

Preliminary Site Investigation

Macarthur Grange Golf Club, Raby Road, Kearns, NSW, 2558 Confidential Privileged Communication

Prepared for: File Planning and Development Services Pty Ltd PO Box H219 Australia Square, NSW, 1215

21 May 2020





Distribution

Preliminary Site Investigation, Macarthur Grange Golf Club, Raby Road, Kearns, NSW, 2558

21 May 2020

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Executive Summary

Senversa was engaged by File Planning and Development Services Pty Ltd (FPD) on behalf of Toscuz Investments Pty Ltd (Toscuz) to undertake a preliminary site investigation (PSI) at the site, Macarthur Grange Golf Club, Raby Road, Kearns, NSW, 2558, which comprises Lot 3900 in DP1170905 (Figure 1).

The site is currently zoned E3 Environmental Management, but Toscuz intends to submit a planning proposal to amend the site zoning and introduce additional permitted use provisions including environmental living, open space, recreation, entertaining and community use. As such, Toscuz requires a PSI to assess the potential risk associated with contamination resulting from current and historical land use activities to support the planning proposal.

The objectives of this PSI were to:

- Review historical site use to assess potentially contaminating activities that may have occurred.
- Assess the likelihood of contamination existing from the identified historical site uses.
- Document the contamination condition of the site.
- Assess whether additional assessment or remediation of contamination may be necessary.

To meet these objectives, Senversa reviewed background information relating to the site and completed a site inspection to confirm current site land uses and to inspect for the presence of visual or olfactory signs of contamination.

Based on the review of available environmental and historical information and the site inspection, and subject to the principles and limitations of the investigation, the key conclusions of this PSI include:

- The site appeared to be vacant prior to development of the northern portion of the site as a golf course in the mid to late 1990s.
- The southern portion of the site has remained vacant with the exception of occasional cattle grazing.
- There is an apparent absence of significantly contaminating activities adjacent to the site.
- During a site walkover, small volumes of fuels, degreasers, herbicides and hydraulic oils were observed within a maintenance shed in the western portion of the site and in a garage at the club house; associated dark staining on the surface of concrete slabs was present in the general area.
- Site walkover observations and anecdotal information did not indicate the presence of underground storage tanks (USTs) at the site.
- The results of the SafeWork NSW Storage of Hazardous Chemicals search indicate that SafeWork NSW had no records of hazardous chemical storage pertaining to the site.
- Although minor quantities of chemicals and fuels were observed in isolated locations at the site. the potential risk of significant contamination at the site is considered to be low and acceptable.
- It is possible that groundwater under the site has some level of nutrient impact from irrigation and the application of fertiliser, however, background groundwater quality is generally low (saline).
- On a site of this size and scale it is possible that areas of land may have been historically filled. This could potentially be associated with the forming of golf course structures/levelling/shaping of landforms. Any fill material has the potential to be impacted by contaminants such as asbestos.



Based on the above and information reviewed as part of this PSI, Senversa considers that the site is likely to be suitable for the proposed use. However, considering the size of the site and the difficulty in inspecting certain areas and beneath existing buildings, there remains the potential that isolated and minor contamination may be present. Should contamination be identified during redevelopment of the site, including the presence of asbestos in buried services, then it should be assessed in-line with the approach set out in the National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM) and New South Wales Environment Protection Authority (NSW EPA) published or approved guidelines.



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List of Acronyms

Acronym	Definition
ACM	Asbestos Containing Material
AHD	Australian Height Datum
ВТЕХ	Benzene, Toluene, Ethylbenzene and Xylenes
CoPC	Contaminant of Potential Concern
CSM	Conceptual Site Model
DEC	Department of Environment and Conservation
DSI	Detailed Site Investigation
FPD	File Planning and Development Services Pty Ltd
ha	Hectare
LEP	Local Environment Plan
m	Metre
m ³	Cubic Metres
m AHD	Metres Australian Height Datum
ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure
NSW EPA	New South Wales Environment Protection Authority
OCP/OPPs	Organochlorine and Organophosphorus Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PFAS	Per- and Polyfluoroalkyl Substance
POEO	Protection of the Environment Operations Act 1997
PSI	Preliminary Site Investigation
SAQP	Sampling and Analysis Quality Plan
TRH	Total Recoverable Hydrocarbons
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds



1.0 Introduction and Objectives

Senversa Pty Ltd (Senversa) was engaged by File Planning and Development Services Pty Ltd (FPD) on behalf of Toscuz Investments Pty Ltd (Toscuz) to undertake a preliminary site investigation (PSI) of the Macarthur Grange Golf Club, described as Lot 3900 in DP 1170905, Raby Road, Kearns, NSW, 2558 (the site). The site location is presented on Figure 1.

Information provided to Senversa indicates that FPD, working with Architectus, is preparing a planning proposal for Toscuz which seeks amendments to the Local Environmental Plan (LEP) 2015. These proposed amendments include rezoning the site to allow for:

- Approximately 63 environmental living lots, ranging in size from approximately 0.5 hectare (ha) to 2.75 ha.
- Regional open space to protect key areas of vegetation.
- A designated lot along Raby Road for recreation, entertainment and community uses.

Senversa has prepared this PSI to support the planning proposal submission.

1.1 **Objective**

The objectives of this PSI were to:

- Review historical site use to assess potentially contaminating activities that may have occurred.
- Assess the likelihood of contamination existing from the identified historical site uses.
- Document the contamination condition of the site.
- Assess whether additional assessment or remediation of contamination may be necessary.

1.2 Scope of Work

To meet these objectives, Senversa completed the following scope of work:

- Review of background information relating to the site, including:
 - NSW Environment Protection Authority (EPA) contaminated land register.
 - Historical aerial photographs.
 - Groundwater bore information.
 - Relevant government databases.
 - Published soil, geology and topographic maps.
 - Schedule 11 Hazardous Chemical Search.
- A site walkover to confirm current site land uses and inspect for the presence of visual or olfactory signs of contamination.
- Data evaluation and reporting.

The PSI was conducted with reference to relevant parts of the following guidelines:

- National Environment Protection Council 1999. National Environment Protection (Assessment of Site Contamination) Measure 1999 (ASC NEPM (1999)) (as amended May 2013) - herein referred to as the ASC NEPM (2013).
- NSW Department of Environment and Conservation (DEC) 2006. Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (2nd edition).
- NSW Office of Environment and Heritage (OEH) 2011. Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites.



Site Identification

The site identification information is presented within the table below:

Item	Description
Site Address	Macarthur Grange Golf Club, Raby Road, Kearns, NSW, 2558 (Figure 1)
Legal Description	Lot 3900 DP 1170905
Local Government Area	Campbelltown City Council
Site Area	Approximately 129.5 ha
Current Zoning	E3 – Environmental Management
Geographical Coordinates (GDA94)	34º 1'17" S 150º 47' 28" E (centre of site)
Site Elevation (m AHD)	Ranging between approximately 80 - 146 m AHD
Site Location and Layout	Figure 1



Site Background Review 3.0

Site Setting 3.1

The following sections summarise the information obtained during the site background and history

The site address is Macarthur Grange Golf Club, Raby Road, Kearns, NSW, 2558 and its location is shown on Figure 1. A copy of all database searches are provided within Appendix A.

Item	Detail
Current Land Use	Golf course in the northern half of the site and vacant land in the southern half of the site.
Surrounding Land use	 The land uses surrounding the site include: North – Raby Road, open space, Box Hill homestead, Galloway Green Park and a Jehovah's Witnesses church. South – Badgally Road, open space, St Gregory's College, Champagnat Park and the suburb of Gledswood Hills. East – Colorodo Reserve, open space and the suburb of Kearns. West – Gledswood Hill Drive then Cunningham Park and the suburbs of Gledswood Hill and Gregory Hill.
Topography	The topography of the site is undulating, with the elevation ranging from approximately 80 m AHD to 146 m AHD. The site boundaries are located on or near ridge lines. The northern parts of the site (golf course) are situated within a steep valley. The southern parts of the site are undulating.
Hydrology	There are a number of on-site water reservoirs used primarily as water obstacles and irrigation for the golf course in the north of the site and as a water source for livestock in the south of the site. During periods of rainfall, water is collected in rainwater tanks around the clubhouse and workshop. Runoff is captured in the reservoirs and in stormwater drains located around the clubhouse.
Geology, Soils and Acid Sulfate Soils	A review of NSW Department of Industry, Resources and Energy 1:100,000 geological map indicates that the site is located on Triassic aged Bringelly Shale of the Wianamatta Group which is described as shale, carbonaceous claystone, laminite, fine to medium grained lithic sandstone, rare coal and tuff. The CSIRO's Atlas of Australian Soils classifies the soil on the site as Kurosol. Kurosol is described as: Ridge and valley country of gently undulating ridge tops and steep side slopes often with slumping, also rounded hilly to steep hilly areas and relatively narrow valleys; Chief soils are hard acidic red soils with hard acidic yellow mottled soils, although in places some ironstone gravel occur in both these soils; and Associated are hard neutral and alkaline red soils in saddles and some mid-slope positions; duplex and hard duplex soils, usually in depressions; and small areas of undescribed soils in wet soaks and valley areas. Small areas of other soils are likely throughout. The NSW Office of Environment and Heritage Soils Landscapes Database indicates that there are three soil landscapes present on the site; including colluvial (north eastern portion of the site), erosional (site wide and primarily in valley areas) and residual (various locations on-site). The Atlas of Australian Acid Sulfate Soils indicates that the probability of occurrence of Acid Sulfate Soils is extremely low on the site. It has a 1-5% change of occurrence with occurrences in small localised areas. The Dryland Salinity – National Assessment on site indicates a high hazard or risk defined for all years (2000, 2020 and 2050) in the north of the site. Areas of moderate salinity potential cover most of the site with an area of high salinity potential in the north of the site. There are two areas of known salinity within the dataset buffer, 331 m west of the site and 699 m north of the site.



Item Detail

Hydrogeology

A search of the NSW Department of Primary Industry's – Office of Water database of registered groundwater bores within a 2 km radius of the site identified 3 existing groundwater boreholes.

- GW035211 located in the centre of the northern portion of the site with a depth of 61m. It
 was completed in 1968 and is recorded as containing brackish water. A standing water level
 (SWL) was not recorded.
- GW109180 is 62m to the north with a depth of 264m. An SWL of 80 m below ground level (bgl) was recorded.
- GW072777 is 438m south of the site with a depth of 250m. An SWL was not recorded.

All boreholes are authorised to be used for stock and/or domestic purposes.

Aquifers on site and within the dataset buffer are described as porous and extensive with low to moderate productivity.

3.2 Site History

3.2.1 Aerial Photography

Historical aerial photographs (**Appendix A**) were reviewed as part of the assessment of the site history, with a summary of each photograph included in the below table.

Photograph Details	Description
1956 – Black and White	 Site – the site consisted of cleared and undeveloped land, most likely used for grazing. There was one body of surface water in the northern portion of the site. An unsealed road intersected the northern border.
	 Surrounds – Rileys Creek was located to the west. The surrounding land appeared to be mainly cleared land, potentially used for farming. There were two clusters of buildings, one to the east and one to the north, possibly homesteads, with unsealed roads accessing each property. There were various small bodies of surface water in the surrounding area.
1961 – Black and White	Site – largely unchanged from the 1956 aerial.
	Surrounds – largely unchanged from the 1956 aerial.
1965 – Black and White	Site – two distinct crop fields were located in the northern portion of the site, which otherwise remained unchanged.
	• Surrounds – a dam had been constructed to the west of the site.
1970 - Black and White	Site – largely unchanged from the 1965 aerial.
	Surrounds – largely unchanged from the 1965 aerial.
1984 – Colour	Site – present day workshop building was present on the western side of the site.
	Surrounds – residential housing and land developments existed to the east of the site.
1994 – Colour	Site – remained unchanged from the 1984 aerial.
	 Surrounds – significant residential housing to the east of the site. What appears to be a golf course was present to the north west.
2007 – Colour	Site – northern portion of the site was a golf course with a club house building and carpark in the north east corner. Approximately six man-made reservoirs existed in the northern area.
	Surrounds – largely unchanged from the 1994 aerial.
2014 – Colour	Site – largely unchanged from the 2007 aerial.
	Surrounds – largely unchanged from the 2007 aerial.



Historical Business Records 3.2.2

Historical business records for the site and surrounding area were not available for review.

NSW EPA Contaminated Land Search 3.2.3

A search of the NSW EPA contaminated land database undertaken for the site and within a 1 km surrounding buffer area is provided in **Appendix A** and indicated that no nearby sites have been reported to the NSW EPA.

In addition, there were no gasworks, waste management and liquid fuel facilities, per- and polyfluoroalkyl substances (PFAS) investigation and management programs, Defence, or other contaminated sites identified within the buffer area.

3.2.4 **NSW EPA Licensed Activities Search**

A search of the NSW EPA record of licensed and former licenced activities under the Protection of the Environment Operations (POEO) Act 1997 was undertaken for the site and within a 1 km buffer area. The results are summarised below and provided in **Appendix A**.

Licensed Activities

No current licensed activities were found within the buffer area.

Former Licensed Activities

Licence No.	Organisation	Location	Activity	Distance from Site
4653	Luhrmann Environmental Management Pty Ltd	Waterways throughout NSW	Other activities / Non-scheduled activity – application of herbicides	On site
4838	Robert Orchard	Various waterways throughout NSW – Sydney NSW 2000	Other activities / Non-scheduled activity – application of herbicides	On site
5093	Camden Council	Waterways of Camden Local Government Area – Camden	Other activities / Non-scheduled activity – application of herbicides	On site
6630	Sydney Weed and Pest Management Pty Ltd	Waterways throughout NSW – Prospect, NSW 2148	Other activities / Non-scheduled activity – application of herbicides	On site
6651	Campbelltown City Council	Waterways of Campbelltown City Council Area – Campbelltown NSW 2560	Other activities / Non-scheduled activity – application of herbicides	On site
1617	The Rugby League Country Club Ltd	810 Camden Valley Way, Catherine Field	Sewage treatment processing by small plants	765 m west
13174	Landcom	Various areas at Oran Park, NSW 2570	Sewage treatment processing by small plants	765 m west
13173	Dart West Developments Pty Ltd	In the vicinity of 668 Camden Valley Way, Catherine Field NSW 2557	Sewage treatment processing by small plants	797 m west



3.2.5 Dangerous Goods Search

A search of the SafeWork NSW Storage of Hazardous Chemicals was undertaken for the site. SafeWork wrote to Senversa on 27th March 2020 and stated that it had no records of hazardous chemical storage pertaining to the site. Correspondence is provided in (**Appendix B**).

3.2.6 Certificate of Title

Based on the information presented above, it was the opinion of Senversa that a search of historical titles was unlikely to provide any further details on potential sources of contamination. As such a search of certificates of title was not undertaken.

3.3 Previous Investigations

Senversa is not aware of previous investigations that have been undertaken at the site.



4.0 Site Inspection

To confirm the nature of current land uses and confirm the desk top information, a site inspection was undertaken on 11th March 2020 by suitably qualified and experienced Senversa environmental scientists. Limitations to the site inspections include:

- Senversa did not access or inspect structures or features below the ground surface.
- Senversa did not assess hazardous building materials.
- The inspection did not include accessing neighbouring properties.
- Not all site surfaces were observed due to dense vegetation cover and/or steep slopes preventing safe access. This is primarily applicable to the southern portion of the site and along the sites boundaries.

Select photographs from the site walkover are provided in **Appendix C.**

Senversa met with Roy Spagnolo who gave a brief site tour of the golf course and workshop areas and pointed out the boundaries of the site and the distinction between the northern and southern areas. Most of the site boundaries were demarcated by short wire fencing, which was observed to be in good condition.

The northern half of the site is operated as a golf course with a clubhouse and carpark in the north eastern corner and a maintenance shed/workshop on the western side of the site. The southern half of the site is used for grazing cattle and is otherwise vacant.

The clubhouse is a two-story brick building containing a golf pro shop and closed restaurant on the top floor and a workshop for basic repairs and cleaning of golf carts on the lower floor. The maintenance shed/workshop on the western side of the site is a single level metal shed with a concrete slab floor.

In the southern portion of the site, some areas were observed to have suffered considerable erosion.

No indications of underground storage tanks (USTs) for fuels or other chemicals were observed during the site walkover.

Senversa did not observe the groundwater bore identified on the NSW Office of Water database, Roy Spagnolo explained that in the last ten years, only one attempt has been made to operate the bore in an effort to fill reservoirs that were almost dry in 2019. The use of the bore to fill the reservoirs for irrigation is not desirable due to the saline nature of the groundwater.

Roy indicated that he was not aware of any USTs present or historically present at the site.

Key site features observed during the site inspection are noted in the table below:

Site **Observations**

Feature

Maintenance workshop

Workshop was observed to store lawn mowers, golf carts, spare parts and various chemicals in small volumes. The chemicals observed included, herbicide (glyphosate), degreasers, fuel and methanol which were stored either on shelves, on top of equipment, or on the ground surface. No bunding was observed. An above ground storage tank (steel, approximately 5000 L, and reported to be used for rainwater storage), rusted steel drums, poly pipe, pavers, pallets and steel containers were observed to be stored outside the workshop shed on unsealed ground. The contents of the containers could not be ascertained by inspection.

Inside the workshop, various areas of staining and cracks were observed on the concrete surface.

Clubhouse

A garage on the lower level of the club house was observed to store various chemicals in small volumes as well as a number of golf carts that were being recharged for use. Chemicals observed included degreaser, hydraulic oil, detergent and diesel. Some dark staining and cracking were observed on the concrete surface, primarily in the vicinity of the chemical storage area.

There is a water reservoir located to the west of the clubhouse.



Site Observations

Feature

Old building footprint

On the northwest side of the club house building, an old building footprint was observed in the form of a concrete slab. Some possible material from the demolition of the building was located around the footprint of the building, potential asbestos containing material (ACM) was not observed.



5.0 Conceptual Site Model

5.1 Sources of Contamination

Based on the site history and background data reviewed, observations during the site inspection and Senversa's professional experience, the contaminants of potential concern (CoPC) associated with current and historical land uses and activities undertaken at the site and in the surrounding area are considered to include those described in the below table.

Potential Source		Contaminants of Potential Concern	Comments		
On-Site	Source 1: Chemicals storage and handling in the maintenance workshop.	Total recoverable hydrocarbons, (TRH), benzene, toluene, ethyl benzene and xylenes (BTEX), phenols, polycyclic aromatic hydrocarbons (PAHs), organochlorine and organophosphorus pesticides (OCP/OPPs), heavy metals, volatile organic compounds (VOCs), herbicides, nutrients associated with fertiliser.	This includes potential impacts within the footprint of the building at the laydown areas around the outskirts of the shed.		
0	Source 2: Chemicals storage and handling in the garage of club house.	TRH, BTEX, PAHs, phenols, heavy metals and VOCs.	Based on observations made during the site inspection.		
	Source 3: Application of herbicides across the site.	OCPs, OPPs, herbicides, heavy metals.	As indicated in the former licensed activities section of the report (3.2.4) and based on observations of glyphosate during the site walkover.		
	Source 4: Application of fertilizers	 Calcium phosphate, calcium sulfate, nitrates, ammonium sulfate, carbonates, potassium, copper, magnesium, molybdenum, boron, cadmium. 	Fertilizer is considered likely to have been used across the site.		

5.2 Potential Pathways

The primary potential exposure pathways of concern at the site are:

- Inhalation of vapour (from soil and/or groundwater) and contaminated dust (from soils and / or building materials).
- Dermal contact and/or incidental ingestion with contaminated soils.
- Transport of contamination through surface water flows.
- Transport of contamination to underlying groundwater aquifers.
- Dermal contact or ingestion of contaminated groundwater.
- Transport of contaminants through mechanical transport.



5.3 **Potential Receptors**

The key receptors have been identified as:

- Future residents.
- Recreational site users.
- Workers carrying out intrusive or maintenance works within the site during and post development works.
- Current or future users of groundwater beneath the site.
- Reservoirs on the site.



6.0 **Conclusions and Recommendations**

Senversa was engaged by FPD on behalf of Toscuz to undertake a PSI at the site, Macarthur Grange Golf Club, Raby Road, Kearns, NSW, 2558, which comprises Lot 3900 in DP1170905 (Figure 1).

The site is currently zoned E3 Environmental Management, but Toscuz intends to submit a planning proposal to amend this and introduce additional permitted use provisions including environmental living, open space, recreation, entertaining and community use. As such, Toscuz requires a PSI to assess the potential risk associated with contamination resulting from current and historical land use activities to support the planning proposal.

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- The southern portion of the site has remained vacant with the exception of occasional cattle grazing.
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- Site walkover observations and anecdotal information did not indicate the presence of underground storage tanks (USTs) at the site.
- The results of the SafeWork NSW Storage of Hazardous Chemicals search indicate that SafeWork NSW had no records of hazardous chemical storage pertaining to the site.
- Although minor quantities of chemicals and fuels were observed in isolated locations at the site, the potential risk of significant contamination at the site is considered to be low and acceptable.
- It is possible that groundwater under the site has some level of nutrient impact from irrigation and the application of fertiliser, however, background groundwater quality is generally low (saline).
- On a site of this size and scale it is possible that areas of land may have been historically filled. This could potentially be associated with the forming of golf course structures/levelling/shaping of landforms. Any fill material has the potential to be impacted by contaminants such as asbestos.

Based on the above and information reviewed as part of this PSI, Senversa considers that the site is likely to be suitable for the proposed use. However, considering the size of the site and the difficulty in inspecting certain areas and beneath existing buildings, there remains the potential that isolated and minor contamination may be present. Should contamination be identified during redevelopment of the site, including the presence of asbestos in buried services, then it should be assessed in-line with the approach set out in the National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM) and New South Wales Environment Protection Authority (NSW EPA) published or approved guidelines.



7.0 Technical Limitations and Uncertainty

The following principles are an integral part of site contamination assessment practices and are intended to be referred to in resolving any ambiguity or exercising such discretion as is accorded the user or site assessor.

Elimination of Uncertainty

Some uncertainty is inherent in all site investigations. Professional judgment and interpretation are inherent in the process, and even when exercised in accordance with objective scientific principles, uncertainty is inevitable. Additional assessment beyond that which was reasonably undertaken may reduce the uncertainty.

Limitations of Information

The effectiveness of any site investigation may be compromised by limitations or defects in the information used to define the objectives and scope of the investigation, including inability to obtain information concerning historic site uses or prior site assessment activities despite the efforts of the user and assessor to obtain such information.

Level of Assessment

The investigation herein should not be considered to be an exhaustive assessment of environmental conditions on a property as no samples of soil, groundwater or air have been collected. There is a point at which the effort of information obtained and the time required to obtain it outweigh the benefit of the information gained and, in the context of private transactions and contractual responsibilities, may become a material detriment to the orderly conduct of business.

If the presence of target analytes is confirmed on a property, the extent of further assessment is a function of the degree of confidence required and the degree of uncertainty acceptable in relation to the objectives of the assessment.

Comparison with Subsequent Inquiry

The justification and adequacy of the investigation findings in light of the findings of a subsequent inquiry should be evaluated based on the reasonableness of judgments made at the time and under the circumstances in which they were made.

Data Gaps and Limitations

Temporal: the PSI is limited to data available at the time of the desktop searches in March 2020 and the Site inspection observations in March 2020.

Horizontal Spatial: the PSI is limited to data available within 1 km of the Site boundary for the desktop searches.

Vertical Spatial: whilst the PSI desktop search covered published information on geology, hydrogeology and land quality matters, the inspection did not visually observe the subsurface environment.

CoPC Identification: the CoPC list is not exhaustive and is based on visual Site observations, Senversa professional experience and NSW Government (1998) State Environmental Planning Policy 55: Remediation of Land, Scheduled Activities.



Figures

Figure 1: Site Location Plan





Level 5, 201 Kent Street, Sydney NSW 2000 (02) 9994 8016

Website:

www.senversa.com.au

Legend		
Site Boundary		
Cadastre		
Hydro Area		

		Designed:			H. Yellowlees			25/03/2020
	Drawn:		M. Sari		Revision:		0	
	Checked: N		M. Beasley		Scale:		1:15,000(A3)	
	File:	File:		S17901_002_F001		01_Site_Location		
		0	100	200	400	600	800	1,000
								Metres
Notes: Aerial imagery sourced from Nearmap Pty Ltd				Dati	um GDA 1994,	Projection M	GA Zone 56	5

Figure No:	1
Title:	Site Location
Project:	Preliminary Site Investigation
Location:	18 Raby Road, Kearns NSW 2558
Client:	File Planning and Development Services Pty Ltd



Appendix A: Desktop Searches



Date: 09 Mar 2020 14:29:38 Reference: LS011534 EP

Address: Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

Disclaimer:

The purpose of this report is to provide an overview of some of the site history, environmental risk and planning information available, affecting an individual address or geographical area in which the property is located. It is not a substitute for an on-site inspection or review of other available reports and records. It is not intended to be, and should not be taken to be, a rating or assessment of the desirability or market value of the property or its features. You should obtain independent advice before you make any decision based on the information within the report. The detailed terms applicable to use of this report are set out at the end of this report.

Dataset Listing

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

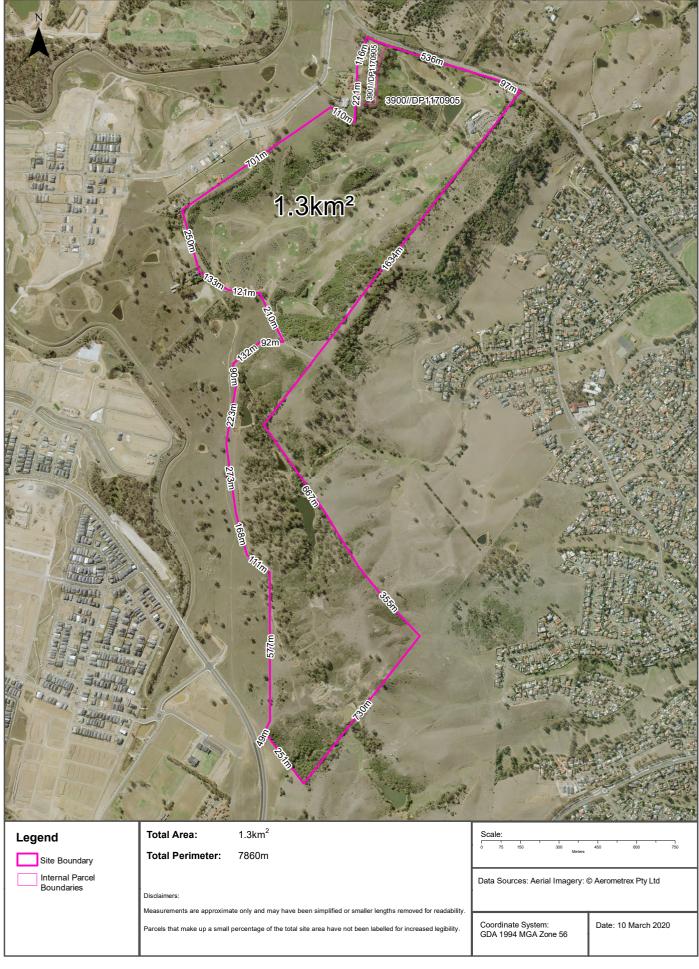
Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Cadastre Boundaries	NSW Department of Finance, Services & Innovation	28/11/2019	28/11/2019	Quarterly	-	-	-	-
Topographic Data	NSW Department of Finance, Services & Innovation	25/06/2019	25/06/2019	As required	-	-	-	-
List of NSW contaminated sites notified to EPA	Environment Protection Authority	18/02/2020	18/02/2020	Monthly	1000	0	0	0
Contaminated Land Records of Notice	Environment Protection Authority	29/01/2020	29/01/2020	Monthly	1000	0	0	0
Former Gasworks	Environment Protection Authority	12/02/2020	11/10/2017	Monthly	1000	0	0	0
National Waste Management Facilities Database	Geoscience Australia	12/02/2020	07/03/2017	Quarterly	1000	0	0	0
National Liquid Fuel Facilities	Geoscience Australia	05/02/2020	13/07/2012	Quarterly	1000	0	0	0
EPA PFAS Investigation Program	Environment Protection Authority	12/02/2020	12/02/2020	Monthly	2000	0	0	0
Defence PFAS Investigation Program	Department of Defence	12/02/2020	12/02/2020	Monthly	2000	0	0	0
Defence PFAS Management Program	Department of Defence	12/02/2020	12/02/2020	Monthly	2000	0	0	0
Airservices Australia National PFAS Management Program	Airservices Australia	20/02/2020	20/02/2020	Monthly	2000	0	0	0
Defence 3 Year Regional Contamination Investigation Program	Department of Defence	04/03/2020	04/03/2020	Monthly	2000	0	0	0
EPA Other Sites with Contamination Issues	Environment Protection Authority	04/02/2020	13/12/2018	Annually	1000	0	0	0
Licensed Activities under the POEO Act 1997	Environment Protection Authority	12/02/2020	12/02/2020	Monthly	1000	0	0	0
Delicensed POEO Activities still regulated by the EPA	Environment Protection Authority	12/02/2020	12/02/2020	Monthly	1000	0	0	0
Former POEO Licensed Activities now revoked or surrendered	Environment Protection Authority	12/02/2020	12/02/2020	Monthly	1000	5	5	8
UBD Business Directories (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	0	0
UBD Business Directories (Road & Area Matches)	Hardie Grant			Not required	150	-	0	0
UBD Business Directory Drycleaners & Motor Garages/Service Stations (Premise & Intersection Matches)	Hardie Grant			Not required	500	0	0	0
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Road & Area Matches)	Hardie Grant			Not required	500	-	0	0
Points of Interest	NSW Department of Finance, Services & Innovation	17/10/2019	17/10/2019	Quarterly	1000	1	1	30
Tanks (Areas)	NSW Department of Customer Service - Spatial Services	17/10/2019	17/10/2019	Quarterly	1000	0	0	0
Tanks (Points)	NSW Department of Customer Service - Spatial Services	17/10/2019	17/10/2019	Quarterly	1000	0	0	2
Major Easements	NSW Department of Finance, Services & Innovation	17/10/2019	17/10/2019	Quarterly	1000	5	6	13
State Forest	Forestry Corporation of NSW	18/01/2018	18/01/2018	As required	1000	0	0	0
NSW National Parks and Wildlife Service Reserves	NSW Office of Environment & Heritage	21/01/2020	30/09/2019	•	1000	0	0	0
Hydrogeology Map of Australia	Commonwealth of Australia (Geoscience Australia)	08/10/2014	17/03/2000	As required	1000	1	1	1
Botany Groundwater Management Zones	NSW Department of Planning, Industry and Environment	15/03/2018	01/10/2005	•	1000	0	0	0
Groundwater Boreholes	NSW Dept. of Primary Industries - Water NSW; Commonwealth of Australia (Bureau of Meteorology)	24/07/2018	23/07/2018	Annually	2000	1	2	3

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Geological Units 1:100,000	NSW Department of Planning, Industry and Environment	20/08/2014		None planned	1000	1	-	2
Geological Structures 1:100,000	NSW Department of Planning, Industry and Environment	20/08/2014		None planned	1000	0	-	4
Naturally Occurring Asbestos Potential	NSW Dept. of Industry, Resources & Energy	04/12/2015	24/09/2015	Unknown	1000	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	1000	1	1	1
Soil Landscapes	NSW Department of Planning, Industry and Environment	12/08/2014		None planned	1000	3	-	4
Environmental Planning Instrument Acid Sulfate Soils	NSW Department of Planning, Industry and Environment	03/03/2020	14/02/2020	Weekly	500	0	-	-
Atlas of Australian Acid Sulfate Soils	CSIRO	19/01/2017	21/02/2013	As required	1000	1	1	2
Dryland Salinity - National Assessment	National Land and Water Resources Audit	18/07/2014	12/05/2013	None planned	1000	1	1	1
Dryland Salinity Potential of Western Sydney	NSW Department of Planning, Industry and Environment	12/05/2017	01/01/2002	None planned	1000	2	2	29
Mining Subsidence Districts	NSW Department of Customer Service - Subsidence Advisory NSW	17/10/2019	17/10/2019	Quarterly	1000	0	0	0
Environmental Planning Instrument SEPP State Significant Precincts	NSW Department of Planning, Industry and Environment	03/03/2020	07/12/2018	Weekly	1000	0	0	0
Environmental Planning Instrument Land Zoning	NSW Department of Planning, Industry and Environment	03/03/2020	21/02/2020	Weekly	1000	1	10	62
Commonwealth Heritage List	Australian Government Department of the Agriculture, Water and the Environment	04/02/2020	31/07/2018	Quarterly	1000	0	0	0
National Heritage List	Australian Government Department of the Agriculture, Water and the Environment	04/02/2020	20/11/2019	Quarterly	1000	0	0	0
State Heritage Register - Curtilages	NSW Department of Planning, Industry and Environment	12/02/2020	09/11/2018	Quarterly	1000	0	0	3
Environmental Planning Instrument Heritage	NSW Department of Planning, Industry and Environment	03/03/2020	21/02/2020	Weekly	1000	0	0	4
Bush Fire Prone Land	NSW Rural Fire Service	04/02/2020	14/12/2019	Quarterly	1000	3	3	3
Remnant Vegetation of the Cumberland Plain	NSW Office of Environment & Heritage	07/10/2014	04/08/2011	Unknown	1000	4	4	7
Ramsar Wetlands of Australia	Department of the Agriculture, Water and the Environment	08/10/2014	24/06/2011	As required	1000	0	0	0
Groundwater Dependent Ecosystems	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000	1	1	2
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000	1	2	3
NSW BioNet Species Sightings	NSW Office of Environment & Heritage	09/03/2020	09/03/2020	Weekly	10000	-	-	-

Site Diagram

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558





Contaminated Land

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

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 (m)	Direction
N/A	No records in buffer								

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 © State of New South Wales through the Environment Protection Authority

Contaminated Land

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

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 © State of New South Wales through the 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 © State of New South Wales through the Environment Protection Authority

Waste Management & Liquid Fuel Facilities

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

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 (m)	Direction
N/A	No records in buffer											

Waste Management Facilities Data Source: Geoscience Australia Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

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 (m)	Direction
N/A	No records in buffer										

National Liquid Fuel Facilities Data Source: Geoscience Australia Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

PFAS Investigation & Management Programs

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

EPA PFAS Investigation Program

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

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

EPA PFAS Investigation Program: Environment Protection Authority

© State of New South Wales through the 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:

N	/lap ID	Base Name	Address	Loc Conf	Dist	Dir
Ν	I/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 I	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

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

Defence 3 Year Regional Contamination Investigation Program

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

EPA Other Sites with Contamination Issues

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

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 © State of New South Wales through the Environment Protection Authority

EPA Activities

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

Licensed Activities under the POEO Act 1997

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

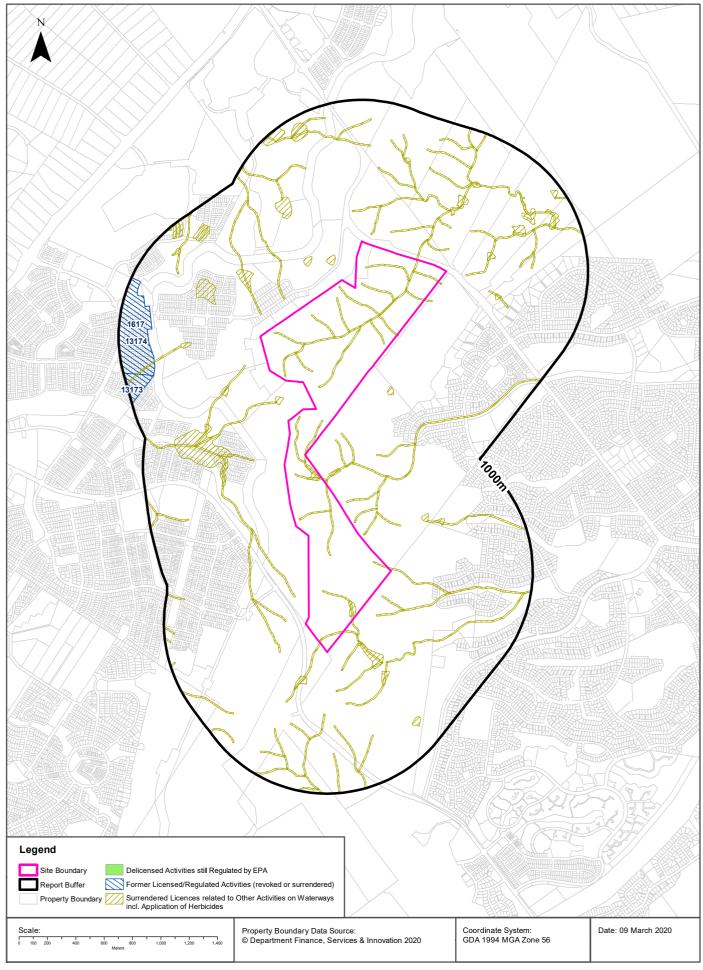
EPL	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
N/A	No records in buffer							

POEO Licence Data Source: Environment Protection Authority
© State of New South Wales through the Environment Protection Authority

Delicensed & Former Licensed EPA Activities

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558





EPA Activities

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

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

© State of New South Wales through the 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	0m	Onsite
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	0m	Onsite
5093	CAMDEN COUNCIL	WATERWAYS OF CAMDEN LOCAL GOVERNMENT AREA, -, CAMDEN	Surrendered	28/08/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	0m	Onsite
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	0m	Onsite
6651	CAMPBELLTOW N CITY COUNCIL	WATERWAYS OF CAMPBELLTOWN CITY COUNCIL AREA - CAMPBELLTOWN NSW 2560	Surrendered	08/05/2000	Other Activities / Non Scheduled Activity - Application of Herbicides	Network of Features	0m	Onsite
1617	THE RUGBY LEAGUE COUNTRY CLUB LTD	THE RUGBY LEAGUE COUNTRY CLUB LTD, 810 CAMDEN VALLEY WAY, CATHERINE FIELD	Surrendered	16/06/2001	Sewage treatment processing by small plants	Premise Match	765m	West
13174	LANDCOM	VARIOUS AREAS AT, ORAN PARK, NSW 2570	Surrendered	04/09/2009	Sewage treatment processing by small plants	Premise Match	765m	West
13173	DART WEST DEVELOPMENT S PTY LIMITED	IN THE VICINITY OF 668 CAMDEN VALLEY WAY, CATHERINE FIELD, NSW 2557	Surrendered	08/09/2009	Sewage treatment - processing by small plants	Premise Match	797m	West

Former Licensed Activities Data Source: Environment Protection Authority © State of New South Wales through the Environment Protection Authority

Historical Business Directories

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

Business Directory Records 1950-1991 Premise or Road Intersection Matches

Universal Business Directory records from years 1991, 1986, 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
	No records in buffer						

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Business Directory Records 1950-1991 Road or Area Matches

Universal Business Directory records from years 1991, 1986, 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:

Ma	ap Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
		No records in buffer					

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

Historical Business Directories

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

Dry Cleaners, Motor Garages & Service Stations 1948-1993 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.

Note: The Universal Business Directories were published between 1948 and 1993. Dry Cleaners, Motor Garages & Service Stations have been extracted from all of these directories except the following years 1951, 1955, 1957, 1960, 1963, 1973, 1974, 1977, 1987.

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

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Dry Cleaners, Motor Garages & Service Stations 1948-1993 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.

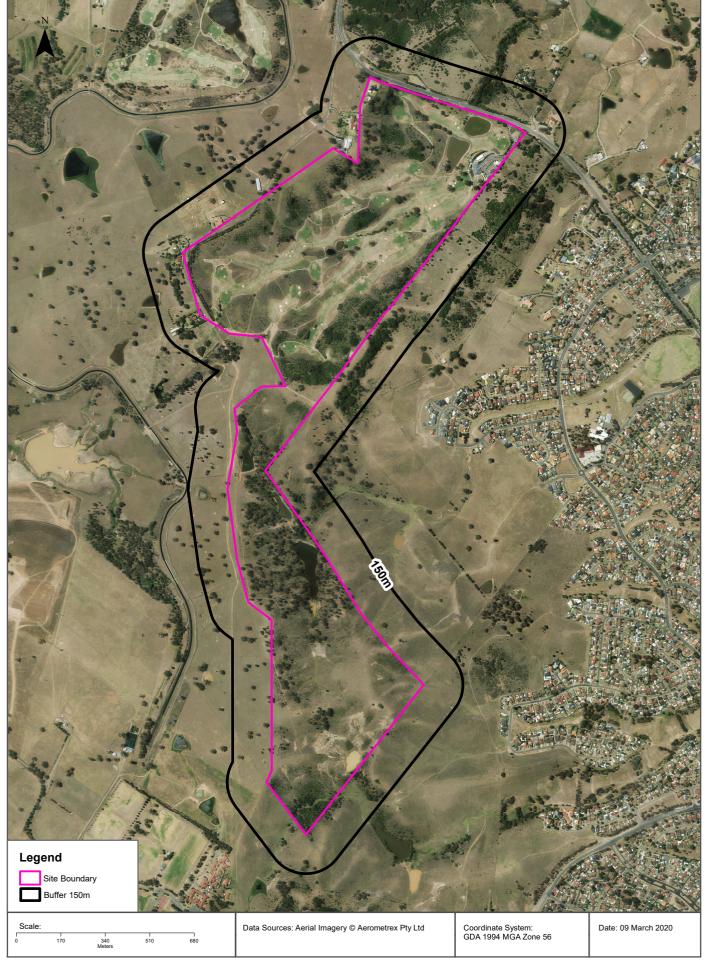
Note: The Universal Business Directories were published between 1948 and 1993. Dry Cleaners, Motor Garages & Service Stations have been extracted from all of these directories except the following years 1951, 1955, 1957, 1960, 1963, 1973, 1974, 1977, 1987.

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

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

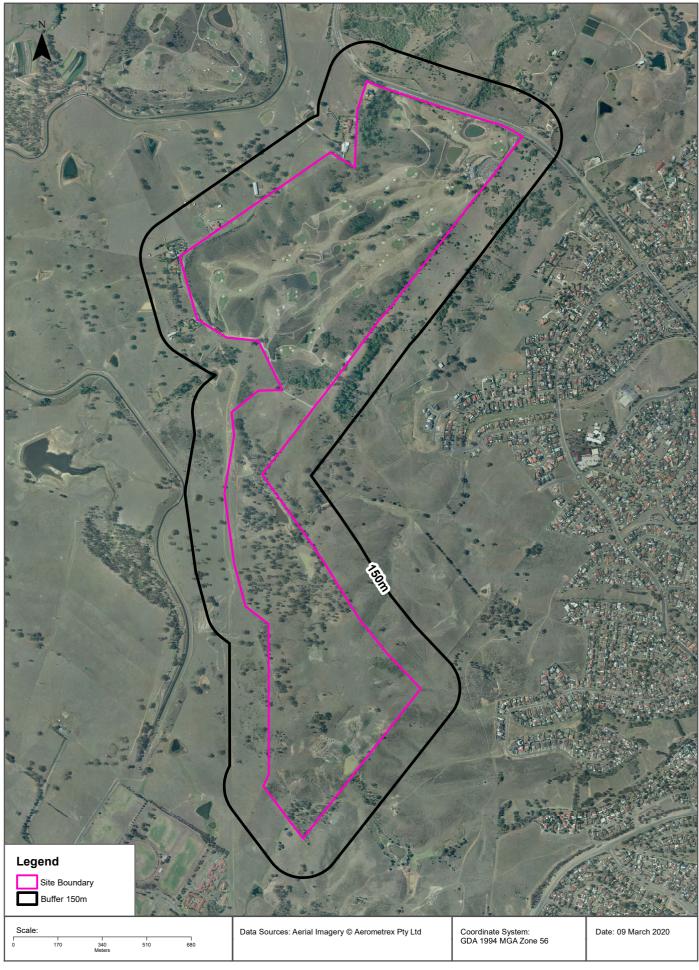
Aerial Imagery 2014
Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558



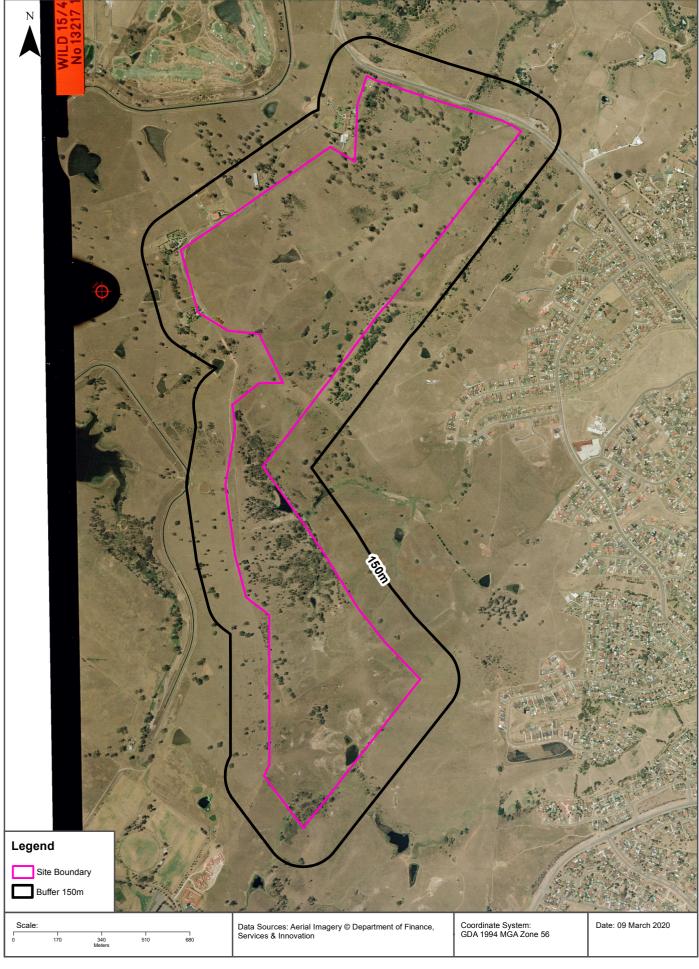


Aerial Imagery 2007Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558



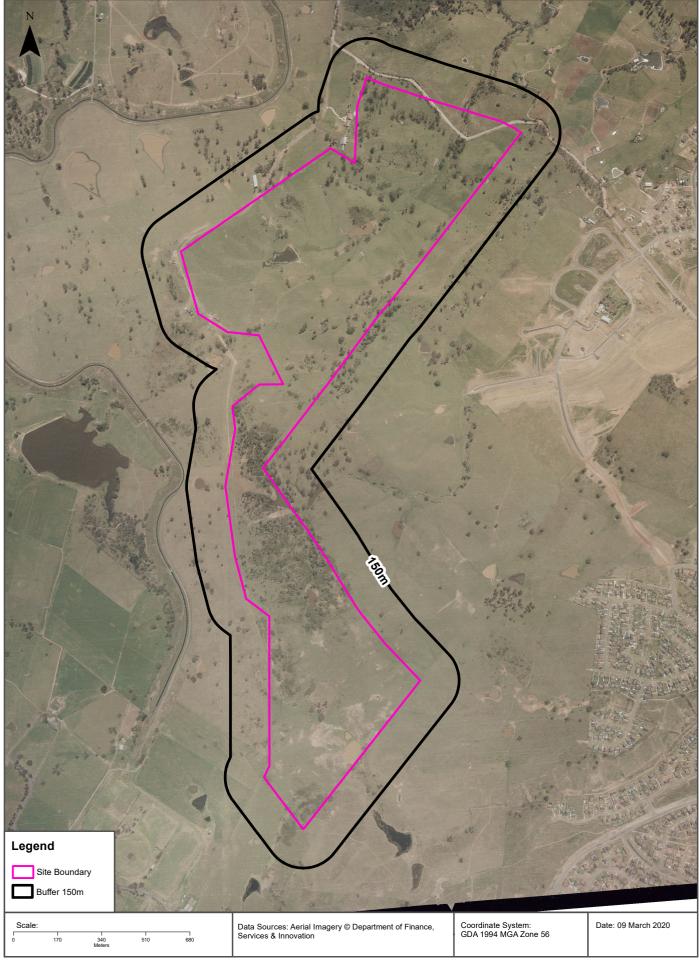






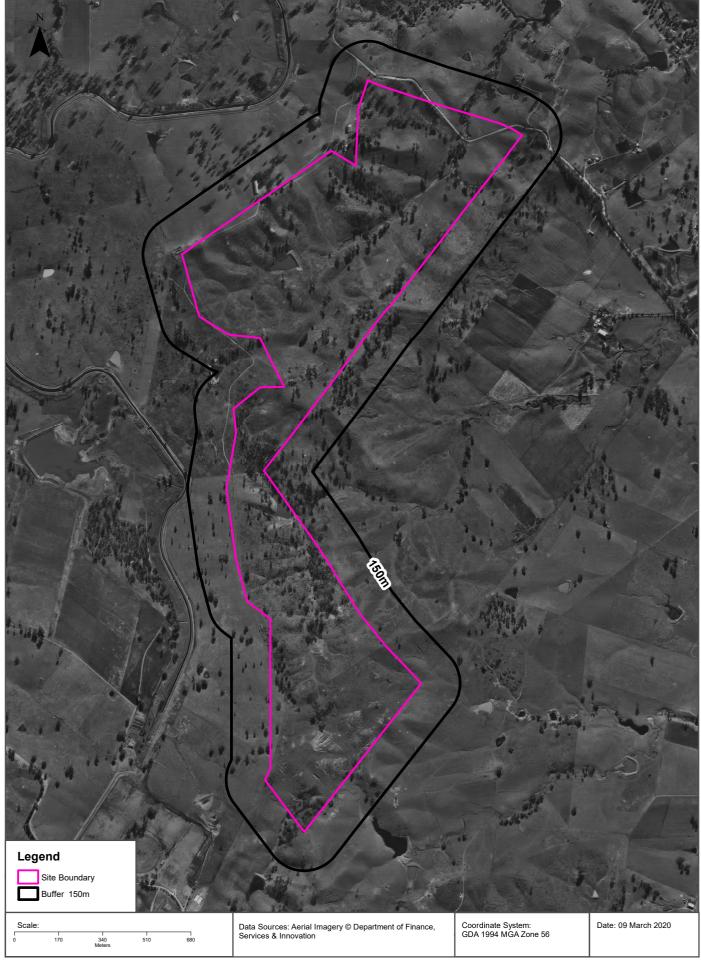
Aerial Imagery 1984Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558



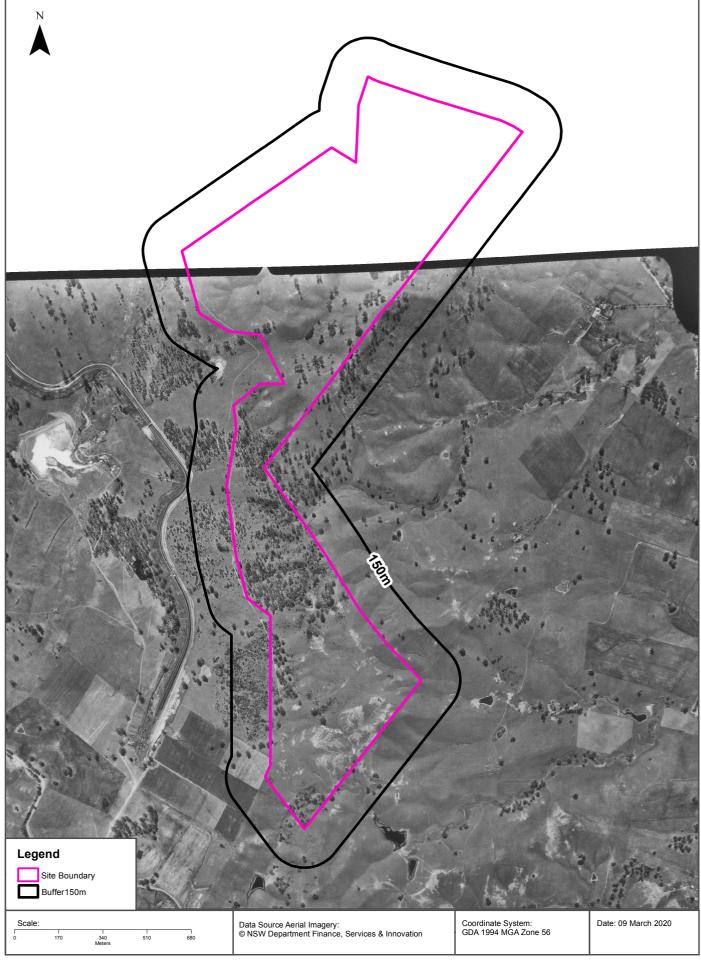


Aerial Imagery 1970Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

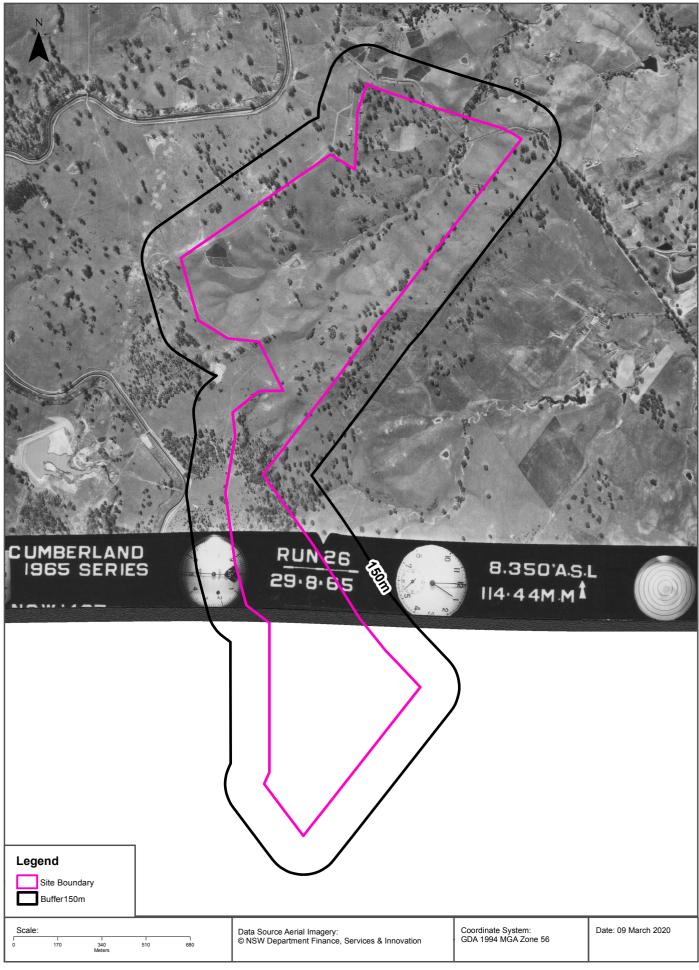




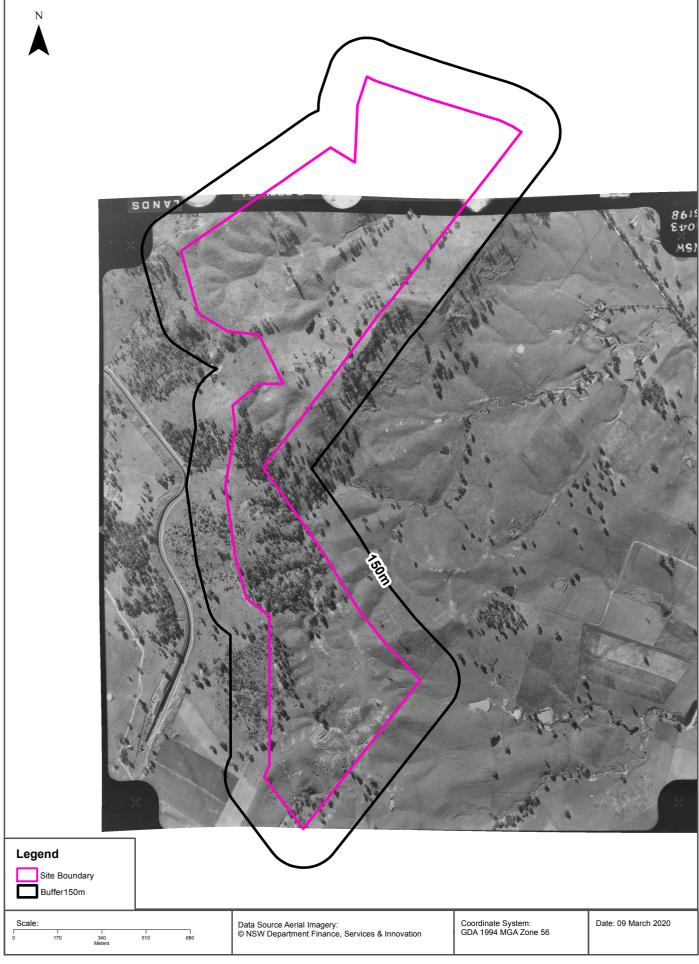




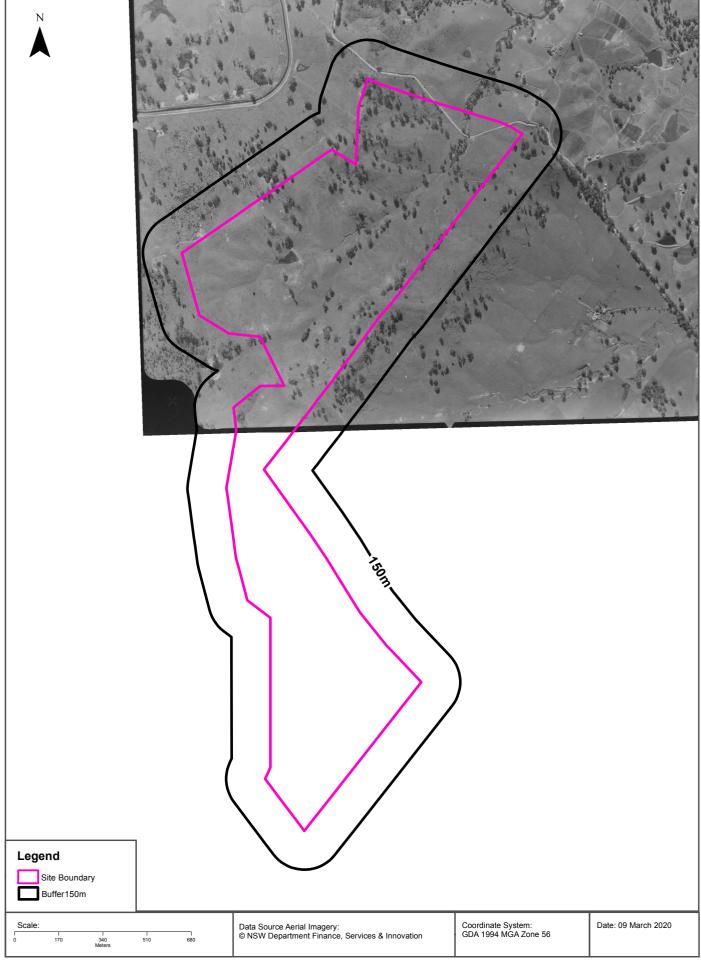




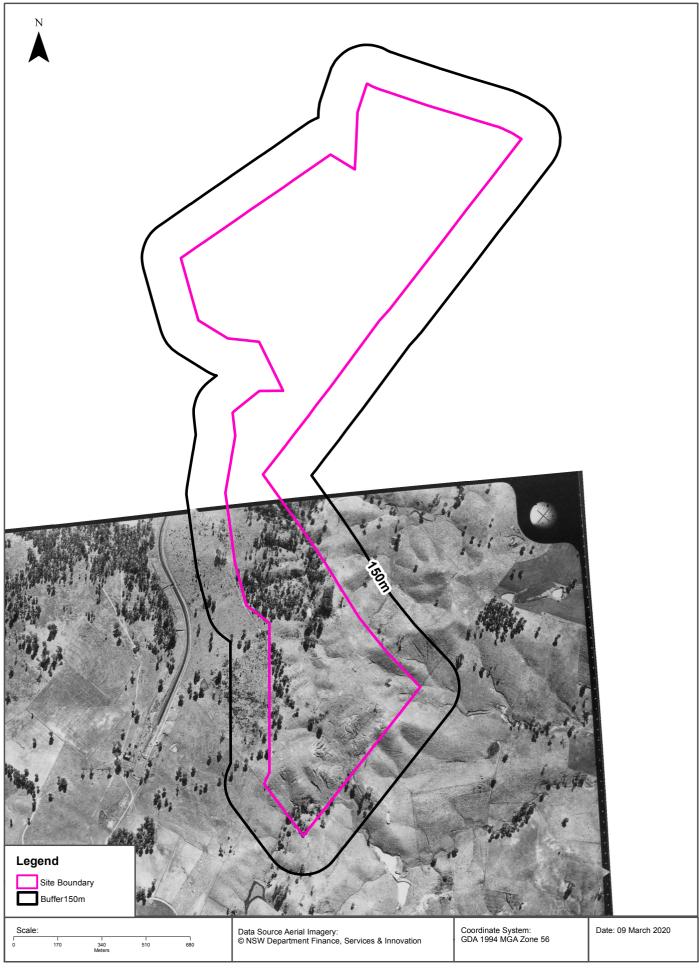




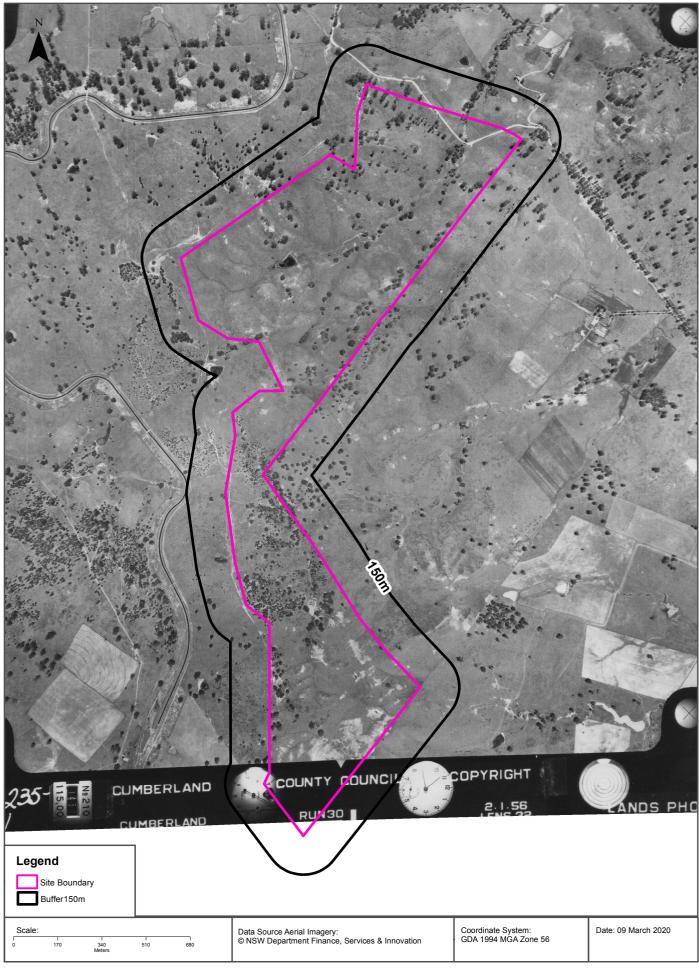






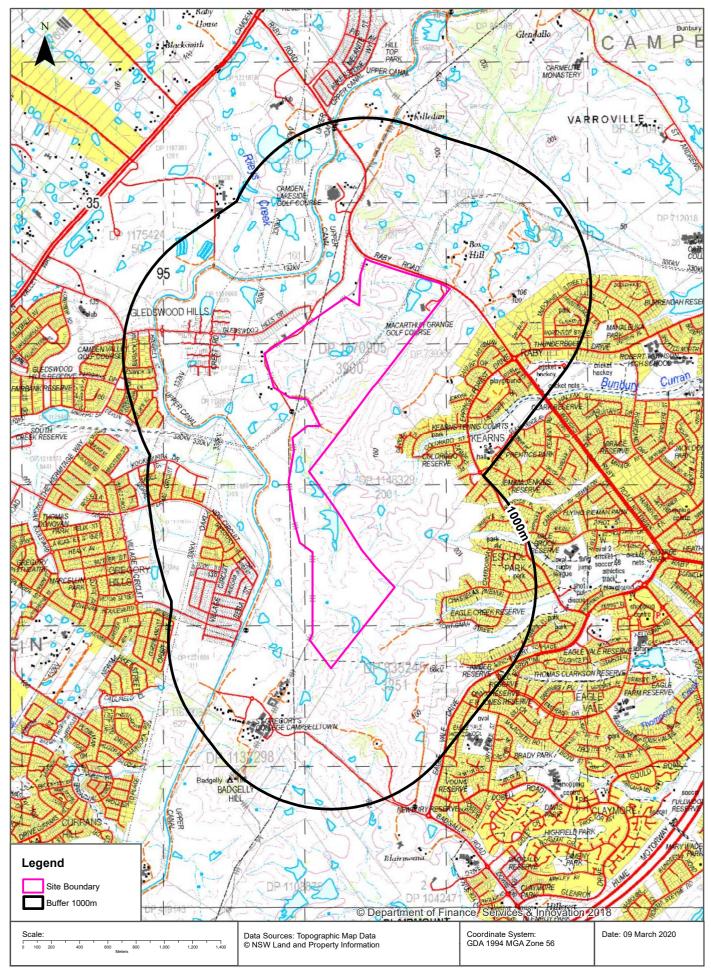






Topographic Map 2015

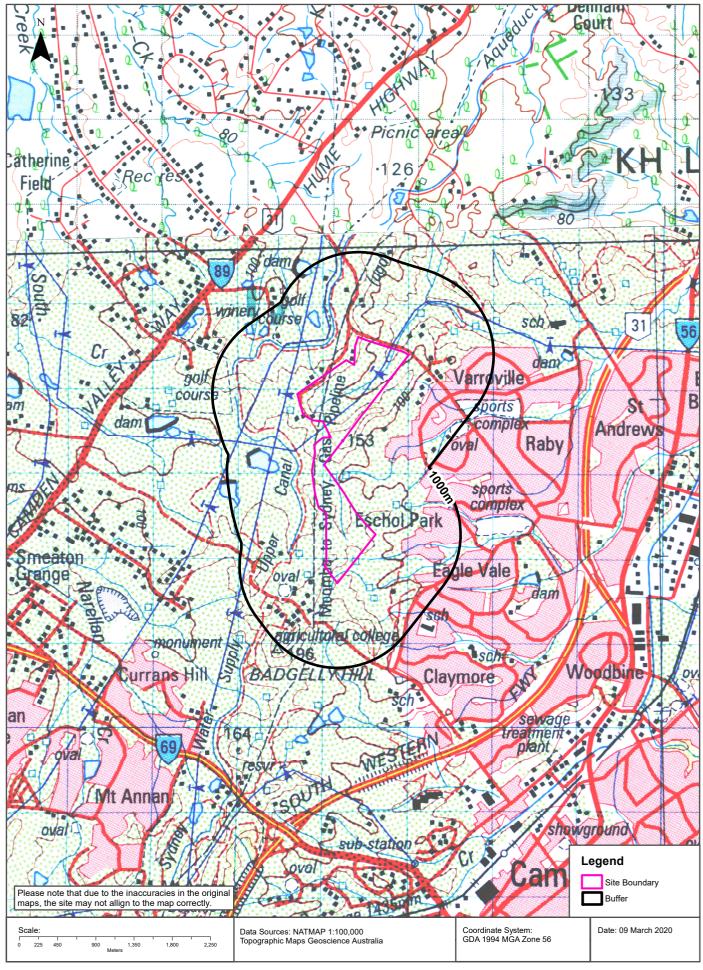




Historical Map 1975 - 1998



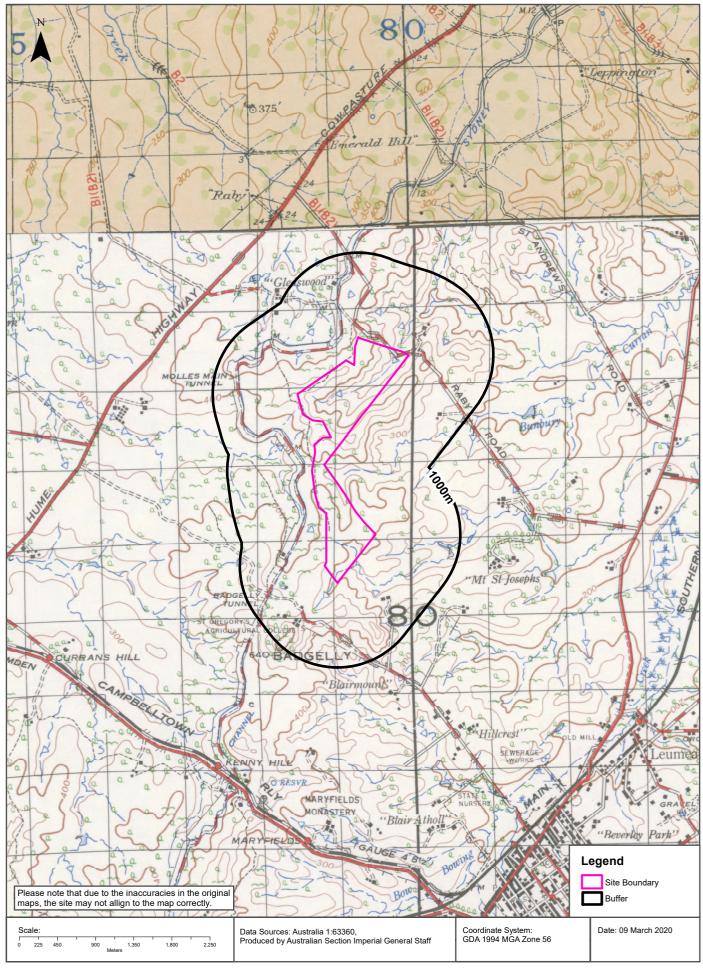




Historical Map c.1942 - 1954



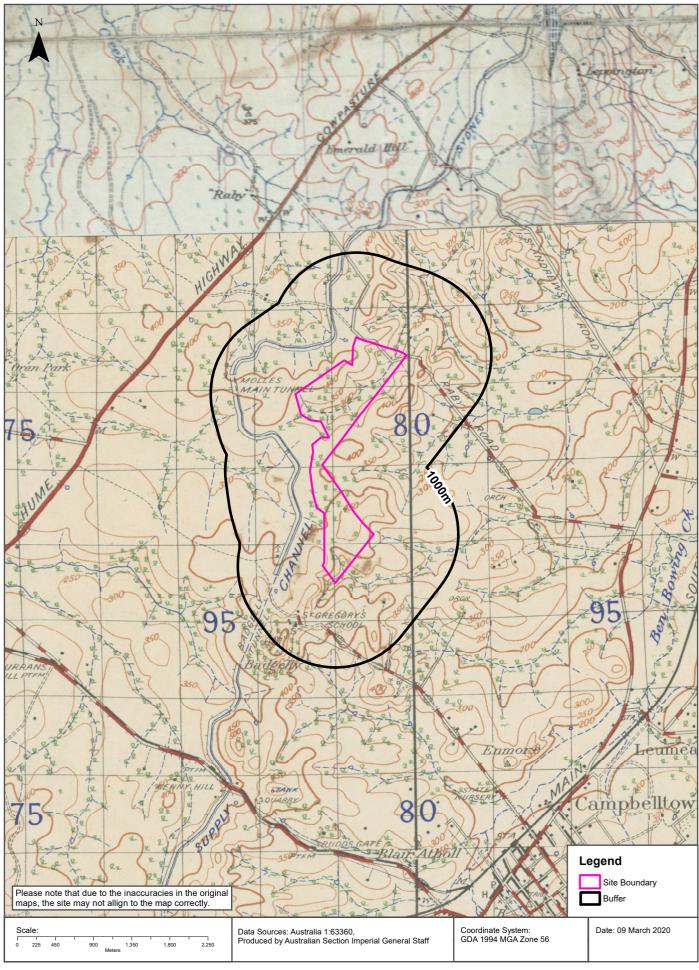




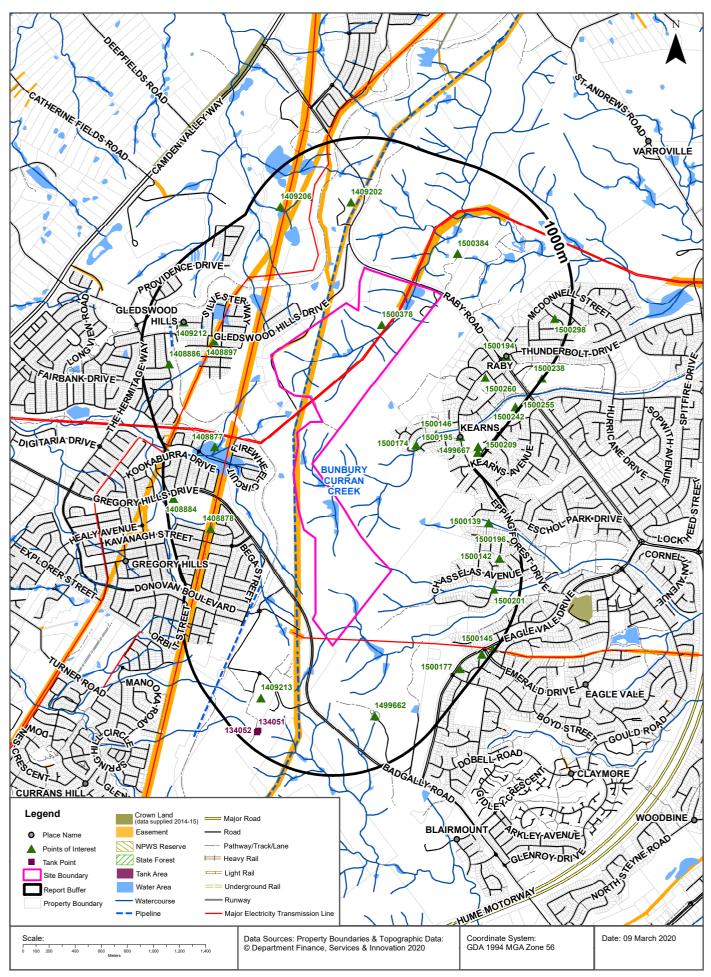
Historical Map c.1929 - 1934











Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

Points of Interest

What Points of Interest exist within the dataset buffer?

1500384 H 1408897 F 1409202 F 1500174 F 1500146 F	Park Place Of Worship Park Park Park Community Facility Park Suburb High School	MACARTHUR GRANGE GOLF COURSE BOX HILL GALLOWAY GREEN JEHOVAHS WITNESSES CHURCH COLORODO RESERVE Park CUNNINGHAM PARK MOUNT UNIVERSE ROUNDHOUSE PLAYGROUND RABY ST GREGORY'S COLLEGE CAMPBELLTOWN	0m 336m 449m 515m 548m 616m 626m 629m 647m	Onsite North East North West North East East West South East North East
1408897 F 1409202 F 1500174 F 1500146 F 1408877 F 1499662 0	Park Place Of Worship Park Park Park Community Facility Park Suburb High School	GALLOWAY GREEN JEHOVAHS WITNESSES CHURCH COLORODO RESERVE Park CUNNINGHAM PARK MOUNT UNIVERSE ROUNDHOUSE PLAYGROUND RABY	449m 515m 548m 616m 626m 629m 647m	North West North East East West South East
1409202 F 1500174 F 1500146 F 1408877 F 1499662 0	Place Of Worship Park Park Park Community Facility Park Suburb High School	JEHOVAHS WITNESSES CHURCH COLORODO RESERVE Park CUNNINGHAM PARK MOUNT UNIVERSE ROUNDHOUSE PLAYGROUND RABY	515m 548m 616m 626m 629m 647m	North East East West South East
1500174 F 1500146 F 1408877 F 1499662 (Park Park Park Community Facility Park Suburb High School	COLORODO RESERVE Park CUNNINGHAM PARK MOUNT UNIVERSE ROUNDHOUSE PLAYGROUND RABY	548m 616m 626m 629m 647m	East East West South East
1500146 F 1408877 F 1499662 (Park Park Community Facility Park Suburb High School	Park CUNNINGHAM PARK MOUNT UNIVERSE ROUNDHOUSE PLAYGROUND RABY	616m 626m 629m 647m	East West South East
1408877 F	Park Community Facility Park Suburb High School	CUNNINGHAM PARK MOUNT UNIVERSE ROUNDHOUSE PLAYGROUND RABY	626m 629m 647m 675m	West South East
1499662	Community Facility Park Suburb High School	MOUNT UNIVERSE ROUNDHOUSE PLAYGROUND RABY	629m 647m 675m	South
	Park Suburb High School	PLAYGROUND RABY	647m 675m	East
1500260 F	Suburb High School	RABY	675m	
	High School			North East
1500194		ST GREGORY'S COLLEGE CAMPBELLTOWN		
1409213 H	Park		680m	South
1408878 F		CHAMPAGNAT PARK	690m	South West
1409212	Suburb	GLEDSWOOD HILLS	715m	North West
1500195	Suburb	KEARNS	774m	East
1408886 F	Park	BRITTLEWOOD RESERVE	784m	West
1409206	Golf Course	CAMDEN LAKESIDE GOLF COURSE	797m	North
1500201 F	Park	EAGLE CREEK RESERVE	801m	South East
1500139 F	Park	Park	832m	South East
1500142 F	Park	Park	835m	South East
1500177 F	Park	ONYX RESERVE	880m	South East
1500298 F	Park	Park	881m	North East
1500242	Sports Court	KEARNS TENNIS COURTS	928m	East
1500209 F	Primary School	KEARNS PUBLIC SCHOOL	930m	East
1408884 F	Park	HOWARD PARK	936m	West
1500165 F	Park	AMBER RESERVE	943m	South East
1499667	Community Facility	KEARNS HALL	955m	East
1500196	Suburb	ESCHOL PARK	965m	South East
1500255	Sports Field	CLARK RESERVE	969m	East
1500145 F	Park	TALC RESERVE	982m	South East
1500238	Sports Field	CRICKET HOCKEY	995m	East

Topographic Data Source: © Land and Property Information (2015)

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Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

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
	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
134051	Water	Operational		20/09/2000	865m	South
134052	Water	Operational		20/09/2000	882m	South

Tanks Data Source: © Land and Property Information (2015)

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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
120110387	Primary	Undefined		Om	Onsite
120119964	Primary	Undefined		0m	Onsite
120116368	Primary	Undefined		0m	Onsite
120116087	Primary	Undefined		0m	Onsite
179931767	Primary	Right of way	20m	0m	Onsite
120110489	Primary	Undefined		97m	South
120111667	Primary	Undefined		117m	South West
174883722	Primary	Electricity	Var	130m	South
120114376	Primary	Undefined		310m	North
120107857	Primary	Undefined		438m	South West
120119440	Primary	Undefined		556m	North
155266388	Primary	Electricity	60m	711m	North East

Map Id	Easement Class	Easement Type	Easement Width	Distance	Direction
176239493	Primary	Right of way	4m	929m	West

Easements Data Source: © Land and Property Information (2015)

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Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

State Forest

What State Forest exist within the dataset buffer?

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

State Forest Data Source: © NSW Department of Finance, Services & Innovation (2018) Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

National Parks and Wildlife Service Reserves

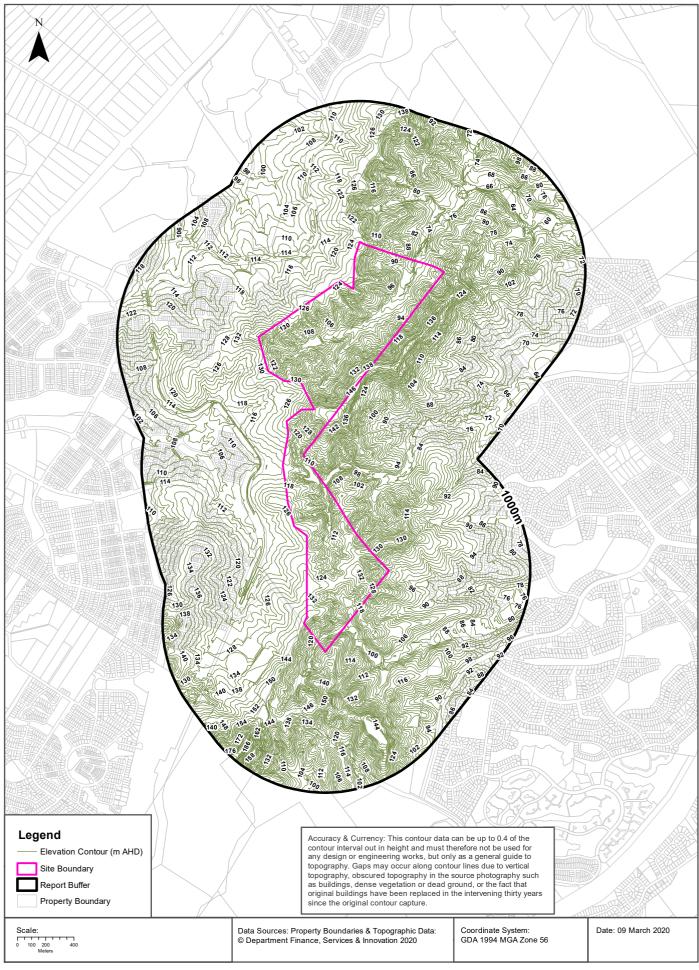
What NPWS Reserves exist within the dataset buffer?

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

NPWS Data Source: © NSW Department of Finance, Services & Innovation (2018)
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Elevation Contours (m AHD)





Hydrogeology & Groundwater

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

Hydrogeology

Description of aquifers on-site:

Descrip	ption
Porous,	, extensive aquifers of low to moderate productivity

Description of aquifers within the dataset buffer:

Description	
Porous, extensive aquifers of low to moderate productivity	

Hydrogeology Map of Australia : Commonwealth of Australia (Geoscience Australia)
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Botany Groundwater Management Zones

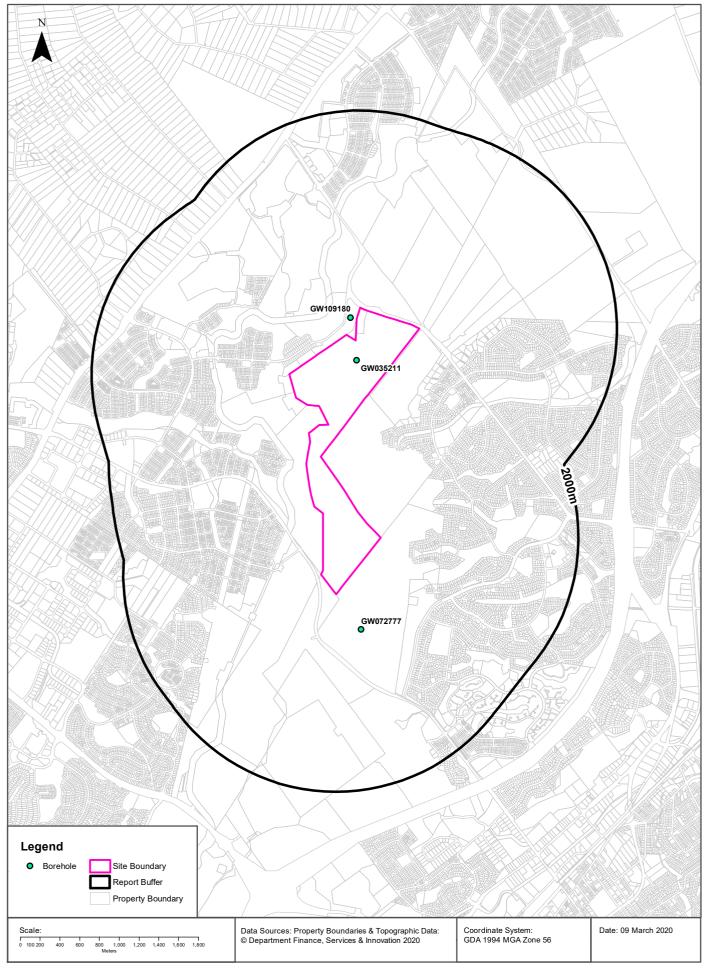
Groundwater management zones relating to the Botany Sand Beds aquifer within the dataset buffer:

Management Zone No.	Restriction	Distance	Direction
N/A	No records in buffer		

 ${\bf Botany\ Groundwater\ Management\ Zones\ Data\ Source: NSW\ Department\ of\ Primary\ Industries}$

Groundwater Boreholes





Hydrogeology & Groundwater

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

Groundwater Boreholes

Boreholes within the dataset buffer:

GW No.	Licence No	Work Type	Owner Type	Authorised Purpose	Intended Purpose	Name	Complete Date	Final Depth (m)	Drilled Depth (m)	Salinity (mg/L)	SWL (m bgl)		Elev (AHD)	Dist	Dir
GW035 211	10BL027 909	Bore open thru rock	Private	Stock	Stock		01/09/1968	60.90	61.00	S.Brack ish				0m	Onsite
GW109 180	10BL163 148, 10WA10 8699	Bore	Private	Domestic, Stock	Domestic, Stock		08/08/2008	264.00		2200	80.0	0.161		62m	North
GW072 777		Bore open thru rock	Private		Domestic, Stock		09/03/1995	250.00	250.00					438m	South

Borehole Data Source: NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corporation for all bores prefixed with GW. All other bores © Commonwealth of Australia (Bureau of Meteorology) 2015. Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Hydrogeology & Groundwater

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

Driller's Logs

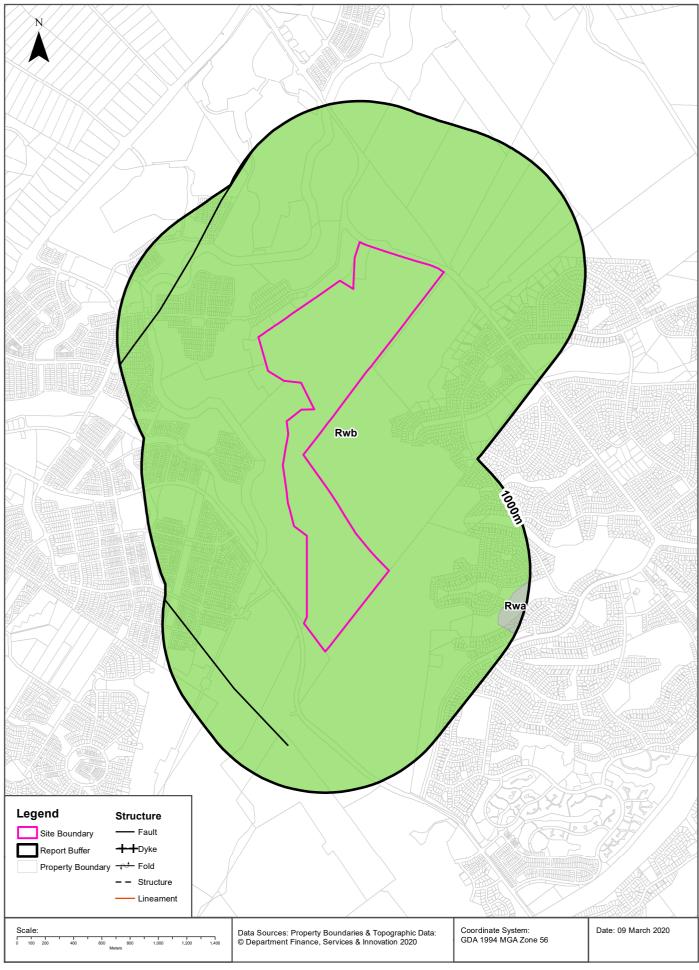
Drill log data relevant to the boreholes within the dataset buffer:

Groundwater No	Drillers Log	Distance	Direction
GW035211	0.00m-0.60m Topsoil 0.60m-5.48m Shale Yellow 5.48m-29.26m Shale Grey 29.26m-51.81m Shale Black 51.81m-54.25m Basalt 54.25m-57.91m Sandstone White 57.91m-60.96m Shale Black	0m	Onsite
GW072777	1.50m-88.50m Dark Grey Shale 88.50m-250.00m White Sandstone	438m	South

Drill Log Data Source: NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corp Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Geology 1:100,000Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558





Geology

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

Geological Units

What are the Geological Units onsite?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Rwb	shale, carbonaceous claystone, laminite, fine to medium-grained lithic sandstone, rare coal and tuff	Bringelly Shale	Wianamatta Group				Wollongong & Port Hacking	1:100,000

What are the Geological Units within the dataset buffer?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Rwa	laminite and dark-grey siltstone	Ashfield Shale	Wianamatta Group				Wollongong & Port Hacking	1:100,000
Rwb	shale, carbonaceous claystone, laminite, fine to medium-grained lithic sandstone, rare coal and tuff	Bringelly Shale	Wianamatta Group				Wollongong & Port Hacking	1:100,000

Geological Structures

What are the Geological Structures onsite?

Feature	Name	Description	Map Sheet	Dataset
No features				1:100,000

What are the Geological Structures within the dataset buffer?

Feature	Name	Description	Map Sheet	Dataset
Fault		Fault, position approximate	Wollongong & Port Hacking	1:100,000
Fault		Fault, position approximate	Wollongong & Port Hacking	1:100,000
Fault		Fault, position approximate	Wollongong & Port Hacking	1:100,000
Fault		Fault, position approximate	Wollongong & Port Hacking	1:100,000

Geological Data Source : NSW Department of Industry, Resources & Energy © State of New South Wales through the NSW Department of Industry, Resources & Energy

Naturally Occurring Asbestos Potential

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

Naturally Occurring Asbestos Potential

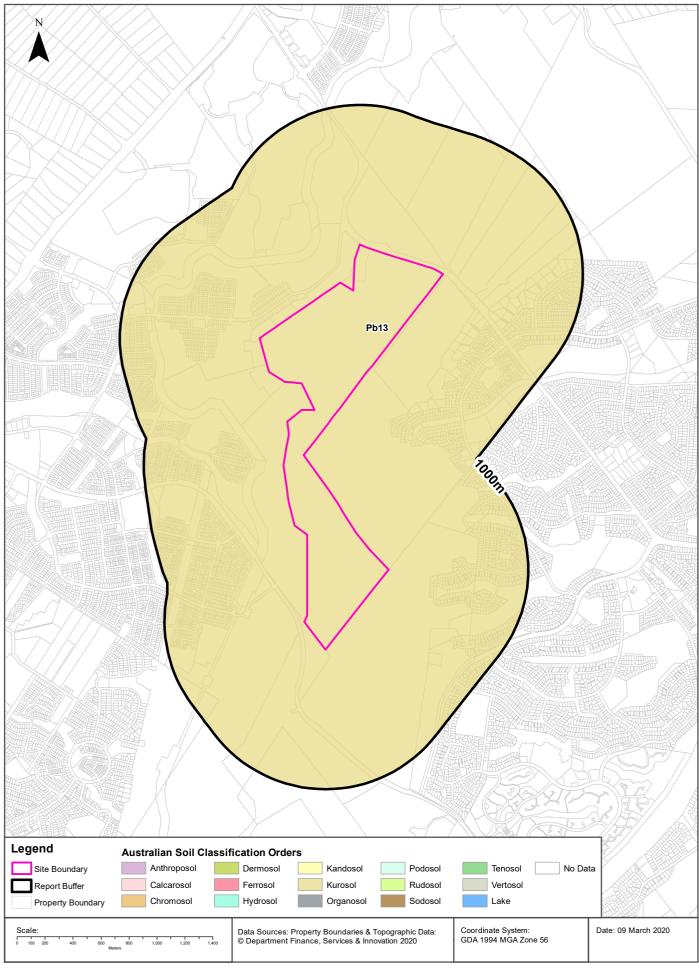
Naturally Occurring Asbestos Potential within the dataset buffer:

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

Mining Subsidence District Data Source: © State of New South Wales through NSW Department of Industry, Resources & Energy

Atlas of Australian Soils





Soils

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

Atlas of Australian Soils

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

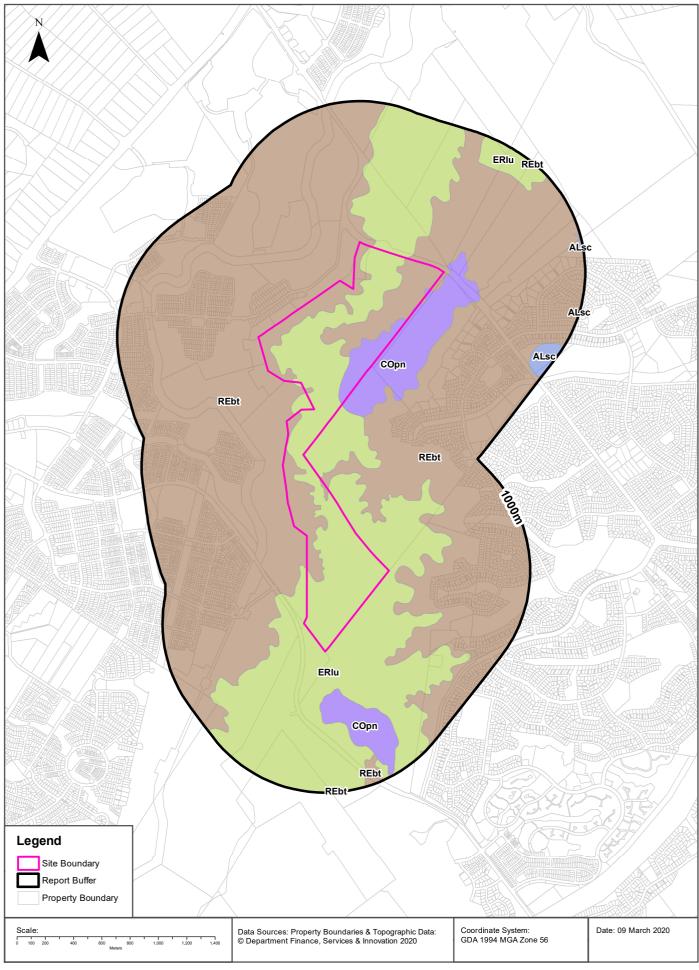
Map Unit Code	Soil Order	Map Unit Description	Distance
Pb13	Kurosol	Ridge and valley country of gently undulating ridge tops and steep side slopes often with slumping, also rounded hilly to steep hilly areas and relatively narrow valleys: chief soils are hard acidic red soils (Dr2.21) with hard acidic yellow mottled soils (Dy3.41); in places some ironstone gravels occur in both these soils. Associated are hard neutral and alkaline red soils (Dr2.22 and Dr2.23) in saddles and some mid-slope positions; (Dy3.42 and Dy3.43) soils, usually in depressions; and small areas of undescribed soils in wet soaks and valley areas. Small areas of other soils are likely throughout.	0m

Atlas of Australian Soils Data Source: CSIRO

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Soil Landscapes





Soils

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

Soil Landscapes

What are the onsite Soil Landscapes?

Soil Code	Name	Group	Process	Map Sheet	Scale
COpn	PICTON		COLLUVIAL	Wollongong & Port Hacking	1:100,000
ERlu	LUDDENHAM		EROSIONAL	Wollongong & Port Hacking	1:100,000
REbt	BLACKTOWN		RESIDUAL	Wollongong & Port Hacking	1:100,000

What are the Soil Landscapes within the dataset buffer?

Soil Code	Name	Group	Process	Map Sheet	Scale
ALsc	SOUTH CREEK		ALLUVIAL	Wollongong & Port Hacking	1:100,000
COpn	PICTON		COLLUVIAL	Wollongong & Port Hacking	1:100,000
ERlu	LUDDENHAM		EROSIONAL	Wollongong & Port Hacking	1:100,000
REbt	BLACKTOWN		RESIDUAL	Wollongong & Port Hacking	1:100,000

Soils Landscapes Data Source : NSW Office of Environment and Heritage Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Acid Sulfate Soils

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

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
N/A		

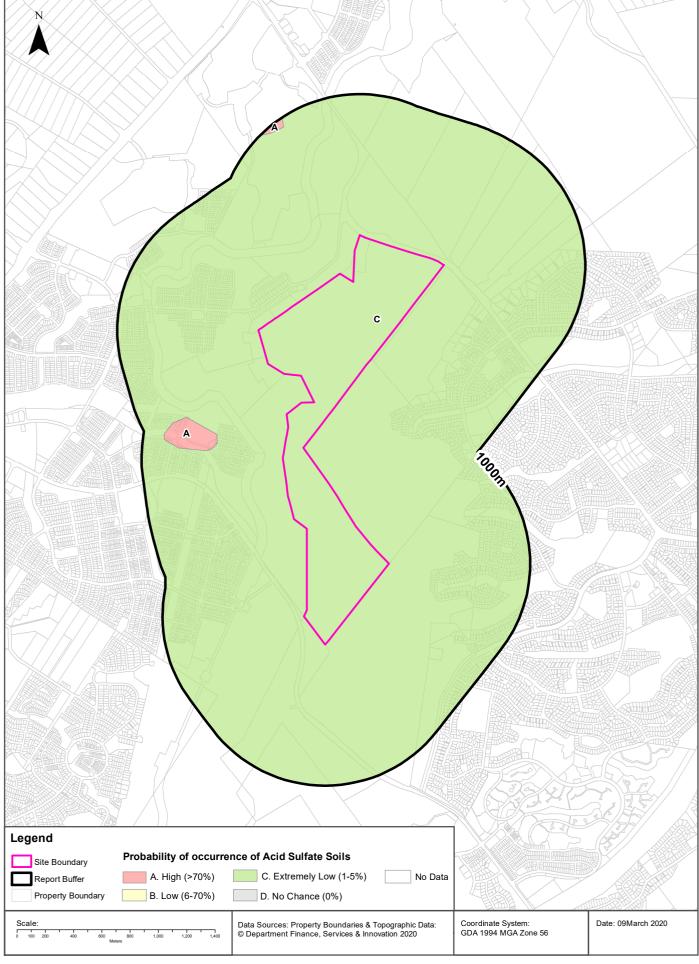
If the on-site Soil Class is 5, what other soil classes exist within 500m?

Soil Class	Description	EPI Name	Distance	Direction
N/A				

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Atlas of Australian Acid Sulfate Soils





Acid Sulfate Soils

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

Atlas of Australian Acid Sulfate Soils

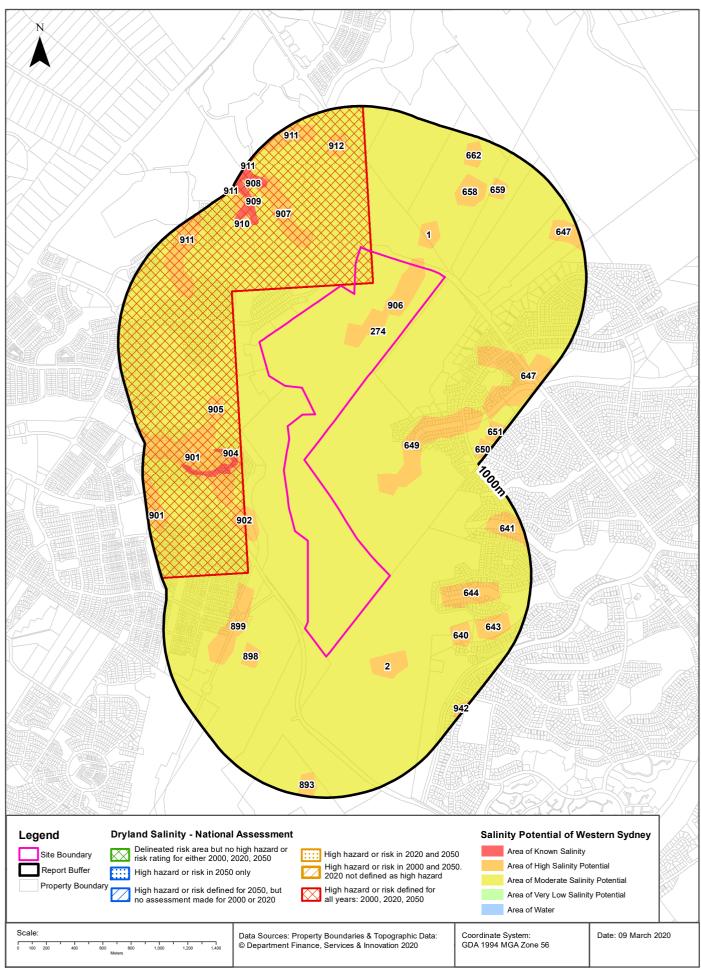
Atlas of Australian Acid Sulfate Soil categories within the dataset buffer:

Class	Description	Distance
С	Extremely low probability of occurrence. 1-5% chance of occurrence with occurrences in small localised areas.	0m
Α	High Probability of occurrence. >70% chance of occurrence.	476m

Atlas of Australian Acid Sulfate Soils Data Source: CSIRO Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Dryland Salinity





Dryland Salinity

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

Dryland Salinity - National Assessment

Is there Dryland Salinity - National Assessment data onsite?

Yes

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

Yes

What Dryland Salinity assessments are given?

Assessment 2000	Assessment 2020	Assessment 2050	Distance	Direction
High hazard or risk	High hazard or risk	High hazard or risk	0m	Onsite

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.

Dryland Salinity Potential of Western Sydney

Dryland Salinity Potential of Western Sydney within the dataset buffer?

Feature Id	Classification	Description	Distance	Direction
274	MODERATE	Area of Moderate Salinity Potential	0m	Onsite
906	HIGH	Area of High Salinity Potential	0m	Onsite
1	HIGH	Area of High Salinity Potential	141m	North East
902	HIGH	Area of High Salinity Potential	244m	South West
2	HIGH	Area of High Salinity Potential	249m	South
901	HIGH	Area of High Salinity Potential	285m	West
649	HIGH	Area of High Salinity Potential	309m	East
904	SALT	Area of Known Salinity	331m	West
907	HIGH	Area of High Salinity Potential	344m	North
898	HIGH	Area of High Salinity Potential	352m	South
644	HIGH	Area of High Salinity Potential	363m	South East
905	HIGH	Area of High Salinity Potential	364m	West

Feature Id	Classification	Description	Distance	Direction
899	HIGH	Area of High Salinity Potential	382m	South West
647	HIGH	Area of High Salinity Potential	482m	East
658	HIGH	Area of High Salinity Potential	500m	North East
640	HIGH	Area of High Salinity Potential	557m	South East
911	HIGH	Area of High Salinity Potential	573m	North West
659	HIGH	Area of High Salinity Potential	654m	North East
912	HIGH	Area of High Salinity Potential	655m	North
643	HIGH	Area of High Salinity Potential	677m	South East
908	SALT	Area of Known Salinity	699m	North
910	HIGH	Area of High Salinity Potential	745m	North West
641	HIGH	Area of High Salinity Potential	747m	South East
662	HIGH	Area of High Salinity Potential	785m	North East
909	HIGH	Area of High Salinity Potential	814m	North
893	HIGH	Area of High Salinity Potential	822m	South
651	HIGH	Area of High Salinity Potential	877m	East
650	HIGH	Area of High Salinity Potential	894m	East
942	HIGH	Area of High Salinity Potential	937m	South East

Dryland Salinity Potential of Western Sydney Data Source : NSW Office of Environment and Heritage Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Mining Subsidence Districts

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

Mining Subsidence Districts

Mining Subsidence Districts within the dataset buffer:

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

Mining Subsidence District Data Source: © Land and Property Information (2016)
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State Environmental Planning Policy

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

State Significant Precincts

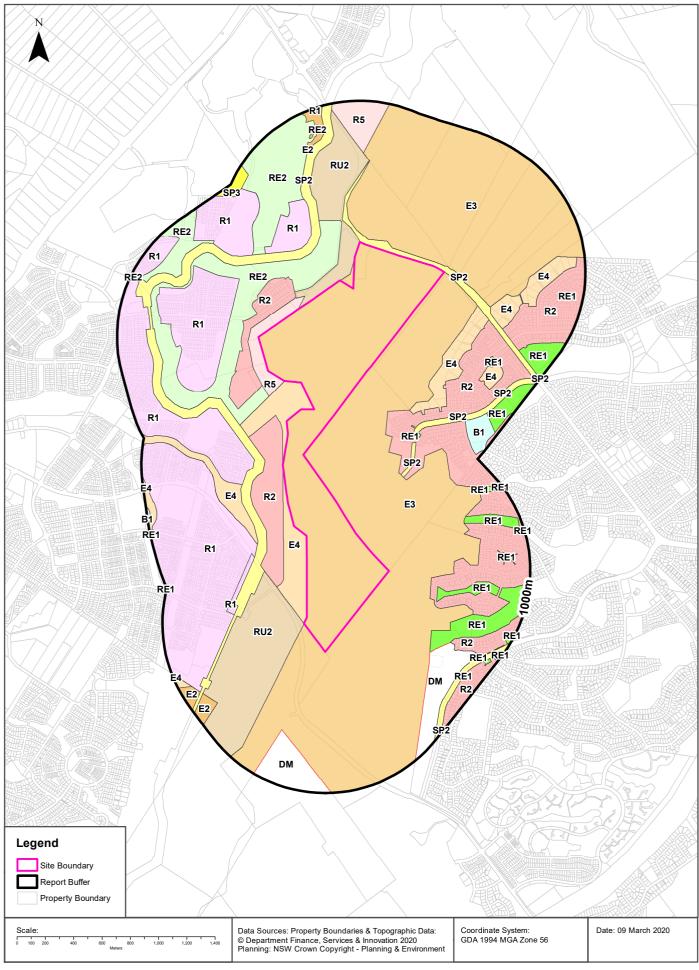
What SEPP State Significant Precincts exist within the dataset buffer?

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

State Environment Planning Policy Data Source: NSW Crown Copyright - Planning & Environment Creative Commons 4.0 © Commonwealth of Australia https://creativecommons.org/licenses/by/4.0/

EPI Planning Zones





Environmental Planning Instrument

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

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
E3	Environmental Management		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		0m	Onsite
E4	Environmental Living		Camden Local Environmental Plan 2010	20/12/2019	20/12/2019	20/12/2019	Amendment No 21	0m	South West
R5	Large Lot Residential		Camden Local Environmental Plan 2010	10/05/2019	10/05/2019	20/12/2019	Amendment No 43	0m	North West
RU2	Rural Landscape		Camden Local Environmental Plan 2010	10/05/2019	10/05/2019	20/12/2019	Amendment No 43	0m	North
RU2	Rural Landscape		Camden Local Environmental Plan 2010	20/12/2019	20/12/2019	20/12/2019	Amendment No 21	0m	South
SP2	Infrastructure	Road	Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		0m	South East
R2	Low Density Residential		Camden Local Environmental Plan 2010	20/12/2019	20/12/2019	20/12/2019	Amendment No 21	2m	South West
E3	Environmental Management		Campbelltown Local Environmental Plan 2015	29/06/2018	29/06/2018	22/02/2019	Amendment No 4	30m	North East
R2	Low Density Residential		Camden Local Environmental Plan 2010	22/03/2013	22/03/2013	20/12/2019	Amendment No 3	66m	North West
RE2	Private Recreation		Camden Local Environmental Plan 2010	22/03/2013	22/03/2013	20/12/2019	Amendment No 3	83m	North West
SP2	Infrastructure	Water Supply System	Camden Local Environmental Plan 2010	29/06/2018	29/06/2018	20/12/2019	Amendment No 39	132m	West
R1	General Residential		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	29/08/2016	29/08/2016	22/11/2019	Camden Local Environmental Plan Amendment (Sydney Region Growth Centres? Turner Road Precinct) 2016	206m	West
R1	General Residential		Camden Local Environmental Plan 2010	22/03/2013	22/03/2013	20/12/2019	Amendment No 3	229m	North West
E4	Environmental Living		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	22/11/2019		275m	West
R2	Low Density Residential		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		286m	South East
R1	General Residential		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	29/08/2016	29/08/2016	22/11/2019	Camden Local Environmental Plan Amendment (Sydney Region Growth Centres? Turner Road Precinct) 2016	292m	South West
E4	Environmental Living		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		331m	North East
R1	General Residential		Camden Local Environmental Plan 2010	03/09/2010	03/09/2010	20/12/2019		345m	North
R1	General Residential		Camden Local Environmental Plan 2010	20/02/2015	20/02/2015	20/12/2019	Amendment No 33	357m	South West
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		359m	South East
E4	Environmental Living		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		405m	North East
	Environmental		Campbelltown Local Environmental Plan 2015 Campbelltown Local				No 33		

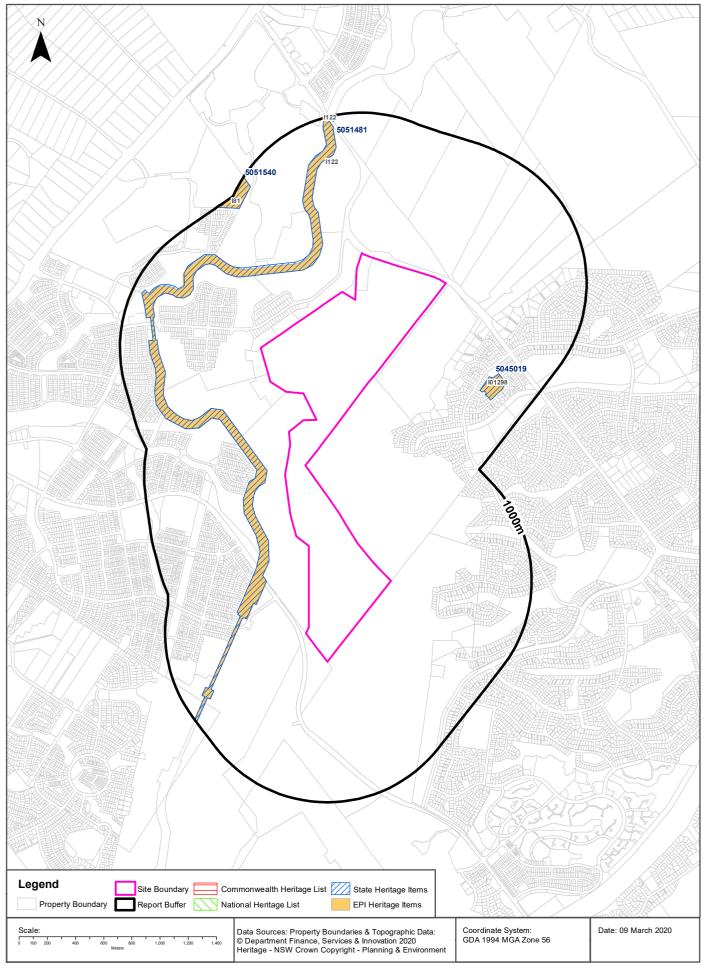
Zone	Description	Purpose	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
RE2	Private Recreation		Camden Local Environmental Plan 2010	22/03/2013	22/03/2013	20/12/2019	Amendment No 3	458m	North West
SP2	Infrastructure	Drainage	Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		481m	East
SP2	Infrastructure	Drainage	Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		487m	South East
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		494m	South East
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		500m	East
R1	General Residential		Camden Local Environmental Plan 2010	22/03/2013	22/03/2013	20/12/2019	Amendment No 3	502m	North West
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		551m	East
E4	Environmental Living		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		554m	North East
R2	Low Density Residential		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		570m	East
DM	Deferred Matter		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		582m	South
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		618m	East
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		627m	South East
DM	Deferred Matter		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		631m	South
R5	Large Lot Residential		Camden Local Environmental Plan 2010	29/06/2018	29/06/2018	20/12/2019	Amendment No 39	634m	North
E4	Environmental Living		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		650m	East
SP2	Infrastructure	Drainage	Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		729m	East
E2	Environmental Conservation		Camden Local Environmental Plan 2010	03/09/2010	03/09/2010	20/12/2019		735m	North
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		755m	East
B1	Neighbourhood Centre		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		758m	East
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		777m	South East
RE2	Private Recreation		Camden Local Environmental Plan 2010	03/09/2010	03/09/2010	20/12/2019		817m	North
E2	Environmental Conservation		Camden Local Environmental Plan 2010	03/09/2010	03/09/2010	20/12/2019		825m	South West
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		846m	East
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		847m	South East
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		862m	North East
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		864m	South East
R1	General Residential		Camden Local Environmental Plan 2010	22/03/2013	22/03/2013	20/12/2019	Amendment No 3	865m	North West
R2	Low Density Residential		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		872m	South East
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		872m	South East
E2	Environmental Conservation		Camden Local Environmental Plan 2010	03/09/2010	03/09/2010	20/12/2019		878m	South West
SP3	Tourist		Camden Local Environmental Plan 2010	22/03/2013	22/03/2013	20/12/2019	Amendment No 3	904m	North West
E4	Environmental Living		Camden Local Environmental Plan 2010	03/09/2010	03/09/2010	20/12/2019		910m	South West
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		921m	South East
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		950m	South East

Zone	Description	Purpose	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
R1	General Residential		Camden Local Environmental Plan 2010	03/09/2010	03/09/2010	20/12/2019		953m	North
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		955m	South East
RE1	Public Recreation		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	29/08/2016	29/08/2016	22/11/2019	Camden Local Environmental Plan Amendment (Sydney Region Growth Centres? Turner Road Precinct) 2016	956m	South West
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		963m	East
B1	Neighbourhood Centre		State Environmental Planning Policy (Sydney Region Growth Centres) 2006	28/07/2006	28/07/2006	22/11/2019		977m	South West
RE1	Public Recreation		Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		978m	South East
SP2	Infrastructure	Drainage	Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019		993m	East

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Heritage Items





Heritage

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

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 Creative Commons 3.0 © Commonwealth of Australia https://creativecommons.org/licenses/by/3.0/au/deed.en

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 Creative Commons 3.0 © Commonwealth of Australia https://creativecommons.org/licenses/by/3.0/au/deed.en

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
5051481	Upper Canal System (Pheasants Nest Weir to Prospect Reservoir)	Prospect	Blacktown	18/11/1999	01373	2333	132m	South West
5045019	Epping Forest	Mississippi Crescent, Kearns	Campbelltown	13/08/1999	01298	3097	650m	East
5051540	Gledswood	900 Camden Valley Way Catherine Field	Camden	22/12/2006	01692	2899	904m	North West

Heritage Data Source: NSW Crown Copyright - Office of Environment & Heritage Creative Commons 4.0 © Commonwealth of Australia https://creativecommons.org/licenses/by/4.0/

Environmental Planning Instrument - Heritage

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

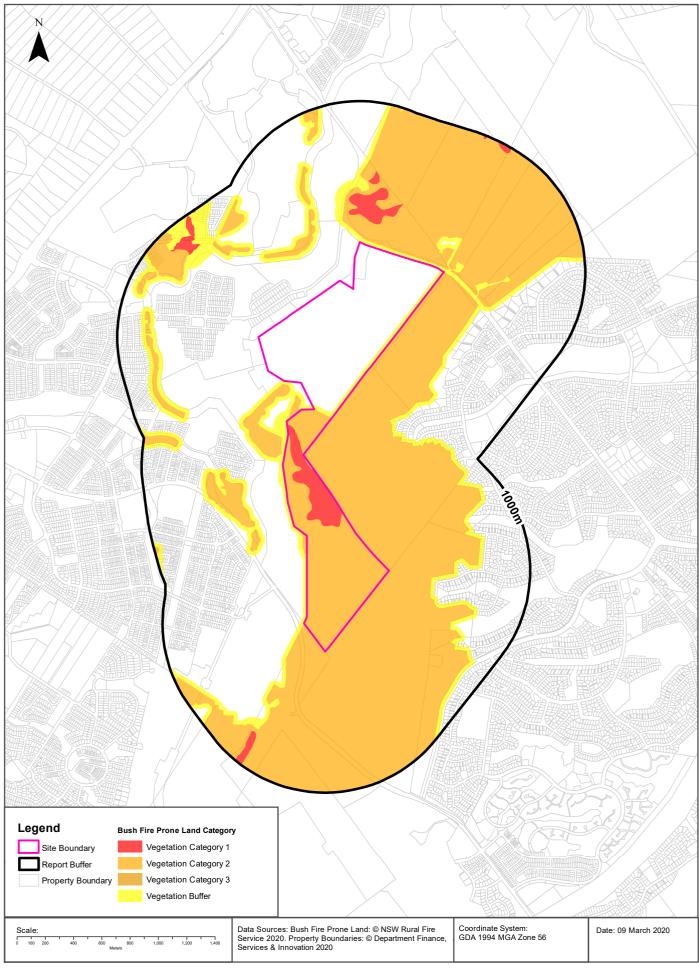
Map Id	Name	Classification	Significance	EPI Name	Published Date	Commenced Date	Currency Date	Distance	Direction
l122	Upper Canal	Item - General	State	Camden Local Environmental Plan 2010	02/05/2014	02/05/2014	28/02/2019	133m	South West

Map Id	Name	Classification	Significance	EPI Name	Published Date	Commenced Date	Currency Date	Distance	Direction
101298	Epping Forest homestead complex	Item - General	State	Campbelltown Local Environmental Plan 2015	11/12/2015	11/03/2016	22/02/2019	650m	East
181	Gledswood (including homestead, storeroom, shearing shed, shearing quarters, garden and grounds)	Item - General	State	Camden Local Environmental Plan 2010	28/02/2019	28/02/2019	28/02/2019	904m	North West
l122	Upper Canal	Item - General	State	Camden Local Environmental Plan 2010	28/02/2019	28/02/2019	28/02/2019	962m	North

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Natural Hazards - Bush Fire Prone Land





Natural Hazards

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

Bush Fire Prone Land

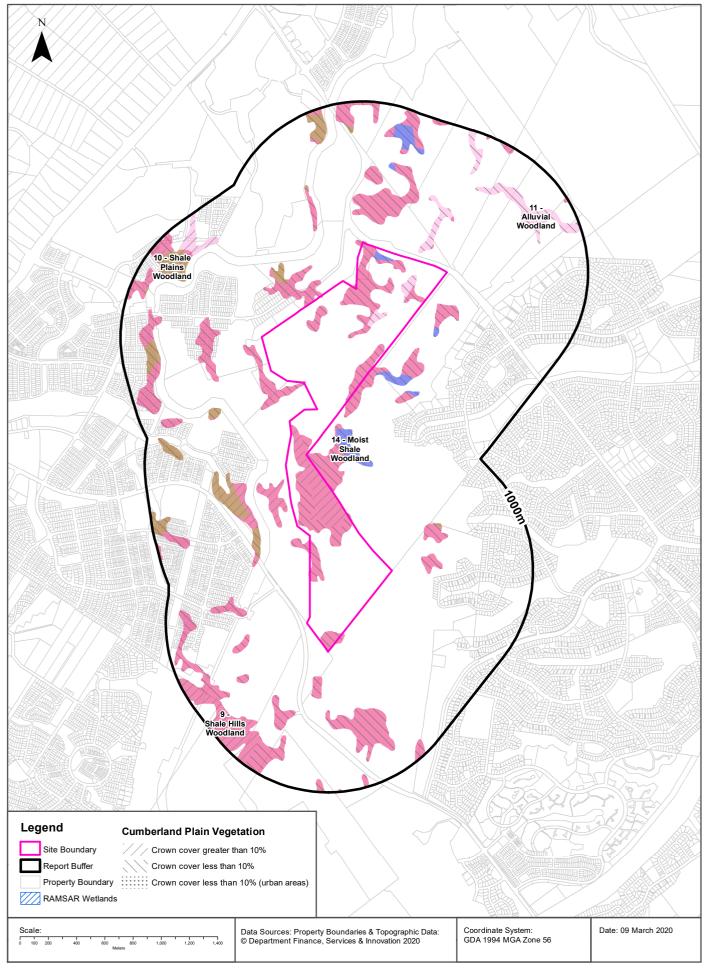
What are the nearest Bush Fire Prone Land Categories that exist within the dataset buffer?

Bush Fire Prone Land Category	Distance	Direction
Vegetation Buffer	0m	Onsite
Vegetation Category 1	0m	Onsite
Vegetation Category 2	0m	Onsite

NSW Bush Fire Prone Land - © NSW Rural Fire Service under Creative Commons 4.0 International Licence

Ecological Constraints - Remnant Vegetation of the Cumberland Plain





Ecological Constraints

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

Remnant Vegetation of the Cumberland Plain

What remnant vegetation of the Cumberland Plain exists within the dataset buffer?

Description	Crown Cover	Distance	Direction
9 - Shale Hills Woodland	Crown cover greater than 10%	0m	Onsite
11 - Alluvial Woodland	Crown cover less than 10%	0m	Onsite
14 - Moist Shale Woodland	Crown cover less than 10%	0m	Onsite
9 - Shale Hills Woodland	Crown cover less than 10%	0m	Onsite
10 - Shale Plains Woodland	Crown cover less than 10%	213m	North West
10 - Shale Plains Woodland	Crown cover greater than 10%	267m	South West
11 - Alluvial Woodland	Crown cover greater than 10%	726m	North West

Remnant Vegetation of the Cumberland Plain: NSW Office of Environment and Heritage Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Ramsar Wetlands

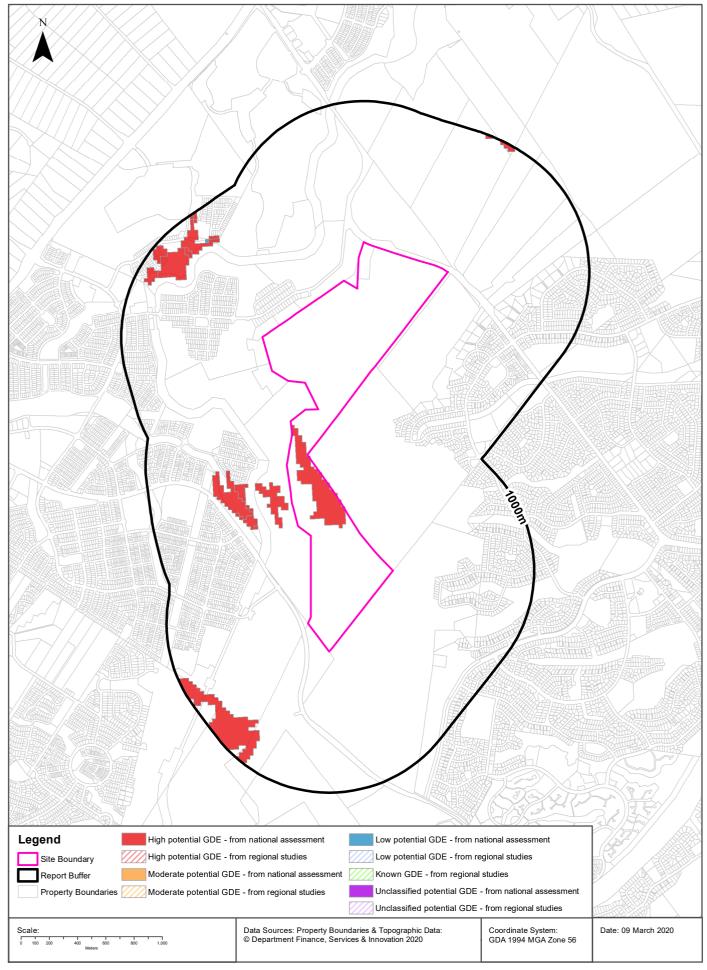
What Ramsar Wetland areas exist within the dataset buffer?

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

Ramsar Wetlands Data Source: © Commonwealth of Australia - Department of Environment

Ecological Constraints - Groundwater Dependent Ecosystems Atlas





Ecological Constraints

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

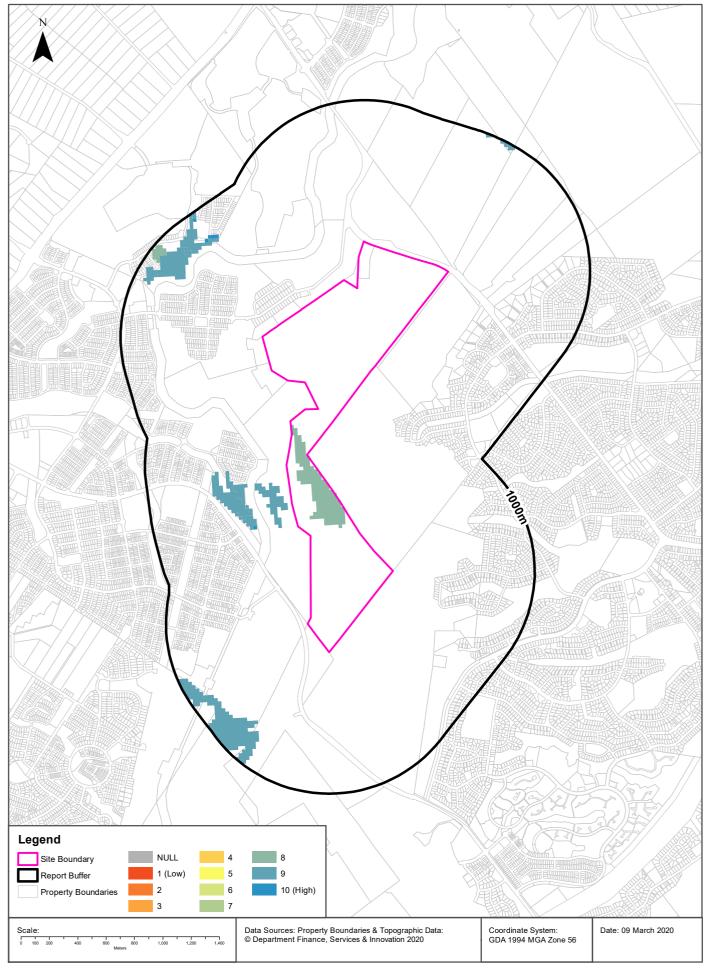
Groundwater Dependent Ecosystems Atlas

Туре	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	High potential GDE - from national assessment	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	0m
Terrestrial	Low potential GDE - from national assessment	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	764m

 $Groundwater\ Dependent\ Ecosystems\ Atlas\ Data\ Source:\ The\ Bureau\ of\ Meteorology$ $Creative\ Commons\ 3.0\ \ \ \ Commonwealth\ of\ Australia\ http://creativecommons.org/licenses/by/3.0/au/deed.en$

Ecological Constraints - Inflow Dependent Ecosystems Likelihood





Ecological Constraints

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

Inflow Dependent Ecosystems Likelihood

Туре	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	8	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	0m
Terrestrial	9	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	29m
Terrestrial	10	Undulating to low hilly country, mainly on shale.	Vegetation	Consolidated sedimentary	278m

Inflow Dependent Ecosystems Likelihood Data Source: The Bureau of Meteorology Creative Commons 3.0 © Commonwealth of Australia http://creativecommons.org/licenses/by/3.0/au/deed.en

Ecological Constraints

Macarthur Grange Golf Club, Raby Road, Kearns, NSW 2558

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	Heleioporus australiacus	Giant Burrowing Frog	Vulnerable	Not Sensitive	Vulnerable	
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	Pseudophryne australis	Red-crowned Toadlet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Anseranas semipalmata	Magpie Goose	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Anthochaera phrygia	Regent Honeyeater	Critically Endangered	Not Sensitive	Critically Endangered	
Animalia	Aves	Ardea ibis	Cattle Egret	Not Listed	Not Sensitive	Not Listed	CAMBA;JAMBA
Animalia	Aves	Artamus cyanopterus cyanopterus	Dusky Woodswallow	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Botaurus poiciloptilus	Australasian Bittern	Endangered	Not Sensitive	Endangered	
Animalia	Aves	Burhinus grallarius	Bush Stone- curlew	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Calidris canutus	Red Knot	Not Listed	Not Sensitive	Endangered	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Callocephalon fimbriatum	Gang-gang Cockatoo	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Calyptorhynchus banksii samueli	Red-tailed Black- Cockatoo (inland subspecies)	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Calyptorhynchus lathami	Glossy Black- Cockatoo	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Chthonicola sagittata	Speckled Warbler	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Circus assimilis	Spotted Harrier	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Climacteris picumnus victoriae	Brown Treecreeper (eastern subspecies)	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Coracina lineata	Barred Cuckoo- shrike	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Cyanoramphus novaezelandiae subflavescens	Red-crowned Parakeet (Lord Howe Is. subsp.)	Presumed Extinct	Not Sensitive	Extinct	
Animalia	Aves	Daphoenositta chrysoptera	Varied Sittella	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ephippiorhynchus asiaticus	Black-necked Stork	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Gallinago hardwickii	Latham's Snipe	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Glossopsitta pusilla	Little Lorikeet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Haliaeetus leucogaster	White-bellied Sea-Eagle	Vulnerable	Not Sensitive	Not Listed	CAMBA
Animalia	Aves	Hieraaetus morphnoides	Little Eagle	Vulnerable	Not Sensitive	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Aves	Hirundapus caudacutus	White-throated Needletail	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Hirundo rustica	Barn Swallow	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Lathamus discolor	Swift Parrot	Endangered	Category 3	Critically Endangered	
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	Melanodryas cucullata cucullata	Hooded Robin (south-eastern form)	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Melithreptus gularis gularis	Black-chinned Honeyeater (eastern subspecies)	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Merops ornatus	Rainbow Bee- eater	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Neophema pulchella	Turquoise Parrot	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Neophema splendida	Scarlet-chested Parrot	Vulnerable	Not Sensitive	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	Oxyura australis	Blue-billed Duck	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Petroica boodang	Scarlet Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Petroica phoenicea	Flame Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pezoporus wallicus	Eastern Ground Parrot	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Pluvialis squatarola	Grey Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Polytelis anthopeplus monarchoides	Regent Parrot (eastern subspecies)	Endangered	Category 3	Vulnerable	
Animalia	Aves	Polytelis swainsonii	Superb Parrot	Vulnerable	Category 3	Vulnerable	
Animalia	Aves	Stagonopleura guttata	Diamond Firetail	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Stictonetta naevosa	Freckled Duck	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Thinornis rubricollis	Hooded Plover	Critically Endangered	Not Sensitive	Vulnerable	
Animalia	Aves	Tyto novaehollandiae	Masked Owl	Vulnerable	Category 3	Not Listed	
Animalia	Gastropoda	Meridolum corneovirens	Cumberland Plain Land Snail	Endangered	Not Sensitive	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	Macropus dorsalis	Black-striped Wallaby	Endangered	Not Sensitive	Not Listed	
Animalia	Mammalia	Micronomus norfolkensis	Eastern Coastal Free-tailed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Miniopterus australis		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	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Mammalia	Petauroides volans	Greater Glider	Not Listed	Not Sensitive	Vulnerable	
Animalia	Mammalia	Petaurus norfolcensis	Squirrel Glider	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Petrogale xanthopus	Yellow-footed Rock-wallaby	Endangered	Not Sensitive	Vulnerable	
Animalia	Mammalia	Phascolarctos cinereus	Koala	Vulnerable	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	
Animalia	Mammalia	Vespadelus troughtoni	Eastern Cave Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Antaresia stimsoni	Stimson's Python	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	Eulamprus leuraensis	Blue Mountains Water Skink	Endangered	Not Sensitive	Endangered	
Animalia	Reptilia	Hoplocephalus bungaroides	Broad-headed Snake	Endangered	Category 2	Vulnerable	
Animalia	Reptilia	Suta flagellum	Little Whip Snake	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Tiliqua occipitalis	Western Blue- tongued Lizard	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Acacia bakeri	Marblewood	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Acacia pubescens	Downy Wattle	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Clematis fawcettii	Northern Clematis	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Cynanchum elegans	White-flowered Wax Plant	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Eucalyptus benthamii	Camden White Gum	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Eucalyptus nicholii	Narrow-leaved Black Peppermint	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Eucalyptus scoparia	Wallangarra White Gum	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Genoplesium baueri	Bauer's Midge Orchid	Endangered	Category 2	Endangered	
Plantae	Flora	Grevillea parviflora subsp. parviflora	Small-flower Grevillea	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Gyrostemon thesioides		Endangered	Category 3	Not Listed	
Plantae	Flora	Hibbertia puberula		Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Lepidium hyssopifolium	Aromatic Peppercress	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Leucopogon	Woronora Beard- heath	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Leucopogon fletcheri subsp. fletcheri		Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Macadamia integrifolia	Macadamia Nut	Not Listed	Not Sensitive	Vulnerable	
Plantae	Flora	Marsdenia viridiflora subsp. viridiflora	Native Pear	Endangered Population	Not Sensitive	Not Listed	
Plantae	Flora	Melaleuca deanei	Deane's Paperbark	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Persoonia hirsuta	Hairy Geebung	Endangered	Category 3	Endangered	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Plantae	Flora	Persoonia nutans	Nodding Geebung	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Pimelea spicata	Spiked Rice- flower	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Pomaderris brunnea	Brown Pomaderris	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Prostanthera marifolia	Seaforth Mintbush	Critically Endangered	Category 3	Critically Endangered	
Plantae	Flora	Pterostylis nigricans	Dark Greenhood	Vulnerable	Category 2	Not Listed	
Plantae	Flora	Pterostylis saxicola	Sydney Plains Greenhood	Endangered	Category 2	Endangered	
Plantae	Flora	Pultenaea pedunculata	Matted Bush-pea	Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Syzygium paniculatum	Magenta Lilly Pilly	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Thesium australe	Austral Toadflax	Vulnerable	Not Sensitive	Vulnerable	

Data does not include NSW category 1 sensitive species. NSW BioNet: © State of NSW and Office of Environment and Heritage

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LC Code	Location Confidence
Premise match	Georeferenced to the site location / premise or part of site
General area or suburb match	Georeferenced with the confidence of the general/approximate area
Road match	Georeferenced to the road or rail
Road intersection	Georeferenced to the road intersection
Feature is a buffered point	Feature is a buffered point
Land adjacent to geocoded site	Land adjacent to Georeferenced Site
Network of features	Georeferenced to a network of features

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Appendix B: Dangerous Goods Search



Our Ref: D20/091302

27 March 2020

Ms Hayley Yellowlees
Senversa
Lev 5 Grafton Bond Building
201 Kent St
SYDNEY NSW 2000

Dear Ms Yellowlees

RE SITE: Lot 3900 DP 1170905 Raby Rd, Varroville NSW 2566

I refer to your site search request received by SafeWork NSW on 19 March 2020 requesting information on Storage of Hazardous Chemicals for the above site.

A search of the records held by SafeWork NSW has not located any records pertaining to the above-mentioned premises.

For further information or if you have any questions, please call us on 13 10 50 or email licensing@safework.nsw.gov.auw

Yours sincerely

Customer Service Officer

Customer Experience - Operations

SafeWork NSW



Appendix C: Site Photographs



Macarthur Grange Golf Club, Raby Road, Kearns NSW 2566



Photo 1. Inside maintenance workshop on western side of the Site.



Photo 2. Herbicide containing glyphosate stored inside maintenance workshop.



Photo 3. Southern exterior of maintenance workshop.



Photo 4. Eroded hillside in southern portion of the Site.



Photo 5. Southern boundary fence.



Photo 6. Irrigation system pipes next to reservoir in northern portion of the Site.

S17348_PSI_RPT_Rev0





Photo 7. Fire Fighting System on the western side of the club house.



Photo 8. Looking south towards the western side of the club house.



Photo 9. Old building footprint on the western side of the club house.



Photo 10. Building material next to old building footprint.



Photo 11. Chemical storage in garage on bottom floor of club house.



Photo 12. Garage on bottom floor of club house.

S17348_PSI_RPT_Rev0





Photo 13. Exterior of maintenance workshop on western side of the Site.



Photo 14. Stormwater drain at the eastern entrance to the workshop on the bottom of the club house.



Photo 15. Looking east across the valley in the southern portion of the site.



Photo 16. Looking south towards the clubhouse from the carpark located in the north east corner of the site.



Photo 17. Looking west from the centre of the southern portion of the site.



Photo 18. Looking east of a reservoir towards the clubhouse

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