Limited Detailed Site Investigation

369 Newport Road, Cooranbong

LAKE MACQUARIE CITY COUNCIL

Approved plans for
Development Consent No: DA/1214/2022
Date of Approval: 28/03/2025

NOT FOR CONSTRUCTION

Report Ref: E0137-DSI-001-Rev0

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SUSTAINABLE CERTIFICATION
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Project Details

Site Address:	369 Newport Road, Cooranbong
Project Type:	Limited Detailed Site Investigation

Project no	Report type	Report no
E0137	DSI	001

Report Register

Revision Number	Reported By	Reviewed By	Date
Rev0	FH	JD	21/11/2023

We confirm that the following report has been produced for JC Subdivisions Pty Ltd, based on the described methods and conditions within.

For and on behalf of Hunter Environmental Consulting,

Jake Duck
Environmental Scientist
Bachelor of Environmental Science and Management

Executive Summary

Hunter Environmental Consulting (HEC) was engaged by JC Subdivisions Pty Ltd to undertake a Detailed Site Investigation (DSI) with soil sampling at the Site located at 369 Newport Road, Cooranbong (herein after referred to as "the Site").

The Site is currently proposed to undergo redevelopment in which will involve subdivision of the existing lot and addition of a second dwelling. The DSI is required in response to Lake Macquarie City Council Request For Information (RFI) for DA/1214/2022 in which has identified that significant earthworks have occurred onsite, with no record of development consent. In order to consider supporting the proposal for the redevelopment, the application shall be revised to demonstrate that the unauthorised filling is removed, and the site returned to its pre-filling levels.

This PSI includes the following elements:

- Review of historical aerial images of the Site and surrounding area
- Compilation of a historical title summary
- Review of a Section 10.7 Planning Certificate
- Review of publicly available environmental databases and legislative instruments
- Site inspection and interview with knowledgeable Site representative (if available)
- A Conceptual Site Model (CSM) with assessment of contamination and source-pathway-receptor linkages
- Recommendations for further investigation, any management requirements and/or any ongoing management, monitoring or remedial works that may be required.

Detailed soil sampling was conducted to supplement the desktop assessment for contamination purposes. Soil sampling consisted of:

- Collection of ten (10) primary samples analysed for contaminants of potential concern (CoPC);
- Collection of one (1) duplicate sample for Quality Assurance / Quality Control (QA/QC) purposes; and
- Collection of one (1) rinsate sample for QA/QC purposes.

The detailed desktop review of available information and thorough Site inspection including detailed soil investigation have enabled the development of a CSM allowing assessment of potential health and environmental issues relating to the Site. Key findings were:

1. Visible signs of gross contamination were not observed during Site inspection and intrusive works with the exception of minor surface staining in one location; and
2. Contamination in shallow soils above the adopted site assessment criteria (SAC) were not identified at any of the sampling locations.

In summary, based on the desktop study and detailed intrusive sampling conducted at the Site, no indication of gross contamination has been identified.

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Annex List:

1 Introduction

1.1 Background

Hunter Environmental Consulting (HEC) was engaged by JC Subdivisions Pty Ltd to undertake a limited Detailed Site Investigation (DSI) with detailed soil sampling at 369 Newport Road, Cooranbong (herein after referred to as "the Site").

The Site is currently proposed to undergo redevelopment in which will involve subdivision of the existing lot and addition of a second dwellingThe DSI is required in response to Lake Macquarie City Council Request For Information (RFI) for DA/1214/2022 in which has identified that significant earthworks have occurred onsite, with no record of development consent. A Site Features Plan is presented as Figure 1 of **Annex A**.

1.2 Objectives

The objectives of this DSI were to investigate potential contaminant sources, pathways and receptors in relation to the Site as well as inform detailed consideration of potential risks to human health and/or the environment within the context of the most sensitive potential land use. For the purpose of the investigation, HIL-A has been adopted as the most sensitive land use (ie. Low density residential landuse).

This report has been prepared in general accordance with provisions for a DSI as defined within the NSW EPA (2022) Contaminated Land Guidelines: Sampling design part 1 – application (NSW EPA, 2022), the NSW EPA (2020) Guidelines for Consultants Reporting on Contaminated Sites (NSW EPA, 2020) and National Environment Protection (Assessment of Site Contamination) Measure (National Environmental Protection Council (NEPC), 2013).

All information collected informed the development of the CSM which provides a representation of potential sources of contamination and evaluate the CoPC; areas of potential contamination; potential human and ecological receptors; and potentially affected media (such as soil and groundwater).

1.3 Scope of Works

1.3.1 Limited Detailed Site Investigation

This PSI includes the following elements:

- Review of historical aerial images of the Site and surrounding area;
- Compilation of a historical title summary;
- Review of a Section 10.7 Planning Certificate;
- Review of publicly available environmental databases and legislative instruments;
- Site inspection and interview with knowledgeable Site representative (if available);
- A CSM with assessment of source-pathway-receptor linkages; and
- Recommendations for further investigation, any management requirements and/or any ongoing management, monitoring or remedial works that may be required

1.4 Detailed Soil Investigation

Detailed soil sampling was also conducted to supplement the desktop assessment for contamination purposes. Soil sampling consisted of:

- Collection of ten (10) primary samples analysed for CoPC;
- Collection of one (1) duplicate sample for QA/QC purposes; and
- Collection of one (1) rinsate sample for QA/QC purposes

Preparation of this report includes recommendations for further investigation, any management requirements and/or any ongoing management, monitoring or remedial works that may be required.

2 Site Description

2.1 Site & Lot Identification

The Site is located at 369 Newport Road, Cooranbong, legally identified as Lot 1 on Deposited Plan (DP) 778019. The Site forms a irregular shaped block of approximately 2650m$^{2.}$

A summary of Site information is provided in **Table 2.1** below.

Table 2.1 - Site identification

Item	Description
Current Site Owner	JC Subdivision Pty Ltd
Site Address	369 Newport Road, Cooranbong
Current Zoning	R2 Low Density Residential
Proposed Land Use	R2 Low Density Residential
Legal Description	Lot 1 DP 778019
Local Government Authority	Lake Macquarie City Council
Site Area	Approximately 2650m^2
Elevation	7m Above Sea Level (ASL)
Geographical Location (GDA94-MGA56)	E 356816.695 N 6339769.191

Review of Lake Macquarie City Council Local Environmental Plan (LEP) 2014 together with the Planning Certificate under Section 10.7 Part 2 and 5 of the Environmental Planning and Assessment Act 1979 (attached as **Annex B**) provides the following information:

1. The Site is affected by heritage items, An item of environmental heritage, namely Aboriginal heritage

listed within the Aboriginal Heritage Information Management System (AHIMS), may affect the land. Aboriginal objects are protected under the National Parks and Wildlife Act 1974;
2. The Site and/or adjacent lots are not affected by land reserved for acquisition;
3. The Site is not affected by environmentally sensitive land or critical habitat;
4. The Site and/or adjacent lots are subject to flood planning constraints;
5. The Site and/or adjacent lots are subject to bushfire constraints;
6. The Site and/or adjacent lots are subject to an adopted a policy that may restrict the development of Contaminated or Potentially Contaminated land; and
7. There are no prescribed matters under section 59(2) of the Contaminated Land Management Act 1997 to be disclosed.

2.2 Surrounding Land Use

The Site is located predominantly within a residential area of Cooranbong, NSW. Review of satellite imagery identified surrounding land uses as summarised in **Table 2.2** below.

Table 2.2 - Summary of surrounding land use

Direction	Land Use	Distance
North	Residential	30m
East	Residential	Adjacent
South	Residential/undeveloped	Adjacent/50m
West	Residential	Adjacent

3 Background Data Review & Database Searches

3.1 Summary of Ownership & Site Use

Historical title searches completed for the Site provide a summary of ownership as described in **Table 3.1** below.

Table 3.1 - Summary of site ownership

Date of Acquisition and term held	Registered Proprietor(s) & Occupations where available	Reference to Title at Acquisition and sale
1908	This parcel of land formed part of a road.	
24.10.1969	Road Closed	Gazette 24.10.1969
29.12.1969 (1969 to 1973)	Raymond George Rouse (Contractor) Margaret Eileen Rouse (Married Woman)	Volume 11219 Folio 94

13.06.1973 (1973 to 1980)	Lindsay Gordon Harper (Accountant) John Baptist Malfanti (Solicitor) S Bombardier Holdings Pty Limited	Volume 11219 Folio 94
27.06.1980 (1980 to 1980)	Peter Lyndsay (or Lindsay) Gordon Harper (Medical Practitioner) John Baptist Malfanti (Solicitor) S Bombardier Holdings Pty Limited (Transmission Application – not investigated)	Volume 11219 Folio 94
28.08.1980 (1980 to 1987)	Peter Lyndsay (or Lindsay) Gordon Harper (Medical Practitioner) Robert Leonardis Sennef (Butcher) (S Bombardier Holdings Pty Limited	Volume 11219 Folio 94
23.03.1987 (1987 to 2018)	Yvonne Borgas	Volume 11219 Folio 94 Now 1/778019
05.07.2018 (2018 to 2022)	Kane John William Ash Kristy Louise Slade	1/778019
16.09.2022 (2022 to date)	# JC Subdivision Pty Ltd	1/778019

# Denotes current registered proprietor

Historical title documents sourced as part of this assessment are presented as **Annex C**.

3.2 Historical Photographs

Historical aerials and satellite images dating 1954-2023 provide a summary of development at the Site and within the surrounding area. Historical images are presented as part of **Annex D** and a summary of review in **Table 3.2** below.

Table 3.2 - Historical aerial review

Date	Summary
1954	Low quality black and white aerial, Site is undeveloped land, developed road adjacent north.
1966	Consistent with prior aerial.
1976	Low quality coloured aerial, removal of vegetation on Site, construction of small dwellings to the east of Site.
1984	Low quality black and white aerial consistent with prior aerial.
1994	Good quality coloured aerial, construction of residential dwelling on Site, further residential development north of Site.
2002	Consistent with prior aerial.
2007	High quality coloured aerial, addition of a likely storage shed adjacent south of the dwelling on Site.
2010	Consistent with prior aerial.
2016	Consistent with prior aerial.
2019	High quality coloured aerial, multiple stockpiled soils north side of Site, what appears to be further important soils covering the east/southeastern side of Site. Site appears to be storing vehicles.
2023	Consistent with prior aerial. Residential dwelling constructed to the east of site. Storage structure constructed to south of Site.

3.3 Topography & Hydrology

Topography of the area is characterised by undulating low hills and rises and gently inclined side slopes. Review of Google Earth Pro (2023) indicates the Site slightly slopes from 7m Above Sea Level (ASL) in the south to 10m ASL in the north. The closest surface water body identified is the Jigadee Creek located approximately 50m to the east of Site.

3.3.1 Lithology & Geology

Review of the NSW Office of Environment and Heritage soil landscape database– indicates that the Site falls within the Wyong Soil Landscape.

Review of the NSW Department of Industry, Resources & Energy database; NATMAP 1: 100,000 Geological Sheet indicates that the Site lies on the Alluvial floodplain deposits and Munmorah Conglomerate units. Typical lithology includes Silt, very fine- to medium grained lithic to quartz-rich sand, clay. Medium- to coarse-grained lithic to quartz-lithic sandstone, granule to pebble polymictic conglomerate; minor siltstone and white claystone, thin lenticular coal seams.

3.3.2 Hydrogeology

Review of the NSW Department of Primary Industries – Office of Water / Water Administration Ministerial Corporation database identified 4 registered bores within 2km of the Site. Bore details are presented in **Table 3.3** below.

Table 3.3 - Groundwater bore details

NSW Bore ID	Bore Type	Status	Drill Date	Bore Depth (m)	Reference Elevation	Distance	Direction
GW064116	Water Supply	Unknown	01/03/1987	21.3		311m	West
GW200765	Water Supply	Unknown	12/10/1980	8		399m	West
GW064033	Water Supply	Unknown	01/03/1987	49.4		1034m	South East
GW067263	Water Supply	Functioning	20/03/1989	10	3	1811m	South West

3.4 Chemical Storage & Waste Production / Disposal

The results of the SafeWork Dangerous Goods Search were not considered necessary due to the historical and current land use of the Site.

3.5 Onsite Database Searches

3.5.1 Current & Former Environment Protection Licences

A review of the licenced activities under the Protection of the Environment Operations act 1997 was completed on the 6th of November 2023.

A number of NSW EPA licensed activities have been conducted within proximity to the Site. The tables below list both former and current licensed activities and the type of licensed activity conducted.

Table 3.4 - Current licenced EPA activities

EPL	Organisation	Address	Activity	Distance (m)	Direction
6332	Lake Macquarie City Council	-	Other activities	46	Southeast
20987	Ray Johnsons Scrap Tyre Disposals Pty Ltd	2/23 Currans Road, Cooranbong, Nsw 2265	Waste Storage - Hazardous, Restricted Solid, Liquid, Clinical And	764	East

			Related Waste And Asbestos Waste		
20987	Ray Johnsons Scrap Tyre Disposals Pty Ltd	2/23 Currans Road, Cooranbong, Nsw 2265	Waste storage - other types of waste; Waste storage - waste tyres	764	East
20987	Ray Johnsons Scrap Tyre Disposals Pty Ltd	2/23 Currans Road, Cooranbong, Nsw 2265	Waste storage - waste tyres	764	East

Table 3.5 - Delicenced and former licenced EPA activities

Licence No	Organisation	Location	Status	Activity	Distance (m)	Direction
4653	Luhrmann Environment Management Pty Ltd	Waterways Throughout Nsw	Surrendered	Other Activities / Non Scheduled Activity - Application of Herbicides	46	South East
4838	Robert Orchard	Various Waterways throughout New South Wales - SYDNEY NSW 2000	Surrendered	Other Activities / Non Scheduled Activity - Application of Herbicides	46	South East
6630	Sydney Weed & Pest Management Pty Ltd	Waterways Throughout Nsw - Prospect, Nsw, 2148	Surrendered	Other Activities / Non Scheduled Activity - Application of Herbicides	46	Southeast

3.5.2 Heritage

Review of the Heritage Data Source - Planning & Environment, indicates the Site is not affected by heritage items. The closest registered heritage item is House "Sunnyside" situated 346m southwest of the Site. Registered heritage items within the area are described in **Table 3.6** below.

Table 3.6 - Heritage item summary

Map Id	Name	EPI Name	Published Date	Commenced Date	Currency Date	Distance (m)	Direction
63	House "Sunnyside"	Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	25/11/2022	346	Southwest
73	Cottage	Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	25/11/2022	360	West
72	House "Three Bells"	Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	25/11/2022	920	Southwest

A figure detailing locations of heritage items listed above is presented within Lotsearch Report in **Annex D**.

3.5.3 Contaminated Land Records

A review of the NSW EPA Contaminated Land Record of Notices was completed on 6th of November 2023. This review identified that the Site is not subject to regulation by the NSW EPA under Section 60 of the *Contaminated Land Management (CLM) Act 1997* and similarly that there are no Sites within the surrounding area subject to regulation under the *CLM Act 1997*.

A review of the NSW EPA List of Contaminated Sites was completed 6th of November 2023. This review identified that the Site has not been notified to the EPA as a contaminated Site, however there is a service station 238m northwest which has been notified.

The findings of these reviews indicate that the Site is unlikely to be impacted by contamination known to the EPA.

3.5.4 Naturally Occurring Asbestos

NSW Department of Industry, Resources & Energy (2022) identifies that the Site does not fall in an area known to contain naturally occurring asbestos.

3.5.5 Acid Sulfate Soils

Review of the ePlanning Spatial Viewer online database (2020) identifies the Site as not being within an acid sulfate soils (ASS) area. Additionally, a review of the eSPADE online database (2022) identifies the Site as being within an area of no known acid sulfate occurrence.

4 Data Quality Objectives

Data quality objectives (DQOs) have been developed to define the type and quality of data required to achieve the project objectives outlined in **Section 1.2**. The DQOs have been prepared in line with the DQO process outlined in the NEPM (2013) which define minimum data requirements and quality control procedures. The proposed application of the seven-step DQO approach to this project is described in **Table 4.1**.

The DQO process is validated in part by QA/QC assessment. The QA/QC assessment for this project is summarized in **Section 7** of the report.

Table 4.1 - Data Quality Objectives

Step	Input
1. State the problem	The presence of uncontrolled fill material of unknown origin used on Site could potentially contaminate soil and groundwater, presenting a risk to human health and/or the environment. Further site investigation is required to assess contamination at the site and evaluate suitability of the site for the proposed redevelopment.
2. Identify the Decisions	The objective of this investigation is to determine if the historic land uses at the Site or surrounding area have resulted in contamination at levels that may impact the proposed development. The following decisions need to be addressed: • Is there a potential for soil contamination to be present at the Site which may pose risks to human health and environment? • Is remediation or management actions required to render the Site suitable for the proposed redevelopment?
3. Identify Inputs into the Decision	The primary inputs to make the above decisions are as follows: • Review of background information collected for the Site; • Advancement of eight (8) boreholes to a maximum depth of 2m Below ground level (BGL) to provide systematic coverage of the identified fill area; • Observation of environmental variables including soil type, odours and staining; • Laboratory analysis of soil for CoPC identified as part of desktop assessment and site walkover observations; and • Field and laboratory quality assurance/quality control data.
4. Study Boundary	The investigation is limited to the Site boundary as presented in *Figure 1*. The vertical study boundary is up to 2m (maximum depth of borehole before termination). Groundwater was not encountered during the drilling works.

5. Develop a Decision Rule	The analytical results will be assessed against screening criteria as outlined in **Section 6.2** of this report for soil samples.
6. Specific Limits on Decision Errors	To limit the potential for decision errors, a range of quality assurance processes were adopted. A quantitative assessment of the potential for false negatives / false positives and/or under or over recognizing of analytical results was undertaken using the data quality assurance information collected. Data quality was assessed in general in accordance with guidance detailed in Schedule B(3) of the NEPM (2013).
7. Optimise the Design for Obtaining Data	The DQOs have been developed based on a review of existing data, and discussions with the client. If data gathered during the assessment indicated that the objectives of the works are not being met, the sampling design (including sampling pattern, type of samples and analytes) would be adjusted accordingly using feedback (where necessary) from project stakeholders.

5 Site Inspection

HEC attended the Site on the 9th of November 2023 to consolidate the desktop review described in the sections above. The Site visit included a detailed visual inspection of the Site surface and infrastructure. Key findings are presented below:

At the time of the investigation, the Site consisted of a small residential dwelling, multiple storage structures, heavy machinery/trucks and two fill mounds separated by a gravel fill driveway. At the time of the investigation tenants were occupying the property.

Topographically the Site was mostly flat, with the exception of the fill mounds.

No signs of gross contamination were observed during the Site walkover, some minor surface staining was observed on the northern fill mound, in close proximity to the heavy machinery. The southern fill mound consisted of gravel, whereas the northern mound was grassed over at the time of the investigation.

6 Detailed Soil Investigation

As stated in **Section 1.3**, a soil investigation was commissioned following desktop review of information.

The sampling density and analytical schedule generated as part of this intrusive investigation meets the minimum requirements of a DSI as outlined within the *NSW EPA Contaminated Land Guidelines - Consultants Reporting on Contaminated Sites (2020).*

All works were conducted in accordance NEPC (2013) best standard practices and Hunter Environmental Consulting's relevant Standard Operating Procedures (SOPs). Methodologies are outlined in the following sub-sections. Soil Investigation locations are presented in Figure 1 of **Annex A**.

6.1.1 Sampling & Analysis

Sample locations were selected using a combined grid-based sampling strategy with judgemental targeted sampling of identified fill mounds. Sampling locations and CoPC were targeted following the

desktop review of historical data pertaining to the Site's historical use. Some limitations to targeted locations were present such as existing infrastructure including heavy machinery, maintenance equipment and storage structures. Given that the objective of this investigation was to address fill material placed on the Site, sample locations were limited to areas where fill material was present.

Boreholes were advanced using a 90mm solid flight auger, drilled to target depth and sampled, using a fresh pair of nitrile gloves between sampling locations. Auger was decontaminated between investigation locations using a phosphate free cleaning agent (DeCon90) and a triple rinse methodology.

Given that fill materials were observed to be shallow across the Site and that groundwater was not encountered during the drilling works, a groundwater investigation was not considered necessary in context of the Site condition.

6.2 Adopted Site Assessment Criteria (SAC)

Tier 1 assessment criteria relevant to the proposed land use have generally been adopted from the NEPM (2013). Specifically, this includes:

1. The CRC CARE (2011) health screening levels (HSLs) for petroleum hydrocarbons at 0 to <1=2m below ground level in sand/silt/clay, adopted to assess potential vapour risks to human receptors
2. The ASC NEPM (2013) health investigation levels (HILs), adopted to evaluate potential direct contact risks associated with the presence of other CoPC in soil (i.e. metals and PAH)
3. The CRC CARE (2011) assessment criteria for direct contact with petroleum hydrocarbons by future receptors
4. The NEPM (2013) ecological investigation levels (EILs) for inorganics to assess risks to ecological receptors
5. The NEPM (2013) ecological screening levels for coarse soil for hydrocarbon compounds to assess risks to ecological receptors

A summary of SAC adopted along with their associated values are presented in Table 1 and Table 2 of **Annex F**.

6.3 Intrusive Investigation Observations

Inspection of boreholes and soil cuttings infers the presence of fill material across the investigation area to a maximum depth of 1.4m BGL (BH6). The fill material primarily consisted of silty gravelly clay. The fill layer was underlain by residual clay.

Fill material encountered within Borehole two (BH2) had evidence of minor staining, however no odours were evident within the soil.

No Asbestos Containing Material (ACM) was encountered within any of the boreholes or on the surface of the Site.

Borelogs recorded during the intrusive investigation are provided as **Annex E**.

6.4 Analytical Results

A total of ten (10) primary samples were submitted for chemical analysis for a range CoPC including:

- Heavy Metals (Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel & Zinc);
- Total Recoverable Hydrocarbons (TRH);
- Benzene, Toluene, Xylene and Ethylbenzene (BTEX);
- Polyaromatic Hydrocarbons (PAH);
- Organophosphorus Pesticides (OPP) and Organochlorine Pesticides (OCP); and
- Polychlorinated Biphenyls (PCBs).

The results of the analysis of the ten (10) primary soils samples indicate that all analytes were below the Limit of Reporting (LOR) for BTEX, OC/OP Pesticides, and PCBs, therefore below the adopted Site Assessment Criteria (SAC).

Detections were reported for heavy metals above the LOR but were acceptable under the adopted SAC.

Detections were reported for PAH (BaP, Carcinogenic PAHs and Total PAH) above the LOR but were acceptable under the adopted SAC.

One detection was reported for TRH (F3) above the LOR but were acceptable under the adopted SAC .

Soil analytical results are included in Table 1 and Table 2 of **Annex F**. All samples returned results which were acceptable under the adopted SAC for the low density residential.

7 Analytical Data Quality Assessment

The quality of analytical data presented within this report has been assessed with reference to the following issues:

1. Sampling technique
2. Preservation and storage of samples upon collection and transport to the laboratory
3. Sample holding times
4. Analytical procedures
5. Laboratory limit of reporting (LOR)
6. Laboratory quality assurance (QA) procedures
7. The occurrence of apparently unusual or anomalous results

A review of these items was conducted to assess data in terms of completeness, representativeness, comparability, accuracy and precision. A discussion of the data quality assessment related to the items listed above is provided in the subsections that follow.

7.1 Sample Collection, Storage, Transport & Analysis

7.1.1 General

Samples were collected, stored and transported to the laboratory in accordance with HEC's SOPs which are consistent with guidelines provided in the NEPM (2013). All samples were collected in appropriate containers provided by the laboratory.

7.1.2 Holding Times

Laboratory analysis was undertaken within specified holding times in accordance with Schedule B3 of the NEPM (2013) and using NATA accepted analytical procedures.

7.1.3 Sample Transport & Storage Temperature

In accordance with Schedule B3 of the NEPM (2013), all samples were chilled during transport to the laboratory and evidence of chilling was recorded on the sample receipt documentation for the laboratory.

7.2 Field Intra-Laboratory Duplicate Assessment

Relative Percentage Differences (RPDs) were calculated between the primary sample concentration and its corresponding intra-laboratory duplicate. The RPD acceptance criteria is 30% however it is noted that higher variations can be expected for organic analysis, samples with low analyte concentrations or non-homogenous samples (NEPM 2013). As such, the primary laboratory RPD acceptance criteria were used and are as follows:

1. Results <10 times the LOR: No Limit
2. Results between 10-20 times the LOR: RPD must lie between 0-50%
3. Results >20 times the LOR: RPD must lie between 0-30%

One intra-laboratory duplicate sample was collected as part of this investigation. Given that the purpose of the sampling works was to provide indications as to the presence/absence of contamination, collection of 1 field duplicate per 20 primary samples was considered appropriate.

All RPD results were within the acceptable range. The field QA/QC is considered acceptable for the investigation. Sample and RPDs results are included in Table 3 of **Annex F**.

7.3 Laboratory Quality Assurance & Quality Control

Laboratory QA/QC procedures and results are detailed in the certified laboratory results contained in **Annex H**. The analytical methods implemented by the laboratories were reported to be consistent with the scope of their NATA accreditation and consistent with Schedule B3 of the ASC NEPM (2013). The laboratory generally reported an adequate range and frequency of data quality information (including laboratory duplicates and control samples).

The reported laboratory data quality was considered acceptable and reliable to meet the objectives of this assessment.

7.4 Data Quality Summary

Overall, the data from this investigation is considered to be of sufficient quality to serve as a basis for interpretation as part of this assessment.

8 Conceptual Site Model

A CSM is a representation of site related information regarding contaminant sources, exposure pathways and human and environmental receptors. A CSM facilitates consideration of risks to human health and the environment associated with site contamination through assessment of source – pathway – receptor linkages. A CSM based on the understanding of site history and environmental setting is presented in the following sections.

Table 8.1 Potential Sources & Associated Contaminants of Concern

Primary Sources	CoC	Secondary Sources	Transport Mechanisms	Exposure Route	Receptors
• Imported Fill materials (surficial contamination)	• TRH • BTEX • Heavy Metals • PAH	• Impacted soils at depth	• Leaching to underlying soils	• Dermal Contact or incidental ingestion of soil • Inhalation of dust • Plant uptake • Leaching to groundwater	• Current and future site users • Future construction/maintenance workers • Users and occupants of adjoining land • Ecological (Uptake of terrestrial Flora)
• Storage of heavy machinery (surficial contamination)	• TRH • BTEX • Heavy Metals	• Impacted soils at depth	• Leaching to underlying soils	• Dermal Contact or incidental ingestion of soil • Plant uptake • Leaching to groundwater	• Current and future site users • Future construction/maintenance workers • Users and occupants of adjoining land • Ecological (Uptake of terrestrial Flora)

8.1 SPR Linkage Assessment

A source-pathway-receptor (SPR) linkage is present when a pathway links a source with a receptor. These linkages are considered complete where a risk to the identified receptors may exist, now or in the future.

Table 8.2 – SPR Assessment

Receptor/Media	Exposure Pathway	Comments
Human - Site Users including Construction / Maintenance workers disturbing the soil and building	Considered Incomplete	CoPC in exceedance of the adopted SAC were not identified in any of the soil samples analysed at the site. The exposure pathways to sensitive human receptors are considered incomplete.
Ecological	Considered Incomplete	Ecological receptors at the site are considered to be limited to the uptake of terrestrial flora. CoPC in exceedance of the adopted SAC were not identified in any of the soil samples analysed at the site. The exposure pathways to sensitive ecological receptors are considered incomplete.
Groundwater	Considered Incomplete	Groundwater was not assessed as part of this investigation; given that fill material was observed to be shallow across the Site and given CoPC in exceedance of the adopted SAC were not identified in any of the soil samples analysed at the site. It is considered unlikely that contamination of groundwater on Site would be likely in context of the identified Fill material assessed as part of this investigation.

9 Conclusions

The detailed desktop review of available information and thorough Site inspection including detailed soil investigation have enabled the development of a conceptual Site model allowing assessment of potential health and environmental issues relating to the Site. Key findings were:

1. Visible signs of gross contamination were not observed during Site inspection and intrusive works with the exception of minor surface staining in one location; and
2. Contamination in shallow soils above the adopted site assessment criteria (SAC) were not identified at any of the sampling locations.

In summary, based on the desktop study and detailed soil sampling conducted on the Site, no indication of gross contamination has been identified at the Site.

Given that all soil samples analysed as part of this DSI were reported acceptable under the adopted SAC, a Remedial Action Plan (RAP) is not considered necessary for the removal of Fill materials onsite. However, due to the material impacting the validity of flood modelling, HEC recommends the removal of Fill material as required (to the depth of residual soils) and disposal of generated material as General Solid Waste (CT1) in accordance with the NSW EPA 2014 Waste Classification guidelines.

The material should be delivered to a suitable receiving facility licensed to accept this form of waste. Delivery dockets should be retained and provided to Council to validate the removal works. Given that no samples exceeded the adopted SAC (HIL/HSL-A) within the DSI, validation samples of surface soils following removal works is not considered to be warranted to assist in the adequate removal of soil, rather, a visual inspection of the site surface following the removal works may be satisfactory, along with delivery dockets to ensure the site topography has been returned to natural levels.

10 Unexpected Finds

The presence of any unexpected finds would be highlighted during development works by the observation of any unusual physical (e.g staining, fill material, asbestos-containing material) or sensory characteristics of the soil. In the event that any significant unknown type of material is identified, site works should be stopped in that area and an assessment of the material and its likely impact on the CSM would be undertaken by an appropriately qualified environmental consultant immediately to prepare a suitable response to the occurrence. All additional works should be documented and detailed in the validation report.

11 Report Limitations

HEC considers that the objectives of the original scope as presented in quote EQ0324 of the investigation have been achieved.

The analytical data and recommendations within the above report are subjected to the specific sampling and testing that was undertaken at the time of the current investigation. It should be noted that underlying Site soil conditions can vary significantly across a Site and the environment can change over

time. If conditions encountered during intrusive works are different to those contained in this report HEC should be contacted immediately for Site reassessment.

If you have any further questions about this report, please contact the undersigned.

For and on behalf of

Hunter Environmental Consulting

Reported by:

Fletcher Harris
Environmental Scientist
Bachelor of Environmental Science and Management

Reviewed by:

Jake Duck
Environmental Scientist
Bachelor of Environmental Science and Management

References

National Environment Protection Council (NEPC), (2013) *National Environment Protection (Assessment of Site Contamination) Measure 1999, NEPM, Canberra. Schedule B2: Guideline On-site Characterisation*.

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Annex A

Note:
(1) Base layer sourced from NearMap (2023)

Figure 1: Site Plan

LEGEND

Borehole Location

N
W E
S

Annex B

7 November 2023

LOTSEARCH PTY LTD
Level 3
68 Alfred St
MILSONS POINT NSW 2061

Our Ref:163123
Your Ref:
LS049804:173372
ABN 81 065 027 868

PLANNING CERTIFICATE UNDER THE

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

Receipt No: 13024118

Receipt Date: 2 November 2023

DESCRIPTION OF LAND

Address: 369 Newport Road, COORANBONG NSW 2265

Lot Details: Lot 1 DP 778019

Parish: Coorumbung

County: Northumberland

For: MORVEN CAMERON
GENERAL MANAGER

J Hayes

ADVICE PROVIDED IN ACCORDANCE WITH SUBSECTION (2)

1 Names of Relevant Planning Instruments and Development Control Plans

(1) The name of each environmental planning instrument and development control plan that applies to the carrying out of development on the land.

Lake Macquarie Local Environmental Plan 2014

Lake Macquarie Development Control Plan 2014

State Environmental Planning Policy (Biodiversity and Conservation) 2021 -

Chapter 4 Koala habitat protection 2021

State Environmental Planning Policy (Biodiversity and Conservation) 2021 -

Chapter 6 Bushland in urban areas

State Environmental Planning Policy (Biodiversity and Conservation) 2021 -

Chapter 7 Canal estate development

State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

State Environmental Planning Policy (Exempt and Complying Development Codes) 2008

State Environmental Planning Policy (Housing) 2021

State Environmental Planning Policy (Industry and Employment) 2021 –

Chapter 3 Advertising and signage

State Environmental Planning Policy (Planning Systems) 2021 –

Chapter 2 State and regional development

State Environmental Planning Policy (Planning Systems) 2021 –

Chapter 4 Concurrences and consents

State Environmental Planning Policy (Precincts—Central River City) 2021 –

Chapter 2 State significant precincts

State Environmental Planning Policy (Precincts-Eastern Harbour City) 2021 –

Chapter 2 State significant precincts

State Environmental Planning Policy (Precincts-Regional) 2021

Chapter 2 State significant precincts

State Environmental Planning Policy (Precincts—Western Parkland City) 2021 –

Chapter 2 State significant precincts

State Environmental Planning Policy (Primary Production) 2021 –

Chapter 2 Primary production and rural development

State Environmental Planning Policy (Resilience and Hazards) 2021 –

Chapter 2 Coastal management

State Environmental Planning Policy (Resilience and Hazards) 2021 –

Chapter 3 Hazardous and offensive development

State Environmental Planning Policy (Resilience and Hazards) 2021 –

Chapter 4 Remediation of land

State Environmental Planning Policy (Resources and Energy) 2021 –

Chapter 2 Mining, petroleum production and extractive industries

State Environmental Planning Policy (Transport and Infrastructure) 2021 –

Chapter 2 Infrastructure

State Environmental Planning Policy (Transport and Infrastructure) 2021 –

Chapter 3 Educational establishments and child care facilities

State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Development

(2) The name of each proposed environmental planning instrument and draft development control plan, which is or has been subject to community consultation or public exhibition under the Act, that will apply to the carrying out of development on the land.

Lake Macquarie Draft Development Control Plan 2014

(3) Subsection (2) does not apply in relation to a proposed environmental planning instrument or draft development control plan if —

(a) it has been more than 3 years since the end of the public exhibition period for the proposed instrument or draft plan, or

(b) for a proposed environmental planning instrument—the Planning Secretary has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved.

(4) In this section, proposed environmental planning instrument includes a planning proposal for a Local Environmental Plan or a Draft environmental planning instrument.

2 Zoning and land use under relevant Local Environmental Plans

(1) The following answers (a) to (f) relate to the instrument (see 1(1) above).

(a) (i) The identity of the zone applying to the land.

R2 Low Density Residential

under Lake Macquarie Local Environmental Plan 2014

(ii) The purposes for which the Instrument provides that development may be carried out within the zone without the need for development consent.

Exempt development as provided in Schedule 2; Home-based child care; Home occupations

(iii) The purposes for which the Instrument provides that development may not be carried out within the zone except with development consent.

Bed and breakfast accommodation; Boarding houses; Boat sheds; Building identification signs; Business identification signs; Centre-based child care facilities; Community facilities; Dual occupancies; Dwelling houses; Emergency services facilities; Environmental facilities; Environmental protection works; Exhibition homes; Exhibition villages; Flood mitigation works; Group homes; Health consulting rooms; Home businesses; Home industries; Hostels; Kiosks; Neighbourhood shops; Oyster aquaculture; Places of public worship; Pond-based aquaculture; Recreation areas; Respite day care centres; Roads; Secondary dwellings; Semi-detached dwellings; Seniors housing; Sewage reticulation systems; Sewage treatment plants; Shop top housing; Tank-based aquaculture; Water recreation structures; Water recycling facilities; Water supply systems

(iv) The purposes for which the Instrument provides that development is prohibited within the zone.

Any other development not specified in item (ii) or (iii)

NOTE: **The advice in sections (a) above relates only to restrictions that apply by virtue of the zones indicated. The Lake Macquarie LEP 2014 includes additional provisions that require development consent for particular types of development, or in particular circumstances, irrespective of zoning.**

(b) Whether additional permitted uses apply to the land,

No

(c) Whether 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.

There are no development standards applying to the land that fix minimum land dimensions for the erection of a dwelling house.

(d) Whether the land is in an area of outstanding biodiversity value under the *Biodiversity Conservation Act 2016*,

No

(e) Whether the land is in a conservation area (however described).

No

(f) Whether an item of environmental heritage (however described) is situated on the land.

Local Environmental Plan 2014 Schedule 5 Part 1 Heritage Items

There are no items listed for this land under Local Environmental Plan 2014 Schedule 5 Part 1 Heritage items.

Local Environmental Plan 2014 Schedule 5 Part 2 Heritage conservation areas

There are no items listed for this land under Local Environmental Plan 2014 Schedule 5 Part 2 Heritage conservation areas.

Local Environmental Plan 2014 Schedule 5 Part 3 Archaeological sites

There are no items listed for this land under Local Environmental Plan 2014 Schedule 5 Part 3 Archaeological sites.

Local Environmental Plan 2014 Schedule 5 Part 4 Landscape Items

There are no items listed for this land under Local Environmental Plan 2014 Schedule 5 Part 4 Landscape items.

Local Environmental Plan 2004 Schedule 4 Part 1 Heritage Items

There are no heritage items listed for this land within Local Environmental Plan 2004 Schedule 4 Part 1.

Local Environmental Plan 2004 Part 11 Clause 150 Environmental Heritage

There are no heritage items listed for this land within Local Environmental Plan 2004 Part 11 Clause 150 – South Wallarah Peninsula.

Local Environmental Plan 2014 Heritage Map

The land is not identified as a Village Precinct on the Heritage Map.

NOTE: **An item of environmental heritage, namely Aboriginal heritage, listed within the Aboriginal Heritage Information Management System (AHIMS), may affect the land. Aboriginal objects are protected under the National Parks and Wildlife Act 1974. If Aboriginal objects are found during development, works are to stop and the Office of Environment and Heritage (OEH) contacted immediately. For further information and to access the AHIMS registrar, refer to http://www.environment.nsw.gov.au**

(2) The following answers relate to the Draft Instrument (see 1(2) above).

(a) Nil

NOTE: **The advice in section (a) above relates only to restrictions that apply by virtue of the zones indicated. The Draft instrument may include additional provisions that require development consent for particular types of development, or in particular circumstances, irrespective of zoning.**

(b) Whether draft additional permitted uses apply to the land

No

(c) Whether any draft 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.

There are no development standards applying to the land that fix minimum land dimensions for the erection of a dwelling house.

(d) Whether the land is in a draft area of outstanding biodiversity value under *the Biodiversity Conservation Act 2016*,

No

(e) Whether the land is in a draft conservation area (however described).

No

(f) Whether a draft item of environmental heritage (however described) is situated on the land.

No

3 Contributions Plans

(1) The name of each contributions plan under the Act, Division 7.1 applying to the land, including draft contributions plans.

Lake Macquarie City Council Development Contributions Plan - Morisset Contributions Catchment - 2012

The Lake Macquarie City Council Section 7.12 Contributions Plan – Citywide 2019

(2) If the land is in a region within the meaning of the Act, Division 7.1, Subdivision 4, and the name of the Ministerial planning order in which the region is identified.

Yes,

The subject land is within The Lower Hunter Region to which the Environmental Planning and Assessment (Housing and Productivity Contribution) Order 2023 applies.

(3) If the land is in a special contributions area to which a continued 7.23 determination applies,

Nil

(4) In this section continued 7.23 determination means a 7.23 determination that -

(a) has been continued in force by the Act, Schedule 4, Part 1, and

(b) has not been repealed as provided by that part.

NOTE: The Act, Schedule 4, Part 1 contains other definitions that affect the interpretation of this section.

4 Complying development

The extent to which the land is land on which complying development may be carried out under each of the codes for complying development because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) or (4), and 1.18 (1) (c3) and 1.19 of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*.

Housing Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 1 DP 778019

Complying development under the Housing Code **MAY NOT** be carried out on part of the lot because the lot is partly affected by specific land exemptions.

Note: If the lot is only affected by the “heritage conservation area” exemption, then complying development under the Housing Code **MAY** be carried out on the lot if the development is a detached outbuilding or swimming pool.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high aboriginal cultural significance.

Low Rise Housing Diversity Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 1 DP 778019

Complying development under the Low Rise Housing Diversity Code **MAY NOT** be carried out on part of the lot because the lot is partly affected by specific land exemptions.

Note: If the lot is only affected by the “heritage conservation area” exemption, then complying development under the Low Rise Housing Diversity Code **MAY** be carried out on the lot if the development is a detached outbuilding or swimming pool.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high aboriginal cultural significance.

Housing Alterations Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 1 DP 778019

Complying development under the Housing Alterations Code **MAY NOT** be carried out on part of the lot because the lot is partly affected by specific land exemptions.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high aboriginal cultural significance.

Commercial and Industrial Alterations Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 1 DP 778019

Complying development under the Commercial and Industrial Alterations Code **MAY NOT** be carried out on part of the lot because the lot is partly affected by specific land exemptions.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high aboriginal cultural significance.

Commercial and Industrial (New Buildings and Additions) Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 1 DP 778019

Complying development under the Commercial and Industrial (New Buildings and Additions) Code **MAY NOT** be carried out on part of the lot because the lot is partly affected by specific land exemptions.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high aboriginal cultural significance.

Subdivisions Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 1 DP 778019

Complying development under the Subdivisions Code **MAY NOT** be carried out on part of the lot because the lot is partly affected by specific land exemptions.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high

aboriginal cultural significance.

Rural Housing Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 1 DP 778019

Complying development under the Rural Housing Code **MAY NOT** be carried out on part of the lot because the lot is partly affected by specific land exemptions.

Note: If the lot is only affected by the “heritage conservation area” exemption, then complying development under the Rural Housing Code **MAY** be carried out on the lot if the development is a detached outbuilding or swimming pool.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high aboriginal cultural significance.

Greenfield Housing Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 1 DP 778019

Complying development under the Greenfield Housing Code **MAY NOT** be carried out on part of the lot because the lot is partly affected by specific land exemptions.

Note: If the lot is only affected by the “heritage conservation area” exemption, then complying development under the Greenfield Housing Code **MAY** be carried out on the lot if the development is a detached outbuilding or swimming pool.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high aboriginal cultural significance.

General Development Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 1 DP 778019

Complying development under the General Development Code **MAY NOT** be carried out on part of the lot because the lot is partly affected by specific land exemptions.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high

aboriginal cultural significance.

Demolition Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 1 DP 778019

Complying development under the Demolition Code **MAY NOT** be carried out on part of the lot because the lot is partly affected by specific land exemptions.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high aboriginal cultural significance.

Fire Safety Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 1 DP 778019

Complying development under the Fire Safety Code **MAY NOT** be carried out on part of the land because the lot is partly affected by specific lot exemptions.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high aboriginal cultural significance.

Container Recycling Facilities Code

Note: If a lot is not specifically listed in this section then, complying development under this Code **MAY** be carried out on any part of that lot.

Lot 1 DP 778019

Complying development under the Container Recycling Facilities Code **MAY NOT** be carried out on part of the lot because the lot is partly affected by specific land exemptions.

The lot is affected by the following specific land exemptions:

The land is within an environmentally sensitive area being land within an area of high aboriginal cultural significance.

5 Exempt development

The extent to which the land is land on which exempt development may be carried out under each of the codes for exempt development because of the provisions of clauses 1.16(1)(b1)–(d) or 1.16A of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008*.

Note: If a lot is not specifically listed in this section then, Exempt development under this Code **MAY** be carried out on the lot.

6 Affected building notices and building product rectification orders

(1) (a) Whether there is any affected building notice of which the council is aware that is in force in respect of the land.

No, Council **has not** been notified that an affected building notice is in force in respect of this land.

(b) Whether there is any building product rectification order of which the council is aware that is in force in respect of the land and has not been fully complied with.

A building rectification order **is not** in force in respect of this land.

(c) Whether any notice of intention to make a building product rectification order of which the council is aware has been given in respect of the land and is outstanding.

A notice of intention to make a building product rectification order **has not** been given in respect of this land.

(2) In this section -

Affected building notice *has the same meaning as in Part 4 of the Building Products (Safety) Act 2017*

Building product rectification order *has the same meaning as in the Building Products (Safety) Act 2017*

7 Land reserved for acquisition

Whether or not any environmental planning instrument or proposed environmental planning instrument referred to in Section 1 makes provision in relation to the acquisition of the land by a public authority, as referred to in section 3.15 of the Act.

No

8 Road widening and road realignment

Whether the land is affected by any road widening or realignment under:

(a) Division 2 of Part 3 of the *Roads Act 1993*.

No

(b) any environmental planning instrument.

No

(c) any resolution of the Council.

No, other road widening proposals may affect this land and if so, will be noted on the Section 10.7 Subsection (5) certificate.

9 Flood related development controls information

(1) If the land or part of the land is within the flood planning area and subject to flood related development controls.
Yes

(2) If the land or part of the land is between the flood planning area and the probable maximum flood and subject to flood related development controls.
Yes

NOTE: **Land in this area that is subject to flood related development controls relating to the PMF includes sensitive uses such as boarding houses, caravan parks, correctional centres, early education and care facilities, eco-tourist facilities, educational establishments, emergency services facilities, group homes, hazardous industries, hazardous storage establishments, hospitals, hostels, information and education facilities, police stations, respite day care centres, residential care facilities, seniors housing, sewerage systems, tourist and visitor accommodation and water supply systems.**

(3) In this section -
flood planning area has the same meaning as in the Floodplain Development Manual.
Floodplain Development Manual means the Floodplain Development Manual (ISBN 0 7347 5476 0) published by the NSW Government in April 2005.
probable maximum flood has the same meaning as in the Floodplain Development Manual.

ADVICE: Further information on the development restriction mentioned, may be obtained from Council's *Property Flooding Information Summary* Flood Report Web Tool, which provides information about the flood hazard for a specified property (lot) in

Lake Macquarie City. Flood Report Tool - Lake Macquarie City Council

10 Council and other public authority policies on hazard risk restrictions

(1) Whether or not the land is affected by a ***POLICY*** that restricts the development of the land because of the likelihood of:

(a) land slip or subsidence

Yes

Relevant sections of Lake Macquarie Development Control Plan 2014 and Lake Macquarie Development Control Plan No.1 apply when development is proposed on land covered by Council's geotechnical areas map. The map is available for viewing at the Council. If you require any further clarification on the policy and how it may affect any possible development contact the Council on 02 4921 0333.

(b) bushfire

Yes

(c) tidal inundation

No

(d) acid sulfate soils

Yes

Relevant sections of Lake Macquarie Development Control Plan 2014 and Lake Macquarie Development Control Plan No.1 apply when development is proposed on land covered by the Acid Sulfate Soils Map. If you require any further clarification on the policy and how it may affect any possible development contact the Council on 02 4921 0333.

(e) contaminated or potentially contaminated land

Yes

Council has adopted a policy that may restrict the development of Contaminated or Potentially Contaminated land. This policy is implemented when zoning, development, or land use changes are proposed. Council does not hold sufficient information about previous use of the land to determine whether the land is contaminated. Consideration of Council's adopted Policy

located in the applicable DCP noted in Clause 1(3) above, and the application of provisions under relevant State legislation is recommended.

(f) aircraft noise

No

(g) salinity

No

(h) any other risk (other than flooding).

No

(2) In this section —

adopted policy means a policy adopted —

(a) by the council, or

(b) by another public authority, if the public authority has notified the council that the policy will be included in a planning certificate issued by the council.

NOTE: **The absence of a council policy restricting development of the land by reason of a particular natural hazard does not mean that the risk from that hazard is non-existent.**

11 Bush Fire Prone Land

Note: If a lot is not specifically listed in this section then, **NONE** of that lot is bush fire prone land.

Lot 1 DP 778019 **-** SOME of the land is bush fire prone land.

12 Loose-fill asbestos insulation

If the land includes any residential premises (within the meaning of Division 1A of Part 8 of the *Home Building Act 1989*) that are listed on the register that is required to be maintained under that Division

No. Council **has not** been notified that a residential premises erected on this land has been identified in the NSW Fair Trading Loose-Fill Asbestos Insulation Register as containing loose-fill asbestos ceiling insulation.

13 Mine subsidence

Whether the land is declared to be a mine subsidence district, within the meaning of the *Coal Mine Subsidence Compensation Act 2017*.

The land IS NOT WITHIN a Mine Subsidence District declared under section 20 of the Coal Mine Subsidence Compensation Act 2017.

NOTE: **The advice in section 13 above relates only to a Mine Subsidence District. Further information relating to underground mining which may occur outside Mine Subsidence Districts should be sought. Underground mining information can be found on the Subsidence Advisory NSW website.**

14 Paper subdivision information

(1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.

Nil

(2) The date of any subdivision order that applies to the land.

Not Applicable

(3) Words and expressions used in this section have the same meaning as in this Regulation, Part 10 and the Act, Schedule 7.

15 Property Vegetation Plans

The land IS NOT subject to a property vegetation plan approved under Part 4 of the Native Vegetation Act 2003 (and that continues in force).

16 Biodiversity stewardship sites

The land is not a biodiversity stewardship site under a biodiversity stewardship agreement under Part 5 of the Biodiversity Conservation Act 2016.

17 Biodiversity Certified Land

This land is not biodiversity certified land under Part 8 of the Biodiversity Conservation Act 2016.

18 Orders under *Trees (Disputes Between Neighbours) Act 2006*

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

The land IS NOT subject to an order made under the Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land.

19 Annual charges under *Local Government Act 1993* for coastal protection services that relate to existing coastal protection works

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

Nil

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

20 Conditions for seniors housing

If *State Environmental Planning Policy (Housing) 2021*, Chapter 3, Part 5 applies to the land, a statement setting out terms of a kind referred to in the Policy, clause 88(2) that have been imposed as a condition of development consent granted after 11 October 2007 in relation to the land.

Nil

21 Site compatibility certificates and conditions for affordable rental housing

(1) Whether there is a current site compatibility certificate, or a former site compatibility certificate, of which the council is aware, in relation to proposed development on the land.

Council is not aware of any site capability certificate for any proposed development on the land.

(2) If *State Environmental Planning Policy (Housing) 2021*, Chapter 2, Part 2, Division 1 or 5 applies to the land, any conditions of a development consent in relation to the land that are of a kind referred to in that Policy, section 21(1) or 40(1).

Nil

(3) Any conditions of a development consent in relation to land that are of a kind referred to in *State Environmental Planning Policy (Affordable Rental Housing) 2009*, clause 17(1) or 38(1).

Council is not aware of any conditions of a development consent referred to in *State Environmental Planning Policy (Affordable Rental Housing) 2009*, clause 17(1) or 38(1).

(4) In this section—

former site compatibility certificate means a site compatibility certificate issued under *State Environmental Planning Policy (Affordable Rental Housing) 2009*.

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:

Matters arising under the Contaminated Land Management Act 1997 (s59 (2))

(a) The land to which the certificate relates is significantly contaminated land within the meaning of that Act - if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

No

(b) The land to which the certificate relates is subject to a management order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

No

(c) The land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act - if it is the subject of such an approved proposal at the date when the certificate is issued,

No

(d) The land to which the certificate relates is subject to an ongoing maintenance order within the meaning of that Act - if it is subject to such an order at the date when the certificate is issued,

No

(e) The land to which the certificate relates is the subject of a site audit statement within the meaning of that Act - if a copy of such a statement has been provided at any time to the local authority issuing the certificate.

No

ADVICE PROVIDED IN ACCORDANCE WITH SUBSECTION (5)

NOTE: SECTION 10.7(6) OF THE ACT STATES THAT A COUNCIL SHALL NOT INCUR ANY LIABILITY IN RESPECT OF ANY ADVICE PROVIDED IN GOOD FAITH PURSUANT TO SUBSECTION (5).

22 Clearing and lopping of trees

The land is NOT affected by the requirements, under Lake Macquarie Local Environmental Plan 2014 and Lake Macquarie Local Environmental Plan 2004, for the clearing and lopping of trees.

23 Easements

The land is NOT affected by a proposed easement in favour of Lake Macquarie City Council.

As to affectation by existing easements, a search of the relevant Title of the land should be undertaken.

24 Outstanding Notice/Order

The land is NOT AFFECTED by an outstanding notice/order issued under any of the following Acts:

- Local Government Act, 1993
- Environmental Planning & Assessment Act, 1979
- Swimming Pools Act, 1992
- Biosecurity Act, 2015
- Protection of the Environment Operations Act, 1997

25 Earthquake

An earthquake was experienced throughout most of the city area on 28/12/89. Prospective purchasers should make their own enquiries as to whether buildings/structures on the land sustained any structural damage.

26 Lake Macquarie City Local Strategic Planning Statement (2019)

Council has prepared a strategy to provide direction for future land use planning in the City in collaboration with the community, the Lake Macquarie City Local Strategic Planning Statement 2019 (the LSPS). A copy of the LSPS is available from Council.

27 Voluntary Planning Agreement

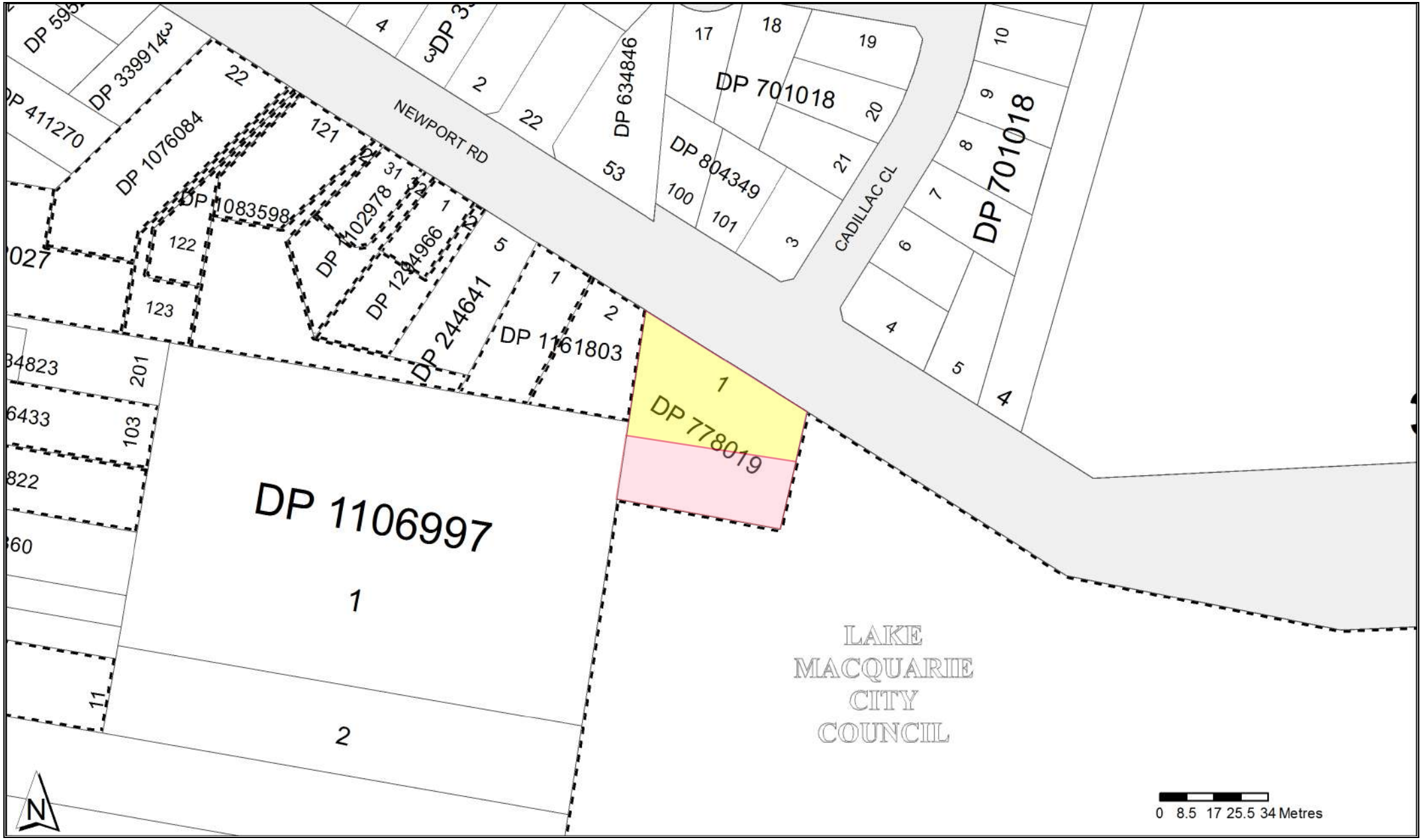
The land is not affected by a Voluntary Planning Agreement.

Annex C

Cadastral Records Enquiry Report : Lot 1 DP 778019

Ref : 369 Newport Road

Locality : COORANBONG
Parish : COORUMBUNG
LGA : LAKE MACQUARIE
County : NORTHUMBERLAND

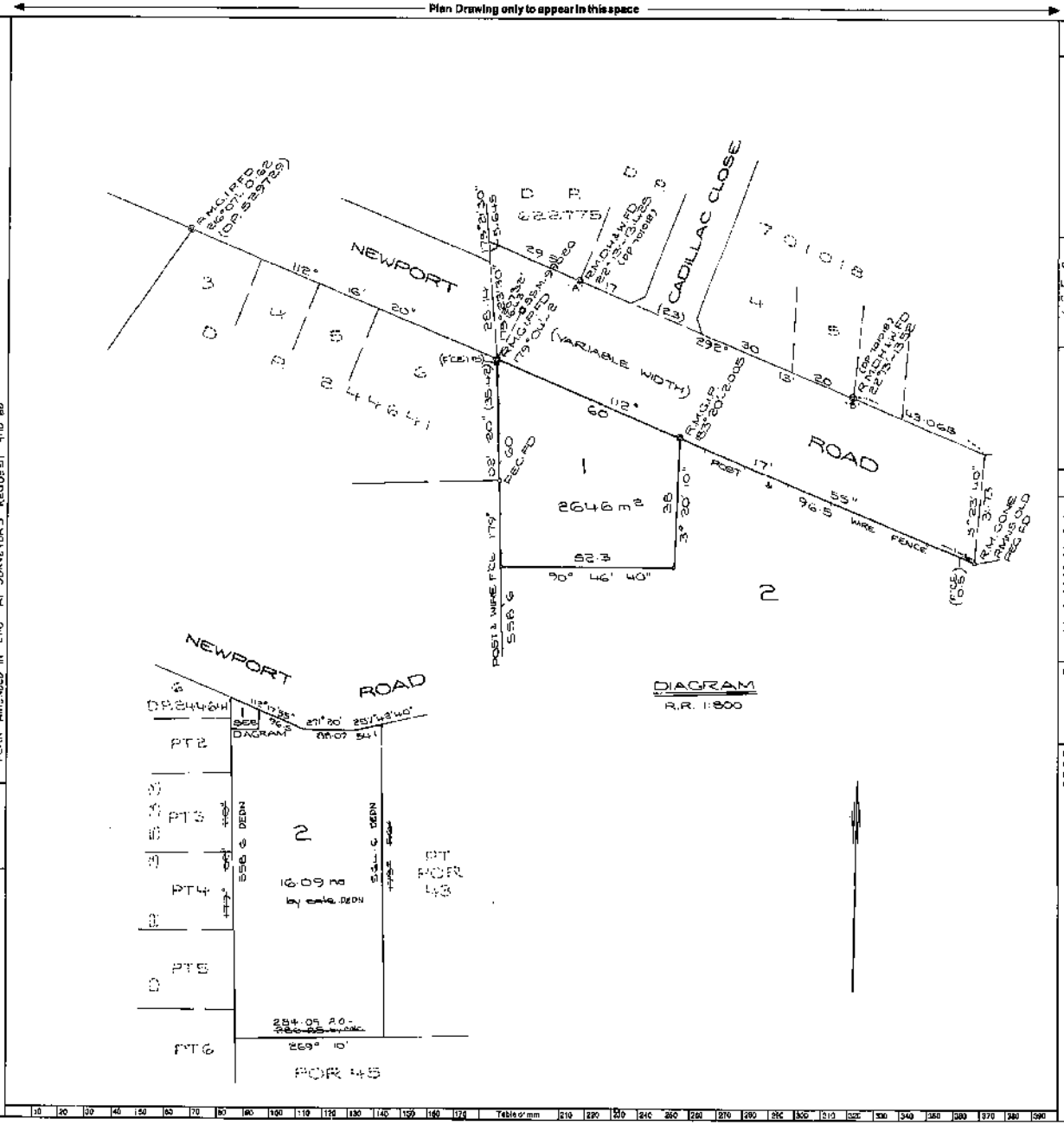


This information is provided as a searching aid only.Whilst every endeavour is made to ensure that current map, plan and titling information is accurately reflected, the Registrar General cannot guarantee the information provided. For ALL ACTIVITY PRIOR TO SEPTEMBER 2002 you must refer to the RGs Charting and Reference Maps

PLAN FORM 2

Plan Drawing only to appear in this space

SIGNATURE AND SEALS ONLY.



PLAN AMENDED IN LTO AT SURVEYOR'S REQUEST 5.10.88

AMENDED IN L.T.O 23/11/88

Crown Lands Office Approval

PLAN APPROVED ....
Authorised Officer
Land District ....
Paper No. ....
Field Book .... pages ....

Council Clerk's Certificate

I hereby certify that —

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

*(b) the requirements of section 34B of the ~~† Metropolitan Water, Sewerage and Drainage Act, 1924, as amended~~ † Hunter District Water, Sewerage, and Drainage Act, 1938, as amended

have been complied with by the applicant in relation to the

proposed ....SUBDIVISION..............
(insert "new road", "subdivision" or "consolidated lot") set out herein

Submission No. ..1/0308/0020..........

Date ...2ND. SEPTEMBER 1988.

(Signature) ....
Council Clerk

Council File No. ..1/0308/0020........

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

† Delete if inapplicable.

SURVEYOR'S REFERENCE: 9172

*OFFICE USE ONLY

DP 778019

A I A N O O N

Registered: 10·10·1988

C.A. 1/0308/0020 OF 2·9·1988

Title System: TORRENS

Purpose: SUBDIVISION

Ref. Map: U 3635 - ~~19~~ #61, #62

Last Plan: N 777·1501
R 9248·1603

PLAN OF SUBDIVISION
OF PART POR. 42 &
LAND CONTAINED IN
CERTIFICATE OF TITLE
VOLUME 11219 FOLIO 94

Lengths are in metres. Reduction Ratio 1:5000

Mun./~~Shire~~/~~City~~: LAKE MACQUARIE

Locality: COORANBONG

Parish: COORUMBUNG

County: NORTHUMBERLAND

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

I, ...JOHN CHARLES TREHY
of ....DX 7319 WYONG.....

a surveyor registered under the Surveyors Act, 1929, as amended, hereby certify that the survey represented in this plan ...AS REGARDS LOT 1.......... is accurate and has been made in accordance with the Survey Practice Regulations, 1933 and any special requirements of the Department of Lands and was completed on

* ....26/7/88.........

Signature ....
Surveyor registered under Surveyors Act, 1929, as amended
Datum Line of Azimuth. "A" - "B"
*Insert Date of Survey

Plans used in preparation of survey/compilation.
DP 394134
N 777₁₅₀₁
R 9248₁₆₀₃

PANEL FOR USE ONLY for statements of intention to dedicate public roads or to create public reserves, drainage reserves, easements or restrictions as to user.

Table of mm

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

AMENDMENTS AND/OR ADDITIONS MADE ON
PLAN IN THE LAND TITLES OFFICE

10 20 30 40 50 60 70 Table of mm 110 120 130 140

This negative is a photograph made as a permanent record of a document in the custody of the Registrar General this day. 25th November, 1988

PLAN

of land to be resumed under the "Public Roads Act 1902"

in connection with the proposed deviation of part of road - Cooranbong to Dora Creek

~~Shire of~~ Shire Lake Macquarie No 38

Parish of Coorumbung County of Northumberland

LAND DISTRICT OF NEWCASTLE LAND BOARD DISTRICT OF MAITLAND

Scale 2 chains to 1 inch

Within R.2374 fm acc.d under any MR or BL - Not.d Gaz. 1.3.46
" R2375 fm leasing prov. of Min. Act 1906-35 - " " 1.3.46.
Area to be resumed from freehold portion 42 = 12 per.
" " " " " J.T. Wamsley's part of port.n 43 = 3 roods
" " " " " freehold portion 44 = 1rd. 12 per.

Width of proposed deviation ~~150 links and~~ variable

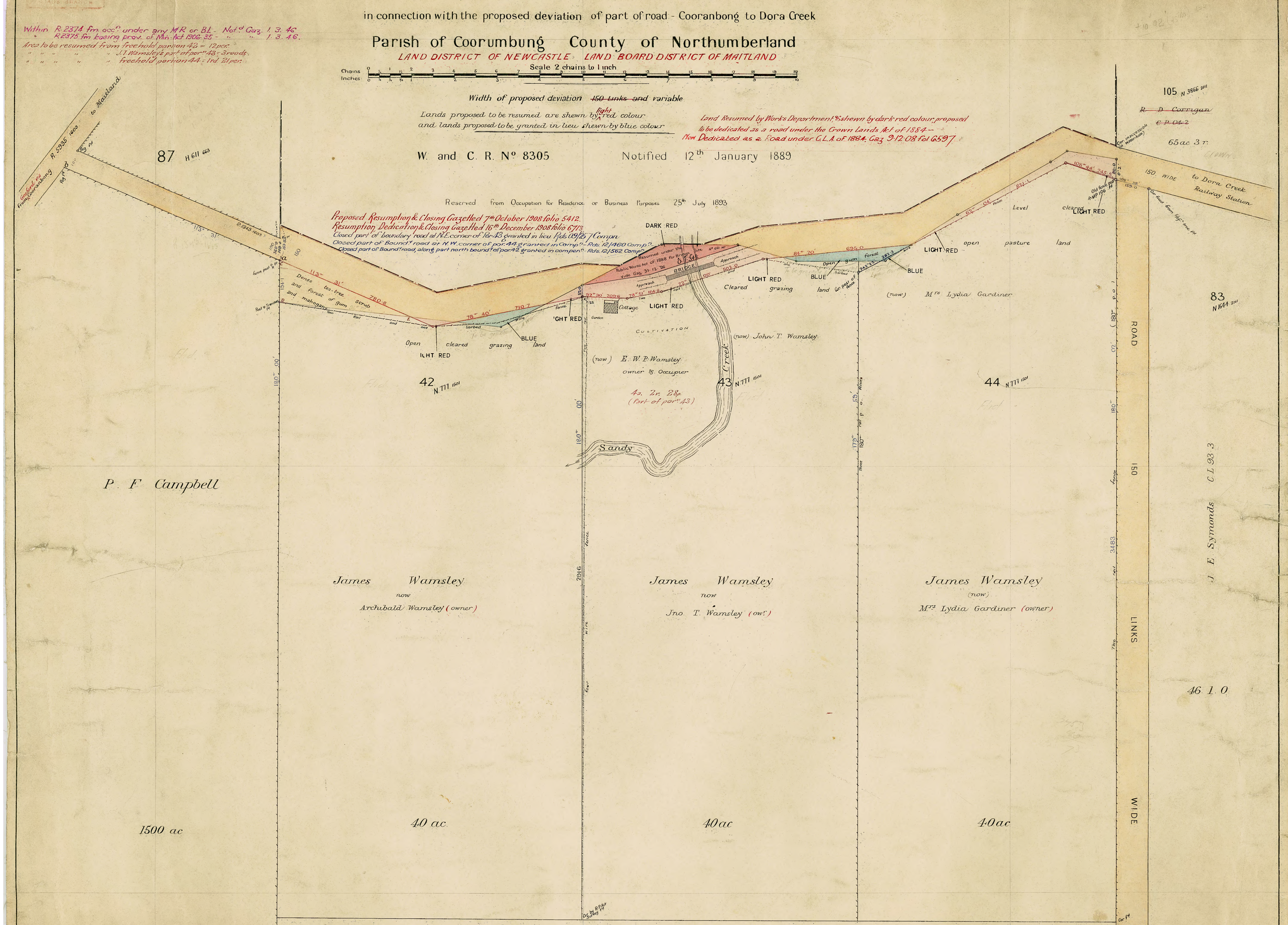
Lands proposed to be resumed are shewn by light red colour and lands proposed to be granted in lieu shewn by blue colour

Land Resumed by Works Department & shewn by dark red colour, proposed to be dedicated as a road under the Crown Lands Act of 1884 -
Not Dedicated as a Road under C.L.A. of 1884. Gaz 9.12.08 fol 6597

W. and C. R. No 8305 Notified 12th January 1889

Reserved from Occupation for Residence or Business Purposes 25th July 1893

Proposed Resumption & Closing Gazetted 7th October 1908 folio 5412.
Resumption Dedication & Closing Gazetted 16th December 1908 folio 6713
Closed part of boundary road at N.E. corner of Por.43 granted in lieu Rds. 09/25 / Compn
Closed part of Bound.y road at N.W. corner of por.44 granted in Comp.n - Rds. 12/460 Comp.n
Closed part of Bound.y road, along part north bound.y of por.42 granted in compen.n Rds. 12/562 Comp.n



Checked and Charted C.A.P. Kellif 23rd July/08
Examined H. B. Rowell 27 July 1908
Plan Approved
Draftsman in Charge
29 July 1908

Standard Tracing Prepared
Helio to D.S.O.
Reg Gen
Shire Co

Date of survey 22nd April 1908
Azimuth taken from line 'a b' (R.1343 1603)
Field Book Volume 1235 folios 34 & 35
Survey executed in accordance with the regulations of 1901
The area shewn by letters C.D.E. forms part of old road

Prep.d for Proc.n 26.8.08

Transmitted to the District Surveyor with my letter dated 25th June 1908 No 39

C. F. Beatty
Surveyor

R 9248 1607

R 9248

No. 19 69/2668

New South Wales

Vol. 11219 Fol. 94
Registered 12-1-1970
Registrar General.

GRANT UPON PURCHASE OF UNNECESSARY ROAD

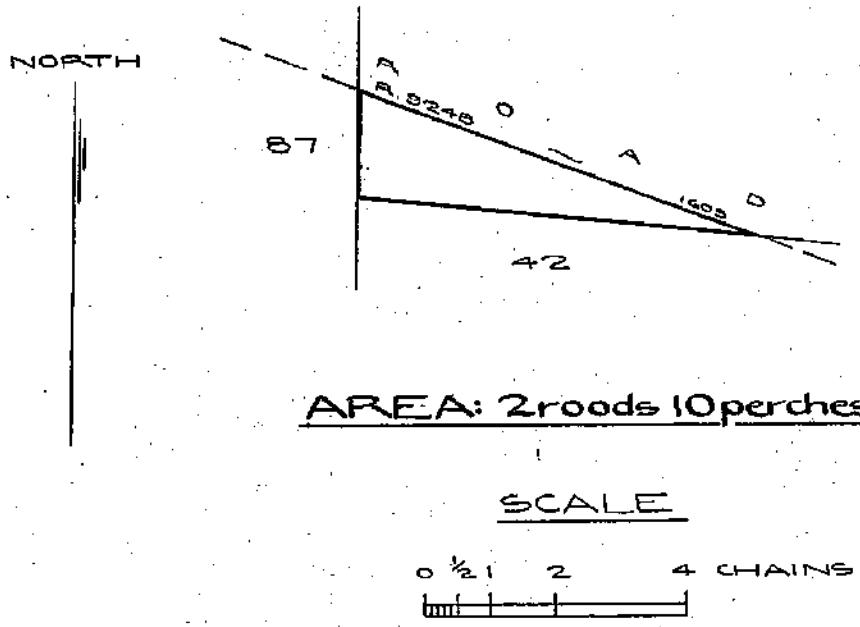
(UNDER THE PUBLIC ROADS ACT, 1902)

ELIZABETH the SECOND, by the Grace of God of the United Kingdom, Australia and her other Realms and Territories Queen, Head of the Commonwealth, Defender of the Faith:—

To All to whom these Presents shall come, Greeting:—

CANCELLED

Whereas RAYMOND GEORGE ROUSE of Maitland Road Cooranbong in Our State of New South Wales and MARGARET EILEEN ROUSE the Wife of the said Raymond George Rouse (hereinafter called the GRANTEES) being the owners of land adjoining the land hereinafter described and intended to be hereby granted (formerly a road which was duly closed in accordance with the provisions of the Public Roads Act, 1902) agreed to have such land granted to them upon payment of the sum of seventy three dollars being the value thereof agreed upon between Our Minister for Lands and the GRANTEES AND WHEREAS the said sum has been duly paid and all things required by law to be done to entitle the GRANTEES to a Grant of the fee simple of the said land Subject to the Reservations and Exceptions hereinafter contained have been done and performed NOW THESE PRESENTS WITNESS That in consideration of the premises WE DO HEREBY GRANT unto the GRANTEES Subject to the Reservations and Exceptions hereinafter contained ALL THAT parcel of land containing by admeasurement two roods ten perches be the same more or less situated in the County of Northumberland Parish of Coorumbung Being the closed road bounded by portions 87 and 42 and a South Western side of the road shown in plan catalogued No. R.9248-1603 in the Department of Lands



AREA: 2roods 10perches

SCALE

0 ½ 1 2 4 CHAINS

As per Plan hereon TO HOLD unto the GRANTEES in fee simple as joint tenants PROVIDED NEVERTHELESS AND WE DO HEREBY RESERVE AND EXCEPT unto Us Our Heirs and Successors all minerals which the said Land contains with full power and authority for Us Our Heirs and Successors and such person or persons as shall from time to time be authorised by Us or Them to enter upon the said Land and to search for mine dig and remove the said minerals AND ALSO all such parts and so much of the said Land as may hereafter be required for public ways in over and through the same to be set out by Our Governor for the time being of Our said State or some person by him authorised in that respect with full power for Us Our Heirs and Successors and for Our Governor as aforesaid by such person or persons as shall be by Us Them or him authorised in that behalf to make and conduct all such public ways And the right of full and free ingress egress and regress into out of and upon the said Land for the several purposes aforesaid or any of them IN TESTIMONY WHEREOF We have caused this Our Grant to be Sealed with the Seal of Our said State.

Witness Our Governor of Our State of New South Wales and its Dependencies in the Commonwealth of Australia, at Sydney in Our said State, this twenty ninth day of December in the eighteenth year of Our Reign and in the year of Our Lord one Thousand nine hundred and sixty nine

A. A. Cutler
Governor

FOR ENDORSEMENTS SEE PAGE 2

V. C. N. BLIGHT, GOVERNMENT PRINTER

N2815 Tx
N761469MR
R667733 1/2 R
CT 22.5.80
R884384 TR R
S154471 TR R
W799453 R
DP 778019 R

REG. GEN. 17-7-1980

Vol. 11219 Fol. 94

SCHEDULE OF REGISTERED PROPRIETORS

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar-General
~~Lindsay Gordon Harper, Accountant, John Baptist Malfanti, Solicitor, and S Bombardier Holdings Pty Limited all of Brookvale as tenants in common in equal shares~~					
~~Peter Lindsay Gordon Harper of Croydon Medical Practitioner in ½ share John Baptist Malfanti of Brookvale Solicitor in ½ share and S Bombardier Holdings Pty Limited in ½ share as tenants in common~~	Transfer	R884384	9-4-1973	13-6-1973	
~~Peter Lindsay Gordon Harper of Croydon Medical Practitioner in ½ share, John Baptist Malfanti of Brookvale Solicitor in ½ share and S Bombardier Holdings Pty Limited in ½ share as tenants in common~~	Transmission	R884384	—	21-6-1980	
~~Peter Lindsay Gordon Harper of Croydon Medical Practitioner in ½ share, Robert Leonardus Dangl, Businessman, of Jolan, Wa. and S Bombardier Holdings Pty Limited in ½ share, tenants in common~~	Transmission	R884384	—	27-6-1980	
Yvonne Borgas by Transfer W799453. Registered 23-3-1987	Transfer	S154471	—	25-8-1980	

SCHEDULE OF ENCUMBRANCES ETC.

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION		
Mortgage	N 761469	21-11-1973	to Commonwealth Trading Bank of Australia	5-4-1974		Discharged	R667733	
			FOLIO CANCELLED – NEW FOLIO IS 1/2 778019					

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR-GENERAL ARE CANCELLED

(Page 2 of 2 pages)

LAND REGISTRY SERVICES Historical Search InfoTrack

NEW SOUTH WALES LAND REGISTRY SERVICES - HISTORICAL SEARCH

SEARCH DATE
6/11/2023 10:39AM

FOLIO: 1/778019

First Title(s): VOL 761 FOL 28 VOL 2312 FOL 180
Prior Title(s): VOL 2963 FOL 226 VOL 11219 FOL 94

Recorded	Number	Type of Instrument	C.T. Issue
25/10/1988	DP778019	DEPOSITED PLAN	FOLIO CREATED EDITION 1
5/7/2018	AN478770	TRANSFER	
5/7/2018	AN478771	MORTGAGE	EDITION 2
12/9/2022	AS466465	PRIORITY NOTICE	EDITION 3
16/9/2022	AS476689	DISCHARGE OF MORTGAGE	
16/9/2022	AS476690	TRANSFER	
16/9/2022	AS476691	MORTGAGE	EDITION 4
16/2/2023	AS862858	TRANSFER OF MORTGAGE	EDITION 5

*** END OF SEARCH ***

369 Newport Road PRINTED ON 6/11/2023

Received: 06/11/2023 10:39:18

System Document Identification

Form Number: 01T-e
Template Number: T_nsw16
ELN Document ID: 6486740
ELN NOS ID: 6486742

TRANSFER

New South Wales
Real Property Act 1900

Land Registry Document Identification

AN478770

Stamp Duty: 9386958-001

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the Registrar General to collect the information required by this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

LODGED BY:

Responsible Subscriber: AUSTRALIAN GOVERNMENT SOLICITOR ABN 69405937639
Address: MLC Centre
L42, 19 Martin PL
Sydney 2000
Telephone:
PEXA Subscriber Number: 2627
Customer Account Number: 500574H
Document Collection Box: 1W
Client Reference: Ash and Slade

LAND TITLE REFERENCE

1/778019

TRANSFEROR

YVONNE BORGAS

TRANSFEREE

KANE JOHN WILLIAM ASH
KRISTY LOUISE SLADE
Tenancy: Joint Tenants

CONSIDERATION

The transferor acknowledges receipt of the consideration of $450,000.00

ESTATE TRANSFERRED

FEE SIMPLE

The Transferor transfers to the Transferee the Estate specified in this Instrument and acknowledges receipt of any Consideration shown.

SIGNING FOR TRANSFEROR

I certify that:

1. The Certifier has taken reasonable steps to ensure that this Registry Instrument or Document is correct and compliant with relevant legislation and any Prescribed Requirement.
2. The Certifier has retained the evidence supporting this Registry Instrument or Document.
3. The Certifier holds a properly completed Client Authorisation for the Conveyancing Transaction including this Registry Instrument or Document.
4. The Certifier has taken reasonable steps to verify the identity of the transferor.

Party Represented by Subscriber:

YVONNE BORGAS

Signed By: Ivan Mark Kent
Signer Capacity: Practitioner Certifier
PEXA Signer Number: 3535
Digital Signing Certificate Number: 33630

Signed for Subscriber: IVAN MARK KENT ABN 55998027176

BRENNAN TIPPLE PARTNERS

LAND REGISTRY SERVICES

Title Search

InfoTrack

NEW SOUTH WALES LAND REGISTRY SERVICES - TITLE SEARCH

FOLIO: 1/778019

SEARCH DATE	TIME	EDITION NO	DATE
6/11/2023	10:39 AM	5	16/2/2023

LAND

LOT 1 IN DEPOSITED PLAN 778019
AT COORANBONG
LOCAL GOVERNMENT AREA LAKE MACQUARIE
PARISH OF COORUMBUNG COUNTY OF NORTHUMBERLAND
TITLE DIAGRAM DP778019

FIRST SCHEDULE

JC SUBDIVISION PTY LTD (T AS476690)

SECOND SCHEDULE (2 NOTIFICATIONS)

1 LAND EXCLUDES MINERALS AND IS SUBJECT TO RESERVATIONS AND CONDITIONS IN FAVOUR OF THE CROWN - SEE CROWN GRANT(S)
2 AS476691 MORTGAGE TO SF MORTGAGE PTY LTD (SEE AS862858)

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

Received: 06/11/2023 10:39:06

Annex D

LOTSEARCH

LOTSEARCH ENVIRO PROFESSIONAL

Date: 06 Nov 2023 08:54:19

Reference: LS049804 EP

Address: 369 Newport Road, Cooranbong, NSW 2265

Dataset Listing

Datasets contained within this report, detailing their source and data currency:

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features On-site	No. Features within 100m	No. Features within Buffer
Cadastre Boundaries	NSW Department of Customer Service - Spatial Services	14/09/2023	14/09/2023	Quarterly	-	-	-	-
Topographic Data	NSW Department of Customer Service - Spatial Services	22/08/2022	22/08/2022	Annually	-	-	-	-
List of NSW contaminated sites notified to EPA	Environment Protection Authority	16/10/2023	10/10/2023	Monthly	1000m	0	0	1
Contaminated Land Records of Notice	Environment Protection Authority	06/10/2023	06/10/2023	Monthly	1000m	0	0	0
Former Gasworks	Environment Protection Authority	16/10/2023	14/07/2021	Quarterly	1000m	0	0	0
Notices under the POEO Act 1997	Environment Protection Authority	26/07/2023	26/07/2023	Monthly	1000m	0	0	0
National Waste Management Facilities Database	Geoscience Australia	26/05/2022	07/03/2017	Annually	1000m	0	0	0
National Liquid Fuel Facilities	Geoscience Australia	20/09/2023	07/09/2020	Annually	1000m	0	0	1
EPA PFAS Investigation Program	Environment Protection Authority	23/10/2023	23/09/2022	Monthly	2000m	0	0	0
Defence PFAS Investigation & Management Program - Investigation Sites	Department of Defence	19/10/2023	19/10/2023	Monthly	2000m	0	0	0
Defence PFAS Investigation & Management Program - Management Sites	Department of Defence	19/10/2023	19/10/2023	Monthly	2000m	0	0	0
Airservices Australia National PFAS Management Program	Airservices Australia	19/10/2023	19/10/2023	Monthly	2000m	0	0	0
Defence Controlled Areas	Department of Defence	10/10/2023	10/10/2023	Quarterly	2000m	0	0	0
Defence 3 Year Regional Contamination Investigation Program	Department of Defence	19/10/2023	02/09/2022	Quarterly	2000m	0	0	0
National Unexploded Ordnance (UXO)	Department of Defence	10/10/2023	10/10/2023	Quarterly	2000m	0	0	0
EPA Other Sites with Contamination Issues	Environment Protection Authority	16/02/2022	13/12/2018	Annually	1000m	0	0	0
Licensed Activities under the POEO Act 1997	Environment Protection Authority	23/10/2023	23/10/2023	Monthly	1000m	0	1	4
Delicensed POEO Activities still regulated by the EPA	Environment Protection Authority	23/10/2023	23/10/2023	Monthly	1000m	0	0	0
Former POEO Licensed Activities now revoked or surrendered	Environment Protection Authority	23/10/2023	23/10/2023	Monthly	1000m	0	3	3
UBD Business Directories (Premise & Intersection Matches)	Hardie Grant			Not required	150m	0	2	2
UBD Business Directories (Road & Area Matches)	Hardie Grant			Not required	150m	-	0	0
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Premise & Intersection Matches)	Hardie Grant			Not required	500m	0	0	0
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Road & Area Matches)	Hardie Grant			Not required	500m	-	0	7
Points of Interest	NSW Department of Customer Service - Spatial Services	19/10/2022	19/10/2022	Quarterly	1000m	0	0	5
Tanks (Areas)	NSW Department of Customer Service - Spatial Services	19/10/2022	19/10/2022	Quarterly	1000m	0	0	0
Tanks (Points)	NSW Department of Customer Service - Spatial Services	19/10/2022	19/10/2022	Quarterly	1000m	0	0	4
Major Easements	NSW Department of Customer Service - Spatial Services	19/10/2023	19/10/2023	Quarterly	1000m	0	1	5
State Forest	Forestry Corporation of NSW	16/08/2022	14/08/2022	Annually	1000m	0	0	0
NSW National Parks and Wildlife Service Reserves	NSW Office of Environment & Heritage	16/02/2023	31/12/2022	Annually	1000m	0	0	0
Hydrogeology Map of Australia	Commonwealth of Australia (Geoscience Australia)	29/08/2022	19/08/2019	As required	1000m	1	1	2

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features On-site	No. Features within 100m	No. Features within Buffer
Temporary Water Restriction (Botany Sands Groundwater Source) Order 2018	NSW Department of Planning, Industry and Environment	09/05/2023	23/02/2018	Annually	1000m	0	0	0
National Groundwater Information System (NGIS) Boreholes	Bureau of Meteorology; Water NSW	18/04/2023	13/07/2022	Annually	2000m	0	0	4
NSW Seamless Geology Single Layer: Rock Units	Department of Regional NSW	17/02/2022	01/05/2021	Annually	1000m	2	2	6
NSW Seamless Geology – Single Layer: Trendlines	Department of Regional NSW	17/02/2022	01/05/2021	Annually	1000m	0	0	0
NSW Seamless Geology – Single Layer: Geological Boundaries and Faults	Department of Regional NSW	17/02/2022	01/05/2021	Annually	1000m	0	0	0
Naturally Occurring Asbestos Potential	NSW Dept. of Industry, Resources & Energy	04/12/2015	24/09/2015	Unknown	1000m	0	0	0
Atlas of Australian Soils	Australian Bureau of Agriculture and Resource Economics and Sciences (ABARES)	19/05/2017	17/02/2011	As required	1000m	1	1	2
Soil Landscapes of Central and Eastern NSW	NSW Department of Planning, Industry and Environment	18/08/2022	27/07/2020	Annually	1000m	1	2	2
Environmental Planning Instrument Acid Sulfate Soils	NSW Department of Planning, Industry and Environment	10/10/2023	01/09/2023	Monthly	500m	1	-	-
Atlas of Australian Acid Sulfate Soils	CSIRO	19/01/2017	21/02/2013	As required	1000m	2	2	3
Dryland Salinity - National Assessment	National Land and Water Resources Audit	18/07/2014	12/05/2013	None planned	1000m	0	0	0
Mining Subsidence Districts	NSW Department of Customer Service - Subsidence Advisory NSW	16/10/2023	16/10/2023	Quarterly	1000m	0	0	0
Current Mining Titles	NSW Department of Industry	23/10/2023	23/10/2023	Monthly	1000m	1	1	2
Mining Title Applications	NSW Department of Industry	23/10/2023	23/10/2023	Monthly	1000m	0	0	0
Historic Mining Titles	NSW Department of Industry	23/10/2023	23/10/2023	Monthly	1000m	10	10	11
Environmental Planning Instrument SEPP State Significant Precincts	NSW Department of Planning, Industry and Environment	31/08/2023		Monthly	1000m	0	0	0
Environmental Planning Instrument Land Zoning	NSW Department of Planning, Industry and Environment	10/10/2023	15/09/2023	Monthly	1000m	1	4	26
Commonwealth Heritage List	Australian Government Department of the Agriculture, Water and the Environment	20/10/2023	13/04/2022	Annually	1000m	0	0	0
National Heritage List	Australian Government Department of the Agriculture, Water and the Environment	20/10/2023	13/04/2022	Annually	1000m	0	0	0
State Heritage Register - Curtilages	NSW Department of Planning, Industry and Environment	06/09/2023	03/03/2023	Quarterly	1000m	0	0	0
Environmental Planning Instrument Local Heritage	NSW Department of Planning, Industry and Environment	10/10/2023	22/09/2023	Monthly	1000m	0	0	3
Bush Fire Prone Land	NSW Rural Fire Service	28/09/2023	15/08/2023	Monthly	1000m	1	3	4
NSW Native Vegetation Type Map	NSW Department of Planning and Environment	26/05/2023	12/12/2022	Quarterly	1000m	1	2	8
Ramsar Wetlands of Australia	Australian Government Department of Agriculture, Water and the Environment	09/05/2023	01/11/2022	Annually	1000m	0	0	0
Groundwater Dependent Ecosystems	Bureau of Meteorology	28/10/2022	26/10/2022	Annually	1000m	0	0	3
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	28/10/2022	26/10/2022	Annually	1000m	0	0	8
NSW BioNet Species Sightings	NSW Office of Environment & Heritage	27/10/2023	27/10/2023	Weekly	10000m	-	-	-

Site Diagram

369 Newport Road, Cooranbong, NSW 2265

Legend

- Site Boundary
- Internal Parcel Boundaries

Total Area: 2645m²

Total Perimeter: 210m

Disclaimers:

Measurements are approximate only and may have been simplified or smaller lengths removed for readability.

Parcels that make up a small percentage of the total site area have not been labelled for increased legibility.

Scale: 0 5 10 Meters

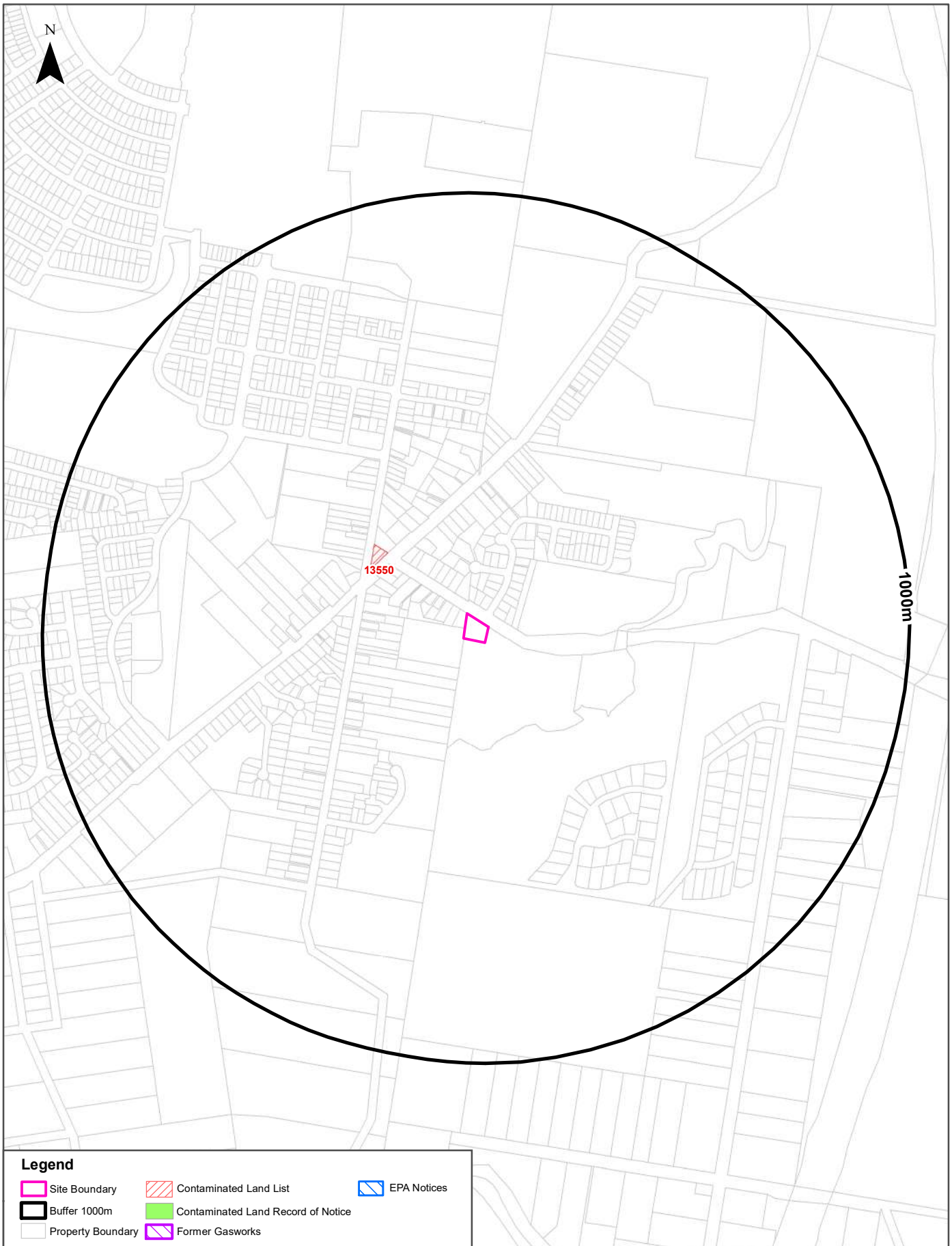
Data Source Aerial Imagery:
© Aerometrex Pty Ltd

Coordinate System:
GDA 1994 MGA Zone 56

Date: 06 November 2023

Contaminated Land

369 Newport Road, Cooranbong, NSW 2265



Legend

- Site Boundary
- Buffer 1000m
- Property Boundary
- Contaminated Land List
- Contaminated Land Record of Notice
- Former Gasworks
- EPA Notices

Scale: 0 100 200 400 600 Meters

Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2023

Coordinate System: GDA 1994 MGA Zone 56

Date: 06 November 2023

Contaminated Land

369 Newport Road, Cooranbong, NSW 2265

List of NSW contaminated sites notified to EPA

Records from the NSW EPA Contaminated Land list within the dataset buffer:

Map Id	Site	Address	Suburb	Activity	Management Class	Status	Location Confidence	Dist	Direction
13550	Avondale Auto Centre	679 Freemans DRIVE	COORANBONG	Service Station	Regulation under CLM Act not required	Current EPA List	Premise Match	238m	North West

The values within the EPA site management class in the table above, are given more detailed explanations in the table below:

EPA site management class	Explanation
Contamination being managed via the planning process (EP&A Act)	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. The contamination of this site is managed by the consent authority under the Environmental Planning and Assessment Act 1979 (EP&A Act) planning approval process, with EPA involvement as necessary to ensure significant contamination is adequately addressed. The consent authority is typically a local council or the Department of Planning and Environment.
Contamination currently regulated under CLM Act	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the Contaminated Land Management Act 1997 (CLM Act). Management of the contamination is regulated by the EPA under the CLM Act. Regulatory notices are available on the EPA's Contaminated Land Public Record of Notices.
Contamination currently regulated under POEO Act	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. Management of the contamination is regulated under the Protection of the Environment Operations Act 1997 (POEO Act). The EPA's regulatory actions under the POEO Act are available on the POEO public register.
Contamination formerly regulated under the CLM Act	The EPA has determined that the contamination is no longer significant enough to warrant regulation under the Contaminated Land Management Act 1997 (CLM Act). The contamination was addressed under the CLM Act.
Contamination formerly regulated under the POEO Act	The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed under the Protection of the Environment Operations Act 1997 (POEO Act).
Contamination was addressed via the planning process (EP&A Act)	The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed by the appropriate consent authority via the planning process under the Environmental Planning and Assessment Act 1979 (EP&A Act).
Ongoing maintenance required to manage residual contamination (CLM Act)	The EPA has determined that ongoing maintenance, under the Contaminated Land Management Act 1997 (CLM Act), is required to manage the residual contamination. Regulatory notices under the CLM Act are available on the EPA's Contaminated Land Public Record of Notices.
Regulation being finalised	The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the Contaminated Land Management Act 1997. A regulatory approach is being finalised.
Regulation under the CLM Act not required	The EPA has completed an assessment of the contamination and decided that regulation under the Contaminated Land Management Act 1997 is not required.
Under assessment	The contamination is being assessed by the EPA to determine whether regulation is required. The EPA may require further information to complete the assessment. For example, the completion of management actions regulated under the planning process or Protection of the Environment Operations Act 1997. Alternatively, the EPA may require information via a notice issued under s77 of the Contaminated Land Management Act 1997 or issue a Preliminary Investigation Order.

NSW EPA Contaminated Land List Data Source: Environment Protection Authority

Contaminated Land

369 Newport Road, Cooranbong, NSW 2265

Contaminated Land: Records of Notice

Record of Notices within the dataset buffer:

Map Id	Name	Address	Suburb	Notices	Area No	Location Confidence	Distance	Direction
N/A	No records in buffer							

Contaminated Land Records of Notice Data Source: Environment Protection Authority

Terms of use and disclaimer for Contaminated Land: Record of Notices, please visit
http://www.epa.nsw.gov.au/clm/clmdisclaimer.htm

Former Gasworks

Former Gasworks within the dataset buffer:

Map Id	Location	Council	Further Info	Location Confidence	Distance	Direction
N/A	No records in buffer					

Former Gasworks Data Source: Environment Protection Authority

Contaminated Land

369 Newport Road, Cooranbong, NSW 2265

EPA Notices

Penalty Notices, s.91 & s.92 Clean up Notices and s.96 Prevention Notices within the dataset buffer:

Number	Type	Name	Address	Status	Issued Date	Act	Offence	Offence Date	Loc Conf	Dist	Dir
N/A	No records in buffer										

NSW EPA Notice Data Source: Environment Protection Authority

Waste Management & Liquid Fuel Facilities

369 Newport Road, Cooranbong, NSW 2265

Scale: 0 100 200 400 600 Meters

Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2023

Coordinate System: GDA 1994 MGA Zone 56

Date: 06 November 2023

Waste Management & Liquid Fuel Facilities

369 Newport Road, Cooranbong, NSW 2265

National Waste Management Site Database

Sites on the National Waste Management Site Database within the dataset buffer:

Site Id	Owner	Name	Address	Suburb	Class	Landfill	Reprocess	Transfer	Comments	Loc Conf	Dist	Direction
N/A	No records in buffer											

Waste Management Facilities Data Source: Geoscience Australia

National Liquid Fuel Facilities

National Liquid Fuel Facilties within the dataset buffer:

Map Id	Owner	Name	Address	Suburb	Class	Operational Status	Operator	Revision Date	Loc Conf	Dist	Direction
5427	INDEPENDENT	AVONDALE AUTO CENTRE	677 FREEMANS DRIVE	COORANBONG	PETROL STATION	OPERATIONAL			Premise Match	238m	North West

National Liquid Fuel Facilities Data Source: Geoscience Australia

PFAS Investigation & Management Programs

369 Newport Road, Cooranbong, NSW 2265

EPA PFAS Investigation Program

Sites that are part of the EPA PFAS investigation program, within the dataset buffer:

Map ID	Site	Address	Loc Conf	Dist	Dir
N/A	No records in buffer				

EPA PFAS Investigation Program: Environment Protection Authority

Defence PFAS Investigation Program

Sites being investigated by the Department of Defence for PFAS contamination within the dataset buffer:

Map ID	Base Name	Address	Loc Conf	Dist	Dir
N/A	No records in buffer				

Defence PFAS Investigation Program Data Custodian: Department of Defence, Australian Government

Defence PFAS Management Program

Sites being managed by the Department of Defence for PFAS contamination within the dataset buffer:

Map ID	Base Name	Address	Loc Conf	Dist	Dir
N/A	No records in buffer				

Defence PFAS Management Program Data Custodian: Department of Defence, Australian Government

Airservices Australia National PFAS Management Program

Sites being investigated or managed by Airservices Australia for PFAS contamination within the dataset buffer:

Map ID	Site Name	Impacts	Loc Conf	Dist	Dir
N/A	No records in buffer				

Airservices Australia National PFAS Management Program Data Custodian: Airservices Australia

Defence Sites and Unexploded Ordnance

369 Newport Road, Cooranbong, NSW 2265

Defence Controlled Areas (DCA)

Defence Controlled Areas provided by the Department of Defence within the dataset buffer:

Site ID	Location Name	Loc Conf	Dist	Dir
N/A	No records in buffer			

Defence Controlled Areas, Data Custodian: Department of Defence, Australian Government

Defence 3 Year Regional Contamination Investigation Program (RCIP)

Sites which have been assessed as part of the Defence 3 Year Regional Contamination Investigation Program within the dataset buffer:

Property ID	Base Name	Address	Known Contamination	Loc Conf	Dist	Dir
N/A	No records in buffer					

Defence 3 Year Regional Contamination Investigation Program, Data Custodian: Department of Defence, Australian Government

National Unexploded Ordnance (UXO)

Sites which have been assessed by the Department of Defence for the potential presence of unexploded ordnance within the dataset buffer:

Site ID	Location Name	Category	Area Description	Additional Information	Commonwealth	Loc Conf	Dist	Dir
N/A	No records in buffer							

National Unexploded Ordnance (UXO), Data Custodian: Department of Defence, Australian Government

EPA Other Sites with Contamination Issues

369 Newport Road, Cooranbong, NSW 2265

EPA Other Sites with Contamination Issues

This dataset contains other sites identified on the EPA website as having contamination issues. This dataset currently includes:

- James Hardie asbestos manufacturing and waste disposal sites
- Radiological investigation sites in Hunter's Hill
- Pasminco Lead Abatement Strategy Area

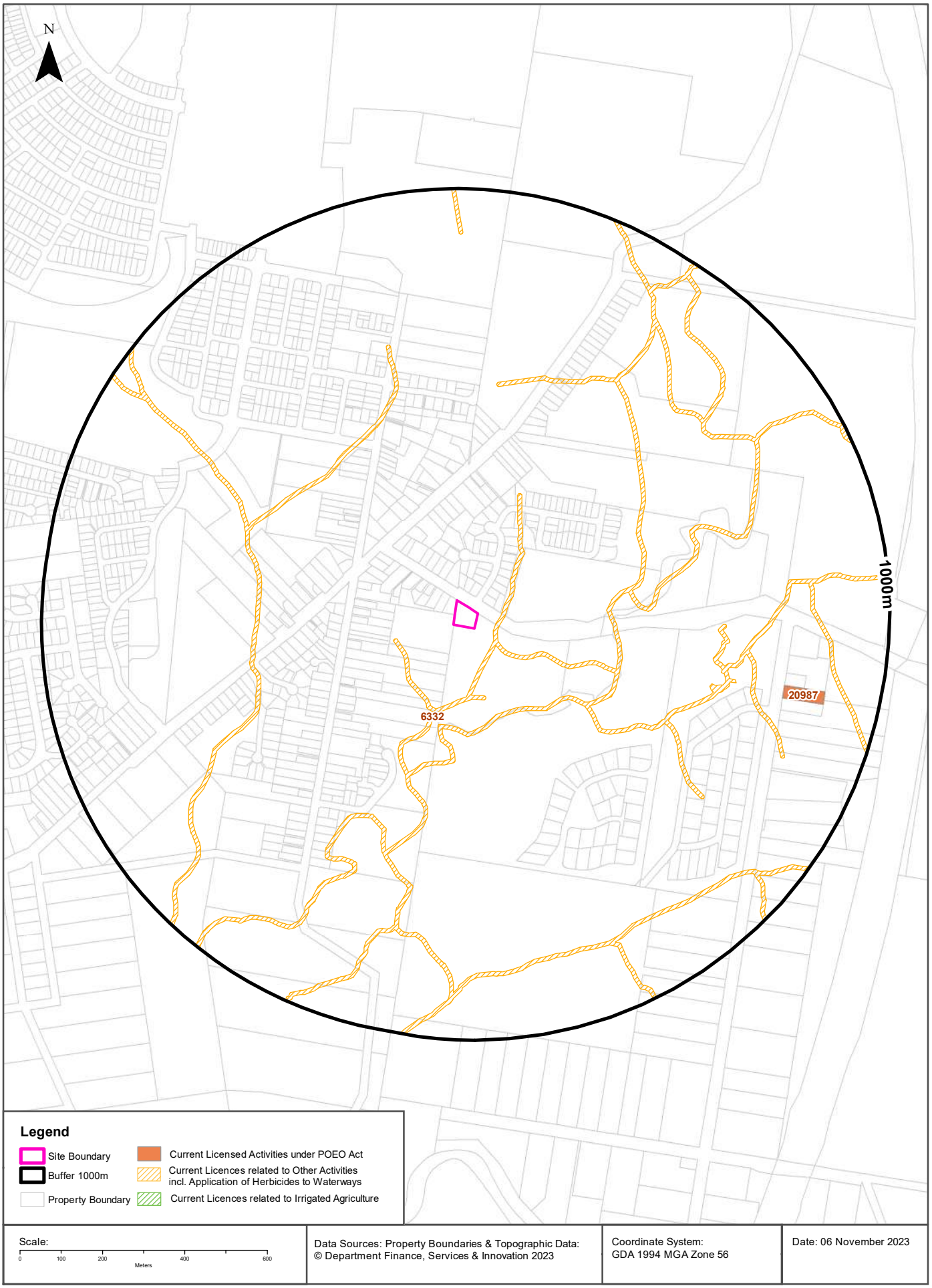
Sites within the dataset buffer:

Site Id	Site Name	Site Address	Dataset	Comments	Location Confidence	Distance	Direction
N/A	No records in buffer						

EPA Other Sites with Contamination Issues: Environment Protection Authority

Current EPA Licensed Activities

369 Newport Road, Cooranbong, NSW 2265



Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2023

Coordinate System: GDA 1994 MGA Zone 56

Date: 06 November 2023

EPA Activities

369 Newport Road, Cooranbong, NSW 2265

Licensed Activities under the POEO Act 1997

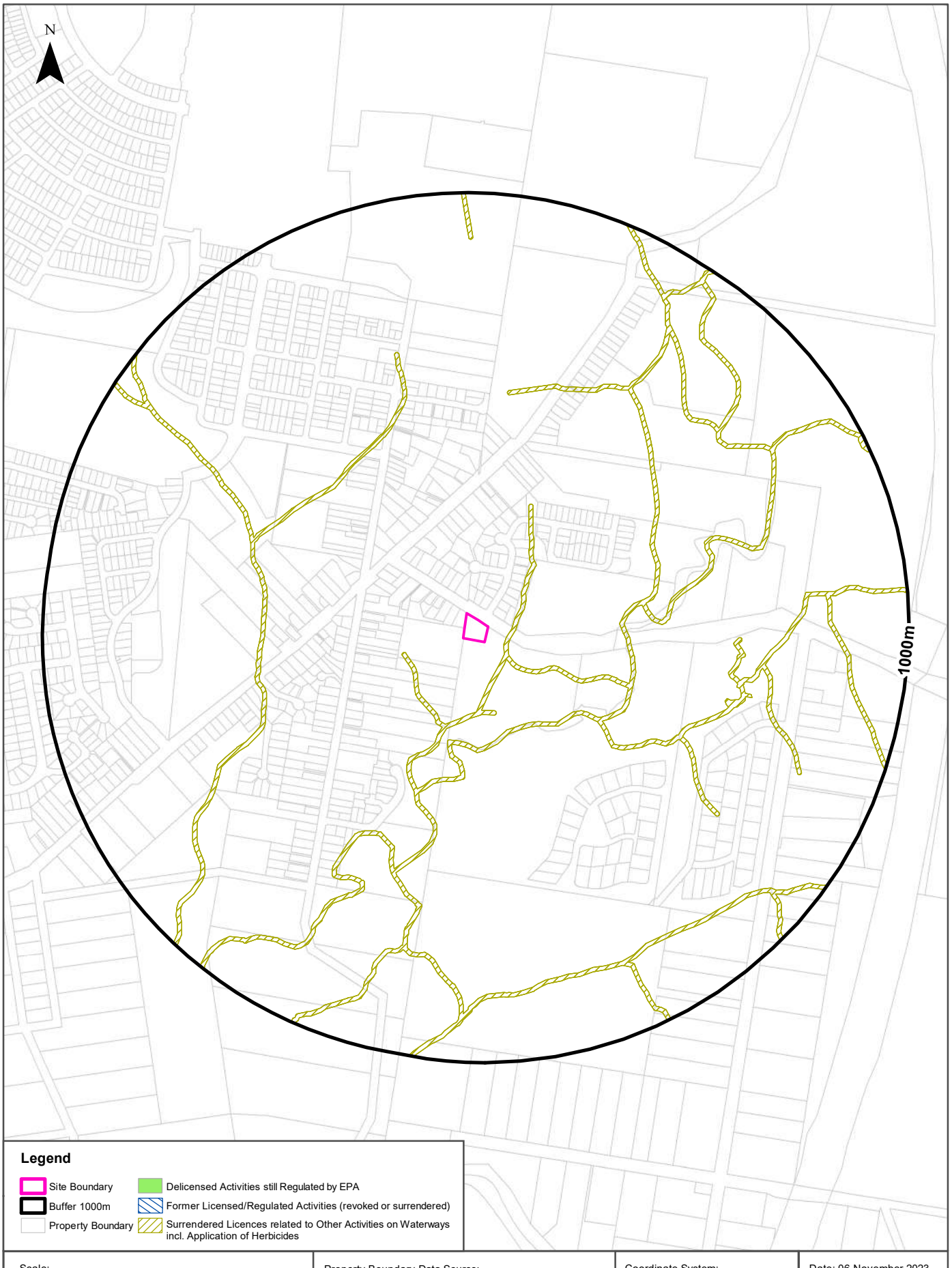
Licensed activities under the Protection of the Environment Operations Act 1997, within the dataset buffer:

EPL	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
6332	LAKE MACQUARIE CITY COUNCIL	-	-	SPEERS POINT	Other activities	Network of Features	46m	South East
20987	RAY JOHNSONS SCRAP TYRE DISPOSALS PTY LTD		2/23 Currans Road, COORANBONG, NSW 2265		Waste storage - hazardous, restricted solid, liquid, clinical and related waste and asbestos waste	Premise Match	764m	East
20987	RAY JOHNSONS SCRAP TYRE DISPOSALS PTY LTD		2/23 Currans Road, COORANBONG, NSW 2265		Waste storage - other types of waste; Waste storage - waste tyres	Premise Match	764m	East
20987	RAY JOHNSONS SCRAP TYRE DISPOSALS PTY LTD		2/23 Currans Road, COORANBONG, NSW 2265		Waste storage - waste tyres	Premise Match	764m	East

POEO Licence Data Source: Environment Protection Authority

Delicensed & Former Licensed EPA Activities

369 Newport Road, Cooranbong, NSW 2265



Scale: 0 100 200 400 600 Meters

Property Boundary Data Source:
© Department Finance, Services & Innovation 2023

Coordinate System:
GDA 1994 MGA Zone 56

Date: 06 November 2023

EPA Activities

369 Newport Road, Cooranbong, NSW 2265

Delicensed Activities still regulated by the EPA

Delicensed activities still regulated by the EPA, within the dataset buffer:

Licence No	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
N/A	No records in buffer							

Delicensed Activities Data Source: Environment Protection Authority

Former Licensed Activities under the POEO Act 1997, now revoked or surrendered

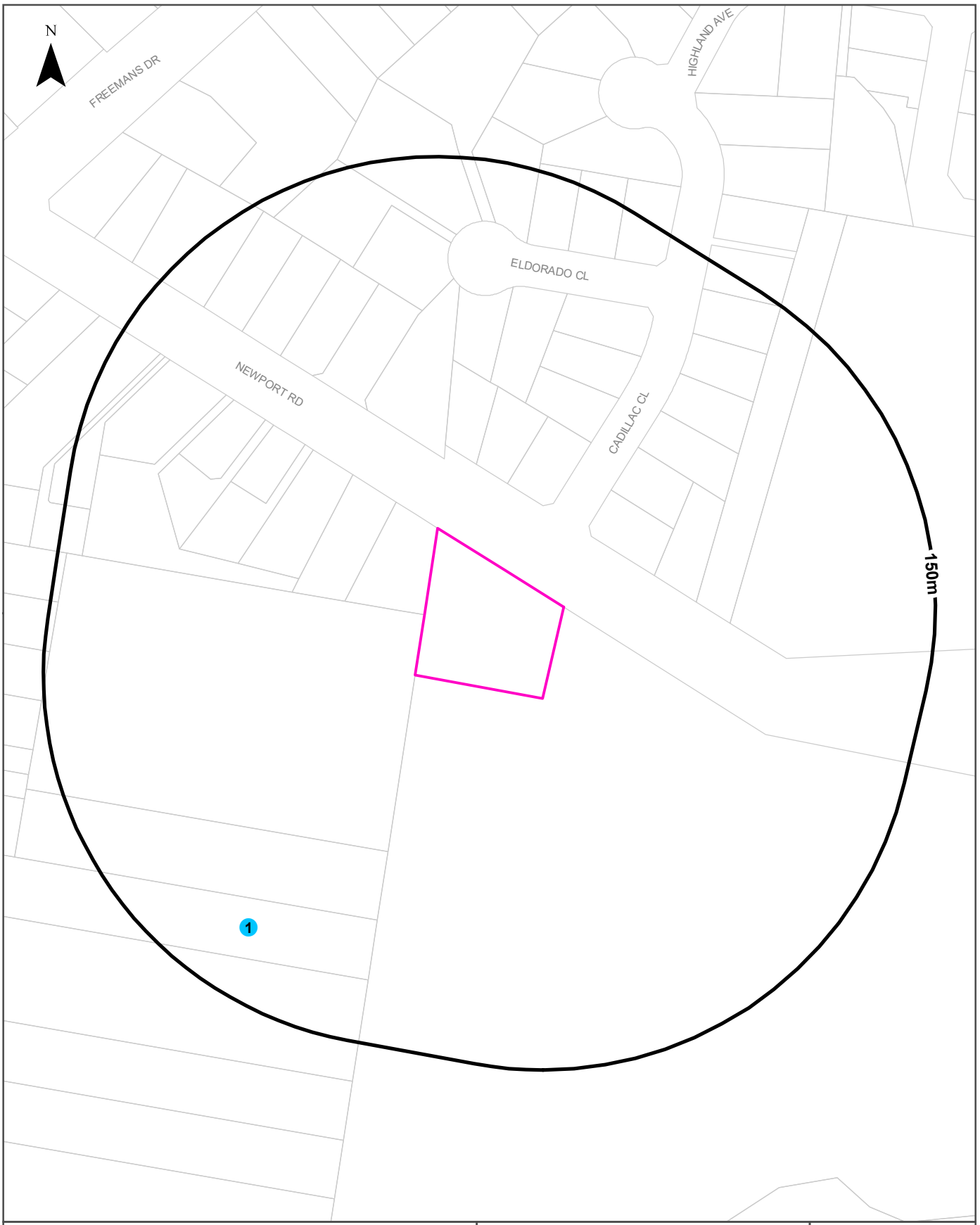
Former Licensed activities under the Protection of the Environment Operations Act 1997, now revoked or surrendered, within the dataset buffer:

Licence No	Organisation	Location	Status	Issued Date	Activity	Loc Conf	Distance	Direction
4653	LUHRMANN ENVIRONMENT MANAGEMENT PTY LTD	WATERWAYS THROUGHOUT NSW	Surrendered	06/09/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	46m	South East
4838	Robert Orchard	Various Waterways throughout New South Wales - SYDNEY NSW 2000	Surrendered	07/09/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	46m	South East
6630	SYDNEY WEED & PEST MANAGEMENT PTY LTD	WATERWAYS THROUGHOUT NSW - PROSPECT, NSW, 2148	Surrendered	09/11/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	46m	South East

Former Licensed Activities Data Source: Environment Protection Authority

Historical Business Directories

369 Newport Road, Cooranbong, NSW 2265



Legend

- Site Boundary
- Buffer 150m
- Property Boundary
- Business directory records mapped to a specific premise
- Business directory records mapped to a road intersection
- Business directory records mapped to a road corridor
- Business directory records mapped to a general area

Scale: 0 25 50 75 100 Meters

Coordinate System: GDA 1994 MGA Zone 56

Date: 06 November 2023

Data Sources: Reproduced with permission of UBD and Hardie Grant Media Pty Ltd DD 01/08/2018

Historical Business Directories

369 Newport Road, Cooranbong, NSW 2265

Business Directory Records 1950-1991
Premise or Road Intersection Matches

Universal Business Directory records from years 1991, 1982, 1970, 1961 & 1950, mapped to a premise or road intersection within the dataset buffer:

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
1	NOT LISTED	Eager, T. W. L., Herblst., 47 Avondale Rd., Cooranbong 2265	166322	1982	Premise Match	100m	South West
	HERBALISTS	Eager, T. W. L., 47 Avondale Rd., Cooranbong 2265	636816	1970	Premise Match	100m	South West

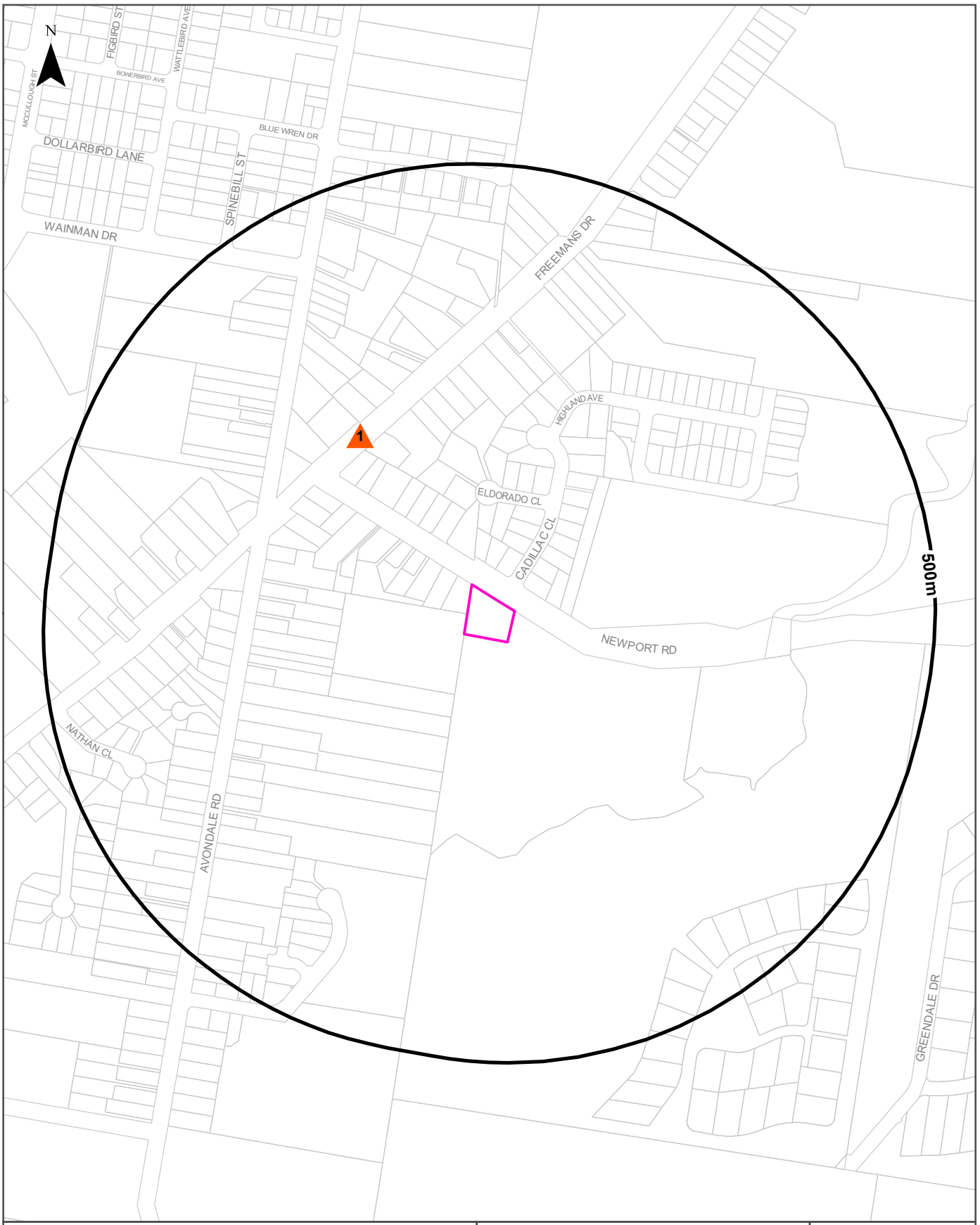
Business Directory Records 1950-1991
Road or Area Matches

Universal Business Directory records from years 1991, 1982, 1970, 1961 & 1950, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published:

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
N/A	No records in buffer					

Dry Cleaners, Motor Garages & Service Stations

369 Newport Road, Cooranbong, NSW 2265



Legend

- Site Boundary
- Buffer 500m
- Property Boundary
- Business directory records mapped to a specific premise
- Business directory records mapped to a road intersection
- Business directory records mapped to a road corridor
- Business directory records mapped to a general area

Scale: 0 80 160 240 320 Meters

Coordinate System: GDA 1994 MGA Zone 56

Date: 06 November 2023

Data Sources: Reproduced with permission of UBD and Hardie Grant Media Pty Ltd DD 01/08/2018

Historical Business Directories

369 Newport Road, Cooranbong, NSW 2265

Dry Cleaners, Motor Garages & Service Stations Premise or Road Intersection Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories, mapped to a premise or road intersection, within the dataset buffer.

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
N/A	No records in buffer						

Dry Cleaners, Motor Garages & Service Stations Road or Area Matches

Dry Cleaners, Motor Garages & Service Stations from UBD Business Directories, mapped to a road or an area, within the dataset buffer. Records are mapped to the road when a building number is not supplied, cannot be found, or the road has been renumbered since the directory was published.

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
1	MOTOR GARAGES & ENGINEERS	Strong's Garage, 108 Maitland Rd., Cooranbong 2265	636829	1970	Road Match	204m
	MOTOR GARAGES & ENGINEERS	Strong's Garage, Maitland Rd., Cooranbong	148633	1961	Road Match	204m
	MOTOR GARAGES & ENGINEERS	Weinman, F. A., 18 Maitland Rd., Cooranbong	148634	1961	Road Match	204m
	DRY CLEANERS, PRESSERS & DYERS	Avon (The), 66 Maitland Rd. Cooranbong	168229	1950	Road Match	204m
	MOTOR GARAGES & ENGINEERS	Cooranbong Garage, 14 Maitland Rd. Cooranbong	168260	1950	Road Match	204m
	MOTOR GARAGES & ENGINEERS	Strong's Garage, Maitland Rd. Cooranbong	168261	1950	Road Match	204m
	MOTOR GARAGES & ENGINEERS	Wainman, F. A., 18 Maitland Rd. Cooranbong	168262	1950	Road Match	204m

Aerial Imagery 2023

369 Newport Road, Cooranbong, NSW 2265

Scale:	Data Source Aerial Imagery:	Coordinate System:	Date: 06 November 2023
0 25 50 75 100 Meters	© Aerometrex Pty Ltd	GDA 1994 MGA Zone 56	

Aerial Imagery 2019

369 Newport Road, Cooranbong, NSW 2265

Scale:	Data Source Aerial Imagery:	Coordinate System:	Date: 06 November 2023
0 25 50 75 100 Meters	© Aerometrex Pty Ltd	GDA 1994 MGA Zone 56	

Aerial Imagery 2016

369 Newport Road, Cooranbong, NSW 2265

Scale:	Data Source Aerial Imagery:	Coordinate System:	Date: 06 November 2023
0 25 50 75 100 Meters	© Aerometrex Pty Ltd	GDA 1994 MGA Zone 56	

Aerial Imagery 2010

369 Newport Road, Cooranbong, NSW 2265

Scale:	Data Source Aerial Imagery:	Coordinate System:	Date: 06 November 2023
0 25 50 75 100 Meters	© Aerometrex Pty Ltd	GDA 1994 MGA Zone 56	

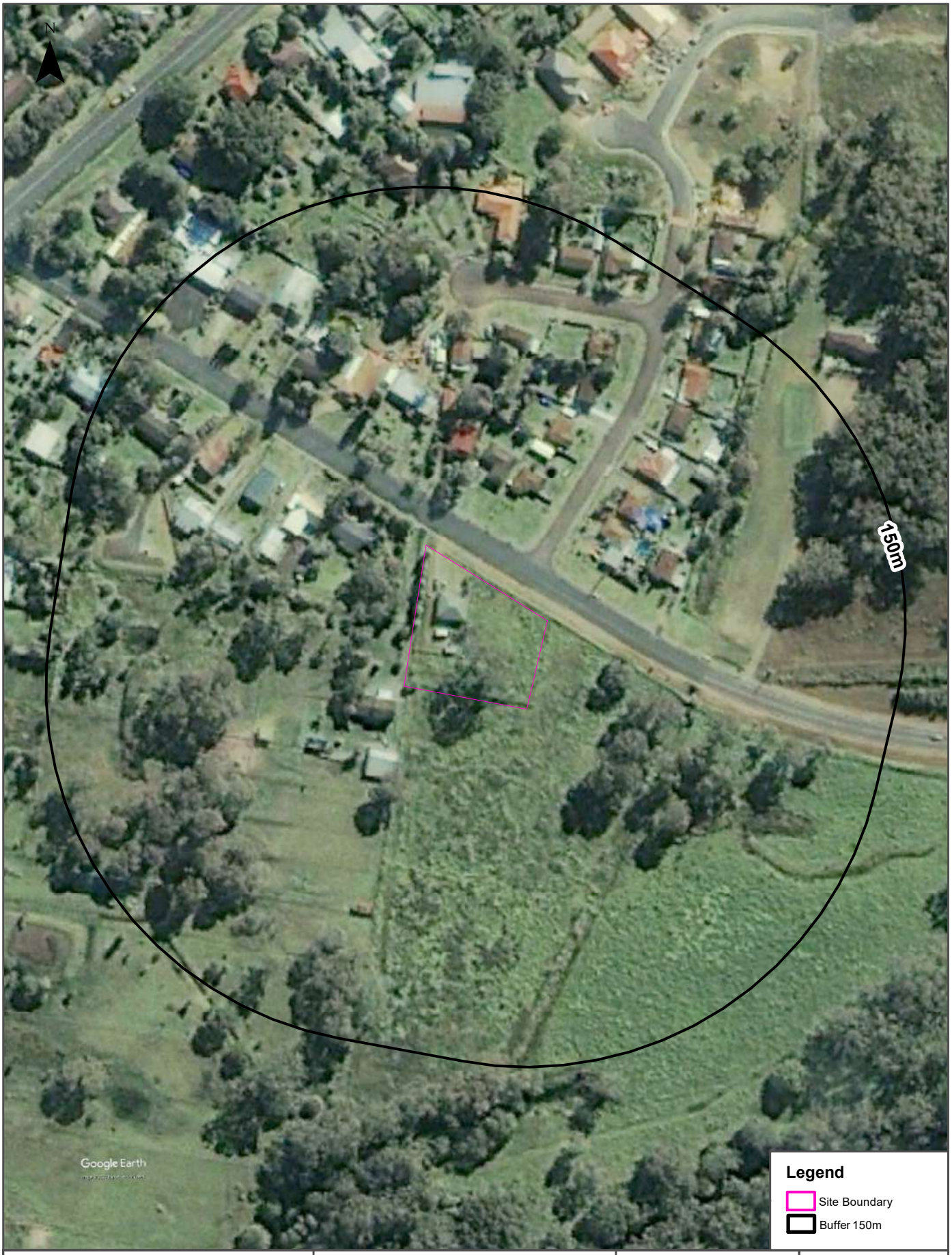
Aerial Imagery 2007

369 Newport Road, Cooranbong, NSW 2265

Scale:	Data Source Aerial Imagery:	Coordinate System:	Date: 06 November 2023
0 25 50 75 100 Meters	© Aerometrex Pty Ltd	GDA 1994 MGA Zone 56	

Aerial Imagery 2002

369 Newport Road, Cooranbong, NSW 2265



Scale:
0 25 50 75 100
Meters

Data Source Aerial Imagery: © 2023 Google Inc, used with permission. Google and the Google logo are registered trademarks of Google Inc.

Coordinate System:
GDA 1994 MGA Zone 56

Date: 02 November 2023

Aerial Imagery 1994

369 Newport Road, Cooranbong, NSW 2265

Scale:
0 25 50 75 100
Meters

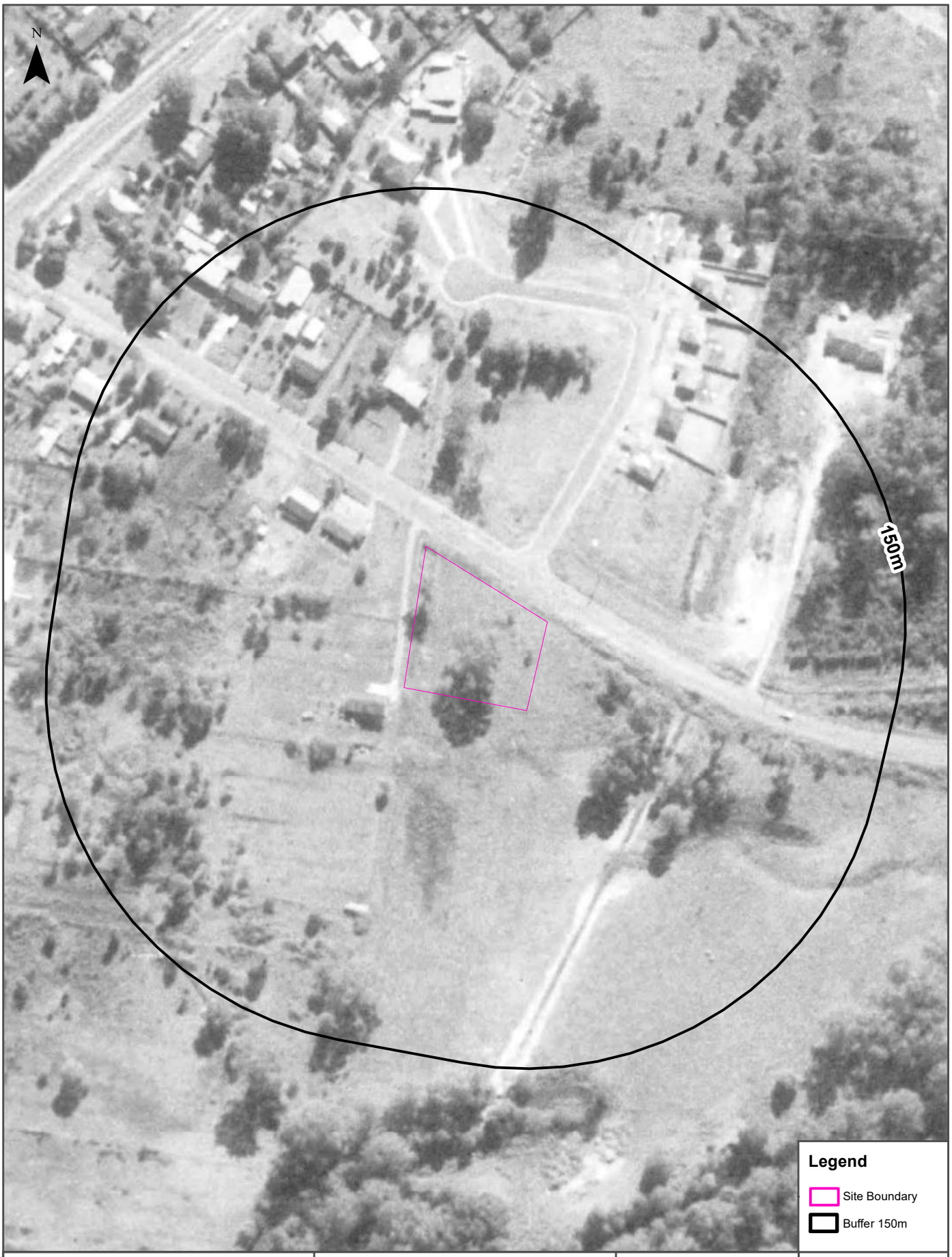
Data Source Aerial Imagery:
© NSW Department of Customer Service

Coordinate System:
GDA 1994 MGA Zone 56

Date: 02 November 2023

Aerial Imagery 1984

369 Newport Road, Cooranbong, NSW 2265



Scale:
0 25 50 75 100
Meters

Data Source Aerial Imagery:
© NSW Department of Customer Service

Coordinate System:
GDA 1994 MGA Zone 56

Date: 02 November 2023

Aerial Imagery 1976

369 Newport Road, Cooranbong, NSW 2265

Scale:
0 25 50 75 100
Meters

Data Source Aerial Imagery:
© NSW Department of Customer Service

Coordinate System:
GDA 1994 MGA Zone 56

Date: 02 November 2023

Aerial Imagery 1966

369 Newport Road, Cooranbong, NSW 2265

Scale:
0 25 50 75 100
Meters

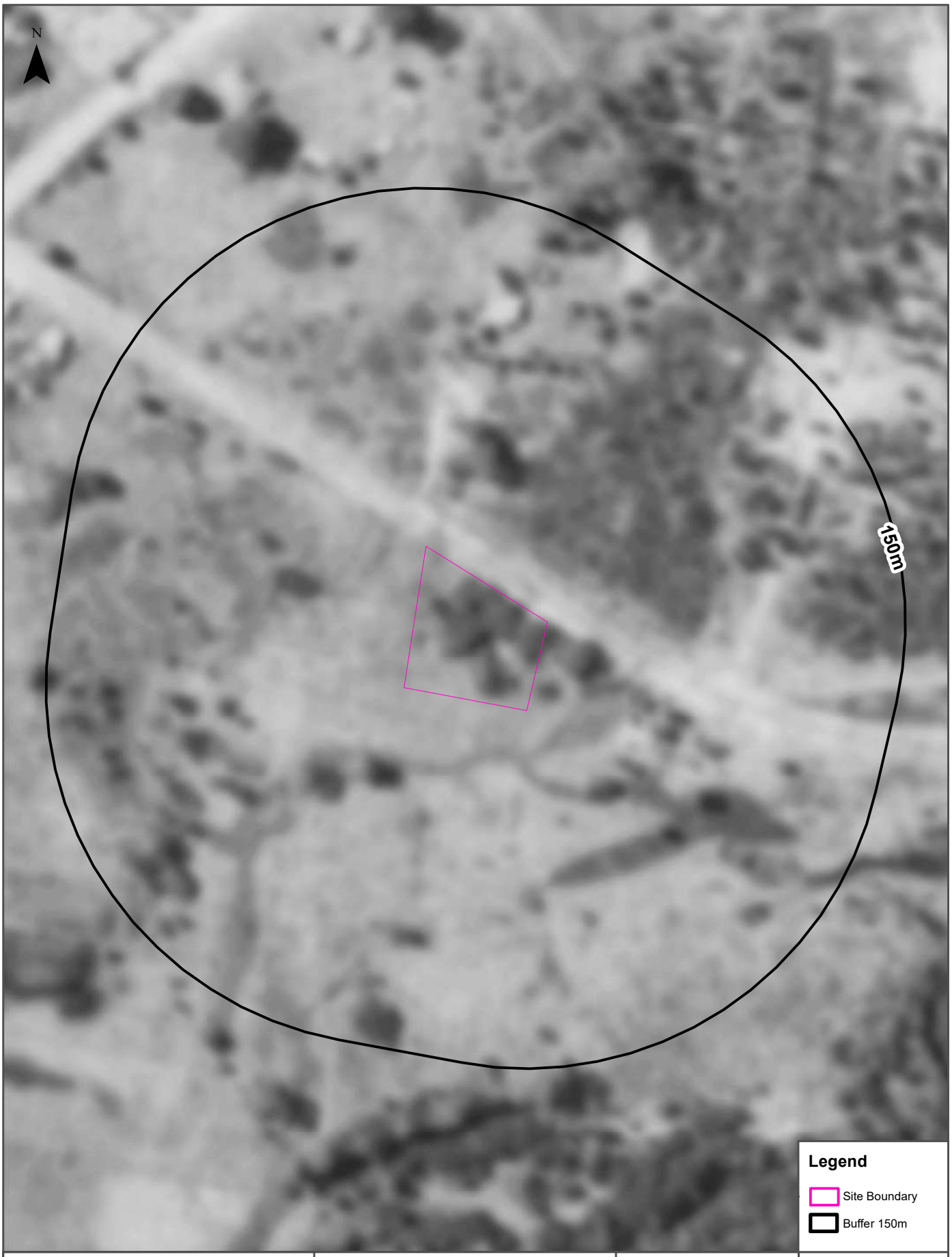
Data Source Aerial Imagery:
© NSW Department of Customer Service

Coordinate System:
GDA 1994 MGA Zone 56

Date: 02 November 2023

Aerial Imagery 1954

369 Newport Road, Cooranbong, NSW 2265



Scale:
0 25 50 75 100
Meters

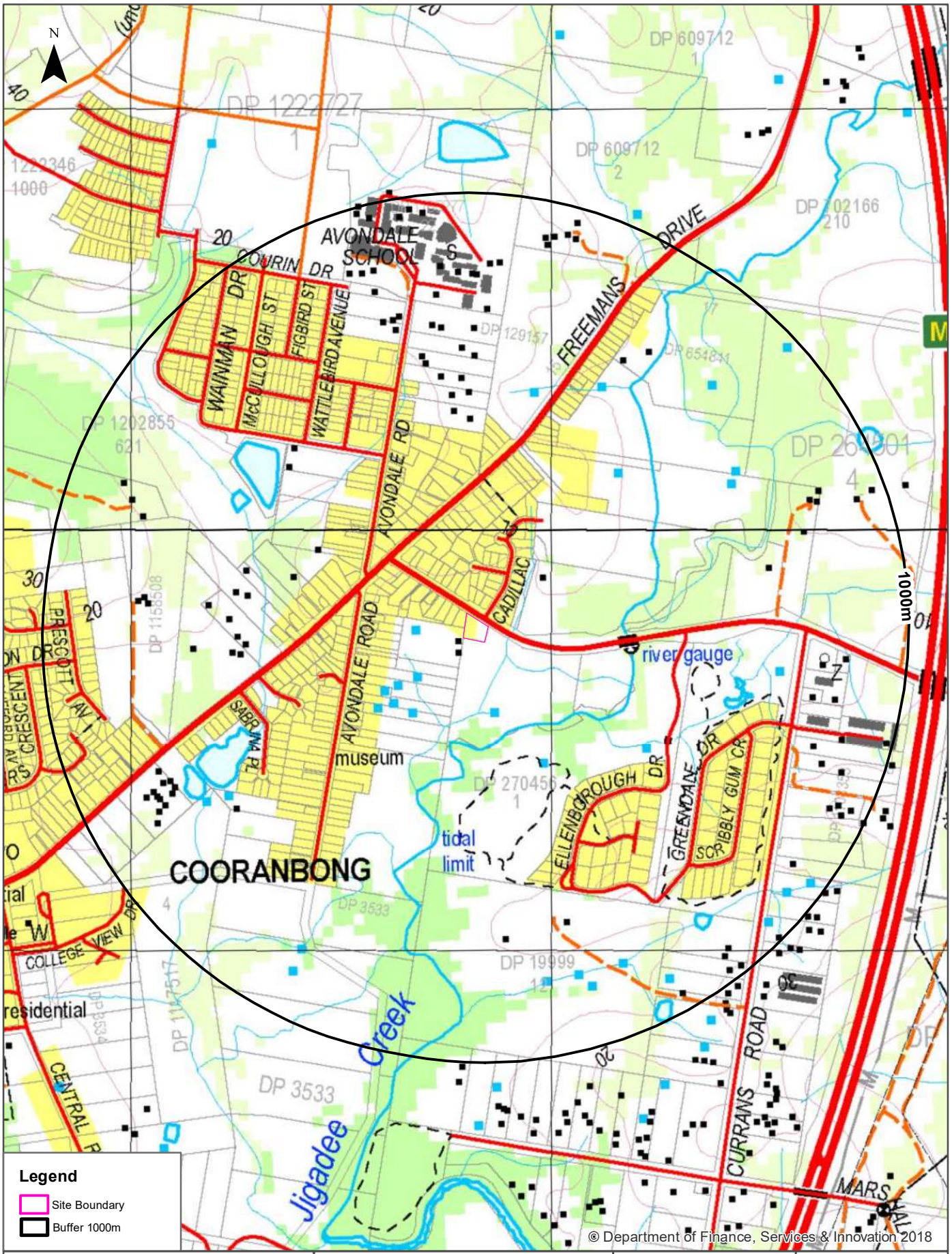
Data Source Aerial Imagery:
© NSW Department of Customer Service

Coordinate System:
GDA 1994 MGA Zone 56

Date: 02 November 2023

Topographic Map 2015

369 Newport Road, Cooranbong, NSW 2265



Scale: 0 140 280 420 560 Meters

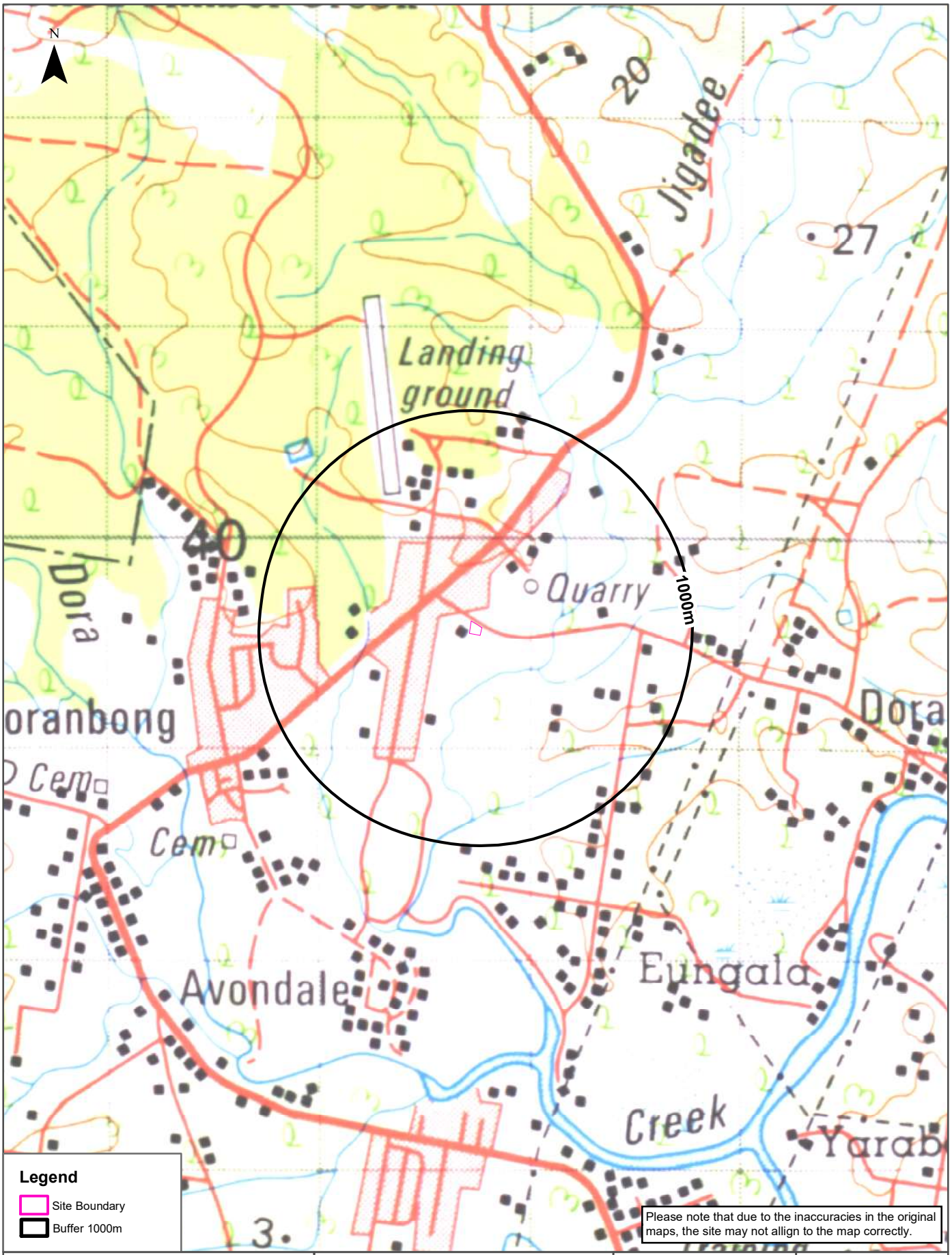
Data Sources: Topographic Map Data
© NSW Land and Property Information

Coordinate System:
GDA 1994 MGA Zone 56

Date: 06 November 2023

Historical Map 1975

369 Newport Road, Cooranbong, NSW 2265



Scale: 0 280 560 840 1,120 Meters

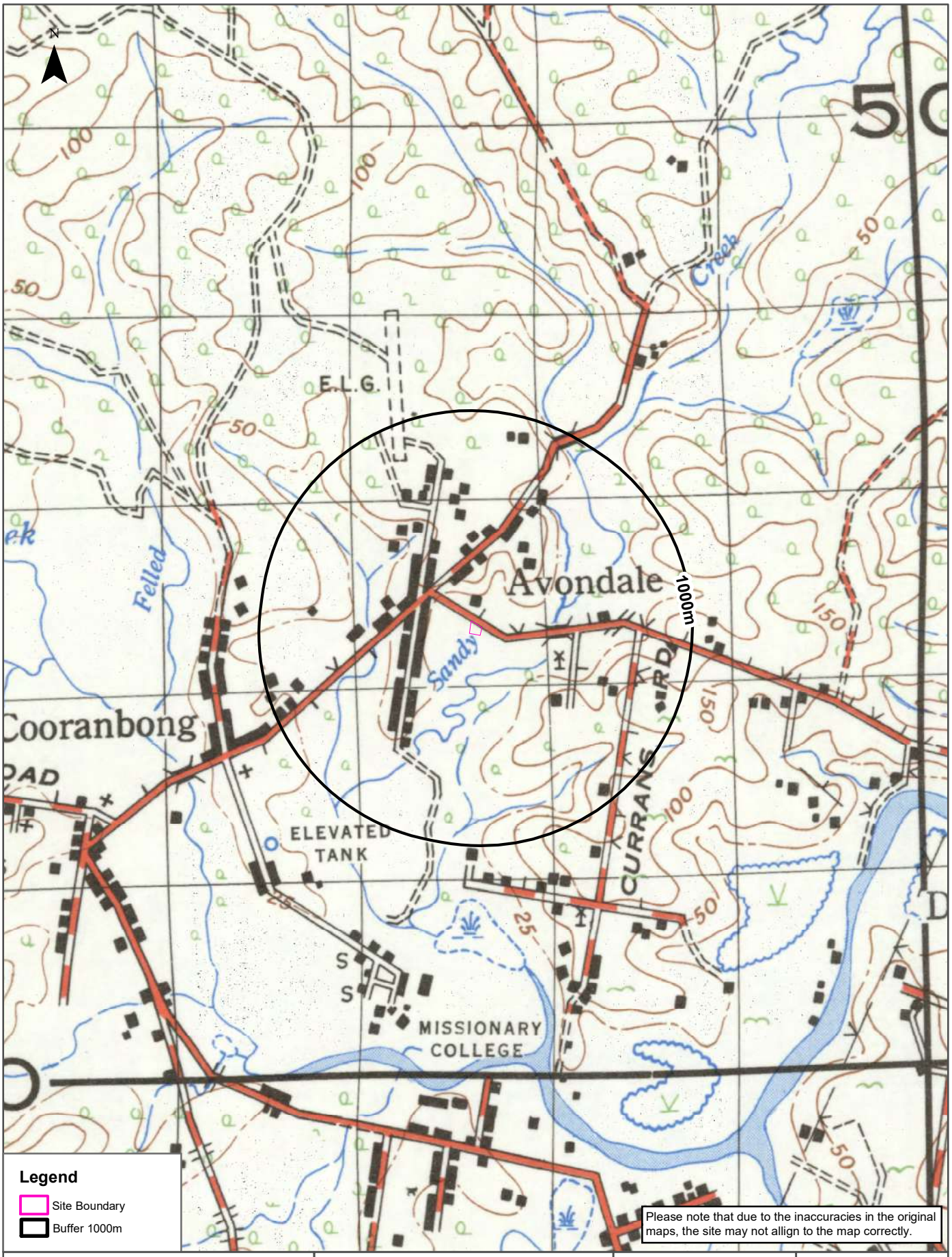
Data Sources: NATMAP 1:100,000 Topographic Maps Geoscience Australia

Coordinate System: GDA 1994 MGA Zone 56

Date: 06 November 2023

Historical Map c.1959

369 Newport Road, Cooranbong, NSW 2265



Scale: 0 280 560 840 1,120 Meters

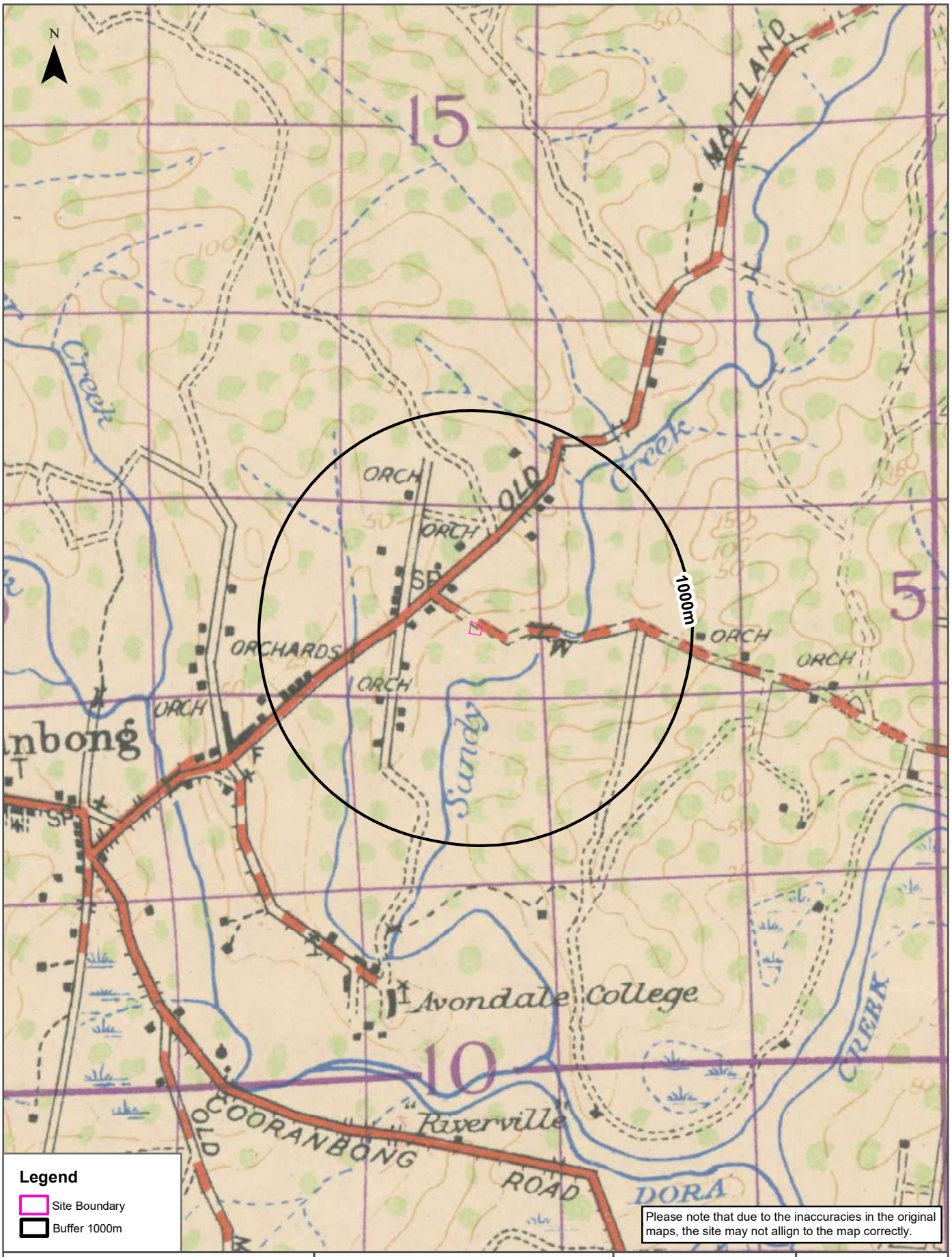
Data Sources: Australia 1:63360
Produced by Australian Section Imperial General Staff

Coordinate System:
GDA 1994 MGA Zone 56

Date: 06 November 2023

Historical Map c.1926

369 Newport Road, Cooranbong, NSW 2265



Scale: 0 280 560 840 1,120 Meters

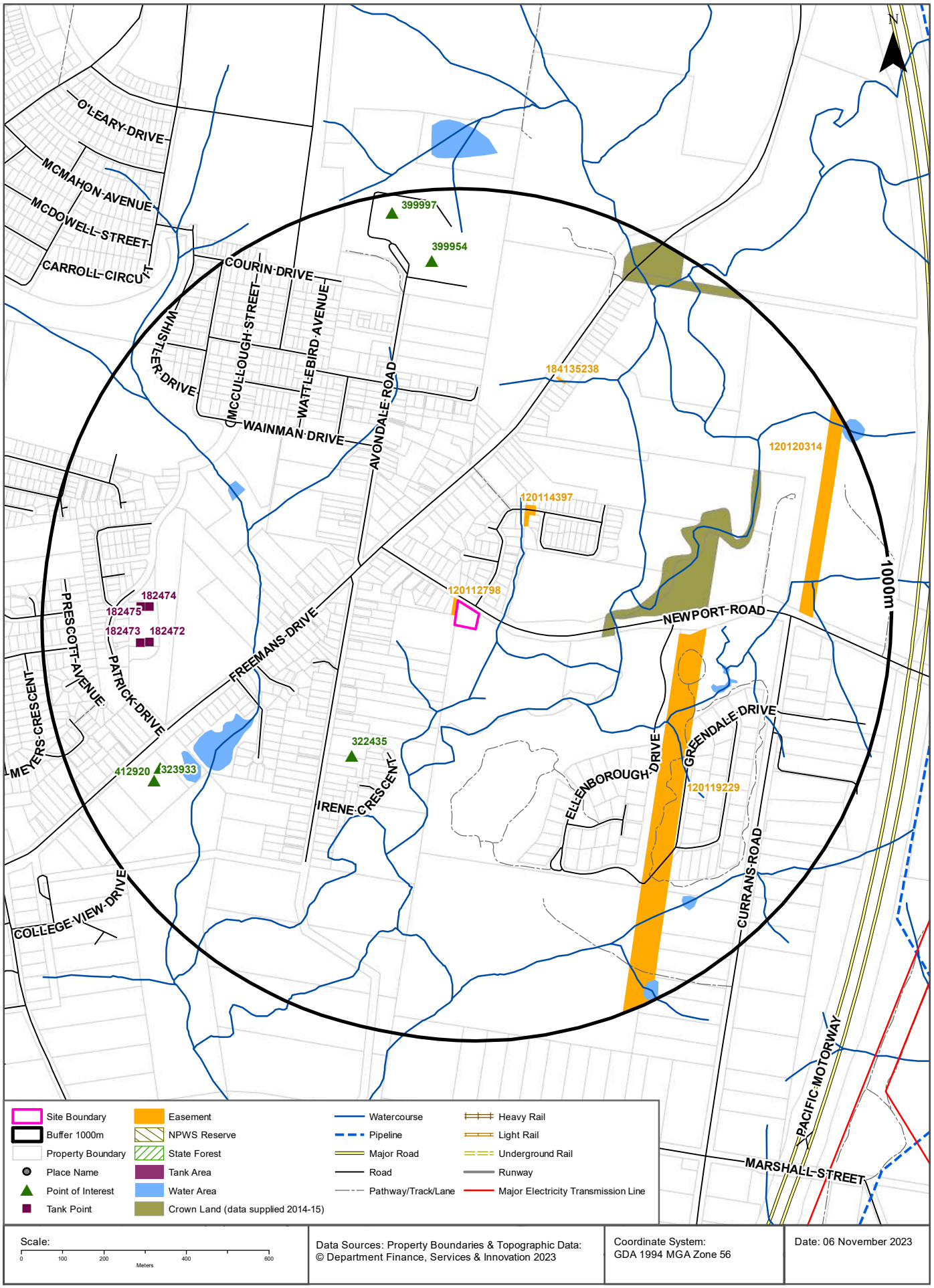
Data Sources: Australia 1:63360
Produced by Australian Section Imperial General Staff

Coordinate System:
GDA 1994 MGA Zone 56

Date: 06 November 2023

Topographic Features

369 Newport Road, Cooranbong, NSW 2265



Scale: 0 100 200 400 600 Meters

Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2023

Coordinate System: GDA 1994 MGA Zone 56

Date: 06 November 2023

Topographic Features

369 Newport Road, Cooranbong, NSW 2265

Points of Interest

What Points of Interest exist within the dataset buffer?

Map Id	Feature Type	Label	Distance	Direction
322435	Museum	SUNNYSIDE MUSEUM	403m	South West
412920	Child Care Centre	COORANBONG VALLEY COMMUNITY PRESCHOOL	793m	South West
323933	Community Facility	COORANBONG COMMUNITY SERVICES CENTRE	820m	South West
399954	Primary School	AVONDALE SCHOOL	828m	North
399997	High School	AVONDALE SCHOOL	955m	North

Topographic Features

369 Newport Road, Cooranbong, NSW 2265

Tanks (Areas)

What are the Tank Areas located within the dataset buffer?
Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

Map Id	Tank Type	Status	Name	Feature Currency	Distance	Direction
N/A	No records in buffer					

Tanks (Points)

What are the Tank Points located within the dataset buffer?
Note. The large majority of tank features provided by LPI are derived from aerial imagery & are therefore primarily above ground tanks.

Map Id	Tank Type	Status	Name	Feature Currency	Distance	Direction
182472	Water	Operational		14/07/2018	740m	West
182475	Water	Operational		14/07/2018	741m	West
182473	Water	Operational		14/07/2018	762m	West
182474	Water	Operational		14/07/2018	762m	West

Major Easements

What Major Easements exist within the dataset buffer?
Note. Easements provided by LPI are not at the detail of local governments. They are limited to major easements such as Right of Carriageway, Electrical Lines (66kVa etc.), Easement to drain water & Significant subterranean pipelines (gas, water etc.).

Map Id	Easement Class	Easement Type	Easement Width	Distance	Direction
120112798	Primary	Undefined		0m	North West
120114397	Primary	Undefined		240m	North East
120119229	Primary	Undefined		489m	South East
184135238	Primary	Right of way	1.5m	587m	North
120120314	Primary	Undefined		778m	East

Topographic Features

369 Newport Road, Cooranbong, NSW 2265

State Forest

What State Forest exist within the dataset buffer?

State Forest Number	State Forest Name	Distance	Direction
N/A	No records in buffer		

National Parks and Wildlife Service Reserves

What NPWS Reserves exist within the dataset buffer?

Reserve Number	Reserve Type	Reserve Name	Gazetted Date	Distance	Direction
N/A	No records in buffer				

Elevation Contours (m AHD)

369 Newport Road, Cooranbong, NSW 2265

Legend

- Elevation Contour (m AHD)
- Site Boundary
- Buffer 1000m
- Property Boundary

Accuracy & Currency: This contour data can be up to 0.4 of the contour interval out in height and must therefore not be used for any design or engineering works, but only as a general guide to topography. Gaps may occur along contour lines due to vertical topography, obscured topography in the source photography such as buildings, dense vegetation or dead ground, or the fact that original buildings have been replaced in the intervening thirty years since the original contour capture.

Scale: 0 100 200 400 Meters	Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2023	Coordinate System: GDA 1994 MGA Zone 56	Date: 06 November 2023

Hydrogeology & Groundwater

369 Newport Road, Cooranbong, NSW 2265

Hydrogeology

Description of aquifers within the dataset buffer:

Description	Distance	Direction
Porous, extensive aquifers of low to moderate productivity	0m	On-site
Fractured or fissured, extensive aquifers of low to moderate productivity	718m	North

Hydrogeology Map of Australia : Commonwealth of Australia (Geoscience Australia)

Temporary Water Restriction (Botany Sands Groundwater Source) Order 2018

Temporary water restrictions relating to the Botany Sands aquifer within the dataset buffer:

Prohibition Area No.	Prohibition	Distance	Direction
N/A	No records in buffer		

Temporary Water Restriction (Botany Sands Groundwater Source) Order 2018 Data Source : NSW Department of Primary Industries

Groundwater Boreholes

369 Newport Road, Cooranbong, NSW 2265

Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2023

Coordinate System: GDA 1994 MGA Zone 56

Date: 06 November 2023

Hydrogeology & Groundwater

369 Newport Road, Cooranbong, NSW 2265

Groundwater Boreholes

Boreholes within the dataset buffer:

NGIS Bore ID	NSW Bore ID	Bore Type	Status	Drill Date	Bore Depth (m)	Reference Elevation	Height Datum	Salinity (mg/L)	Yield (L/s)	SWL (mbgl)	Distance	Direction
10095621	GW064116	Water Supply	Unknown	01/03/1987	21.30		AHD	0-500 ppm			311m	West
10130877	GW200765	Water Supply	Unknown	12/10/1980	8.00		AHD		6.000	6.00	399m	West
10012200	GW064033	Water Supply	Unknown	01/03/1987	49.40		AHD	501-1000 ppm			1034m	South East
10098084	GW067263	Water Supply	Functioning	20/03/1989	10.00	3.00	AHD		0.150	3.00	1811m	South West

Hydrogeology & Groundwater

369 Newport Road, Cooranbong, NSW 2265

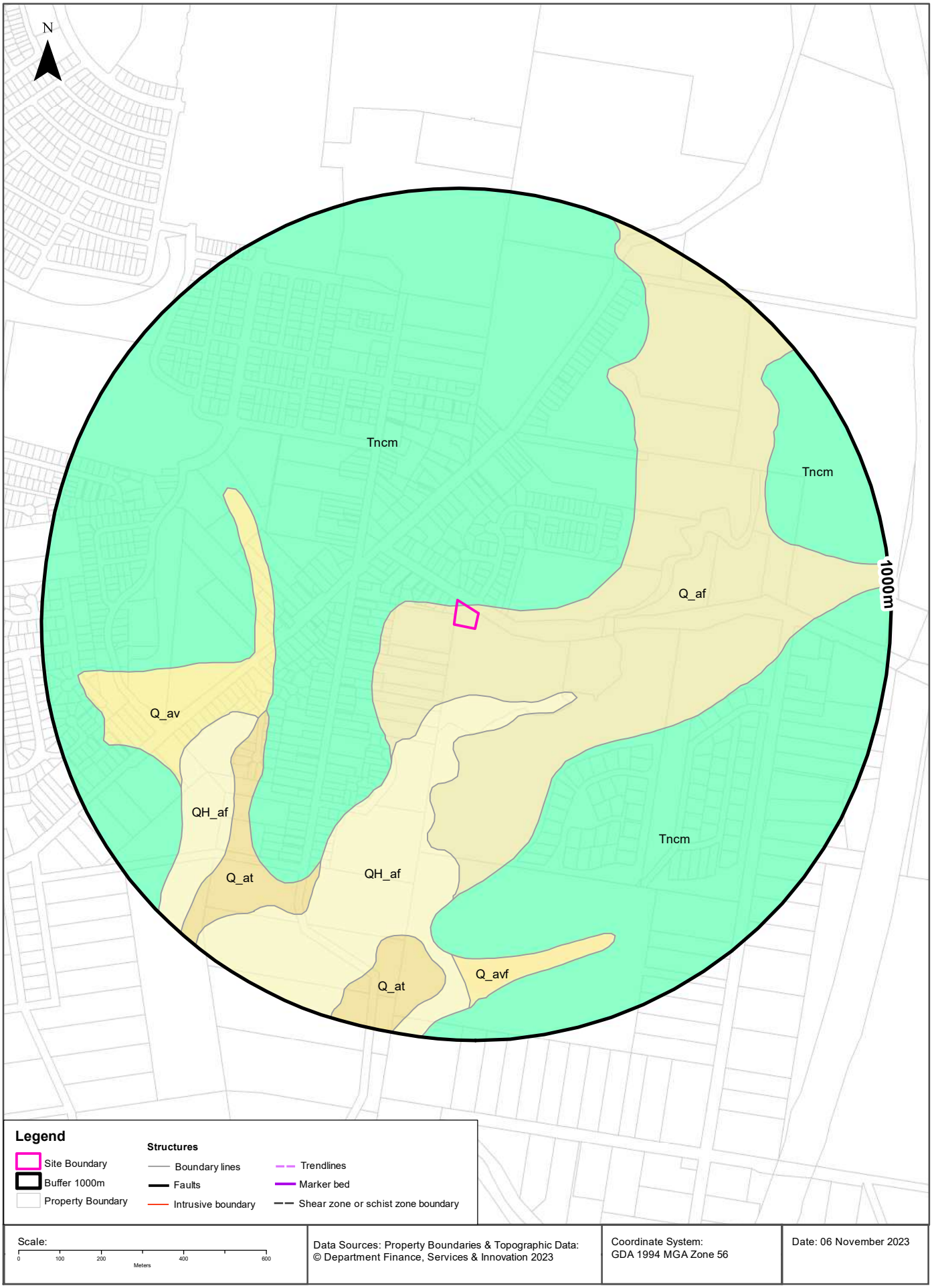
Driller's Logs

Drill log data relevant to the boreholes within the dataset buffer:

NGIS Bore ID	Drillers Log	Distance	Direction
10095621	0.00m-1.80m Clay 1.80m-11.50m Conglomerate 11.50m-15.30m Sandstone Weathered Water Supply 15.30m-17.60m Conglomerate 17.60m-18.30m Sandstone Water Supply 18.30m-21.30m Conglomerate	311m	West
10012200	0.00m-2.00m Soil Sandy 2.00m-6.00m Conglomerate 6.00m-10.60m Conglomerate Hard 10.60m-19.80m Sandstone Water Supply 19.80m-45.70m Conglomerate Some 45.70m-50.20m Sandstone Water Supply 50.20m-54.80m Shale	1034m	South East

Geology

369 Newport Road, Cooranbong, NSW 2265



Geology

369 Newport Road, Cooranbong, NSW 2265

Geological Units

What are the Geological Units within the dataset buffer?

Unit Code	Unit Name	Description	Unit Stratigraphy	Age	Dominant Lithology	Distance
Q_af	Alluvial floodplain deposits	Silt, very fine- to medium-grained lithic to quartz-rich sand, clay.	/Alluvium//Alluvial floodplain deposits//	Quaternary (base) to Now (top)	Clastic sediment	0m
Tncm	Munmorah Conglomerate	Medium- to coarse-grained lithic to quartz-lithic sandstone, granule to pebble polymictic conglomerate; minor siltstone and white claystone, thin lenticular coal seams.	/Narrabeen Group/Clifton Subgroup/Munmorah Conglomerate//	Lopingian (base) to Early Triassic (top)	Sandstone	0m
QH_af	Alluvial floodplain deposits	Silt, very fine- to medium-grained lithic to quartz-rich sand, clay.	/Alluvium//Alluvial floodplain deposits//	Holocene (base) to Now (top)	Clastic sediment	162m
Q_av	Alluvial valley deposits	Silt, clay, (fluvially deposited) lithic to quartz-lithic sand, gravel.	/Alluvium//Alluvial valley deposits//	Quaternary (base) to Now (top)	Clastic sediment	435m
Q_at	Alluvial terrace deposits	Silt, clay, (fluvially-deposited) fine- to medium-grained quartz-lithic sand, polymictic gravel.	/Alluvium//Alluvial terrace deposits//	Quaternary (base) to Now (top)	Clastic sediment	499m
Q_avf	Alluvial fan deposits	Fluvially-deposited quartz-lithic sand, silt, gravel, clay.	/Alluvium//Alluvial valley deposits/Alluvial fan deposits/	Quaternary (base) to Now (top)	Clastic sediment	794m

Linear Geological Structures

What are the Dyke, Sill, Fracture, Lineament and Vein trendlines within the dataset buffer?

Map ID	Feature Description	Map Sheet Name	Distance
No Features			

What are the Faults, Shear zones or Schist zones, Intrusive boundaries & Marker beds within the dataset buffer?

Map ID	Boundary Type	Description	Map Sheet Name	Distance
No Features				

Geological Data Source: Statewide Seamless Geology v2.1, Department of Regional NSW

Naturally Occurring Asbestos Potential

369 Newport Road, Cooranbong, NSW 2265

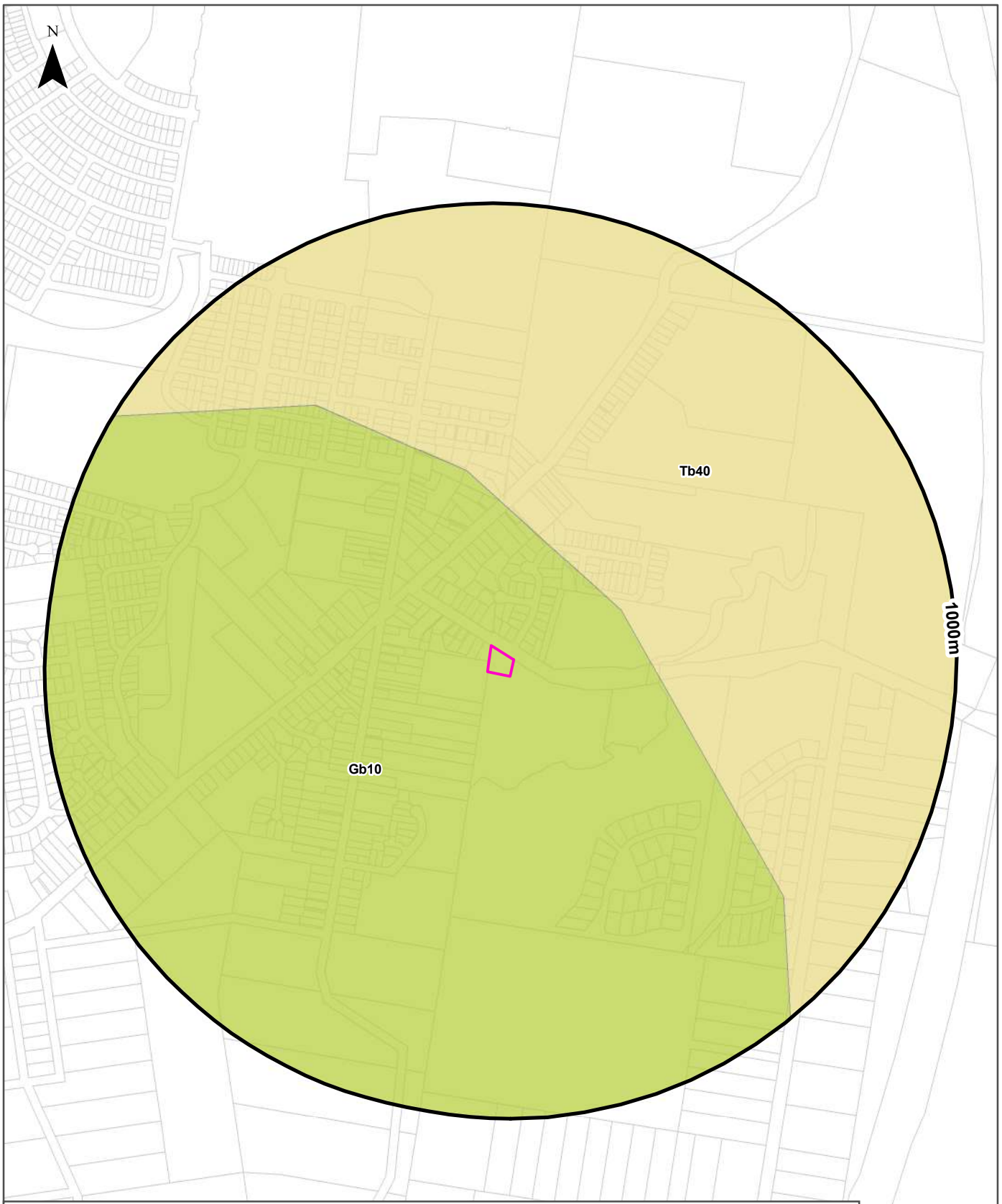
Naturally Occurring Asbestos Potential

Naturally Occurring Asbestos Potential within the dataset buffer:

Potential	Sym	Strat Name	Group	Formation	Scale	Min Age	Max Age	Rock Type	Dom Lith	Description	Dist	Dir
No records in buffer												

Atlas of Australian Soils

369 Newport Road, Cooranbong, NSW 2265



Legend

- Site Boundary
- Buffer 1000m
- Property Boundary

Australian Soil Classification Orders

Anthroposol	Dermosol	Kandosol	Podosol	Tenosol	No Data
Calcarosol	Ferrosol	Kurosol	Rudosol	Vertosol	
Chromosol	Hydrosol	Organosol	Sodosol	Lake	

Scale: 0 100 200 400 600 Meters

Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2023

Coordinate System: GDA 1994 MGA Zone 56

Date: 06 November 2023

Soils

369 Newport Road, Cooranbong, NSW 2265

Atlas of Australian Soils

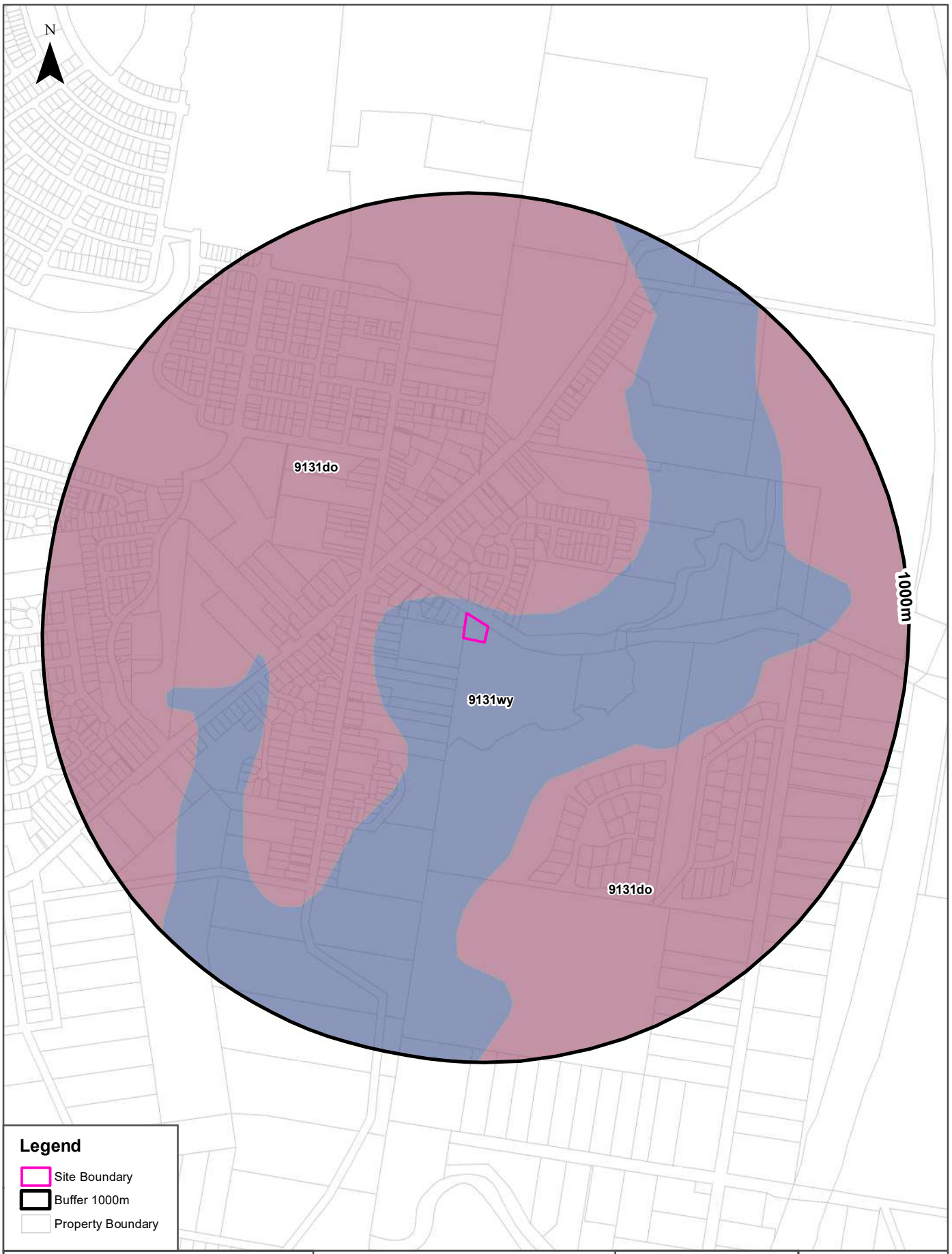
Soil mapping units and Australian Soil Classification orders within the dataset buffer:

Map Unit Code	Soil Order	Map Unit Description	Distance	Direction
Gb10	Dermosol	River terraces, levees, flood-plains, coastal swamps, and tidal flats: this unit contains the same land forms and soils as unit Gb9, but in addition has (i) swamps and levees of the lower river flood-plain of (Uf6.6), (Ug5), and other undescribed soils; (ii) estuarine flats of peaty or organic soils over acid clays; and (iii) tidal mud flats. The soils of these areas are not well known but probably have similarities with the soils of units J3, Mc4, NY1, and NN1. The smaller areas mapped as unit Gb10 consist mainly of areas of (i) and/or (iii) above.	0m	On-site
Tb40	Kurosol	Undulating to hilly areas with some steep slopes and cliffs, rock outcrops, and narrow terraced valleys: chief soils are hard acidic yellow mottled soils (Dy3.41) with some shallow soils such as (Um4.1) and (Uc4.1) on the steeper slopes. Associated are: (Gn2.2) soils and (Dd1) soils, both of which occur on slopes; undescribed soils in the valleys; and some (Dy5) and (Uc1 .2) soils along the coast. As mapped, small areas of units Gb10 and Cb28 are included.	245m	North East

Atlas of Australian Soils Data Source: CSIRO

Soil Landscapes of Central and Eastern NSW

369 Newport Road, Cooranbong, NSW 2265



Scale: 0 100 200 400 600 Meters

Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2023

Coordinate System: GDA 1994 MGA Zone 56

Date: 06 November 2023

Soils

369 Newport Road, Cooranbong, NSW 2265

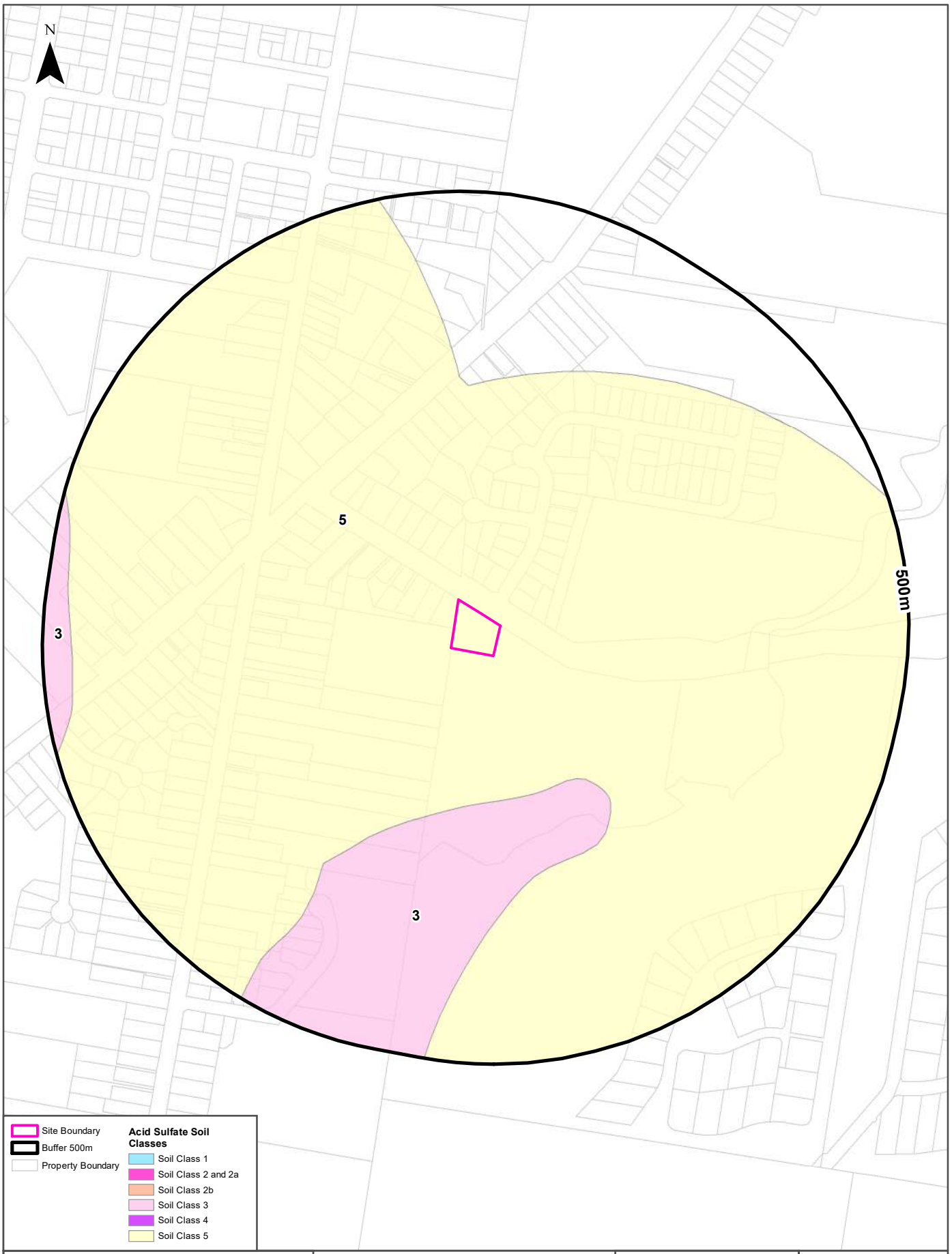
Soil Landscapes of Central and Eastern NSW

Soil Landscapes of Central and Eastern NSW within the dataset buffer:

Soil Code	Name	Distance	Direction
9131wy	Wyong	0m	On-site
9131do	Doyalson	30m	North West

Acid Sulfate Soils

369 Newport Road, Cooranbong, NSW 2265



Scale: 0 100 200 Meters	Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2023	Coordinate System: GDA 1994 MGA Zone 56	Date: 06 November 2023

Acid Sulfate Soils

369 Newport Road, Cooranbong, NSW 2265

Environmental Planning Instrument - Acid Sulfate Soils

What is the on-site Acid Sulfate Soil Plan Class that presents the largest environmental risk?

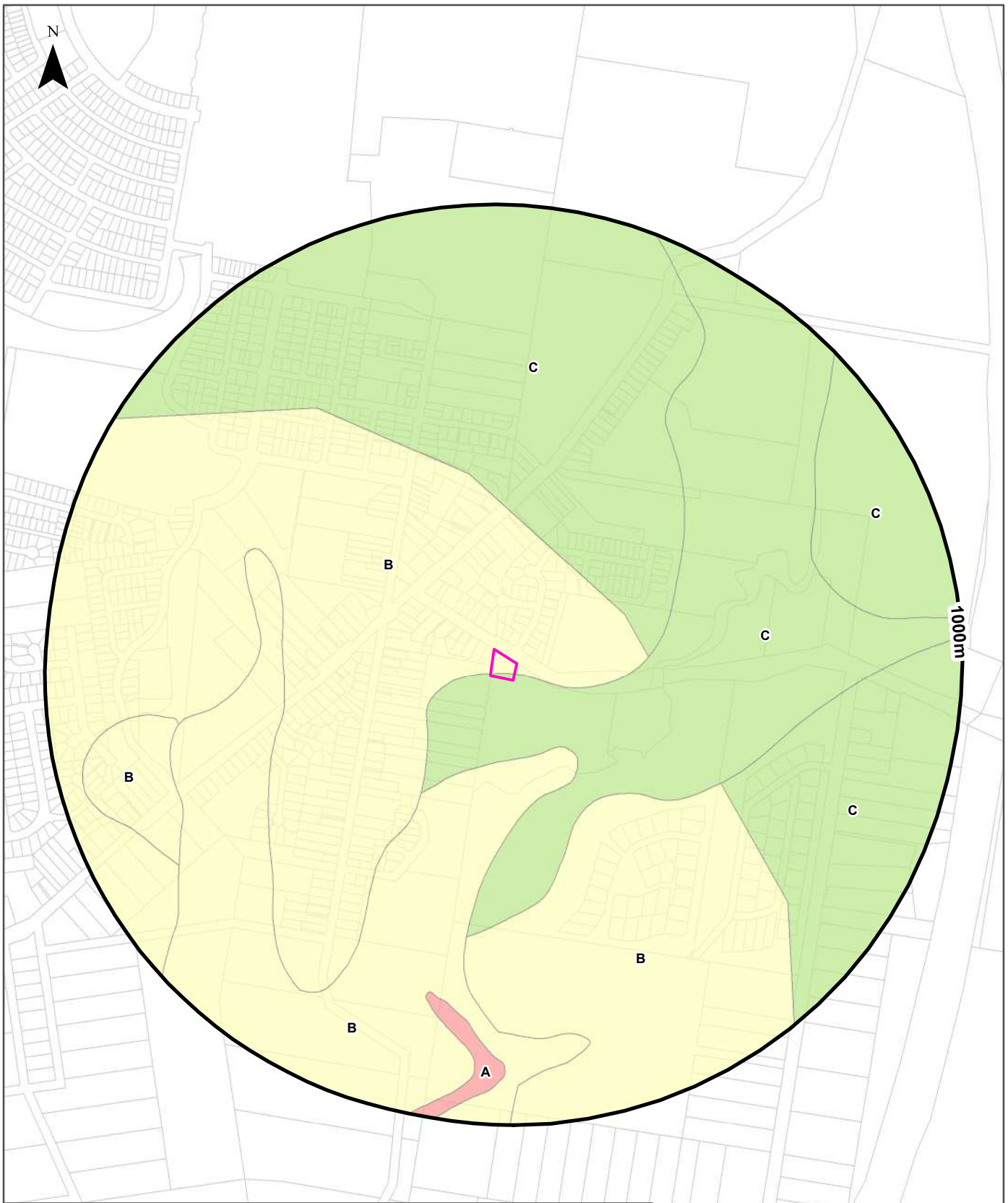
Soil Class	Description	EPI Name
5	Works within 500 metres of adjacent Class 1, 2, 3, or 4 land that is below 5 metres AHD and by which the watertable is likely to be lowered below 1 metre AHD on adjacent Class 1, 2, 3 or 4 land, present an environmental risk	Lake Macquarie Local Environmental Plan 2014

If the on-site Soil Class is 5, what other soil classes exist within 500m?

Soil Class	Description	EPI Name	Distance	Direction
3	Works more than 1 metre below natural ground surface present an environmental risk; Works by which the watertable is likely to be lowered more than 1 metre below natural ground surface, present an environmental risk	Lake Macquarie Local Environmental Plan 2014	176m	South

Atlas of Australian Acid Sulfate Soils

369 Newport Road, Cooranbong, NSW 2265



Legend

Site Boundary

Buffer 1000m

Property Boundary

Probability of occurrence of Acid Sulfate Soils

A. High (>70%)

B. Low (6-70%)

C. Extremely Low (1-5%)

D. No Chance (0%)

No Data

Scale: 0 100 200 400 600 Meters

Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2023

Coordinate System: GDA 1994 MGA Zone 56

Date: 06November 2023

Acid Sulfate Soils

369 Newport Road, Cooranbong, NSW 2265

Atlas of Australian Acid Sulfate Soils

Atlas of Australian Acid Sulfate Soil categories within the dataset buffer:

Class	Description	Distance	Direction
B	Low Probability of occurrence. 6-70% chance of occurrence.	0m	On-site
C	Extremely low probability of occurrence. 1-5% chance of occurrence with occurrences in small localised areas.	0m	On-site
A	High Probability of occurrence. >70% chance of occurrence.	723m	South

Atlas of Australian Acid Sulfate Soils Data Source: CSIRO

Dryland Salinity

369 Newport Road, Cooranbong, NSW 2265

Dryland Salinity - National Assessment

Is there Dryland Salinity - National Assessment data onsite?

No

Is there Dryland Salinity - National Assessment data within the dataset buffer?

No

What Dryland Salinity assessments are given?

Assessment 2000	Assessment 2020	Assessment 2050	Distance	Direction
N/A	N/A	N/A		

Dryland Salinity Data Source : National Land and Water Resources Audit
The Commonwealth and all suppliers of source data used to derive the maps of "Australia, Forecast Areas Containing Land of High Hazard or Risk of Dryland Salinity from 2000 to 2050" do not warrant the accuracy or completeness of information in this product. Any person using or relying upon such information does so on the basis that the Commonwealth and data suppliers shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information. Any persons using this information do so at their own risk.
In many cases where a high risk is indicated, less than 100% of the area will have a high hazard or risk.

Mining

369 Newport Road, Cooranbong, NSW 2265

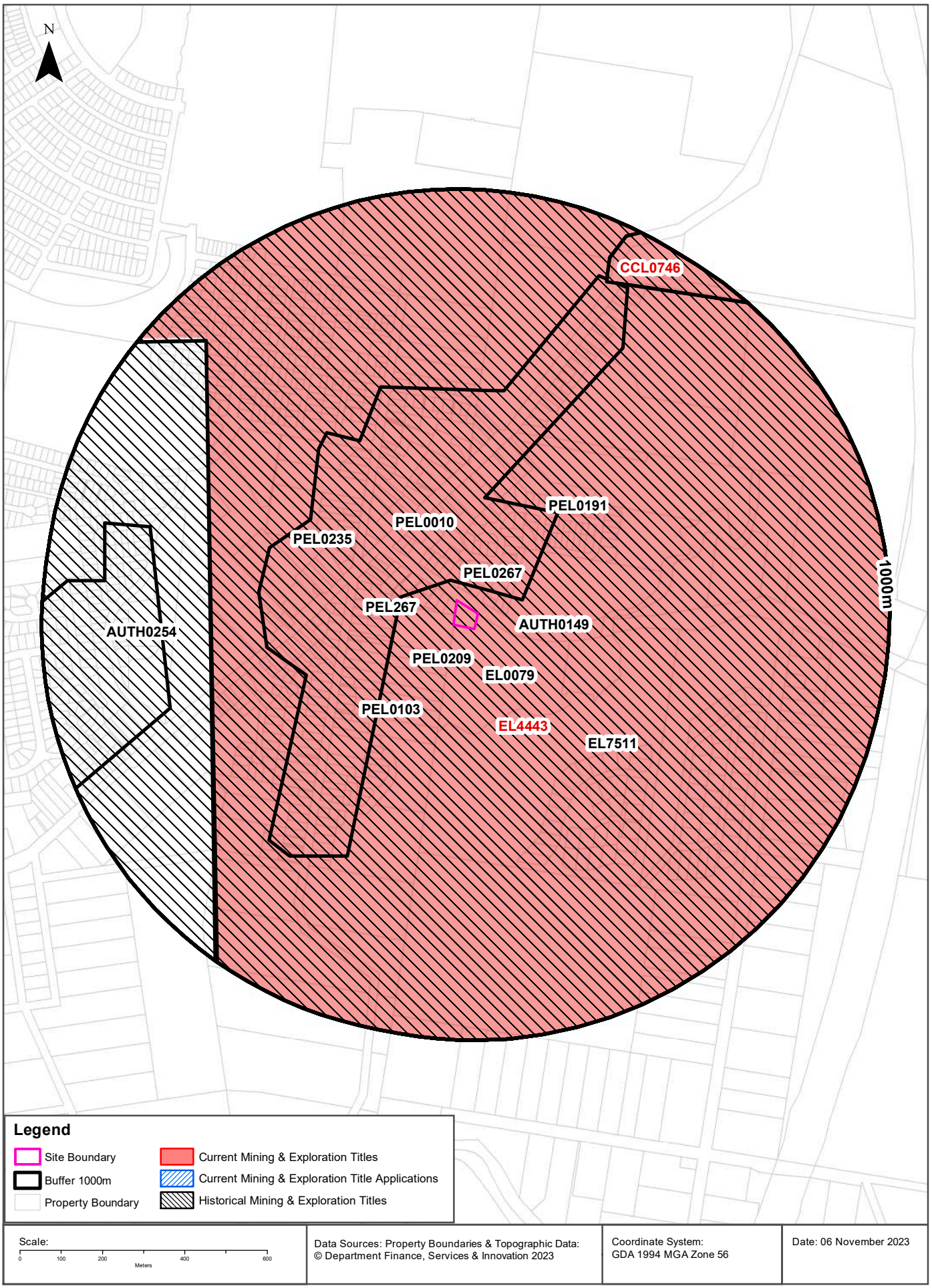
Mining Subsidence Districts

Mining Subsidence Districts within the dataset buffer:

District	Distance	Direction
There are no Mining Subsidence Districts within the report buffer		

Mining & Exploration Titles

369 Newport Road, Cooranbong, NSW 2265



Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2023

Coordinate System: GDA 1994 MGA Zone 56

Date: 06 November 2023

Mining

369 Newport Road, Cooranbong, NSW 2265

Current Mining & Exploration Titles

Current Mining & Exploration Titles within the dataset buffer:

Title Ref	Holder	Grant Date	Expiry Date	Last Renewed	Operation	Resource	Minerals	Dist	Dir
EL4443	CENTENNIAL MANDALONG PTY LIMITED	23/10/1992	23/10/2025	20230825	EXPLORING	COAL	Group 9	0m	On-site
CCL0746	CENTENNIAL NEWSTAN PTY LIMITED	16/05/1990	31/12/2028	20100805	MINING	COAL	Coal, Petroleum	855m	North East

Current Mining & Exploration Titles Data Source: © State of New South Wales through NSW Department of Industry

Current Mining & Exploration Title Applications

Current Mining & Exploration Title Applications within the dataset buffer:

Application Ref	Applicant	Application Date	Operation	Resource	Minerals	Dist	Dir
N/A	No records in buffer						

Current Mining & Exploration Title Applications Data Source: © State of New South Wales through NSW Department of Industry

Mining

369 Newport Road, Cooranbong, NSW 2265

Historical Mining & Exploration Titles

Historical Mining & Exploration Titles within the dataset buffer:

Title Ref	Holder	Start Date	End Date	Resource	Minerals	Dist	Dir
PEL0267	SYDNEY OIL CO (NSW) PTY LTD, MANVANE PTY LTD AUSTRALIA NL, BASE RESOURCES LTD, SEAHAWK OIL AUSTRALIA NL, READING & BATES	19850801	20150607	PETROLEUM	Petroleum	0m	On-site
AUTH0149	THE ELECTRICITY COMMISSION OF NSW (TRADING AS PACIFIC POWER)	19790203	19920214	COAL	Coal	0m	On-site
PEL267	AGL UPSTREAM INVESTMENTS PTY LIMITED	19930413	19991205	MINERALS		0m	On-site
PEL0235	EASTMET LTD	19810504		PETROLEUM	Petroleum	0m	On-site
PEL0010	AUSTRALIAN OIL AND GAS CORPORATION LTD, UNION OIL DEVELOPMENT CORP., KERN COUNTY LAND CO.			PETROLEUM	Petroleum	0m	On-site
PEL0103	AUSTRALIAN OIL AND GAS CORPORATION LTD			PETROLEUM	Petroleum	0m	On-site
EL7511	CENTENNIAL FASSIFERN PTY LTD	20100407	20130407	MINERALS	Geothermal	0m	On-site
PEL0191	NORTHWEST OIL AND MINERALS CO NL			PETROLEUM	Petroleum	0m	On-site
PEL0209	EARTH RESOURCES AUSTRALIA PTY LTD			PETROLEUM	Petroleum	0m	On-site
EL0079	CONTINENTAL OIL CO OF AUSTRALIA LIMITED	19670201	19680201	MINERALS		0m	On-site
AUTH0254	NSW DEPARTMENT OF MINERAL RESOURCES	19810115	19850115	COAL	Coal	588m	West

State Environmental Planning Policy

369 Newport Road, Cooranbong, NSW 2265

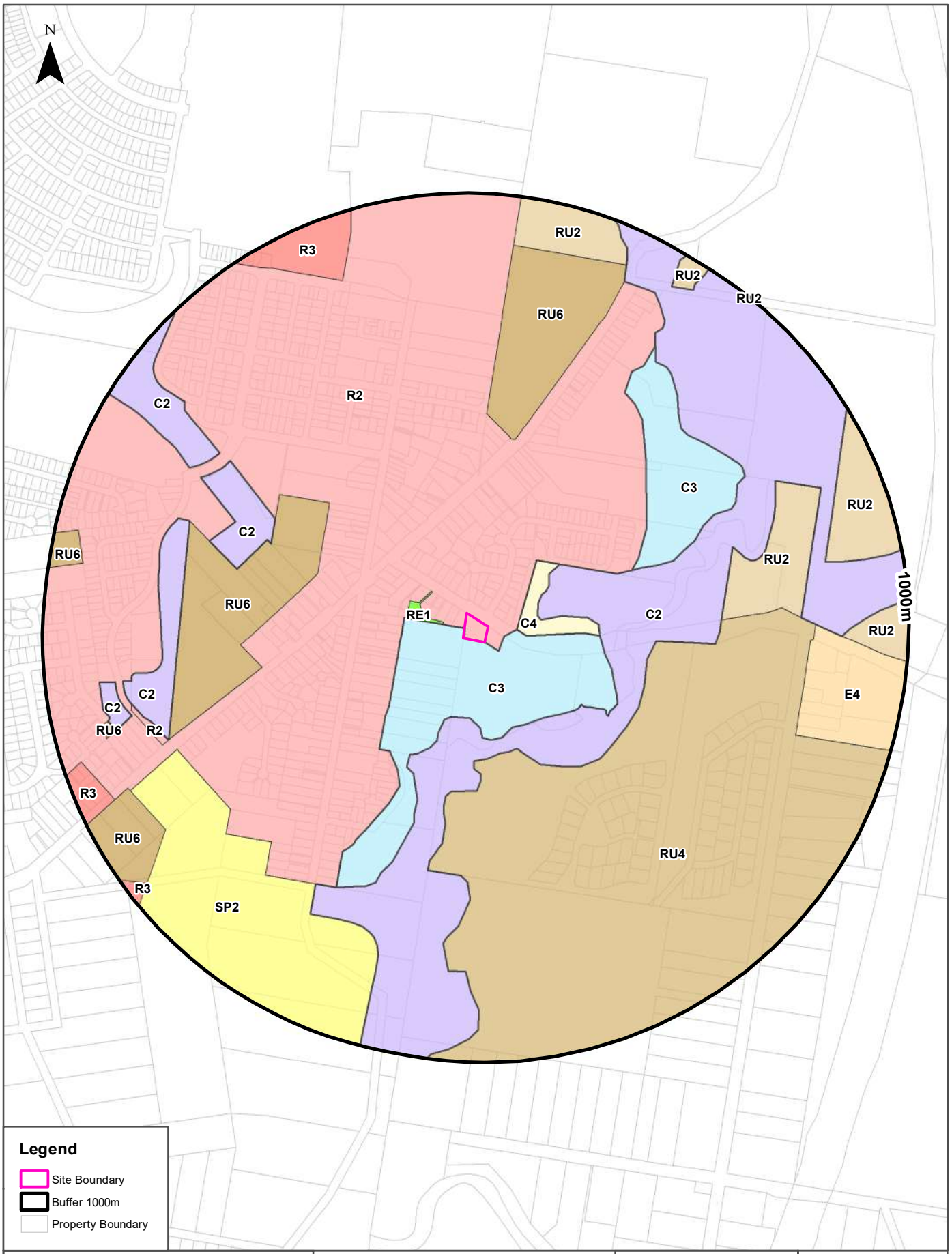
State Significant Precincts

What SEPP State Significant Precincts exist within the dataset buffer?

Map Id	Precinct	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
N/A	No records in buffer							

EPI Planning Zones

369 Newport Road, Cooranbong, NSW 2265



Scale: 0 100 200 400 600 Meters

Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2023
Planning: NSW Crown Copyright - Planning & Environment

Coordinate System: GDA 1994 MGA Zone 56

Date: 06 November 2023

Environmental Planning Instrument

369 Newport Road, Cooranbong, NSW 2265

Land Zoning

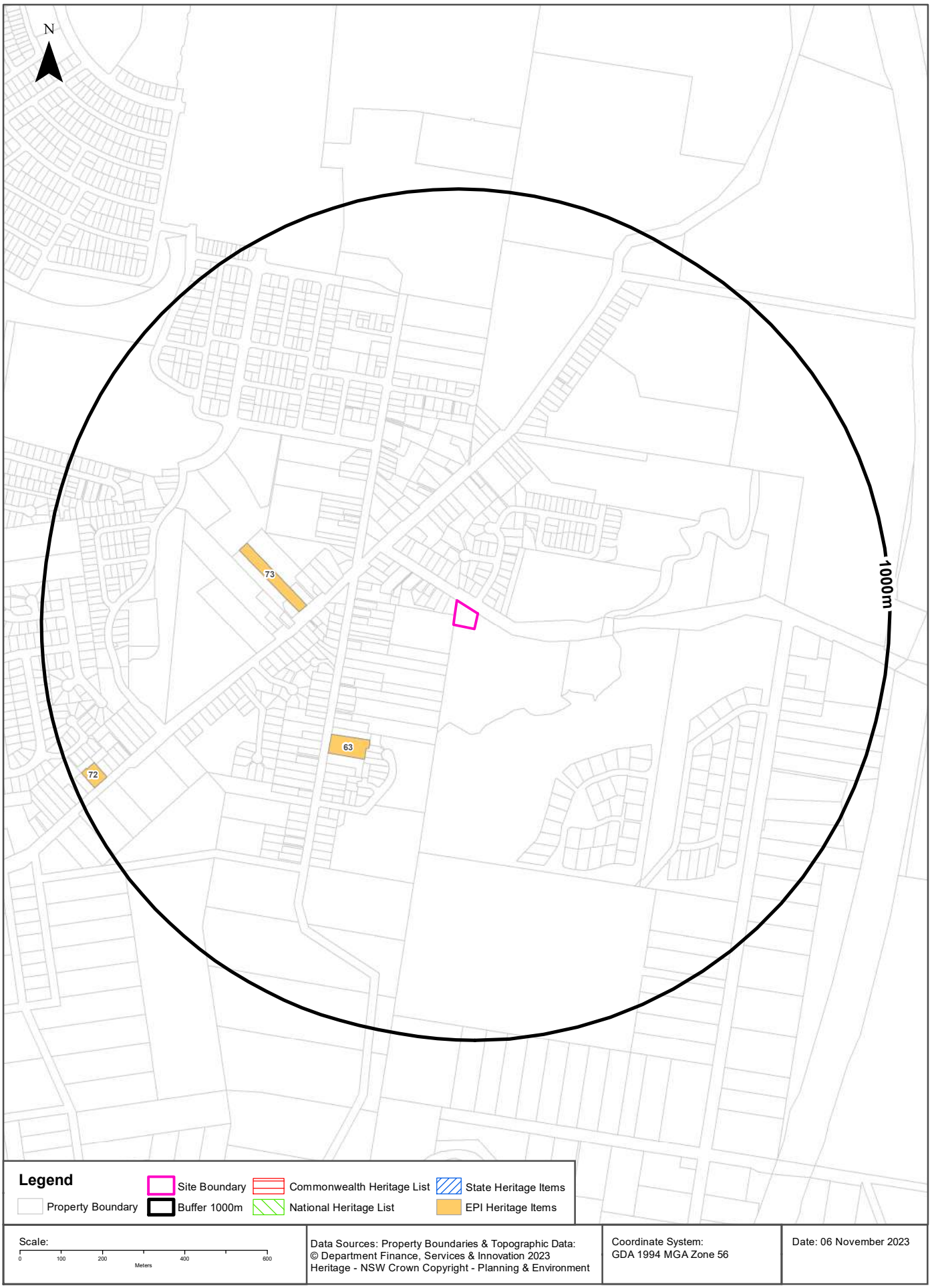
What EPI Land Zones exist within the dataset buffer?

Zone	Description	Purpose	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
R2	Low Density Residential		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	0m	On-site
C3	Environmental Management		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	0m	South
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	52m	West
C4	Environmental Living		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	67m	East
C2	Environmental Conservation		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	120m	East
RU4	Primary Production Small Lots		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	264m	South East
C3	Environmental Management		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	365m	North East
RU6	Transition		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	369m	West
RU6	Transition		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	427m	North
C2	Environmental Conservation		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	495m	North West
RU2	Rural Landscape		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	554m	East
SP2	Infrastructure	Educational Establishment	Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	666m	South West
C2	Environmental Conservation		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	675m	West
C2	Environmental Conservation		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	701m	North West
R2	Low Density Residential		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	743m	West
E4	General Industrial		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	762m	East
C2	Environmental Conservation		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	809m	West
RU2	Rural Landscape		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	815m	East
RU6	Transition		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	843m	South West
R3	Medium Density Residential		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	845m	North West

Zone	Description	Purpose	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
RU6	Transition		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	854m	West
RU2	Rural Landscape		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	881m	North
R3	Medium Density Residential		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	914m	South West
RU2	Rural Landscape		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	916m	North East
RU6	Transition		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	922m	West
RU2	Rural Landscape		Lake Macquarie Local Environmental Plan 2014	28/04/2023	28/04/2023	01/09/2023	Map Amendment No 8	996m	North East

Heritage Items

369 Newport Road, Cooranbong, NSW 2265



Heritage

369 Newport Road, Cooranbong, NSW 2265

Commonwealth Heritage List

What are the Commonwealth Heritage List Items located within the dataset buffer?

Place Id	Name	Address	Place File No	Class	Status	Register Date	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch

National Heritage List

What are the National Heritage List Items located within the dataset buffer?
Note. Please click on Place Id to activate a hyperlink to online website.

Place Id	Name	Address	Place File No	Class	Status	Register Date	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: Australian Government Department of the Environment and Energy - Heritage Branch

State Heritage Register - Curtilages

What are the State Heritage Register Items located within the dataset buffer?

Map Id	Name	Address	LGA	Listing Date	Listing No	Plan No	Distance	Direction
N/A	No records in buffer							

Heritage Data Source: NSW Crown Copyright - Office of Environment & Heritage

Environmental Planning Instrument - Heritage

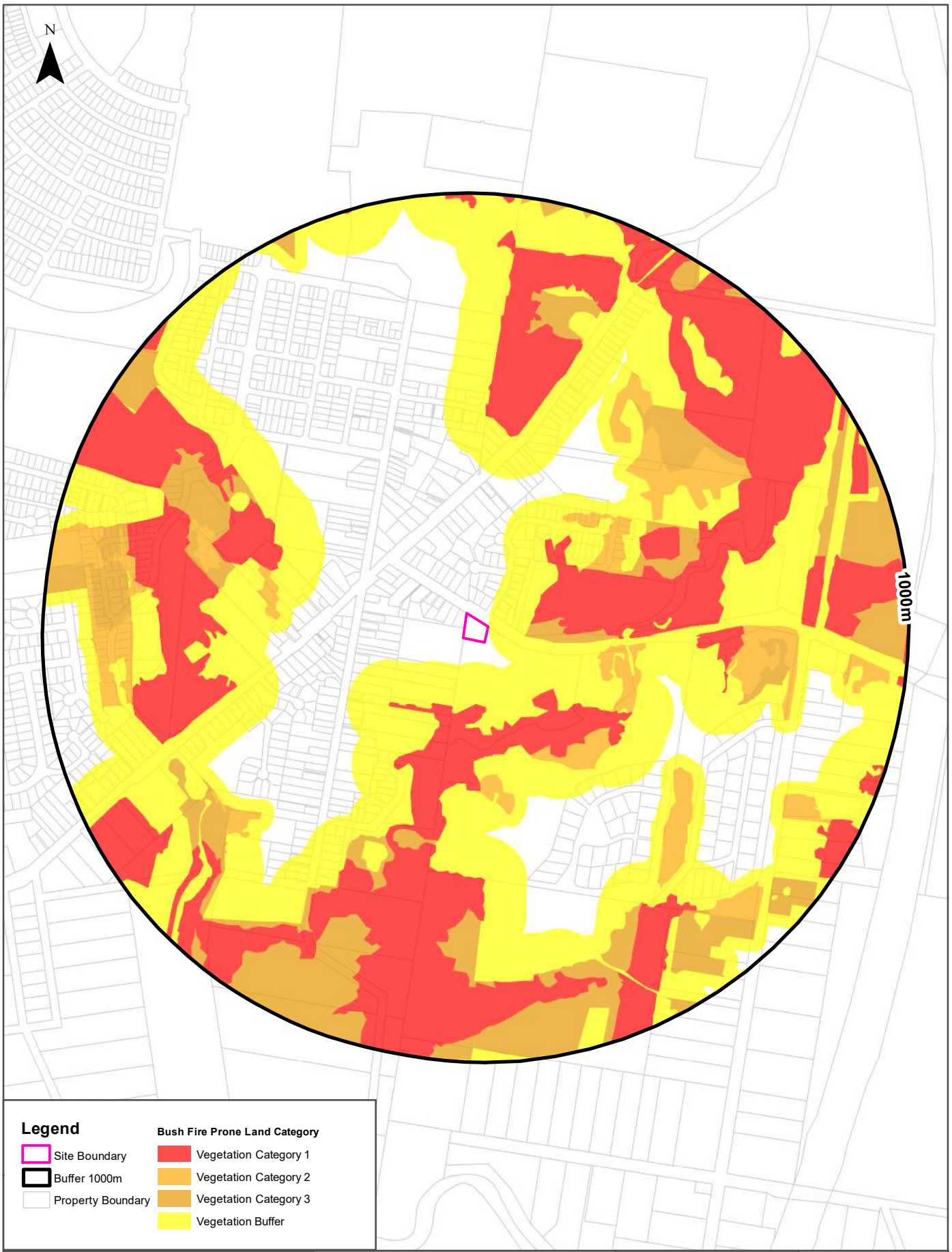
What are the EPI Heritage Items located within the dataset buffer?

Map Id	Name	Classification	Significance	EPI Name	Published Date	Commenced Date	Currency Date	Distance	Direction
63	House "Sunnyside"	Item - General	Local	Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	25/11/2022	346m	South West
73	Cottage	Item - General	Local	Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	25/11/2022	360m	West
72	House "Three Bells"	Item - General	Local	Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	25/11/2022	920m	South West

Heritage Data Source: NSW Crown Copyright - Planning & Environment

Natural Hazards - Bush Fire Prone Land

369 Newport Road, Cooranbong, NSW 2265



Scale: 0 100 200 400 600 Meters

Data Sources: Bush Fire Prone Land: © NSW Rural Fire Service 2023. Property Boundaries: © Department Finance, Services & Innovation 2023

Coordinate System: GDA 1994 MGA Zone 56

Date: 06 November 2023

Natural Hazards

369 Newport Road, Cooranbong, NSW 2265

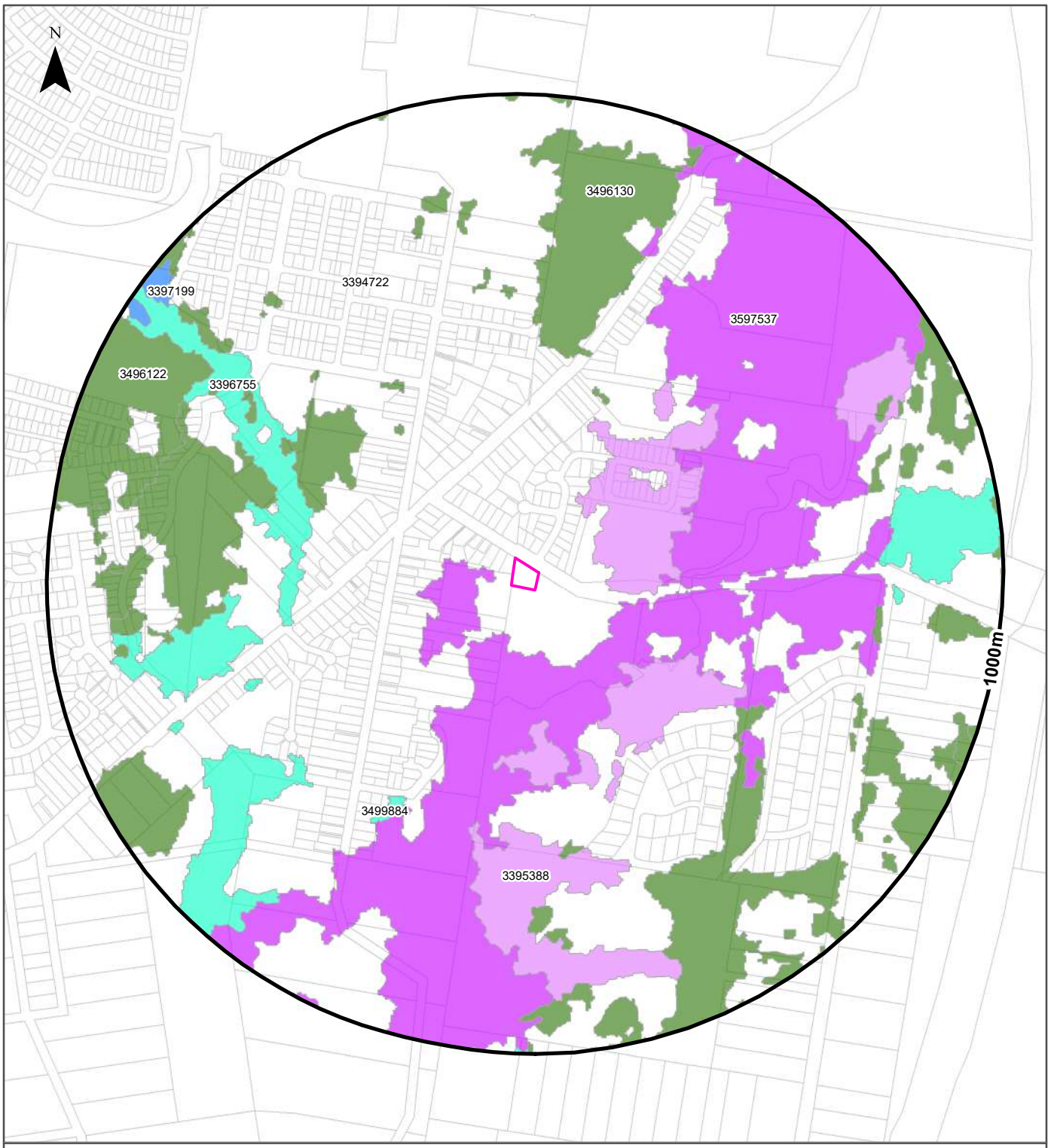
Bush Fire Prone Land

What are the nearest Bush Fire Prone Land Categories that exist within the dataset buffer?

Bush Fire Prone Land Category	Distance	Direction
Vegetation Buffer	0m	On-site
Vegetation Category 3	88m	East
Vegetation Category 1	99m	North East
Vegetation Category 2	264m	North East

Ecological Constraints - Vegetation & Ramsar Wetlands

369 Newport Road, Cooranbong, NSW 2265



- Site Boundary
- ReportBuffer
- Property Boundary
- Ramsar Wetland

Native Vegetation

- Alpine Complex
- Arid Shrublands (Acacia sub-formation)
- Arid Shrublands (Chenopod sub-formation)
- Dry Sclerophyll Forests (Shrub/grass sub-formation)
- Dry Sclerophyll Forests (Shrubby sub-formation)
- Forested Wetlands
- Freshwater Wetlands
- Grasslands
- Grassy Woodlands
- Heathlands
- Rainforests
- Saline Wetlands
- Semi-arid Woodlands (Grassy sub-formation)
- Semi-arid Woodlands (Shrubby sub-formation)
- Wet Sclerophyll Forests (Grassy sub-formation)
- Wet Sclerophyll Forests (Shrubby sub-formation)
- Non vegetated
- Unattributed
- Not classified
- Other

Scale: 0 100 200 400 600 Meters	Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2023	Coordinate System: GDA 1994 MGA Zone 56	Date: 06 November 2023

Ecological Constraints

369 Newport Road, Cooranbong, NSW 2265

Native Vegetation

What native vegetation exists within the dataset buffer?

Map ID	Vegetation Formation	Plant Community Type and Vegetation Formation	Vegetation Class	Dist	Dir
3394722	Not classified	(Not classified) Not classified	Not classified	0m	On-site
3597537	Wet Sclerophyll Forests (Shrubby sub-formation)	(Wet Sclerophyll Forests (Shrubby sub-formation)) Northern Lowland Viney Wet Forest	North Coast Wet Sclerophyll Forests	35m	East
3395388	Wet Sclerophyll Forests (Grassy sub-formation)	(Wet Sclerophyll Forests (Grassy sub-formation)) Lower North Ranges Turpentine Moist Forest	Northern Hinterland Wet Sclerophyll Forests	117m	South East
3496130	Dry Sclerophyll Forests (Shrubby sub-formation)	(Dry Sclerophyll Forests (Shrubby sub-formation)) Hunter Coast Lowland Scribbly Gum Forest	Sydney Coastal Dry Sclerophyll Forests	361m	North East
3396755	Forested Wetlands	(Forested Wetlands) Coastal Creekflat Layered Grass-Sedge Swamp Forest	Coastal Floodplain Wetlands	442m	West
3499884	Forested Wetlands	(Forested Wetlands) Northern Creekflat Eucalypt-Paperbark Mesic Swamp Forest	Coastal Floodplain Wetlands	509m	South West
3496122	Dry Sclerophyll Forests (Shrubby sub-formation)	(Dry Sclerophyll Forests (Shrubby sub-formation)) Hunter Coast Lowland Apple-Bloodwood Forest	Sydney Coastal Dry Sclerophyll Forests	741m	West
3397199	Freshwater Wetlands	(Freshwater Wetlands) Coastal Floodplain Phragmites Reedland	Coastal Freshwater Lagoons	923m	North West

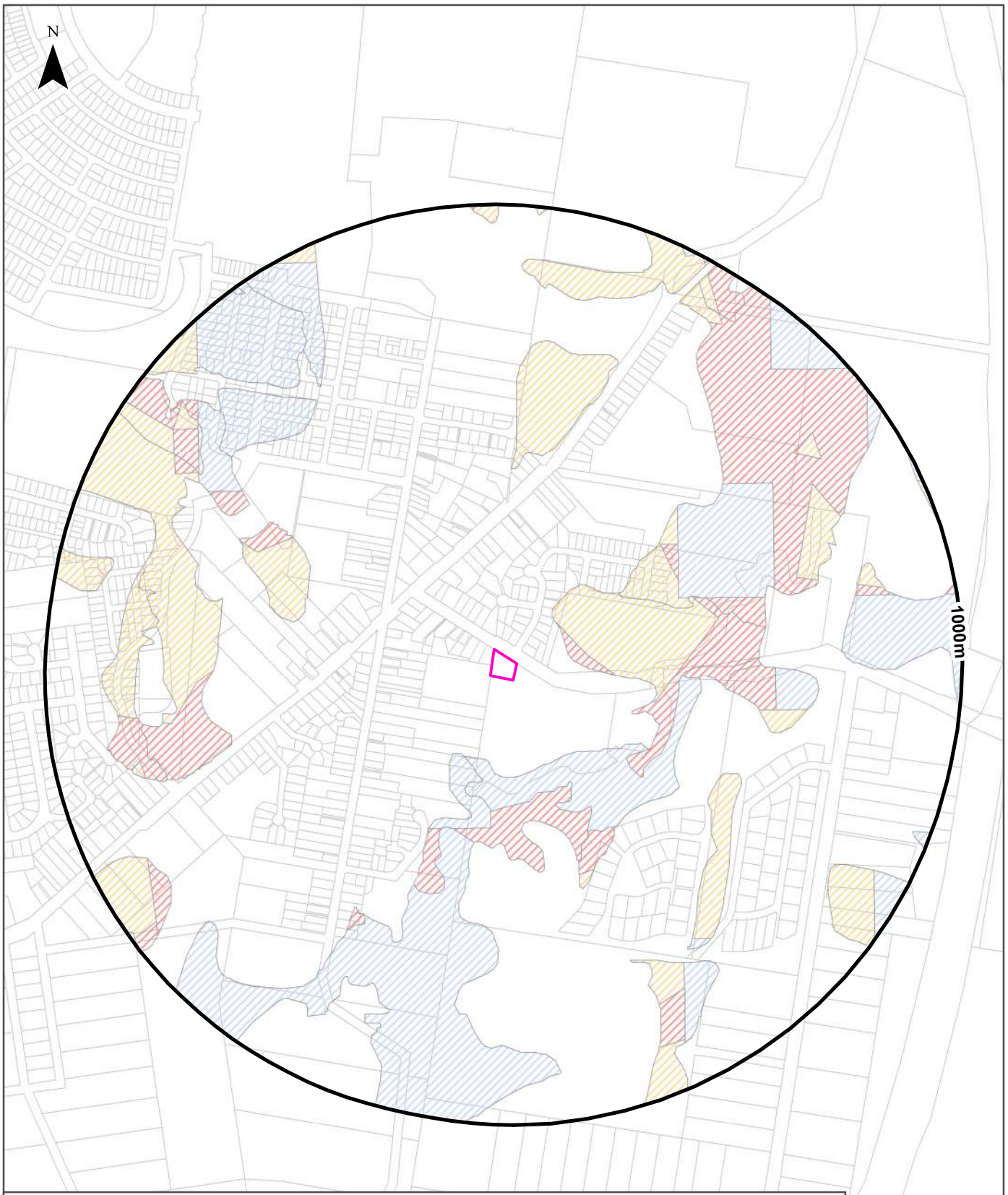
Ramsar Wetlands

What Ramsar Wetland areas exist within the dataset buffer?

Map Id	Ramsar Name	Wetland Name	Designation Date	Source	Distance	Direction
N/A	No records in buffer					

Ecological Constraints - Groundwater Dependent Ecosystems Atlas

369 Newport Road, Cooranbong, NSW 2265



Legend

- Site Boundary
- Buffer 1000m
- Property Boundaries
- High potential GDE - from national assessment
- High potential GDE - from regional studies
- Moderate potential GDE - from national assessment
- Moderate potential GDE - from regional studies
- Low potential GDE - from national assessment
- Low potential GDE - from regional studies
- Known GDE - from regional studies
- Unclassified potential GDE - from national assessment
- Unclassified potential GDE - from regional studies

Scale: 0 100 200 400 600 Meters

Data Sources: Property Boundaries & Topographic Data: © Department Finance, Services & Innovation 2023

Coordinate System: GDA 1994 MGA Zone 56

Date: 06 November 2023

Ecological Constraints

369 Newport Road, Cooranbong, NSW 2265

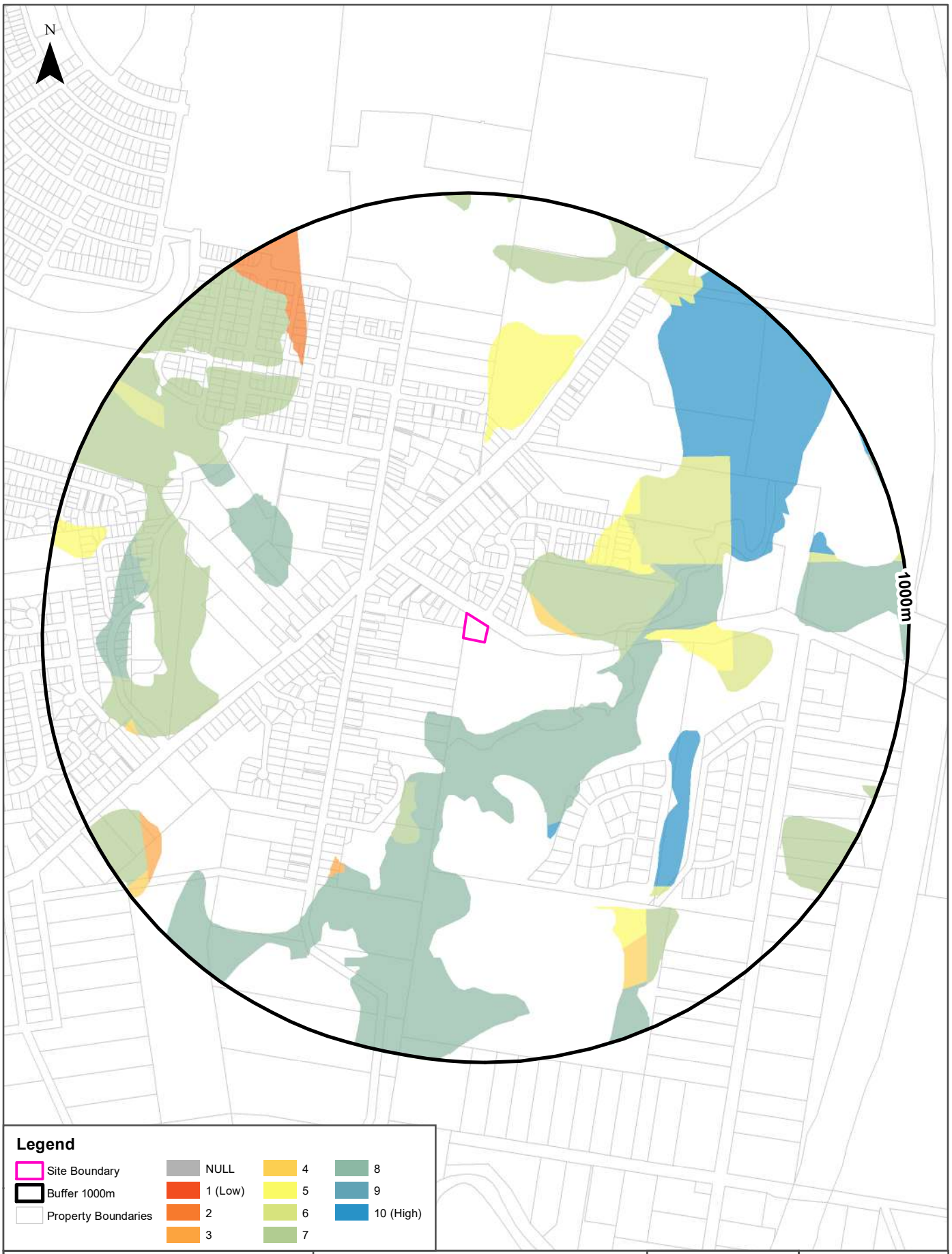
Groundwater Dependent Ecosystems Atlas

Type	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance	Direction
Terrestrial	High potential GDE - from regional studies	Deeply dissected sandstone plateaus.	Vegetation		115m	East
Terrestrial	Moderate potential GDE - from regional studies	Deeply dissected sandstone plateaus.	Vegetation		127m	East
Terrestrial	Low potential GDE - from regional studies	Deeply dissected sandstone plateaus.	Vegetation		187m	South East

Groundwater Dependent Ecosystems Atlas Data Source: The Bureau of Meteorology

Ecological Constraints - Inflow Dependent Ecosystems Likelihood

369 Newport Road, Cooranbong, NSW 2265



Data Sources: Property Boundaries & Topographic Data:
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Coordinate System:
GDA 1994 MGA Zone 56

Date: 06 November 2023

Ecological Constraints

369 Newport Road, Cooranbong, NSW 2265

Inflow Dependent Ecosystems Likelihood

Type	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance	Direction
Terrestrial	4	Deeply dissected sandstone plateaus.	Vegetation		115m	East
Terrestrial	7	Deeply dissected sandstone plateaus.	Vegetation		127m	East
Terrestrial	8	Deeply dissected sandstone plateaus.	Vegetation		187m	South
Terrestrial	5	Deeply dissected sandstone plateaus.	Vegetation		276m	North East
Terrestrial	6	Deeply dissected sandstone plateaus.	Vegetation		391m	North East
Terrestrial	10	Deeply dissected sandstone plateaus.	Vegetation		461m	South
Terrestrial	3	Deeply dissected sandstone plateaus.	Vegetation		601m	South West
Terrestrial	2	Deeply dissected sandstone plateaus.	Vegetation		708m	North West

Inflow Dependent Ecosystems Likelihood Data Source: The Bureau of Meteorology

Ecological Constraints

369 Newport Road, Cooranbong, NSW 2265

NSW BioNet Atlas

Species on the NSW BioNet Atlas that have a NSW or federal conservation status, a NSW sensitivity status, or are listed under a migratory species agreement, and are within 10km of the site?

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Amphibia	Crinia tinnula	Wallum Froglet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Amphibia	Litoria aurea	Green and Golden Bell Frog	Endangered	Not Sensitive	Vulnerable	
Animalia	Amphibia	Litoria brevipalmata	Green-thighed Frog	Vulnerable	Not Sensitive	Not Listed	
Animalia	Amphibia	Mixophyes balbus	Stuttering Frog	Endangered	Category 2	Vulnerable	
Animalia	Amphibia	Mixophyes iteratus	Giant Barred Frog	Endangered	Category 2	Endangered	
Animalia	Amphibia	Pseudophryne australis	Red-crowned Toadlet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Actitis hypoleucos	Common Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Anthochaera phrygia	Regent Honeyeater	Critically Endangered	Category 2	Critically Endangered	
Animalia	Aves	Apus pacificus	Fork-tailed Swift	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Ardenna grisea	Sooty Shearwater	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Ardenna tenuirostris	Short-tailed Shearwater	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Arenaria interpres	Ruddy Turnstone	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Artamus cyanopterus cyanopterus	Dusky Woodswallow	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Burhinus grallarius	Bush Stone-curlew	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Calidris acuminata	Sharp-tailed Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Calidris canutus	Red Knot	Not Listed	Not Sensitive	Endangered	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Calidris ferruginea	Curlew Sandpiper	Endangered	Not Sensitive	Critically Endangered	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Calidris ruficollis	Red-necked Stint	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Callocephalon fimbriatum	Gang-gang Cockatoo	Vulnerable	Category 3	Endangered	
Animalia	Aves	Calyptorhynchus lathami lathami	South-eastern Glossy Black-Cockatoo	Vulnerable	Category 2	Vulnerable	
Animalia	Aves	Charadrius veredus	Oriental Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Chthonicola sagittata	Speckled Warbler	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Climacteris picumnus victoriae	Brown Treecreeper (eastern subspecies)	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Cuculus optatus	Oriental Cuckoo	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Daphoenositta chrysoptera	Varied Sittella	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ephippiorhynchus asiaticus	Black-necked Stork	Endangered	Not Sensitive	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Aves	Epthianura albifrons	White-fronted Chat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Falco subniger	Black Falcon	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Gallinago hardwickii	Latham's Snipe	Not Listed	Not Sensitive	Not Listed	ROKAMBA;JAMBA
Animalia	Aves	Glossopsitta pusilla	Little Lorikeet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Haematopus fuliginosus	Sooty Oystercatcher	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Haematopus longirostris	Pied Oystercatcher	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Haliaeetus leucogaster	White-bellied Sea-Eagle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Hieraaetus morphnoides	Little Eagle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Hirundapus caudacutus	White-throated Needletail	Not Listed	Not Sensitive	Vulnerable	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Hydroprogne caspia	Caspian Tern	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Ixobrychus flavicollis	Black Bittern	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Lathamus discolor	Swift Parrot	Endangered	Not Sensitive	Critically Endangered	
Animalia	Aves	Limosa lapponica	Bar-tailed Godwit	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Lophochroa leadbeateri	Major Mitchell's Cockatoo	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Lophoictinia isura	Square-tailed Kite	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Neophema pulchella	Turquoise Parrot	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Ninox connivens	Barking Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Ninox strenua	Powerful Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Numenius madagascariensis	Eastern Curlew	Not Listed	Not Sensitive	Critically Endangered	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Numenius phaeopus	Whimbrel	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Onychoprion anaethetus	Bridled Tern	Not Listed	Not Sensitive	Not Listed	CAMBA;JAMBA
Animalia	Aves	Onychoprion fuscata	Sooty Tern	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Oxyura australis	Blue-billed Duck	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pandion cristatus	Eastern Osprey	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Petroica boodang	Scarlet Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pluvialis fulva	Pacific Golden Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Pluvialis squatarola	Grey Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Pomatostomus temporalis temporalis	Grey-crowned Babbler (eastern subspecies)	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ptilinopus magnificus	Wompoo Fruit-Dove	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ptilinopus regina	Rose-crowned Fruit-Dove	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ptilinopus superbus	Superb Fruit-Dove	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pycnoptilus floccosus	Pilotbird	Not Listed	Not Sensitive	Vulnerable	
Animalia	Aves	Rhipidura fuliginosa	New Zealand Fantail (Lord Howe Is. subsp.)	Extinct	Not Sensitive	Extinct	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Aves	Stagonopleura guttata	Diamond Firetail	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Sterna hirundo	Common Tern	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Stictonetta naevosa	Freckled Duck	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Thalasseus bergii	Crested Tern	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Tringa brevipes	Grey-tailed Tattler	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tringa nebularia	Common Greenshank	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tringa stagnatilis	Marsh Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Turnix maculosus	Red-backed Button-quail	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Tyto novaehollandiae	Masked Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Tyto tenebricosa	Sooty Owl	Vulnerable	Category 3	Not Listed	
Animalia	Mammalia	Cercartetus nanus	Eastern Pygmy-possum	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Chalinolobus dwyeri	Large-eared Pied Bat	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Dasyurus maculatus	Spotted-tailed Quoll	Vulnerable	Not Sensitive	Endangered	
Animalia	Mammalia	Falsistrellus tasmaniensis	Eastern False Pipistrelle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Micronomus norfolkensis	Eastern Coastal Free-tailed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Miniopterus australis	Little Bent-winged Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Miniopterus orianae oceanensis	Large Bent-winged Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Myotis macropus	Southern Myotis	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Notamacropus parma	Parma Wallaby	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Nyctophilus bifax	Eastern Long-eared Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Petauroides volans	Southern Greater Glider	Endangered	Not Sensitive	Endangered	
Animalia	Mammalia	Petaurus australis	Yellow-bellied Glider	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Petaurus australis	Yellow-bellied Glider	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Petaurus norfolcensis	Squirrel Glider	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Petrogale penicillata	Brush-tailed Rock-wallaby	Endangered	Not Sensitive	Vulnerable	
Animalia	Mammalia	Phascogale tapoatafa	Brush-tailed Phascogale	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Phascolarctos cinereus	Koala	Endangered	Not Sensitive	Endangered	
Animalia	Mammalia	Phoniscus papuensis	Golden-tipped Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Potorous tridactylus	Long-nosed Potoroo	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Pseudomys gracilicaudatus	Eastern Chestnut Mouse	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Pseudomys novaehollandiae	New Holland Mouse	Not Listed	Not Sensitive	Vulnerable	
Animalia	Mammalia	Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Saccolaimus flaviventris	Yellow-bellied Sheathtail-bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Scoteanax rueppellii	Greater Broad-nosed Bat	Vulnerable	Not Sensitive	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Mammalia	Vespadelus troughtoni	Eastern Cave Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Caretta caretta	Loggerhead Turtle	Endangered	Not Sensitive	Endangered	
Animalia	Reptilia	Chelonia mydas	Green Turtle	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Reptilia	Hoplocephalus stephensii	Stephens' Banded Snake	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Acacia bynoeana	Bynoe's Wattle	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Angophora inopina	Charmhaven Apple	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Asperula asthenes	Trailing Woodruff	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Caesia parviflora var. minor	Small Pale Grass-lily	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Caladenia tessellata	Thick Lip Spider Orchid	Endangered	Category 2	Vulnerable	
Plantae	Flora	Callistemon linearifolius	Netted Bottle Brush	Vulnerable	Category 3	Not Listed	
Plantae	Flora	Corunastylis sp. Charmhaven (NSW896673)		Critically Endangered	Category 2	Critically Endangered	
Plantae	Flora	Corybas dowlingii	Red Helmet Orchid	Endangered	Category 2	Not Listed	
Plantae	Flora	Cryptostylis hunteriana	Leafless Tongue Orchid	Vulnerable	Category 2	Vulnerable	
Plantae	Flora	Eucalyptus nicholii	Narrow-leaved Black Peppermint	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Eucalyptus parramattensis subsp. parramattensis		Endangered Population	Not Sensitive	Not Listed	
Plantae	Flora	Eucalyptus scoparia	Wallangarra White Gum	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Genoplesium insigne	Variable Midge Orchid	Critically Endangered	Category 2	Critically Endangered	
Plantae	Flora	Grevillea parviflora subsp. parviflora	Small-flower Grevillea	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Isotoma fluviatilis subsp. fluviatilis		Not Listed	Category 3	Extinct	
Plantae	Flora	Macadamia tetraphylla	Rough-shelled Bush Nut	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Maundia triglochinoides		Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Melaleuca biconvexa	Biconvex Paperbark	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Persicaria elatior	Tall Knotweed	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Rhodamnia rubescens	Scrub Turpentine	Critically Endangered	Not Sensitive	Critically Endangered	
Plantae	Flora	Rhodomyrtus psidioides	Native Guava	Critically Endangered	Not Sensitive	Critically Endangered	
Plantae	Flora	Rutidosis heterogama	Heath Wrinklewort	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Syzygium paniculatum	Magenta Lilly Pilly	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Tetratheca juncea	Black-eyed Susan	Vulnerable	Not Sensitive	Vulnerable	

Data does not include NSW category 1 sensitive species.

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Where Lotsearch has had to georeference features from supplied addresses, a location confidence has been assigned to the data record. This indicates a confidence to the positional accuracy of the feature. Where applicable, a code is given under the field heading “LC” or “LocConf”. These codes lookup to the following location confidences:

LC Code	Location Confidence
Premise Match	Georeferenced to the site location / premise or part of site
Area Match	Georeferenced to an approximate or general area
Road Match	Georeferenced to a road or rail corridor
Road Intersection	Georeferenced to a road intersection
Buffered Point	A point feature buffered to x metres
Adjacent Match	Land adjacent to a georeferenced feature
Network of Features	Georeferenced to a network of features
Suburb Match	Georeferenced to a suburb boundary
As Supplied	Spatial data supplied by provider

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Annex E

Hunter Civilab

Unit 3, 62 Sandringham Avenue Thornton NSW 2322

Phone: (02) 4966 1844

Geotechnical Log - Borehole

BH2

UTM	:	Drill Rig	: Trailer Mounted Drill Rig	Job Number	: E0137
Easting (m)	: 0.0	Driller Supplier	: Hunter Civilab	Client	: Cash
Northing (m)	: 0.0	Logged By	: FH	Project	: Limited Detailed Site Investigation
Ground Elevation	: Not Surveyed	Reviewed By	: JD	Location	: 369 Newport Road, Cooranbong NSW
Total Depth	: 1.8 m BGL	Date	: 07/11/2023	Loc Comment	:

Water	Samples: ES	Depth (m)	Graphic Log	Material Description	Moisture	Soil Origin	Remarks
		0.2		FILL: Silty GRAVEL, angular, medium sized, loose, pale brown.	D	Fill	
		0.5		FILL: Silty CLAY, low plasticity, soft, orange brown, with fine sized gravel.	w < PL	Fill	
		1		FILL: Silty CLAY, low plasticity, soft, green orange brown, with fine sized gravel.	w ≈ PL	Fill	
		1.5		Silty CLAY, low plasticity, dark brown grey, trace coal fragments.	w < PL	Residual	
				Silty CLAY, low plasticity, grey pale brown.	w ≈ PL	Residual	
		2		**BH2 Terminated at 1.8m**			
		3					

Hunter Civilab

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Geotechnical Log - Borehole

BH3

UTM	:	Drill Rig	: Trailer Mounted Drill Rig	Job Number	: E0137
Easting (m)	: 0.0	Driller Supplier	: Hunter Civilab	Client	: Cash
Northing (m)	: 0.0	Logged By	: FH	Project	: Limited Detailed Site Investigation
Ground Elevation	: Not Surveyed	Reviewed By	: JD	Location	: 369 Newport Road, Cooranbong NSW
Total Depth	: 2 m BGL	Date	: 07/11/2023	Loc Comment	:

Water	Samples: ES	Depth (m)	Graphic Log	Material Description	Moisture	Soil Origin	Remarks
		0.2		FILL: Silty GRAVEL, angular, medium sized, loose, brown.	D	Fill	
		0.5		FILL: Silty CLAY, low plasticity, soft, orange pale brown, with fine sized gravel.	w < PL	Fill	
		0.7		FILL: Silty CLAY, low plasticity, soft, brown, with fine sized gravel.		Fill	
		1		FILL: Silty to gravelly CLAY, fine sized gravel, low plasticity, firm, orange brown black pale red.		Fill	
		1.3		Silty CLAY, low plasticity, red orange pale grey.		Residual	
		2		**BH3 Terminated at 2m**			
		3					

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Geotechnical Log - Borehole

BH4

UTM	:	Drill Rig	: Trailer Mounted Drill Rig	Job Number	: E0137
Easting (m)	: 0.0	Driller Supplier	: Hunter Civilab	Client	: Cash
Northing (m)	: 0.0	Logged By	: FH	Project	: Limited Detailed Site Investigation
Ground Elevation	: Not Surveyed	Reviewed By	: JD	Location	: 369 Newport Road, Cooranbong NSW
Total Depth	: 1.5 m BGL	Date	: 07/11/2023	Loc Comment	:

Water	Samples: ES	Depth (m)	Graphic Log	Material Description	Moisture	Soil Origin	Remarks
		0.2		FILL: Silty GRAVEL, angular, medium sized, loose, pale brown.	D	Fill	
		0.5		FILL: Silty CLAY, low plasticity, soft, orange brown, with fine to medium sized gravel.	w < PL	Fill	
		1		Silty CLAY, low plasticity, dark brown, trace fine sized gravel.		Residual	
				Silty CLAY, low plasticity, grey.	w ≈ LL	Residual	
				BH4 Terminated at 1.5m			

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Geotechnical Log - Borehole

BH5

UTM	:	Drill Rig	: Trailer Mounted Drill Rig	Job Number	: E0137
Easting (m)	: 0.0	Driller Supplier	: Hunter Civilab	Client	: Cash
Northing (m)	: 0.0	Logged By	: FH	Project	: Limited Detailed Site Investigation
Ground Elevation	: Not Surveyed	Reviewed By	: JD	Location	: 369 Newport Road, Cooranbong NSW
Total Depth	: 1.5 m BGL	Date	: 07/11/2023	Loc Comment	:

Water	Samples: ES	Depth (m)	Graphic Log	Material Description	Moisture	Soil Origin	Remarks
		0.2		FILL: Silty GRAVEL, angular, fine to medium sized, loose, pale brown, with low plasticity clay.	D	Fill	
		1		FILL: Silty to gravelly CLAY, fine to medium sized gravel, low plasticity, soft, pale brown pale orange.	w ≈ PL	Fill	
		1.2		Silty CLAY, low plasticity, brown orange pale grey.	w < PL	Alluvial	
		2		**BH5 Terminated at 1.5m**			
		3					

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Geotechnical Log - Borehole

BH6

UTM	:	Drill Rig	: Trailer Mounted Drill Rig	Job Number	: E0137
Easting (m)	: 0.0	Driller Supplier	: Hunter Civilab	Client	: Cash
Northing (m)	: 0.0	Logged By	: FH	Project	: Limited Detailed Site Investigation
Ground Elevation	: Not Surveyed	Reviewed By	: JD	Location	: 369 Newport Road, Cooranbong NSW
Total Depth	: 1.6 m BGL	Date	: 07/11/2023	Loc Comment	:

Water	Samples: ES	Depth (m)	Graphic Log	Material Description	Moisture	Soil Origin	Remarks
		0.2		FILL: Silty to gravelly CLAY, fine to medium sized gravel, low plasticity, soft, orange pale grey brown.	w < PL	Fill	
		1		FILL: Silty to gravelly CLAY, fine to medium sized gravel, low plasticity, soft, orange brown pale grey.	w > PL	Fill	
		1.4		Silty CLAY, low plasticity, grey.	w ≈ PL	Residual	
		2		**BH6 Terminated at 1.6m**			
		3					

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Geotechnical Log - Borehole

BH7

UTM	:	Drill Rig	: Trailer Mounted Drill Rig	Job Number	: E0137
Easting (m)	: 0.0	Driller Supplier	: Hunter Civilab	Client	: Cash
Northing (m)	: 0.0	Logged By	: FH	Project	: Limited Detailed Site Investigation
Ground Elevation	: Not Surveyed	Reviewed By	: JD	Location	: 369 Newport Road, Cooranbong NSW
Total Depth	: 1.2 m BGL	Date	: 07/11/2023	Loc Comment	:

Water	Samples: ES	Depth (m)	Graphic Log	Material Description	Moisture	Soil Origin	Remarks
		0.2		FILL: Silty GRAVEL, angular, fine to medium sized, loose, brown.	D	Fill	
		0.4		FILL: Silty to gravelly CLAY, fine to medium sized gravel, low plasticity, soft, orange brown.	w < PL	Fill	
		1		FILL: Silty CLAY, low plasticity, firm to stiff, pale grey dark brown, with fine sized gravel.	w ≈ PL	Fill	
				Silty CLAY, low plasticity, grey.	w ≈ LL	Alluvial	
		2		**BH7 Terminated at 1.2m**			
		3					

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Geotechnical Log - Borehole

BH8

UTM	:	Drill Rig	: Trailer Mounted Drill Rig	Job Number	: E0137
Easting (m)	: 0.0	Driller Supplier	: Hunter Civilab	Client	: Cash
Northing (m)	: 0.0	Logged By	: FH	Project	: Limited Detailed Site Investigation
Ground Elevation	: Not Surveyed	Reviewed By	: JD	Location	: 369 Newport Road, Cooranbong NSW
Total Depth	: 1.5 m BGL	Date	: 07/11/2023	Loc Comment	:

Water	Samples: ES	Depth (m)	Graphic Log	Material Description	Moisture	Soil Origin	Remarks
		0.2		FILL: Sandy to gravelly SILT, fine sized gravel, fine grained sand, low plasticity, soft, yellow brown, with low plasticity clay.	w < PL	Fill	
		0.6		FILL: Sandy to gravelly SILT, fine sized gravel, fine grained sand, non-plastic, very soft, brown.		Fill	
		1.3		FILL: Silty to gravelly CLAY, fine to medium sized gravel, low plasticity, soft to firm, pale red orange brown.	w ≈ PL	Fill	
				Silty CLAY, low plasticity, dark brown.	w ≈ LL	Alluvial	
				BH8 Terminated at 1.5m			

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Geotechnical Log - Borehole

BH1

UTM	:	Drill Rig	: Trailer Mounted Drill Rig	Job Number	: E0137
Easting (m)	: 0	Driller Supplier	: Hunter Civilab	Client	: Cash
Northing (m)	: 0	Logged By	: FH	Project	: Limited Detailed Site Investigation
Ground Elevation	: Not Surveyed	Reviewed By	: JD	Location	: 369 Newport Road, Cooranbong NSW
Total Depth	: 1.5 m BGL	Date	: 09/11/2023	Loc Comment	:

Water	Samples: ES	Depth (m)	Graphic Log	Material Description	Moisture	Soil Origin	Remarks
		0.2		FILL: Silty GRAVEL, angular, medium sized, loose, pale brown.	D	Fill	
		0.4		FILL: Silty GRAVEL, angular, fine to medium sized, medium dense, dark brown black, trace low plasticity clay.	M	Fill	
		1		FILL: Silty CLAY, low plasticity, soft, dark brown, with fine sized gravel.	w ≈ PL	Fill	
				Silty CLAY, low plasticity, pale grey orange.		Residual	
		2		**BH1 Terminated at 1.5m**			
		3					

Annex F

Soil Screening Criteria

		Metals								TRH NEPM (2013)							BTEX				PAH					
		Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury	TRH C6-C10 Fraction	TRH C6-C10 minus BTEX (F1)	TRH >C10-C16 Fraction	TRH >C10-C16 - Naphthalene (F2)	TRH >C16-C34 (F3)	TRH >C34-C40 (F4)	Napthalene	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene	Benzo(a)pyrene	Carcinogenic PAHs, BaP TEQ <LOR=0	Carcinogenic PAHs, BaP TEQ <LOR=LOR	Carcinogenic PAHs, BaP TEQ <LOR=LOR/2	Total PAH
		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	mg/kg	mg/kg	mg/kg	mg/kg
Limit of Reporting		1	0.3	0.5	0.5	1	0.5	2	0.05	25	25	25	25	90	120	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.2	0.3	0.2	0.8
HIL A (NEPM 2013)		100	20	100	6000	300	400	7400	40														3	3	3	300
HSL A - Soil Vapour Sand 0 - <1m (NEPM 2013)											45		110			3	0.5	160	55	40						
HSL A - Soil Vapour Sand 1 - <2m (NEPM 2013)											70		240			NL	0.5	220	NL	60						
HSL A - Soil Vapour Silt 0 - <1m (NEPM 2013)											40		230			4	0.6	390	NL	95						
HSL A - Soil Vapour Silt 1 - <2m (NEPM 2013)											65		NL			NL	0.7	NL	NL	210						
HSL A - Soil Vapour Clay 0 - <1m (NEPM 2013)											50		280			5	0.7	480	NL	110						
HSL A - Soil Vapour Clay 1 - <2m (NEPM 2013)											90		NL			NL	1	NL	NL	310						
HSL A - Direct Contact (CRC Care 2011)										4,400		3,300		4,500	6,300	1,400	100	14,000	4,500	12,000	1400					
Intrusive Maintenance Worker - Direct Contact (CRC Care 2011)										82,000		62,000		85,000	120,000	29,000	1,100	120,000	85,000	130,000	29,000					
EILs (NEPM 2013)		100				1100										170					170					
ESLs - Fine (NEPM 2013)											180		120	1300	5600		65	105	125	105						
ESLs - Coarse (NEPM 2013)											180		120	300	2800		50	85	70	45		0.7				
Management Limits - Fine Soil (NEPM 2013)										*800*		*1,000*		*3,500*	*10,000*											
Management Limits - Coarse Soil (NEPM 2013)										*700*		*1,000*		*2,500*	*10,000*											
Sample ID	**Sampled Date**																									
BH1 0.2-0.4	9/11/2023	**2**	<0.3	**6.5**	**12**	**10**	**3.0**	**27**	<0.05	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	**0.5**	**0.6**	**0.7**	**0.6**	**5.8**
BH1 1.0-1.1	9/11/2023	**2**	<0.3	**8.8**	<0.5	**9**	**0.7**	**4.7**	<0.05	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.2	<0.3	<0.2	<0.8
BH2 0.5-0.7	9/11/2023	**2**	<0.3	**9.1**	**7.8**	**11**	**3.5**	**24**	<0.05	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.2	<0.3	<0.2	<0.8
BH3 0.2-0.4	9/11/2023	**4**	<0.3	**23**	**2.1**	**13**	**2.3**	**22**	<0.05	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.2	<0.3	<0.2	<0.8
BH3 1.5-1.6	9/11/2023	**2**	<0.3	**5.0**	**8.7**	**16**	**2.1**	**47**	<0.05	<25	<25	<25	<25	**91**	<120	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	**0.4**	**0.4**	**0.5**	**0.5**	**4.2**
BH4 0.2-0.3	9/11/2023	**2**	<0.3	**4.8**	**3.8**	**8**	**2.3**	**19**	<0.05	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.2	<0.3	<0.2	**1.1**
BH5 0.2-0.3	9/11/2023	**4**	<0.3	**28**	**3.3**	**14**	**5.3**	**22**	<0.05	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.2	<0.3	<0.2	<0.8
BH6 0.3-0.4	9/11/2023	**2**	<0.3	**5.4**	**8.5**	**6**	**1.5**	**24**	<0.05	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.2	<0.3	<0.2	<0.8
BH7 0.4-0.5	9/11/2023	**3**	<0.3	**6.6**	**5.8**	**16**	**2.1**	**42**	<0.05	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	**0.2**	**0.2**	**0.3**	**0.3**	**1.9**
BH8 0.2-0.3	9/11/2023	**2**	<0.3	**4.5**	**0.9**	**7**	<0.5	**4.9**	<0.05	<25	<25	<25	<25	<90	<120	<0.1	<0.1	<0.1	<0.1	<0.3	<0.1	<0.1	<0.2	<0.3	<0.2	<0.8
Statistical Summary																										
Number of Results		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Number of Detects		10	0	10	9	10	9	10	0	0	0	0	0	1	0	0	0	0	0	0	0	3	3	3	3	4
Minimum Detect		2	0	4.5	0.9	6	0.7	4.7	0	0	0	0	0	91	0	0	0	0	0	0	0	0.2	0.2	0.3	0.3	1.1
Maximum Detect		4	0	28	12	16	5.3	47	0	0	0	0	0	91	0	0	0	0	0	0	0	0.5	0.6	0.7	0.6	5.8
Average Concentration		2.5	-	10.17	5.87778	11	2.53333	23.66	-	-	-	-	-	91	-	-	-	-	-	-	-	-	-	-	-	-
Number of Guideline Exceedances		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Soil Screening Criteria

	OCP													OPP	PCB
	Aldrin	o,p'-DDE	o,p'-DDD	o,p'-DDT	Gamma Chlordane	Alpha Chlordane	Dieldrin	Alpha Endosulfan	Beta Endosulfan	Endrin	Heptachlor	Hexachlorobenzene (HCB)	Methoxychlor	Chlorpyrifos (Chlorpyrifos Ethyl)	Total PCBs (Arochlors)
	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
Limit of Reporting	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	1
HIL A (NEPM 2013)	6	240	240	240	50	50	6	270	270	10	6	10	300	160	1
HSL A - Direct Contact (CRC Care 2011)															
Intrusive Maintenance Worker - Direct Contact (CRC Care 2011)															
EILs (NEPM 2013)				180											
ESLs - Coarse/Fine (NEPM 2013)															
Sample ID / **Sampled Date**															
BH1 0.2-0.4 / 9/11/2023	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2	<1
BH1 1.0-1.1 / 9/11/2023	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH2 0.5-0.7 / 9/11/2023	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH3 0.2-0.4 / 9/11/2023	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2	<1
BH3 1.5-1.6 / 9/11/2023	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH4 0.2-0.3 / 9/11/2023	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH5 0.2-0.3 / 9/11/2023	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2	<1
BH6 0.3-0.4 / 9/11/2023	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH7 0.4-0.5 / 9/11/2023	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BH8 0.2-0.3 / 9/11/2023	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2	<1
Statistical Summary															
Number of Results	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Number of Detects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Detect	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum Detect	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Concentration	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note:

(1) The NEPM presents a cumulative HIL for DDD, DDE and DDT (240 mg/kg). Concentrations for each of these compounds are presented separately above and conservatively assessed against the HIL.

(2) The NEPM presents a cumulative HIL for Aldrin and Dieldrin (6 mg/kg). Concentrations for each of these compounds are presented separately above and conservatively assessed against the HIL.

(3) The NEPM presents onee HIL for Endosulfan (270 mg/kg). Concentrations for Alpha Endosulfan and Beta Endosulfan are presented separately above and conservatively assessed against the HIL.

Soil Screening Criteria

HUNTER ENVIRONMENTAL CONSULTING	LOR	Unit	Primary Sample	QA Sample	RPD
			BH4 0.2-0.3	DUP	
TRH					
TRH C6-C10 Fraction	25	mg/kg	12.5	12.5	0.0
TRH C6-C10 less BTEX	25	mg/kg	12.5	12.5	0.0
TRH >C10-C16 Fraction	25	mg/kg	12.5	12.5	0.0
TRH >C10-C16 Fraction less N	25	mg/kg	12.5	12.5	0.0
TRH >C16-C34 Fraction	90	mg/kg	45	45	0.0
TRH >C34-C40 Fraction	120	mg/kg	60	60	0.0
Naphthalene	0.1	mg/kg	0.05	0.05	0.0
BTEX					
Benzene	0.1	mg/kg	0.05	0.05	0.0
Ethylbenzene	0.1	mg/kg	0.05	0.05	0.0
m&p-Xylenes	0.2	mg/kg	0.1	0.1	0.0
o-Xylene	0.1	mg/kg	0.05	0.05	0.0
Toluene	0.1	mg/kg	0.05	0.05	0.0
Xylenes - Total	0.3	mg/kg	0.15	0.15	0.0
Metals					
Arsenic	1	mg/kg	**2**	**2**	0.0
Cadmium	0.3	mg/kg	0.15	0.15	0.0
Chromium	0.5	mg/kg	**4.8**	**12**	-85.7
Copper	0.5	mg/kg	**3.8**	**6.8**	-56.6
Lead	1	mg/kg	**8**	**9**	-11.8
Nickel	0.5	mg/kg	**2.3**	**4.2**	-58.5
Zinc	2	mg/kg	**19**	**20**	-5.1
Mercury	0.05	mg/kg	0.025	0.025	0.0
PAH					
Acenaphthene	0.1	mg/kg	0.05	0.05	0.0
Acenaphthylene	0.1	mg/kg	0.05	0.05	0.0
Anthracene	0.1	mg/kg	0.05	0.05	0.0
Benz(a)anthracene	0.1	mg/kg	0.05	0.05	0.0
Benzo(a)pyrene	0.1	mg/kg	0.05	0.05	0.0
Benzo(b&j)fluoranthene	0.1	mg/kg	0.05	0.05	0.0
Benzo(g.h.i)perylene	0.1	mg/kg	0.05	**0.1**	-66.7
Benzo(k)fluoranthene	0.1	mg/kg	0.05	**0.1**	-66.7
Chrysene	0.1	mg/kg	0.05	0.05	0.0
Dibenz(a.h)anthracene	0.1	mg/kg	0.05	0.05	0.0
Fluoranthene	0.1	mg/kg	**0.2**	0.05	120.0
Fluorene	0.1	mg/kg	0.05	0.05	0.0
Indeno(1.2.3-cd)pyrene	0.1	mg/kg	0.05	0.05	0.0
Naphthalene	0.1	mg/kg	0.05	0.05	0.0
Phenanthrene	0.1	mg/kg	**0.1**	0.05	66.7
Pyrene	0.1	mg/kg	**0.2**	0.05	120.0
Total PAH	0.8	mg/kg	**1.1**	0.4	93.3

Notes

RPD = Relative Percentage Difference.

RPD assessment criteria were adopted in general accordance with NEPM Schedule B3 Section 3.5 (NEPC 2013). RPDs where both primary and duplicate results were < 2.5 times the LOR were not considered. RPDs where primary and/or duplicate results were >2.5 times the LOR were assessed based on a threshold of +/- 30%. Exceedence of this threshold triggered consideration of associated data quality.

Soil Screening Criteria

	Metals							
	Arsenic	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Mercury
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L
Limit of Reporting	1	0.1	1	1	1	1	5	0.0001
Sample ID / **Sampled Date**								
RINS / 9/11/2023	<1	<0.1	<1	<1	<1	<1	<5	<0.0001
Statistical Summary								
Number of Results	1	1	1	1	1	1	1	1
Number of Detects	0	0	0	0	0	0	0	0
Minimum Detect	-	-	-	-	-	-	-	-
Maximum Detect	-	-	-	-	-	-	-	-
Average Concentration	-	-	-	-	-	-	-	-
Number of Guideline Exceedances	0	0	0	0	0	0	0	0

Annex G

Photograph 1 – Southern Fill mound facing Southeast. **Date** – 09/11/2023

Photograph 2 – Northern Fill mound facing North **Date** – 09/11/2023

Photograph 3 – Entry to Site facing North. **Date** – 09/11/2023

Photograph 4 – Fill material consistent throughout Site. **Date** – 09/11/2023

Photograph 5 – Range of containers/equipment stored on Site **Date** – 09/11/2023

Photograph 6 – Ride on lawn mower stored on the Northern Fill mound. **Date** – 09/11/2023

Annex H

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Jake Duck
Client	HUNTER ENVIRONMENTAL CONSULTING PTY LTD
Address	PO BOX 3127 THORNTON NSW 2322
Telephone	61 2 49661844
Facsimile	(Not specified)
Email	jd@hunterenviro.com.au
Project	**E0137 (Newport)**
Order Number	**HEC0276**
Samples	12

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE256498 R0**
Date Received	10/11/2023
Date Reported	20/11/2023

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

SIGNATORIES

Akheeqar BENIAMEEN
Chemist

Huong CRAWFORD
Production Manager

Kamrul AHSAN
Senior Chemist

Ly Kim HA
Organic Section Head

Shane MCDERMOTT
Inorganic/Metals Chemist

Teresa NGUYEN
Organic Chemist

VOC's in Soil [AN433] Tested: 15/11/2023

PARAMETER	UOM	LOR	BH1 0.2-0.4 SOIL - 9/11/2023 SE256498.001	BH1 1.0-1.1 SOIL - 9/11/2023 SE256498.002	BH2 0.5-0.7 SOIL - 9/11/2023 SE256498.003	BH3 0.2-0.4 SOIL - 9/11/2023 SE256498.004	BH3 1.5-1.6 SOIL - 9/11/2023 SE256498.005
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	BH4 0.2-0.3 SOIL - 9/11/2023 SE256498.006	BH5 0.2-0.3 SOIL - 9/11/2023 SE256498.007	BH6 0.3-0.4 SOIL - 9/11/2023 SE256498.008	BH7 0.4-0.5 SOIL - 9/11/2023 SE256498.009	BH8 0.2-0.3 SOIL - 9/11/2023 SE256498.010
Benzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

PARAMETER	UOM	LOR	DUP SOIL - 9/11/2023 SE256498.011
Benzene	mg/kg	0.1	<0.1
Toluene	mg/kg	0.1	<0.1
Ethylbenzene	mg/kg	0.1	<0.1
m/p-xylene	mg/kg	0.2	<0.2
o-xylene	mg/kg	0.1	<0.1
Total Xylenes*	mg/kg	0.3	<0.3
Total BTEX*	mg/kg	0.6	<0.6
Naphthalene (VOC)*	mg/kg	0.1	<0.1

Volatile Petroleum Hydrocarbons in Soil [AN433] Tested: 15/11/2023

PARAMETER	UOM	LOR	BH1 0.2-0.4 SOIL - 9/11/2023 SE256498.001	BH1 1.0-1.1 SOIL - 9/11/2023 SE256498.002	BH2 0.5-0.7 SOIL - 9/11/2023 SE256498.003	BH3 0.2-0.4 SOIL - 9/11/2023 SE256498.004	BH3 1.5-1.6 SOIL - 9/11/2023 SE256498.005
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	BH4 0.2-0.3 SOIL - 9/11/2023 SE256498.006	BH5 0.2-0.3 SOIL - 9/11/2023 SE256498.007	BH6 0.3-0.4 SOIL - 9/11/2023 SE256498.008	BH7 0.4-0.5 SOIL - 9/11/2023 SE256498.009	BH8 0.2-0.3 SOIL - 9/11/2023 SE256498.010
TRH C6-C9	mg/kg	20	<20	<20	<20	<20	<20
Benzene (F0)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TRH C6-C10	mg/kg	25	<25	<25	<25	<25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	<25	<25	<25

PARAMETER	UOM	LOR	DUP SOIL - 9/11/2023 SE256498.011
TRH C6-C9	mg/kg	20	<20
Benzene (F0)	mg/kg	0.1	<0.1
TRH C6-C10	mg/kg	25	<25
TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25

TRH (Total Recoverable Hydrocarbons) in Soil [AN403] Tested: 15/11/2023

PARAMETER	UOM	LOR	BH1 0.2-0.4 SOIL - 9/11/2023 SE256498.001	BH1 1.0-1.1 SOIL - 9/11/2023 SE256498.002	BH2 0.5-0.7 SOIL - 9/11/2023 SE256498.003	BH3 0.2-0.4 SOIL - 9/11/2023 SE256498.004	BH3 1.5-1.6 SOIL - 9/11/2023 SE256498.005
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	**47**
TRH C29-C36	mg/kg	45	<45	<45	**60**	<45	**65**
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	**91**
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	**110**
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	BH4 0.2-0.3 SOIL - 9/11/2023 SE256498.006	BH5 0.2-0.3 SOIL - 9/11/2023 SE256498.007	BH6 0.3-0.4 SOIL - 9/11/2023 SE256498.008	BH7 0.4-0.5 SOIL - 9/11/2023 SE256498.009	BH8 0.2-0.3 SOIL - 9/11/2023 SE256498.010
TRH C10-C14	mg/kg	20	<20	<20	<20	<20	<20
TRH C15-C28	mg/kg	45	<45	<45	<45	<45	<45
TRH C29-C36	mg/kg	45	**54**	<45	<45	<45	<45
TRH C37-C40	mg/kg	100	<100	<100	<100	<100	<100
TRH >C10-C16	mg/kg	25	<25	<25	<25	<25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	<25	<25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90	<90	<90	<90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120	<120	<120	<120	<120
TRH C10-C36 Total	mg/kg	110	<110	<110	<110	<110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	<210	<210	<210

PARAMETER	UOM	LOR	DUP SOIL - 9/11/2023 SE256498.011
TRH C10-C14	mg/kg	20	<20
TRH C15-C28	mg/kg	45	<45
TRH C29-C36	mg/kg	45	**65**
TRH C37-C40	mg/kg	100	<100
TRH >C10-C16	mg/kg	25	<25
TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25
TRH >C16-C34 (F3)	mg/kg	90	<90
TRH >C34-C40 (F4)	mg/kg	120	<120
TRH C10-C36 Total	mg/kg	110	<110
TRH >C10-C40 Total (F bands)	mg/kg	210	<210

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 15/11/2023

PARAMETER	UOM	LOR	BH1 0.2-0.4 SOIL - 9/11/2023 SE256498.001	BH1 1.0-1.1 SOIL - 9/11/2023 SE256498.002	BH2 0.5-0.7 SOIL - 9/11/2023 SE256498.003	BH3 0.2-0.4 SOIL - 9/11/2023 SE256498.004	BH3 1.5-1.6 SOIL - 9/11/2023 SE256498.005
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	1.0	<0.1	<0.1	<0.1	0.7
Anthracene	mg/kg	0.1	0.2	<0.1	<0.1	<0.1	0.1
Fluoranthene	mg/kg	0.1	1.4	<0.1	0.1	0.1	1.0
Pyrene	mg/kg	0.1	1.4	<0.1	0.1	0.1	0.9
Benzo(a)anthracene	mg/kg	0.1	0.3	<0.1	<0.1	<0.1	0.2
Chrysene	mg/kg	0.1	0.4	<0.1	<0.1	<0.1	0.3
Benzo(b&j)fluoranthene	mg/kg	0.1	0.5	<0.1	<0.1	<0.1	0.3
Benzo(k)fluoranthene	mg/kg	0.1	0.2	<0.1	<0.1	<0.1	0.1
Benzo(a)pyrene	mg/kg	0.1	0.5	<0.1	<0.1	<0.1	0.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.3	<0.1	<0.1	<0.1	0.3
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	0.4	<0.1	0.1	<0.1	0.3
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	0.6	<0.2	<0.2	<0.2	0.4
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	0.7	<0.3	<0.3	<0.3	0.5
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	0.6	<0.2	<0.2	<0.2	0.5
Total PAH (18)	mg/kg	0.8	5.8	<0.8	<0.8	<0.8	4.2
Total PAH (NEPM/WHO 16)	mg/kg	0.8	5.8	<0.8	<0.8	<0.8	4.2

PARAMETER	UOM	LOR	BH4 0.2-0.3 SOIL - 9/11/2023 SE256498.006	BH5 0.2-0.3 SOIL - 9/11/2023 SE256498.007	BH6 0.3-0.4 SOIL - 9/11/2023 SE256498.008	BH7 0.4-0.5 SOIL - 9/11/2023 SE256498.009	BH8 0.2-0.3 SOIL - 9/11/2023 SE256498.010
Naphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	mg/kg	0.1	0.1	<0.1	<0.1	0.3	<0.1
Anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	mg/kg	0.1	0.2	<0.1	<0.1	0.5	<0.1
Pyrene	mg/kg	0.1	0.2	<0.1	<0.1	0.4	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	<0.1
Chrysene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	0.2	<0.1
Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.2	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	<0.1	0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	<0.1	0.2	<0.1
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3	<0.3	<0.3	0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2	<0.2	<0.2	0.3	<0.2
Total PAH (18)	mg/kg	0.8	1.1	<0.8	<0.8	1.9	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	1.1	<0.8	<0.8	1.9	<0.8

PAH (Polynuclear Aromatic Hydrocarbons) in Soil [AN420] Tested: 15/11/2023 (continued)

PARAMETER	UOM	LOR	DUP SOIL - 9/11/2023 SE256498.011
Naphthalene	mg/kg	0.1	<0.1
2-methylnaphthalene	mg/kg	0.1	<0.1
1-methylnaphthalene	mg/kg	0.1	<0.1
Acenaphthylene	mg/kg	0.1	<0.1
Acenaphthene	mg/kg	0.1	<0.1
Fluorene	mg/kg	0.1	<0.1
Phenanthrene	mg/kg	0.1	<0.1
Anthracene	mg/kg	0.1	<0.1
Fluoranthene	mg/kg	0.1	<0.1
Pyrene	mg/kg	0.1	<0.1
Benzo(a)anthracene	mg/kg	0.1	<0.1
Chrysene	mg/kg	0.1	<0.1
Benzo(b&j)fluoranthene	mg/kg	0.1	**0.1**
Benzo(k)fluoranthene	mg/kg	0.1	<0.1
Benzo(a)pyrene	mg/kg	0.1	<0.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
Benzo(ghi)perylene	mg/kg	0.1	**0.1**
Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	<0.2
Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	<0.3
Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	<0.2
Total PAH (18)	mg/kg	0.8	<0.8
Total PAH (NEPM/WHO 16)	mg/kg	0.8	<0.8

OC Pesticides in Soil [AN420] Tested: 15/11/2023

PARAMETER	UOM	LOR	BH1 0.2-0.4 SOIL - 9/11/2023 SE256498.001	BH3 0.2-0.4 SOIL - 9/11/2023 SE256498.004	BH5 0.2-0.3 SOIL - 9/11/2023 SE256498.007	BH8 0.2-0.3 SOIL - 9/11/2023 SE256498.010
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Endrin ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1

OP Pesticides in Soil [AN420] Tested: 15/11/2023

PARAMETER	UOM	LOR	BH1 0.2-0.4 SOIL - 9/11/2023 SE256498.001	BH3 0.2-0.4 SOIL - 9/11/2023 SE256498.004	BH5 0.2-0.3 SOIL - 9/11/2023 SE256498.007	BH8 0.2-0.3 SOIL - 9/11/2023 SE256498.010
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7

PCBs in Soil [AN420] Tested: 15/11/2023

PARAMETER	UOM	LOR	BH1 0.2-0.4 SOIL - 9/11/2023 SE256498.001	BH3 0.2-0.4 SOIL - 9/11/2023 SE256498.004	BH5 0.2-0.3 SOIL - 9/11/2023 SE256498.007	BH8 0.2-0.3 SOIL - 9/11/2023 SE256498.010
Arochlor 1016	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1221	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1232	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1242	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1248	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1254	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1260	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1262	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Arochlor 1268	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
Total PCBs (Arochlors)	mg/kg	1	<1	<1	<1	<1

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 15/11/2023

PARAMETER	UOM	LOR	BH1 0.2-0.4 SOIL - 9/11/2023 SE256498.001	BH1 1.0-1.1 SOIL - 9/11/2023 SE256498.002	BH2 0.5-0.7 SOIL - 9/11/2023 SE256498.003	BH3 0.2-0.4 SOIL - 9/11/2023 SE256498.004	BH3 1.5-1.6 SOIL - 9/11/2023 SE256498.005
Arsenic, As	mg/kg	1	2	2	2	4	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	6.5	8.8	9.1	23	5.0
Copper, Cu	mg/kg	0.5	12	<0.5	7.8	2.1	8.7
Lead, Pb	mg/kg	1	10	9	11	13	16
Nickel, Ni	mg/kg	0.5	3.0	0.7	3.5	2.3	2.1
Zinc, Zn	mg/kg	2	27	4.7	24	22	47

PARAMETER	UOM	LOR	BH4 0.2-0.3 SOIL - 9/11/2023 SE256498.006	BH5 0.2-0.3 SOIL - 9/11/2023 SE256498.007	BH6 0.3-0.4 SOIL - 9/11/2023 SE256498.008	BH7 0.4-0.5 SOIL - 9/11/2023 SE256498.009	BH8 0.2-0.3 SOIL - 9/11/2023 SE256498.010
Arsenic, As	mg/kg	1	2	4	2	3	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	4.8	28	5.4	6.6	4.5
Copper, Cu	mg/kg	0.5	3.8	3.3	8.5	5.8	0.9
Lead, Pb	mg/kg	1	8	14	6	16	7
Nickel, Ni	mg/kg	0.5	2.3	5.3	1.5	2.1	<0.5
Zinc, Zn	mg/kg	2	19	22	24	42	4.9

PARAMETER	UOM	LOR	DUP SOIL - 9/11/2023 SE256498.011
Arsenic, As	mg/kg	1	2
Cadmium, Cd	mg/kg	0.3	<0.3
Chromium, Cr	mg/kg	0.5	12
Copper, Cu	mg/kg	0.5	6.8
Lead, Pb	mg/kg	1	9
Nickel, Ni	mg/kg	0.5	4.2
Zinc, Zn	mg/kg	2	20

Mercury in Soil [AN312] Tested: 15/11/2023

PARAMETER	UOM	LOR	BH1 0.2-0.4 SOIL - 9/11/2023 SE256498.001	BH1 1.0-1.1 SOIL - 9/11/2023 SE256498.002	BH2 0.5-0.7 SOIL - 9/11/2023 SE256498.003	BH3 0.2-0.4 SOIL - 9/11/2023 SE256498.004	BH3 1.5-1.6 SOIL - 9/11/2023 SE256498.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	BH4 0.2-0.3 SOIL - 9/11/2023 SE256498.006	BH5 0.2-0.3 SOIL - 9/11/2023 SE256498.007	BH6 0.3-0.4 SOIL - 9/11/2023 SE256498.008	BH7 0.4-0.5 SOIL - 9/11/2023 SE256498.009	BH8 0.2-0.3 SOIL - 9/11/2023 SE256498.010
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

PARAMETER	UOM	LOR	DUP SOIL - 9/11/2023 SE256498.011
Mercury	mg/kg	0.05	<0.05

Moisture Content [AN002] Tested: 15/11/2023

PARAMETER	UOM	LOR	BH1 0.2-0.4 SOIL - 9/11/2023 SE256498.001	BH1 1.0-1.1 SOIL - 9/11/2023 SE256498.002	BH2 0.5-0.7 SOIL - 9/11/2023 SE256498.003	BH3 0.2-0.4 SOIL - 9/11/2023 SE256498.004	BH3 1.5-1.6 SOIL - 9/11/2023 SE256498.005
% Moisture	%w/w	1	13.0	17.1	10.2	15.5	14.9

PARAMETER	UOM	LOR	BH4 0.2-0.3 SOIL - 9/11/2023 SE256498.006	BH5 0.2-0.3 SOIL - 9/11/2023 SE256498.007	BH6 0.3-0.4 SOIL - 9/11/2023 SE256498.008	BH7 0.4-0.5 SOIL - 9/11/2023 SE256498.009	BH8 0.2-0.3 SOIL - 9/11/2023 SE256498.010
% Moisture	%w/w	1	15.1	15.4	14.8	17.2	12.8

PARAMETER	UOM	LOR	DUP SOIL - 9/11/2023 SE256498.011
% Moisture	%w/w	1	14.3

Trace Metals (Dissolved) in Water by ICPMS [AN318] Tested: 13/11/2023

PARAMETER	UOM	LOR	RINS WATER - 9/11/2023 SE256498.012
Arsenic	µg/L	1	<1
Cadmium	µg/L	0.1	<0.1
Copper	µg/L	1	<1
Chromium	µg/L	1	<1
Nickel	µg/L	1	<1
Lead	µg/L	1	<1
Zinc	µg/L	5	<5

Mercury (dissolved) in Water [AN311(Perth)/AN312] Tested: 13/11/2023

PARAMETER	UOM	LOR	RINS WATER - 9/11/2023 SE256498.012
Mercury	mg/L	0.0001	<0.0001

METHOD	METHODOLOGY SUMMARY
AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN020	Unpreserved water sample is filtered through a 0.45µm membrane filter and acidified with nitric acid similar to APHA3030B.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by AAS or ICP as per USEPA Method 200.8.
AN311(Perth)/AN312	Mercury by Cold Vapour AAS in Waters: Mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN318	Determination of elements at trace level in waters by ICP-MS technique,, referenced to USEPA 6020B and USEPA 200.8 (5.4).
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). F2 is reported directly and also corrected by subtracting Naphthalene (from VOC method AN433) where available.
AN403	Additionally, the volatile C6-C9 fraction may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoverable Hydrocarbons - Silica (TRH-Si) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN420	(SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols (etc) in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D). Total PAH calculated from individual analyte detections at or above the limit of reporting.
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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STATEMENT OF QA/QC PERFORMANCE

SE256498 R0

CLIENT DETAILS

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Project	**E0137 (Newport)**
Order Number	**HEC0276**
Samples	12

LABORATORY DETAILS

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SGS Reference	**SE256498 R0**
Date Received	10 Nov 2023
Date Reported	20 Nov 2023

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Surrogate	PAH (Polynuclear Aromatic Hydrocarbons) in Soil	1 item
Duplicate	Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES	1 item

SAMPLE SUMMARY

Sample counts by matrix	11 Soil, 1 Water	Type of documentation received	COC
Date documentation received	10/11/2023	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	14.4°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

HOLDING TIME SUMMARY

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SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RINS	SE256498.012	LB296298	09 Nov 2023	10 Nov 2023	07 Dec 2023	13 Nov 2023	07 Dec 2023	13 Nov 2023

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.2-0.4	SE256498.001	LB296721	09 Nov 2023	10 Nov 2023	07 Dec 2023	15 Nov 2023	07 Dec 2023	17 Nov 2023
BH1 1.0-1.1	SE256498.002	LB296721	09 Nov 2023	10 Nov 2023	07 Dec 2023	15 Nov 2023	07 Dec 2023	17 Nov 2023
BH2 0.5-0.7	SE256498.003	LB296721	09 Nov 2023	10 Nov 2023	07 Dec 2023	15 Nov 2023	07 Dec 2023	17 Nov 2023
BH3 0.2-0.4	SE256498.004	LB296721	09 Nov 2023	10 Nov 2023	07 Dec 2023	15 Nov 2023	07 Dec 2023	17 Nov 2023
BH3 1.5-1.6	SE256498.005	LB296721	09 Nov 2023	10 Nov 2023	07 Dec 2023	15 Nov 2023	07 Dec 2023	17 Nov 2023
BH4 0.2-0.3	SE256498.006	LB296721	09 Nov 2023	10 Nov 2023	07 Dec 2023	15 Nov 2023	07 Dec 2023	17 Nov 2023
BH5 0.2-0.3	SE256498.007	LB296721	09 Nov 2023	10 Nov 2023	07 Dec 2023	15 Nov 2023	07 Dec 2023	17 Nov 2023
BH6 0.3-0.4	SE256498.008	LB296721	09 Nov 2023	10 Nov 2023	07 Dec 2023	15 Nov 2023	07 Dec 2023	17 Nov 2023
BH7 0.4-0.5	SE256498.009	LB296721	09 Nov 2023	10 Nov 2023	07 Dec 2023	15 Nov 2023	07 Dec 2023	17 Nov 2023
BH8 0.2-0.3	SE256498.010	LB296721	09 Nov 2023	10 Nov 2023	07 Dec 2023	15 Nov 2023	07 Dec 2023	17 Nov 2023
DUP	SE256498.011	LB296721	09 Nov 2023	10 Nov 2023	07 Dec 2023	15 Nov 2023	07 Dec 2023	17 Nov 2023

Moisture Content

Method: ME-(AU)-[ENV]AN002

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.2-0.4	SE256498.001	LB296710	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	20 Nov 2023	17 Nov 2023
BH1 1.0-1.1	SE256498.002	LB296710	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	20 Nov 2023	17 Nov 2023
BH2 0.5-0.7	SE256498.003	LB296710	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	20 Nov 2023	17 Nov 2023
BH3 0.2-0.4	SE256498.004	LB296710	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	20 Nov 2023	17 Nov 2023
BH3 1.5-1.6	SE256498.005	LB296710	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	20 Nov 2023	17 Nov 2023
BH4 0.2-0.3	SE256498.006	LB296710	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	20 Nov 2023	17 Nov 2023
BH5 0.2-0.3	SE256498.007	LB296710	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	20 Nov 2023	17 Nov 2023
BH6 0.3-0.4	SE256498.008	LB296710	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	20 Nov 2023	17 Nov 2023
BH7 0.4-0.5	SE256498.009	LB296710	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	20 Nov 2023	17 Nov 2023
BH8 0.2-0.3	SE256498.010	LB296710	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	20 Nov 2023	17 Nov 2023
DUP	SE256498.011	LB296710	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	20 Nov 2023	17 Nov 2023

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.2-0.4	SE256498.001	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH1 1.0-1.1	SE256498.002	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH2 0.5-0.7	SE256498.003	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH3 0.2-0.4	SE256498.004	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH3 1.5-1.6	SE256498.005	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH4 0.2-0.3	SE256498.006	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH5 0.2-0.3	SE256498.007	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH6 0.3-0.4	SE256498.008	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH7 0.4-0.5	SE256498.009	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH8 0.2-0.3	SE256498.010	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
DUP	SE256498.011	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.2-0.4	SE256498.001	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH1 1.0-1.1	SE256498.002	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH2 0.5-0.7	SE256498.003	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH3 0.2-0.4	SE256498.004	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH3 1.5-1.6	SE256498.005	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH4 0.2-0.3	SE256498.006	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH5 0.2-0.3	SE256498.007	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH6 0.3-0.4	SE256498.008	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH7 0.4-0.5	SE256498.009	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH8 0.2-0.3	SE256498.010	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
DUP	SE256498.011	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref

HOLDING TIME SUMMARY

SE256498 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.2-0.4	SE256498.001	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH1 1.0-1.1	SE256498.002	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH2 0.5-0.7	SE256498.003	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH3 0.2-0.4	SE256498.004	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH3 1.5-1.6	SE256498.005	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH4 0.2-0.3	SE256498.006	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH5 0.2-0.3	SE256498.007	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH6 0.3-0.4	SE256498.008	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH7 0.4-0.5	SE256498.009	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH8 0.2-0.3	SE256498.010	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
DUP	SE256498.011	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.2-0.4	SE256498.001	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH1 1.0-1.1	SE256498.002	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH2 0.5-0.7	SE256498.003	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH3 0.2-0.4	SE256498.004	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH3 1.5-1.6	SE256498.005	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH4 0.2-0.3	SE256498.006	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH5 0.2-0.3	SE256498.007	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH6 0.3-0.4	SE256498.008	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH7 0.4-0.5	SE256498.009	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH8 0.2-0.3	SE256498.010	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
DUP	SE256498.011	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.2-0.4	SE256498.001	LB296708	09 Nov 2023	10 Nov 2023	07 May 2024	15 Nov 2023	07 May 2024	17 Nov 2023
BH1 1.0-1.1	SE256498.002	LB296708	09 Nov 2023	10 Nov 2023	07 May 2024	15 Nov 2023	07 May 2024	17 Nov 2023
BH2 0.5-0.7	SE256498.003	LB296708	09 Nov 2023	10 Nov 2023	07 May 2024	15 Nov 2023	07 May 2024	17 Nov 2023
BH3 0.2-0.4	SE256498.004	LB296708	09 Nov 2023	10 Nov 2023	07 May 2024	15 Nov 2023	07 May 2024	17 Nov 2023
BH3 1.5-1.6	SE256498.005	LB296708	09 Nov 2023	10 Nov 2023	07 May 2024	15 Nov 2023	07 May 2024	17 Nov 2023
BH4 0.2-0.3	SE256498.006	LB296708	09 Nov 2023	10 Nov 2023	07 May 2024	15 Nov 2023	07 May 2024	17 Nov 2023
BH5 0.2-0.3	SE256498.007	LB296708	09 Nov 2023	10 Nov 2023	07 May 2024	15 Nov 2023	07 May 2024	17 Nov 2023
BH6 0.3-0.4	SE256498.008	LB296708	09 Nov 2023	10 Nov 2023	07 May 2024	15 Nov 2023	07 May 2024	17 Nov 2023
BH7 0.4-0.5	SE256498.009	LB296708	09 Nov 2023	10 Nov 2023	07 May 2024	15 Nov 2023	07 May 2024	17 Nov 2023
BH8 0.2-0.3	SE256498.010	LB296708	09 Nov 2023	10 Nov 2023	07 May 2024	15 Nov 2023	07 May 2024	17 Nov 2023
DUP	SE256498.011	LB296708	09 Nov 2023	10 Nov 2023	07 May 2024	15 Nov 2023	07 May 2024	17 Nov 2023

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RINS	SE256498.012	LB296281	09 Nov 2023	10 Nov 2023	07 May 2024	13 Nov 2023	07 May 2024	13 Nov 2023

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.2-0.4	SE256498.001	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH1 1.0-1.1	SE256498.002	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH2 0.5-0.7	SE256498.003	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH3 0.2-0.4	SE256498.004	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH3 1.5-1.6	SE256498.005	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH4 0.2-0.3	SE256498.006	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH5 0.2-0.3	SE256498.007	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH6 0.3-0.4	SE256498.008	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH7 0.4-0.5	SE256498.009	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
BH8 0.2-0.3	SE256498.010	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023
DUP	SE256498.011	LB296674	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	25 Dec 2023	20 Nov 2023

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref

HOLDING TIME SUMMARY

SE256498 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

VOC's in Soil (continued) — Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.2-0.4	SE256498.001	LB296676	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	23 Nov 2023	20 Nov 2023
BH1 1.0-1.1	SE256498.002	LB296676	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	23 Nov 2023	20 Nov 2023
BH2 0.5-0.7	SE256498.003	LB296676	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	23 Nov 2023	20 Nov 2023
BH3 0.2-0.4	SE256498.004	LB296676	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	23 Nov 2023	20 Nov 2023
BH3 1.5-1.6	SE256498.005	LB296676	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	23 Nov 2023	20 Nov 2023
BH4 0.2-0.3	SE256498.006	LB296676	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	23 Nov 2023	20 Nov 2023
BH5 0.2-0.3	SE256498.007	LB296676	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	23 Nov 2023	20 Nov 2023
BH6 0.3-0.4	SE256498.008	LB296676	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	23 Nov 2023	20 Nov 2023
BH7 0.4-0.5	SE256498.009	LB296676	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	23 Nov 2023	20 Nov 2023
BH8 0.2-0.3	SE256498.010	LB296676	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	23 Nov 2023	20 Nov 2023
DUP	SE256498.011	LB296676	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	23 Nov 2023	20 Nov 2023

Volatile Petroleum Hydrocarbons in Soil — Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
BH1 0.2-0.4	SE256498.001	LB296676	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	23 Nov 2023	20 Nov 2023
BH1 1.0-1.1	SE256498.002	LB296676	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	23 Nov 2023	20 Nov 2023
BH2 0.5-0.7	SE256498.003	LB296676	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	23 Nov 2023	20 Nov 2023
BH3 0.2-0.4	SE256498.004	LB296676	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	23 Nov 2023	20 Nov 2023
BH3 1.5-1.6	SE256498.005	LB296676	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	23 Nov 2023	20 Nov 2023
BH4 0.2-0.3	SE256498.006	LB296676	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	23 Nov 2023	20 Nov 2023
BH5 0.2-0.3	SE256498.007	LB296676	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	23 Nov 2023	20 Nov 2023
BH6 0.3-0.4	SE256498.008	LB296676	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	23 Nov 2023	20 Nov 2023
BH7 0.4-0.5	SE256498.009	LB296676	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	23 Nov 2023	20 Nov 2023
BH8 0.2-0.3	SE256498.010	LB296676	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	23 Nov 2023	20 Nov 2023
DUP	SE256498.011	LB296676	09 Nov 2023	10 Nov 2023	23 Nov 2023	15 Nov 2023	23 Nov 2023	20 Nov 2023

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Tetrachloro-m-xylene (TCMX) (Surrogate)	BH1 0.2-0.4	SE256498.001	%	60 - 130%	98
	BH3 0.2-0.4	SE256498.004	%	60 - 130%	100
	BH5 0.2-0.3	SE256498.007	%	60 - 130%	102
	BH8 0.2-0.3	SE256498.010	%	60 - 130%	99

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH1 0.2-0.4	SE256498.001	%	60 - 130%	92
	BH3 0.2-0.4	SE256498.004	%	60 - 130%	102
	BH5 0.2-0.3	SE256498.007	%	60 - 130%	93
	BH8 0.2-0.3	SE256498.010	%	60 - 130%	111
d14-p-terphenyl (Surrogate)	BH1 0.2-0.4	SE256498.001	%	60 - 130%	92
	BH3 0.2-0.4	SE256498.004	%	60 - 130%	107
	BH5 0.2-0.3	SE256498.007	%	60 - 130%	94
	BH8 0.2-0.3	SE256498.010	%	60 - 130%	109

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
2-fluorobiphenyl (Surrogate)	BH1 0.2-0.4	SE256498.001	%	70 - 130%	92
	BH1 1.0-1.1	SE256498.002	%	70 - 130%	93
	BH2 0.5-0.7	SE256498.003	%	70 - 130%	103
	BH3 0.2-0.4	SE256498.004	%	70 - 130%	102
	BH3 1.5-1.6	SE256498.005	%	70 - 130%	105
	BH4 0.2-0.3	SE256498.006	%	70 - 130%	104
	BH5 0.2-0.3	SE256498.007	%	70 - 130%	93
	BH6 0.3-0.4	SE256498.008	%	70 - 130%	95
	BH7 0.4-0.5	SE256498.009	%	70 - 130%	120
	BH8 0.2-0.3	SE256498.010	%	70 - 130%	111
	DUP	SE256498.011	%	70 - 130%	125
d14-p-terphenyl (Surrogate)	BH1 0.2-0.4	SE256498.001	%	70 - 130%	92
	BH1 1.0-1.1	SE256498.002	%	70 - 130%	94
	BH2 0.5-0.7	SE256498.003	%	70 - 130%	102
	BH3 0.2-0.4	SE256498.004	%	70 - 130%	107
	BH3 1.5-1.6	SE256498.005	%	70 - 130%	101
	BH4 0.2-0.3	SE256498.006	%	70 - 130%	105
	BH5 0.2-0.3	SE256498.007	%	70 - 130%	94
	BH6 0.3-0.4	SE256498.008	%	70 - 130%	92
	BH7 0.4-0.5	SE256498.009	%	70 - 130%	116
	BH8 0.2-0.3	SE256498.010	%	70 - 130%	109
	DUP	SE256498.011	%	70 - 130%	111
d5-nitrobenzene (Surrogate)	BH1 0.2-0.4	SE256498.001	%	70 - 130%	94
	BH1 1.0-1.1	SE256498.002	%	70 - 130%	98
	BH2 0.5-0.7	SE256498.003	%	70 - 130%	101
	BH3 0.2-0.4	SE256498.004	%	70 - 130%	104
	BH3 1.5-1.6	SE256498.005	%	70 - 130%	109
	BH4 0.2-0.3	SE256498.006	%	70 - 130%	105
	BH5 0.2-0.3	SE256498.007	%	70 - 130%	98
	BH6 0.3-0.4	SE256498.008	%	70 - 130%	100
	BH7 0.4-0.5	SE256498.009	%	70 - 130%	124
	BH8 0.2-0.3	SE256498.010	%	70 - 130%	117
	DUP	SE256498.011	%	70 - 130%	132 ①

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
TCMX (Surrogate)	BH1 0.2-0.4	SE256498.001	%	60 - 130%	96
	BH3 0.2-0.4	SE256498.004	%	60 - 130%	98
	BH5 0.2-0.3	SE256498.007	%	60 - 130%	100
	BH8 0.2-0.3	SE256498.010	%	60 - 130%	97

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

VOC's in Soil (continued) — Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH1 0.2-0.4	SE256498.001	%	60 - 130%	86
	BH1 1.0-1.1	SE256498.002	%	60 - 130%	87
	BH2 0.5-0.7	SE256498.003	%	60 - 130%	86
	BH3 0.2-0.4	SE256498.004	%	60 - 130%	86
	BH3 1.5-1.6	SE256498.005	%	60 - 130%	90
	BH4 0.2-0.3	SE256498.006	%	60 - 130%	87
	BH5 0.2-0.3	SE256498.007	%	60 - 130%	82
	BH6 0.3-0.4	SE256498.008	%	60 - 130%	81
	BH7 0.4-0.5	SE256498.009	%	60 - 130%	85
	BH8 0.2-0.3	SE256498.010	%	60 - 130%	88
	DUP	SE256498.011	%	60 - 130%	99
d4-1,2-dichloroethane (Surrogate)	BH1 0.2-0.4	SE256498.001	%	60 - 130%	77
	BH1 1.0-1.1	SE256498.002	%	60 - 130%	82
	BH2 0.5-0.7	SE256498.003	%	60 - 130%	83
	BH3 0.2-0.4	SE256498.004	%	60 - 130%	82
	BH3 1.5-1.6	SE256498.005	%	60 - 130%	87
	BH4 0.2-0.3	SE256498.006	%	60 - 130%	82
	BH5 0.2-0.3	SE256498.007	%	60 - 130%	79
	BH6 0.3-0.4	SE256498.008	%	60 - 130%	77
	BH7 0.4-0.5	SE256498.009	%	60 - 130%	81
	BH8 0.2-0.3	SE256498.010	%	60 - 130%	84
	DUP	SE256498.011	%	60 - 130%	82
d8-toluene (Surrogate)	BH1 0.2-0.4	SE256498.001	%	60 - 130%	83
	BH1 1.0-1.1	SE256498.002	%	60 - 130%	86
	BH2 0.5-0.7	SE256498.003	%	60 - 130%	86
	BH3 0.2-0.4	SE256498.004	%	60 - 130%	84
	BH3 1.5-1.6	SE256498.005	%	60 - 130%	90
	BH4 0.2-0.3	SE256498.006	%	60 - 130%	84
	BH5 0.2-0.3	SE256498.007	%	60 - 130%	83
	BH6 0.3-0.4	SE256498.008	%	60 - 130%	81
	BH7 0.4-0.5	SE256498.009	%	60 - 130%	84
	BH8 0.2-0.3	SE256498.010	%	60 - 130%	87
	DUP	SE256498.011	%	60 - 130%	94

Volatile Petroleum Hydrocarbons in Soil — Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	BH1 0.2-0.4	SE256498.001	%	60 - 130%	86
	BH1 1.0-1.1	SE256498.002	%	60 - 130%	87
	BH2 0.5-0.7	SE256498.003	%	60 - 130%	86
	BH3 0.2-0.4	SE256498.004	%	60 - 130%	86
	BH3 1.5-1.6	SE256498.005	%	60 - 130%	90
	BH4 0.2-0.3	SE256498.006	%	60 - 130%	87
	BH5 0.2-0.3	SE256498.007	%	60 - 130%	82
	BH6 0.3-0.4	SE256498.008	%	60 - 130%	81
	BH7 0.4-0.5	SE256498.009	%	60 - 130%	85
	BH8 0.2-0.3	SE256498.010	%	60 - 130%	88
	DUP	SE256498.011	%	60 - 130%	99
d4-1,2-dichloroethane (Surrogate)	BH1 0.2-0.4	SE256498.001	%	60 - 130%	77
	BH1 1.0-1.1	SE256498.002	%	60 - 130%	82
	BH2 0.5-0.7	SE256498.003	%	60 - 130%	83
	BH3 0.2-0.4	SE256498.004	%	60 - 130%	82
	BH3 1.5-1.6	SE256498.005	%	60 - 130%	87
	BH4 0.2-0.3	SE256498.006	%	60 - 130%	82
	BH5 0.2-0.3	SE256498.007	%	60 - 130%	79
	BH6 0.3-0.4	SE256498.008	%	60 - 130%	77
	BH7 0.4-0.5	SE256498.009	%	60 - 130%	81
	BH8 0.2-0.3	SE256498.010	%	60 - 130%	84
	DUP	SE256498.011	%	60 - 130%	82
d8-toluene (Surrogate)	BH1 0.2-0.4	SE256498.001	%	60 - 130%	83
	BH1 1.0-1.1	SE256498.002	%	60 - 130%	86
	BH2 0.5-0.7	SE256498.003	%	60 - 130%	86

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
d8-toluene (Surrogate)	BH3 0.2-0.4	SE256498.004	%	60 - 130%	84
	BH3 1.5-1.6	SE256498.005	%	60 - 130%	90
	BH4 0.2-0.3	SE256498.006	%	60 - 130%	84
	BH5 0.2-0.3	SE256498.007	%	60 - 130%	83
	BH6 0.3-0.4	SE256498.008	%	60 - 130%	81
	BH7 0.4-0.5	SE256498.009	%	60 - 130%	84
	BH8 0.2-0.3	SE256498.010	%	60 - 130%	87
	DUP	SE256498.011	%	60 - 130%	94

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Sample Number	Parameter	Units	LOR	Result
LB296298.001	Mercury	mg/L	0.0001	<0.0001

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result
LB296721.001	Mercury	mg/kg	0.05	<0.05

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB296674.001		Alpha BHC	mg/kg	0.1	<0.1
		Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1
		Beta BHC	mg/kg	0.1	<0.1
		Lindane (gamma BHC)	mg/kg	0.1	<0.1
		Delta BHC	mg/kg	0.1	<0.1
		Heptachlor	mg/kg	0.1	<0.1
		Aldrin	mg/kg	0.1	<0.1
		Isodrin	mg/kg	0.1	<0.1
		Heptachlor epoxide	mg/kg	0.1	<0.1
		Gamma Chlordane	mg/kg	0.1	<0.1
		Alpha Chlordane	mg/kg	0.1	<0.1
		Alpha Endosulfan	mg/kg	0.2	<0.1
		p,p'-DDE	mg/kg	0.1	<0.1
		Dieldrin	mg/kg	0.2	<0.1
		Endrin	mg/kg	0.2	<0.1
		Beta Endosulfan	mg/kg	0.2	<0.1
		p,p'-DDD	mg/kg	0.1	<0.1
		Endrin aldehyde	mg/kg	0.1	<0.1
		Endosulfan sulphate	mg/kg	0.1	<0.1
		p,p'-DDT	mg/kg	0.1	<0.1
		Endrin ketone	mg/kg	0.1	<0.1
		Methoxychlor	mg/kg	0.1	<0.1
		Mirex	mg/kg	0.1	<0.1
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	%	-	90

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB296674.001		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2
		Bromophos Ethyl	mg/kg	0.2	<0.2
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5
		Dichlorvos	mg/kg	0.5	<0.5
		Dimethoate	mg/kg	0.5	<0.5
		Ethion	mg/kg	0.2	<0.2
		Fenitrothion	mg/kg	0.2	<0.2
		Malathion	mg/kg	0.2	<0.2
		Methidathion	mg/kg	0.5	<0.5
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2
	Surrogates	2-fluorobiphenyl (Surrogate)	%	-	91
		d14-p-terphenyl (Surrogate)	%	-	100

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result
LB296674.001	Naphthalene	mg/kg	0.1	<0.1
	2-methylnaphthalene	mg/kg	0.1	<0.1
	1-methylnaphthalene	mg/kg	0.1	<0.1
	Acenaphthylene	mg/kg	0.1	<0.1
	Acenaphthene	mg/kg	0.1	<0.1
	Fluorene	mg/kg	0.1	<0.1
	Phenanthrene	mg/kg	0.1	<0.1
	Anthracene	mg/kg	0.1	<0.1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

PAH (Polynuclear Aromatic Hydrocarbons) in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB296674.001		Fluoranthene	mg/kg	0.1	<0.1
		Pyrene	mg/kg	0.1	<0.1
		Benzo(a)anthracene	mg/kg	0.1	<0.1
		Chrysene	mg/kg	0.1	<0.1
		Benzo(a)pyrene	mg/kg	0.1	<0.1
		Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1
		Dibenzo(ah)anthracene	mg/kg	0.1	<0.1
		Benzo(ghi)perylene	mg/kg	0.1	<0.1
		Total PAH (18)	mg/kg	0.8	<0.8
	Surrogates	d5-nitrobenzene (Surrogate)	%	-	87
		2-fluorobiphenyl (Surrogate)	%	-	91
		d14-p-terphenyl (Surrogate)	%	-	100

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result
LB296674.001		Arochlor 1016	mg/kg	0.2	<0.2
		Arochlor 1221	mg/kg	0.2	<0.2
		Arochlor 1232	mg/kg	0.2	<0.2
		Arochlor 1242	mg/kg	0.2	<0.2
		Arochlor 1248	mg/kg	0.2	<0.2
		Arochlor 1254	mg/kg	0.2	<0.2
		Arochlor 1260	mg/kg	0.2	<0.2
		Arochlor 1262	mg/kg	0.2	<0.2
		Arochlor 1268	mg/kg	0.2	<0.2
		Total PCBs (Arochlors)	mg/kg	1	<1
	Surrogates	TCMX (Surrogate)	%	-	88

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number		Parameter	Units	LOR	Result
LB296708.001		Arsenic, As	mg/kg	1	<1
		Cadmium, Cd	mg/kg	0.3	<0.3
		Chromium, Cr	mg/kg	0.5	<0.5
		Copper, Cu	mg/kg	0.5	<0.5
		Nickel, Ni	mg/kg	0.5	<0.5
		Lead, Pb	mg/kg	1	<1
		Zinc, Zn	mg/kg	2	<2.0

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number		Parameter	Units	LOR	Result
LB296281.001		Arsenic	µg/L	1	<1
		Cadmium	µg/L	0.1	<0.1
		Chromium	µg/L	1	<1
		Copper	µg/L	1	<1
		Lead	µg/L	1	<1
		Nickel	µg/L	1	<1
		Zinc	µg/L	5	<5

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result
LB296674.001		TRH C10-C14	mg/kg	20	<20
		TRH C15-C28	mg/kg	45	<45
		TRH C29-C36	mg/kg	45	<45
		TRH C37-C40	mg/kg	100	<100
		TRH C10-C36 Total	mg/kg	110	<110

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB296676.001	Monocyclic Aromatic Hydrocarbons	Benzene	mg/kg	0.1	<0.1
		Toluene	mg/kg	0.1	<0.1
		Ethylbenzene	mg/kg	0.1	<0.1
		m/p-xylene	mg/kg	0.2	<0.2
		o-xylene	mg/kg	0.1	<0.1
	Polycyclic VOCs	Naphthalene (VOC)*	mg/kg	0.1	<0.1

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

VOC's in Soil (continued)

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB296676.001	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	88
		d8-toluene (Surrogate)	%	-	90
		Bromofluorobenzene (Surrogate)	%	-	88
	Totals	Total BTEX*	mg/kg	0.6	<0.6

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB296676.001		TRH C6-C9	mg/kg	20	<20
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	88

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE256548.001	LB296298.009	Mercury	µg/L	0.0001	<0.0001	<0.0001	200	0

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE256498.010	LB296721.014	Mercury	mg/kg	0.05	<0.05	<0.05	200	0
SE256603.001	LB296721.020	Mercury	mg/kg	0.05	<0.05	<0.05	164	0

Moisture Content

Method: ME-(AU)-[ENV]AN002

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE256498.010	LB296710.011	% Moisture	%w/w	1	12.8	14.4	37	12
SE256532.003	LB296710.016	% Moisture	%w/w	1	14.8	15.2	37	2

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE256498.010	LB296674.014		Alpha BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	200	0
			Beta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Lindane (gamma BHC)	mg/kg	0.1	<0.1	<0.1	200	0
			Delta BHC	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Aldrin	mg/kg	0.1	<0.1	<0.1	200	0
			Isodrin	mg/kg	0.1	<0.1	<0.1	200	0
			Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	200	0
			Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	200	0
			Alpha Endosulfan	mg/kg	0.2	<0.2	<0.1	200	0
			o,p'-DDE*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDE	mg/kg	0.1	<0.1	<0.1	200	0
			Dieldrin	mg/kg	0.2	<0.2	<0.1	200	0
			Endrin	mg/kg	0.2	<0.2	<0.1	200	0
			Beta Endosulfan	mg/kg	0.2	<0.2	<0.1	200	0
			o,p'-DDD*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDD	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin aldehyde	mg/kg	0.1	<0.1	<0.1	200	0
			Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	200	0
			o,p'-DDT*	mg/kg	0.1	<0.1	<0.1	200	0
			p,p'-DDT	mg/kg	0.1	<0.1	<0.1	200	0
			Endrin ketone	mg/kg	0.1	<0.1	<0.1	200	0
			Methoxychlor	mg/kg	0.1	<0.1	<0.1	200	0
			Mirex	mg/kg	0.1	<0.1	<0.1	200	0
			trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	200	0
			Total CLP OC Pesticides	mg/kg	1	<1	<1	200	0
			Total OC VIC EPA	mg/kg	1	<1	<1	200	0
		Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.15	0.15	30	2

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE256498.010	LB296674.014	Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	200	0
		Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	200	0
		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	200	0
		Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	200	0
		Dichlorvos	mg/kg	0.5	<0.5	<0.5	200	0
		Dimethoate	mg/kg	0.5	<0.5	<0.5	200	0
		Ethion	mg/kg	0.2	<0.2	<0.2	200	0
		Fenitrothion	mg/kg	0.2	<0.2	<0.2	200	0
		Malathion	mg/kg	0.2	<0.2	<0.2	200	0
		Methidathion	mg/kg	0.5	<0.5	<0.5	200	0
		Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	200	0

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

OP Pesticides in Soil (continued)

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE256498.010	LB296674.014		Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	200	0
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.6	0.5	30	7
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	9

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE256498.010	LB296674.014		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	166	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	133	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	111	85
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.6	0.5	30	6
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.6	0.5	30	7
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	9
SE256532.003	LB296674.022		Naphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthylene	mg/kg	0.1	<0.1	<0.1	200	0
			Acenaphthene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluorene	mg/kg	0.1	<0.1	<0.1	200	0
			Phenanthrene	mg/kg	0.1	<0.1	<0.1	200	0
			Anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Chrysene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(b&j)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(k)fluoranthene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(a)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	<0.1	<0.1	200	0
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	200	0
			Benzo(ghi)perylene	mg/kg	0.1	<0.1	<0.1	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=0*	mg/kg	0.2	<0.2	<0.2	200	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	mg/kg	0.2	<0.2	<0.2	175	0
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	mg/kg	0.3	<0.3	<0.3	134	0
			Total PAH (18)	mg/kg	0.8	<0.8	<0.8	200	0
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.4	0.5	30	3
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	4
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	30	0

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Original	Duplicate	Parameter	Units	LOR

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

PCBs in Soil (continued) — Method: ME-(AU)-[ENV]AN420

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE256498.010	LB296674.014		Arochlor 1016	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1221	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1232	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1242	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1248	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1254	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1260	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1262	mg/kg	0.2	<0.2	<0.2	200	0
			Arochlor 1268	mg/kg	0.2	<0.2	<0.2	200	0
			Total PCBs (Arochlors)	mg/kg	1	<1	<1	200	0
		Surrogates	TCMX (Surrogate)	mg/kg	-	0	0	30	2

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES — Method: ME-(AU)-[ENV]AN040/AN320

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE256498.010	LB296708.014		Arsenic, As	mg/kg	1	2	2	91	16
			Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	200	0
			Chromium, Cr	mg/kg	0.5	4.5	4.8	41	7
			Copper, Cu	mg/kg	0.5	0.9	1.4	73	48
			Nickel, Ni	mg/kg	0.5	<0.5	0.6	129	17
			Lead, Pb	mg/kg	1	7	7	45	3
			Zinc, Zn	mg/kg	2	4.9	12	53	87 ②

Trace Metals (Dissolved) in Water by ICPMS — Method: ME-(AU)-[ENV]AN318

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE256477.006	LB296281.014		Chromium	µg/L	1	110	110	16	2
			Copper	µg/L	1	31	31	18	1
			Lead	µg/L	1	12	13	23	1
			Nickel	µg/L	1	10	10	25	1
			Zinc	µg/L	5	34	34	30	1
SE256548.001	LB296281.019		Arsenic	µg/L	1	2	2	69	5
			Cadmium	µg/L	0.1	<0.1	<0.1	200	0
			Chromium	µg/L	1	16	15	22	5
			Copper	µg/L	1	7	7	30	2
			Lead	µg/L	1	<1	<1	200	0
			Nickel	µg/L	1	2	2	75	0
			Zinc	µg/L	5	<5	<5	200	0

TRH (Total Recoverable Hydrocarbons) in Soil — Method: ME-(AU)-[ENV]AN403

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE256498.010	LB296674.014		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0
SE256532.003	LB296674.022		TRH C10-C14	mg/kg	20	<20	<20	200	0
			TRH C15-C28	mg/kg	45	<45	<45	200	0
			TRH C29-C36	mg/kg	45	<45	<45	200	0
			TRH C37-C40	mg/kg	100	<100	<100	200	0
			TRH C10-C36 Total	mg/kg	110	<110	<110	200	0
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	200	0
		TRH F Bands	TRH >C10-C16	mg/kg	25	<25	<25	200	0
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	<25	<25	200	0
			TRH >C16-C34 (F3)	mg/kg	90	<90	<90	200	0
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	200	0

VOC's in Soil — Method: ME-(AU)-[ENV]AN433

Original	Duplicate	Parameter	Units	LOR

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

VOC's in Soil (continued) — Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE256498.010	LB296676.014	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.4	8.6	50	3
			d8-toluene (Surrogate)	mg/kg	-	8.7	8.9	50	2
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.8	8.9	50	2
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0
SE256532.003	LB296676.022	Monocyclic Aromatic	Benzene	mg/kg	0.1	<0.1	<0.1	200	0
			Toluene	mg/kg	0.1	<0.1	<0.1	200	0
			Ethylbenzene	mg/kg	0.1	<0.1	<0.1	200	0
			m/p-xylene	mg/kg	0.2	<0.2	<0.2	200	0
			o-xylene	mg/kg	0.1	<0.1	<0.1	200	0
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.4	7.9	50	7
			d8-toluene (Surrogate)	mg/kg	-	7.4	8.0	50	8
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.4	7.9	50	6
		Totals	Total BTEX*	mg/kg	0.6	<0.6	<0.6	200	0
			Total Xylenes*	mg/kg	0.3	<0.3	<0.3	200	0

Volatile Petroleum Hydrocarbons in Soil — Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE256498.010	LB296676.014		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	8.4	8.6	50	3
			d8-toluene (Surrogate)	mg/kg	-	8.7	8.9	50	2
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.8	8.9	50	2
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0
SE256532.003	LB296676.022		TRH C6-C10	mg/kg	25	<25	<25	200	0
			TRH C6-C9	mg/kg	20	<20	<20	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.4	7.9	50	7
			d8-toluene (Surrogate)	mg/kg	-	7.4	8.0	50	8
			Bromofluorobenzene (Surrogate)	mg/kg	-	7.4	7.9	50	6
		VPH F Bands	Benzene (F0)	mg/kg	0.1	<0.1	<0.1	200	0
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	<25	<25	200	0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB296721.002	Mercury	mg/kg	0.05	0.17	0.2	80 - 120	87

OC Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB296674.002		Delta BHC	mg/kg	0.1	0.2	0.2	60 - 140	87
		Heptachlor	mg/kg	0.1	0.2	0.2	60 - 140	99
		Aldrin	mg/kg	0.1	0.2	0.2	60 - 140	92
		Dieldrin	mg/kg	0.2	0.2	0.2	60 - 140	97
		Endrin	mg/kg	0.2	0.2	0.2	60 - 140	106
		p,p'-DDT	mg/kg	0.1	0.2	0.2	60 - 140	103
	Surrogates	Tetrachloro-m-xylene (TCMX) (Surrogate)	mg/kg	-	0.13	0.15	40 - 130	88

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB296674.002		Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.3	2	60 - 140	63
		Diazinon (Dimpylate)	mg/kg	0.5	1.2	2	60 - 140	61
		Dichlorvos	mg/kg	0.5	1.3	2	60 - 140	63
		Ethion	mg/kg	0.2	1.7	2	60 - 140	86
	Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	102
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.5	40 - 130	117

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB296674.002		Naphthalene	mg/kg	0.1	3.4	4	60 - 140	85
		Acenaphthylene	mg/kg	0.1	2.9	4	60 - 140	72
		Acenaphthene	mg/kg	0.1	3.5	4	60 - 140	89
		Phenanthrene	mg/kg	0.1	3.4	4	60 - 140	86
		Anthracene	mg/kg	0.1	3.3	4	60 - 140	83
		Fluoranthene	mg/kg	0.1	3.1	4	60 - 140	77
		Pyrene	mg/kg	0.1	4.0	4	60 - 140	100
		Benzo(a)pyrene	mg/kg	0.1	3.1	4	60 - 140	77
	Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	99
		2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	40 - 130	102
		d14-p-terphenyl (Surrogate)	mg/kg	-	0.6	0.5	40 - 130	117

PCBs in Soil

Method: ME-(AU)-[ENV]AN420

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB296674.002	Arochlor 1260	mg/kg	0.2	0.4	0.4	60 - 140	91

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES

Method: ME-(AU)-[ENV]AN040/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB296708.002	Arsenic, As	mg/kg	1	360	318.22	80 - 120	113
	Cadmium, Cd	mg/kg	0.3	4.0	4.81	70 - 130	84
	Chromium, Cr	mg/kg	0.5	44	38.31	80 - 120	115
	Copper, Cu	mg/kg	0.5	330	290	80 - 120	114
	Nickel, Ni	mg/kg	0.5	190	187	80 - 120	104
	Lead, Pb	mg/kg	1	96	89.9	80 - 120	107
	Zinc, Zn	mg/kg	2	290	273	80 - 120	108

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB296281.002	Arsenic	µg/L	1	21	20	80 - 120	103
	Cadmium	µg/L	0.1	20	20	80 - 120	102
	Chromium	µg/L	1	21	20	80 - 120	104
	Copper	µg/L	1	20	20	80 - 120	102
	Lead	µg/L	1	21	20	80 - 120	105
	Nickel	µg/L	1	21	20	80 - 120	105
	Zinc	µg/L	5	20	20	80 - 120	99

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB296674.002		TRH C10-C14	mg/kg	20	34	40	60 - 140	85
		TRH C15-C28	mg/kg	45	<45	40	60 - 140	87
		TRH C29-C36	mg/kg	45	<45	40	60 - 140	104
	TRH F Bands	TRH >C10-C16	mg/kg	25	36	40	60 - 140	89
		TRH >C16-C34 (F3)	mg/kg	90	<90	40	60 - 140	96
		TRH >C34-C40 (F4)	mg/kg	120	<120	20	60 - 140	102

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB296676.002	Monocyclic Aromatic	Benzene	mg/kg	0.1	5.0	5	60 - 140	100
		Toluene	mg/kg	0.1	4.6	5	60 - 140	92
		Ethylbenzene	mg/kg	0.1	4.5	5	60 - 140	91
		m/p-xylene	mg/kg	0.2	9.1	10	60 - 140	91
		o-xylene	mg/kg	0.1	4.7	5	60 - 140	93
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.1	10	70 - 130	91
		d8-toluene (Surrogate)	mg/kg	-	9.2	10	70 - 130	92
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	10	70 - 130	87

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB296676.002		TRH C6-C10	mg/kg	25	110	92.5	60 - 140	114
		TRH C6-C9	mg/kg	20	91	80	60 - 140	114
	Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	9.1	10	70 - 130	91
		Bromofluorobenzene (Surrogate)	mg/kg	-	8.7	10	70 - 130	87
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	mg/kg	25	78	62.5	60 - 140	125

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Mercury (dissolved) in Water

Method: ME-(AU)-[ENV]AN311(Perth)/AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE256440.021	LB296298.004	Mercury	mg/L	0.0001	0.0018	<0.0001	0.008	90

Mercury in Soil

Method: ME-(AU)-[ENV]AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE256498.001	LB296721.004	Mercury	mg/kg	0.05	0.22	<0.05	0.2	104

OP Pesticides in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE256498.001	LB296674.004		Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	-	-
			Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	-	-
			Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	1.8	<0.2	2	90
			Diazinon (Dimpylate)	mg/kg	0.5	1.9	<0.5	2	95
			Dichlorvos	mg/kg	0.5	1.5	<0.5	2	77
			Dimethoate	mg/kg	0.5	<0.5	<0.5	-	-
			Ethion	mg/kg	0.2	1.8	<0.2	2	90
			Fenitrothion	mg/kg	0.2	<0.2	<0.2	-	-
			Malathion	mg/kg	0.2	<0.2	<0.2	-	-
			Methidathion	mg/kg	0.5	<0.5	<0.5	-	-
			Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	-	-
			Total OP Pesticides*	mg/kg	1.7	7.0	<1.7	-	-
		Surrogates	2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	100
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	92

PAH (Polynuclear Aromatic Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN420

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE256498.001	LB296674.004		Naphthalene	mg/kg	0.1	4.1	<0.1	4	103
			2-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			1-methylnaphthalene	mg/kg	0.1	<0.1	<0.1	-	-
			Acenaphthylene	mg/kg	0.1	4.1	<0.1	4	102
			Acenaphthene	mg/kg	0.1	4.2	<0.1	4	105
			Fluorene	mg/kg	0.1	<0.1	<0.1	-	-
			Phenanthrene	mg/kg	0.1	4.9	1.0	4	96
			Anthracene	mg/kg	0.1	4.0	0.2	4	96
			Fluoranthene	mg/kg	0.1	5.1	1.4	4	91
			Pyrene	mg/kg	0.1	4.9	1.4	4	88
			Benzo(a)anthracene	mg/kg	0.1	0.3	0.3	-	-
			Chrysene	mg/kg	0.1	0.3	0.4	-	-
			Benzo(b&j)fluoranthene	mg/kg	0.1	0.5	0.5	-	-
			Benzo(k)fluoranthene	mg/kg	0.1	0.2	0.2	-	-
			Benzo(a)pyrene	mg/kg	0.1	4.5	0.5	4	102
			Indeno(1,2,3-cd)pyrene	mg/kg	0.1	0.3	0.3	-	-
			Dibenzo(ah)anthracene	mg/kg	0.1	<0.1	<0.1	-	-
			Benzo(ghi)perylene	mg/kg	0.1	0.3	0.4	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=0*	TEQ (mg/kg)	0.2	4.7	0.6	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR/2*	TEQ (mg/kg)	0.2	4.7	0.6	-	-
			Carcinogenic PAHs, BaP TEQ <LOR=LOR*	TEQ (mg/kg)	0.3	4.8	0.7	-	-
			Total PAH (18)	mg/kg	0.8	38	5.8	-	-
		Surrogates	d5-nitrobenzene (Surrogate)	mg/kg	-	0.5	0.5	-	102
			2-fluorobiphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	100
			d14-p-terphenyl (Surrogate)	mg/kg	-	0.5	0.5	-	92

Trace Metals (Dissolved) in Water by ICPMS

Method: ME-(AU)-[ENV]AN318

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE256440.021	LB296281.004	Arsenic	µg/L	1	21	<1	20	103
		Cadmium	µg/L	0.1	21	<0.1	20	103
		Chromium	µg/L	1	21	<1	20	105
		Copper	µg/L	1	21	<1	20	105
		Lead	µg/L	1	22	<1	20	109

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Trace Metals (Dissolved) in Water by ICPMS (continued)

Method: ME-(AU)-[ENV]AN318

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE256440.021	LB296281.004		Nickel	µg/L	1	21	<1	20	105
			Zinc	µg/L	5	20	<5	20	101

TRH (Total Recoverable Hydrocarbons) in Soil

Method: ME-(AU)-[ENV]AN403

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE256498.001	LB296674.004		TRH C10-C14	mg/kg	20	47	<20	40	114
			TRH C15-C28	mg/kg	45	70	<45	40	121
			TRH C29-C36	mg/kg	45	77	<45	40	110
			TRH C37-C40	mg/kg	100	<100	<100	-	-
			TRH C10-C36 Total	mg/kg	110	190	<110	-	-
			TRH >C10-C40 Total (F bands)	mg/kg	210	<210	<210	-	-
		TRH F Bands	TRH >C10-C16	mg/kg	25	46	<25	40	112
			TRH >C10-C16 - Naphthalene (F2)	mg/kg	25	46	<25	-	-
			TRH >C16-C34 (F3)	mg/kg	90	95	<90	40	128
			TRH >C34-C40 (F4)	mg/kg	120	<120	<120	-	-

VOC's in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE256498.001	LB296676.004	Monocyclic Aromatic	Benzene	mg/kg	0.1	3.9	<0.1	5	78
			Toluene	mg/kg	0.1	4.1	<0.1	5	82
			Ethylbenzene	mg/kg	0.1	4.3	<0.1	5	87
			m/p-xylene	mg/kg	0.2	8.8	<0.2	10	88
			o-xylene	mg/kg	0.1	4.5	<0.1	5	90
		Polycyclic	Naphthalene (VOC)*	mg/kg	0.1	<0.1	<0.1	-	-
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.9	7.7	10	79
			d8-toluene (Surrogate)	mg/kg	-	7.7	8.3	10	77
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.1	8.6	10	81
		Totals	Total BTEX*	mg/kg	0.6	26	<0.6	-	-
			Total Xylenes*	mg/kg	0.3	13	<0.3	-	-

Volatile Petroleum Hydrocarbons in Soil

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE256498.001	LB296676.004		TRH C6-C10	mg/kg	25	87	<25	92.5	93
			TRH C6-C9	mg/kg	20	75	<20	80	93
		Surrogates	d4-1,2-dichloroethane (Surrogate)	mg/kg	-	7.9	7.7	10	79
			d8-toluene (Surrogate)	mg/kg	-	7.7	8.3	10	77
			Bromofluorobenzene (Surrogate)	mg/kg	-	8.1	8.6	-	81
		VPH F Bands	Benzene (F0)	mg/kg	0.1	3.9	<0.1	-	-
			TRH C6-C10 minus BTEX (F1)	mg/kg	25	61	<25	62.5	97

MATRIX SPIKE DUPLICATES

SE256498 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: https://www.sgs.com.au/~/media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

*	NATA accreditation does not cover the performance of this service.
**	Indicative data, theoretical holding time exceeded.
***	Indicates that both * and ** apply.
-	Sample not analysed for this analyte.
IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
LOR	Limit of reporting.
QFH	QC result is above the upper tolerance.
QFL	QC result is below the lower tolerance.
①	At least 2 of 3 surrogates are within acceptance criteria.
②	RPD failed acceptance criteria due to sample heterogeneity.
③	Results less than 5 times LOR preclude acceptance criteria for RPD.
④	Recovery failed acceptance criteria due to matrix interference.
⑤	Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
⑥	LOR was raised due to sample matrix interference.
⑦	LOR was raised due to dilution of significantly high concentration of analyte in sample.
⑧	Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
⑨	Recovery failed acceptance criteria due to sample heterogeneity.
⑩	LOR was raised due to high conductivity of the sample (required dilution).
†	Refer to relevant report comments for further information.

SGS

CHAIN OF CUSTODY & ANALYSIS REQUEST

SGS Environmental Services
Unit 16, 33 Maddox Street
Alexandria NSW 2015
Telephone No: (02) 85940400
Facsimile No: (02) 85940499
Email: au.samplereceipt.sydney@sgs.com

Company Name:	Hunter Enviro	Project Name/No:	E0137 (Newport)
Address:	3/62 Sandringham Avenue Thornton 2322	Purchase Order No:	HEC0276
		Results Required By:	STD
		Telephone:	0499 160 449
Contact Name:	Jake	Facsimile:	
		Email Results:	jd@hunterenviro.com.au ; results@hunterenviro.com.au

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	CL10	CL17	CL2	HOLD
BH1 0.2-0.4	9/11	1		X		1		X		
BH1 1.0-1.1		2					X			
BH2 0.5-0.7		3					X			
BH3 0.2-0.4		4						X		
BH3 1.5-1.6		5					X			
BH4 0.2-0.3		6					X			
BH5 0.2-0.3		7						X		
BH6 0.3-0.4		8					X			
BH7 0.4-0.5		9					X			
BH7 1.0-1.1										X

SGS EHS Sydney COC
SE256498

Relinquished By:	Date/Time: 9/11	Received By: via SGS Newcastle	Date/Time 9-11-23 12:00
Relinquished By:	Date/Time:	Received By: S Subaran	Date/Time 10/11/23 @ 10:25
Samples Intact: Yes/ No	Temperature: Ambient / Chilled	Sample Cooler Sealed: Yes/ No	Laboratory Quotation No:
	Comments:		

CHAIN OF CUSTODY & ANALYSIS REQUEST

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Company Name:	Hunter Enviro	Project Name/No:	E0137 (Newport)
Address:	3/62 Sandringham Avenue Thornton 2322	Purchase Order No:	HEC0276
		Results Required By:	STD
		Telephone:	0499 160 449
Contact Name:	Jake	Facsimile:	
		Email Results:	jd@hunterenviro.com.au ; results@hunterenviro.com.au

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	CL10	CL17	CL2	HOLD
BH8 0.2-0.3	9/11	10		X		1		X		
DUP	↓	11		X		↓	X			
RINS	↓	12	X			↓			X	

Relinquished By:	Date/Time: 9/11	Received By:	Date/Time 10/11/23 @ 10:25
Relinquished By:	Date/Time:	Received By:	Date/Time
Samples Intact: Yes/ No	Temperature: Ambient / Chilled	Sample Cooler Sealed: Yes/ No	Laboratory Quotation No:
	Comments:		