare ground or brown grass observed during the field investigation were believed to be associated with isolated pockets of dense, stiff and dry clay top soils and/or disturbed natural soils which inhibited the growth of the grass. A small number of trees and shrubs were noted along the Ropes Creek tributary. With the exception of four trees along the Ropes Creek tributary, all trees and shrubs appeared to be in good health. Small shrubs were also located surrounding the southern dam. No trees or shrubs were noted surrounding the northern dam.

Although no permanent roads were visible across the site, unsealed tracks did transverse across the site. These tracks had not caused any erosion of the top soil or limited the growth of the grass.

6.3 TANKS AND ASSOCIATED SERVICES

One approximate 10,000L above ground water tank adjoined the south east of the house. The tank caught water which drained off the corrugated iron roof of the house..

6.4 CHEMICAL AND WASTE STORAGE

At the time of the inspection, no chemicals or wastes were observed to be stored on the site. The dwelling was unable to be accessed, however it is assumed that domestic quantities of cleaning products could have been stored inside.

6.5 FILL

Although disturbed terrain was noted during the field investigation, there was no sign of significant quantities of imported fill being brought onto the site or any considerable filling activities having taken place on the site. Disturbed terrain was observed at the following locations. Sample locations are presented on Figure 2.

- HPBH2 – Isolated pocket approximately 1m^2 in area of blue metal gravels. The source and purpose of the gravels is unknown, however anecdotal information suggests the gravels were sourced from surrounding quarries;
- HPBH15 – Fill material likely to be associated with the construction of the dam. It is not expected the material was imported on to the site, however sources from dam excavation; and
- HPBH26 – Fill material covered an area of approximately 20m^2. The source of the material is unknown, however a potential source is from the dam construction off site to the east, and used to level the area as an access point to the site.

6.6 ODOURS AND STAINING

With the exception of a humic odour noted within several bore holes, no odours or staining were observed. It should be noted that no odour or staining associated with contamination were observed during the field investigation.

6.7 SURROUNDING LAND USE

Without gaining access, the properties immediately surrounding the site were visually inspected. The observations were as follows:

- North – Farm land with open grazing paddocks and scattered sclerophyll woodland;

- South – Farm land with open grazing paddocks and further Capital Hill Road;

- West – Farm land with open grazing paddocks, scattered sclerophyll woodland and further Ropes Creek; and

- East – Quarry and capped landfill to the north and rural low density residential dwellings to the south.

The adjoining properties were not investigated. However, from the observations made, with the exception of the decommissioned landfill, it is considered unlikely the surrounding properties have had or currently have the potential to contaminate the site.

7 CONCEPTUAL MODEL OF POTENTIAL CONTAMINATION

The Conceptual Model of Potential Contamination (CMPC) has been developed to provide an understanding of the critical parameters required to understand the contamination status of the site. Its purpose is to develop a hypothesis on the contamination of the site that can be tested through a programme of sampling and analysis.

The model had been developed from a review of background information and a detailed site inspection. It includes potential sources of contamination and their associated Contaminants of Potential Concern (CoPC), , site conditions and a summary of the approach of the sampling and analysis programme.

7.1 POTENTIAL SOURCES OF CONTAMINATION AND ASSOCIATED COPC

It is believed that the site had been used as farm grazing land since 1920. The greatest contamination risk to the site would have been from the application of pesticides/herbicides to stock, also potentially from the storage of diesel fuel, oils and lubricants in and around farm sheds.

Based on observations of site topography, the presence of significant volumes of imported fill is considered unlikely.

The CoPC associated with the identified activities undertaken on the site are likely to be:

- Arsenic, Cadmium, Chromium, Copper, Mercurey, Lead, Nickel and Zinc;
- Total Petroleum Hydrocarbons (TPH);
- Benzene, Toluene, Ethyl Benzene and Xylenes (BTEX);
- Polycyclic Aromatic Hydrocarbons (PAH);
- Organochlorine Pesticides (OCP);
- Polychlorinated Biphenyls (PCB); and
- Asbestos.

7.2 APPROACH OF INVESTIGATION

The approach of this PSI was designed with reference to the results of the CMPC outlined above. The surface soils on the paddocks were considered potential point sources for metals, hydrocarbon and pesticides associated with the control of pests of livestock. While isolated pockets of visible fill, surface unconformities and areas around the dams are potential source points of metals, TPH/BTEX, PAH, OCP, PCB and asbestos.

The sampling and analysis programme was designed to provide adequate coverage of the site to characterise the site in terms of contamination and to assess specific areas identified during the inspection and field investigation as areas of potential concern.

8 SAMPLING AND ANALYSIS PROGRAMME

The sampling and analysis programme was designed to target areas of potential concern identified during the review of background information and the detailed site inspection, to provide overall site coverage, address the CMPC and the meet the objectives of the PSI.

8.1 FIELDWORK

Fieldwork was undertaken on 13 and 14 July 2010 and comprised the collection of surface soil samples (to a maximum depth of 0.5m) from twenty five grid sampling locations and one targeted location across the site. Sampling and a detailed site inspection was carried out by Caroline Aylott and Mark Pickett of CES, experienced Environmental Scientist and Engineering Geologists respectively, who also logged the encountered surface lithology..

The sampling programme does not meet the sampling density as recommended by the NSW EPA (1995) *Contaminated Sites: Sampling Design Guidelines* for site characterisation of an area of 100 hectares. However, it is noted that the systematic sampling density of one sample per 4 hectares was considered appropriate for this preliminary instigation to adequately characterise are rural property with limited contamination risk based on historical information and site observations with limited contamination risk based on historical information and site observations.

Sample locations are presented on Figure 2.

8.2 SOIL SAMPLING PROGRAMME

Boreholes were advanced with the aid of a decontaminated hand auger with samples collected at 0.1 to 0.5 mBGL. Each soil sample was taken directly from the decontaminated hand auger using a new pair of nitrile/latex gloves and placed into a jar. It is acknowledged that collecting disturbed samples is not ideal when investigating volatile contaminants; however, due to the preliminary aspect of the investigation and no known volatile contamination sources based on historical information and site observations, this method was considered suitable.

Samples were collected from fill and disturbed material, natural alluvial sandy clay top soil and underlying natural clay.

8.2.1 Sampling methodology

Sample collection, handling and preservation were undertaken in accordance with documented CES procedures by appropriately trained personnel. When collecting the duplicate samples, samples were not homogenised, rather they were placed directly into sample jars to maintain the concentration of volatile compounds.

General sampling procedures for soil are summarised below:

1. Label sample containers with a unique sample identification, project details, date and initials of sampling personnel;
2. Decontaminate sampling equipment using phosphate-free detergent solution (EXTRAN) followed by a final rinse with distilled water (does not include sample jars);
3. Collect samples in pre-washed glass jars with Teflon-lined screw lids in accordance with USEPA methods SW846;
4. Ensure minimal head space within the sample jar and seal jar with lid;
5. Complete record of samples collected and Chain-of-Custody form;
6. Place samples in coolers containing ice;
7. Seal coolers with custody seal at the conclusion of sampling; and
8. Transport samples to the analytical laboratory under CES chain-of-custody.

8.3 ANALYTICAL PROGRAMME

CES commissioned Envirolab Service Pty Ltd (Envirolab) and Australian Laboratory Services Pty Ltd (ALS) to conduct the analytical work. Envirolab and ALS are National Association of Testing Authorities (NATA) registered for the testing undertaken.

Twenty six samples were analysed for metals and OCP. Twelve of the twenty six samples collected were additionally analysed for TPH/BTEX, PAH, PCB and asbestos.

The soil samples were analysed in accordance with NEPC (1999) using accredited methods based on USEPA and APHA approved analytical methods as shown in the laboratory report.

9 QUALITY CONTROL PROGRAMME AND DATA EVALUATION

For the purpose of assessing the quality of data presented in this report, CES collected and analysed Quality Control (QC) samples (field QC samples), while the laboratory completed their own QC. The current section of this report is focused on the presentation of results of these QC samples and discussion of deviations from the Data Acceptance Criteria (DAC).

9.1 FIELD QC

9.1.1 Blind Replicates

Two blind replicate sample was analysed which is a frequency of 8 % of the total number of samples analysed. Although this frequency does not meet the DAC of 10%, it is marginally below and is considered not to affect the integrity of the data. All Relative Percentage Difference (RPD) results for the blind replicate sample conformed to the DAC.

9.1.2 Split Replicates

One split replicate sample was analysed which is a frequency of 4 % of the total number of samples analysed. Although this frequency does not meet the DAC of 5%, it is marginally below and is considered not to affect the integrity of the data. All RPD results for the split replicate sample conformed to the DAC

9.1.3 Trip Blank

One trip blank was included with the one sample batch submitted to the laboratory which conforms to the DAC. The trip blank sample was analysed for TPH C_6-C_9 and BTEX. TPH C_6-C_9 and BTEX were not detected in the trip blank sample indicating that cross contamination during transport of samples did not occur. The trip blank analysis confirmed to the DAC of below their respective LORs.

9.1.4 Trip Spikes

One trip spike was included with the one sample batch submitted to the laboratory which conforms to the DAC. The trip spike sample was analysed for TPH C_6-C_9 and BTEX. The trip spike recoveries for BTEX conformed to the DAC of 70-130 % indicating that loss of volatile compounds did not occur during sample transport.

9.2 LABORATORY QA/QC

Laboratory QA/QC data is presented in full in the laboratory certificates in Appendix 6. Sample receipt notices are provided in Appendix 6.

9.2.1 Laboratory Duplicates

The RPDs for all laboratory duplicates were within the acceptable range as outlined in the DAC.

9.2.2 Laboratory Control Samples

All Laboratory Control Samples (LCS) were within the acceptable range as outlined in the DAC.

9.2.3 Surrogates

All surrogate samples were within the acceptable range as outlined in the DAC.

9.2.4 Matrix Spikes

All matrix spike samples were below the laboratory detection limit and therefore conformed to the DAC.

9.2.5 Sample preservation

All samples were collected in appropriately preserved jars for the selected analysis and therefore conformed to the DAC.

9.2.6 Holding times

All samples were analysed within the appropriate holding times for the selected analysis and therefore conformed to the DAC.

9.3 DATA QUALITY INDICATORS (DQI)

9.3.1 Precision

The RPD's of the field and laboratory duplicates and the recoveries for the laboratory prepared trip spikes conformed to the DAC, which indicated the sampling, laboratory and analytical precision was within acceptable limits and therefore provides confidence of limited variability and high reproducibility of the data set.

9.3.2 Accuracy

Laboratory accuracy was assessed by the analysis of laboratory control samples and method blanks and percent recoveries of matrix spikes and surrogates. This indicates the accuracy of the analytical results is acceptable and results represent an accurate measure of the reported data.

9.3.3 Representativeness

CES consider the samples collected from the fill/natural soil to be representative of the materials being targeted as part of this investigation. CES staff ensured that soil samples collected were representative of the material observed in each borehole.

9.3.4 Completeness

All samples were collected and analysed in accordance with the proposal and CES sampling procedures. All other required QA/QC data, including both field and laboratory data is also provided and complete.

9.3.5 Comparability

Soil samples were collected by experienced CES environmental scientist and engineering geologists in accordance with the proposal and CES sampling procedures using appropriate CES protocols and analysed in accordance with NATA accredited laboratory methods. The data are considered to be comparable as consistent sampling protocols were employed throughout the duration of the fieldwork and analysis was undertaken by NATA registered laboratories using accredited analytical methods.

9.4 ASSESSMENT

It is concluded that laboratory data are of acceptable quality and are considered useable in making conclusions regarding the site.

10 SITE ASSESSMENT CRITERIA

To determine the significance of contaminants detected in the soil, appropriate Site Assessment Criteria (SAC) were defined. The SAC should include aesthetics (including soil odour), ecological issues and potential human health issues NSW Department of Concervation (2006): *Contaminated Sites: Guidelines for NSW Site Auditor Scheme (2nd Edition)* (NSW DEC, 2006).

10.1.1 Aesthetics

Aesthetics on a commercial/industrial site relate to the generation of odours from the soil as a result of contamination (NSW DEC, 2006). Aesthetic issues were addressed during the site investigation and have been reported in section 11.

10.1.2 Health-Based Soil Investigation Levels

To address potential health impacts at the site, CES compared the analytical testing results against a set of Health-based Soil Investigation Levels (HIL) appropriate for the proposed commercial/industrial land use. That is, the HIL was set at a level that provides confidence that contaminant concentrations below the HIL will not adversely affect human health.

CES adopted the following HIL criteria:

- Nation Environmental Protection Council (1999). National Environmental Protection (Assessment of Site Contamination) Measure Schedule B(7b) Guideline on Exposure Scenarios and Exposure Settings (NEPC, 1999) Health Based Investigation Levels (HIL) recommended for exposure setting 'F' which includes commercial/industrial land-use;
- With respect to hydrocarbons (TPH and BTEX), the NSW Environmental Protection Authority (1994): Contaminated Sites: Guidelines for Assessing Service Station Sites (NSW EPA, 1994) Threshold Levels; and
- There are no national or NSW DECCW-endorsed guidelines for asbestos in soil relating to human health. The NSW DEC (2006) states that Auditors must exercise their professional judgement when assessing whether a site is suitable for a specific use. The NSW DECC states that the position of the Health Department is that there should be no asbestos in surface soil. A criteria of no asbestos in surface soil has been adopted for this assessment.

A summary of the SAC is provided in Table 1.

11 RESULTS

Results of the sampling and analysis programme are presented below and in Tables 4 to 8.

11.1 SITE STRATIGRAPHY

The soil types encountered during the investigation included:

- Fill material – Fine to coarse grained blue metal gravels;
- Disturbed material (surrounding dams only) – Reworked natural clay comprising brown/orange mottled clay, which dry with no unusual odours or staining. No waste materials were encountered within the disturbed material;
- Top soil – Grass cover underlain by dark brown loose clay that was dry with no odour or alluvial sandy clay which was light brown and dry; and
- Clay – Generally brown/orange mottled clay that was moist with medium plasticity. A humic odour was noted at some locations.

11.2 AESTHETICS

With the exception of a humic odour encountered within HPBH15, no odours that could be associated with contamination were noted during the field investigation.

11.3 SOIL ANALYTICAL RESULTS

Analytical results for the soil samples collected are presented below. Laboratory certificates of analysis are presented in Appendix 6.

11.3.1 Heavy Metals

Metal concentrations in samples of soil are summarised in Table 4. Concentrations of arsenic, cadmium, chromium, copper, nickel, lead, mercury and zinc were below the SAC in the samples analysed. Where detected above LOR, heavy metal concentrations are considered to be representative of background concentrations.

11.3.2 OCPs

The concentration of OCPs in soil samples are summarised in Table 5. OCP concentrations were below the LOR and SAC in the samples analysed.

11.3.3 TPH and BTEX

The concentrations of TPH and BTEX in samples of soil are summarised in Table 6. Concentrations of TPH and BTEX in the soil samples analysed were below the LOR and SAC.

11.3.4 PAHs

The concentrations of PAH in soil samples are summarised in Table 7. PAH concentrations were below the LOR and SAC in the samples analysed.

11.3.5 PCBs

The concentration of PCBs in soil samples are summarised in Table 8. PCBs concentrations were below the LOR and SAC in the samples analysed.

11.3.6 Asbestos

The results of asbestos fibre identification summarised in Table 9. Asbestos fibres were not identified in any samples submitted for identification.

12 CONCLUSIONS AND RECOMMENDATIONS

12.1 CONCLUSIONS

CES were commissioned by Jacfin to undertake a Stage 1 PSI at the site (Lot A in DP 392643) located at Burley Road, Horsley Park, NSW.

Based on a review of site history and a detailed site inspection, no significant potentially contaminating activities associated with general farm activities were identified on the site or on adjoining areas.

It was anticipated that the greatest contamination risk to would have been from the application of pesticides used on livestock. No sample analysed reported heavy metal, hydrocarbon and pesticide concentrations above the SAC. Hydrocarbon and pesticide concentrations were not reported above laboratory LOR.

Based on observations of site topography and field investigation results, the presence of significant volumes of imported fill is considered to be unlikely.

CES conclude that with regard to soil contamination, the site is considered suitable for the proposed industrial/commercial development.

12.2 RECOMMENDATIONS

It is recommended that a Stage 2 Detailed Investigation be undertaken.

13 RESPONSE TO DIRECTOR GENERALS REQUIREMENTS

CES has reviewed the requirements stated by the Director General of the NSW Department of Planning in his letter dated 13 August 2010. CES response to items applicable to our scope of work is as follows (items applicable to CES scope of work are shown in ***bold italics***).

Section	Title	DGR Comment	CES Response
Key Issues	Soil and Water	Including water supply and efficiency, proposed erosion and sediment controls (during construction); the proposed stormwater management system for site; detailed considerations of any potential. Offsite drainage or flooding impacts; consideration of the potential for rainwater harvesting, wastewater disposal; and soil salinity and ***contamination***.	A Stage 1 Preliminary Site Investigation was carried out by CES to identify and assess likely contaminants or potential environmental issues, resulting from past and/or present activities undertaken on or adjacent to the site which may affect the sites suitability for the proposed commercial /industrial land use. The findings of the contamination investigation are detailed throughout this report, while the results are specified in Section 11.
Penrith City Council	N/A	N/A	No comments and / or requirements by Penrith City Council are applicable to this report.
Fairfield City Council	N/A	N/A	No comments and / or requirements by Fairfield City Council are applicable to this report.

14 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.

CES accepts no liability for use of 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.

Sampling and analysis of soils has been undertaken as per the agreed scope of works. The assessment of potential contamination at the site was based on knowledge of site history and visual inspection only. Due to the limitations of the soil investigation, the approach may not identify contamination that occurs in unexpected locations or from unexpected sources.

The assessment is an interpretation based on available data and professional judgement. The accuracy with which the site has been characterised is therefore limited by the scope of works undertaken. 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.

15 REFERENCES

Department of Environment and Climate Change, 2008a: *DECC Contaminated Land Record.* http://www.environment.nsw.gov.au/clmapp/searchregister.aspx. Accessed on 13/1/2009;

Department of Land and Conservation, 2001: *Penrith 1:25 000 Topographic and Orthophoto Map 9030;*

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NSW DECC Soil and Land Resources Series (Natural Resources Information Unit: Version 1.0, 2008);

Department of Natural Resources, 2008: *Groundwater Works Database.* http://waterinfo.nsw.gov.au/gw/ Accessed on 23/07/2010;

NEPC, 1999: National Environment Protection Council (1999*).* National Environment Protection (Assessment of Site Contamination) Measure Schedule B(7b) Guideline on Exposure Scenarios and Exposure Settings;

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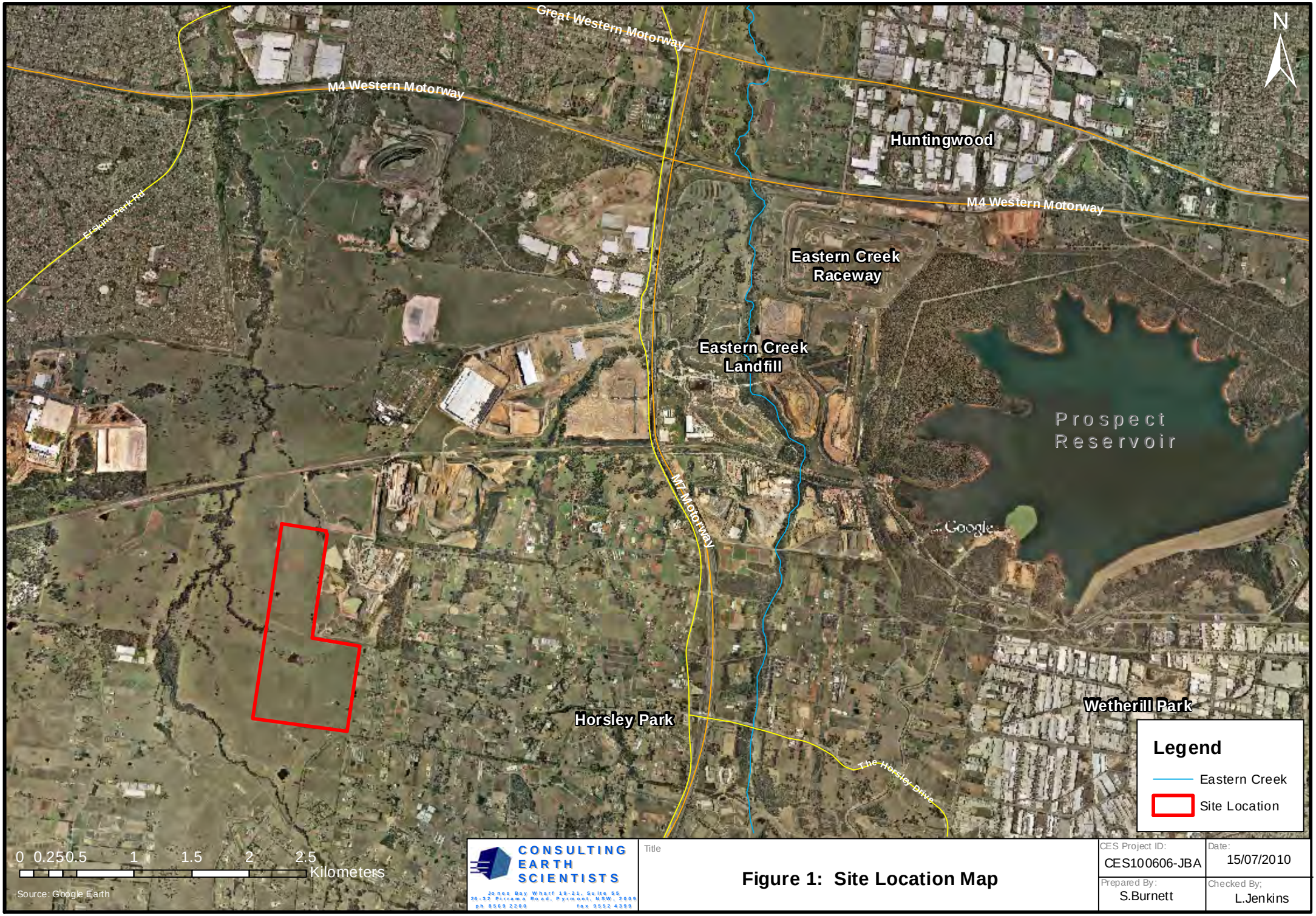
Figures



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Title

Figure 1: Site Location Map

CES Project ID:	Date:
CES100606-JBA	15/07/2010
Prepared By: S.Burnett	Checked By: L.Jenkins

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Title

Figure 2: Site Boundary and Sample Locations: Horsley Park Employment Precinct

CES Project ID:	Date:
CES100606-JBA	27/07/2010
Prepared By: S.Burnett	Checked By: L.Jenkins

Tables

Table 1: Site assessment criteria for industrial and commercial use - Soil		
Parameter	**Site Assessment Criteria (mg kg-1)**	**Source and Comments**
Aldrin + Dieldrin	**50**	EPA NSW (1998), NEHF (1998)
Arsenic (total)	**500**	EPA NSW (1998), NEHF (1998)
Benzene	**1**	EPA NSW (1994)[1]
Benzo(a)pyrene	**5**	EPA NSW (1998), NEHF (1998)
Cadmium	**100**	EPA NSW (1998), NEHF (1998)
Chlordane	**250**	EPA NSW (1998), NEHF (1998)
Chromium III	**60%**	EPA NSW (1998), NEHF (1998)
Copper	**5000**	EPA NSW (1998), NEHF (1998)
DDT+DDD+DDE	**1000**	EPA NSW (1998), NEHF (1998)
Ethylbenzene	**3.1**	EPA NSW (1994)[1]
Heptachlor	**50**	EPA NSW (1998), NEHF (1998)
Lead	**1500**	EPA NSW (1998), NEHF (1998)
Mercury (inorganic)	**75**	EPA NSW (1998), NEHF (1998)
Nickel	**3000**	EPA NSW (1998), NEHF (1998)
PAHs (total)	**100**	EPA NSW (1998), NEHF (1998)
PCBs (total)	**50**	EPA NSW (1998), NEHF (1998)
Toluene	**1.4**	EPA NSW (1994)[1]
Total Petroleum Hydrocarbons (TPH)	**$C_6 – C_9$: 65; C_{10}-C_{36}:1000**	EPA NSW (1994)[1]
Total xylenes	**14**	EPA NSW (1994)[1]
Zinc	**35000**	EPA NSW (1998), NEHF (1998)
Note 1: EPA NSW (1994) threshold concentrations for sensitive land use.		

Table 2: Horsley Park Field QA/QC Results

Location		HPBH11							HPBH7			
Sample Depth (m)		0.4-0.5	0.4-0.5	0.4-0.5					0.25-0.3	0.25-0.3		
Sample ID		140710-44-CA	140710-45-CA	140710-46-CA					140710-39-CA	140710-40-CA		
Date Sampled		14 Jul 2010	14 Jul 2010	14 Jul 2010					14 Jul 2010	14 Jul 2010		
					Blind replicate		Split replicate				Blind replicate	
Analyte	Units	Environmental Sample	Blind Replicate	Split Replicate	Average	RPD (%)	Average	RPD (%)	Environmental Sample	Blind Replicate	Average	RPD (%)
Arsenic	mg/kg	9	9	10	9	0.00	9.50	10.53	8	9	8.50	11.76
Cadmium	mg/kg	< 0.5	< 0.5	<1	na	na	na	na	< 0.5	< 0.5	na	na
Chromium	mg/kg	20	20	18	20	0.00	19.00	10.53	16	18	17.00	11.76
Copper	mg/kg	22	20	24	21	9.52	23.00	8.70	27	32	29.50	16.95
Nickel	mg/kg	9	10	10	9.5	10.53	9.50	10.53	7	6	6.50	15.38
Lead	mg/kg	22	23	20	22.5	4.44	21.00	9.52	15	15	15.00	0.00
Zinc	mg/kg	32	34	34	33	6.06	33.00	6.06	29	26	27.50	10.91
Mercury	mg/kg	< 0.1	< 0.1	<0.1	na	na	na	na	< 0.1	< 0.1	na	na
alpha-BHC	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Hexachlorobenzene	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
b-BHC	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
gamma-BHC (Lindane)	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
d-BHC	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Heptachlor	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Aldrin	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Heptachlor epoxide	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Chlordane - trans	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Chlordane - cis	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Endosulfan alpha	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Dieldrin	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
4,4-DDE	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
4,4-DDD	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Endrin	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Endosulfan II	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Endrin aldehyde	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
Endosulfan sulphate	mg/kg	< 0.1	< 0.1	<0.05	na	na	na	na	< 0.1	< 0.1	na	na
4,4-DDT	mg/kg	< 0.1	< 0.1	<0.2	na	na	na	na	< 0.1	< 0.1	na	na
Methoxychlor	mg/kg	< 0.1	< 0.1	<0.2	na	na	na	na	< 0.1	< 0.1	na	na

Notes:

na= not applicable

<xxx= result was less than the laboratory PQL

Table 3: Ropes Creek Laboratory Field QA/QC Results

Location	Sample Depth (m)	Sample ID	Date Sampled	vTPH C_6 - C_9	Benzene	Toluene	Ethylbenzene	m+p-xylene	o-Xylene
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Trip Blank	na	Trip Blank-RC	16/07/2010	<25	<0.5	<0.5	<1	<2	<1
Trip Spike	na	Trip Spike-RC	16/07/2010	-	97%	98%	97%	99%	99%

<### Represents results below the laboratory Practical Quantitation Limit.

nt = Not Tested

-- = Action Level not established

na= not applicable

Table 4: Horsley Park Soil Analytical Results - Metals											
Location	**Sample Depth (m)**	**Sample ID**	**Date Sampled**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Nickel**	**Lead**	**Zinc**	**Mercury**
			Units	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
HPBH1	0.3-0.35	140710-33-CA	14 Jul 2010	6	< 0.5	20	26	11	21	36	< 0.1
HPBH2	0.05-0.1	140710-34-CA	14 Jul 2010	7	< 0.5	20	22	19	19	40	< 0.1
HPBH3	0.4-0.45	140710-35-CA	14 Jul 2010	< 4	< 0.5	18	17	4	15	18	< 0.1
HPBH4	0.05-0.1	140710-36-CA	14 Jul 2010	6	< 0.5	17	11	5	16	20	< 0.1
HPBH5	0.35-0.4	140710-37-CA	14 Jul 2010	16	< 0.5	23	19	5	14	18	< 0.1
HPBH6	0.2-0.25	140710-38-CA	14 Jul 2010	7	< 0.5	17	22	9	16	32	< 0.1
HPBH7	0.25-0.3	140710-39-CA	15 Jul 2010	8	< 0.5	16	27	7	15	29	< 0.1
HPBH8	0.1-0.15	140710-41-CA	14 Jul 2010	9	< 0.5	17	32	11	13	43	< 0.1
HPBH9	0.25-0.3	140710-42-CA	14 Jul 2010	10	< 0.5	21	22	7	16	23	< 0.1
HPBH10	0.25-0.3	140710-43-CA	14 Jul 2010	5	< 0.5	18	25	11	17	40	< 0.1
HPBH11	0.4-0.5	140710-44-CA	14 Jul 2010	9	< 0.5	20	22	9	22	32	< 0.1
HPBH12	0.25-0.3	140710-47-CA	14 Jul 2010	13	< 0.5	15	24	12	13	50	< 0.1
HPBH13	0.25-0.3	140710-49-CA	14 Jul 2010	7	< 0.5	17	19	8	13	17	< 0.1
HPBH14	0.1-0.15	140710-48-CA	14 Jul 2010	7	< 0.5	17	8	5	24	15	< 0.1
HPBH15	0.4-0.5	140710-50-CA	14 Jul 2010	9	< 0.5	18	15	7	22	25	< 0.1
HPBH16	0.1-0.15	140710-51-CA	14 Jul 2010	9	< 0.5	23	14	8	26	25	< 0.1
HPBH17	0.2-0.25	140710-52-CA	14 Jul 2010	9	< 0.5	19	25	9	17	34	< 0.1
HPBH18	0.35-0.4	140710-53-CA	14 Jul 2010	8	< 0.5	19	17	9	20	25	< 0.1
HPBH19	0.1-0.15	140710-54-CA	14 Jul 2010	< 4	< 0.5	15	25	12	21	39	< 0.1
HPBH20	0.25-0.3	140710-56-CA	14 Jul 2010	6	< 0.5	17	21	10	24	36	< 0.1
HPBH21	0.25-0.3	140710-55-CA	14 Jul 2010	4	< 0.5	18	34	12	16	60	< 0.1
HPBH22	0.15-0.2	140710-57-CA	14 Jul 2010	< 4	< 0.5	15	24	7	14	28	< 0.1
HPBH23	0.35-0.4	140710-58-CA	14 Jul 2010	< 4	< 0.5	110	27	99	10	27	< 0.1
HPBH24	0.2-0.25	140710-59-CA	14 Jul 2010	< 4	< 0.5	41	21	30	13	42	< 0.1
HPBH25	0.25-0.3	140710-60-CA	14 Jul 2010	8	< 0.5	24	16	8	10	18	< 0.1
HPBH26	0.1-0.15	140710-61-CA	14 Jul 2010	< 4	< 0.5	41	17	31	9	16	< 0.1
HIL-IND/COMM[2]				**500**	**100**	**600000**	**5000**	**3000**	**1500**	**35000**	**75**

Note 1: EnviroLab reports(s) 43540

Note 2: DEC (2006) - HIL-IND/COMM (Concentrations above this action level are shown in **bold** text.)

<### Represents results below the laboratory Practical Quantitation Limit.

nt = Not Tested

-- = Action Level not established

Table 5: Horsley Park: Soil Analytical Results - OCP

Location	Sample Depth (m)	Sample ID	Date Sampled	alpha-BHC	Hexachlorobenzene	b-BHC	gamma-BHC (Lindane)	d-BHC	Heptachlor	Aldrin	Heptachlor epoxide	Chlordane - trans	Chlordane - cis	Endosulfan alpha	Dieldrin	4,4-DDE	4,4-DDD	Endrin	Endosulfan II	Endrin aldehyde	Endosulfan sulphate	4,4-DDT	Methoxychlor
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
HPBH1	0.3-0.35	140710-33-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH2	0.05-0.1	140710-34-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH3	0.4-0.45	140710-35-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH4	0.05-0.1	140710-36-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH5	0.35-0.4	140710-37-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH6	0.2-0.25	140710-38-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH7	0.25-0.3	140710-39-CA	15 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH8	0.1-0.15	140710-41-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH9	0.25-0.3	140710-42-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH10	0.25-0.3	140710-43-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH11	0.4-0.5	140710-44-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH12	0.25-0.3	140710-47-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH13	0.25-0.3	140710-49-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH14	0.1-0.15	140710-48-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH15	0.4-0.5	140710-50-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH16	0.1-0.15	140710-51-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH17	0.2-0.25	140710-52-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH18	0.35-0.4	140710-53-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH19	0.1-0.15	140710-54-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH20	0.25-0.3	140710-56-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH21	0.25-0.3	140710-55-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH22	0.15-0.2	140710-57-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH23	0.35-0.4	140710-58-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH24	0.2-0.25	140710-59-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH25	0.25-0.3	140710-60-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH26	0.1-0.15	140710-61-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HIL-IND/COMM[2]				--	--	--	--	--	**50**	**50**	--	**250**	**250**	--	**50**	--	--	--	--	--	--	**1000**	--

Note 1: EnviroLab reports(s) 43540

Note 2: DEC (2006) - HIL-IND/COMM (Concentrations above this action level are shown in **bold** text.)

OCP = Organochlorine Pesticides

<### Represents results below the laboratory Practical Quantitation Limit.

nt = Not Tested

-- = Action Level not established

Table 6: Horsley Park: Soil Analytical Results- TPH/BTEX												
Location	**Sample Depth (m)**	**Sample ID**	**Date Sampled**	**TPH C6 - C9**	**TPH C10 - C14**	**TPH C15 - C28**	**TPH C29 - C36**	**Benzene**	**Toluene**	**Ethylbenzene**	**meta- & para-Xylene**	**ortho-Xylene**
			Units	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
HPBH1	0.3-0.35	140710-33-CA	14 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
HPBH4	0.05-0.1	140710-36-CA	14 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
HPBH8	0.1-0.15	140710-41-CA	14 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
HPBH10	0.25-0.3	140710-43-CA	14 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
HPBH13	0.25-0.3	140710-49-CA	14 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
HPBH14	0.1-0.15	140710-48-CA	14 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
HPBH15	0.4-0.5	140710-50-CA	14 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
HPBH16	0.1-0.15	140710-51-CA	14 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
HPBH20	0.25-0.3	140710-56-CA	14 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
HPBH22	0.15-0.2	140710-57-CA	14 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
HPBH24	0.2-0.25	140710-59-CA	14 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
HPBH26	0.1-0.15	140710-61-CA	14 Jul 2010	< 25	< 50	< 100	< 100	< 0.5	< 0.5	< 1	< 2	< 1
HIL-IND/COMM[2]				**65**	**--**	**--**	**--**	**1**	**1.4**	**3.1**	**14**	**14**

Note 1: EnviroLab reports(s) 43540

Note 2: DEC (2006) - HIL-IND/COMM (Concentrations above this action level are shown in **bold** text.)

<### Represents results below the laboratory Practical Quantitation Limit.

nt = Not Tested

-- = Action Level not established

Table 7: Horsley Park: Soil Analytical Results- PAH																		
Location	**Sample Depth (m)**	**Sample ID**	**Date Sampled**	**Naphthalene**	**Acenaphthylene**	**Acenaphthene**	**Fluorene**	**Phenanthrene**	**Anthracene**	**Fluoranthene**	**Pyrene**	**Benzo(a)anthracene**	**Chrysene**	**Benzo(b)&(k)fluoranthene**	**Benzo(a)pyrene**	**Indeno(1,2,3-cd)pyrene**	**Dibenz(a,h)anthracene**	**Benzo(g,h,i)perylene**
			Units	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
HPBH1	0.3-0.35	140710-33-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
HPBH4	0.05-0.1	140710-36-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
HPBH8	0.1-0.15	140710-41-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
HPBH10	0.25-0.3	140710-43-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
HPBH13	0.25-0.3	140710-49-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
HPBH14	0.1-0.15	140710-48-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
HPBH15	0.4-0.5	140710-50-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
HPBH16	0.1-0.15	140710-51-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
HPBH20	0.25-0.3	140710-56-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
HPBH22	0.15-0.2	140710-57-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
HPBH24	0.2-0.25	140710-59-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
HPBH26	0.1-0.15	140710-61-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.05	< 0.1	< 0.1	< 0.1
HIL-IND/COMM[2]				--	--	--	--	--	--	--	--	--	--	--	**5**	--	--	--

Note 1: EnviroLab reports(s) 43540

Note 2: DEC (2006) - HIL-IND/COMM (Concentrations above this action level are shown in **bold** text.)

<### Represents results below the laboratory Practical Quantitation Limit.

nt = Not Tested

-- = Action Level not established

Table 8: Horsley Park: Soil Analytical Results- PCB										
Location	**Sample Depth (m)**	**Sample ID**	**Date Sampled**	**Arochlor 1016**	**Arochlor 1221***	**Arochlor 1232**	**Arochlor 1242**	**Arochlor 1248**	**Arochlor 1254**	**Arochlor 1260**
			Units	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
HPBH1	0.3-0.35	140710-33-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH4	0.05-0.1	140710-36-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH8	0.1-0.15	140710-41-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH10	0.25-0.3	140710-43-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH13	0.25-0.3	140710-49-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH14	0.1-0.15	140710-48-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH15	0.4-0.5	140710-50-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH16	0.1-0.15	140710-51-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH20	0.25-0.3	140710-56-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH22	0.15-0.2	140710-57-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH24	0.2-0.25	140710-59-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HPBH26	0.1-0.15	140710-61-CA	14 Jul 2010	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
HIL-IND/COMM[2]				--	--	--	--	--	--	--

Note 1: EnviroLab reports(s) 43540

Note 2: DEC (2006) - HIL-IND/COMM (Concentrations above this action level are shown in **bold** text.)

<### Represents results below the laboratory Practical Quantitation Limit.

nt = Not Tested

-- = Action Level not established

Table 9: Horsley Park Soil Analytical Results - Asbestos					
Location	**Sample Depth (m)**	**Sample ID**	**Date Sampled**	**Asbestos**	**asbestos fibres**
			Units	**g/kg**	**g/kg**
HPBH1	0.3-0.35	140710-33-CA	14 Jul 2010	<0.1	nd
HPBH4	0.05-0.1	140710-36-CA	14 Jul 2010	<0.1	nd
HPBH8	0.1-0.15	140710-41-CA	14 Jul 2010	<0.1	nd
HPBH10	0.25-0.3	140710-43-CA	14 Jul 2010	<0.1	nd
HPBH13	0.25-0.3	140710-49-CA	14 Jul 2010	<0.1	nd
HPBH14	0.1-0.15	140710-48-CA	14 Jul 2010	<0.1	nd
HPBH15	0.4-0.5	140710-50-CA	14 Jul 2010	<0.1	nd
HPBH16	0.1-0.15	140710-51-CA	14 Jul 2010	<0.1	nd
HPBH20	0.25-0.3	140710-56-CA	14 Jul 2010	<0.1	nd
HPBH22	0.15-0.2	140710-57-CA	14 Jul 2010	<0.1	nd
HPBH24	0.2-0.25	140710-59-CA	14 Jul 2010	<0.1	nd
HPBH26	0.1-0.15	140710-61-CA	14 Jul 2010	<0.1	nd
HIL-IND/COMM[2]				--	--

Note 1: EnviroLab reports(s) 43540

Note 2: DEC (2006) - HIL-IND/COMM (Concentrations above this action level are shown in **bold** text.)

<### Represents results below the laboratory Practical Quantitation Limit.

nd = not detected above

nt = Not Tested

-- = Action Level not established

APPENDIX 1:
SECTION 149 PLANNING CERTIFICATE

APPENDIX 1:
SECTION 149 PLANNING CERTIFICATE

PENRITH CITY COUNCIL
Serving Our Community

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PLANNING CERTIFICATE UNDER SECTION 149

Environmental Planning and Assessment Act, 1979

Property No: 403487
Your Reference: CES100606 JBA Post
Contact No: 8569 2200

Issue Date: 14/07/2010
Certificate No: 10/02736
Receipt Date: 14/07/2010
Receipt No: 2369026

Issued to: Consulting Earth Scientists
Joans Bay Wharf
Suite 55, 26-32 Pirrama Road
PYRMONT NSW 2009

RECEIVED
14 JUL 2010
BY:

PRECINCT 996

DESCRIPTION OF LAND

County: CUMBERLAND **Parish: MELVILLE**

Location: 2b Aldington Road KEMPS CREEK NSW 2178
Land Description: Lot A DP 392643

- PART 1 PRESCRIBED MATTERS –

In accordance with the provisions of Section 149(2) of the Act the following information is furnished in respect of the abovementioned land:

1 *NAMES OF RELEVANT PLANNING INSTRUMENTS AND DCPs*

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

Penrith Local Environmental Plan No.201 (Rural Lands), gazetted 12 July 1991, as amended, applies to the land.

Penrith Local Environmental Plan No. 255 – Exempt and Complying Development, gazetted 24 March 2000, as amended, (also) applies to land within the City of Penrith. (Note: This plan does not apply to the land to which Sydney Regional Environmental Plan No.30 – St Marys applies, except as provided by clause 43 of SREP No. 30 – St Marys.)

Penrith Local Environmental Plan No. 258 – Consent for Dwelling Houses and Other Development, gazetted 29 June 2001, (also) applies to all land within the City of Penrith.

Sydney Regional Environmental Plan No.9 - Extractive Industry (No.2), gazetted 15 September 1995, as amended, applies to the local government area of Penrith.

Sydney Regional Environmental Plan No. 20 - Hawkesbury-Nepean River (No. 2 - 1997), gazetted 7 November 1997, applies to the local government area of Penrith (except land to which Sydney Regional Environmental Plan No. 11 - Penrith Lakes Scheme applies).

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The names of each State environmental planning policy applying to the land are:
State Environmental Planning Policy No.1 - Development Standards.
State Environmental Planning Policy No.4 - Development Without Consent and Miscellaneous Exempt and Complying Development. (Note: This policy may not apply to land reserved for certain public purposes. See clause 4 of the policy).
State Environmental Planning Policy No.6 - Number of Storeys in a Building.
State Environmental Planning Policy No.10 - Retention of Low-Cost Rental Accommodation.
State Environmental Planning Policy No.19 - Bushland in Urban Areas. (Note: This policy does not apply to certain land referred to in the National Parks and Wildlife Act 1974 and the Forestry Act 1916).
State Environmental Planning Policy No.21 - Caravan Parks.
State Environmental Planning Policy No.22 - Shops and Commercial Premises.
State Environmental Planning Policy No.30 - Intensive Agriculture.
State Environmental Planning Policy No.32 - Urban Consolidation (Redevelopment of Urban Land). (Note: This policy does not apply to land identified as coastal protection, environmental protection, escarpment, floodway, natural hazard, non-urban, rural, rural residential, water catchment or wetland.)
State Environmental Planning Policy No.33 - Hazardous and Offensive Development.
State Environmental Planning Policy No.50 - Canal Estate Development. (Note: This policy does not apply to the land to which Penrith Local Environmental Plan 1998 (Lakes Environs) and Sydney Regional Environmental Plan No. 11 - Penrith Lakes Scheme apply.)
State Environmental Planning Policy No.55 - Remediation of Land.
State Environmental Planning Policy No.62 - Sustainable Aquaculture.
State Environmental Planning Policy No.64 - Advertising and Signage.
State Environmental Planning Policy No.65 - Design Quality of Residential Flat Development.
State Environmental Planning Policy No.70 - Affordable Housing (Revised Schemes).
State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 (Note: This policy applies to land within New South Wales that is land zoned primarily for urban purposes or land that adjoins land zoned primarily for urban purposes, but only as detailed in clause 4 of the policy.)
State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004.
State Environmental Planning Policy (Major Development) 2005.
State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007.
State Environmental Planning Policy (Temporary Structures) 2007.
State Environmental Planning Policy (Infrastructure) 2007.
State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.
State Environmental Planning Policy (Affordable Rental Housing) 2009.

State Environmental Planning Policy (Western Sydney Employment Area) 2009 applies to the land. Under the terms of this Policy the land is zoned partly Zone IN1 General Industrial and partly Zone E2 Environmental Conservation.

Zone IN1 General Industrial

1 Objectives of zone
• To facilitate a wide range of employment-generating development including industrial, manufacturing, warehousing, storage and research uses and ancillary
office space.
• To encourage employment opportunities along motorway corridors, including the M7 and M4.
• To minimise any adverse effect of industry on other land uses.
• To facilitate road network links to the M7 and M4 Motorways.
• To encourage a high standard of development that does not prejudice the sustainability of other enterprises or the environment.
• To provide for small-scale local services such as commercial, retail and community facilities (including child care facilities) that service or support the needs of
employment-generating uses in the zone.

2 Permitted without consent
Nil.

3 Permitted with consent
Depots; Food and drink premises; Freight transport facilities; Industrial retail outlets; Industries (other than offensive or hazardous industries); Neighbourhood shops; Roads; Service stations; Transport depots; Truck depots; Warehouse or distribution centres.

4 Prohibited
Any development not specified in item 2 or 3.

Zone E2 Environmental Conservation

1 Objectives of zone
- To protect, manage and restore areas of high ecological, scientific, cultural or aesthetic values.
- To prevent development that could destroy, damage or otherwise have an adverse effect on those values.

2 Permitted without consent
Nil.

3 Permitted with consent

Artificial waterbodies; Environmental facilities; Environmental protection works; Flood mitigation works; Roads.

4 Prohibited
Any development not specified in item 2 or 3.

Note 1: Under the terms of Clause 12 of State Environmental Planning Policy (Western Sydney Employment Area) 2009 development may be carried out on unzoned land only with consent.

Note 2: Land to which State Environmental Planning Policy (Western Sydney Employment Area) 2009 applies may be subdivided but only with consent. Consent is not required for subdivision detailed in Clause 14(2) of this Policy.

Note 3: Under the terms of Clause 15 of State Environmental Planning Policy (Western Sydney Employment Area) 2009 despite any other provision of this Policy, a person may, with consent, carry out development for the purposes of a child care centre on land to which this Policy applies.

1(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:

(Information is provided in this section only if a proposed environmental planning instrument that is or has been the subject of community consultation or on public exhibition under the Act will apply to the carrying out of development on the land.)

1(3) The name of each development control plan that applies to the carrying out of development on the land:

Penrith Development Control Plan 2006 applies to the land.

2 *ZONING AND LAND USE UNDER RELEVANT LEPs*

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For each environmental planning instrument or proposed instrument referred to in clause 1 (other than a SEPP or proposed SEPP) that includes the land in any zone (however described):

2(a)-(d) the identity of the zone; the purposes that may be carried out without development consent; the purposes that may not be carried out except with development consent; and the purposes that are prohibited within the zone. If these sections apply to the land details are shown below and/or in annexures.

Under the terms of Penrith Local Environmental Plan No. 201 (Rural Lands) the land is zoned as Zone No. 1(a) (Rural "A" Zone - General).

Zone No. 1(a) (Rural "A" Zone - General)

1. Objectives of zone

The objectives are:

(a) to protect and enhance the scenic quality and rural character of the locality; and
(b) to ensure that development is compatible with the environmental capabilities of the land and to encourage the conservation and enhancement of natural resources by means of appropriate land management techniques; and
(c) to protect productive agricultural and horticultural land which supplies produce to the Sydney markets; and
(d) to protect valuable deposits of extractive materials; and
(e) to ensure that development does not create unreasonable demands, now or in the future, for provision or extension of public amenities or services; and
(f) to ensure that traffic generating developments are suitably located so as not to adversely affect the safety and efficiency of roads; and
(g) to ensure that the form, siting and colours of buildings, building materials and landscaping complement the natural scenic quality of these localities; and
(h) to ensure that where development is to be located on or near ridgetops, it will not significantly intrude into the skyline or detract from the scenic amenity of the locality; and
(i) to ensure that views from main roads and the rural character of the locality will not be adversely affected; and
(j) to ensure that the development will not lead to excessive soil erosion or run-off.

2. Without development consent
Agriculture (other than intensive livestock keeping establishments).

3. Only with development consent
Any purpose, other than a purpose included in Item 2 or 4 of the matter relating to this zone.

4. Prohibited
Boarding houses; caravan parks; commercial premises; extractive industries; health care consulting rooms; industries (other than rural and home industries); junkyards; liquid fuel depots; motor showrooms; offensive or hazardous industries; residential flat buildings; rural exhibition grounds; sawmills; shops (other than convenience stores, general stores and produce stores); traffic sensitive land uses; transport terminals.

Notwithstanding any other provision of Penrith Local Environmental Plan No.201 (Rural Lands) under clause 33a of the LEP Council shall not grant consent to the carrying out of development on the subject land for the purpose of waste disposal or for any other purpose involving waste disposal unless, in both cases, it is satisfied that the waste to be disposed of does not include foodstuffs or the by-products of the manufacture or processing of foodstuffs, garbage from litter bins, dead animals or parts thereof, any other organic matter ordinarily liable to putrefaction when exposed to the air or domestic

garbage, other than lawn clippings, grass, tree and shrub prunings and general garden waste.

Proposed Badgery's Creek Second Sydney Airport Site
The land the subject of this certificate is within the vicinity of the proposed Badgery's Creek airport site and is located within the Australian Noise Exposure Forecast (ANEF) included in the 1985 draft Environmental Impact Statement for Sydney's Second Airport.
The land is partially affected by the **20 - 25 ANEF.**
Clause 31 of Penrith Local Environmental Plan No.201 requires that, notwithstanding any other provision of the LEP, Council shall not consent to the carrying out of development for the purposes of:
(a) schools, hospitals, churches and theatres on land within the boundaries of the 20 ANEF contour line; or
(b) hotels, motels or public buildings on land within the boundaries of the 30 ANEF contour line; or
(c) a dwelling on land within the boundaries of the 25 ANEF contour line unless it is satisfied that:
(1) no practical alternative location exists for the proposed dwelling; and
(2) the dwelling is designed so that interior noise levels will meet Australian standard 2021; or
(d) converting a dwelling-house into 2 dwellings on land within the boundaries of the 25 ANEF contour line.
(You should make your own enquiries concerning possible effects on the above property and the government's present position on the second Sydney airport with the Commonwealth Department of Infrastructure, Transport, Regional Development and Local Government. (Website: www.infrastructure.gov.au)

Penrith Local Environmental Plan No. 258 – Consent for Dwelling Houses and Other Development
In addition to any controls detailed above Penrith Local Environmental Plan No. 258 – Consent for Dwelling Houses and Other Development sets out further circumstances where development consent will be required for particular development. A copy of this LEP is attached.

2(e) whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling-house on the land and, if so, the minimum land dimensions so fixed:

Provisions fixing the minimum area upon which a dwelling-house may be erected at 40 hectares apply to the land.
Note: Council may also consent to the erection of a dwelling-house on vacant land that existed as a lot or portion of land as at 12 July, 1991, or on an allotment created by subdivision in accordance with clause 11 of Local Environmental Plan No.201 (Rural Lands).
Note: There are also certain performance requirements with regard to land dimensions affecting the construction of a dwelling-house on the land. In this regard Council has not considered the physical configuration or suitability of this particular land for the erection of a dwelling-house.

2(f) whether the land includes or comprises critical habitat:

(Information is provided in this section only if the land includes or comprises critical habitat.)

2(g) whether the land is in a conservation area (however described):

(Information is provided in this section only if the land is in a conservation area (however described).)

2(h) whether an item of environmental heritage (however described) is situated on the land:

(Information is provided in this section only if an item of environmental heritage (however described) is situated on the land.)

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3 *COMPLYING DEVELOPMENT*

GENERAL HOUSING CODE

Complying development under the General Housing Code **may not** be carried out on the land. The land is affected by specific land exemption(s) listed below.

- The land is excluded land being land identified by an environmental planning instrument as being environmentally sensitive land.

HOUSING INTERNAL ALTERATIONS CODE

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

GENERAL COMMERCIAL AND INDUSTRIAL CODE

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

SUBDIVISIONS CODE

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

(NOTE: Council has relied on Department of Planning Circulars PS 09-005, PS 09-022, PS 10-007 and PS 10-010 in the preparation of this information. Applicants should seek their own legal advice in relation to this matter with particular reference to State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.)

4 *COASTAL PROTECTION*

The land is not affected by the operation of sections 38 or 39 of the Coastal Protection Act 1979, to the extent that council has been so notified by the Department of Public Works.

5 *MINE SUBSIDENCE*

The land is not proclaimed to be a mine subsidence district within the meaning of section 15 of the Mine Subsidence Compensation Act 1961.

6 *ROAD WIDENING AND ROAD REALIGNMENT*

The land is affected by road widening or road realignment under
(a) Division 2 of Part 3 of the Roads Act 1993, or
(b) an environmental planning instrument, or
(c) a resolution of Council.
Note: Additional advice may be available in section 149(5) information.

7 *COUNCIL AND OTHER PUBLIC AUTHORITY POLICIES ON HAZARD RISK RESTRICTIONS*

(a) Councils Policies

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The land is not affected by a policy adopted by the council that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

(b) Other Public Authority Policies
The Bush Fire Co-ordinating Committee has adopted a Bush Fire Risk Management Plan that covers the local government area of Penrith City Council, and includes public, private and Commonwealth lands.
The land is not affected by a policy adopted by any other public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the council, that restricts the development of the land because of the likelihood of land slip, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

7A FLOOD RELATED DEVELOPMENT CONTROLS INFORMATION

(1) This land has not been identified as being below the adopted flood planning level (ie. the 1% Annual Exceedance Probability flood level plus 0.5 metre) and as such flood related development controls generally do not apply for dwelling houses, dual occupancies, multi dwelling housing or residential flat buildings (not including development for the purposes of group homes or seniors housing) if such uses are permissible on the land. Council reserves the right, however, to apply flood related development controls depending on the merits of any particular application. Should future studies change this situation this position may be reviewed.

(2) This land has not been identified as being below the adopted flood planning level (ie. the 1% Annual Exceedance Probability flood level plus 0.5 metre) and as such flood related development controls generally do not apply for any other purpose not referred to in (1) above. Council reserves the right, however, to apply flood related development controls depending on the merits of any particular application. Should future studies change this situation this position may be reviewed.

8 LAND RESERVED FOR ACQUISITION

No 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.

9 CONTRIBUTIONS PLANS

The Library Facilities (Amendment No.1) in the City of Penrith Development Contributions Plan applies to the land.
The Cultural Facilities Development Contributions Plan applies to the land.
The Penrith City Local Open Space Development Contributions Plan 2007 applies to the land if residential development is permissible on the land.
The Penrith City District Open Space Facilities Development Contributions Plan applies anywhere residential development is permitted within the City of Penrith, with the exclusion of industrial lands and the Penrith Lakes development site.

10 BIOBANKING AGREEMENTS

(Information is provided in this section only if Council has been notified by the Director-General of the Department of Environment, Climate Change and Water that the land is land to which a biobanking agreement under Part 7A of the *Threatened Species Conservation Act 1995* relates.)

11 BUSH FIRE PRONE LAND

The land is not identified as bush fire prone land according to Council records.

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12 PROPERTY VEGETATION PLANS

(Information is provided in this section only if Council has been notified that the land is land to which a property vegetation plan under the Native Vegetation Act 2003 applies.)

13 ORDERS UNDER TREES (DISPUTES BETWEEN NEIGHBOURS) ACT 2006

(Information is provided in this section only if Council has been notified that 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.)

14 DIRECTIONS UNDER PART 3A

(Information is provided in this section only if there is 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 does not have effect.)

15 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS AFFECTING SENIORS HOUSING

(Information is provided in this section only if:

(a) there is a current site compatibility certificate (seniors housing), of which the council is aware, issued under State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 in respect of proposed development on the land; and/or

(b) any terms of a kind referred to in clause 18(2) of State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land.)

16 SITE COMPATIBILITY CERTIFICATES FOR INFRASTRUCTURE

(Information is provided in this section only if there is a valid site compatibility certificate (infrastructure), of which council is aware, in respect of proposed development on the land.)

17 SITE COMPATIBILITY CERTIFICATES AND CONDITIONS FOR AFFORDABLE RENTAL HOUSING

(Information is provided in this section only if:

(a) there is a current site compatibility certificate (affordable rental housing), of which the council is aware, in respect of proposed development on the land; and/or

(b) any terms of a kind referred to in clause 17(1) or 37(1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 have been imposed as a condition of consent to a development application in respect of the land.)

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) (Information is provided in this section only if, as at the date of this certificate, the land (or part of the land) is significantly contaminated land within the meaning of the Contaminated Land Management Act 1997.)

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(b) (Information is provided in this section only if, as at the date of this certificate, the land is subject to a management order within the meaning of the Contaminated Land Management Act 1997.)

(c) (Information is provided in this section only if, as at the date of this certificate, the land is the subject of an approved voluntary management proposal within the meaning of the Contaminated Land Management Act 1997.)

(d) (Information is provided in this section only if, at the date of this certificate, the land subject to an ongoing maintenance order within the meaning of the Contaminated Land Management Act 1997.)

(e) (Information is provided in this section only if the land is the subject of a site audit statement within the meaning of the Contaminated Land Management Act 1997 – a copy of which has been provided to Council.)

Note: Section 149(5) information for this property may contain additional information regarding contamination issues.

Note: The Environmental Planning and Assessment Amendment Act 1997 commenced operation on the 1 July 1998. As a consequence of this Act the information contained in this certificate needs to be read in conjunction with the provisions of the Environmental Planning and Assessment (Amendment) Regulation 1998, Environmental Planning and Assessment (Further Amendment) Regulation 1998 and Environmental Planning and Assessment (Savings and Transitional) Regulation 1998 and Environmental Planning and Assessment Regulation 2000.

Information is provided only to the extent that Council has been notified by relevant government departments.

149(5) Certificate
This Certificate is directed to the following relevant matters affecting the land

When information pursuant to section 149(5) is requested the Council is under no obligation to furnish any of the information supplied herein pursuant to that section. Council draws your attention to section 149(6) which states that a council shall not incur any liability in respect of any advice provided in good faith pursuant to sub-section (5). The absence of any reference to any matter affecting the land shall not imply that the land is not affected by any matter not referred to in this certificate.

Note:

- From 1 July 2008 Council's 149(5) information does not include development consent or easement information. Details of development consents may be obtained by making enquiries with Council's Development Services Department pursuant to section 12 of the Local Government Act 1993 or (for development applications lodged after January 2007) by viewing the Online Services area at www.penrithcity.nsw.gov.au . Details of any easements may be obtained from a Title Search at Land and Property Information New South Wales.
- This certificate does not contain information relating to Complying Development Certificates.
- This certificate may not provide full details of development rights over the land.

* When considering any development application Council must have regard to the Threatened Species Conservation Act 1995. Please note that this legislation may have application to any land throughout the city. Interested persons should make their own enquiries in regard to the impact that this legislation could have on this land.

* The land is affected by a Tree Preservation Order.

* Agricultural Activities Within Rural Areas
This property is located in a rural area and there may be certain agricultural activities occurring that some people may find offensive (for example noise, dust and odours). This should be considered if you purchase the subject property or build a dwelling thereon.
If you do purchase the subject property or build a dwelling, the potential impact that your activities (for example pets, inadequate fencing, drainage, litter and poor weed control) might have on the agricultural activities in the area should also be considered.

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* Council is currently carrying out a citywide overland flow flood study. This study has identified this property as subject to a flood or drainage risk in an extreme event. This may not necessarily result in flood related development controls.

Alan Stoneham,
General Manager.

Per

Penrith Local Environmental Plan No 258 – Consent for Dwelling Houses and Other Development

1 Name of plan

This plan is *Penrith Local Environmental Plan No 258 – Consent for Dwelling Houses and Other Development.*

2 Aims of plan

This plan aims to:

(a) require development consent for dwelling houses on residentially zoned land within the City of Penrith, and

(b) require development consent for dwelling houses on land within the Non-urban zone under the *Penrith Planning Scheme Ordinance* and on land within the Special Business zone under *Penrith Local Environmental Plan 1997 (Penrith City Centre),* and

(c) require development consent for dwelling houses attached to and used in conjunction with shops on land within the Neighbourhood Business zone under the *Penrith Planning Scheme Ordinance,* and

(d) require development consent for the following:

(i) the erection of a building or structure ordinarily associated with a dwelling house,
(ii) a change of building use,

Note. At the commencement of this plan, **a change of building use** meant a change of use of a building from a use that the *Building Code of Australia* recognises as appropriate to one class of building to a use that the *Building Code of Australia* recognises as appropriate to a different class of building.

(iii) demolition of a building or structure,
(iv) carrying out structural alterations to a building, internal alterations to a building, or external building work in association with business premises, a bed and breakfast establishment, office premises, commerical premises or take away food shops,
(v) the subdivision of land,

to the extent to which such development does not already require development consent because of another environmental planning instrument in order to be carried out.

3 Land to which plan applies

This plan applies to all land within the City of Penrith.

4 Relationship to other environmental planning instruments

(1) In the event of an inconsistency between this plan and any other local environmental planning instrument or deemed environmental planning instrument, this plan shall prevail to the extent of the inconsistency, subject to section 36 (4) of the Act.

(2) This plan amends:

(a) *Penrith Planning Scheme Ordinance* in the manner set out in Schedule 1,

(b) *Penrith Local Environmental Plan 1997 (Penrith City Centre)* in the manner set out in Schedule 2, and

(c) *Penrith Local Environmental Plan 1998 (Urban Land)* in the manner set out in Schedule 3.

(3) This plan does not affect the application of:

(a) *State Environmental Planning Policy No 3 – Castlereagh Liquid Waste Disposal Depot,*

(b) *State Environmental Planning Policy No 27 – Prison Sites,*

(c) *Sydney Regional Environmental Plan No 9 – Extractive Industry,*

(d) *Sydney Regional Environmental Plan No. 11 – Penrith Lakes Scheme,*

(e) *Sydney Regional Environmental Plan No 20 – Hawkesbury-Nepean River (No 2-1997),*

(f) *Sydney Regional Environmental Plan No 30 – St Marys,* or

(g) *Penrith Local Environmental Plan No 255 – Exempt and Complying Development,*

to land to which this plan applies.

5 Definitions

(1) In this plan:

a building or structure ordinarily associated with a dwelling house means a garage, carport, pergola, swimming pool, and the like, and includes alterations and additions to an existing dwelling house.

change of building use has the same meaning as in the Act.

Note. At the commencement of this plan, a ***change of building use*** meant a change of use of a building from a use that the *Building Code of Australia* recognises as appropriate to one class of building to a use that the *Building Code of Australia* recognises as appropriate to a different class of building.

dwelling means a room or number of rooms occupied or used, or so constructed or adapted as to be capable of being occupied or used, as a separate domicile.

dwelling house means a dwelling which is the only dwelling erected on an allotment of land.

subdivision of land has the same meaning as in the Act.

the Act means the *Environmental Planning and Assessment Act 1979.*

(2) The list of contents and notes in this plan are not part of this plan.

6 Dwelling houses require development consent

(1) The erection of a dwelling house must not be carried out without development consent.

(2) This clause applies to residentially zoned land within the City of Penrith.

(3) This clause applies if the development:

(a) does not require development consent because of another environmental planning instrument, and

(b) is not prohibited by another environmental planning instrument.

7. Miscellaneous development that requires development consent

(1) The following development must not be carried out without development consent:

(a) erection of a building or structure ordinarily associated with a dwelling house, or
(b) development that results in a change of building use, or

(c) demolition of a building or structure, or

(d) structural, internal or external building work in association with business premises, a bed and breakfast establishment, office premises, commercial premises or take away food shops.

(2) This clause applies if the development:

(a) does not require development consent because of another environmental planning instrument, and

(b) is not prohibited by another environmental planning instrument, and

(c) is not identified in *Penrith Local Environmental Plan No 255 – Exempt and Complying Development* as exempt development, and

(d) does not involve Crown building work as defined in section 116G of the Act.

8 Subdivisions require development consent

(1) A subdivision of land must not be carried out without development consent.

(2) This clause applies if the subdivision of land:

(a) does not require development consent because of another environmental planning instrument, and

(b) is not prohibited by another environmental planning instrument, and

(c) is not identified in *Penrith Local Environmental Plan No 255 – Exempt and Complying Development* as exempt development, and

(d) does not involve Crown building work as defined in section 116G of the Act.

Schedule 1 Amendment of Penrith Planning Scheme Ordinance

(Clause 4 (2) (a))

[1] Clause 4 Interpretation
Omit the definition of ***Country dwelling.***

[2] Clause 26 Erection or use of buildings or works
Omit "country dwellings;" from Column III for Zone No 1 of the Table to the clause.

[3] Clause 26, Table
Omit "dwelling-houses other than country dwellings and rural dwellings;" from Column V for Zone No. 1.

[4] Clause 26, Table
Omit "Dwelling-houses other than semi-detached and terrace buildings." from Column III for Zone No 2(a).

[5] Clause 26, Table
Omit "Residential buildings." from Column III for Zone No 2 (b).

[6] Clause 26, Table
Omit "Dwelling-houses other than semi-detached or terrace buildings." from Column III for Zone No 2 (c).

[7] Clause 26, Table
Omit ";dwelling-houses attached to and used in conjunction with shops" from Column III for Zone No 3 (c).

[8] Clause 26, Table
Omit "Purposes" from Column IV for Zone No 3(c).

Insert instead "Buildings or other structures ordinarily associated with dwelling houses; changes of building use (as defined in the *Environmental Planning and Assessment Act 1979)*; dwelling-houses attached to and used in conjunction with shops; demolition of buildings or other structures; land uses and premises".

[9] Clause 26, Table
Insert "; structural or internal alterations to, or external building work in association with, commercial premises or refreshment rooms" after "roads" in Column IV for Zone No 3(c).

[10] Clause 38 Development in residential zones
Omit the clause.

[11] Clause 46 Variation of area required for country dwelling
Omit the clause.

Schedule 2 Amendment of Penrith Local Environmental Plan 1997 (Penrith City Centre)

(Clause 4 (2) (b))

[1] Clause 9 Zone objectives and development control table

Omit from item (b) (i) **Without development consent** for Zone No 2 (f) in the Development Control Table:

- dwelling-houses

[2] Clause 9, table

Insert in alphabetical order in item (b) (ii) **Only with development consent** for Zone No 2 (f):

- buildings or other structures ordinarily associated with dwelling-houses
- demolition of buildings or other structures
- dwelling-houses

[3] Clause 20 Development of land within Zone No 3 (a)

Insert "where the new use does not involve structural or internal alterations or external buildings works" after the words "or take away food shops".

Schedule 3 Amendment of Penrith Local Environmental Plan 1998 (Urban Land)

(Clause 4 (2) (c))

[1] Clause 9 Zone objectives and development control table

Omit wherever occurring from item (b) (i) **Without development consent** for Zones Nos 2 (a1), 2 (a), 2 (b), 2 (c), 2 (d) and 2 (e) in the Development Control Table:

- dwelling houses

[2] Clause 9, table

Insert in alphabetical order in item (b) (ii) **Only with development consent** for Zones Nos 2 (a1), 2 (a), 2 (b), 2 (c), 2 (d) and 2 (e):

- buildings or other structures ordinarily associated with dwelling houses
- changes of building use (as defined in the Act)
- demolition of buildings or other structures
- dwelling houses
- internal structural work in bed and breakfast establishments

[3] Clause 9, table

Insert in alphabetical order in item b (ii) **Only with development consent** for Zones Nos 2 (r) and 2 (r1);

- buildings or other structures ordinarily associated with dwelling houses
- changes of building use (as defined in the Act)
- demolition of buildings or other structures
- structural or internal alterations to bed and breakfast establishments

[4] Clause 9, table

Insert in alphabetical order in item (b) (ii) **Only with development consent** for Zone No 3 (f):

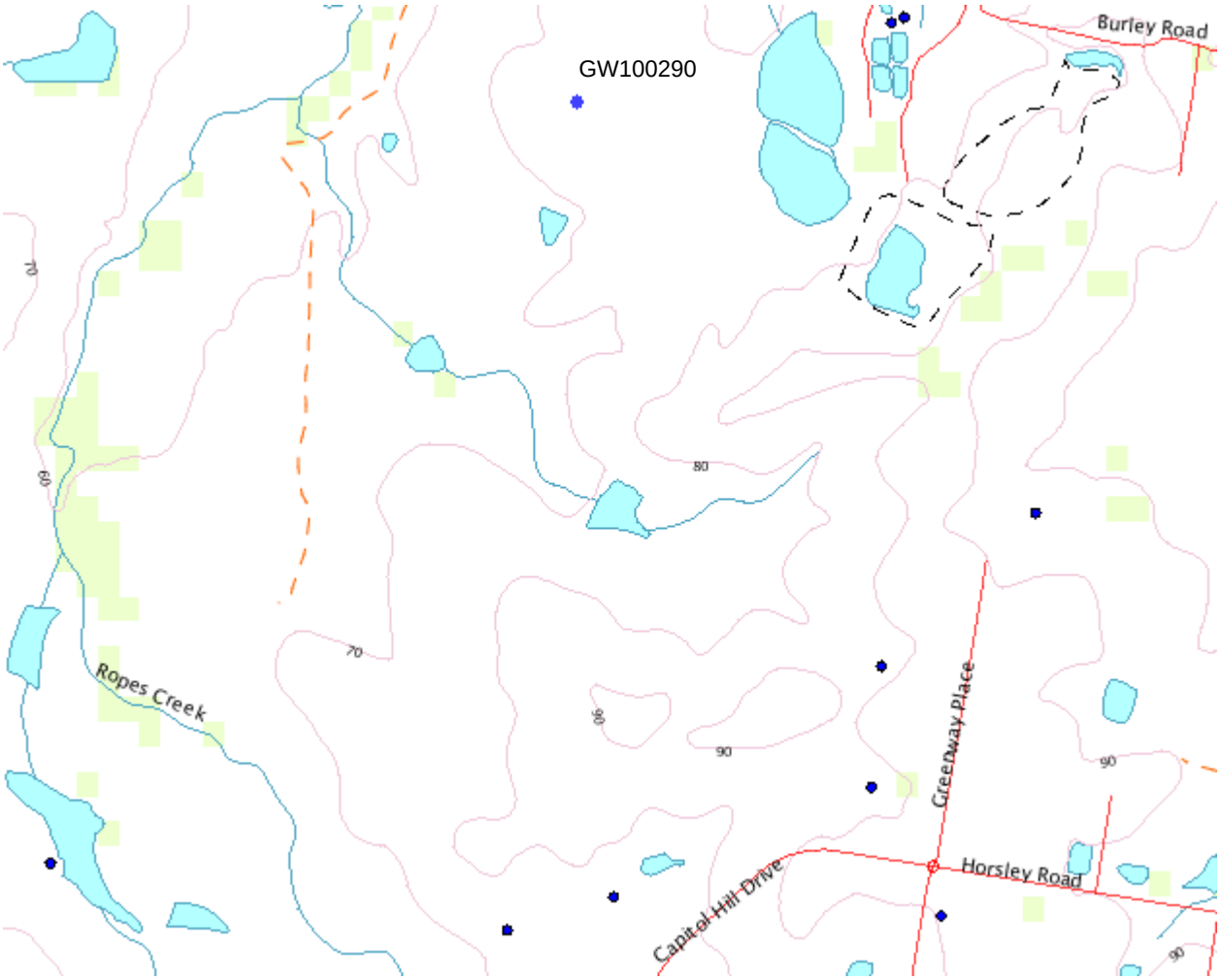
- changes of building use (as defined in the Act)
- demolition of buildings or other structures
- external building work associated with an existing land use carried out with consent
- structural or internal alterations to a building or other structure erected with consent or building approval

APPENDIX 2:
GROUNDWATER MAP AND SUMMARY SHEETS

Map from the NSW Natural Resource Atlas

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

Friday, July 23, 2010



0 2 Km

Legend

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

Groundwater Works Summary

For information on the meaning of fields please see Glossary
Document Generated on Friday, July 23, 2010

Print Report

Works Details Site Details Form A Licensed Construction Water Bearing Zones Drillers Log

Work Requested -- GW100290

Works Details (top)

GROUNDWATER NUMBER	GW100290
LIC-NUM	10BL154250
AUTHORISED-PURPOSES	MONITORING BORE
INTENDED-PURPOSES	MONITORING BORE
WORK-TYPE	Bore
WORK-STATUS	(Unknown)
CONSTRUCTION-METHOD	Rotary
OWNER-TYPE	
COMMENCE-DATE	
COMPLETION-DATE	1994-10-21
FINAL-DEPTH (metres)	80.00
DRILLED-DEPTH (metres)	80.00
CONTRACTOR-NAME	
DRILLER-NAME	
PROPERTY	N/A
GWMA	-
GW-ZONE	-
STANDING-WATER-LEVEL	
SALINITY	1970.00
YIELD	

Site Details (top)

REGION	10 - SYDNEY SOUTH COAST
RIVER-BASIN	
AREA-DISTRICT	
CMA-MAP	
GRID-ZONE	
SCALE	
ELEVATION	
ELEVATION-SOURCE	
NORTHING	6254770.00
EASTING	297937.00
LATITUDE	33 49' 41"
LONGITUDE	150 48' 59"
GS-MAP	

AMG-ZONE	56
COORD-SOURCE	
REMARK	

Form-A (top)

COUNTY	CUMBERLAND
PARISH	MELVILLE
PORTION-LOT-DP	A//392643

Licensed (top)

COUNTY	CUMBERLAND
PARISH	MELVILLE
PORTION-LOT-DP	77

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	80.00	102			Rotary Air
1	1	Casing	P.V.C.	0.00	80.00	50			C: 0-6m; Screwed
1	1	Opening	Screen	23.40	26.30	50		1	(Unknown) PVC; A: .4mm; Screwed
1	1	Opening	Screen	32.20	35.20	50		2	(Unknown) PVC; A: .4mm; Screwed
1	1	Opening	Screen	41.10	44.00	50		3	(Unknown) PVC; A: .4mm; Screwed
1	1	Opening	Screen	49.90	52.90	50		4	(Unknown) PVC; A: .4mm; Screwed
1	1	Opening	Screen	58.80	61.70	50		5	(Unknown) PVC; A: .4mm; Screwed
1	1	Opening	Screen	67.60	70.60	50		6	(Unknown) PVC; A: .4mm; Screwed
1	1	Opening	Screen	76.50	79.40	50		7	(Unknown) PVC; A: .4mm; Screwed

1	Annulus	Waterworn/Rounded	6.00	80.00		Graded; GS: 2mm; Q: .45m³

Water Bearing Zones (top)

no details

Drillers Log (top)

FROM	TO	THICKNESS	DESC	GEO-MATERIAL	COMMENT
0.00	1.00	1.00	FILL DOLERITE GRAVEL		
1.00	2.00	1.00	CLAY/ BLUE/ GREY		
2.00	4.00	2.00	SANDSTONE/ BROWN / YELLOW		
4.00	10.00	6.00	INTERBEDDED SILTSTONE / SANDSTONE		
10.00	12.00	2.00	SILTSTONE / DARK GREY		
12.00	15.00	3.00	SILTSTONE / SHALE & CLAY INTERBEDS		
15.00	17.00	2.00	SILTSTONE AND SHALE		
17.00	23.00	6.00	SILTSTONE MASSIVE		
23.00	53.00	30.00	SILTSTONE & SHALE INTERBEDDED		
53.00	54.00	1.00	SANDSTONE & SHALE INTERBEDDED		
54.00	57.00	3.00	SHALE & SILTSTONE INTERBEDDED		
57.00	61.00	4.00	SANDSTONE,SHALE,SILTSTONE INTERBEDDED		
61.00	63.00	2.00	SHALE, CARBONACEOUS		
63.00	64.00	1.00	SHALE, SILTSTONE, SANDSTONE: INTERBEDDED		
64.00	65.00	1.00	SHALE: CARBOINACEOUS		
65.00	68.00	3.00	SILTSTONE, SHALE: INTERBEDDED		
68.00	69.00	1.00	SHALE: CARBONACEOUS		
69.00	70.00	1.00	SHALE AND SILTSTONE :INTERBEDDED		
70.00	71.00	1.00	SHALE, SILTSTONE , SANDSTONE INTERBEDDED		
71.00	75.00	4.00	SHALE & SILTSTONE INTERBEDDED		
75.00	76.00	1.00	SHALE, CLAY, SILTSTONE INTERBEDDED		
76.00	80.00	4.00	SHALE, SILTSTONE: INTERBEDDED		

APPENDIX 3:
HISTORICAL INFORMATION

Environmental Legal Searches
Environmental Management Group Pty Ltd
ACN 108 771 482
ABN 76 784 207 704

MOBILE: 0404 069 995
FAX: 02 - 8211 9179
EMAIL: search@elsearches.com.au
WEB: www.elsearches.com.au
ADDRESS: PO BOX 393 Kingsford NSW 2032

8 July 2010

Consulting Earth Scientists
Jones Bay Wharf 19-21
Upper Deck Suite 55
26-32 Pirrama Road
PYRMONT NSW 2009

Attention: Ms Wendy Ellis

RE: Lot A DP 392643, Horsley Park
Your Ref. No: CES100606-JBA

SUMMARY OF PROPRIETORS

Lot A DP 392643

Year	Proprietor	Source
1979-To date	Jacfin Pty. Ltd.	Current certificate of Title Vol. 7885 Fol. 29
1975-1979	Ray Fitzpatrick Holdings Pty. Ltd.	Vol. 7885 Fol. 29
1972-1975	Rae Edwina Cottle (married woman) & Jacquelyn Isobel Waterhouse (married woman)	Vol. 7885 Fol. 29
1969-1972	Clare Isobel Fitzpatrick (widow) & Ronald George Patterson (bank manager)	Vol. 7885 Fol. 29
1960-1969	Raymond Coward Fitzpatrick (farmer & grazier)	Vol. 7885 Fol. 29
1946-1960	Florence Alberta Richardson (spinster)	Vol. 4880 Fol. 246
1920-1946	Dorothy Grace Richardson (spinster) & Florence Alberta Richardson (spinster)	Vol. 4880 Fol. 246
Prior to 1920	Crown land	Vol. 4880 Fol. 246

Environmental Legal Searches
Environmental Management Group Pty Ltd
ACN 108 771 482
ABN 76 784 207 704

MOBILE: 0404 069 995
FAX: 02 - 8211 9179
EMAIL: search@elsearches.com.au
WEB: www.elsearches.com.au
ADDRESS: PO BOX 393 Kingsford NSW 2032

SUMMARY OF LEASES *

Lot A DP 392643

Lessee	Source
July 1939: Leased to A. H. Collett Pty. Ltd. August 1944: Leased to A. H. Collett Pty. Ltd. May 1954: Leased to A. H. Collett Pty. Ltd.	Vol. 4880 Fol. 246

Terms of Conditions & Limitations

1. The client is responsible for payment associated with the search.

2. The client is authorised to use our report subject to settlement of our account. Until the account is settled, the report remains the property of Environmental Legal Searches. If the account is not settled within 30 days of the invoice date, then the authority to use the report may be revoked. Where authority to use the report is revoked, all references to the report should be deleted or rendered inactive until the account is settled.

3. Search was based on **Lot A DP 392643** provided by **Ms Wendy Ellis of Consulting Earth Scientists.**

The attached cadastral plan and **Deposited Plan (DP392643)** MUST be checked against the survey plan for the property for correctness.

4. The details of the leases (if applicable) were solely based on the available records of the Department of Lands. The MOST RECENT record may not be available on the day of the searching.

LAND AND PROPERTY INFORMATION NSW
CENTRAL REGISTER OF RESTRICTIONS CERTIFICATE

1W - ENVIRONMENTAL LEGAL SEARCHES

Land and Property Management Authority

APPLN NO: 1249541
YOUR REFERENCE: CES 100606 JBA

ISSUED: 2/7/2010 10:09 AM
PAGE: 1

REFERENCE: A/392643

LGA: PENRITH

PARISH: MELVILLE COUNTY: CUMBERLAND

NO. OF AUTHORITIES INQUIRED OF: 1

THE FOLLOWING AUTHORITIES HAVE A POSSIBLE OR ACTUAL INTEREST IN THIS PROPERTY. YOUR INQUIRY HAS BEEN REFERRED TO THEM FOR DIRECT RESPONSE:

THE DEPARTMENT OF DEFENCE - (ADMINISTERED BY LPI)

REGISTRAR GENERAL

***** END OF CERTIFICATE *****

Box: 1W

Land and Property Management Authority

1 Prince Albert Rd
Sydney NSW 2000
Ph 1300 0LANDS
Fax (02) 9233 4357
lands.nsw.gov.au

ENVIRONMENTAL LEGAL SEARCHES
35 BOYCE ROAD
MAROUBRA 2035

UNEXPLODED ORDNANCE SEARCH RESULT

Date: 2/7/2010
Appln No: 1249541
Title Ref: A/392643
Your Ref: CES 100606 JBA
Parish: MELVILLE CUMBERLAND

The Department of Defence advises that there is no record of land within this title having been used for military purposes of a nature that may have resulted in ordnance-related contamination.

For any further details regarding your inquiry, please contact Ms Josephine Velte at the Department of Lands on Phone (02) 9228 6835 or Fax (02) 9221 1323.

* On receipt, please check that the property details above are correct.

MR RON SALE
Manager
Electronic Services LPI

WorkCover
NEW SOUTH WALES

Our Ref: D10/086713
Your Ref: Luke Jenkins

20 July 2010

Attention: Luke Jenkins
Consulting Earth Scientists
Jones Bay Wharf Suite 55
26-32 Pirrama Road
PYRMONT NSW 2009

Dear Mr Jenkins,

RE SITE: Lot A DP392643 & Lot 5 DP262213

I refer to your site search request received by WorkCover NSW on 05 July 2010 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

Diana Hayes

Senior Licensing Officer
Dangerous Goods Team

APPENDIX 4:
HISTORICAL AERIAL PHOTOGRAPHS

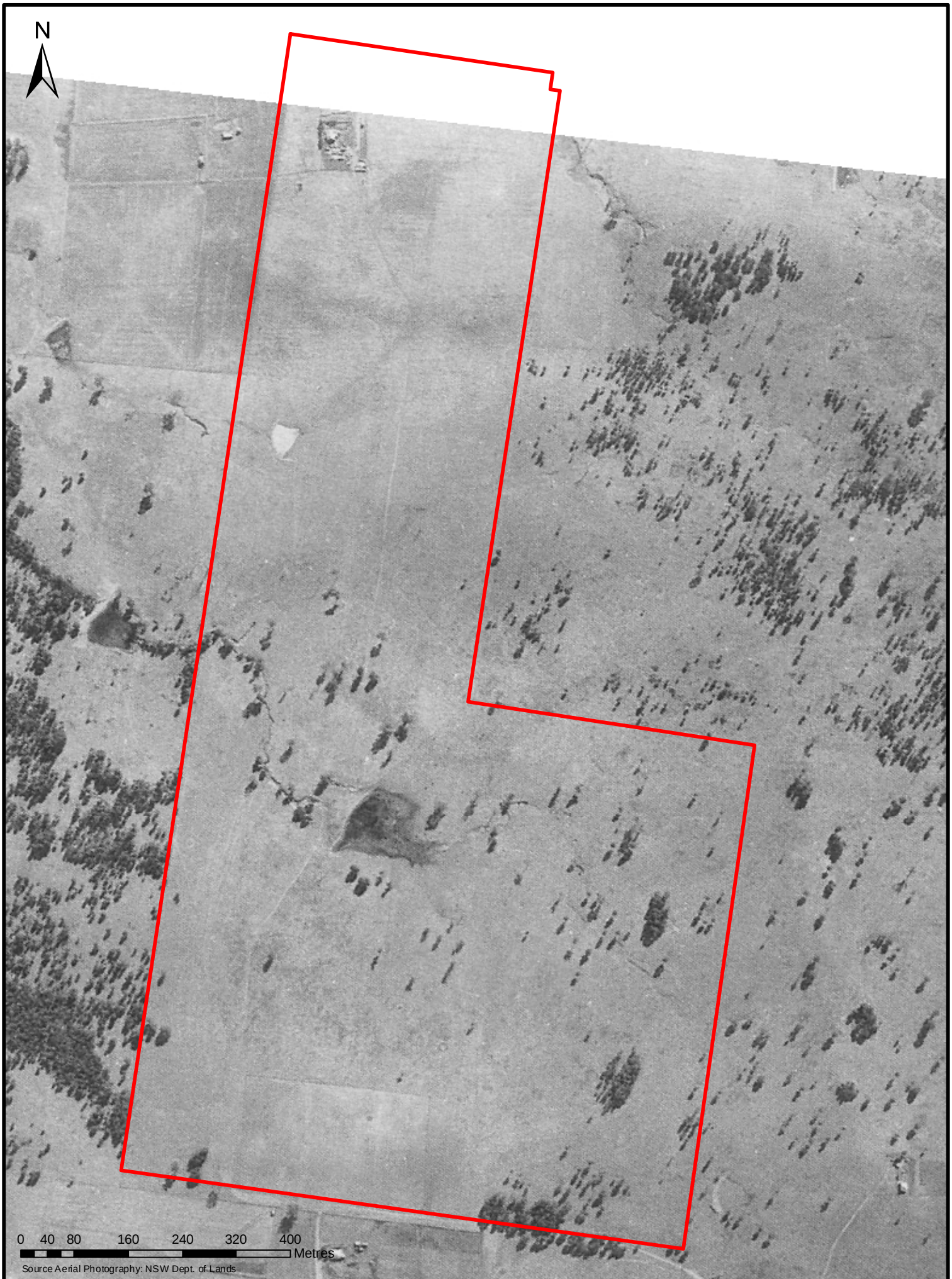
APPENDIX 4:
HISTORICAL AERIAL PHOTOGRAPHS

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

Title

Appendix 5.1 - Lot A Burley Road Horsley Park Employment Precinct (1947)

CES Project ID:	Date:
CES100606-JBA	23/07/2010
Prepared By: M.Howden	Checked By: L.Jenkins

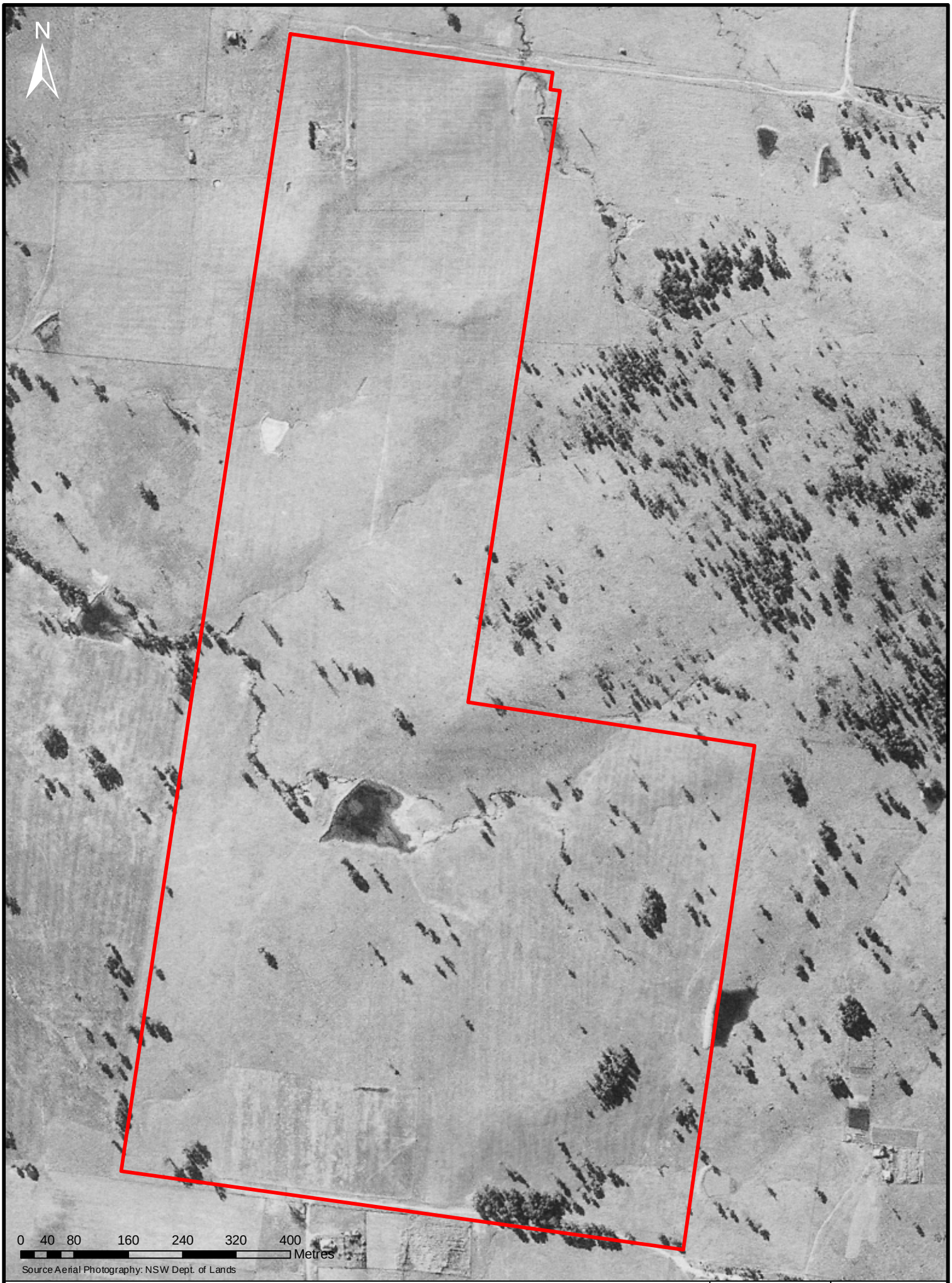


CONSULTING EARTH SCIENTISTS
Jones Bay Wharf 19-21, Suite 55
26-32 Pirrama Road, Pyrmont, NSW, 2009
ph 8569 2200 fax 9552 4399

Title

Appendix 5.2 - Lot A Burley Road Horsley Park Employment Precinct (1955)

CES Project ID:	Date:
CES100606-JBA	23/07/2010
Prepared By:	Checked By:
M.Howden	L.Jenkins



CONSULTING EARTH SCIENTISTS

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

Title

Appendix 5.3 - Lot A Burley Road Horsley Park Employment Precinct (1961)

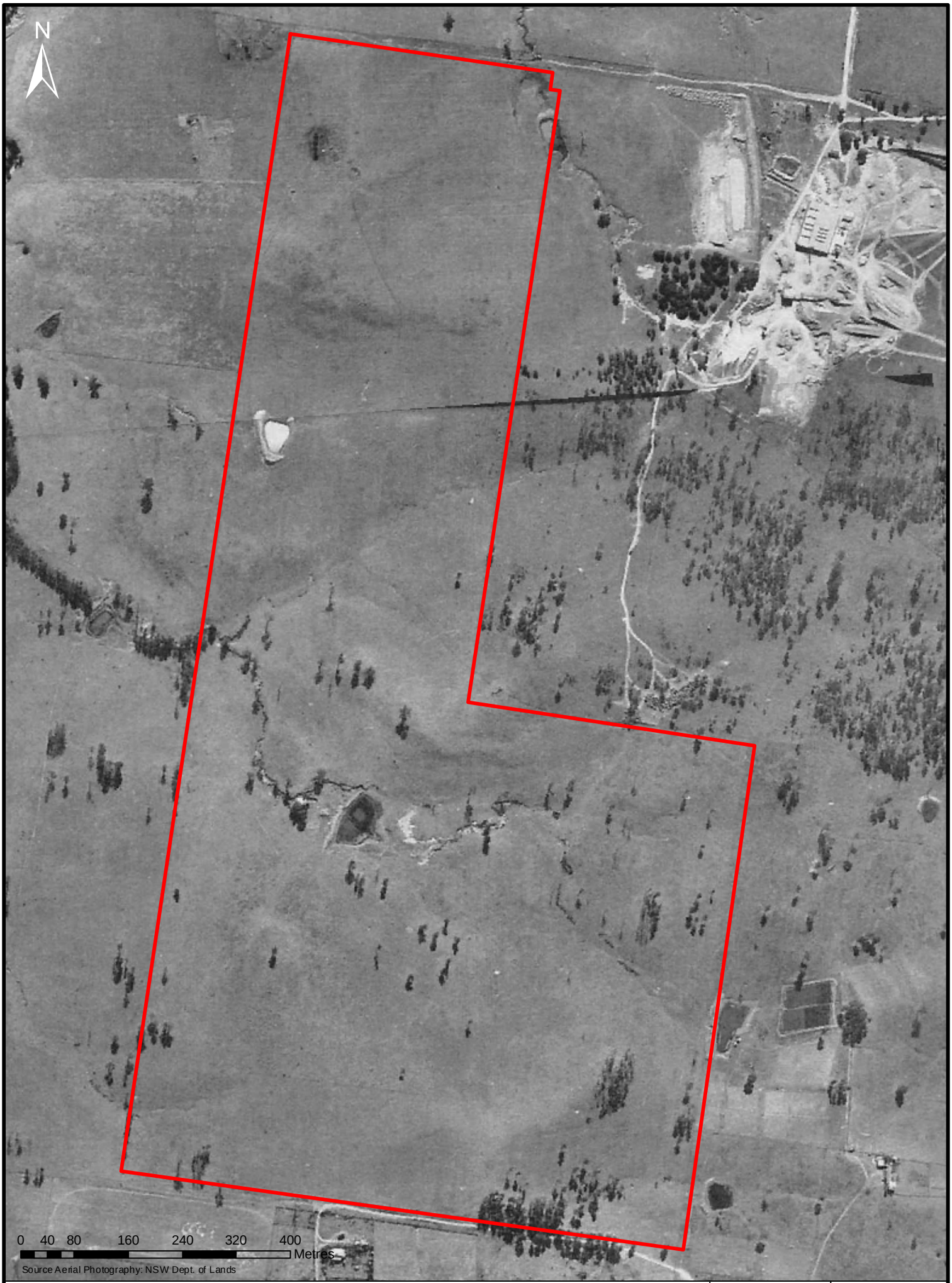
CES Project ID:	Date:
CES100606-JBA	23/07/2010
Prepared By:	Checked By:
M.Howden	L.Jenkins

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

Title

Appendix 5.4 - Lot A Burley Road Horsley Park Employment Precinct (1965)

CES Project ID:	Date:
CES100606-JBA	23/07/2010
Prepared By: M.Howden	Checked By: L.Jenkins



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

Title

Appendix 5.5 - Lot A Burley Road Horsley Park Employment Precinct (1970)

CES Project ID:	Date:
CES100606-JBA	23/07/2010
Prepared By: M.Howden	Checked By: L.Jenkins