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FORMER NEW WALLSEND COLLIERY SITE, NEWCASTLE LINK ROAD PRELIMINARY SITE INVESTIGATION

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Description **This report documents the results of a preliminary site investigation, based
on the review of existing documentation and site history information and
completion of a site inspection to support the preliminary planning proposal
for rezoning of the subject land.**

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ABBREVIATIONS

Measures	Description
ha	Hectare
km	Kilometres
m	Metre
mAHD	Metres Australian Height Datum
mbgl	Metres below ground level
General	
ACM	Asbestos Containing Material
AHD	Australian Height Datum
AST	Aboveground Storage Tank
BTEXN	Benzene, Toluene, Ethylbenzene, Xylenes (Monocyclic Aromatic Hydrocarbons) and Naphthalene
CLM Act	<i>NSW Contaminated Land Management Act 1997</i>
CSM	Conceptual Site Model
DP	Deposited Plan
EMP	Environmental Management Plan
EPA	Environment Protection Authority (NSW)
ESL	Ecological Screening Level
HSL	Health Screening Level
LEP	Local Environment Plan
NEPM	National Environment Protection Measure
OCPs	Organochlorine Pesticides
OPPs	Organophosphorus Pesticides
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
pH	A measure of acidity, hydrogen ion activity
PSI	Preliminary Site Investigation
RAP	Remediation Action Plan
SWL	Standing Water Level
TPHs	Total Petroleum Hydrocarbons
TRHs	Total Recoverable Hydrocarbons
UST	Underground Storage Tank
-	On tables is "not calculated", "no criteria" or "not applicable"

EXECUTIVE SUMMARY

This report presents the findings of a preliminary site investigation (PSI) of an approximate 574 hectare (ha) area of land located on the northern and southern sides of Newcastle Link Road, Wallsend, New South Wales (NSW). The PSI was performed at the request of Eden Estates (Newcastle) Pty Ltd (Eden Estates) and completed to assist with the submission of a Planning Proposal to Newcastle and Lake Macquarie City Councils for the amendment of their respective Local Environment Plans (LEPs) for rezoning of land use.

The objectives of the PSI were to:

1. Assess potential contamination sources, pathways and receptors.
2. Determine potential areas of concern and contaminants of concern and assess the risks posed by potential contamination for the proposed rezoning.
3. Identify areas where further investigation is required to assess site suitability.

The scope of works included a review of site history information, review of previous investigation reports for the site and a site inspection.

The site history review identified that the site has been predominantly vacant bushland. Portions of the site, mostly in the north, have a history of coal mining comprising the New Wallsend No. 2 Colliery and Wallsend Borehole Colliery, operating from at least the late 1800s until the early 2000s, when collieries were decommissioned.

Review of previous reports prepared for the site indicate that the majority of investigations have focussed on the former New Wallsend No. 2 Colliery in the northeastern portion of the site. The reports identified that the former New Wallsend No. 2 Colliery site was remediated and rehabilitated between 2002-2005 with all infrastructure, including buildings, fuel and oil stores and machinery/plant reported to have been removed from the site. Remediation of hydrocarbon impacted soil was undertaken via excavation and landfarming, with the spoil either buried at depth within the borrow pit or trial box cut area or transported to Eraring Power Station for combustion.

A site inspection confirmed that the majority of the site comprises undeveloped bushland. In areas of previous development, all former mining infrastructure appeared to have been removed and bush now covers this portion of the site. The site inspection also observed numerous locations of illegally dumped waste generally comprising car bodies, household items such as furniture, mattresses and electronic items and potential asbestos containing material (ACM) (fibreboard). The dumped waste locations were generally positioned nearest to site boundaries and access points to the site. Ramboll has been advised by Eden Estates that these materials have now been removed.

Based on the site history review, review of previous reports and site inspection, potential onsite sources of contamination were identified and included:

- Former mining operations – the New Wallsend No. 2 Colliery and Wallsend Borehole Colliery, including:
 - Leaks and spills from fuel storage and machinery/plant.
 - Demolition of former buildings containing hazardous building materials such as asbestos, lead and PCBs.
 - Spills and leaks associated with former tram lines and railways.

- Hazardous ground gases, acid generation and combustibility associated with carbonaceous materials.
 - Discharge of mine water into onsite creeks and surface water bodies.
- Residual contamination remaining after remediation of the New Wallsend No. 2 Colliery.
- Importation of fill material.
- Illegal dumping of waste, including rubbish, building materials, potential ACM and soil.
- Use of herbicides and pesticides for weed and pest control.

CoPCs associated with the current and historical use of the site include petroleum hydrocarbons (TRH and BTEXN), PAHs, heavy metals, pesticides (organochlorine and organophosphorus pesticides) and herbicides, asbestos, solvents and PCBs and are considered to have the potential to adversely impact the soil and/or groundwater quality at the site.

A preliminary conceptual site model has been developed to identify potential contaminant sources, transport mechanisms/pathways and sensitive receptor linkages. Based on the information collected during this PSI, a number of data gaps and uncertainties were identified to require further investigation, including, but not limited to the following:

- RCA (2005) report there is the potential that residual contamination remains on the former new Wallsend No. 2 Colliery site and further investigation of other former operational areas and the remaining area of the site (not affected by mining) is required. Further, preliminary screening of the validation results against National Environment Protection (Assessment of Site Contamination) Measure (NEPM), as amended 2013 (NEPM 2013) health screening levels (HSLs) indicate the residual contamination may preclude rezoning of this portion of the site for residential land use without remediation.
- Potential for contamination where building demolition material and where building foundations were buried. Further, DP (2019) suggest there is the potential for former mining machinery and plant to have been buried onsite.
- Investigation for the presence/absence of asbestos fibres in soil resulting from removal of asbestos pipes and demolition of buildings containing potential ACM.
- Investigation is required to determine the potential for buried carbonaceous materials to generate acid, hazardous ground gases and combustibility.
- Investigation of creeks and surface water bodies on the site to determine potential impacts from mine water discharge.
- No information or documentation has been provided in relation to assessment and/or remediation and validation of the former Wallsend Borehole Colliery.

Based on the results of the PSI, Ramboll considers the majority of the site suitable for rezoning for any future land use including sensitive residential land use, subject to removal of illegally dumped wastes. Further investigation of the former collieries and areas associated with former mining activities outlined in the data gaps and uncertainties above, may also show these areas to be suitable for residential land use with or without remediation.

1. INTRODUCTION

Ramboll Australia Pty Ltd (Ramboll) was engaged by Eden Estates (Newcastle) Pty Ltd (Eden Estates) to conduct a preliminary site investigation (PSI) of an approximate 574 hectare (ha) area of land located on the northern and southern sides of Newcastle Link Road, Wallsend, New South Wales, Australia (the 'site').

In accordance with the NSW EPA *Guidelines for Consultants reporting on Contaminated Land*, 2020, the purpose of a PSI is to identify all past and present potentially contaminating activities and contamination types; evaluate the site conditions; provide a preliminary assessment of the site contamination and assess the need for future investigations.

Ramboll understand that Eden Estates require the PSI to assist with the submission of a Planning Proposal to Newcastle and Lake Macquarie City Councils for the amendment of their respective Local Environment Plans (LEPs) for rezoning of land use. The site is defined by Lot 3057 in DP 1208470, Lot 2 in DP 800035, Lots 3051 and 3052 in DP 1202601, Lot 350 in DP 1167367, Lot 31 in DP 35580, Lot 1 in DP 822151, Lot 1 in DP 192650, and Lot A and B in DP36897 and comprises the former New Wallsend No. 2 Colliery in the northeast of the site. Land rezoning is intended to include residential land use and biodiversity offset land, amongst other land uses.

1.1 Objective

The objectives of the PSI were to:

1. Assess potential contamination sources, pathways and receptors.
2. Determine potential areas of concern and contaminants of concern and assess the risks posed by potential contamination for the proposed rezoning.
3. Identify areas where further investigation is required to assess site suitability.

1.2 Scope of Work

The PSI was carried out in accordance with the National Environment Protection (Assessment of Site Contamination) Measure (NEPM), as amended 2013 (NEPM 2013). The scope of work performed to meet the objectives comprised:

1. A review of published data associated with the site to establish the site environmental setting and sensitivity, this included a review of the following documentation:
 - a) Historical aerial photographs (1954, 1965, 1976, 1983, 2007, 2014 and 2019).
 - b) NSW Land and Property Information Map historical maps.
 - c) Historical business directories.
 - d) Newcastle and Lake Macquarie LEPs.
 - e) NSW Office of Water groundwater bore database.
 - f) Publicly available Data bases held by the NSW EPA, i.e. listed as a Notified Site on NSW EPA website for contaminated sites.
 - g) Acid sulfate soils (ASS) risk map.
 - h) Local geological maps.
2. Detailed site inspection of the property by a qualified environmental practitioner.
3. Review of previous reports undertaken.
4. Development of a conceptual site model assessing source, pathway, receptor linkages.
5. Preparation this report.

2. SITE DESCRIPTION

2.1 Site Identification

The site details are as follows:

Table 2-1: Site Identification

Information	Description
Street Address:	Various - West of Bulkara Street, Wallsend, North and South of Newcastle Link Road, west of Elernmore Vale, North of Main Road, Glendale.
Identifier:	Lot 3057 in DP 1208470, Lot 2 in DP 800035, Lots 3051 and 3052 in DP 1202601, Lot 350 in DP 1167367, Lot 31 in DP 35580, Lot 1 in DP 822151, Lot 1 in DP 192650 and Lot A and B in DP36897.
Site Area:	Approximately 574 ha
Local Government:	Approximately 70% of the site, or 406 Ha, is located within the City of Newcastle local government area (LGA). Approximately 35%, or 167 Ha, is within the City of Lake Macquarie LGA (see Figure 1, Appendix 1).
Zoning:	Predominantly zoned E4 Environmental Living, with zones E2 Environmental Conservation along the western boundary and southeastern portion, RU6 Transition in the southwestern portion and SP2 Infrastructure through the centre of the site.
Owner:	Eden Estates (Newcastle) Pty Ltd
Current Site Use:	Vacant

The site location is shown in **Figure 1, Appendix 1** and the current site layout is shown in **Figure 2, Appendix 1**.

2.2 Site Details

The site is intersected by Newcastle Link Road which effectively divides the site into northern and southern portions. The southern portion is largely vegetated, though traversed by various tracks and power transmission easements. The northern portion is similarly vegetated but also includes the former surface operations footprints of the New Wallsend No. 2 Colliery and Wallsend Borehole Colliery.

Areas excluded from the site include the road corridor along Newcastle Link Road. Access was limited in areas of thick vegetation growth and steep slopes, particularly in the northern section of the site. These areas are shown on **Figure 2, Appendix 1**.

The site is large, generally bush-covered located west of Wallsend and to the north and west of Edgeworth, Glendale and Elernmore Vale with total site area of approximately 574 ha. The site topography is undulating with moderate to steep slopes generally associated with the water courses; tributaries of Maryland Creek in the north and Brush Creek in the south. Tracks criss-cross the site including fire-access trails and wider, powerline easements. All are of varying size and condition but generally are only accessible to four-wheel-drive-capable vehicles. The exception is the paved Glendale – Wallsend cycleway, which partly traverses the south-west of the southern area, occupying an easement to both LGAs.

Access to the site (by vehicle) is through a number of locked gates. The main access points are on Transfield Avenue situated north and south of the partially completed roundabout on Newcastle Link Road, two kilometres west of the Newcastle Link Road intersection with Lake Road, Wallsend.

Other entries are via gates off Bulkara Street and Boundary Road, Wallsend in the north and from the western extension of Reservoir Road (Macquarie College entry) in Glendale. There are other more informal entrances off the cycleway.

2.3 Land Use

The site is currently unoccupied apart from easement uses which include powerline transmission, water storage and a cycleway.

The site has been used in the past for coal mining with the New Wallsend No. 2 Colliery and the Wallsend Borehole Colliery both formerly located in the northern portion of the site. The surface infrastructure for the New Wallsend No. 2 Colliery was chiefly located in the northern portion of the site immediately west of Bulkara Street, with facilities formerly including workshops, offices, fuel and oil storage, coal and waste stockpiles, shafts/adits and water management features. Some remote infrastructure was also located in the southern portion of the site (some shafts and borehole /pumphouse).

The site is proposed to be used for a mix of residential, commercial including schools, recreational and conservation purposes. **Figure 3, Appendix 1** shows a concept master plan for the future land use.

2.4 Site Boundaries

The site is located within an area of mixed residential, vacant bushland and commercial land use. The surrounding site use includes:

North:	Summerhill Waste Management Centre, with Maryland Creek, vacant bushland and residential properties beyond.
East:	Predominantly residential properties with some churches and Macquarie College immediately adjacent, Lake Road and commercial facilities such as Wallsend Village, and Ironbark Creek and Wallsend Park beyond.
South:	Predominantly residential with Glendale TAFE, Holy Cross Church and Primary School and Glendale Technology High School immediately adjacent and mixed commercial along Main Road beyond.
West:	Residential properties to the west and vacant bushland to the northwest. Land to the west is currently under development for residential land use.

3. SITE HISTORY

3.1 Zoning

The site is predominantly zoned E4 Environmental Living under the Newcastle LEP 2012. The objective of this zone defined under the LEP is to provide for low-impact residential development in areas with special ecological, scientific or aesthetic values, to ensure that residential development does not have an adverse effect on those values, to conserve the rural or bushland character and the biodiversity or other conservation values of the land and to provide for the development of land for purposes that will not, or will be unlikely to, prejudice its possible future development for urban purposes or its environmental conservation.

The remaining areas within the site fall under three zones: SP2 Infrastructure under the Newcastle LEP 2012 and Lake Macquarie LEP 2014 through the centre of the site along Newcastle Link Road and E2 Environmental Conservation and RU6 Transition (Lake Macquarie LEP 2014) in the western and southeastern portions of the site. The objectives of these zones as defined under their respective LEPs are detailed below:

- SP2 Infrastructure – to provide for infrastructure and related uses, to prevent development that is not compatible with or that may detract from the provision of infrastructure (Newcastle LEP 2012 and Lake Macquarie LEP 2014) and to provide land required for the development or expansion of major health, education and community facilities (Lake Macquarie LEP 2014).
- E2 Environmental Conservation (Lake Macquarie LEP 2014) – to protect, manage and restore areas of high ecological, scientific, cultural or aesthetic values, to prevent development that could destroy, damage or otherwise have an adverse effect on those values, to conserve, enhance and manage corridors to facilitate species movement, dispersal and interchange of genetic material, to encourage activities that meet conservation objectives and to enhance and manage areas affected by coastal processes.
- RU6 Transition (Lake Macquarie LEP 2014) – to protect and maintain land that provides a transition between rural and other land uses of varying intensities or environmental sensitivities, to minimise conflict between land uses within this zone and land uses within adjoining zones, to identify land that requires environmental studies to substantiate the capability and suitability of land prior to rezoning and to limit development that will prejudice or have the potential to prejudice future conservation or development of the land.

3.2 Dangerous Goods Search

Based on the current use of the site and the date of previous operations at the site, a dangerous goods search was not commissioned.

3.3 Environmental Protection Licence

A search of the NSW Environment Protection Authority (EPA) under Schedule 1 of the *Protection of the Environment Operations Act 1997* (POEO Act) on 14 May 2020 identified the following licensed activities in **Table 3-1** and former licensed activities, now revoked or surrendered, in **It is** considered unlikely the licensed activity at the surrounding property would have impacted the Site, based upon the separation distance.

Table 3-2 under the POEO Act within 1 km radius of the site.

Table 3-1: Licensed Activities under the POEO Act

EPL¹	Organisation	Activity	Distance and Direction from Site
6332	Lake Macquarie City Council	Other activities – discharge to waters, herbicide application	Waterways onsite
5583	Newcastle City Council	Other activities – application of herbicides to waters	Waterways onsite
5897	Newcastle City Council, Summerhill Waste Management Facility	Waste disposal to land	0 m north
13059	LMS Energy Pty Ltd, Summer Hill Gas Utilisation Facility	Generation of electrical power otherwise than from coal, diesel or gas	589 m north

¹ EPL = environment protection licence

It is considered unlikely the licensed activity at the surrounding property would have impacted the Site, based upon the separation distance.

Table 3-2: Former Licensed Activities under the POEO Act, Now Revoked or Surrendered

EPL	Organisation	Activity	Distance and Direction from Site
548	The Newcastle Wallsend Coal Co Pty Ltd	Mining for coal (surrendered)	Onsite
4653	Luhrmann Environment Management Pty Ltd	Other activities/non-scheduled activity – application of herbicides (surrendered)	Waterways onsite
4838	Robert Orchard		
6630	Sydney Weed & Pest Management Pty Ltd		

3.4 NSW EPA Records

A search of the 'List of NSW contaminated sites notified to EPA' and the 'Contaminated Land: Record of Notices' was undertaken on 14 May 2020. The results indicated the site is not listed on the contaminated sites notified to EPA or is it listed on the Contaminated Land: Record of Notice. No contaminated land records of notice have been identified for properties within 1 km of the site. Contaminated sites notified to NSW EPA located within 1 km of the site are presented in **Table 3-3**.

Table 3-3: Contaminated Sites Notified to NSW EPA

Site	Activity	Management Class	Distance and Direction from Site
Coles Express Glendale, 593 Main Road Glendale	Service station	Regulation under CLM Act not required	145 m south
Former Service Station, 334-342 Lake Road Glendale	Unclassified	Regulation under CLM Act not required	260 m south
Maneela Oval, Main Road Cardiff	Other industry	Regulation under CLM Act not required	400 m south
Caltex Service Station, 662 Main Road, Edgeworth	Service station	Regulation under CLM Act not required	525 m southwest
Caltex Maryland Service Station Wallsend, 41 Minmi Road Wallsend	Service station	Regulation under CLM Act not required	654 m northeast
Coles Express Wallsend East, 15 Thomas Street Wallsend	Service station	Regulation under CLM Act not required	727 m east
Woolworths Service Station, Stockland Drive Glendale	Service Station	Regulation under CLM Act not required	789 m south
Settlement Pond, 65 Glendale Drive Glendale	Unclassified	Regulation under CLM Act not required	792 m south

It is considered unlikely any of the surrounding notified sites would have impacted the Site, based upon the separation distance and/or the nature of the activities.

3.5 Other Regulatory Searches

Other regulatory searches undertaken by Lotsearch (2020) identified the following:

- The site is located within the Lake Macquarie and Newcastle mining subsidence districts.
- One former gasworks is located approximately 920 m east of the site.
- One operational landfill, Summerhill Waste Management Centre, is located immediately north of the site.
- No records of the NSW EPA per- and poly-fluoroalkyl substances (PFAS) investigation program were identified within 1 km of the site.
- The Pasminco lead abatement strategy area is located 448 m south of the site.
- No State Environmental Planning Policy (SEPP) Site Significant Precincts are located at or within 1 km of the site.
- No Ramsar Wetlands exist at or within 1 km of the site.
- The Groundwater Dependent Ecosystem Atlas identified there is a high potential for terrestrial vegetation groundwater dependant ecosystems to be present in some areas of the site.
- A number of species on the NSW BioNet Atlas that have a NSW or federal conservation status are potentially within 10 km of the site.

A copy of the Lotsearch (2020) report is attached as **Appendix 2**.

3.6 Historical Aerial Photographs

Historical aerial photographs were obtained (Lotsearch 2020) and reviewed for the years 1954 to 2019 as listed in **Table 3-4**. Copies of the historical aerial photographs are contained within the Lotsearch (2020) report in **Appendix 2**.

Table 3-4: Historical Aerial Photographs

Year	Description
1954	The site is predominantly heavily vegetated, which continues offsite to the north and west. Small parts of northeastern portion of the site and in the centre of the site have been cleared. Several roads and tracks are evident across the site, including Transfield Avenue running southwest-northeast across the site. The easement running east-west in the south of the site has been cleared. Offsite, Lake Road and Reservoir Road are evident to the east and southeast. Residential properties are present to the east and south of the site
1965	The site appears largely unchanged since 1954, with some more tracks and clearings around the periphery. The easement running southwest-northeast is evident in the northern portion of the site. The residential subdivisions to the east and south of the site appear more densely populated. A small southeastern patch of land between the site and Lake Road has been cleared.
1976	Land clearing, infrastructure and excavations associated with the former collieries are evident in the northeastern and northern portions of the site. One large water tank reservoir is present in the centre adjacent to Transfield Avenue. Offsite, residential expansion has occurred to the northeast and south and southwest of the site. Excavations presumed associated with the landfill are evident to the north of the site. Eight long thin sheds have been constructed on the southeastern cleared land between the site and Lake Road. Glendale TAFE and Glendale Technology High School appear under construction to the south of the site.
1983	The site and surrounding land appears largely unchanged, with some expansion to the colliery activities in the north and northeast of the site and the landfill present north of the site. Five of the large sheds to the southeast of the site appear to have been removed.
1993	The site and surrounding land appears largely unchanged, however Newcastle Link Road is under construction in the centre of the site. All sheds formerly present to the southeast of the site appear to have been removed.
2007	Construction of Newcastle Link Road has been completed and most of the colliery infrastructure appears to have been removed. A second water tank reservoir is present adjacent to the first. The landfill present to the north of the site has been expanded. Macquarie College has been constructed and a residential nursing home is undergoing construction to the southeast of the site. Further development has occurred on the western site of Lake Road.
2014	The site and surrounding land appears largely unchanged. The former collieries are not in use and vegetation is beginning to advance in that space. Further residential development to the northeast, east and south of the site.

Year	Description
2019	There have been no major changes to the site or surrounding land use between 2014 and 2019. Summerhill Solar Farm has been constructed to the north of the site on former landfill/Wallsend Borehole Colliery land.

3.7 Historical Maps

Historical maps from Australian Section Imperial General Staff, Topographic Maps Geoscience Australia and NSW Land and Property Information were obtained (Lotsearch 2020) and reviewed for the years 1913 to 2015 as listed in **Table 3-5**. Copies of the historical maps are contained within the Lotsearch (2020) report in **Appendix 2**.

Table 3-5: Historical Maps

Year	Description
1913	Tramways are shown entering the site from Plattsburg in the east. A dam is shown in the eastern portion of the site and Newcastle Wallsend Colliery Shaft is shown in the southern central portion of the site.
1941	Helensvale Colliery is shown in the northern portion of the site, Boston Colliery in the centre of the site, a gravel pit in the east and Wallsend Colliery in the southeast of the site.
1981	Shows Colliery area (some abandoned) as the northwestern portion of the site and the Water tower in the centre of the site.
2015	The resolution of the map is difficult to make out specific features on the site.

3.8 Historical Business Directories

Based upon a review of 1950, 1961, 1970, 1982 and 1991 historical business directories provided by Lotsearch (2020), there have been no business records registered to the Site except potentially for Gretley Collieries Ltd in 1991 and Transfield Pty Ltd (structural engineers and general contractors) in 1970 which have road matches to the site (Lotsearch 2020).

There have been no historical dry cleaning businesses or service stations located at the site, and up to 11 motor garage/service station or dry cleaning businesses within 1 km of the site. The closest service station business was located approximately 108 m southeast of the site in 1970 and the nearest dry cleaner business was located approximately 296 m northeast of the site in 1970. It is not considered likely that these businesses would have impacted on the site, based upon the separation distance from the Site. Further information regarding the historical business directory searches is provided in the Lotsearch (2020) report attached as **Appendix 2**.

3.9 Summary of Site History

The site has been predominantly vacant bushland. Portions of the site, mostly in the north, have a history of coal mining from at least the late 1800s until the early 2000s when the collieries were decommissioned. A number of reports have been prepared for the decommissioning and are reviewed in **Section 4**.

4. PREVIOUS INVESTIGATIONS

The following reports have been prepared for the site and/or portions of the site:

- 'Environmental Site Assessment and Remediation, New Wallsend No. 2 Colliery, Bulkara Street, Wallsend' dated 14 September 2005 by RCA Australia (RCA).
- 'Final Report, Phase 2 Decommissioning and Rehabilitation of New Wallsend No. 2 Colliery' dated February 2006 by Umwelt (Australia) Pty Ltd (Umwelt).
- 'Australand Holdings Limited, Report for New Wallsend Due Diligence Assessment and Concept Design' dated June 2006 by GHD Pty Ltd (GHD).
- 'Preliminary Contamination Review of Supplied Documents, The Newcastle Wallsend Coal Company Holdings, Link Road, Wallsend' dated 7 November 2019 by Douglas Partners Pty Ltd (DP) (DP 2019).
- 'Additional Assessment for Asbestos, Former New Wallsend No 2 Colliery Pit Top Facility off Bulkara Street, Wallsend' dated 11 December 2019 by DP (DP 2019a).

The reports were reviewed for the PSI and are summarised below:

4.1 Environmental Site Assessment and Remediation, September 2005

RCA conducted an environmental site assessment and remediation works of the former New Wallsend No. 2 Colliery as part of the decommissioning of the New Wallsend No. 2 Colliery. The former New Wallsend No. 2 Colliery property occupied an area of approximately 224 ha, of which approximately 52 ha was disturbed by surface colliery operations with the remainder of the property bushland. For the purpose of this section, "site" refers to the former New Wallsend No. 2 Colliery property. **Figure 4, Appendix 1** shows the footprint of the former New Wallsend No. 2 Colliery and some of the features investigated by RCA.

4.1.1 Objective and Scope of Works

The objective of the works was to identify potentially contaminating activities and where appropriate, recommend and undertake remediation. The works were focussed on the operational area of the pit top infrastructure, west of Bulkara Street, Wallsend.

The scope of work included:

- Investigation around the operational areas of the site
- Supervision of remediation of areas as required
- Validation of remediation and preparation of a report.

4.1.2 Results

Results of RCA's site history review reported the following:

- The property had been used as a mine since it was first developed in the 1860s.
- Hydraulic machinery was used onsite from approximately 1965, diesel machinery from the 1970s.
- Underground electricity was introduced between 1950s-1960s. Two transformers have since been removed from the site, were located underground. A number of transformers were present aboveground.
- Mine tailings were disposed of in underground workings, however there were some small ponds where tailings were disposed of aboveground (anecdotal evidence)

indicated that previous testing had shown this material to have low carbonaceous content).

- Coarse refuse was used onsite as fill (also has been used offsite as fill).
- Very little waste oil generated, and most major spills were underground within the mine workings.
- All battery storages were maintained on concrete (with the exception of the shuttle car battery charge area which appeared to be gravel and is located in the box cut near the No. 3 tunnel.
- All compressors were stored on concrete.
- Spare parts were coated with petroleum jelly and wrapped in brown paper for storage.
- The bath house and store had asbestos roofing.
- The 16,500 L underground fuel storage tank (UST) was installed prior to 1980 and the two 20,000 L aboveground storage tanks (ASTs) were installed in the mid 1980s.
- No major spills recorded

The results of RCA's investigation identified five key areas of contamination requiring remediation:

- The oil storage area
- Cell 2 where hydrocarbon contaminated soil/sediment had been emplaced
- The store compound
- Fuel storage area around a diesel bowser
- Noise bund where hydrocarbon contamination was identified

Remediation was completed for areas where contamination was identified, in all cases related to storage and use of hydrocarbons (fuels/oils). RCA's investigation did not identify the presence of any other contaminants of potential concern, for example PCBs in soil around the former location of site transformers.

The following remedial works were undertaken:

- Excavation of hydrocarbon contaminated soil in the vicinity of the oil storage area. Approximately 330 m³ of contaminated soil was remediated via landfarming and reused onsite.
- A second sample collected from Cell 2 reported total petroleum hydrocarbon (TPH) concentrations below the laboratory detection limits so no further investigation/remediation was undertaken.
- No 1 Landfarm was situated over the top of area of the former store compound. The shallow TPH-impacted soil was removed with the landfarm for transported to Eraring Power Station.
- Excavation (approximately 55 m x 58 m x 47 m, triangular in shape) of hydrocarbon contaminated soil in the vicinity of the raw coal stockpile area and fuel and oil storage area. Free product was identified during the excavations. The uncontaminated overburden was segregated and stockpiled separately from the contaminated soil to reduce the amount of soil to be classified and treated as contaminated. The contaminated soil was stored in six separate landfarms placed around the site. The landfarmed material comprised approximately 32,000 tonnes of

coal chitter, gravel and coal fines and was disposed of both on and offsite (to Eraring Power Station for combustion).

- Perched water that accumulated in the large excavation was treated in an onsite water treatment plant comprising activated carbon filters. Treated water was directed to Cell 1 or to the cooperative shaft.
- The majority of the noise bund, which contained some elevated hydrocarbons, was removed and disposed of to the trial box cut area, with the remaining disposed of within the borrow pit. RCA considered this approach to be acceptable considering no hotspots had been detected within the noise bund and both locations would be greater than 5 m below the final site surface and capped with clean clay.
- All overburden soil stockpiles, except for one, were assessed as clean. Stockpile 2 reported elevated TPH marginally above the adopted assessment criteria and was suitable to be disposed of in the borrow pit considering it is greater than 5 m below the final site surface and capped with clean clay.
- The remaining overburden was characterised insitu via test pitting. Any samples which reported elevated concentrations was transported for landfarming, and any soil profile that reported concentrations below the adopted site criteria was used to backfill the hydrocarbon excavations or placed within the borrow pit.

4.1.3 Conclusions and Recommendations

RCA concluded that minor contamination remains:

- Within the area of the hydrocarbon excavation.
- At depth in the trial box cut.
- At depth in the borrow pit.
- Within the area of the former noise bund.

A preliminary qualitative risk assessment concluded that the remnant contamination posed no ecological or human health risk with control/management measures in place.

RCA recommended further investigation of the operational areas and the remaining site area would be required for redevelopment.

4.1.4 Ramboll's Review

Ramboll noted during the review of RCA (2005) report that significant odour emissions were identified during excavation of the oil storage area from as far as 100 m away, however this did not appear to be further investigated. In addition, validation sampling was limited in areas. Based on the age of the report, a number of guidelines adopted for the assessment have been superseded, in particular NEPM 2013 which has introduced revised guidelines for hydrocarbons and a preliminary review indicates concentrations above the revised guidelines for a residential land use, and even a commercial use, may remain at the site.

4.2 Phase 2 Decommissioning and Rehabilitation of New Wallsend No. 2 Colliery, February 2006

Umwelt prepared the report to detail the nature and extent of the closure, decommissioning and rehabilitation of the New Wallsend No. 2 Colliery property. For the purpose of this section, "site" refers to the former New Wallsend No. 2 Colliery property. **Figure 4, Appendix 1** shows the

footprint of the former New Wallsend No. 2 Colliery and some of the features identified by Umwelt.

4.2.1 Objective and Scope of Works

The objective of the report was to demonstrate that the works had been completed in compliance with the relevant Department of Primary Industries-approved mining operations plans for the site.

The report listed all the activities which had been completed as part of the works.

4.2.2 Results/Conclusions

In terms of site contamination Umwelt indicated the following potential ongoing issues:

- Asbestos-containing materials (ACM) was present in site infrastructure and had been removed by a licenced contractor. However there existed a potential for some to have remained onsite including insitu material capped in the operations area.
- Carbonaceous tailings material was partially disposed of offsite with the remainder buried on site.
- Coal rejects were buried in "emplacement areas" which are understood to occupy part of the former Wallsend Borehole Colliery. There is a low probability of spontaneous combustion and landslips.
- A number of dams, such as the former Goat Hill Dam, have been dewatered, filled, reshaped and revegetated. A series of contour drains eventually direct surface water runoff into Maryland Creek.

Umwelt recommended that covenants be installed on various parts of the land to notify future landholders of any constraints posed by particular types of land use, and identified the following areas:

- Trial box-cut area.
- Sealed boreholes, adits and shafts.
- Rehabilitated coarse reject emplacement areas.

4.2.3 Ramboll's Review

Ramboll noted Umwelt (2006) identified the ballast borehole site and former compressor house and borehole site in the southern portion of the site. While Umwelt state that the boreholes were sealed during Phase 1 of the mine closure works, little information is provided regarding the demolition of the compressor house and the potential contamination sources associated with its operation.

4.3 Report for New Wallsend Due Diligence Assessment and Concept Design, June 2006

GHD prepared a report to outline a due diligence assessment and provide engineering input to a feasibility study for a potential residential development for the former New Wallsend No. 2 land.

4.3.1 Objective and Scope of Works

The objective was to specifically examine site geotechnical constraints and development constraints associated with the mine closure, stormwater drainage, electrical and telecommunication services.

The scope included a due diligence review of previous reports and a brief site inspection of the property to prepare a report assessing the development and provide a feasibility costing of the proposed development options.

4.3.2 Results/Conclusions

A site inspection was conducted to identify existing activities or apparent conditions within the site that could potentially cause or indicate contamination. The main contamination issue identified during the site inspection was the illegal dumping of waste and building materials.

Based on review of previous reports for the site, GHD presented the following as potential site contamination issues:

- The minor hydrocarbon contamination remaining on site as reported in RCA (2005) was noted.
- Potential for the presence of fine asbestos in soil following removal of infrastructure, as well as data gaps for PCBs and lead in former buildings in the former operational areas.
- The presence of a former site tramway/railway was noted and was considered a potential contamination source (metals/hydrocarbons/asbestos) (however it is noted that GHD did not observe evidence of former tram lines and railways during their site inspection in 2006).
- Spraying of weeds and pests may also have occurred at the site and as such contaminants associated with herbicides and pesticide spraying may be present in soil.
- The main potential for site contamination was considered to be illegal dumping of waste through the many public-accessible areas of the site and which were noted by GHD during the site inspection.

4.4 Preliminary Contamination Review of Supplied Documents, November 2019

DP undertook a preliminary contamination review of the site to provide a summary of the existing contamination on the site and comment on potential data gaps which may impact on the proposed residential development of the site.

4.4.1 Objective and Scope of Works

The objective of the 'high level' preliminary review was to provide comment on the identified areas of contamination within the reports and the suitability of the remediation works undertaken to date (as outlined in the reports) for future proposed residential development of the site and identify other possible areas of environmental concern or potentially contaminating activities which may typically be associated with the former use of the site as a coal mine.

The high-level review comprised:

- Evaluation of the investigations conducted, and the suitability and completeness of the remedial works undertaken as described in RCA 2005.
- Review of GHD 2006 to critically examine their findings.
- No site inspection was undertaken as part of the review.

4.4.2 Results/Conclusions

The conclusions drawn from the review are summarised in Table 1 of DP's report with reference to potential site contamination issues and reproduced in **Table 4-1**:

Table 4-1: Summary of Potential Contamination Issues (DP 2019)

DP Item	DP Identified Potential Issue	DP Preliminary Risk Rating / Extent
1	Superseded guidelines	Moderate / previously assessed areas
2	Residual contamination from remediation works	Moderate / previously assessed areas
3	Asbestos and hazardous building impacts	Low to moderate / former colliery operational areas and areas of illegal dumping
4	Former buried services	Low / localised
5	Former tram lines and railways	Low to moderate / localised to tram and rail lines
6	Spraying for weed and pest control	Low / former colliery operational areas, easements and boundaries
7	Illegal dumping of rubbish, building material and soil	High / localised impact, most likely along access tracks
8	Fill material	Moderate / former colliery operations area
9	Former mining operations – New Wallsend No. 2 Colliery	Low to moderate / former colliery operations area
10	Former mining operations – Wallsend Borehole Colliery	Moderate / footprint of former Wallsend Borehole Colliery
11	Combustibility and potential acid generation	Low to moderate / emplacement areas and other areas containing carbonaceous materials
12	Hazardous ground gas	Low / localised to vents, shafts, coal outcrops, emplacement areas, reject fill
13	Potentially contaminating adjacent land uses	Low / vicinity of site boundaries
14	Localised impacts from spills and leaks	Low to moderate / within former colliery operations area
15	Adverse impacts to the environment following mine closure	Low to moderate / receiving water bodies downgradient of former colliery operations area

DP considered that as the former site remediation was conducted for mine closure purposes additional remediation is likely to be required to facilitate future residential site development, and additional investigation will be needed to confirm the extent of remediation/management required.

4.5 Additional Assessment for Asbestos, December 2019

DP undertook an additional assessment for asbestos associated with the former Newcastle Wallsend No. 2 Colliery Pit Top facility.

4.5.1 Objective and Scope of Works

The objective of the assessment was to assess the possible presence of asbestos impacts within soils in the vicinity of former buildings at the former New Wallsend No. 2 Colliery Pit Top facility.

The scope of the additional investigation comprised:

- Site inspection and limited surface sampling.
- Excavation of 11 testpits at former building locations of interest, to depths up to 4.0 m below ground level (mbgl).
- Collection of representative soil samples for identification and laboratory analysis where signs of potential ACM were observed. Analysis of two samples for the presence of asbestos.
- Collection of 10L soil samples for on-site sieving through a < 7 mm sieve where signs of potential ACM were observed.
- Preparation of a factual report.

4.5.2 Results/Conclusions

Fill was observed in all testpits to a maximum depth of investigation of 4.0 mbgl. Building materials were observed in six of the 11 testpits, and indicators of potential hydrocarbon staining and odours were observed in two pits. Fragments of potential ACM fibre sheeting were observed on the ground surface over an asphalt pavement.

Field screening did not identify visually evident ACM during test pitting and DP recommended laboratory testing would be required to confirm the presence/absence of asbestos. Two samples were analysed and did not identify the presence of asbestos.

It is noted that the investigation did not constitute a detailed asbestos investigation with reference to NEPM (2013) and further investigation would be required to confirm site conditions and facilitate future residential development.

DP also undertook a preliminary walkover of the former Wallsend Borehole Colliery (i.e. general building footprint) and did not identify any obvious indicators of gross contamination, however, the presence of dense vegetation precluded detailed inspection.

4.6 Report on Geotechnical Investigation of Filled Areas, September 2020

DP undertook an additional assessment for deep fill in the areas proposed for residential development. A total of thirty boreholes and seven groundwater wells were drilled in areas of deep fill identified through previous investigations and historical review. Samples were collected to inform the objectives of the investigation.

4.6.1 Objective and Scope of Works

The objective of the assessment was to:

- identify the depth of fill at the test locations
- inform the condition of the fill (fill materials, compaction, constituent characteristics)
- identify possible remediation options for residential development within these areas
- assess the risk of generation of acid leachate, treatment and mitigation of leachate generation
- assess the propensity for spontaneous combustion and bushfire ignited combustion and

- detail methods to reduce combustion and acid generation risk.

4.6.2 Results/Conclusions

Fill was identified to depths of 28 mbgl. Fill predominantly comprised coal rejects and coal fines and to a lesser extent non-carbonaceous materials comprising gravelly sandy clays and alluvial clays. Drilling logs did not include commentary on olfactory or visual evidence of contamination.

Laboratory analysis found that carbonaceous material have a low propensity for spontaneous combustion but that combustion in the presence of an external ignition source was possible. Capping measures were recommended to reduce this risk.

Groundwater was encountered in some drill locations and piezometers installed in seven drill holes. Groundwater was found in five piezometers (two were dry) between 3.1 and 11.9 mbgl following a period of stabilisation, with groundwater elevations around 17 mAHD to 27 mAHD, with the exception of one location where groundwater was at 70 mAHD. pH analysis of water samples found groundwater to be acidic to neutral. pH sampling of Dam 3 was also completed and found generally neutral (pH 6.6) pH.

An assessment of acid generating potential was completed on selected samples and found a low potential to generate acid however have the potential to generate significant quantities of acid if oxidised. Recommendations to control acid leachate were provided.

DP identified that the assessment completed was preliminary in nature and included a series of recommendations for additional further work including:

- Identification of the former high wall
- Investigation in areas that are currently in accessible
- Further investigation to define the extent and depth of fill
- Further monitoring of groundwater to assess acid generating potential
- Water quality monitoring of the surface water body to assess impacts to surface water from water shedding off the filled areas
- Trials to reduce acid generating potential
- Assessment of acidity and contamination investigations.

5. GEOLOGY AND HYDROGEOLOGY

5.1 Geology

Based on the information contained in Lotsearch (2020), the site is predominantly underlain by Palaeozoic aged Newcastle Coal Measures, comprising conglomerate, sandstone, siltstone, coal and tuff. The Lambton Subgroup of the Newcastle Coal Measures are present in the northeastern portion of the site and the Boolaroo Subgroup is mapped in a small portion in the east of the site. Cainozoic undifferentiated alluvial deposits; sand, silt, clay and gravel; some residual and colluvial deposits are present in the southeastern portion of the site. A large fault running northwest-southeast is present in the northern portion of the site.

5.1.1 Location and Extent of Fill

RCA (2005) indicate that the majority of the operational area of New Wallsend No. 2 Colliery has been filled to variable depths in accordance with the original topography of the site to fill former gullies to make these areas serviceable. The fill was generally found to comprise coal refuse with same clay. RCA (2005) found the fill to be variable in depth, ranging from 1.0 mbgl to greater than 10 mbgl. DP (2020) found fill to extend to 28 mbgl. RCA also reported the clay to comprise glass remnants and branches and identified the clay to be the former topsoil profile of the site. RCA (2005) advise that no excavations were undertaken on the western site of Maryland Creek.

Filling was also undertaken on the northeastern boundary of the New Wallsend No. 2 Colliery, to construct a noise barrier between the mine and adjacent residential properties. RCA (2005) reported the fill to comprise coal washery reject.

The extent of deep fill is shown on **Figure 5, Appendix 1**. Although additional investigations of deep fill were completed by DP in 2020, refer to **Section 4.6**, the mapped extent of potential deep fill has not been further defined from that presented in the DP 2019 report.

5.1.2 Acid Sulfate Soils

Information provided by Lotsearch (2020) infers the majority of the site as being mapped by the Newcastle and Lake Macquarie LEPs as Class 5 ASS, meaning that works within 500 m of adjacent Class 1, 2, 3 or 4 land that is below 5 m Australian Height Datum (AHD) and by which the watertable is likely to be lowered below 1 mAHD on the adjacent land, presents an environmental risk. Class 2 land is located approximately 73 m southwest and Class 3 land is located approximately 203 m south of the site, indicating should proposed future work in the southern portion of the site be likely to lower the watertable below 1 mAHD on the adjacent land then an ASS management plan may be necessary.

Based on review of the CSIRO Atlas of Australian ASS (Lotsearch 2020) the site is located within Class C soils, indicating extremely low probability of occurrence (1-5% chance of occurrence) with occurrences in small localised areas.

DP (2020) identified the coal reject and coal waste buried on site to have a low potential for acid generation but that acid conditions could result if soil are oxidised.

5.2 Hydrogeology

Based on local topography and geology, local groundwater is expected to vary across the large site and groundwater at the site is largely expected to flow towards the creeks and waterbodies present across the site, including Brush Creek and Maryland Creek and their ephemeral

tributaries. In the northern portion of the site (i.e. north of Newcastle Link Road) groundwater is expected to be at least 10 mbgl and flow in a northeasterly direction consistent with the topography towards Maryland Creek and ultimately the Hunter River. In the southern portion of the site, groundwater is expected to vary between 10-20 mbgl and flow to the southeast towards Brush Creek, consistent with the topography.

Based upon a review of the Hydrogeology Map of Australia, Lotsearch (2020) reports fractured or fissured, extensive aquifers of low to moderate productivity are located at the site.

DP (2020) installed seven monitoring wells on the site and found groundwater to occur within 3.1 and 11.9 mbgl of the surface at those locations. Groundwater was also not encountered at some locations.

5.2.1 Registered Groundwater Wells

A groundwater bore search completed by Lotsearch (2020) on 14 May 2020 identified 12 registered groundwater bores within 1km of the site (refer Lotsearch (2020) in **Appendix 2**), as summarised in **Table 5-1**. Lithology details generally comprised of topsoil overlying sand and siltstone to a coal seam at roughly 20 mbgl. No groundwater wells were registered on site.

Table 5-1: Licensed Groundwater Bores

Bore Number	Authorised Purpose	Completion Date	Bore Depth (mbgl)	SWL ¹	Distance from Site (m)	Direction from Site
GW079061	Monitoring bore	-	-	-	83	North
GW079063	Monitoring bore	24/10/1993	47.00	-	113	North
GW078161	Monitoring bore	03/11/1993	84.00	-	131	Northwest
GW053493	-	01/01/1981	60.00	-	340	East
GW078201	Monitoring bore	03/11/1993	31.00	28.00	486	North
21110003	-	-	-	-	586	South
GW200530	Dewatering (groundwater)	29/10/2001	72.00	-	599	South
GW079065	Monitoring bore	-	-	-	661	North
GW203134	Monitoring bore	21/01/2014	10.50	4.00	690	Southwest
GW203136	Monitoring bore	21/01/2014	5.00	-	690	Southwest
GW203135	Monitoring bore	21/01/2014	7.50	-	740	Southwest
GW055989	Domestic	01/01/1981	12.90	-	762	Southeast

¹ SWL = standing water level.

5.3 Direction of Surface Water Runoff

It is expected that surface water runoff would vary with the topography across the site and as the site is unsealed, surface water would both run off and infiltrate.

Umwelt (2006) state that the northern portion of the site has been rehabilitated to return the site to natural bushland, which included the reshaping following the capping of the area and installation of contour drains to direct surface runoff towards a small sediment basin which overflows via a drainage line into a large dam which then overflows via the Serpentine Ponds system which forms part of Maryland Creek.

5.4 Background Water Quality

No background water quality monitoring has been undertaken for surface or groundwater at the site.

5.5 Preferential Water Courses

Brush Creek in the south, and Maryland Creek in the north, and their tributaries are the main surface water bodies present on the site. Brush Creek flows into Cockle Creek and then into Lake Macquarie, located approximately 4.5 km south of the site. Maryland Creek flows into Ironbark Creek, through Hexham Swamp Nature Reserve and then into the Hunter River, approximately 6.4 km northeast of the site.

5.6 Summary of Local Meteorology

Climate statistics were obtained from the Bureau of Meteorology (BoM) Newcastle University station (061390) located approximately 4 km east of the site and are summarised as follows:

- The statistically warmest month is January (mean maximum temperature of 29.5°C).
- The statistically coolest month is July (mean minimum temperature of 7.3°C).
- Mean annual rainfall is 1,114.5 mm.
- The statistically wettest month is February (mean maximum monthly rainfall of 137.4 mm).
- The statistically driest month is July (mean maximum monthly rainfall of 54.0 mm).
- August reports the highest wind speeds at 9 am (mean wind speed of 8.5 km/h), prevailing from the northwest.
- April reports the lowest wind speeds at 9 am (mean wind speed 4.5 km/h), prevailing from the northwest.
- December reports the highest wind speeds at 3 pm (mean wind speed of 17.2 km/h), prevailing from the southeast.
- May reports the lowest wind speeds at 3 pm (mean wind speed of 7.7 km/h), prevailing from the southeast.

6. SITE CONDITION AND SURROUNDING ENVIRONMENT

Ramboll conducted a site inspection on 20 to 22 May 2020. Generally, the site inspection comprised a traversal of accessible site tracks by four-wheel drive. Some areas which were not easily accessed by vehicle, such as the northeastern part of the southern site and the bushland area in the south-east of the southern site, were also crossed by foot. The dense, bush-covered area to the west of the southern site area was also not accessed as part of the inspection.

Site details observed during the site inspection are outlined below and are shown on **Figure 6, Appendix 1**. Site photographs are shown in **Appendix 3** and the location of each photograph are shown on **Figure 7, Appendix 1**.

6.1 Topography

During the site inspection the topography of the site was observed to be variable with a high ridge on the northern boundary and generally undulating land from less than 10 mAHD in the south and east to almost 100 mAHD in the north. Land slope was greater towards the site water courses which comprised Brush Creek in the south and Maryland Creek in the north of the site.

Landscaped and filled land is assumed to be present in the former colliery infrastructure areas in the north of the site although the dense bush cover over the site made clear identification of such features impractical over the period of the site inspection.

6.2 Conditions at Site Boundary

The site boundaries were generally fenced along either side of the Newcastle Link Road with locked gates at major access points. Informal entry points were noted however, where access by four-wheel drive vehicle would still be possible. All parts of the site remain accessible by foot.

The northern boundary is formed by a topographically high area (ridge) which separates the site from the Summerhill Waste Management facility.

6.3 Visible Signs of Contamination

During the site inspection no significant visible signs of contamination (such as staining or odours) were noted with the exception of the sporadic dumped waste material across the site, described in **Section 6.5**.

6.4 Former Collieries

The area of the former New Wallsend No. 2 Colliery was accessible by vehicle using the existing tracks on the site and also by foot. A complete inspection of the area was not possible due to the thick bush now covering this portion of the site.

No indications of the former pit top infrastructure were observed. Previous reports (GHD (2006) and Umwelt (2005)) had reported all infrastructure related to the New Wallsend No. 2 Colliery had been removed and/or buried followed by land reshaping and revegetation. This appeared to be the case and the site inspection was not able to identify any trace of the former infrastructure.

6.5 Presence of Wastes/Fill Material

During the site inspection, a total of 79 locations across the site where illegally dumped wastes were observed were logged. All dumped waste materials were located on or near tracks with the most waste generally positioned nearest to site boundaries and access points to the site.

The wastes generally comprised:

- automobile parts including car bodies, often burnt, wheels/tyres etc
- household wastes including broken furniture/mattresses, wood, plastics, metals, some electronic items (TVs), broken household appliances (ovens/washers/dryers etc).
- at nine locations, suspected ACM were noted

A summary of the wastes observed is presented in **Table 6-1**, below and their location is shown in **Figures 5** and **6, Appendix 1**.

Table 6-1: Observations from Site Inspection

ID	Date	Description/Comment
Location 1	22-May-20	household waste - foam, mattress, chipboard, plastic, flat screen tv
Location 2	22-May-20	plastic household waste and tv scattered either side of path. several lawn mowers. pile of possible ACM, sample taken
Location 3	22-May-20	domestic waste littering either side of path across a large area
Location 4	22-May-20	brick foundation of some form of previous structure, surrounded by domestic waste - foam, tyres, chair, metal outdoor table frame, metal framing, file, plastic
Location 5	22-May-20	trailer frame with tyres, timber waste, plaster board, Masonite, old stereo, metal waste, plastic, computer monitor metal
Location 6	22-May-20	possible homeless persons shelter 20m of the side of the track
Location 7	20-May-20	van body burnt, east of cycle track
Location 8	20-May-20	car body on power line easement
Location 9	20-May-20	household domestic waste chair, plastic etc
Location 10	22-May-20	old fabric sofa
Location 11	22-May-20	two car bodies, couple of car seats and a flat screen tv
Location 12	22-May-20	single ACM, sample taken
Location 13	22-May-20	tv and plastic waste
Location 14	20-May-20	car body on track
Location 15	22-May-20	car body
Location 16	22-May-20	car body surrounded by household plastic waste
Location 17	20-May-20	household waste across track. metal, plastic, glass insulation materials pool chlorine container empty
Location 18	20-May-20	car body side of track
Location 19	22-May-20	two car bodies 15m apart
Location 20	22-May-20	domestic waste - plastics, mattresses, paint tins, , timber bed frame concrete, timber door, corrugated worksheets, metal framing, tyre, children's toys and other miscellaneous items
Location 21	22-May-20	fridge and dining chair
Location 22	22-May-20	sofas and other household waste scattered on each side of track
Location 23	22-May-20	household waste, sofa, timber, plastics
Location 24	20-May-20	car seat abandoned on track
Location 25	20-May-20	car tyres scattered through bush
Location 26	22-May-20	previously identified site inspected. no ACM but some scattered household waste
Location 27	22-May-20	car body

ID	Date	Description/Comment
Location 28	22-May-20	household domestic waste - metal frame
Location 29	22-May-20	minor household waste - oven, bricks, corrugated iron sheets, shade cloth
Location 30	22-May-20	ACM sheeting, most likely Asbestos. pile approximately 2m wide x 3m long stacked in sheets to a height of about 0.4m thick. sample taken
Location 31	22-May-20	household waste - wooden drawers, wooden crates, metal frame, cardboard, blower vac motor
Location 32	22-May-20	Potential unrestricted entry into site, directly accessed off link road - just West of the end of the concrete barrier south side of the West bound lane
Location 33	22-May-20	car bodies
Location 34	21-May-20	previously marked location inspected and nothing found
Location 35	21-May-20	car body off track and down ditch
Location 36	21-May-20	Various household waste - spray cans, paint tins, plastic, carpet, carpet underlay, pinball machine, car seats, esky, old clothes, chipboard, metal
Location 37	21-May-20	car body
Location 38	21-May-20	car body
Location 39	20-May-20	car body, West of main track
Location 40	21-May-20	corrugated iron sheets
Location 41	21-May-20	potential ACM. sample taken
Location 42	21-May-20	household waste - plastic, metal, trampoline, fan
Location 43	21-May-20	household plastic and metal waste. Coles supermarket trolley
Location 44	21-May-20	car body
Location 45	21-May-20	car body side of track
Location 46	21-May-20	car body
Location 47	20-May-20	possible homeless persons shelter
Location 48	20-May-20	household and domestic waste old stove, furniture etc.
Location 49	21-May-20	Two car bodies 10m apart
Location 50	20-May-20	car body next to fire track
Location 51	21-May-20	sheet metal, lawn mower, metal frame and plastic waste scattered along path for approx 20m
Location 52	21-May-20	household waste, plastic, metal frame, gas bottle, sheet metal and lawn mower
Location 53	21-May-20	car body
Location 54	21-May-20	constructed shelter made of plastic and shade cloth. Bags on ground, possibly occupied
Location 55	21-May-20	old sofa
Location 56	20-May-20	domestic waste both sides of track, synthetic seating, carpeting
Location 57	21-May-20	plastic car panel and various plastic containers scattered over an area approx 10m x 5m
Location 58	21-May-20	metal waste, tyre, plastic, MDF/plywood sheeting and styrene foam scattered either side of road
Location 59	21-May-20	broken asphalt paving
Location 60	21-May-20	two car bodies located 10m apart
Location 61	21-May-20	household waste scattered across approx area spanning 10m x 20m - tyres, plastic tubs, flat screen tv
Location 62	21-May-20	various household waste scattering an area approx 20xm x 20m - toilet, plastic containers, signage, washer/dryers. Possible ACM sheeting, sample taken
Location 63	21-May-20	plasterboard, tiles, and household waste (including old vacuum)

ID	Date	Description/Comment
Location 64	21-May-20	view across wallsend borehole colliery - scattered piles of carbonaceous material
Location 65	21-May-20	asbestos sheeting and other waste (steel, glass and timber). Sample of asbestos sheeting taken. Asbestos sheet approx 0.6m x 1.2m
Location 66	21-May-20	metal frame waste
Location 67	20-May-20	various waste surrounding/in serpentine pond (Masonite sheeting, general waste, several tyres, several plastic containers, several plastic chairs). Carbonaceous material uphill of pond in possible old landslip
Location 68	21-May-20	various plastic, brick and metal waste scattered across an area approx 20m x 5 m.
Location 69	21-May-20	Multitude of household/ domestic waste scattered across an area spanning approx 30m x 20m. Waste includes various plastics, metal, timber, electronics, mattresses, carpet, lino, tiles, metal drums, fractured fibreglass roofing, car seats, bricks, shoes, etc.
Location 70	21-May-20	Potential ACM scattered across a area of 5 square metres. sample taken
Location 71	21-May-20	mixture of plastic, electrical and metal waste - mostly old flat screen tv's. scattered either side of track
Location 72	21-May-20	previously marked location inspected and nothing found
Location 73	21-May-20	various household and domestic/industrial building waste scattering an area approx 20m x 10m, including timber, lino, plastic, metal, broken concrete and pebblecrete, arm chair, brick, tyres. Potential ACM sheeting so sample taken
Location 74	21-May-20	Approx 10-15kg of plastic wrapped asbestos sheeting. Sample taken
Location 75	21-May-20	previously marked location inspected and nothing found
Location 76	20-May-20	old domestic waste particle board, timber, washer dryer
Location 77	20-May-20	discarded gas BBQ, metal plastic
Location 78	20-May-20	mattresses, steel, paint can, glass on side of track
Location 79	20-May-20	cardboard side of track
Location 80	20-May-20	household waste, furniture, old bedding, material, plastic
Location 81	20-May-20	household waste plastic, fabrics etc.
Location 82	20-May-20	household and domestic waste spread along 50m of track incl, furniture, plastic, plasterboard, metal etc

6.6 Condition of Buildings and Roads

No onsite buildings were observed during the site visit. Roads were dirt tracks, ranging from wide gravelled tracks for all weather access to narrow, steep and heavily rutted tracks. All tracks were predominantly suitable for four-wheel drive vehicles access.

7. INTEGRITY ASSESSMENT

The site history review was completed by accessing publicly available information from the following sources:

- Lotsearch Report
- Google Earth™ imagery
- Online EPA databases
- Online BoM databases

Information obtained from the Lotsearch Report is considered to be accurate at the date they were received. Information from the historical aerial photograph review is limited in that it provides a snapshot in time and changes to the site that may have occurred between photographs has not been captured. Based the resolution of the aerial images, Ramboll considers there is a low risk of not identifying potentially contaminating activities on the large site during the assessment period.

Ramboll did not complete interviews with former site workers or owners but did undertake a site inspection. Based on the current and former use of the site, the site history review, including previous reports, and the site inspection, Ramboll considers there is a low risk of not accurately identifying Areas of Concern or Potential Contaminants of Concern at the site. Some areas of the site were densely covered in bushland or where not accessible. Whilst this limits the ability to access the site, this is not considered significant when combined with the historical review and the nature of contamination occurring mostly in accessible areas.

8. PRELIMINARY CONCEPTUAL SITE MODEL

Based on the information collected during this PSI, a preliminary Conceptual Site Model (CSM) has been developed. The preliminary CSM addresses potential contaminant sources, transport mechanisms/pathways and sensitive receptors identified and is presented below.

8.1 Potential Onsite and Offsite Contaminant Sources

The potential onsite and offsite sources of contamination are presented in **Table 8-1**.

Table 8-1: Potential Areas and Contaminants of Concern

Potential Area of Concern	Contaminants of Potential Concern (CoPC)	Affected Media
Onsite		
Former mining operations – the New Wallsend No. 2 Colliery and Wallsend Borehole Colliery, including: <ul style="list-style-type: none"> Leaks and spills from fuel storage and machinery/plant. Demolition of former buildings containing hazardous building materials such as asbestos, lead and PCBs. Spills and leaks associated with former tram lines and railways. Hazardous ground gases, acid generation and combustibility associated with carbonaceous materials. Discharge of water into onsite creeks and surface water bodies from former mine water discharges or run off from mining areas. 	Total recoverable hydrocarbons (TRH), benzene, toluene, ethylbenzene, xylenes and naphthalene (BTEXN), polycyclic aromatic hydrocarbons (PAHs), heavy metals, solvents, asbestos, PCBs, pH and ASS.	Soil, groundwater, surface water and ground gas.
Residual contamination remaining after remediation of the New Wallsend No. 2 Colliery	TRH, BTEXN, PAHs, heavy metals and solvents	Soil and groundwater
Importation of fill material	TRH, BTEXN, PAHs, heavy metals, PCBs, organochloride pesticides and organophosphate pesticides (OCP/OPPs) and asbestos	Soil
Illegal dumping of waste, including rubbish, building materials, potential ACM and soil	TRH, BTEXN, PAHs, heavy metals, PCBs, OCP/OPPs and asbestos	Soil

Potential Area of Concern	Contaminants of Potential Concern (CoPC)	Affected Media
Use of herbicides and pesticides for weed and pest control	OCP/OPP and herbicides	Soil and surface water
Offsite		
Summerhill Waste Management Facility to the north of the site	Ammonia, TRH, BTEXN, heavy metals, PFAS, and landfill gases (methane, carbon monoxide, carbon dioxide and hydrogen sulfide)	Groundwater, surface water and landfill gas

8.2 Potential Transport Mechanisms and Exposure Pathways

Identified potential transport mechanisms at the site for the nominated CoPC include the following:

1. Presence of contaminations in soil at the surface or at depth.
2. Generation of contaminated soil as dust or fibres and migration through air
3. Migration of contaminants in groundwater to surface water receiving bodies
4. Leaching of soil contaminants to groundwater.
5. Migration of groundwater and/ or surface water (as overland flow) from the site.
6. Volatilisation and lateral and/or vertical vapour migration of volatile organic compounds and subsequent inhalation or generation of explosive atmospheres.
7. Migration of groundwater and landfill gas from adjacent landfill to the north.

Identified exposure pathways include:

1. Inhalation of contaminated dust and fibres
2. Direct ingestion or dermal contact with contaminated soil and surface water.
3. Direct ingestion or dermal contact with impacted groundwater during intrusive works or groundwater abstraction.
4. Inhalation of hazardous ground gas or landfill gas.

8.3 Potential Receptors

Identified potential receptors of CoPCs, should complete exposure pathways be present in the vicinity of the site, include:

1. Onsite occupants, visitors and workers.
2. Off-site residents adjacent to the site.
3. Construction workers undertaking ground disturbance.
4. Soil and groundwater environments beneath the site and their associated ecosystems.
5. Surface water courses receiving groundwater discharge from the site (Brush Creek and Maryland Creek) plus their associated users and ecosystems.
6. Buildings and structures.

8.4 Data Gaps and Uncertainties

Following the site history review, review of the previous investigations, including site history and site condition information and analytical data, and the site inspection the following data gaps and uncertainties have been identified:

- RCA (2005) reported significant odour emissions were identified during excavation of the oil storage area from as far as 100 m away, however this did not appear to be further investigated.
- RCA (2005) report residual contamination remains in the following areas:
 - Within the area of the hydrocarbon excavation.
 - At depth in the trial box cut.
 - At depth in the borrow pit.
 - Within the area of the former noise bund.

and further investigation of other former operational areas and the remaining area of the site (not affected by mining) and would be required prior to redevelopment (Umwelt, 2006).

- Based on the age of the RCA (2005) report a number of guidelines adopted for the assessment, which were appropriate at the time, have now been superseded and are no longer considered suitable for assessment of site contamination. In particular the NEPM was amended in 2013 with the provision of health screening levels (HSLs) and ecological screening levels (ESLs) for TRH and BTEXN. The revision is based on risk assessment principles and considered the soil type (for example sand, clay or silt), depth of contamination and TRH fraction and as a result the remediation criteria adopted at the time may be more or less conservative than current approved guidelines. Review of the validation results (RCA, 2005) compared to the NEPM 2013 HSLs for low-high density residential land use as a preliminary screen indicate that some of the residual contamination may preclude the rezoning of this area of the site for residential land use and even commercial use without remediation.
- It is understood from review of Umwelt (2006) that during building demolition, where demolition material was not able to be sold, building waste such as bricks, timber, concrete, metal and glass were incorporated with the No. 3 Box-Cut and covered with at least one metre of inert capping material. The presence of buried inert waste would require further investigation to determine future land use suitability. It is also understood that some building foundations (i.e. the former washery final products bin) were left insitu approximately 3.0 mbgl below the final landform. There is potential for contamination associated with this infrastructure to be present.
- GHD (2006) notes the previous reports mention the presence of asbestos pipes associated with the tailings line. There are no documents regarding the removal or validation of the area in the vicinity of the tailings line to ensure that there were no residual fragments or fibres remaining. GHD also state no reports were provided to review if asbestos investigations had been undertaken as part of the demolition of the former buildings.
- An asbestos investigation by DP (2019a) in the vicinity of former buildings at the former New Wallsend No. 2 Colliery Pit Top facility visually identified fragments of potential ACM on the surface. Eleven test pits in this area did not identify ACM to be present however other building materials were identified. Limited laboratory testing to assess the presence of asbestos or asbestos fibres did not identify the presence of ACM.
- Investigation is required to determine the potential for buried carbonaceous materials to generate acid, hazardous ground gases and combustibility (GHD, 2006). Hazardous ground gases potentially may be present within open cut mining areas, shafts, vents, adits and possible zones of fractured rock and use of coal washery reject as fill.

- There is the potential for mine water discharge or mine activities to impact onsite creeks. The quality of surface water in onsite creeks is not known.
- No information or documentation has been provided in relation to assessment and/or remediation and validation of the former Wallsend Borehole Colliery.
- Review of the historical aerial photography indicate significant excavations have been undertaken with the New Wallsend No. 2 Colliery and the Wallsend Borehole Colliery. These excavations are likely to have been filled with uncontrolled fill material or unknown quality.
- Review of Umwelt (2006) indicate that the ongoing environmental monitoring was required as part of mine closure. It would be prudent to seek any of these monitoring reports for review to determine if there were any environmental impacts following mine closure.
- Little information is provided in Umwelt (2006) regarding the demolition and removal of the former compressor building in the southern portion of the site. There is the potential of contamination associated with the compressor operation and demolition of the building.
- DP (2019) suggest there is the potential for former mining machinery and plant to have been buried onsite, with a risk of localised impacts.

9. CONCLUSIONS AND RECOMMENDATIONS

9.1 Summary of Findings

Ramboll conducted a PSI of an approximate 574 hectare (ha) area of land located on the northern and southern sides of Newcastle Link Road, Wallsend, New South Wales, Australia. The site, defined by Lot 3057 in DP 1208470, Lot 2 in DP 800035, Lots 3051 and 3052 in DP 1202601, Lot 350 in DP 1167367, Lot 31 in DP 35580, Lot 1 in DP 822151, Lot 1 in DP 192650, and Lot A and B in DP36897, is generally vegetated, traversed by various tracks and power transmission easements and comprises the former New Wallsend No. 2 Colliery in the northeast of the site. Road reserve areas (excluding Link Road) within the site boundary were also considered.

Eden Estates are planning to redevelop the land and the PSI is required to assist with the submission of a Planning Proposal to Newcastle and Lake Macquarie City Councils for the amendment of their respective Local Environment Plans (LEPs) for rezoning of land use.

A site history review identified that the site has been predominantly vacant bushland. Portions of the site, mostly in the north, have a history of coal mining from at least the late 1800s until the early 2000s when the collieries were decommissioned.

Review of previous reports prepared for the site indicate that the majority of investigations have focussed on the former New Wallsend No. 2 Colliery in the northeastern portion of the site. The reports identified that the former New Wallsend No. 2 Colliery site was remediated and rehabilitated between 2002-2005 with all infrastructure, including buildings, fuel and oil stores and machinery/plant reported to have been removed from the site. Remediation of hydrocarbon impacted soil was undertaken via excavation and landfarming, with the spoil either buried at depth within the borrow pit or trial box cut area or transported to Eraring Power Station for combustion.

A site inspection confirmed that all former mining infrastructure appeared to have been removed and bush now covers this portion of the site. The site inspection also observed numerous locations of illegally dumped waste generally comprising car bodies, household items such as old furniture, mattresses and electronic items and potential ACM fibreboard. The dumped waste locations were generally positioned nearest to site boundaries and access points to the site.

Based on the site history review, review of previous reports and site inspection, potential onsite sources of contamination were identified and included:

- Former mining operations – the New Wallsend No. 2 Colliery and Wallsend Borehole Colliery, including:
 - Leaks and spills from fuel storage and machinery/plant.
 - Demolition of former buildings containing hazardous building materials such as asbestos, lead and PCBs.
 - Spills and leaks associated with former tram lines and railways.
 - Hazardous ground gases, acid generation and combustibility associated with carbonaceous materials.
 - Discharge of mine water into onsite creeks and surface water bodies.
- Residual contamination remaining after remediation of the New Wallsend No. 2 Colliery.
- Importation of fill material.
- Illegal dumping of waste, including rubbish, building materials, potential ACM and soil.

- Use of herbicides and pesticides for weed and pest control.

CoPCs associated with the current and historical use of the site include petroleum hydrocarbons (TRH and BTEXN), PAHs, heavy metals, pesticides (organochlorine and organophosphorus pesticides) and herbicides, asbestos, solvents and PCBs and are considered to have the potential to adversely impact the soil and/or groundwater quality at the site.

A preliminary CSM has been developed to address potential contaminant sources, transport mechanisms/pathways and sensitive receptors identified. Based on the information collected during this PSI, a number of data gaps and uncertainties were identified to require further investigation, including, but not limited to the following:

- RCA (2005) report there is the potential that residual contamination remains on the former new Wallsend No. 2 Colliery site and further investigation of other former operational areas and the remaining area of the site (not affected by mining) is required. Further, preliminary screening of the validation results against NEPM 2013 HSLs indicate the residual contamination may preclude rezoning of this portion of the site for residential land use.
- Potential for contamination where building demolition material and where building foundations were buried. Further, DP (2019) suggest there is the potential for former mining machinery and plant to have been buried onsite
- Investigation for the presence/absence of asbestos fibres in soil resulting from removal of asbestos pipes and demolition of buildings containing potential ACM.
- Investigation is required to determine the potential for buried carbonaceous materials to hazardous ground gases. Further assessment of acid generation and combustibility is required.
- Investigation of creeks and surface water bodies on the site to determine potential impacts from mine water discharge or run off from areas of mining activity.
- No information or documentation has been provided in relation to assessment and/or remediation and validation of the former Wallsend Borehole Colliery.

Based on the results of the PSI, Ramboll considers the majority of the site could be suitable for rezoning for any future land use subject to removal of illegally dumped wastes. Further investigation of the former collieries and areas associated with former mining activities is required to assess the suitability of these areas for certain land uses with or without remediation.

9.2 Recommendations

Based on the information provided in this report, Ramboll recommends the development of a Sampling Analysis and Quality Plan detailing targeted further investigation as follows:

- Soil, ground gas and groundwater sampling within the former New Wallsend No. 2 Colliery operations area, targeting:
 - Areas where residual contamination such as the former hydrocarbon excavation and location of former noise bund.
 - At depth in the trial box cut and borrow pit.
 - Filled in dams and other excavations.
 - Locations of former buildings for assessment of hazardous building materials.
 - Carbonaceous material and coal reject emplacement areas (including potential hazardous ground gas investigations).

- Soil, ground gas and groundwater sampling within the footprint of the former Wallsend Borehole Colliery.
- Soil sampling along former tram lines and railways.
- Soil sampling in areas of illegally dumped waste material.
- Soil sampling in areas of potential weed and pest control spraying.
- Surface water and sediment sampling within onsite creeks and surface water bodies where there is the potential for mine water to have been discharged.

Ramboll also recommends seeking additional information and reports regarding:

- The closure of the former Wallsend Borehole Colliery.
- Environmental monitoring following the closure of the former New Wallsend No. 2 Colliery.
- The potential burial of machinery and plant within shafts at the former New Wallsend No. 2 Colliery.

10. REFERENCES

ANZG 2018, Australian and New Zealand Guidelines for Fresh and Marine Water Quality www.waterquality.gov.au/anz-guidelines.

Australian and New Zealand Environment Conservation Council and Agriculture Resource Management Council of Australia and New Zealand (ANZECC/ARMCANZ) 2000. *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*.

Douglas Partners Pty Ltd (DP) 2019. *Preliminary Contamination Review of Supplied Documents, The Newcastle Wallsend Coal Company Holdings, Link Road, Wallsend*, November 2019.

DP 2019a. *Additional Assessment for Asbestos, Former New Wallsend No 2 Colliery Pit Top Facility off Bulkara Street, Wallsend*, December 2019.

DP 2020. *Proposed Residential Development off Bulkara Street, Wallsend*, September 2020

GHD Pty Ltd (GHD) 2006. *Australand Holdings Limited, Report for New Wallsend Due Diligence Assessment and Concept Design*, June 2006.

National Environment Protection Council (NEPC) 2013. *National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended by the National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1)*, May 2013.

NSW Environment Protection Authority (EPA) 1995. *Sampling Design Guidelines*, September 1995.

NSW EPA 2020. *Consultants Reporting on Contaminated Land: Contaminated Land Guidelines*, April 2020.

RCA Australia (RCA) 2005. *Environmental Site Assessment and Remediation, New Wallsend No. 2 Colliery, Bulkara Street, Wallsend*, September 2005.

Umwelt (Australia) Pty Ltd (Umwelt) 2006. *Final Report, Phase 2 Decommissioning and Rehabilitation of New Wallsend No. 2 Colliery*, February 2006.

11. LIMITATIONS

Ramboll Australia Pty Ltd prepared this report in accordance with the scope of work as outlined in our proposal to Eden Estates (Newcastle) Pty Ltd c/o ADW Johnson Pty Limited and in accordance with our understanding and interpretation of current regulatory standards.

In performing its assignment, Ramboll must rely upon publicly available information, information provided by the client and information provided by third parties. Accordingly, the conclusions in this report are valid only to the extent that the information provided to Ramboll was accurate and complete. This report is not intended as legal advice, nor is it an exhaustive review of site conditions or facility compliance. Ramboll makes no representations or warranties, express or implied, about the conditions of the site.

Ramboll's scope of work for this assignment did not include collecting samples of any environmental media. As such, this report cannot rule out the existence of latent conditions, and is intended, consistent with normal standards of practice and care, to assist the client in identifying the risks of such conditions.

Site conditions may change over time. This report is based on conditions encountered at the Site at the time of the report and Ramboll disclaims responsibility for any changes that may have occurred after this time.

The conclusions presented in this report represent Ramboll's professional judgment based on information made available during the course of this assignment and are true and correct to the best of Ramboll's knowledge as at the date of the assessment.

Ramboll did not independently verify all of the written or oral information provided to Ramboll during the course of this investigation. While Ramboll has no reason to doubt the accuracy of the information provided to it, the report is complete and accurate only to the extent that the information provided to Ramboll was itself complete and accurate.

This report does not purport to give legal advice. This advice can only be given by qualified legal advisors.

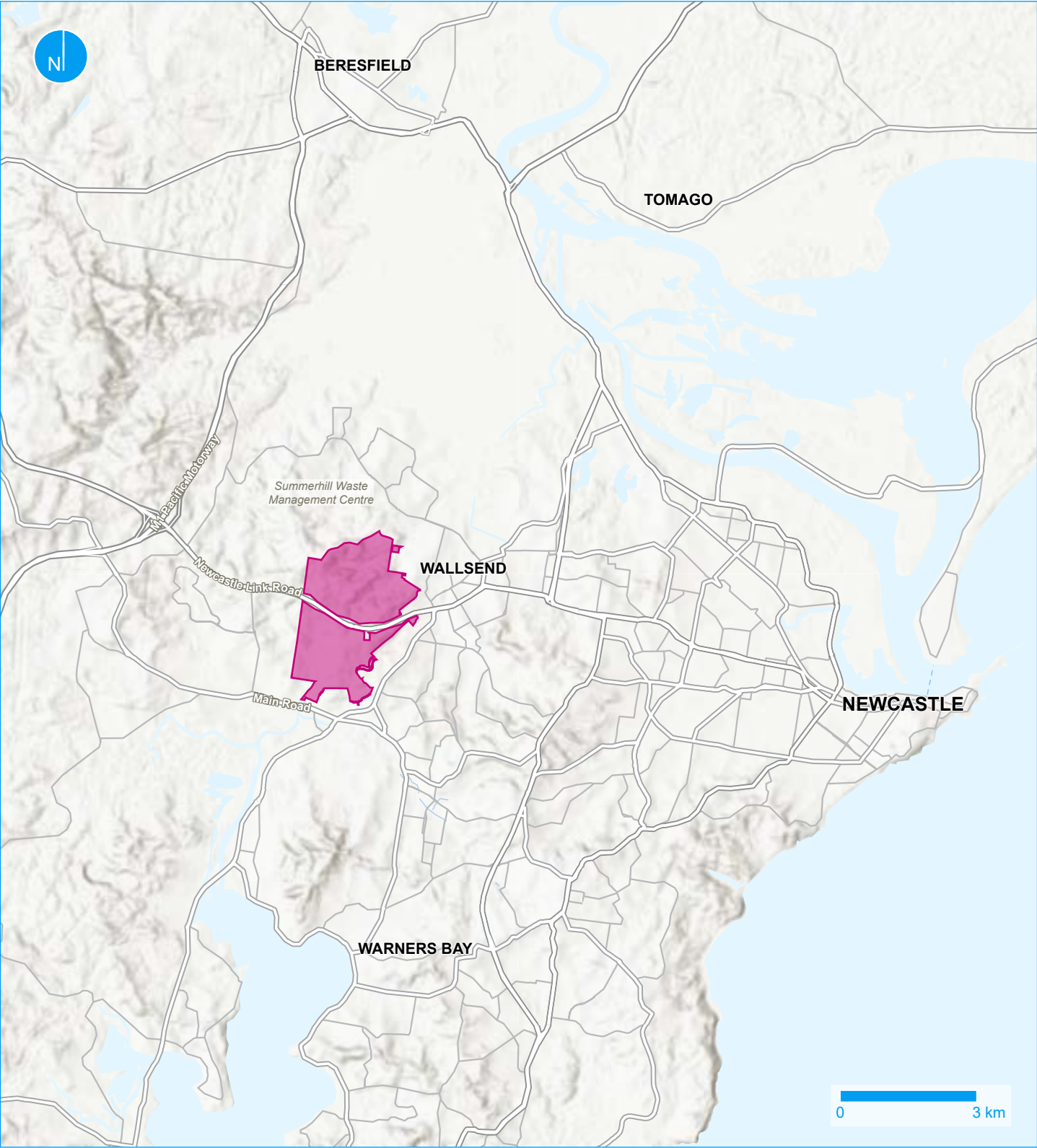
11.1 User Reliance

This report has been prepared exclusively for Eden Estates (Newcastle) Pty Ltd c/o ADW Johnson Pty Limited and may not be relied upon by any other person or entity without Ramboll's express written permission.

Ramboll - Former New Wallsend Colliery Site, Newcastle Link Road

APPENDIX 1

FIGURES



RAMBOLL AUSTRALIA - GIS MAP file : 318000981_GIS_P002_PSI | F001_Locality_V02 | 6/12/2020

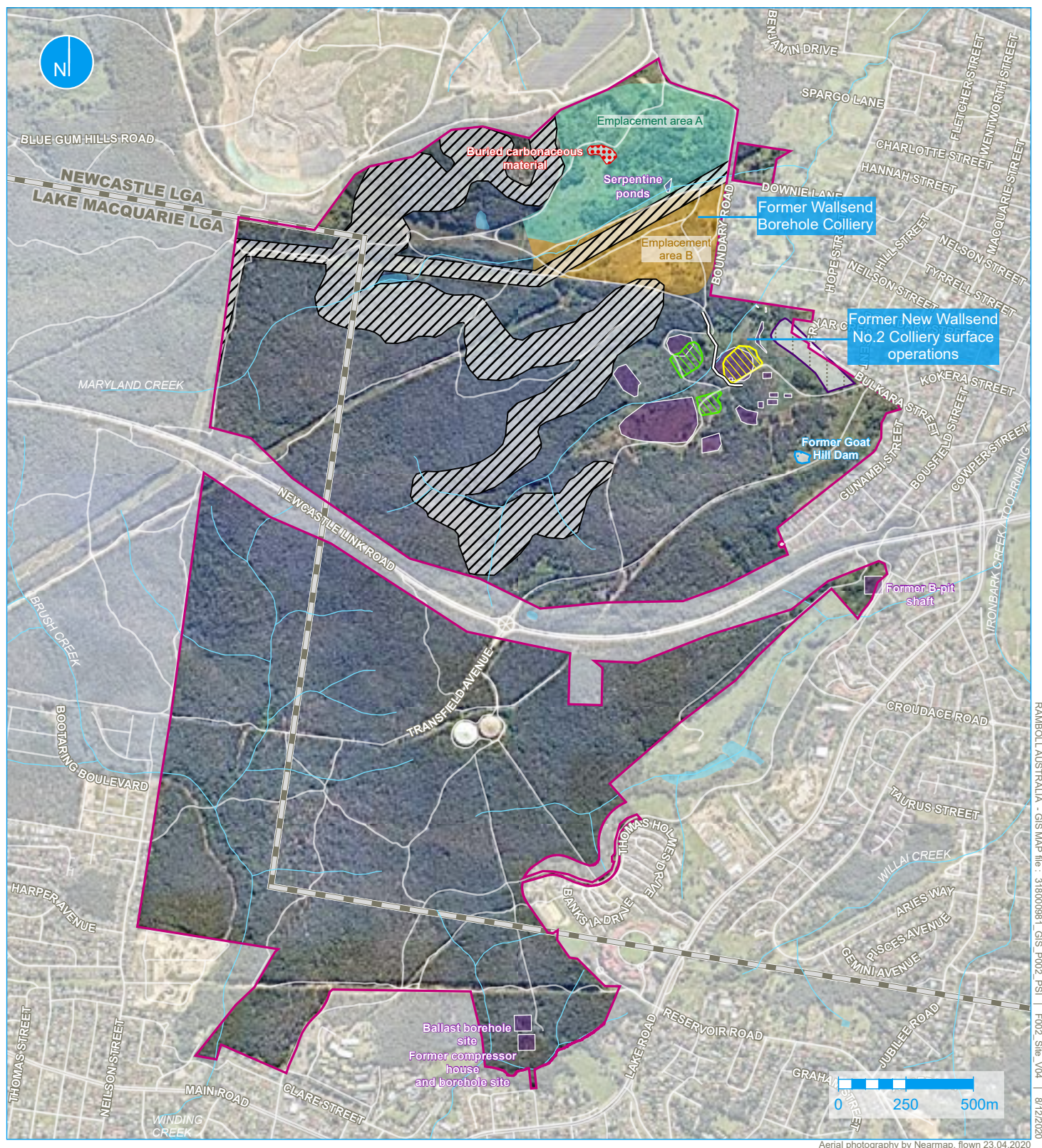
Legend

Site

A4
1:120,000

Esri, Geoscience Australia, NASA, NGA, USGS, Esri,
HERE, Garmin, METI/NASA, USGS

Figure 1 | Site locality



Legend

- Site
- Area of steep slope, unable to be accessed during site visit
- Waterway (NSW Spatial Services)
- Waterbody (NSW Spatial Services)
- Former site feature
- Borrow pit
- Hydrocarbon excavation area
- Buried carbonaceous material
- Former Goat Hill Dam
- Noise bund
- Emplacement area A
- Emplacement area B

A4
1:20,000

Figure 2 | Site plan

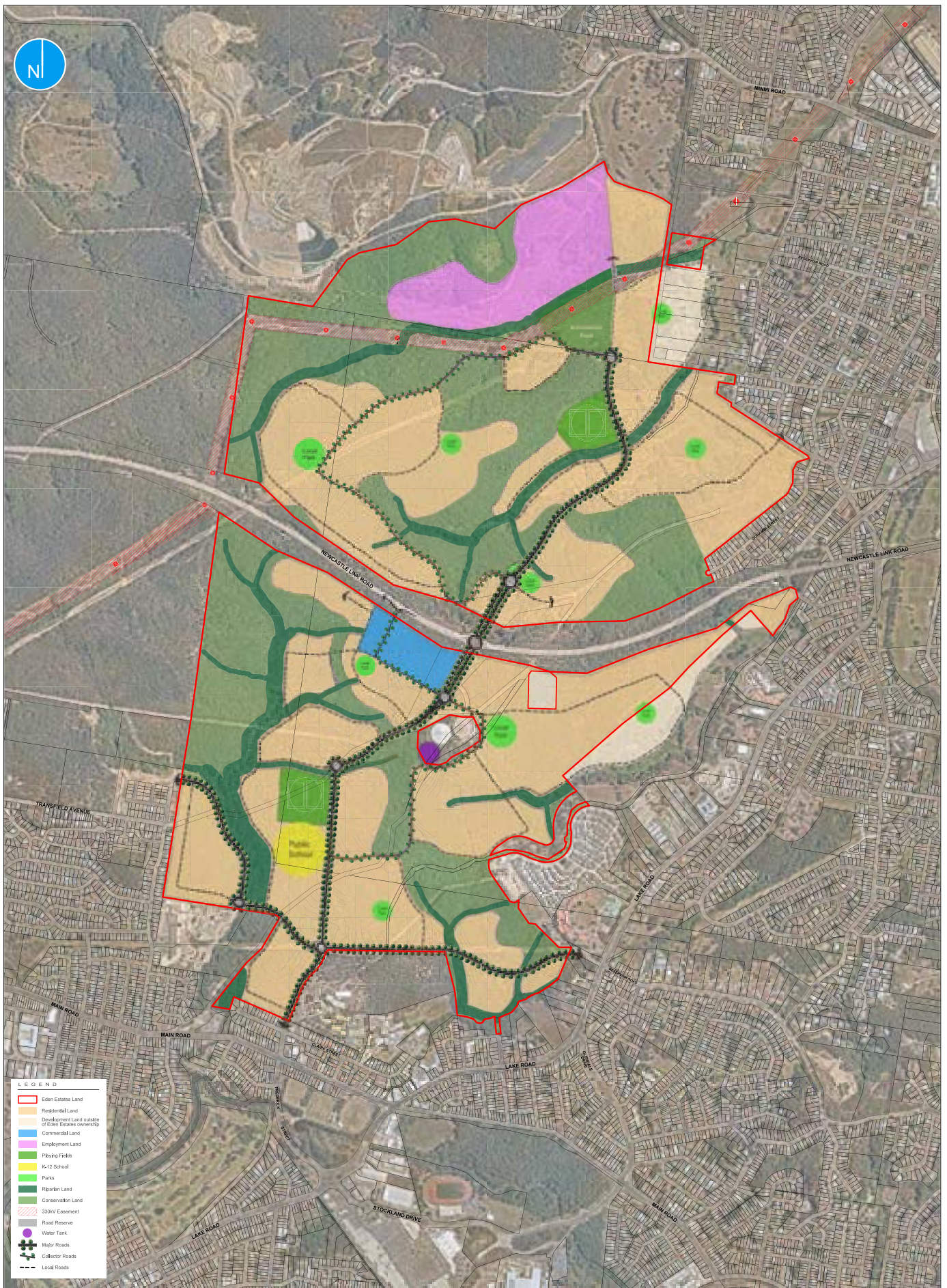
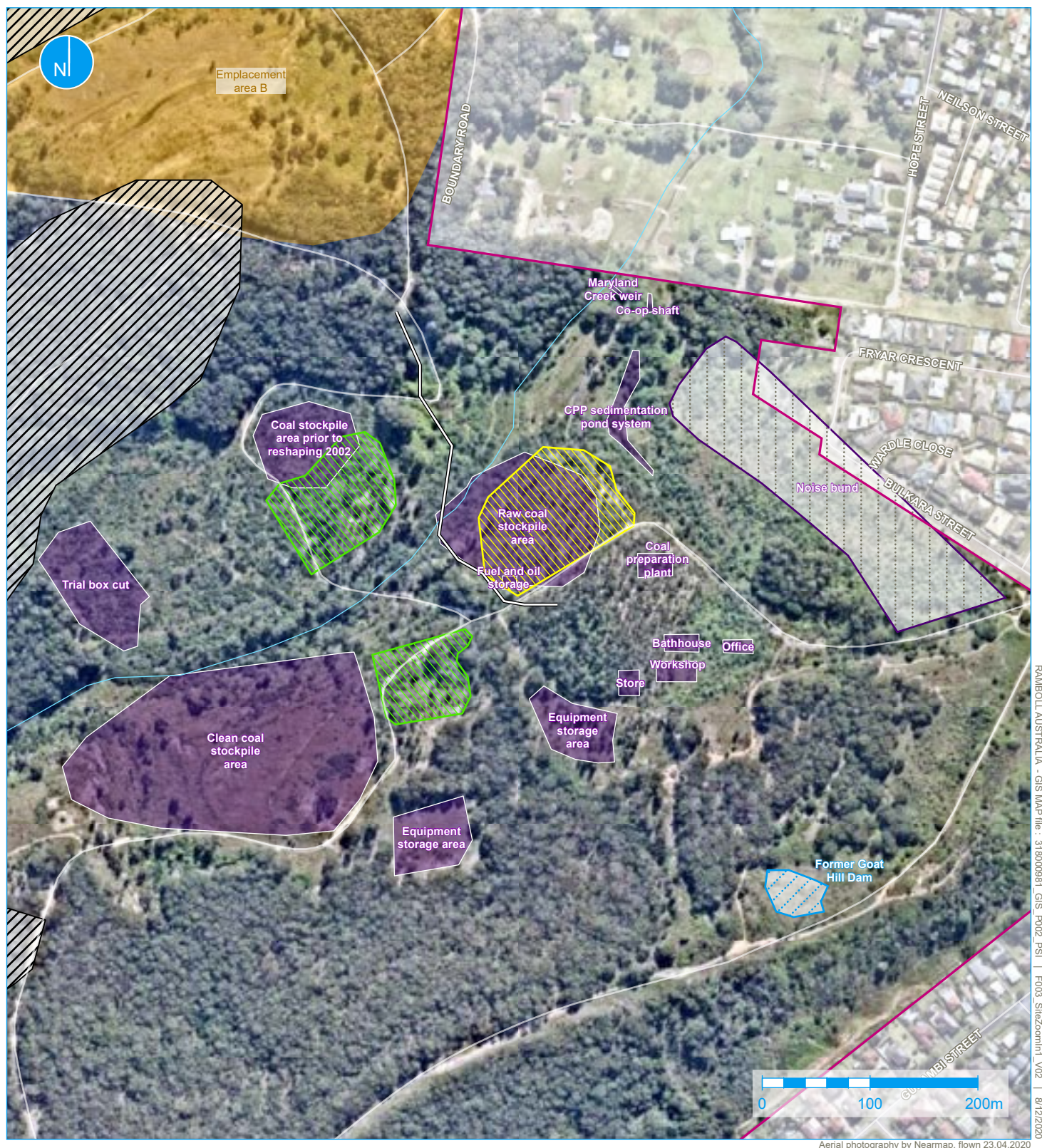


Figure 3 | Preliminary structure plan



Legend

- Site
- Area of steep slope, unable to be accessed during site visit
- Waterway (NSW Spatial Services)

- Former site feature
- Borrow pit
- Hydrocarbon excavation area
- Former Goat Hill Dam
- Noise bund
- Emplacement area B
- Tailings line

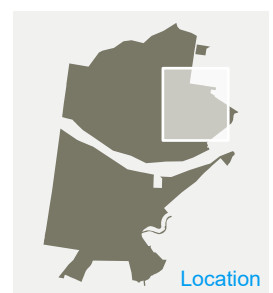
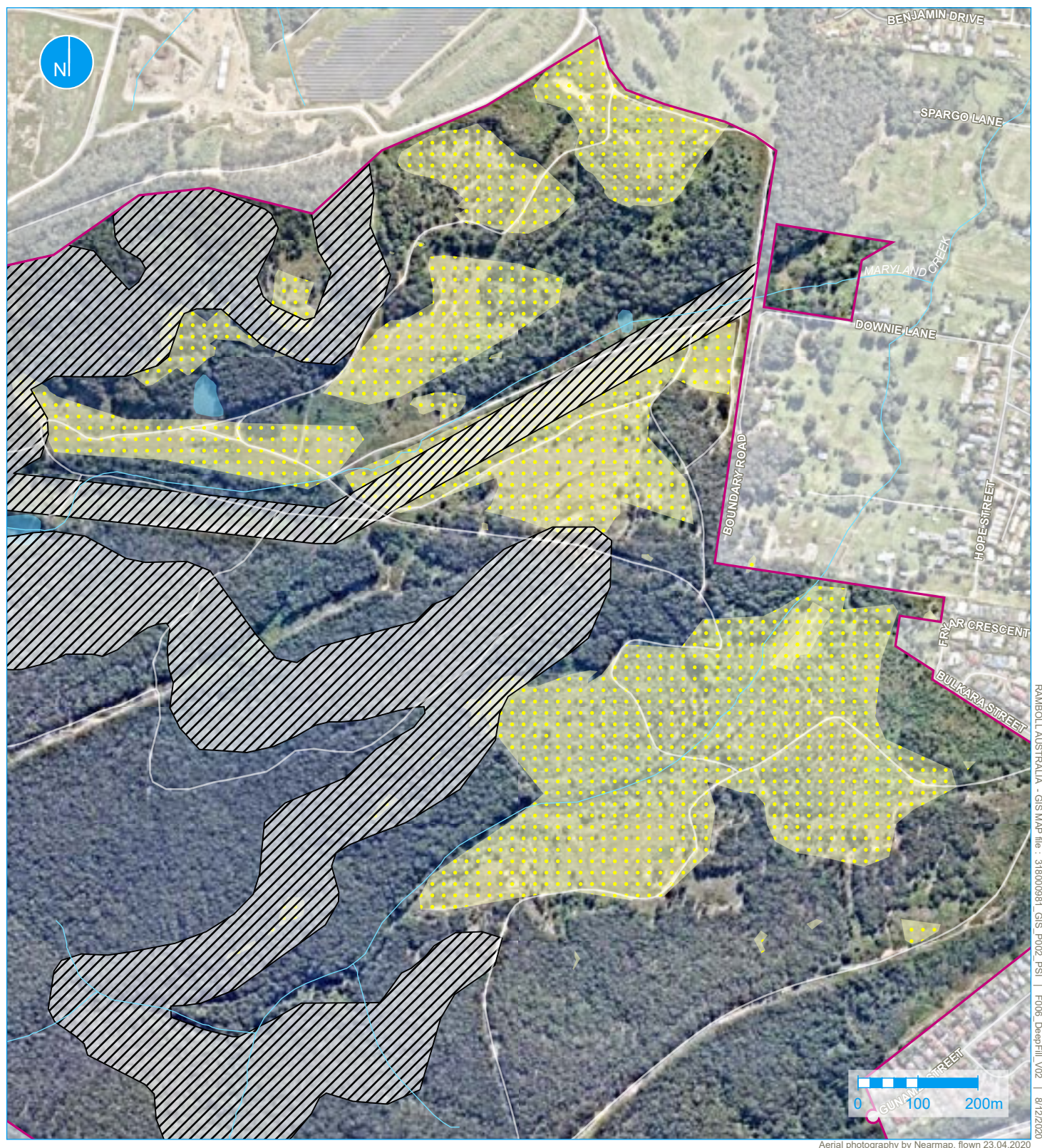


Figure 4 | Former New Wallsend No.2 Colliery surface operations



Legend

- Site
- Area of steep slope, unable to be accessed during site visit
- Approximate location of deep fill area (DP 2019)
- LGA boundary (NSW Spatial Services)
- Waterway (NSW Spatial Services)
- Waterbody (NSW Spatial Services)

A4

1:9,000

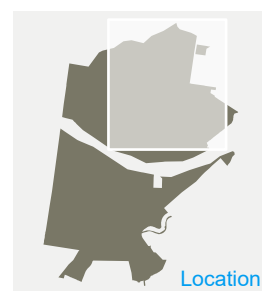
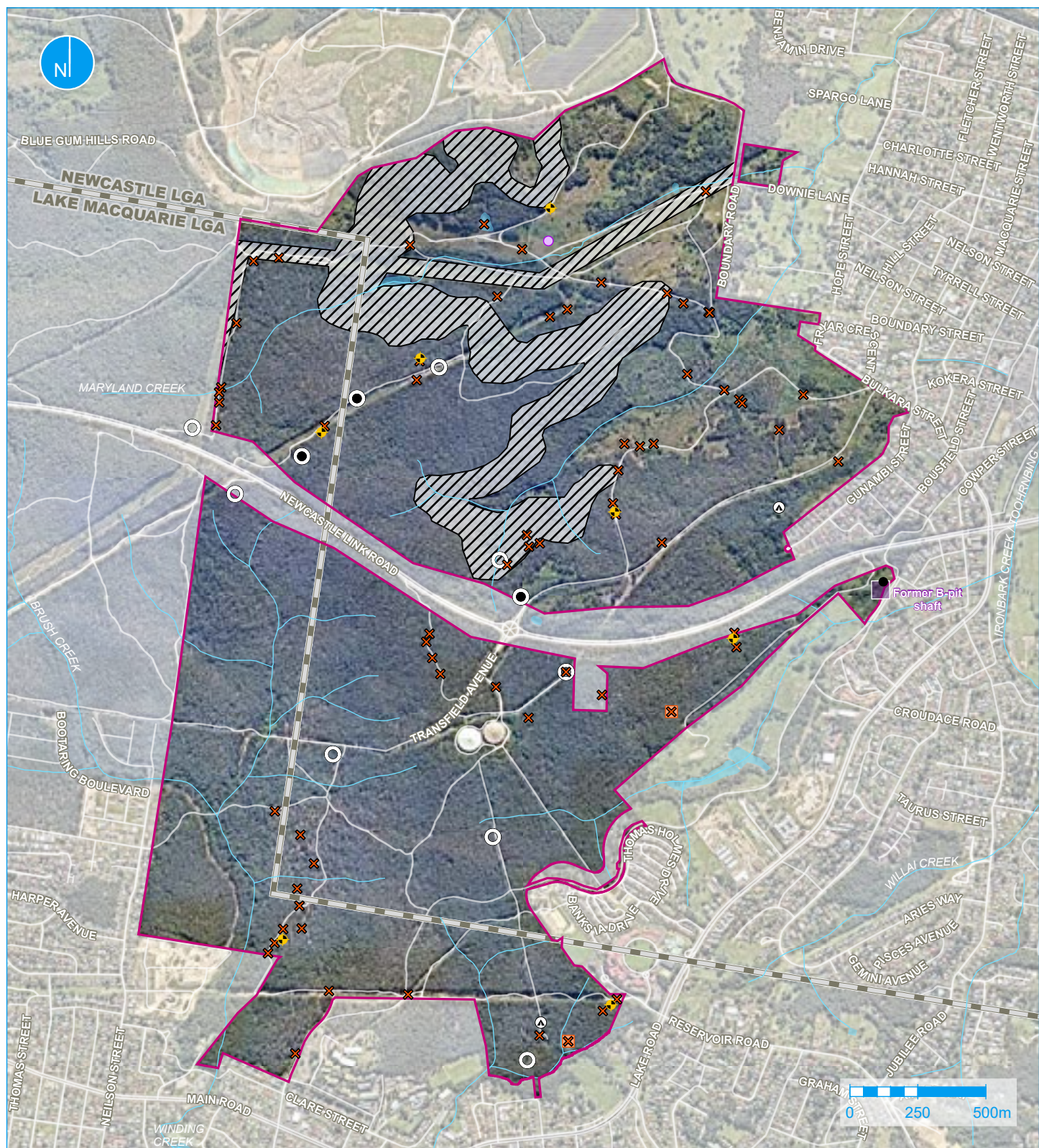


Figure 5 | Approximate location of deep fill areas (adapted from DP 2019)



Legend

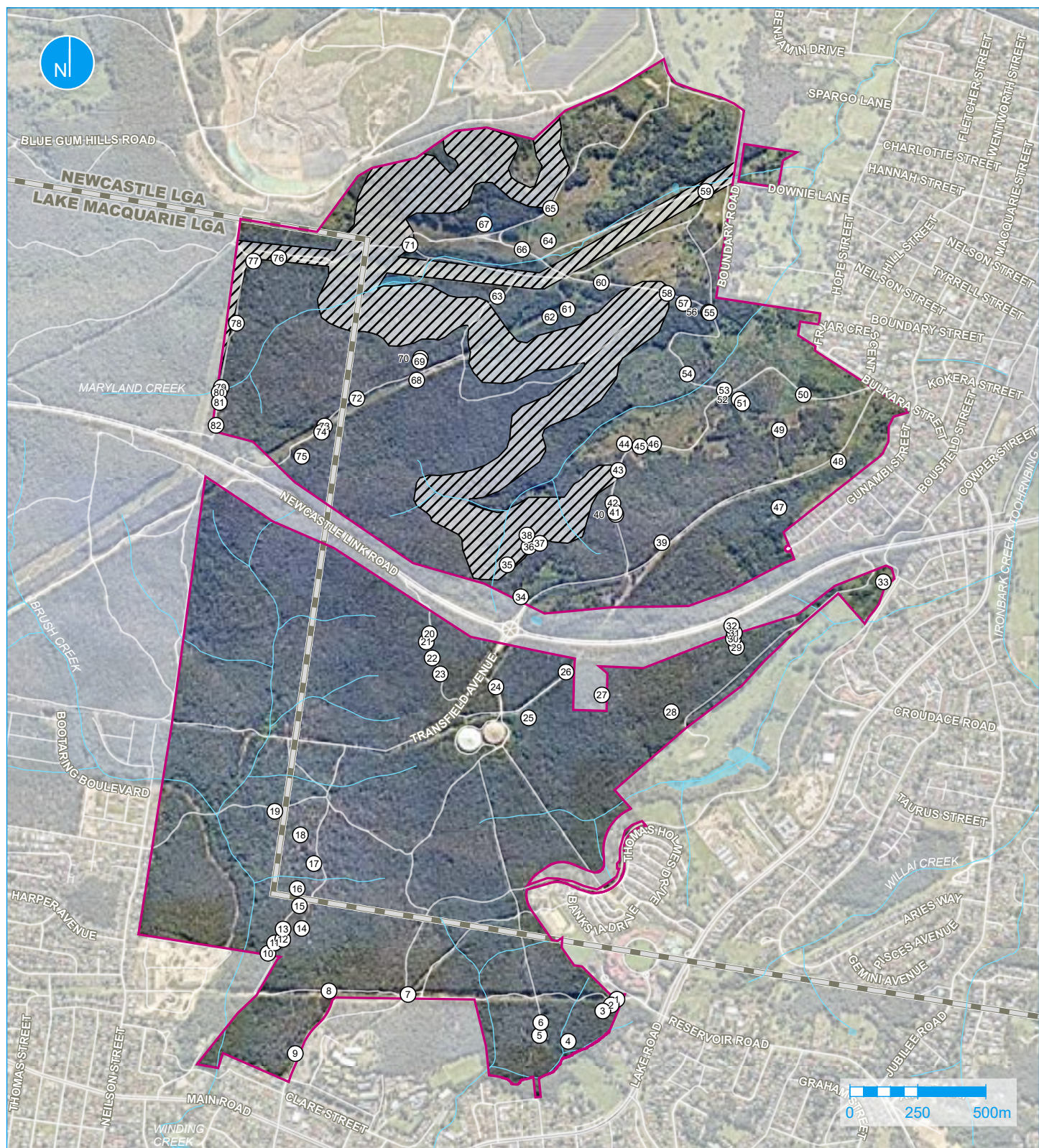
- Site
- Area of steep slope, unable to be accessed during site visit
- LGA boundary (NSW Spatial Services)
- Waterway (NSW Spatial Services)
- Waterbody (NSW Spatial Services)
- Dumping site identified during previous investigation (GHD 2006)

Field observations (Ramboll June 2020)

- x Waste
- x Waste and previous brick structure
- ♦ Waste (potential ACM observed)
- Carbonaceous material
- Ⓐ Potential homeless shelter
- No waste observed

A4
1:20,000

Figure 6 | Field observations during June 2020 site inspection



Legend

- Site
- Area of steep slope, unable to be accessed during site visit
- Photo location
- LGA boundary (NSW Spatial Services)
- Waterway (NSW Spatial Services)
- Waterbody (NSW Spatial Services)

A4
1:20,000

Figure 7 | Photo locations during June 2020 site inspection

Ramboll - Former New Wallsend Colliery Site, Newcastle Link Road

APPENDIX 2

LOTSEARCH REPORT (2020)



Date: 15 May 2020 14:40:32

Reference: LS012358 EP

**Address: Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW
2287**

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	16/03/2020	16/03/2020	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	15/04/2020	15/04/2020	Monthly	1000	0	0	8
Contaminated Land Records of Notice	Environment Protection Authority	21/04/2020	21/04/2020	Monthly	1000	0	0	0
Former Gasworks	Environment Protection Authority	21/04/2020	11/10/2017	Monthly	1000	0	0	1
National Waste Management Facilities Database	Geoscience Australia	12/02/2020	07/03/2017	Quarterly	1000	0	1	1
National Liquid Fuel Facilities	Geoscience Australia	05/02/2020	13/07/2012	Quarterly	1000	0	0	6
EPA PFAS Investigation Program	Environment Protection Authority	22/04/2020	22/04/2020	Monthly	2000	0	0	1
Defence PFAS Investigation & Management Program - Investigation Sites	Department of Defence	12/02/2020	12/02/2020	Monthly	2000	0	0	0
Defence PFAS Investigation & Management Program - Management Sites	Department of Defence	12/02/2020	12/02/2020	Monthly	2000	0	0	0
Airservices Australia National PFAS Management Program	Airservices Australia	22/04/2020	22/04/2020	Monthly	2000	0	0	0
Defence 3 Year Regional Contamination Investigation Program	Department of Defence	04/05/2020	04/05/2020	Monthly	2000	0	0	0
EPA Other Sites with Contamination Issues	Environment Protection Authority	04/02/2020	13/12/2018	Annually	1000	0	0	1
Licensed Activities under the POEO Act 1997	Environment Protection Authority	09/04/2020	09/04/2020	Monthly	1000	2	3	4
Delicensed POEO Activities still regulated by the EPA	Environment Protection Authority	09/04/2020	09/04/2020	Monthly	1000	0	0	1
Former POEO Licensed Activities now revoked or surrendered	Environment Protection Authority	09/04/2020	09/04/2020	Monthly	1000	4	4	4
UBD Business Directories (Premise & Intersection Matches)	Hardie Grant			Not required	150	0	5	35
UBD Business Directories (Road & Area Matches)	Hardie Grant			Not required	150	-	31	131
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Premise & Intersection Matches)	Hardie Grant			Not required	500	0	0	6
UBD Business Directory Dry Cleaners & Motor Garages/Service Stations (Road & Area Matches)	Hardie Grant			Not required	500	-	0	24
Points of Interest	NSW Department of Finance, Services & Innovation	19/02/2020	19/02/2020	Quarterly	1000	4	9	101
Tanks (Areas)	NSW Department of Customer Service - Spatial Services	19/02/2020	19/02/2020	Quarterly	1000	2	2	2
Tanks (Points)	NSW Department of Customer Service - Spatial Services	19/02/2020	19/02/2020	Quarterly	1000	2	2	2
Major Easements	NSW Department of Finance, Services & Innovation	19/02/2020	19/02/2020	Quarterly	1000	6	8	27
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	Annually	1000	0	0	1
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	As required	1000	0	0	0

Dataset Name	Custodian	Supply Date	Currency Date	Update Frequency	Dataset Buffer (m)	No. Features Onsite	No. Features within 100m	No. Features within Buffer
Groundwater Boreholes	NSW Dept. of Primary Industries - Water NSW; Commonwealth of Australia (Bureau of Meteorology)	24/07/2018	23/07/2018	Annually	2000	0	1	39
Geological Units 1:250,000	NSW Department of Planning, Industry and Environment	20/08/2014		None planned	1000	4	-	7
Geological Structures 1:250,000	NSW Department of Planning, Industry and Environment	20/08/2014		None planned	1000	8	-	20
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	2
Soil Landscapes	NSW Department of Planning, Industry and Environment	12/08/2014		None planned	1000	7	-	10
Environmental Planning Instrument Acid Sulfate Soils	NSW Department of Planning, Industry and Environment	24/04/2020	28/02/2020	Monthly	500	1	-	-
Atlas of Australian Acid Sulfate Soils	CSIRO	19/01/2017	21/02/2013	As required	1000	1	2	3
Dryland Salinity - National Assessment	National Land and Water Resources Audit	18/07/2014	12/05/2013	None planned	1000	0	0	0
Dryland Salinity Potential of Western Sydney	NSW Department of Planning, Industry and Environment	12/05/2017	01/01/2002	None planned	1000	-	-	-
Mining Subsidence Districts	NSW Department of Customer Service - Subsidence Advisory NSW	19/02/2020	19/02/2020	Quarterly	1000	2	2	2
Environmental Planning Instrument SEPP State Significant Precincts	NSW Department of Planning, Industry and Environment	24/04/2020	07/12/2018	Monthly	1000	0	0	0
Environmental Planning Instrument Land Zoning	NSW Department of Planning, Industry and Environment	26/03/2020	26/03/2020	Monthly	1000	5	19	104
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	1
Environmental Planning Instrument Heritage	NSW Department of Planning, Industry and Environment	24/04/2020	17/04/2020	Monthly	1000	2	3	31
Bush Fire Prone Land	NSW Rural Fire Service	04/02/2020	14/12/2019	Quarterly	1000	4	4	4
Lower Hunter and Central Coast Regional Vegetation Survey	NSW Office of Environment & Heritage	28/02/2015	16/11/2009	As required	1000	13	13	16
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	9	9	9
Inflow Dependent Ecosystems Likelihood	Bureau of Meteorology	14/08/2017	15/05/2017	Unknown	1000	23	23	24
NSW BioNet Species Sightings	NSW Office of Environment & Heritage	13/05/2020	13/05/2020	Weekly	10000	-	-	-

Site Diagram

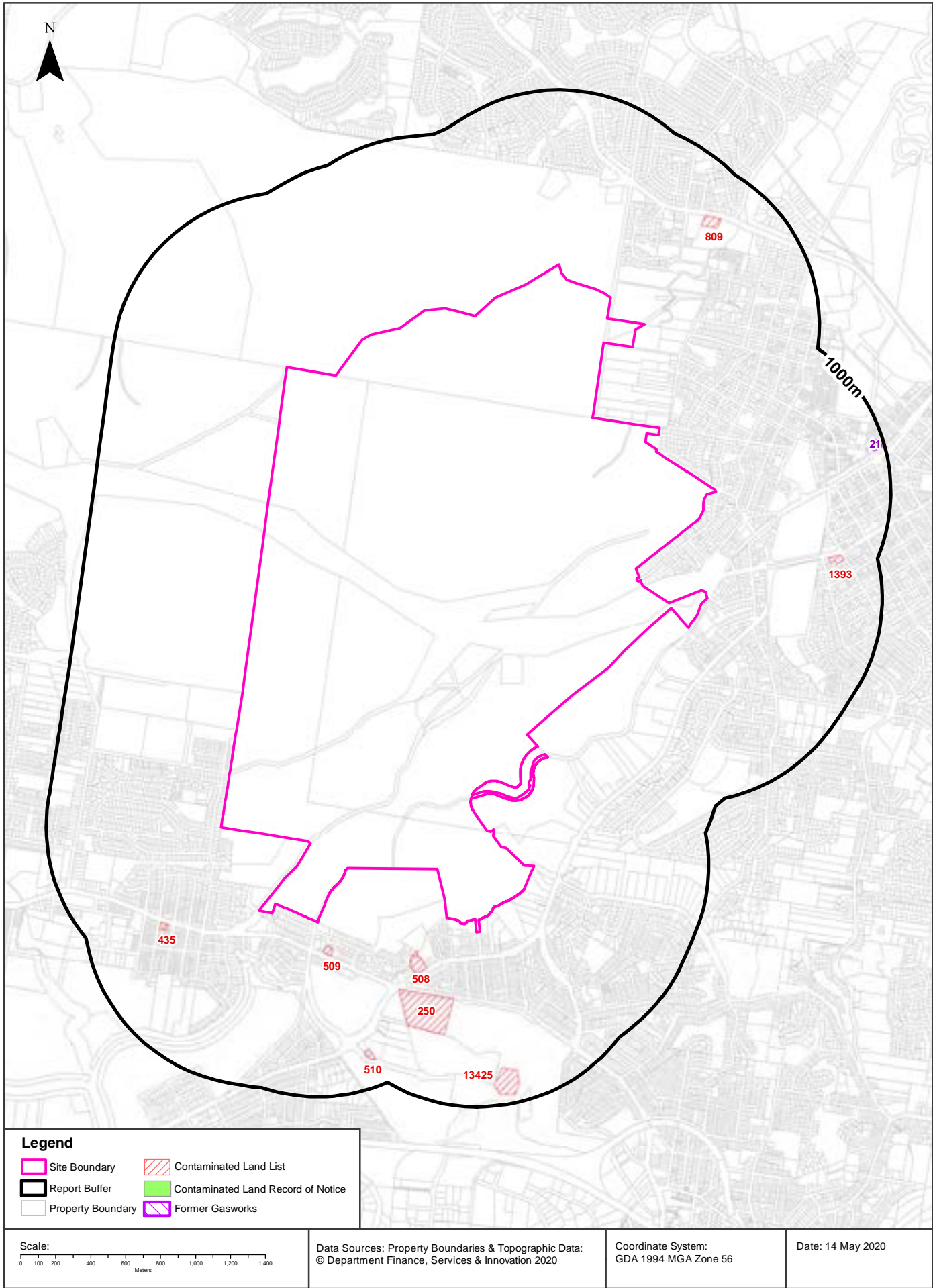
Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



<div><div>Legend</div><div><div><div></div></div> Site Boundary</div><div><div></div> Internal Parcel Boundaries</div></div>	<div><div>Total Area:</div><div>6.4km²</div></div> <div><div>Total Perimeter:</div><div>15.59km</div></div> <div><div>Disclaimers:</div><div>Measurements are approximate only and may have been simplified or smaller lengths removed for readability.</div><div>Parcels that make up a small percentage of the total site area have not been labelled for increased legibility.</div></div>		<div><div>Scale:</div><div><div><div>0</div><div>100</div><div>200</div><div>400</div><div>600</div><div>800</div><div>1,000</div></div><div>Meters</div></div></div>
	<div><div>Data Sources: Aerial Imagery: © NSW Department Finance, Services & Innovation 2020</div></div>		
	<div><div>Coordinate System:</div><div>GDA 1994 MGA Zone 56</div></div>	<div><div>Date: 14 May 2020</div></div>	

Contaminated Land

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



Contaminated Land

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

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
509	Coles Express Glendale	593 Main Road	Glendale	Service Station	Regulation under CLM Act not required	Current EPA List	Premise Match	145m	South
508	Former Service Station	334-342 Lake Road	Glendale	Unclassified	Regulation under CLM Act not required	Current EPA List	Premise Match	260m	South
250	Maneela Oval	Main Road	Cardiff	Other Industry	Regulation under CLM Act not required	Current EPA List	Premise Match	400m	South
435	Caltex Service Station	662 Main Road	Edgeworth	Service Station	Regulation under CLM Act not required	Current EPA List	Premise Match	525m	South West
809	Caltex Maryland Service Station Wallsend	41 Minmi Road	Wallsend	Service Station	Regulation under CLM Act not required	Current EPA List	Premise Match	654m	North East
1393	Coles Express Wallsend East	15 Thomas Street	Wallsend	Service Station	Regulation under CLM Act not required	Current EPA List	Premise Match	727m	East
510	Woolworths Service Station	Stockland Drive	Glendale	Service Station	Regulation under CLM Act not required	Current EPA List	Premise Match	789m	South
13425	Settlement Pond	65 Glendale Drive	Glendale	Unclassified	Regulation under CLM Act not required	Current EPA List	Premise Match	792m	South

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).

EPA site management class	Explanation
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

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

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

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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:

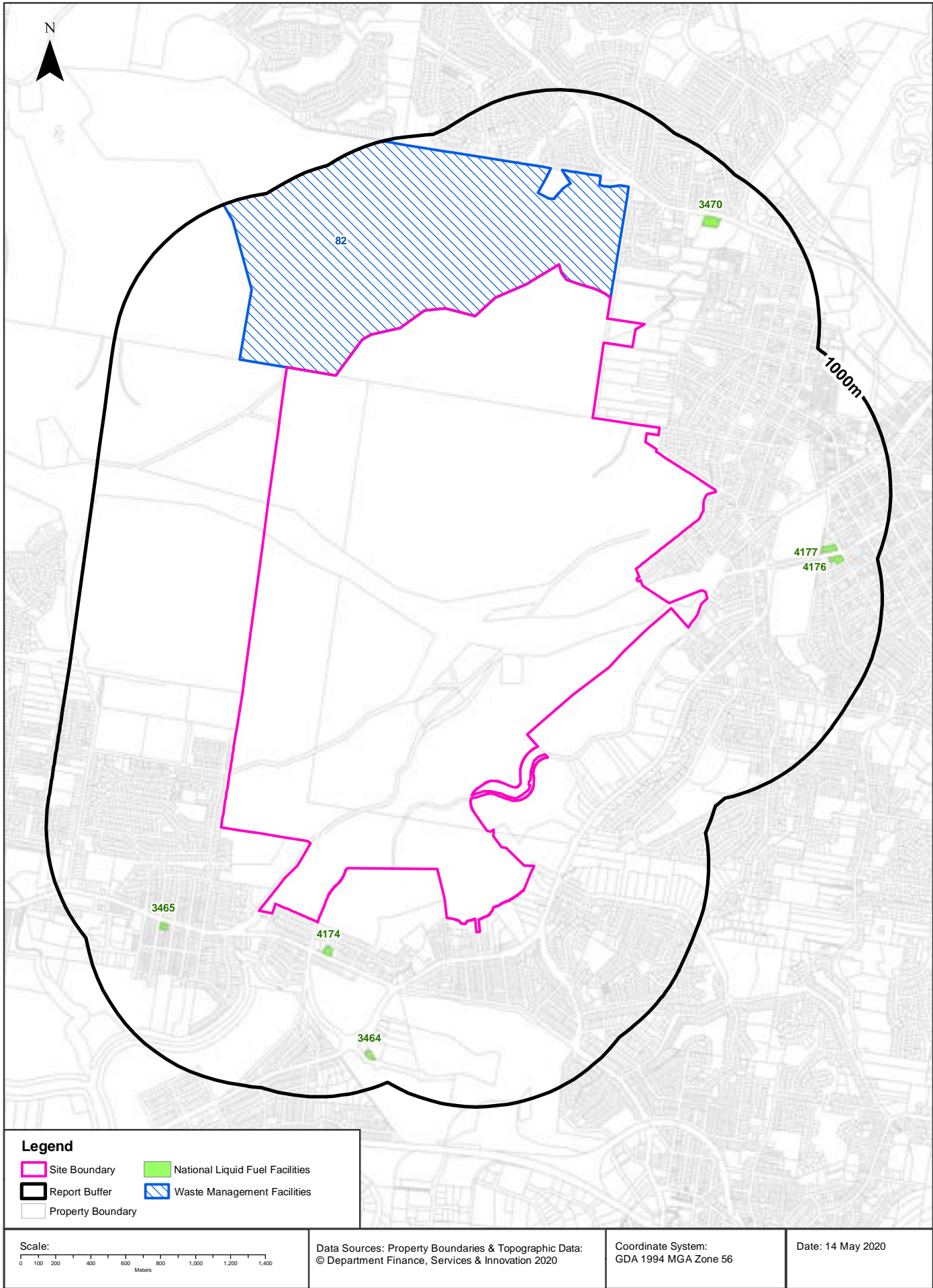
Map Id	Location	Council	Further Info	Location Confidence	Distance	Direction
21	Low Street, Wallsend	Newcastle City Council	Contact council	Premise Match	927m	East

Former Gasworks Data Source: Environment Protection Authority

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Waste Management & Liquid Fuel Facilities

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



Waste Management & Liquid Fuel Facilities

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

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
82	Newcastle City Council	Summerhill Waste Management Centre	Minmi Road	Wallsend	Landfill	Operational			Original information on waste management site collected by WMAA in 2008 via survey	Premise Match	0m	North

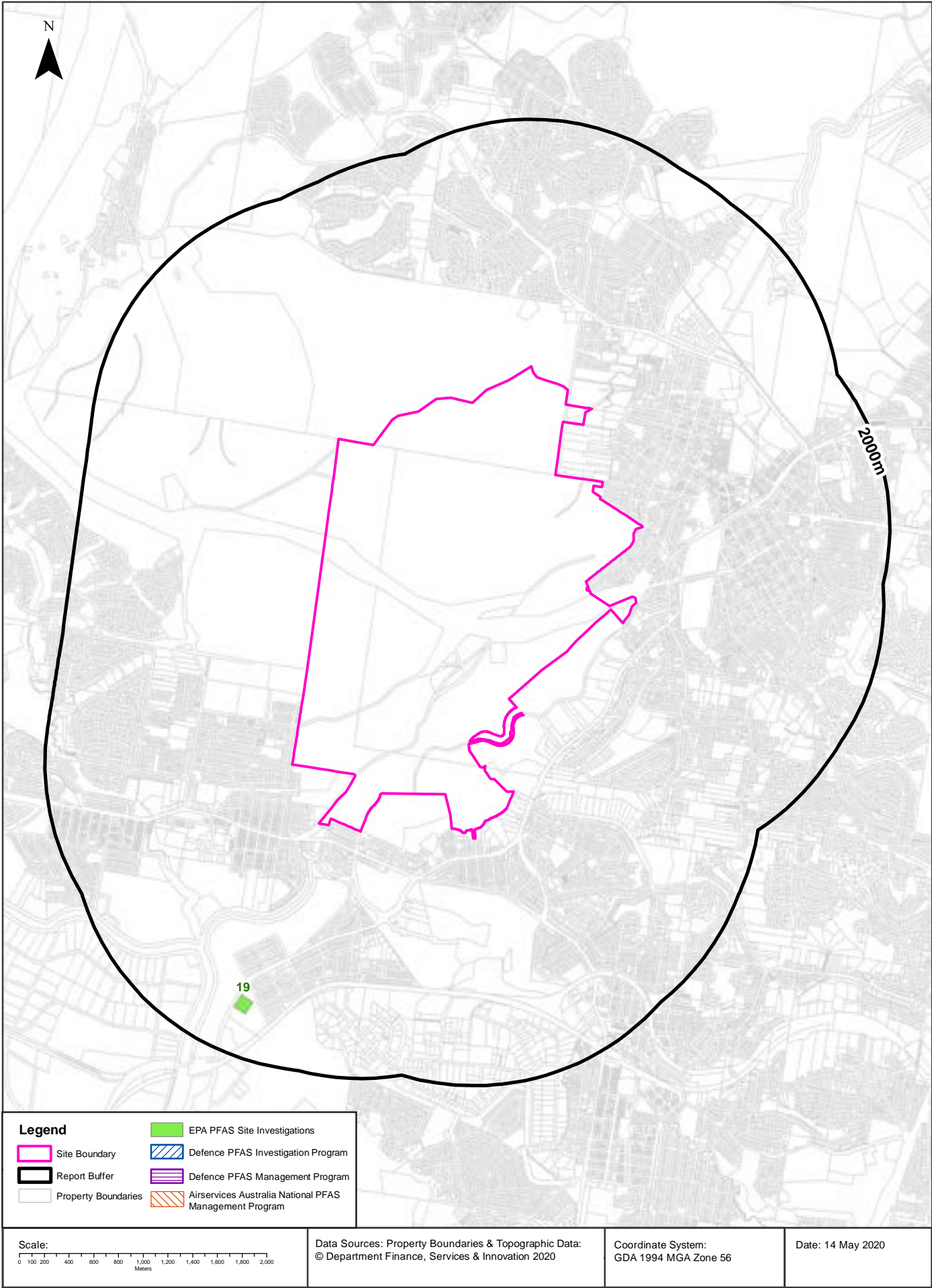
Waste Management Facilities Data Source: Geoscience Australia
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National Liquid Fuel Facilities

National Liquid Fuel Facilities within the dataset buffer:

Map Id	Owner	Name	Address	Suburb	Class	Operational Status	Operator	Revision Date	Loc Conf	Dist (m)	Direction
4174	BP	Coles Express Glendale	591-593 Main Road	Glendale	Petrol Station	Operational		25/07/2011	Premise Match	145m	South
3465	Caltex	Caltex Edgeworth	662-664 Main Road	Edgeworth	Petrol Station	Operational		25/07/2011	Premise Match	525m	South West
3470	Caltex	Caltex Maryland	41 Minmi Road	Wallsend	Petrol Station	Operational		25/07/2011	Premise Match	654m	North East
4177	Shell	Coles Express Wallsend West	14 Thomas Street East Bound	Wallsend	Petrol Station	Operational		25/07/2011	Premise Match	684m	East
4176	Shell	Coles Express Wallsend East	11 Thomas Street West Bound	Wallsend	Petrol Station	Operational		25/07/2011	Premise Match	727m	East
3464	Caltex	Woolworths Caltex Glendale	387 Lake Road	Glendale	Petrol Station	Operational		25/07/2011	Premise Match	789m	South

National Liquid Fuel Facilities Data Source: Geoscience Australia
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PFAS Investigation & Management Programs

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

EPA PFAS Investigation Program

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

Id	Site	Address	Loc Conf	Dist	Dir
19	Argenton: Mines Rescue	533 Lake Road, Argenton NSW 2284	Premise Match	1518m	South West

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:

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

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

Airservices Australia National PFAS Management Program

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

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

Airservices Australia National PFAS Management Program Data Custodian: Airservices Australia

Defence Sites

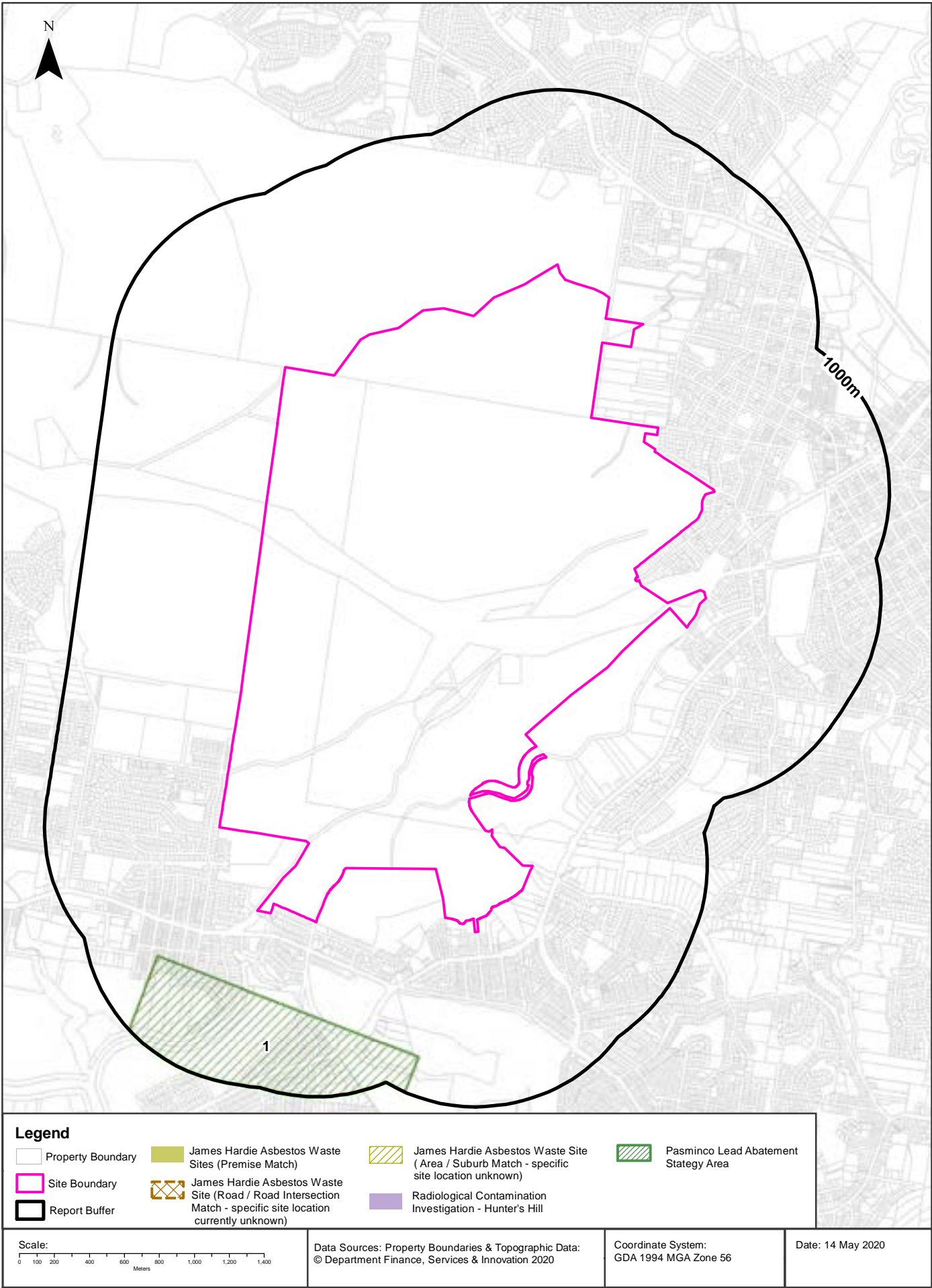
Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

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

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

EPA Other Sites with Contamination Issues

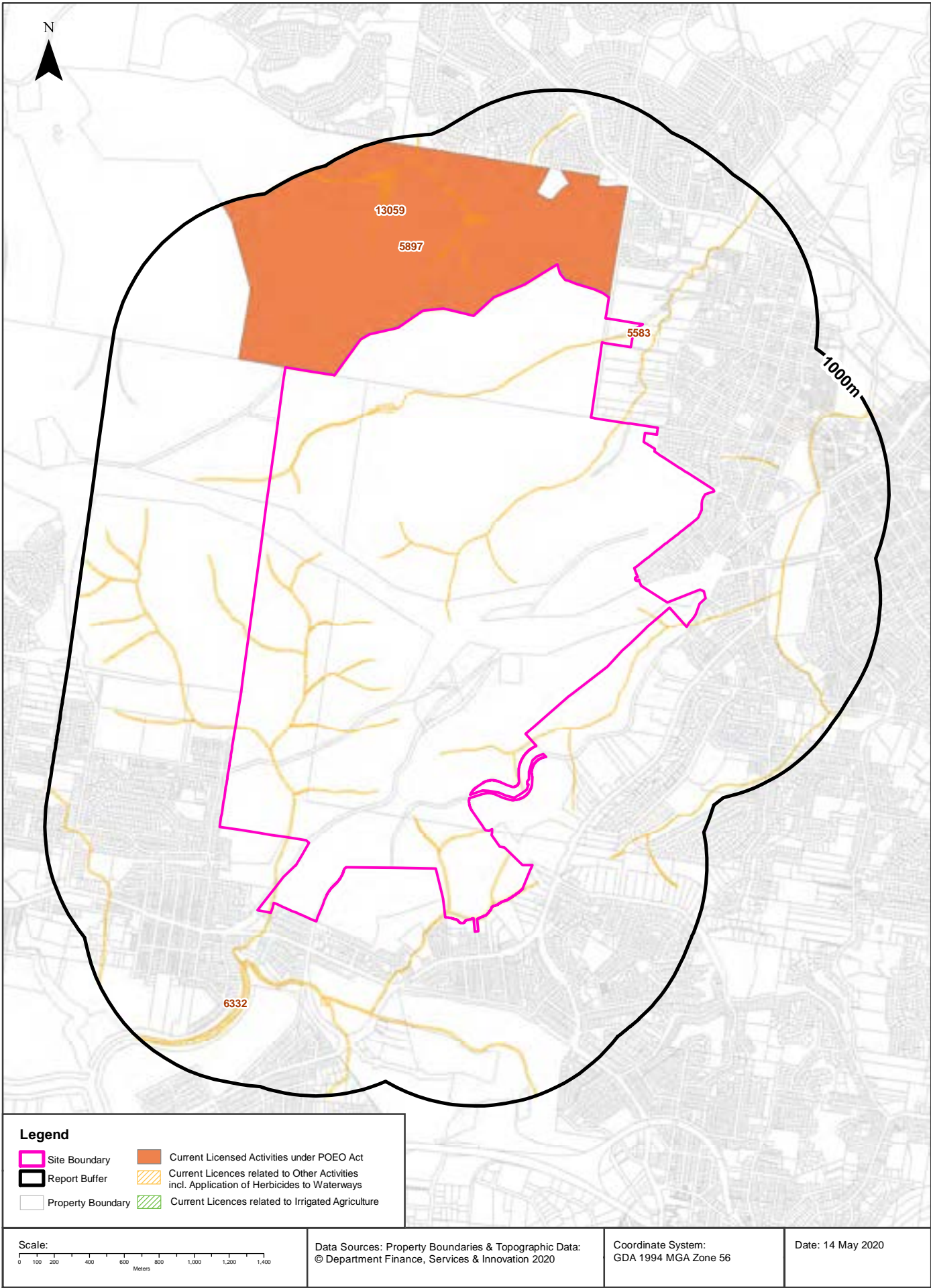
This dataset contains other sites identified on the EPA website as having contamination issues. This dataset currently includes:

- 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
1	Pasminco Lead Abatement Strategy Area		Pasminco Lead Abatement Strategy		General Area/ Suburb Match	448m	South

EPA Other Sites with Contamination Issues: Environment Protection Authority
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EPA Activities

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

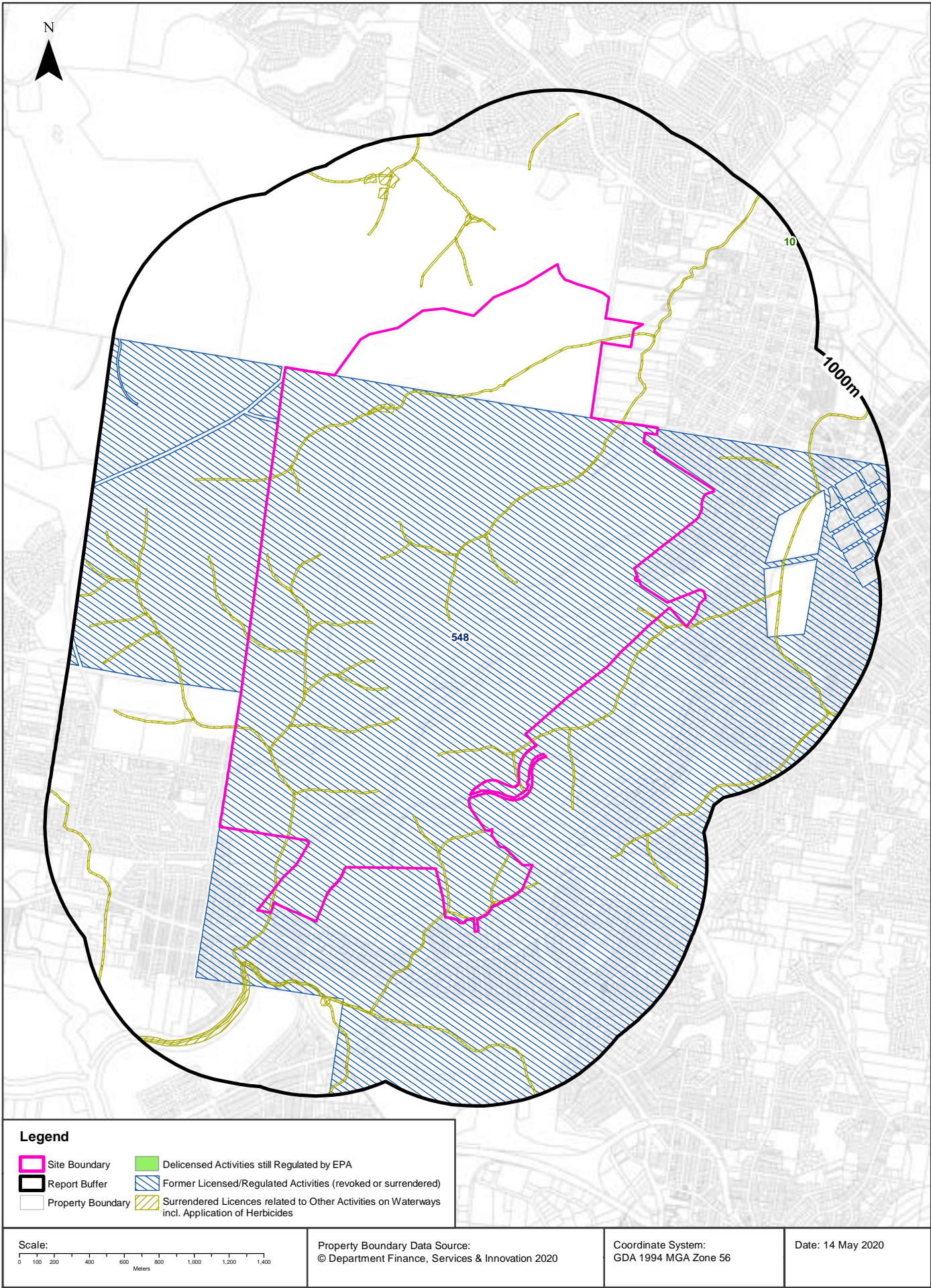
Licensed Activities under the POEO Act 1997

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

EPL	Organisation	Name	Address	Suburb	Activity	Loc Conf	Distance	Direction
6332	LAKE MACQUARIE CITY COUNCIL	-	-	SPEERS POINT	Other activities	Network of Features	0m	Onsite
5583	NEWCASTLE CITY COUNCIL	WATERWAYS OF NEWCASTLE CITY	-	NEWCASTLE	Other activities	Network of Features	0m	Onsite
5897	NEWCASTLE CITY COUNCIL	SUMMERHILL WASTE MANAGEMENT FACILITY	141 MINMI RD	WALLSEND	Waste disposal by application to land	Premise Match	0m	North
13059	LMS ENERGY PTY LTD	Summer Hill Gas Utilisation Facility	141 Minmi Road	WALLSEND	Generation of electrical power otherwise than from coal, diesel or gas	Premise Match	589m	North

POEO Licence Data Source: Environment Protection Authority

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EPA Activities

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

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
10	PREMIER CONCRETE (N.S.W.) PTY. LIMITED	PREMIER CONCRETE (NSW) PTY LTD	5 CARBINE CLOSE	WALLSEND	Concrete works	Premise Match	993m	North East

Delicensed Activities Data Source: Environment Protection Authority
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Former Licensed Activities under the POEO Act 1997, now revoked or surrendered

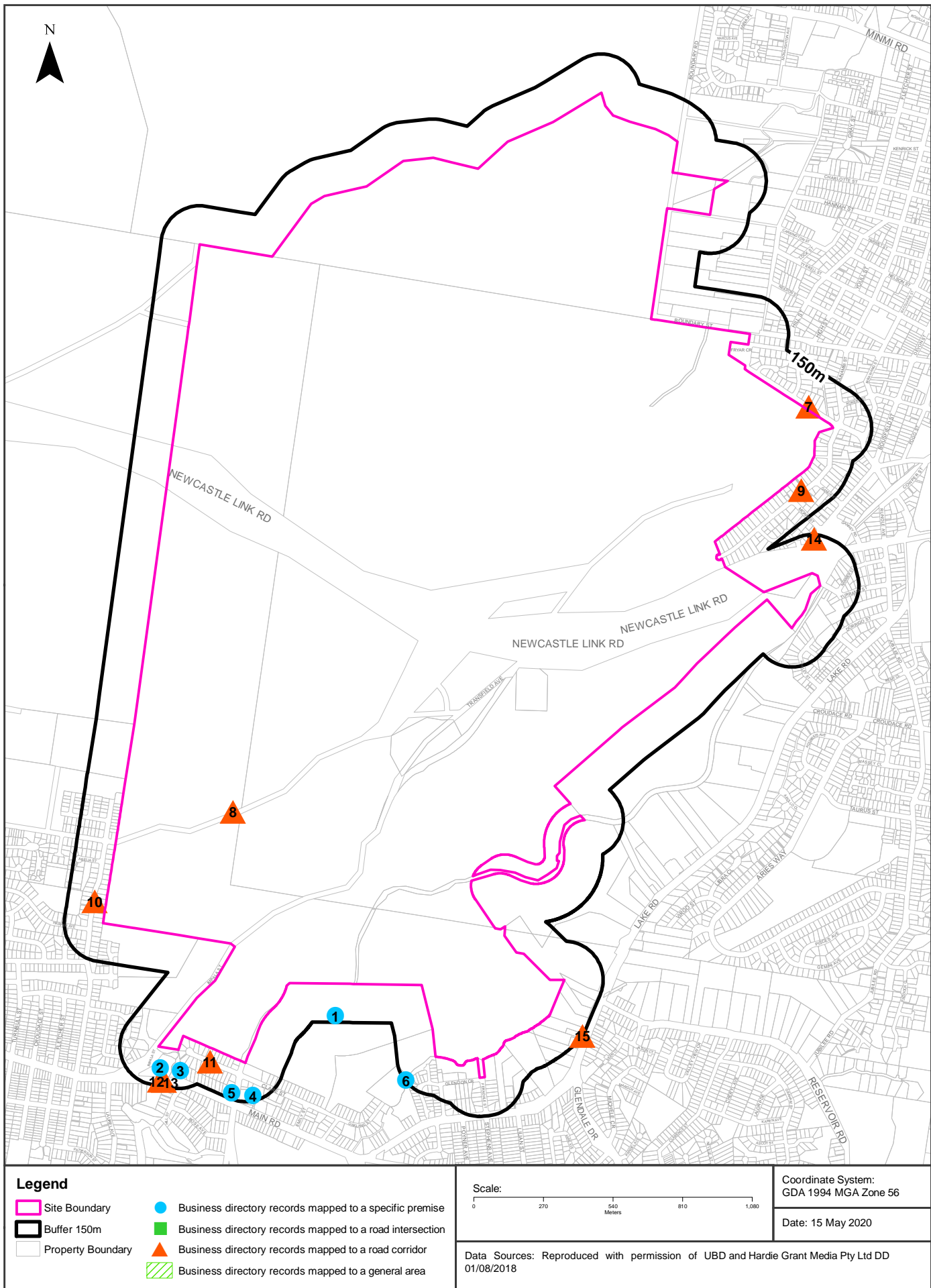
Former Licensed activities under the Protection of the Environment Operations Act 1997, now revoked or surrendered, within the dataset buffer:

Licence No	Organisation	Location	Status	Issued Date	Activity	Loc Conf	Distance	Direction
548	THE NEWCASTLE WALLSEND COAL CO PTY LTD	BULKARA ST, WALLSEND, NSW 2287	Surrendered	16/02/2000	Mining for coal	Premise Match	0m	Onsite
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
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

Former Licensed Activities Data Source: Environment Protection Authority
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Historical Business Directories

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



Historical Business Directories

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

Business Directory Records 1950-1991 Premise or Road Intersection Matches

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

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
1	SCHOOLS &/OR COLLEGES - PRIVATE &/OR PUBLIC	Glendale College Of Tafe., Frederick St Glendale, Newcastle	91536	1991	Premise Match	0m	South
2	RESTAURANTS	Mcdonalds., 635 Main Rd Edgeworth, Newcastle	91179	1991	Premise Match	26m	South West
	TAKE-AWAY FOODS	Mcdonalds., 635 Main Rd Edgeworth, Newcastle	92569	1991	Premise Match	26m	South West
3	CLEANING MAINTENANCE PLUMBING	Mason Tony., 631 Main Rd Edgeworth, Newcastle	83154	1991	Premise Match	44m	South West
	CARAVAN SALES SERVICE &/OR HIRERS	MasoS Van Hire., 631 Main Rd Edgeworth, Newcastle	82807	1991	Premise Match	44m	South West
4	BUILDERS SUPPLIES.	Carroll R C Timber & Hardware Pty Ltd., 595 Main Rd Glendale, Newcastle	82281	1991	Premise Match	107m	South
	HARDWARE - RETAIL.	Carroll R C Timber & Hardware Pty Ltd., 595 Main Rd Glendale, Newcastle	86973	1991	Premise Match	107m	South
	PAINT &/OR ACCESSORIES RETAIL.	Carroll R C Timber & Hardware Pty Ltd., 595 Main Rd Glendale, Newcastle	90141	1991	Premise Match	107m	South
	TIMBER MERCHANTS &/OR SAWMILLERS.	Carroll R C Timber & Hardware Pty Ltd., 595 Main Rd Glendale, Newcastle	92834	1991	Premise Match	107m	South
	WALLBOARD MFRS. &/OR IMPS. &/OR DIST.	Carroll R C Timber & Hardware Pty Ltd., 595 Main Rd Glendale, Newcastle	93434	1991	Premise Match	107m	South
	PAINT, ENAMEL, VARNISH &/OR STAIN MFRS. &/OR IMPS. &/OR DIST.	Carroll R Q Timber & Hardware Pty Ltd., 595 Main Rd Glendale, Newcastle	90173	1991	Premise Match	107m	South
	TIMBER MERCHANTS &/OR SAWMILLERS.	R C Carroll Timber & Hardware Pty Ltd., 595 Main Rd Glendale, Newcastle	92847	1991	Premise Match	107m	South
	TIMBER MERCHANTS &/OR SAWMILLERS.	Carroll R. C. Timber & Hardware Pty. Ltd 595 Man Rd. Glendale Newcastle	180066	1982	Premise Match	107m	South
	BUILDERS SUPPLIERS.	Carroll R. C. Timber & Hardware Pty. Ltd., 595 Main Rd., Glendale Newcastle	171204	1982	Premise Match	107m	South
	LIME &/OR CEMENT MERCHANTS.	Carroll, R. C. Timber & Hardware Pty. Ltd., 595 Main Rd., Glendale Newcastle	176076	1982	Premise Match	107m	South
	PAINT, ENAMEL, VARNISH, STAIN MFRS. &/OR DIST.	Carroll, R. C. Timber & Hardware Pty. Ltd., 595 Main Rd., Glendale Newcastle	177827	1982	Premise Match	107m	South
	PAINTERS SUPPLIES &/OR REQUISITES.	Carroll, R. C. Timber & Hardware Pty. Ltd., 595 Main Rd., Glendale Newcastle	177940	1982	Premise Match	107m	South
	PLUMBERS SUPPLIES.	Carroll, R. C. Timber & Hardware Pty. Ltd., 595 Main Rd., Glendale Newcastle	178338	1982	Premise Match	107m	South
	WALLBOARD MERCHANTS.	Carroll, R. C. Timber & Hardware Pty. Ltd., 595 Main Rd., Glendale Newcastle	180479	1982	Premise Match	107m	South

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
4	HARDWARE - RETAIL.	Carroll. R. C. Timber & Hardware Pty. Ltd., 595 Main Rd., Glendale Newcastle	175249	1982	Premise Match	107m	South
	SPORTS GOODS MFRS. &/OR W/SALERS.	North Coast Sporting Goods, 595 Main Rd., Glendale, Newcastle	179497	1982	Premise Match	107m	South
	HARDWARE DEALERS &/OR IRONMONGERS	Carroll, R. C., 595 Main Rd., Glendale, Newcastle	629683	1970	Premise Match	107m	South
	INSURANCE AGENTS	Carroll, R. C., 595 Main Rd., Glendale, Newcastle	630124	1970	Premise Match	107m	South
	PLUMBERS' SUPPLIES	Carroll, R. C., 595 Main Rd., Glendale, Newcastle	633197	1970	Premise Match	107m	South
	TIMBER MERCHANTS	Carroll, R. C., 595 Main Rd., Glendale, Newcastle	634915	1970	Premise Match	107m	South
	WALLBOARD MERCHTS	Carroll, R. C., 595 Main Rd., Glendale, Newcastle	635419	1970	Premise Match	107m	South
	BUILDERS' SUPPLIERS	Carroll, R. C., 595 Main Rd., Glendale., Newcastle	625562	1970	Premise Match	107m	South
	GLASS MERCHANTS &/OR GLAZIERS	Carroll, R. C., 595 Main Rd., Glendale., Newcastle	629245	1970	Premise Match	107m	South
	PAINT, VARNISH, OIL/COLOUR MERCHANTS	Carroll, R. C., 595 Main Rd., Glendale., Newcastle	632725	1970	Premise Match	107m	South
	PAINTERS' SUPPLIES/REQUISITES	Carroll, R. C., 595 Main Rd., Glendale., Newcastle	632819	1970	Premise Match	107m	South
	SAWMILLERS	Carroll, R. C., 595 Main Rd., Glendale., Newcastle	634026	1970	Premise Match	107m	South
	TIMBER MERCHANTS - BUILDERS' SUPPLIES	Glendale Joinery Works, 595 Main Rd., Glendale, Newcastle	134950	1961	Premise Match	107m	South
5	MIXED BUSINESSES	Kulupach, B., 603 Main Rd., Edgeworth, Newcastle	631337	1970	Premise Match	107m	South
6	SCHOOLS &/OR COLLEGES - PRIVATE &/OR PUBLIC	Holy Cross Primary School., 326 Lake Rd Glendale, Newcastle	91541	1991	Premise Match	142m	South
	SCHOOLS &/OR COLLEGES PRIVATE &/OR PUBLIC.	Holy Cross School, 310A Lake Rd., Glendale Newcastle	179148	1982	Premise Match	142m	South

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Business Directory Records 1950-1991

Road or Area Matches

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

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
7	COLLIERY PROPRIETORS	Gretley Collieries Ltd., Bulkara St Wallsend, Newcastle	83665	1991	Road Match	0m
	GROCERS/GENERAL STOREKEEPERS	Hughes, J. E., Bulkara St., Wallsend, Newcastle	133656	1961	Road Match	0m
8	CONTRACTORS-GENERAL	Transfield Pty. Ltd., Transfield Ave., Edgeworth	636876	1970	Road Match	0m
	ENGINEERS-STRUCTURAL	Transfield Pty. Ltd., Transfield Ave., Edgeworth	636878	1970	Road Match	0m
9	PLUMBERS, GASFITTERS & DRAINLAYERS	Ahrens, A. R., Gunambi St., Wallsend Newcastle	127438	1950	Road Match	0m
10	CONCRETE PRODUCTS MFRS. &/OR DIST. &/OR W/SALERS	Amatek Rocla., 80 Nielson St Edgeworth, Newcastle	83838	1991	Road Match	26m
	PIPE &/OR PIPE FITTINGS MFRS. &/OR DIST. - CONCRETE.	Amatek Rocla., 80 Nielson St Edgeworth, Newcastle	90465	1991	Road Match	26m
	ROOFING CONTRACTORS &/OR REPAIRERS.	Monier Re-Roofing Services., 80 Nielson St Edgeworth, Newcastle	91347	1991	Road Match	26m
	ROOFING MATERIAL MFRS. &/OR DIST.	Monier Roofing Limited., 80 Nielson St Edgeworth, Newcastle	91361	1991	Road Match	26m
	TILE - ROOFING - MFRS. &/OR IMPS. &/OR MERCHANTS.	Monier Roofing Limited., 80 Nielson St Edgeworth, Newcastle	92811	1991	Road Match	26m
	TILERS &/OR SLATERS - ROOF.	Monier Roofing Limited., 80 Nielson St Edgeworth, Newcastle	92822	1991	Road Match	26m
	SKYLIGHT MFRS. &/OR SUPPLIERS &/OR INSTALLERS	Monier Roofing Limited., 80 Nielson St Edgeworth, Newcastle	91837	1991	Road Match	26m
	CONCRETE PRODUCTS MFRS. &/OR DIST. &/OR W/SALERS.	Monier Pipe, Nielson St., Edgeworth Newcastle	172372	1982	Road Match	26m
	PIPE MFRS. - CONCRETE.	Monier Pipe, Nielson St., Edgeworth Newcastle	178201	1982	Road Match	26m
	SEPTIC TANK MFRS. &/OR INSTALLERS &/OR SPECIALISTS.	Monier Pipe, Nielson St., Edgeworth Newcastle	179258	1982	Road Match	26m
	STATION &/OR FARM SUPPLIES.	Monier Pipe, Nielson St., Edgeworth Newcastle	179586	1982	Road Match	26m
	TANK &/OR TANKSTAND MFRS. &/OR DIST.	Monier Pipe, Nielson St., Edgeworth Newcastle	179963	1982	Road Match	26m
	ROOFING CONTRACTORS &/OR REPAIRERS.	Monier Roofing, Nielson St., Edgeworth Newcastle	178944	1982	Road Match	26m
	TILERS - ROOF &/OR SLATERS.	Monier Roofing, Nielson St., Edgeworth Newcastle	180053	1982	Road Match	26m
	TILE MFRS. &/OR DIST. ROOFING.	Monier Roofing, Nielson St., Edgeworth Newcastle	180047	1982	Road Match	26m
	BUTCHERS - RETAIL.	Peters Butchery. 80 Nelson St., Wallsend Newcastle	171440	1982	Road Match	26m
	PIPE MFRS.-CONCRETE	Monier Pipe Co Neilson St., Edgeworth, Newcastle	633042	1970	Road Match	26m
	PIPE MFRS.-CONCRETE	Monier Pipe Co. Pty. Ltd., Nielson St., Edgeworth, Newcastle	633044	1970	Road Match	26m
	CONCRETE PRODUCTS MFRS. &/OR DIST.	Monier Tile Co. Pty. Ltd., Nielson St., Edgeworth	636875	1970	Road Match	26m
	PIPE MANUFACTURERS-CONCRETE	Monier Tile Co. Pty. Ltd., Nielson St., Edgeworth	636907	1970	Road Match	26m
	TILE MANUFACTURERS-ROOFING	Monier Tile Co. Pty. Ltd., Nielson St., Edgeworth	636913	1970	Road Match	26m
	CONCRETE CONTRACTORS-CONSTRUCTIONAL	Cement Linings Pty. Ltd., Nelson St., Young Wallsend, Newcastle	130829	1961	Road Match	26m

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
10	CONCRETE PRODUCTS MFRS.	Monier Pipe Co. Pty. Ltd., Nielson St., Young Wallsend, Newcastle	130854	1961	Road Match	26m
	POULTRY FARMERS' SUPPLIES	Walsh, J., Neilson St., Young Wallsend	178336	1961	Road Match	26m
11	GROCERS & GENERAL STOREKEEPERS	Wade, A. J., George St., Boolaroo	144067	1961	Road Match	28m
	GROCERS & GENERAL STOREKEEPERS	Wade, A. J., George St. Boolaroo	147296	1950	Road Match	28m
12	GIFT SHOPS.	BevS Craft., Shop 4 Oasis Centre Main Rd Edgeworth, Newcastle	86202	1991	Road Match	108m
	HOBBY &/OR HANDICRAFT SUPPLIES	BevS Craft., Shop 4 Oasis Centre Main Rd Edgeworth, Newcastle	87167	1991	Road Match	108m
	SUPERMARKETS	Foodtown., Main Rd Edgeworth, Newcastle	92270	1991	Road Match	108m
	SOLICITORS.	Haley Law Practice The., Shop 22 Edgeworth Shopping Centre Main Rd Edgeworth, Newcastle	91925	1991	Road Match	108m
	SUPERMARKETS	Jewel Food Barn Oasis Centre., Main Rd Edgeworth, Newcastle	92274	1991	Road Match	108m
	FURNITURE RETAIL - CANE.	Maranne Craft., Shop 9 Oasis Centre Main Rd Edgeworth, Newcastle	86071	1991	Road Match	108m
	GIFT SHOPS.	Maranne Craft., Shop 9 Oasis Centre Main Rd Edgeworth, Newcastle	86246	1991	Road Match	108m
	LIQUOR STORES - RETAIL.	ShoeyS Liquor Barn., Main Rd Edgeworth, Newcastle	88077	1991	Road Match	108m
	HAIRDRESSERS - LADIES &/OR BEAUTY SALONS.	Darryl's Hair Stylist 6 Oasis Centre Main Rd Edgeworth Newcastle	175020	1982	Road Match	108m
	FLORISTS - RETAIL.	Edgeworth Florist, 5 Oasis Centre. Main Rd., Edgeworth Newcastle	174137	1982	Road Match	108m
	LIBRARIES - LENDING.	Edgeworth Library, Mmmi Rd., Edgeworth Newcastle	176055	1982	Road Match	108m
	CHEMISTS - PHARMACEUTICAL.	Edgeworth Oasis Pharmacy, 11 Oasis Centre. Main Rd., Edgeworth Newcastle	171811	1982	Road Match	108m
	SQUASH COURTS.	Edgeworth Squash Centre, Main Rd., Edgeworth Newcastle	179542	1982	Road Match	108m
	DRESS FABRIC RETAILERS.	Knitwit, 4 Oasis Centre Maw Rd., Edgeworth Newcastle	172817	1982	Road Match	108m
	HARDWARE - RETAIL.	Oasis Hardware Centre, Oasis Centre, Main Rd., Edgeworth Newcastle	175276	1982	Road Match	108m
	CLOTHING - RETAIL - BABY &/OR CHILDRENS WEAR.	Rogue's Boutique. 9 Oasis Centre, Main Rd., Edgeworth, Newcastle	171980	1982	Road Match	108m
	SCHOOLS &/OR COLLEGES PRIVATE &/OR PUBLIC.	St. Benedicts, Main Rd., Edgeworth Newcastle	179179	1982	Road Match	108m
	TOTALISATOR AGENCY BRANCHES:	TAB & Oasis Centre, Main Rd., Edgeworth Newcastle	180141	1982	Road Match	108m
	MOTOR ACCESSORIES &/OR DEALERS	Griffiths, S., Main Rd., Edgeworth, Newcastle	631512	1970	Road Match	108m
	MOTOR SERVICE STATIONS-PETROL, OIL, ETC.	Griffiths, S., Main Rd., Edgeworth, Newcastle	632232	1970	Road Match	108m
	MOTOR SPARE PARTS DEALERS RETAIL	Griffiths, S., Main Rd., Edgeworth, Newcastle	632313	1970	Road Match	108m
	MOTOR SERVICE STATIONS-PETROL, OIL, ETC.	Johnson Motor Service, Main Rd., Edgeworth, Newcastle	632241	1970	Road Match	108m
	MOTOR BUS SERVICES	Johnson Motor Services,' Main Rd., Edgeworth, Newcastle	631647	1970	Road Match	108m
	MIXED BUSINESSES	Leylands General Store, Main Rd., Edgeworth, Newcastle	631343	1970	Road Match	108m
	MOTOR SERVICE STATIONS-PETROL, OIL, ETC.	Nelson, A., Main Rd., Edgeworth, Newcastle	632253	1970	Road Match	108m
	MIXED BUSINESSES	Riley, B. A., Main Rd., Edgeworth, Newcastle	631402	1970	Road Match	108m
	SCHOOLS & COLLEGES-PRIVATE & PUBLIC	St. Benedicts, Main Rd., Edgeworth	636911	1970	Road Match	108m
	BUTCHERS-RETAIL (3860)	Threlfo, R., Main Rd., Edgewater, Newcastle	625836	1970	Road Match	108m
	TIMBER MERCHANTS & SAWMILLERS	Carrolls Sawmills, Main Rd., Young Wallsend	178338	1961	Road Match	108m
	MOTOR BUS SERVICES	Johnson Motor Service, Main Rd., Young Wallsend	178328	1961	Road Match	108m

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
12	BUTCHERS-RETAIL	Keenan's Butcher Shop, Main Rd., Young Wallsend	178325	1961	Road Match	108m
	MOTOR ACCESSORIES & SPARE PARTS-RETAIL	Johnsons Motor Service, Main Rd., Young Wallsend Newcastle	126768	1950	Road Match	108m
	MOTOR BUS SERVICES	Johnsons Motor Service, Main Rd., Young Wallsend Newcastle	126846	1950	Road Match	108m
	MOTOR GARAGES &/OR ENGINEERS	Johnsons Motor Service, Main Rd., Young Wallsend Newcastle	126996	1950	Road Match	108m
	MOTOR PAINTERS & PANEL BEATERS	Johnsons Motor Service, Main Rd., Young Wallsend Newcastle	127079	1950	Road Match	108m
	MOTOR SERVICE STATIONS-PETROL, Etc.	Johnsons Motor Service, Main Rd., Young Wallsend Newcastle	127127	1950	Road Match	108m
	TYRE DEALERS	Johnsons Motor Service, Main Rd., Young Wallsend Newcastle	129554	1950	Road Match	108m
13	BUS OPERATORS,	Fogg S & Sons Pty Ltd., Main Rd Fullerton Cove, Newcastle	82440	1991	Road Match	108m
	NEWSAGENTS-GENERAL	Coughlin, E. B., Main Rd., Newcastle	632505	1970	Road Match	108m
	PICTURE THEATRES	Jewel Picture Theatre, Main Rd., Glendale, Newcastle	633006	1970	Road Match	108m
	CEMENT-PORTLAND-MFRS./DISTRIBUTORS	Mitchells Cement Products (Glendale) Pty. Ltd., Main Rd., Glendale, Newcastle	626232	1970	Road Match	108m
	CONCRETE MIXER EQUIPMENT HIRE SERVICE	Mitchells Cement Products (Glendale) Pty. Ltd., Main Rd., Glendale, Newcastle	626696	1970	Road Match	108m
	CONCRETE WATERPROOFING & COLOURING OXIDES	Mitchells Cement Products (Glendale) Pty. Ltd., Main Rd., Glendale, Newcastle	626718	1970	Road Match	108m
	GRAVEL, SAND/SOIL SUPPLIES	Mitchells Cement Products (Glendale) Pty. Ltd., Main Rd., Glendale, Newcastle	629349	1970	Road Match	108m
	MORTAR-READY MIXED-SUPPLIERS	Mitchells Cement Products (Glendale) Pty. Ltd., Main Rd., Glendale, Newcastle	631465	1970	Road Match	108m
	POTTERY .MFRS./DISTS.	Mitchells Cement Products (Glendale) Pty. Ltd., Main Rd., Glendale, Newcastle	633246	1970	Road Match	108m
	TILE MFRS.-ROOFING	Mitchells Cement Products (Glendale) Pty. Ltd., Main Rd., Glendale, Newcastle	634889	1970	Road Match	108m
	BRICK, PIPE/TILE MFRS. (6717)	Mitchells Cement Products Glendale Pty. Ltd., Main Rd., Glendale, Newcastle	625280	1970	Road Match	108m
	CONCRETE BRICK &/OR BLOCK MFRS.	Mitchell's Cement Products Glendale Pty. Ltd., Main Rd., Glendale, Newcastle	626669	1970	Road Match	108m
	CONCRETE PRODUCTS MFRS. &/OR DISTS.	Mitchell's Cement Products Glendale Pty. Ltd., Main Rd., Glendale, Newcastle	626713	1970	Road Match	108m
	NEWSAGENTS-GENERAL	Perry, R. & M. C., Main Rd., Newcastle	632521	1970	Road Match	108m
	HOTELS-LICENSED	Travellers Rest Hotel, Main Rd., Edgeworth, Newcastle	629992	1970	Road Match	108m
	FOUNDERS-FERROUS	Whan, R. C. Pty. Ltd., Main Rd., Glendale, Newcastle	628813	1970	Road Match	108m
	NEWSAGENTS	Coughlin, E. B., Main Rd., Newcastle	136951	1961	Road Match	108m
	CHEMISTS-PHARMACEUTICAL	Glendale Pharmacy, Main Rd., Glendale., Newcastle	130470	1961	Road Match	108m
	BUTCHERS-RETAIL	Holmes, W. B., 536 Main Rd., Glendale, Newcastle	129853	1961	Road Match	108m
	TIMBER MERCHANTS - BUILDERS' SUPPLIES	Hughes, W., Main Rd., Glendale, Newcastle	134957	1961	Road Match	108m
	BUILDERS' SUPPLIERS	Hughes, W., Main Rd., Glendale, Newcastle	129678	1961	Road Match	108m
	INSURANCE AGENTS	Hughes, W., Main Rd., Glendale, Newcastle	134646	1961	Road Match	108m
	PAINT, VARNISH, OIL/COLOUR MERCHANTS	Hughes, W., Main Rd., Glendale, Newcastle	137178	1961	Road Match	108m
	PAINTERS' SUPPLIES/REQUISITES	Hughes, W., Main Rd., Glendale, Newcastle	137299	1961	Road Match	108m
	TIMBER MERCHANTS	Hughes, W., Main Rd., Glendale, Newcastle	139187	1961	Road Match	108m
	HARDWARE DEALERS &/OR IRONMONGERS	Hughes, W., Main Rd., Glendale, Newcastle	134240	1961	Road Match	108m

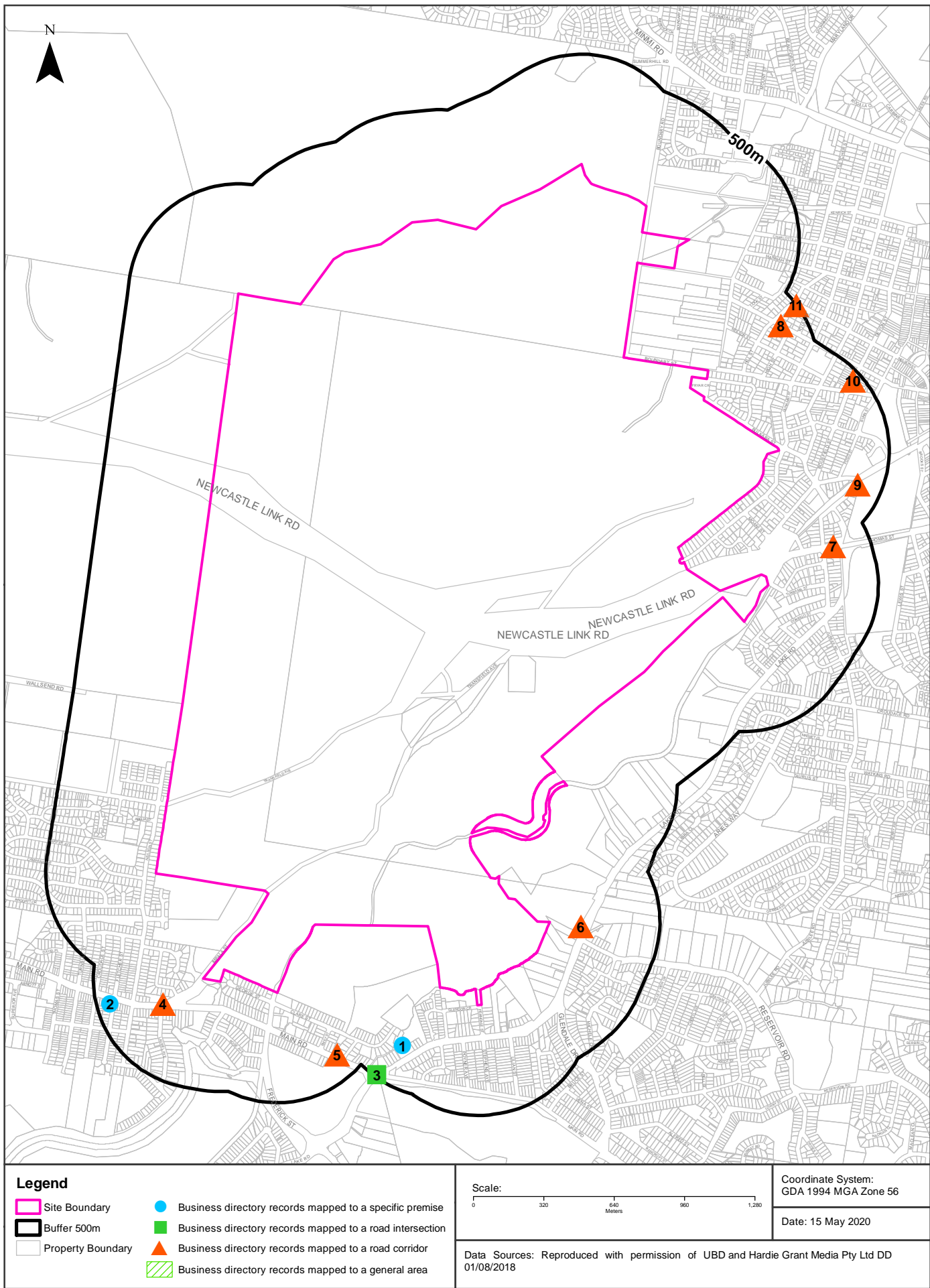
Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
13	PICTURE THEATRES	Jewel Picture Theatre, Main Rd., Glendale, Newcastle	137473	1961	Road Match	108m
	HARDWARE DEALERS &/OR IRONMONGERS	Van's Grocery, 755 Main Rd., Glendale, Newcastle	134277	1961	Road Match	108m
	MOTOR GARAGES &/OR ENGINEERS	Crossroads Garage Cardiff Pty. Ltd. At the Crossroads, Main Road, Cardiff Newcastle	126947	1950	Road Match	108m
14	HARDWARE - RETAIL.	New Osland's Hardware. 13 Bousefield St., Wallsend Newcastle	175274	1982	Road Match	113m
	TOBACCO MERCHTS.-W'SALE	E. H. Osland & Sons Bousefield Street, Wallsend, Newcastle	634950	1970	Road Match	113m
	BUILDERS' SUPPLIERS	Osland, E. H. & Sons, Bousefield St., Wallsend, Newcastle	625602	1970	Road Match	113m
	SAWMILLERS	Osland, E. H. & Sons, Bousefield St., Wallsend, Newcastle	634032	1970	Road Match	113m
	TIMBER MERCHANTS	Osland, E. H. & Sons, Bousefield St., Wallsend, Newcastle	634938	1970	Road Match	113m
	BUILDERS' SUPPLIERS	E. H. Osland & Sons Bousefield Street, Wallsend, Newcastle	129662	1961	Road Match	113m
	TIMBER MERCHANTS	Osland E H & Sons Bousefield St., Wallsend, Newcastle	139170	1961	Road Match	113m
	BUILDERS' SUPPLIERS	Osland, E. H. & Sons, Bousefield St., Wallsend, Newcastle	129695	1961	Road Match	113m
	TIMBER MERCHANTS	Osland, E. H. & Sons, Bousefield St., Wallsend, Newcastle	139191	1961	Road Match	113m
	SAWMILLERS	Osland, E. H. & Sons, Bousfield St., Wallsend, Newcastle	138352	1961	Road Match	113m
	TAXIS	Clements, Bousfield St., Wallsend Newcastle	129334	1950	Road Match	113m
	TIMBER MERCHANTS	Osland, E. H. & Sons, Bousfield St., Wallsend Newcastle	129402	1950	Road Match	113m
	SAWMILLERS	Osland, E. H. and Sons, Bousfield St., Wallsend Newcastle	127756	1950	Road Match	113m
	TIMBER MERCHANTS	Ostend, E. H. and Sons, Bousfield St., Wallsend Newcastle	129422	1950	Road Match	113m
15	MOTOR PANEL BEATERS &/OR SPRAY PAINTERS	Lake Road Smash Repairs., 132 Lake Rd Wallsend, Newcastle	89492	1991	Road Match	133m
	BORING CONTRACTORS.	Central Earth Boring 143 Lake Road, Wallsend Newcastle	170963	1982	Road Match	133m
	BORING CONTRACTORS.	Central Earth Boring, 143 Lake Rd., Wallsend Newcastle	170965	1982	Road Match	133m
	BUILDERS SUPPLIERS.	Mitchells Cement Products, Lake Rd., Glendale Newcastle	171230	1982	Road Match	133m
	CEMENT PORTLAND MFRS. &/OR DIST.	Mitchells Cement Products, Lake Rd., Glendale Newcastle	171738	1982	Road Match	133m
	CONCRETE BLOCK &/OR BRICK MFRS. &/OR DIST.	Mitchells Cement Products, Lake Rd., Glendale Newcastle	172339	1982	Road Match	133m
	CONCRETE MASONRY.	Mitchells Cement Products, Lake Rd., Glendale Newcastle	172359	1982	Road Match	133m
	CONCRETE PRODUCTS MFRS. &/OR DIST. &/OR W/SALERS.	Mitchells Cement Products, Lake Rd., Glendale Newcastle	172371	1982	Road Match	133m
	GRAVEL, SAND &/OR SOIL SUPPLIES.	Mitchells Cement Products, Lake Rd., Glendale Newcastle	174840	1982	Road Match	133m
	GOVERNMENT DEPARTMENTS.	Post Office. 314 Lake Rd., Glendale Newcastle	174785	1982	Road Match	133m
	ICE MFRS./VENDORS	Cross Roads Ice Works, Lake Rd., Cardiff, Newcastle	630014	1970	Road Match	133m
	KNIFE MFRS.-TRADESMEN	Goliath Products 227 Lake Rd., Wallsend, Newcastle	630498	1970	Road Match	133m
	BUILDERS' SUPPLIERS (B814)	Mitchell's Lake Rd, Glendale, Newcastle	625545	1970	Road Match	133m
	FOOTWEAR RETAILERS	Chryslyn Self Service Store, Lakes Rd., Glendale, Newcastle	132688	1961	Road Match	133m
	GROCERS/GENERAL STOREKEEPERS	Chryslyn Self Service Store, Lakes Rd., Glendale, Newcastle	133496	1961	Road Match	133m
	ICE MFRS./VENDORS	Cross Roads Ice Works, Lake Rd., Cardiff, Newcastle	134563	1961	Road Match	133m

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
15	FURNITURE-GARDEN/ORNAMENTAL-MFRS.	Glendale Aquariums & Wrought Iron Manufacturers, Lake Rd., Glendale, Newcastle	133091	1961	Road Match	133m
	WROUGHT IRON WORKERS	Glendale Aquariums & Wrought Iron Manufacturers, Lake Rd., Glendale, Newcastle	139859	1961	Road Match	133m
	MOTOR GARAGES &/OR ENGINEERS	Glendale Motors, 30 Lake Rd., Glendale, Newcastle	136290	1961	Road Match	133m
	CONCRETE-READY-MIXED SUPPLIERS	Guaranteed Concrete Pty Ltd., Glendale Branch: Lake Rd., Newcastle	130861	1961	Road Match	133m

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Dry Cleaners, Motor Garages & Service Stations

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



Historical Business Directories

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

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

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

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Property Boundary or Road Intersection	Direction
1	MOTOR GARAGES & SERVICE STATIONS	Ampol Service Station., 340 Lake Rd Glendale, Newcastle	89274	1991	Premise Match	260m	South
	MOTOR SERVICE STATIONS-PETROL, OIL, ETC.	Glendale Body Repairs, 310 Lake Rd., Glendale, Newcastle	632224	1970	Premise Match	260m	South
2	MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Johnson s Motor Service 650 Main Rd. Edgeworth Newcastle	177212	1982	Premise Match	429m	South West
	MOTOR SERVICE STATIONS-PETROL, OIL, ETC.	Johnsons Motor Service, 650 Main Rd., Edgeworth	636905	1970	Premise Match	429m	South West
3	MOTOR GARAGES &/OR ENGINEERS	Cross Roads Garage, Cross Rds., Glendale, Newcastle	631871	1970	Road Intersection	490m	South
	MOTOR GARAGES &/OR ENGINEERS	Cross Roads Garage, Cross Rds., Glendale, Newcastle	136272	1961	Road Intersection	490m	South

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

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

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
4	MOTOR SERVICE STATIONS-PETROL, OIL, ETC.	Griffiths, S., Main Rd., Edgeworth, Newcastle	632232	1970	Road Match	108m
	MOTOR SERVICE STATIONS-PETROL, OIL, ETC.	Johnson Motor Service, Main Rd., Edgeworth, Newcastle	632241	1970	Road Match	108m
	MOTOR SERVICE STATIONS-PETROL, OIL, ETC.	Nelson, A., Main Rd., Edgeworth, Newcastle	632253	1970	Road Match	108m
	MOTOR GARAGES &/OR ENGINEERS	Johnsons Motor Service, Main Rd., Young Wallsend Newcastle	126996	1950	Road Match	108m
	MOTOR SERVICE STATIONS-PETROL, Etc.	Johnsons Motor Service, Main Rd., Young Wallsend Newcastle	127127	1950	Road Match	108m
5	MOTOR GARAGES &/OR ENGINEERS	Crossroads Garage Cardiff Pty. Ltd. At the Crossroads, Main Road, Cardiff Newcastle	126947	1950	Road Match	108m
6	MOTOR GARAGES &/OR ENGINEERS	Glendale Motors, 30 Lake Rd., Glendale, Newcastle	136290	1961	Road Match	133m
7	MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Wallsend Auto Centre, Thomas St., Wallsend Newcastle	177305	1982	Road Match	204m
8	MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Shell R.S.L. Tyrrell St., Wallsend, Newcastle	177274	1982	Road Match	296m
	DRY CLEANERS, PRESSERS/DYERS	Store (The), Tyrrell St. (Opposite R.S.L.), Wallsend, Newcastle	627224	1970	Road Match	296m
	MOTOR SERVICE STATIONS-PETROL, OIL, ETC.	Store (The), Tyrrell St. (Opposite R.S.L.), Wallsend, Newcastle	632277	1970	Road Match	296m
9	MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Ampol Service Station, Cowper St., Wallsend Newcastle	177100	1982	Road Match	314m
	MOTOR SERVICE STATIONS-PETROL, OIL, ETC.	Ampol Service Station, Cowper St., Wallsend, Newcastle	632155	1970	Road Match	314m
	MOTOR SERVICE STATIONS-PETROL, OIL, ETC.	BP Wallsend Service Station, Cowper St., Wallsend, Newcastle	632167	1970	Road Match	314m
	MOTOR GARAGES &/OR ENGINEERS	Continental Garage, Cowper St., Wallsend, Newcastle	136270	1961	Road Match	314m
	MOTOR GARAGES &/OR ENGINEERS	Priestley, A. Pty. Ltd., Cowper St., Wallsend, Newcastle	136357	1961	Road Match	314m
	MOTOR SERVICE STATIONS-PETROL, OIL, ETC..	Priestley, Arthur Pty. Ltd., Cowper St., Wallsend, Newcastle	136681	1961	Road Match	314m
	MOTOR SERVICE STATIONS-PETROL, OIL, ETC..	Wallsend Service Station, Cowper St., Wallsend, Newcastle	136708	1961	Road Match	314m
	MOTOR SERVICE STATIONS-PETROL, OIL, ETC..	Whiteway Service Station, Cowper St., Wallsend, Newcastle	136710	1961	Road Match	314m
	MOTOR GARAGES &/OR ENGINEERS	Priestley, A., Cowper St., Wallsend Newcastle	127028	1950	Road Match	314m
10	MOTOR GARAGES &/OR ENGINEERS &/OR SERVICE STATIONS.	Devon Auto Repair, 75 Devon Rd., Wallsend, Newcastle	177163	1982	Road Match	410m
11	DRY CLEANERS, PRESSERS/DYERS	Wallsend & Plattsburg Co-op. Society Ltd., Nelson St., Wallsend, Newcastle	131342	1961	Road Match	491m

Map Id	Business Activity	Premise	Ref No.	Year	Location Confidence	Distance to Road Corridor or Area
11	MOTOR SERVICE STATIONS-PETROL, OIL, ETC..	Wallsend & Plattsburg Co-op. Society Ltd., Nelson St., Wallsend, Newcastle	136707	1961	Road Match	491m
	MOTOR SERVICE STATIONS-PETROL, Etc.	De Cean, C., Nelson St., Wallsend Newcastle	127122	1950	Road Match	491m

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Aerial Imagery 2019

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



- Legend**
- Site Boundary
 - Buffer 150m

Scale: 0 225 450 675 900 Meters	Data Sources Aerial Imagery: © Aerometrex Pty Ltd	Coordinate System: GDA 1994 MGA Zone 56	Date: 15 May 2020
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Aerial Imagery 2014

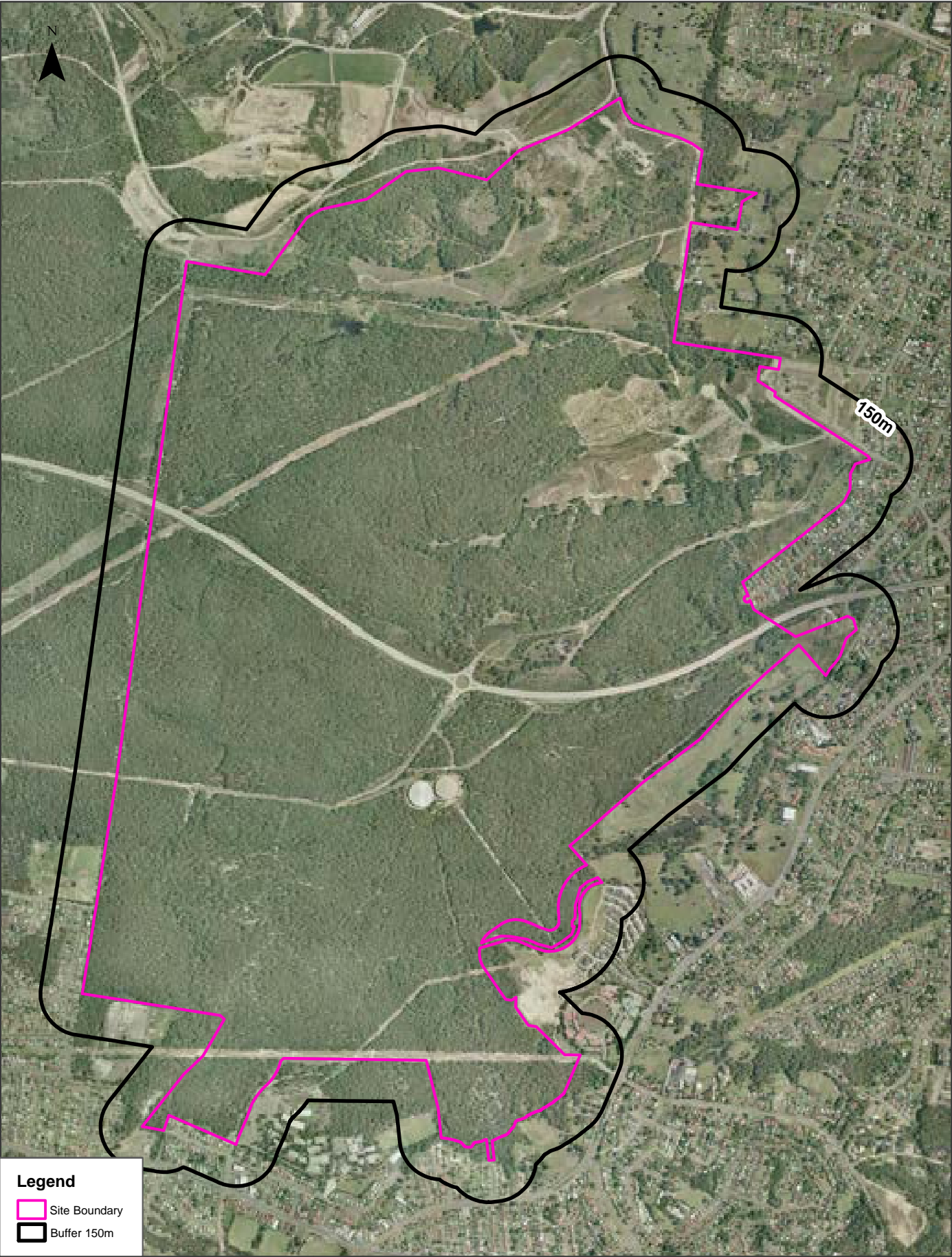
Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



Scale: 0 220 440 660 880 Meters	Data Sources: Aerial Imagery © Aerometrex Pty Ltd	Coordinate System: GDA 1994 MGA Zone 56	Date: 14 May 2020
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Aerial Imagery 2007

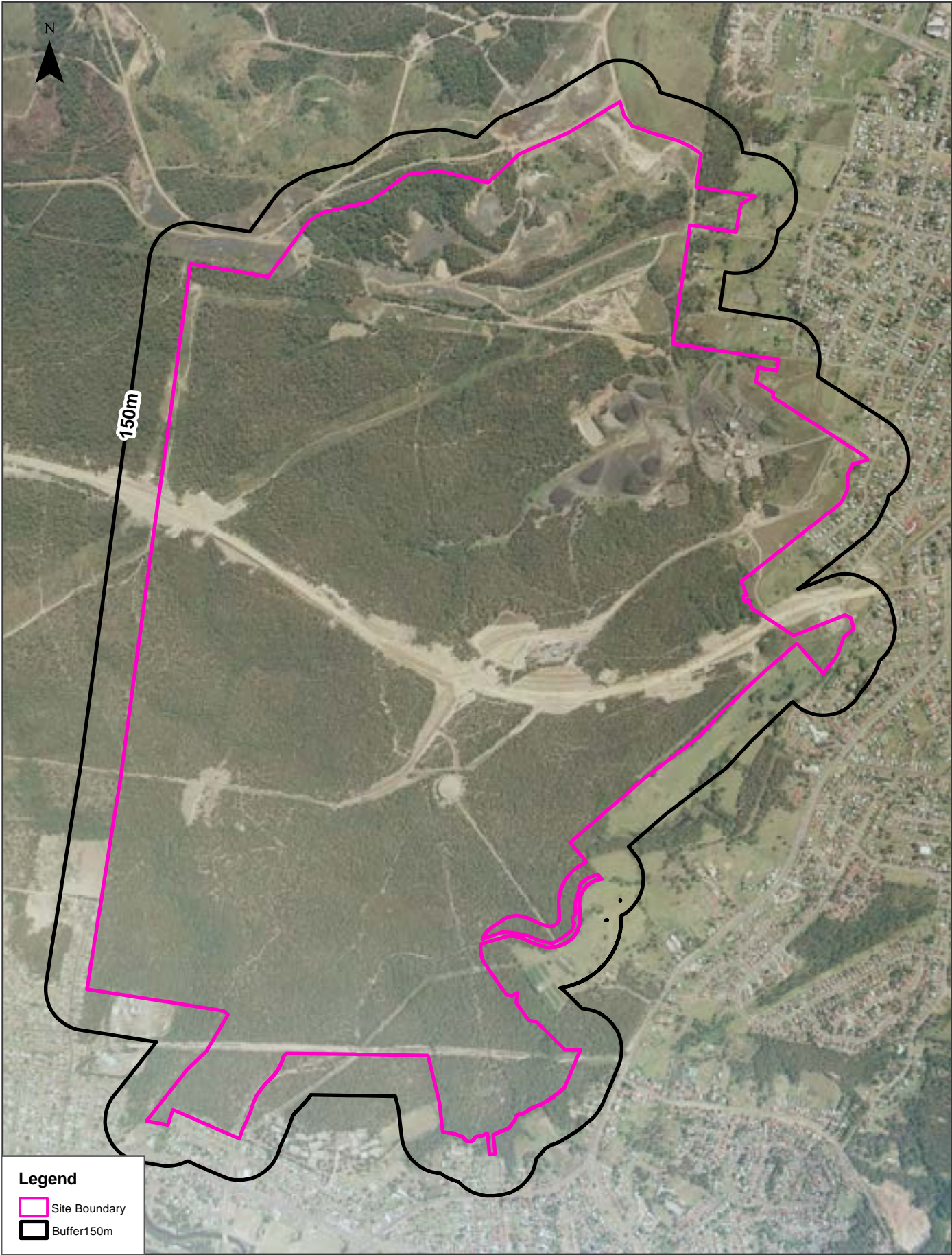
Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



Scale: 0 220 440 660 880 Meters	Data Sources: Aerial Imagery © Aerometrex Pty Ltd	Coordinate System: GDA 1994 MGA Zone 56	Date: 14 May 2020
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Aerial Imagery 1993

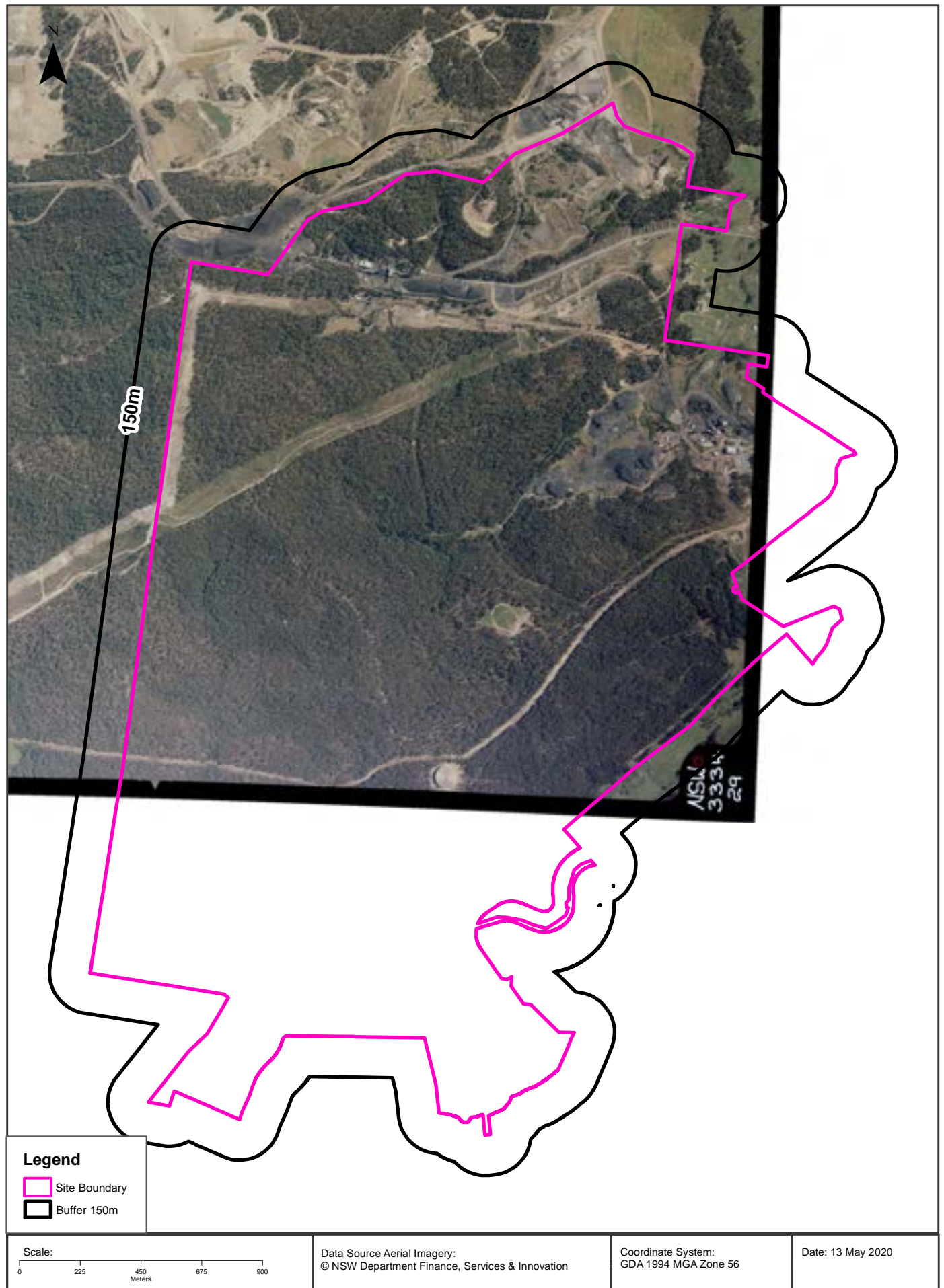
Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



Scale: 0 225 450 675 900 Meters	Data Source Aerial Imagery: © NSW Department Finance, Services & Innovation	Coordinate System: GDA 1994 MGA Zone 56	Date: 13 May 2020
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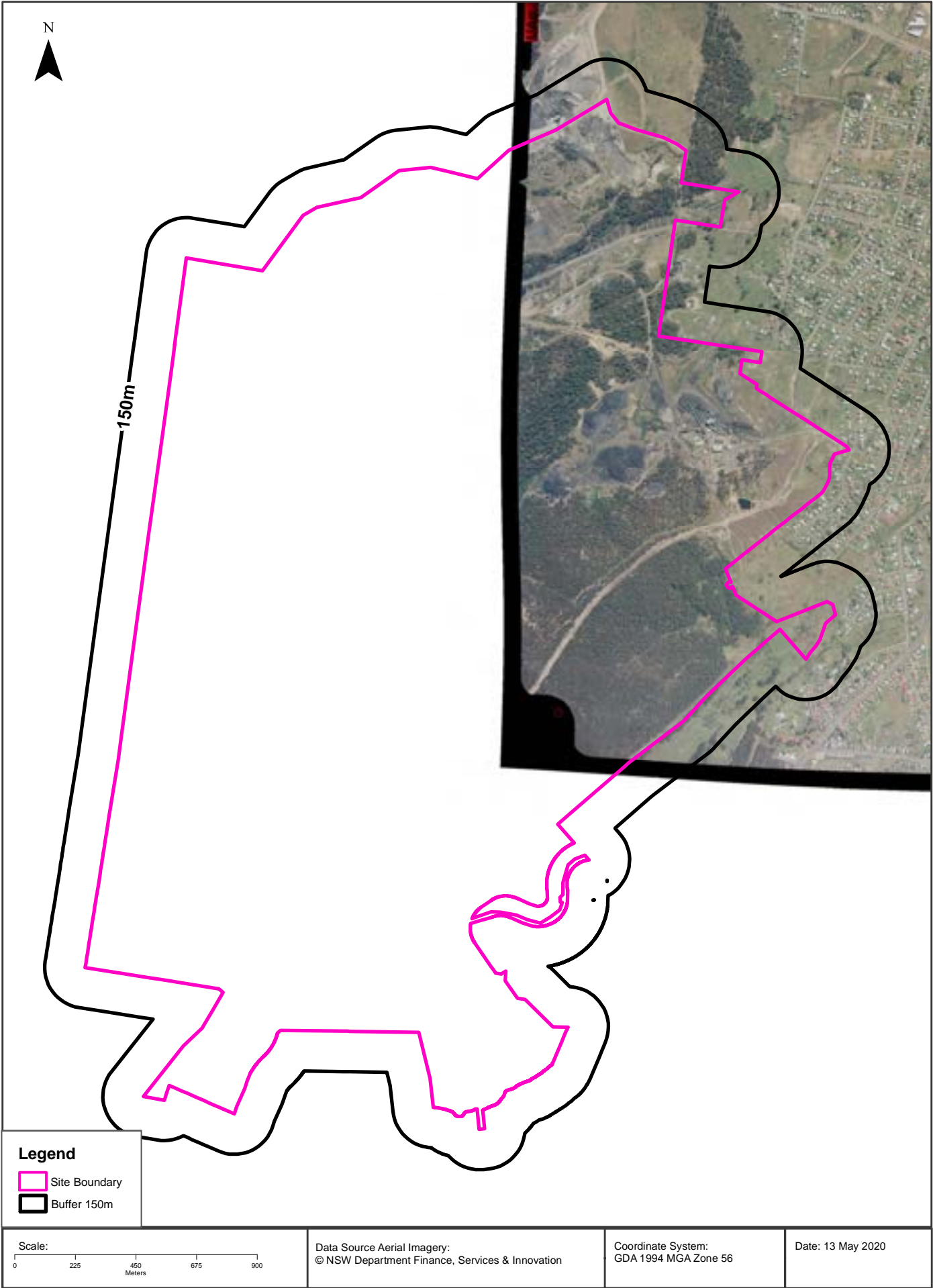
Aerial Imagery 1983

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



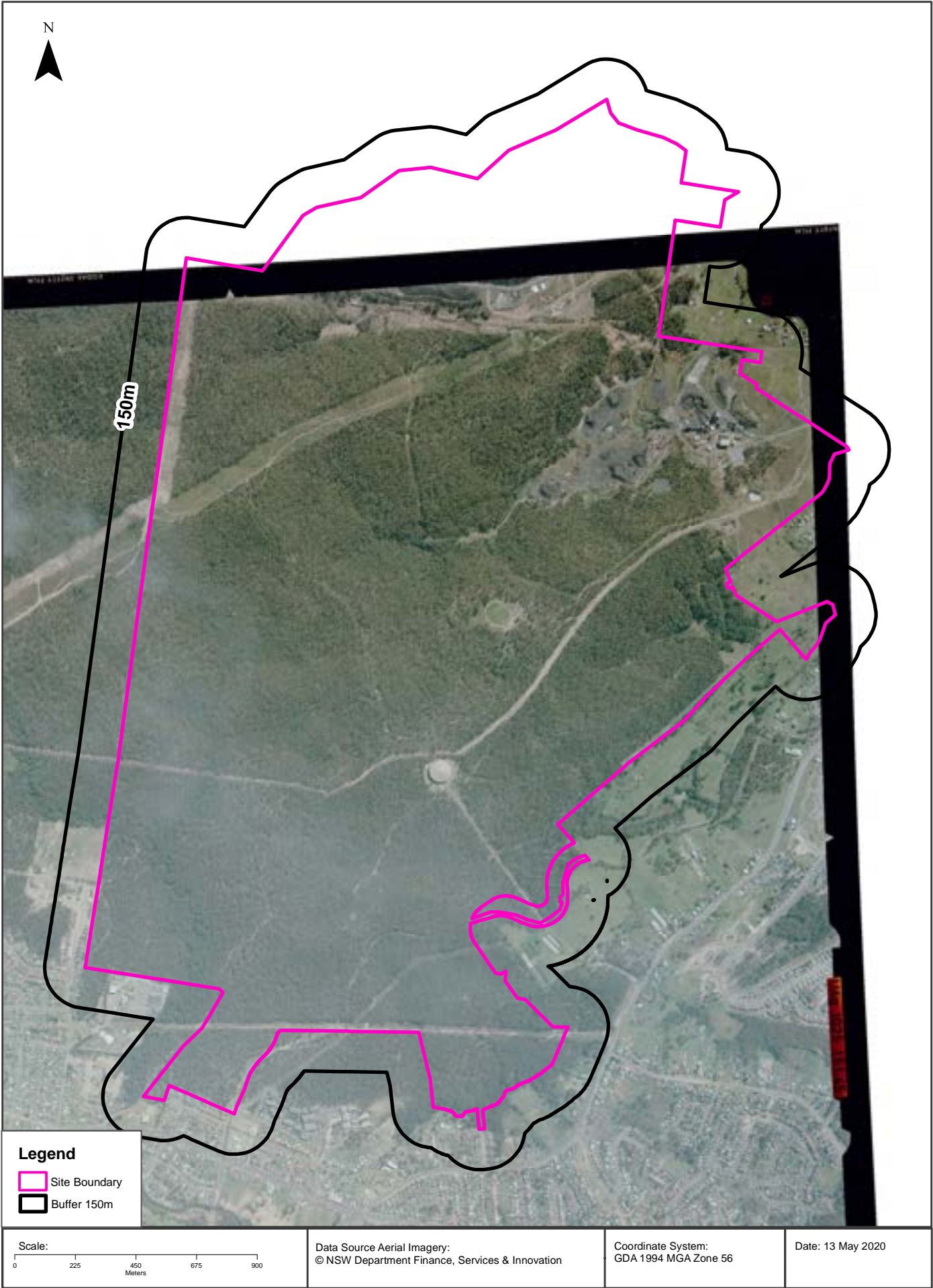
Aerial Imagery 1983

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



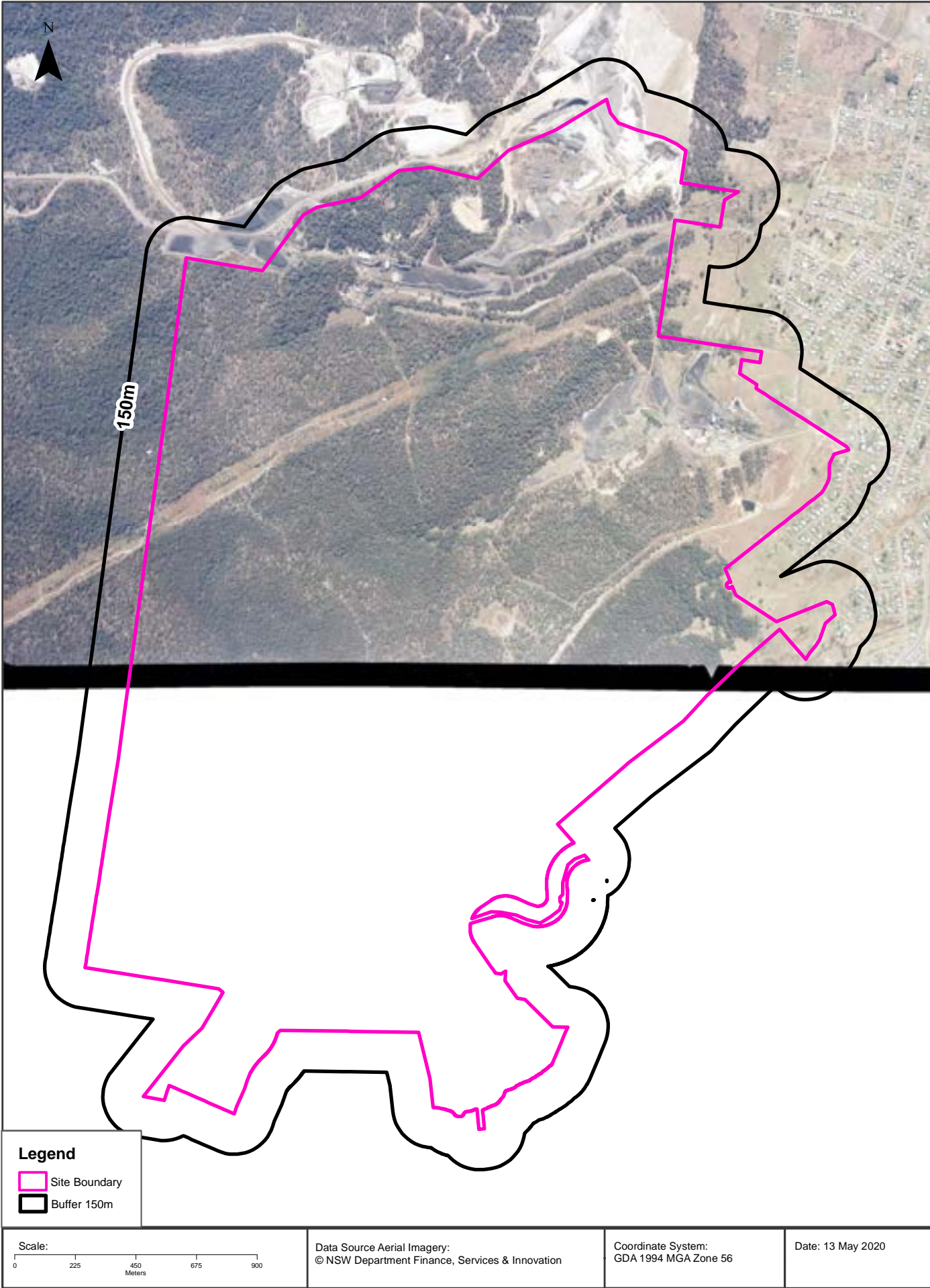
Aerial Imagery 1983

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



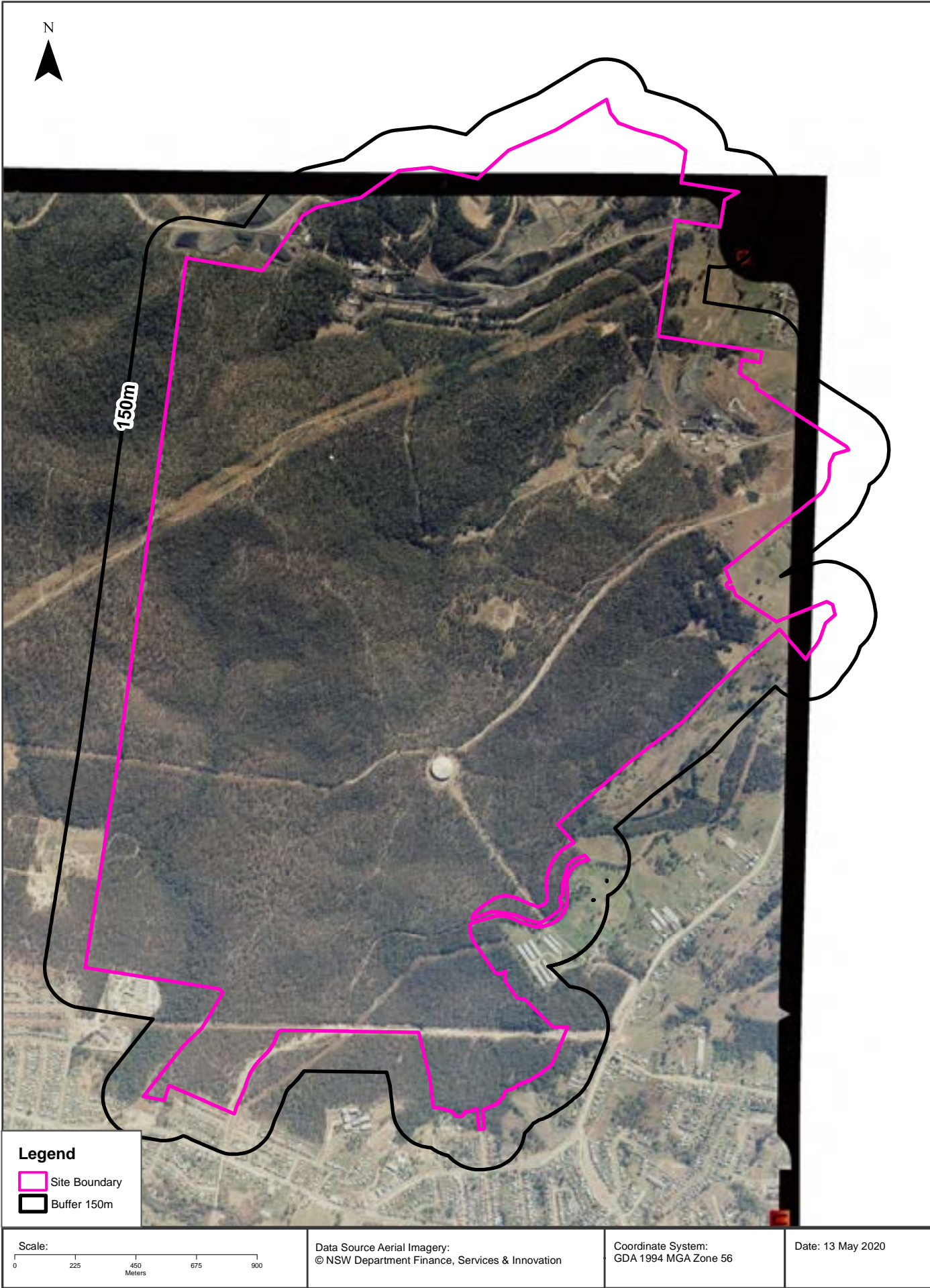
Aerial Imagery 1976

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



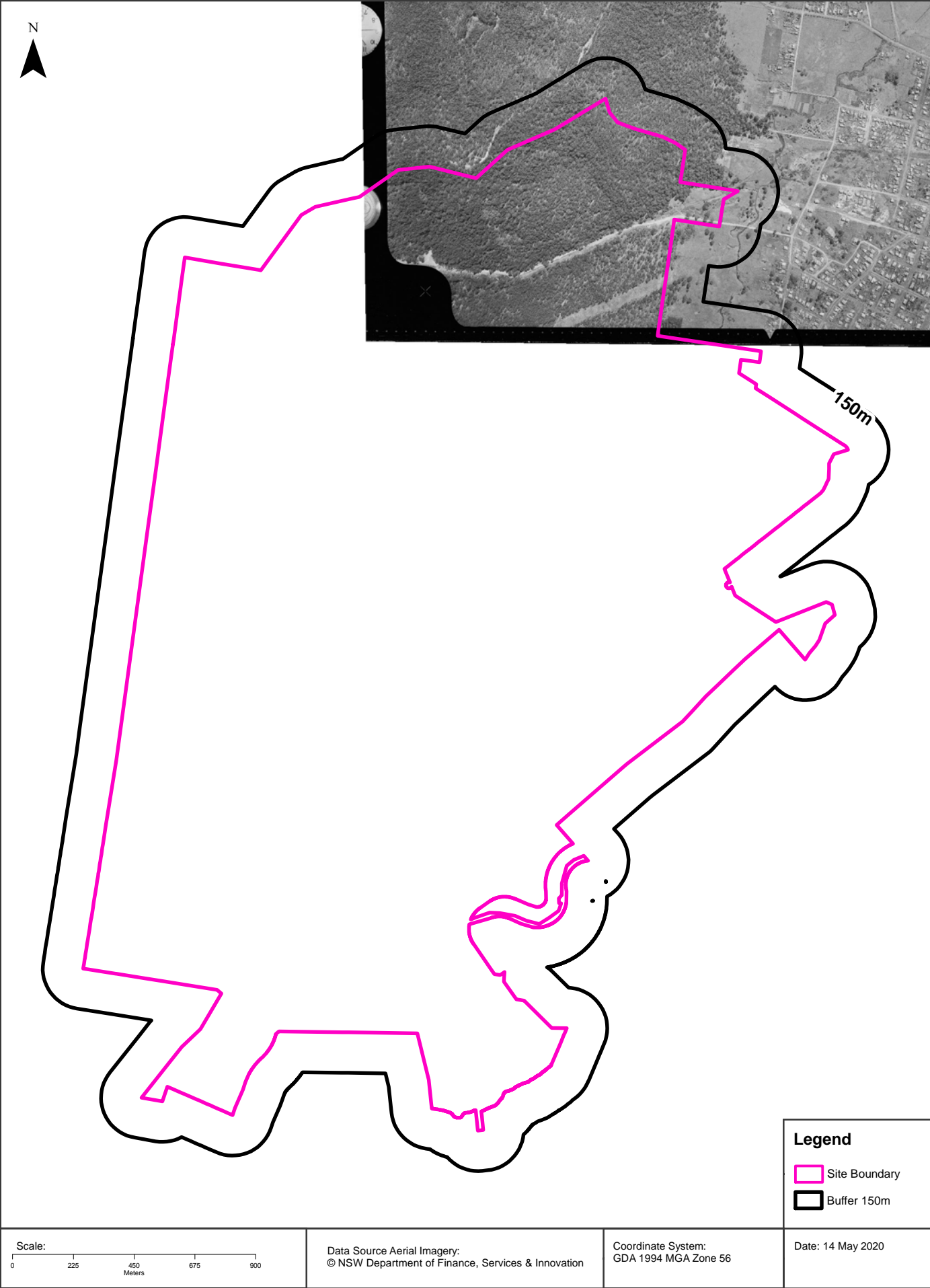
Aerial Imagery 1976

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



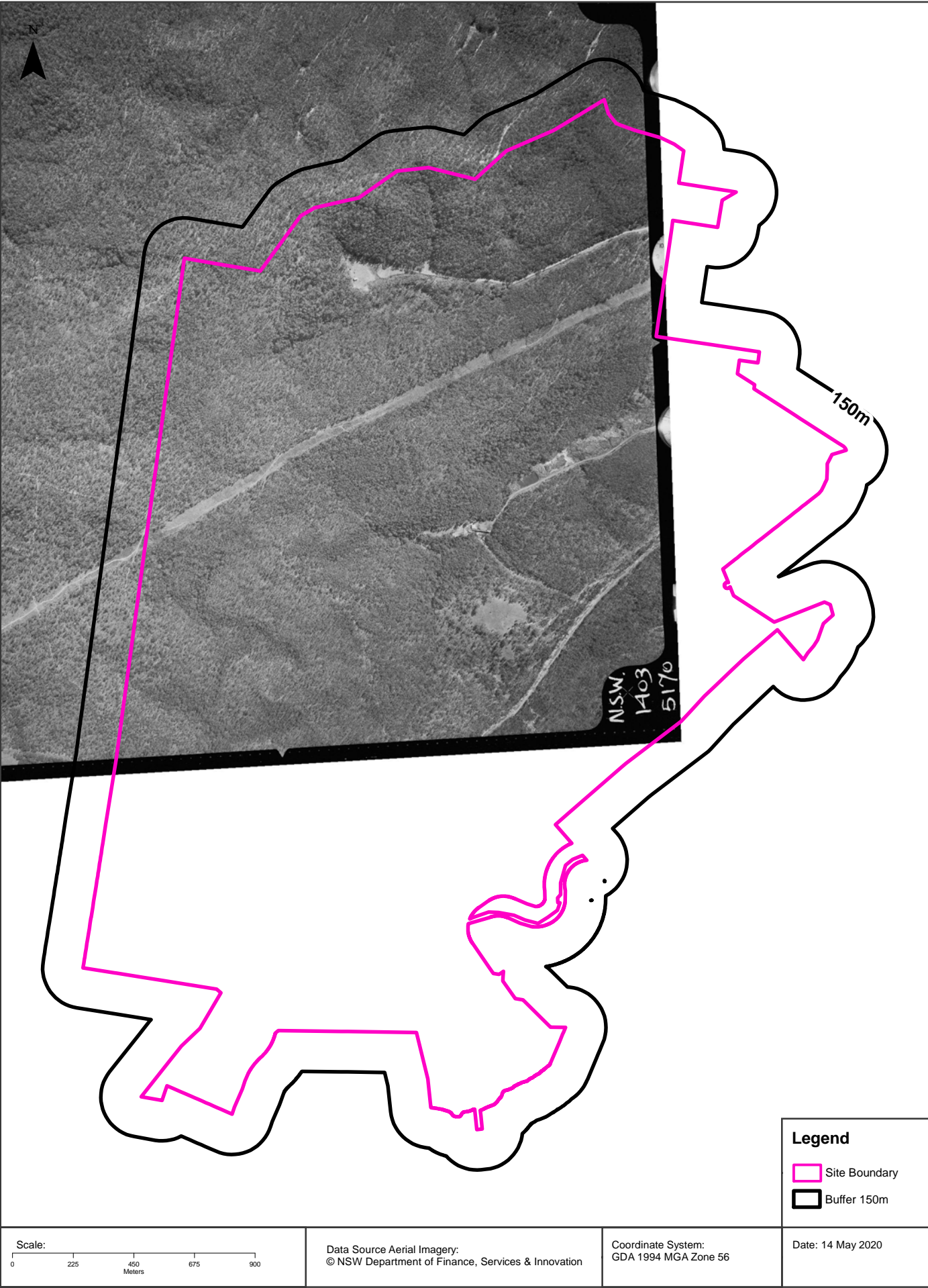
Aerial Imagery 1965

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



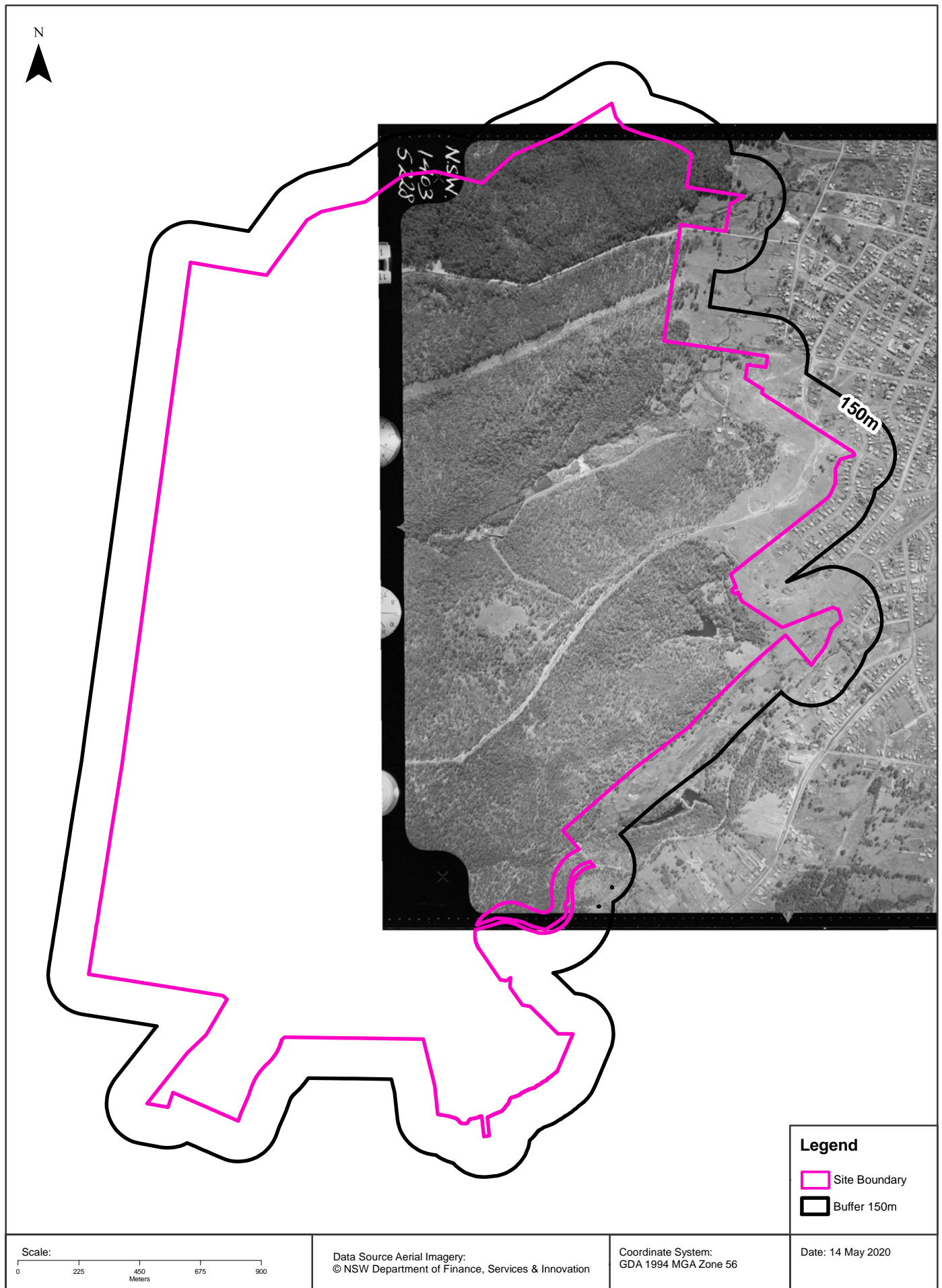
Aerial Imagery 1965

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



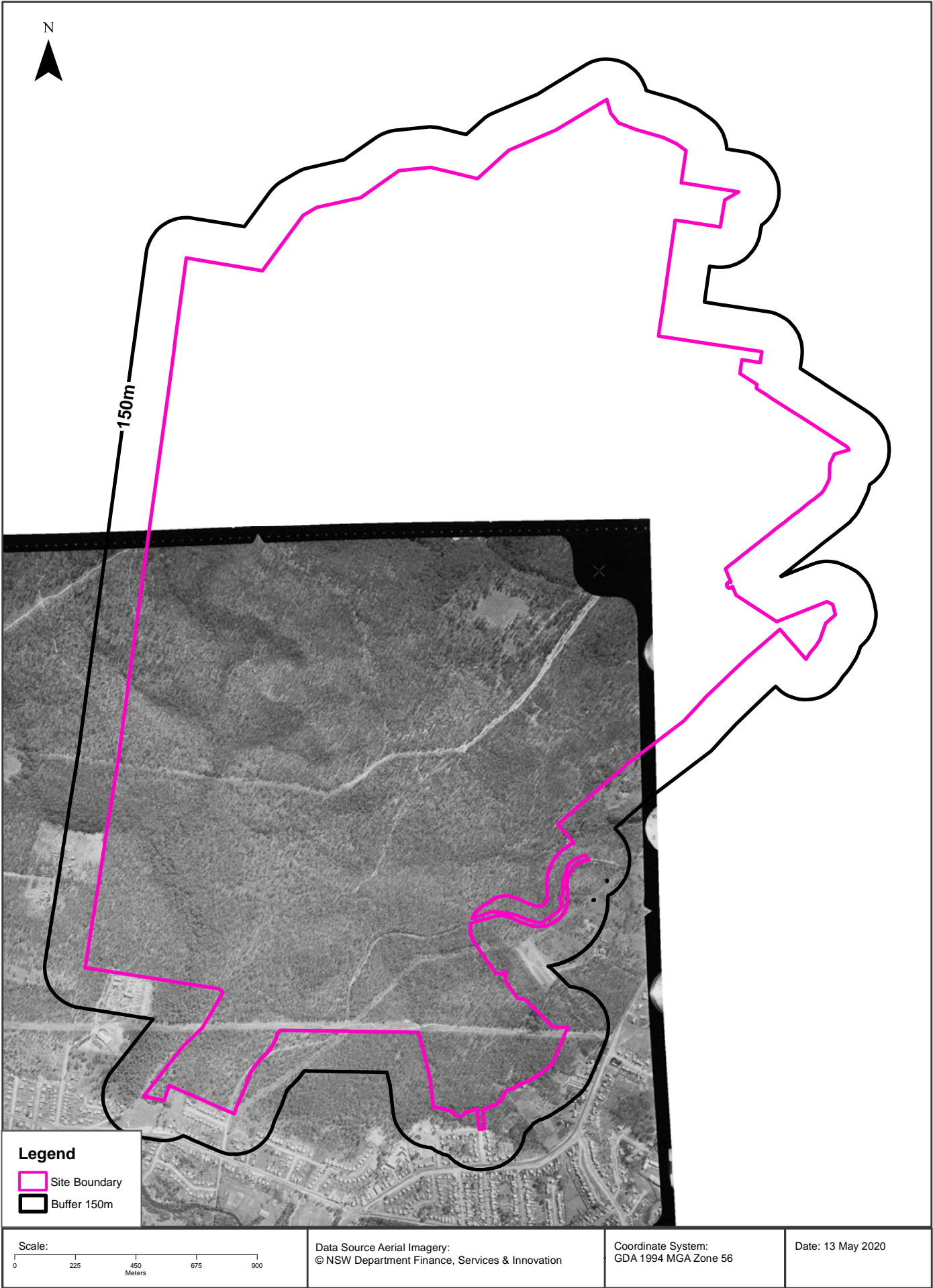
Aerial Imagery 1965

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



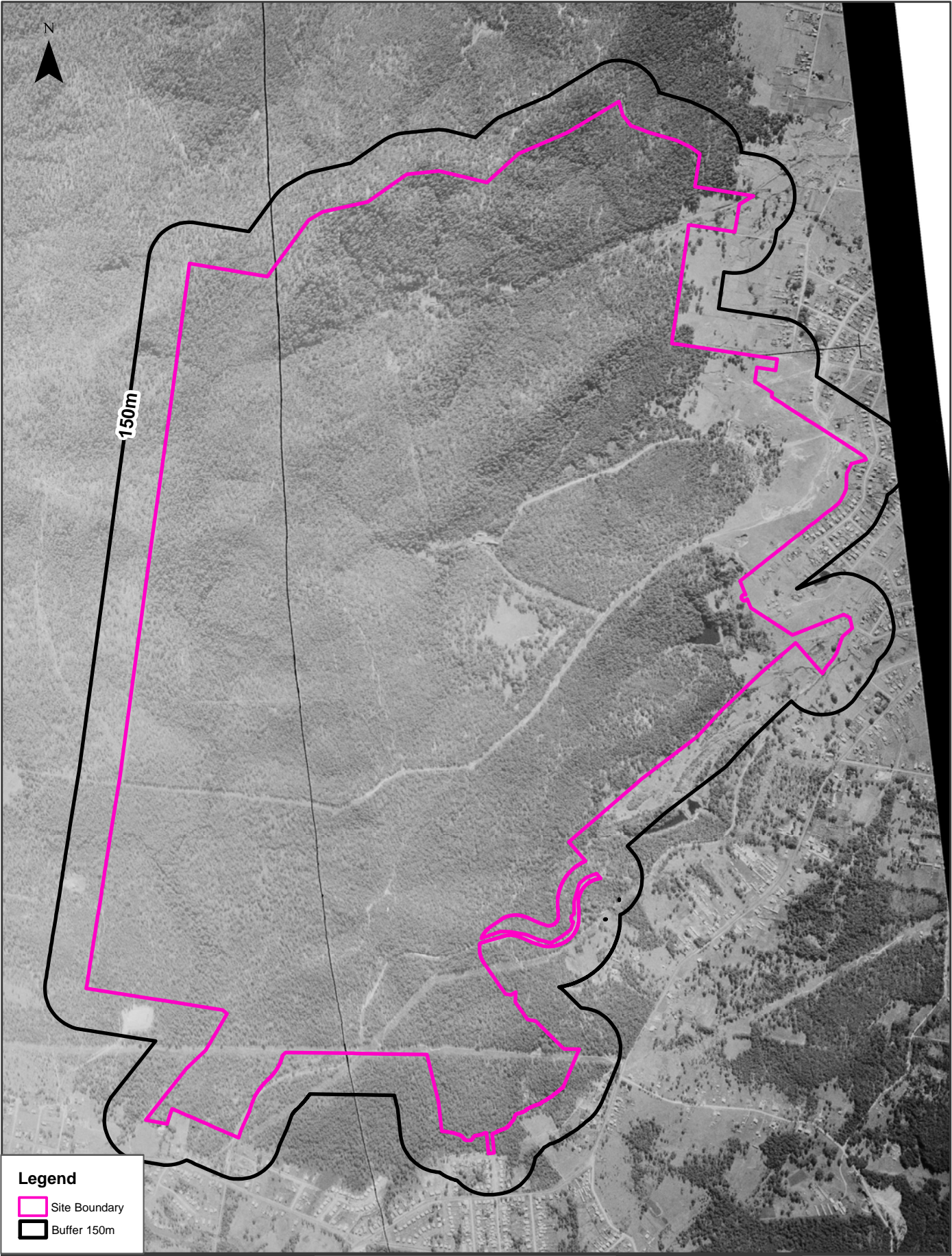
Aerial Imagery 1965

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



Aerial Imagery 1954

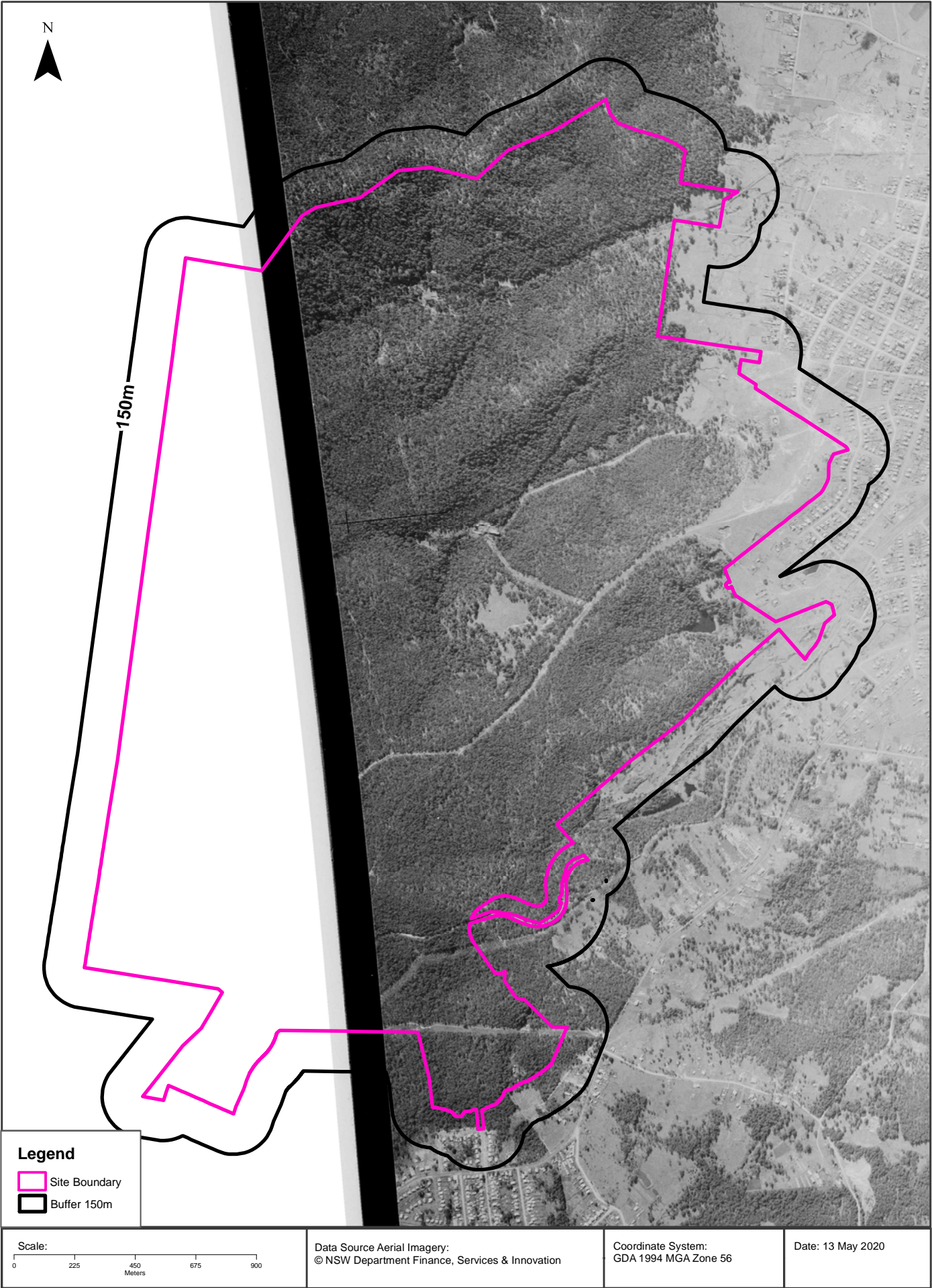
Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



Scale: 0 225 450 675 900 Meters	Data Source Aerial Imagery: © NSW Department Finance, Services & Innovation	Coordinate System: GDA 1994 MGA Zone 56	Date: 13 May 2020
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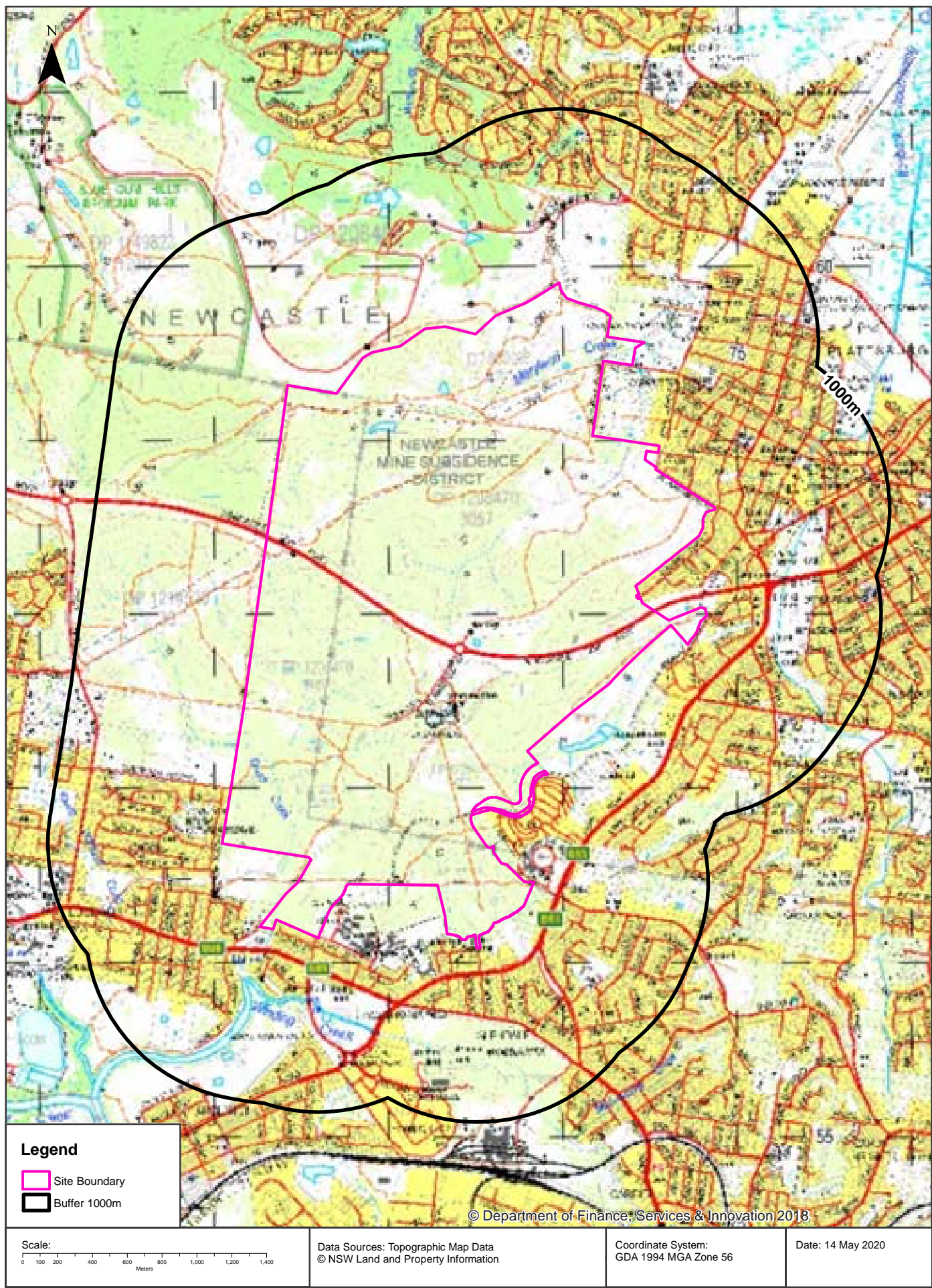
Aerial Imagery 1954

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



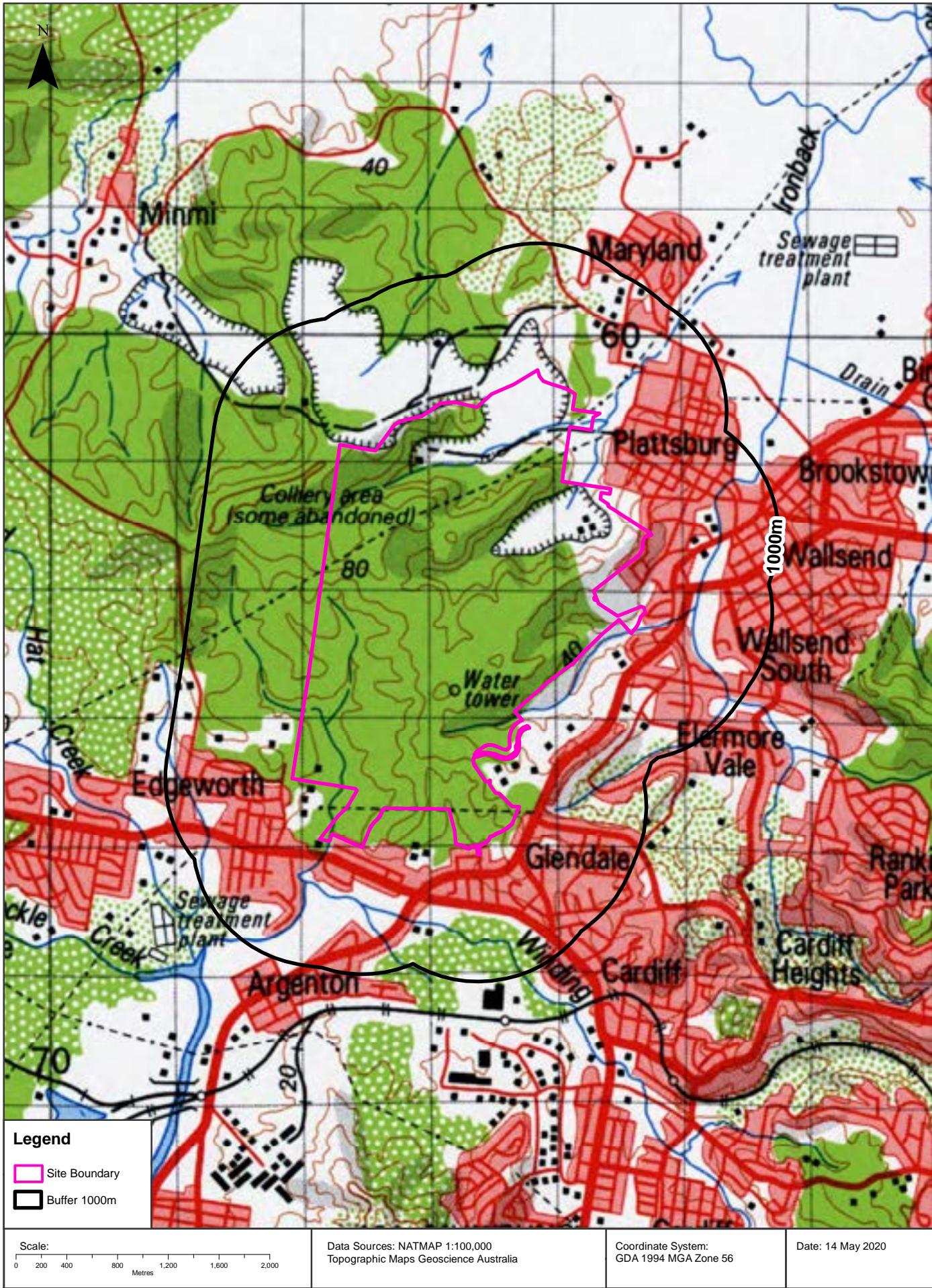
Topographic Map 2015

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



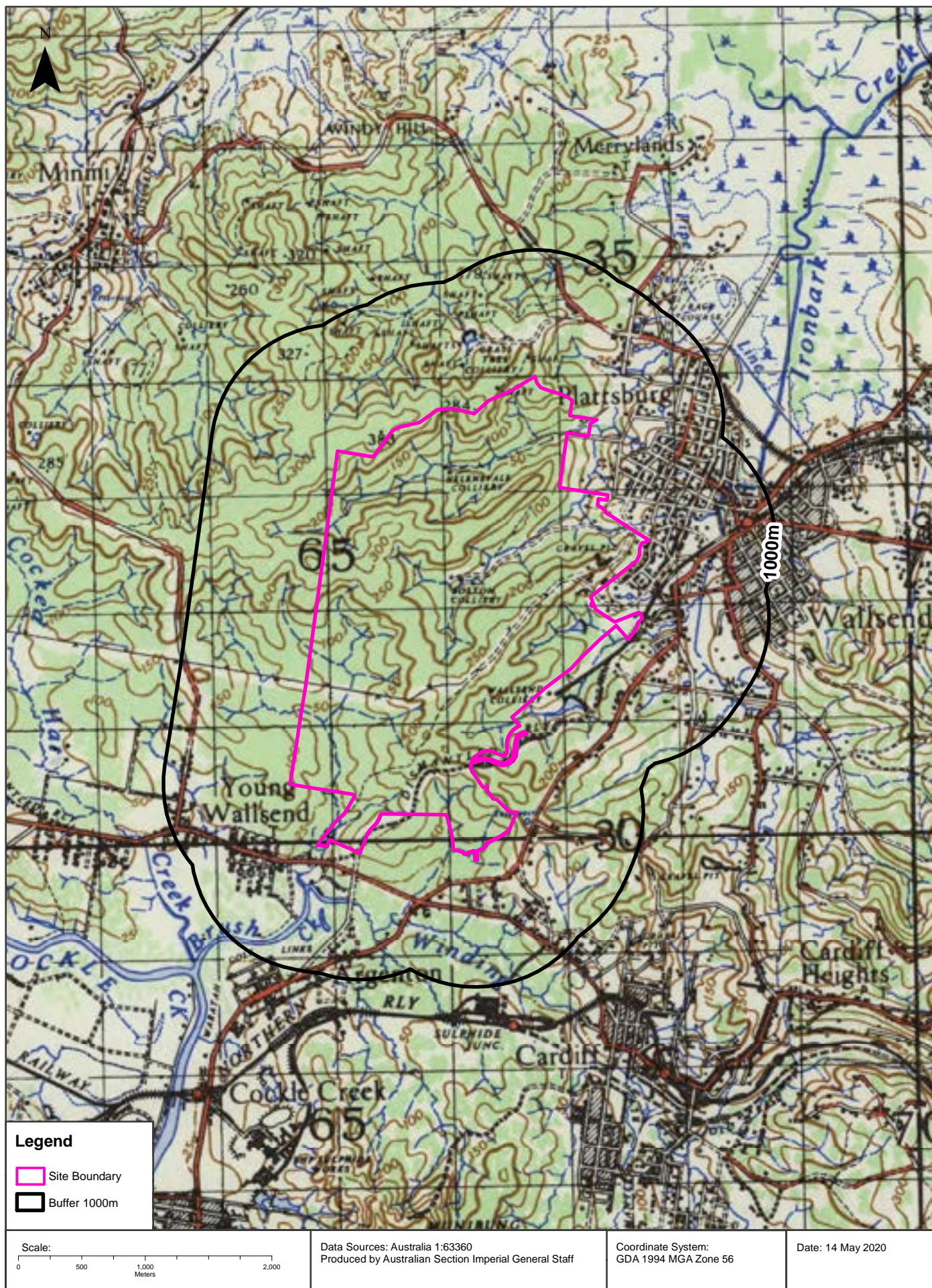
Historical Map 1981

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



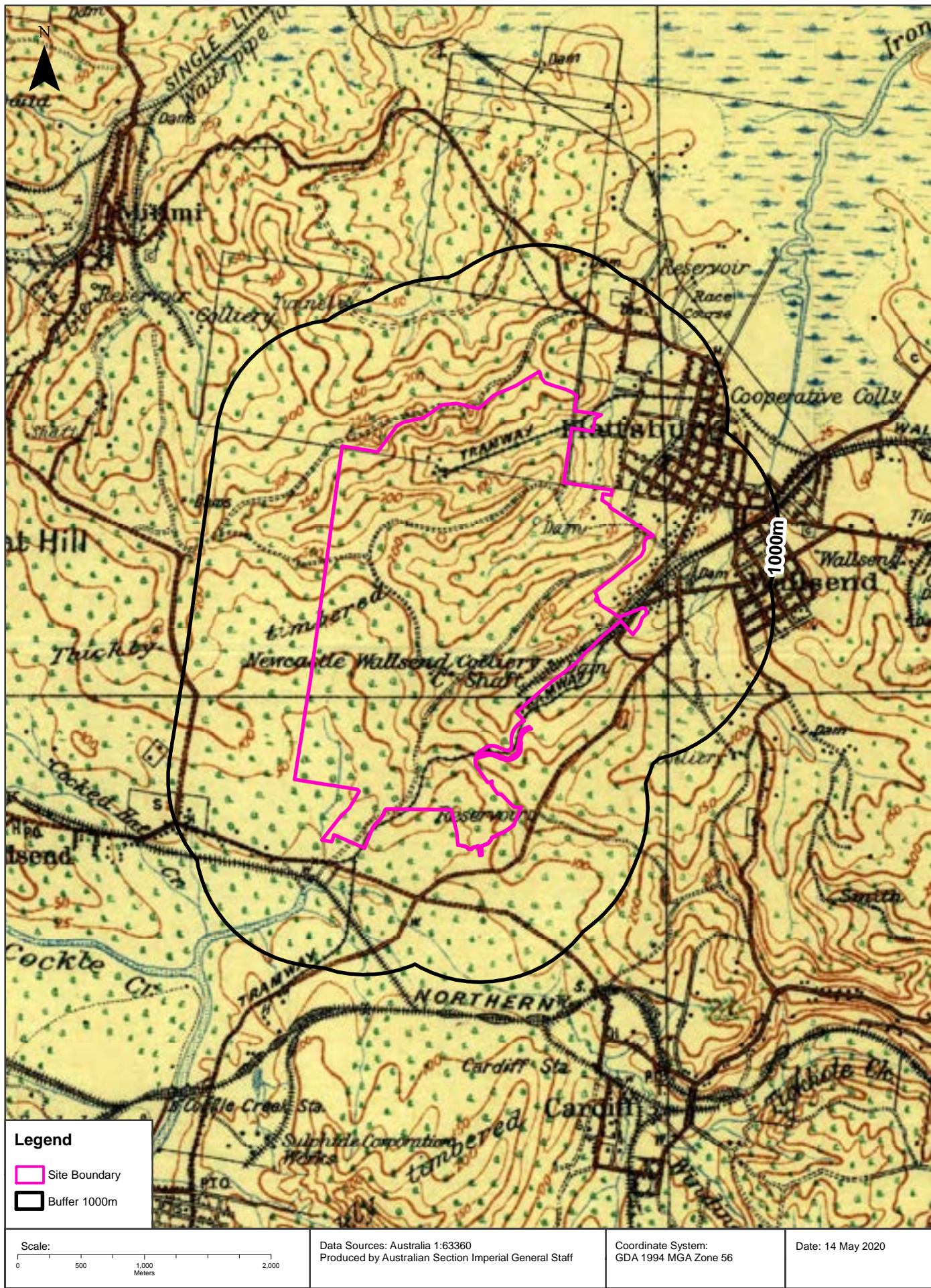
Historical Map c.1941

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



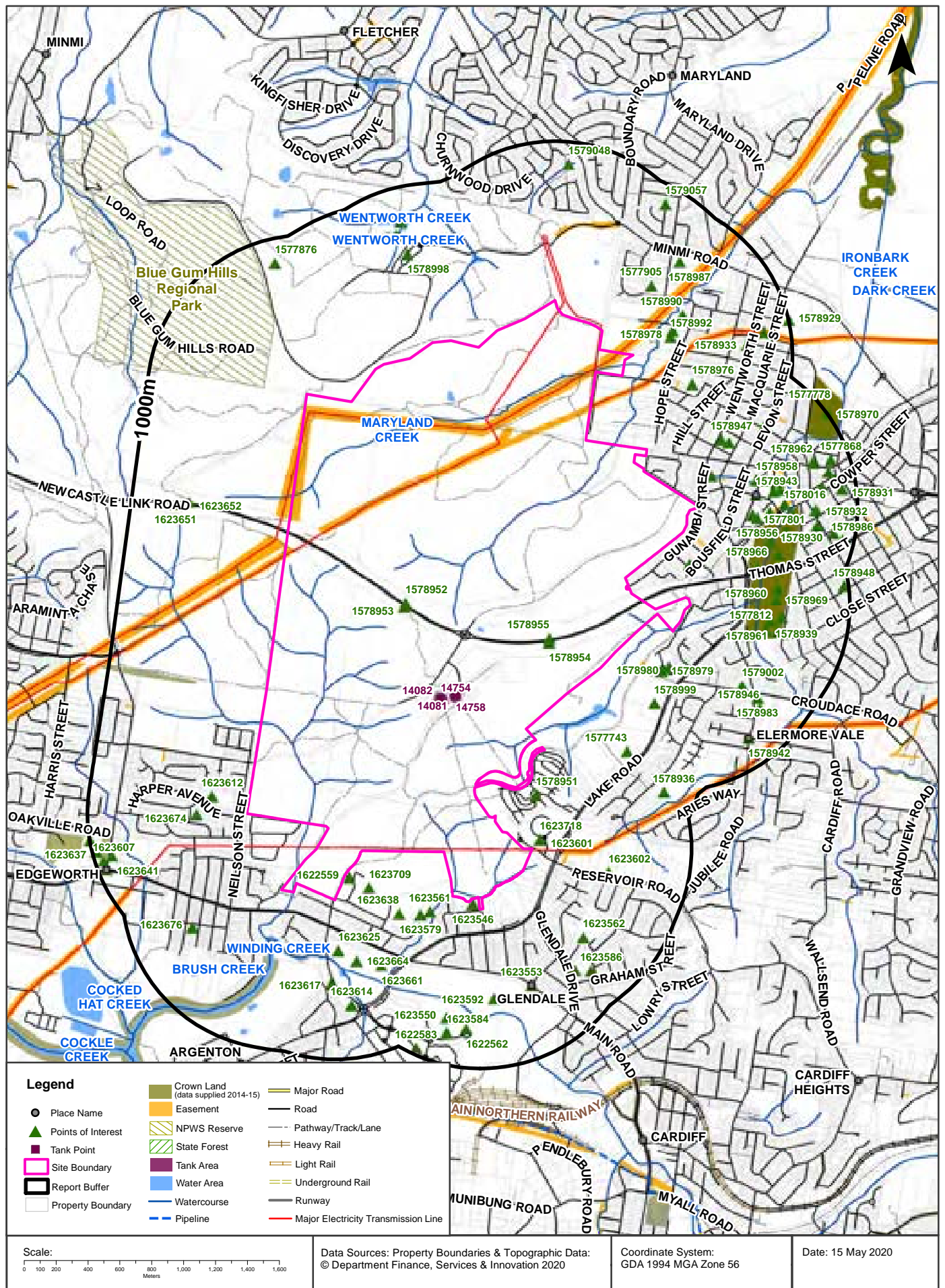
Historical Map c.1913

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



Topographic Features

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



Topographic Features

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

Points of Interest

What Points of Interest exist within the dataset buffer?

Map Id	Feature Type	Label	Distance	Direction
1578952	Roadside Emergency Telephone	LR7	0m	Onsite
1578953	Roadside Emergency Telephone	LR8	0m	Onsite
1578954	Roadside Emergency Telephone	LR10	0m	Onsite
1578955	Roadside Emergency Telephone	LR9	0m	Onsite
1623546	Park	Park	26m	South
1622559	Parking Area	Parking Area	32m	South
1623718	Combined Primary-Secondary School	MACQUARIE COLLEGE	76m	South
1623601	Place Of Worship	SEVENTH DAY ADVENTIST CHURCH	77m	South
1578951	Retirement Village	ELERMORE GLEN RETIREMENT VILLAGE	89m	South East
1623709	TAFE College	GLENDALE TAFE COLLEGE	171m	South
1623561	Primary School	HOLY CROSS PRIMARY SCHOOL	173m	South
1578984	Place Of Worship	SEVENTH DAY ADVENTIST CHURCH	186m	East
1578994	Park	Park	202m	North East
1578980	Community Home	WOODLANDS LODGE	224m	East
1623612	Park	JONATHAN WALSH NATURE RESERVE	232m	South West
1623579	Place Of Worship	CATHOLIC CHURCH	233m	South
1578979	Retirement Village	WOODLANDS VILLAGE	256m	East
1578992	Sports Field	COL CURRAN PLAYING FIELDS	258m	North East
1578978	Park	PLATTSBURG PARK	289m	North East
1623674	Park	Park	314m	South West
1623625	Sports Field	PLAYING FIELD	320m	South
1578940	Sports Field	BOWLING GREENS	341m	East
1623638	High School	GLENDALE HIGH SCHOOL	353m	South
1578943	Suburb	WALLSEND	368m	East
1578956	Club	WALLSEND BEARS BOWLING CLUB	373m	East
1578990	Sports Field	PLAYING FIELDS	396m	North East
1578999	Place Of Worship	SEVENTH DAY ADVENTIST CHURCH	398m	South East
1578958	Library	WALLSEND DISTRICT LIBRARY	399m	East
1623664	Sports Field	PLAYING FIELD	406m	South
1578976	Park	CARRINGTON STREET RESERVE	412m	North East
1577905	Nursing Home	WALLSEND MANOR AGED CARE	416m	North East

Map Id	Feature Type	Label	Distance	Direction
1578947	Primary School	ST PATRICK'S PRIMARY SCHOOL	429m	North East
1578934	Place Of Worship	CATHOLIC CHURCH	439m	North East
1577800	Parking Area	Parking Area	448m	East
1577817	Parking Area	Parking Area	460m	East
1578989	Sports Court	SKATE PARK	468m	East
1578016	Community Facility	WALLSEND MOTOR REGISTRY	483m	East
1578939	Sports Field	OVAL	495m	East
1578977	Park	WAL HERD PARK	495m	East
1623602	Combined Primary-Secondary School	NEWCASTLE WALDORF SCHOOL	502m	South East
1623661	Sports Field	WILLIAM BOWER FIELD	504m	South
1578972	Park	WALLSEND PARK	509m	East
1577743	Nursing Home	UNITING KOOMBAHLA ELERMORE VALE	516m	South East
1578988	Shopping Centre	STOCKLAND WALLSEND SHOPPING CENTRE	525m	East
1578950	Post Office	WALLSEND POST OFFICE	528m	East
1623617	Park	ANNIVERSARY GREEN	531m	South
1578969	Sports Field	PLAYING FIELDS	535m	East
1577801	Parking Area	Parking Area	540m	East
1578960	Park	UPPER RESERVE	551m	East
1579002	Park	STEWART PARK	553m	East
1623562	Primary School	GLENDALE EAST PUBLIC SCHOOL	562m	South
1623592	Park	MANEELA PARK	569m	South
1623553	Suburb	GLENDALE	570m	South
1578998	Rubbish Depot	SUMMERHILL WASTE MANAGEMENT CENTRE	575m	North
1578961	Sports Court	NETBALL COURTS	575m	East
1578991	Sports Field	OVAL	577m	East
1577812	Parking Area	Parking Area	578m	East
1578966	Sports Field	OVAL	579m	East
1578965	Sports Court	SKATE PARK	595m	East
1623676	Park	Park	605m	South West
1623652	Roadside Emergency Telephone	LR5	638m	West
1578987	Place Of Worship	JEHOVAHS WITNESSES CHURCH	649m	North East
1578928	Fire Station	WALLSEND FIRE STATION	655m	North East
1623614	Park	IRENE BOOTH MEMORIAL PARK	669m	South
1578983	Preschool	ELERMORE VALE PUBLIC SCHOOL PRESCHOOL	675m	East
1623531	Place Of Worship	REFORMED CHURCH	693m	South
1577874	Manmade Waterbody	WENTWORTH CREEK	710m	North
1623550	Sports Field	ATHLETICS FIELD	714m	South

Map Id	Feature Type	Label	Distance	Direction
1578933	Place Of Worship	CHRISTIAN CITY CHURCH	717m	North East
1623651	Roadside Emergency Telephone	LR6	721m	West
1578946	Primary School	ELERMORE VALE PUBLIC SCHOOL	727m	East
1578932	Place Of Worship	ISLAMIC	734m	East
1578985	Place Of Worship	UNITING CHURCH	752m	East
1622562	Parking Area	Parking Area	757m	South
1623586	Park	Park	758m	South
1578962	Park	ROTUNDA PARK	771m	East
1577873	Manmade Waterbody	WENTWORTH CREEK	783m	North
1577867	Parking Area	Parking Area	784m	East
1578936	Park	Park	793m	South East
1623584	Sports Centre	HUNTER SPORTS CENTRE	803m	South
1578942	Suburb	ELERMORE VALE	821m	South East
1578996	Park	MILLER PARK	832m	North East
1578957	Club	WALLSEND DIGGERS	844m	East
1577876	Quarry - Open Cut	Quarry - Open Cut	846m	North West
1579048	Park	OAK CLOSE RESERVE	858m	North
1578930	Place Of Worship	ANGLICAN CHURCH	861m	East
1578935	Place Of Worship	BAPTIST CHURCH	876m	East
1577868	Parking Area	Parking Area	882m	East
1577778	Urban Place	PLATTSBURG	882m	North East
1579057	Retirement Village	SARINA COURT	883m	North East
1623640	Post Office	EDGEWORTH POST OFFICE	885m	South West
1578931	Place Of Worship	ORTHODOX CHURCH	906m	East
1578986	Place Of Worship	Place Of Worship	925m	East
1623607	Library	EDGEWORTH LIBRARY	946m	South West
1623641	Suburb	EDGEWORTH	948m	South West
1622583	Bus Interchange	GLENDALE BUS INTERCHANGE	959m	South
1623637	Primary School	EDGEWORTH PUBLIC SCHOOL	970m	South West
1578948	Primary School	WALLSEND PUBLIC SCHOOL	970m	East
1623672	Preschool	EDGEWORTH PUBLIC SCHOOL PRESCHOOL	995m	South West
1578970	Sports Field	PLAYING FIELDS	996m	North East
1578929	High School	CALLAGHAN COLLEGE WALLSEND CAMPUS	998m	North East

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

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Topographic Features

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

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
14081	Water	Operational	ELERMORE VALE RESERVOIRS	14/07/2018	0m	Onsite
14082	Water	Operational	ELERMORE VALE RESERVOIRS	14/07/2018	0m	Onsite

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
14754	Water	Feature on Previous LPI Tank Area Supply		04/12/2012	0m	Onsite
14758	Water	Feature on Previous LPI Tank Area Supply	SOUTH WALLSEND RESERVOIR	04/12/2012	0m	Onsite

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
120109157	Primary	Undefined		0m	Onsite
120109128	Primary	Undefined		0m	Onsite
120120804	Primary	Undefined		0m	Onsite
120119195	Primary	Undefined		0m	Onsite
120115299	Primary	Undefined		0m	Onsite
120109308	Primary	Undefined		0m	Onsite
120119480	Primary	Undefined		2m	South West
120108755	Primary	Undefined		72m	East
120112341	Primary	Undefined		129m	East

Map Id	Easement Class	Easement Type	Easement Width	Distance	Direction
120122384	Primary	Undefined		163m	East
120107508	Primary	Undefined		189m	South East
120116270	Primary	Undefined		205m	South East
120120022	Primary	Undefined		221m	North East
120112460	Primary	Undefined		328m	North East
120122071	Primary	Undefined		397m	North
120113086	Primary	Undefined		425m	East
120120829	Primary	Undefined		431m	North East
172952248	Primary	Right of way	5m	568m	South West
174034335	Primary	Right of way	3.5m	578m	East
120120280	Primary	Undefined		591m	East
120115293	Primary	Undefined		621m	South East
156435735	Primary	Right of way	3.048	740m	North East
176379263	Primary	Right of way	4m	814m	West
178371952	Primary	Electricity	30.48m	867m	South West
120119179	Primary	Undefined		926m	South East
120111414	Primary	Undefined		928m	East
120107519	Primary	Undefined		937m	South East

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

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Topographic Features

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

State Forest

What State Forest exist within the dataset buffer?

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

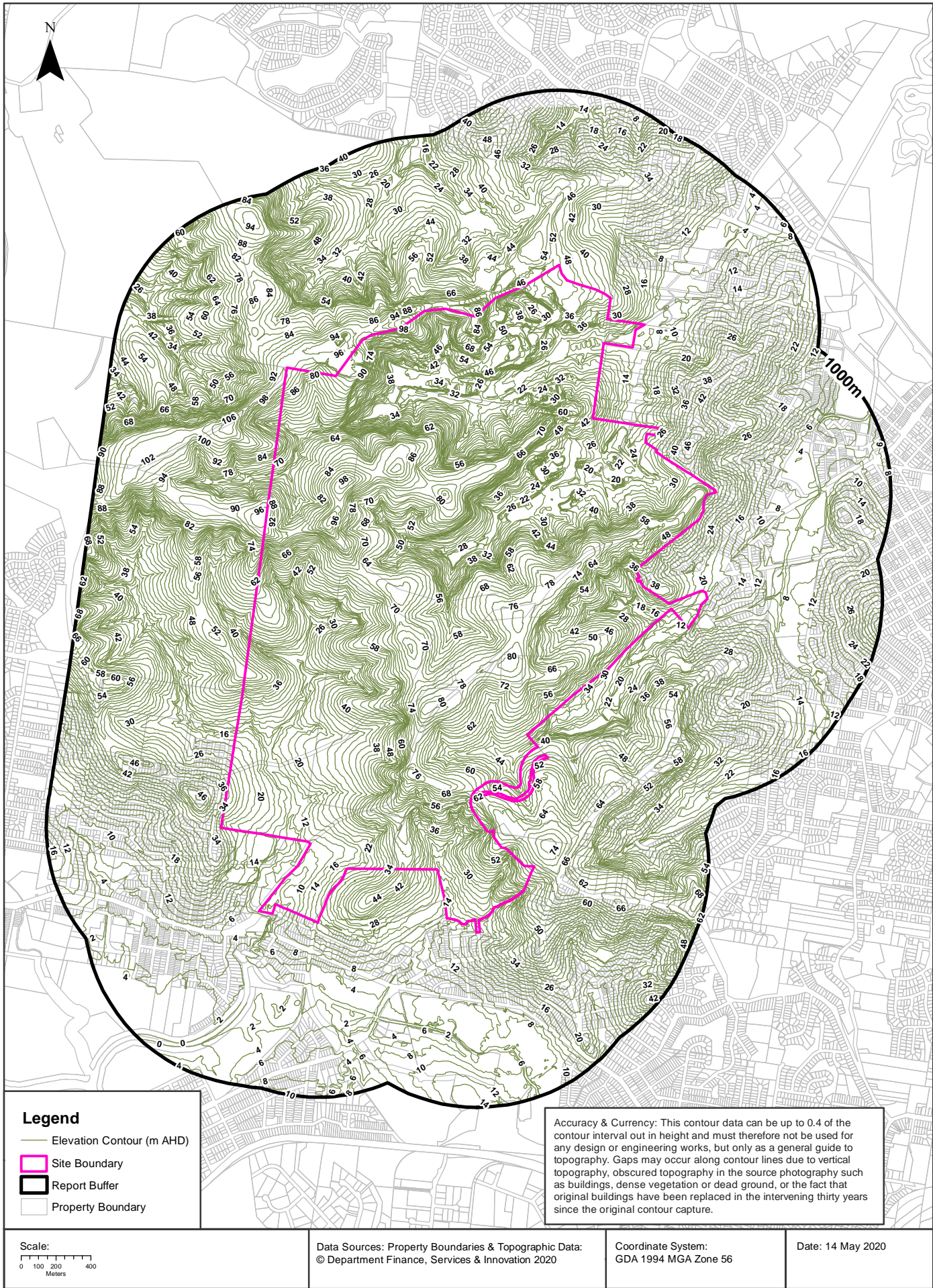
State Forest Data Source: © NSW Department of Finance, Services & Innovation (2018)
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National Parks and Wildlife Service Reserves

What NPWS Reserves exist within the dataset buffer?

Reserve Number	Reserve Type	Reserve Name	Gazetted Date	Distance	Direction
N1121	REGIONAL PARK	Blue Gum Hills Regional Park	28/02/2007	273m	North West

NPWS Data Source: © NSW Department of Finance, Services & Innovation (2018)
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Hydrogeology & Groundwater

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

Hydrogeology

Description of aquifers on-site:

Description
Fractured or fissured, extensive aquifers of low to moderate productivity

Description of aquifers within the dataset buffer:

Description
Fractured or fissured, extensive aquifers of low to moderate productivity

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

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Botany Groundwater Management Zones

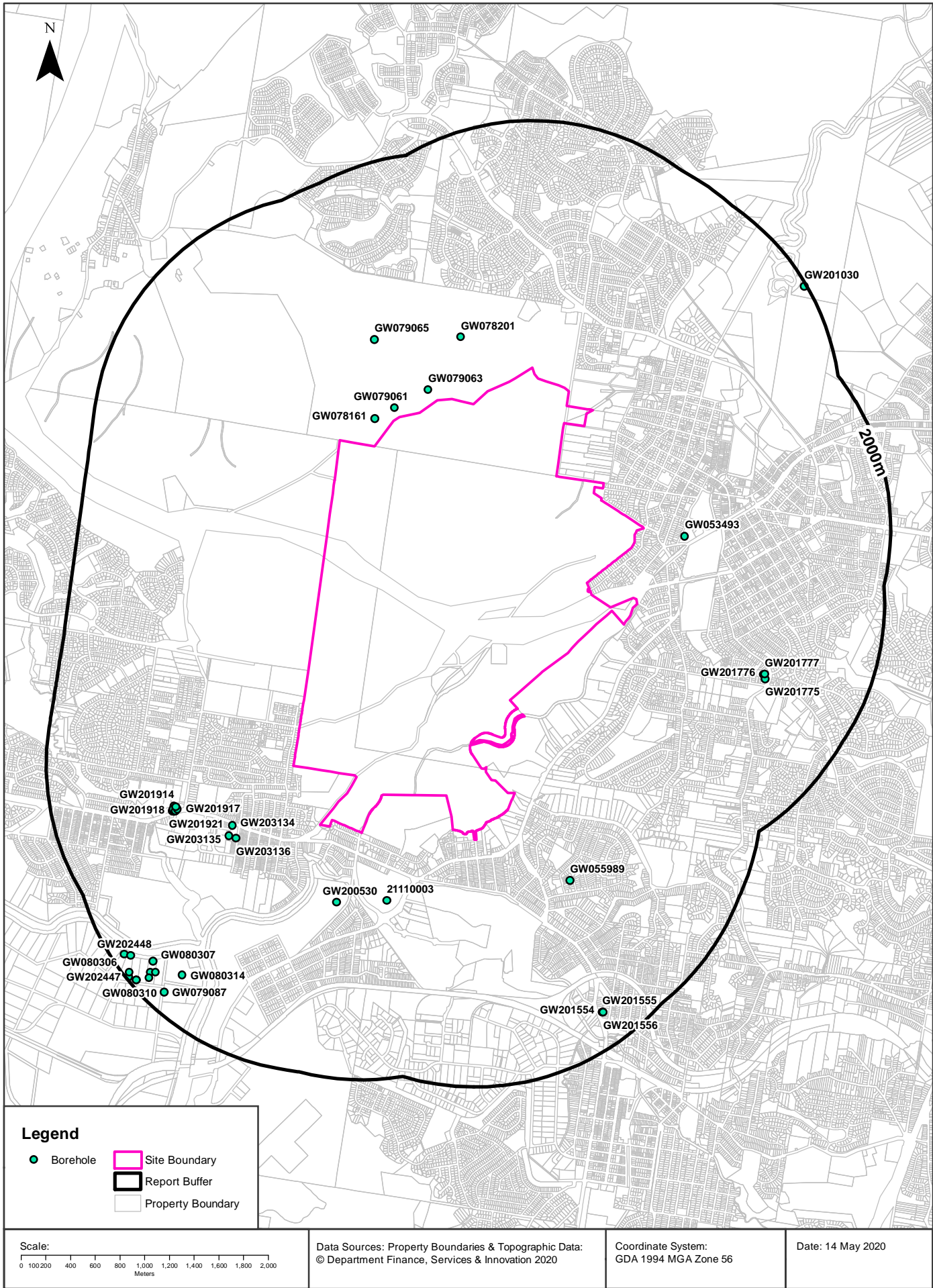
Groundwater management zones relating to the Botany Sand Beds aquifer within the dataset buffer:

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

Botany Groundwater Management Zones Data Source : NSW Department of Primary Industries

Groundwater Boreholes

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



Hydrogeology & Groundwater

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

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)	Yield (L/s)	Elev (AHD)	Dist	Dir
GW079 061	20BL153 300	Bore	Local Govt	Monitoring Bore	Monitoring Bore									83m	North
GW079 063	20BL153 300	Bore	Local Govt	Monitoring Bore	Monitoring Bore		27/10/1993	47.00	47.00					113m	North
GW078 161	20BL153 302	Bore	Local Govt	Monitoring Bore	Monitoring Bore		03/11/1993	84.00	84.00					131m	North West
GW053 493		Bore	Private		Recreation (groundwater r)		01/01/1981	60.00	60.00					340m	East
GW078 201	20BL155 029	Bore	Local Govt	Monitoring Bore	Monitoring Bore		03/11/1993	31.00	31.00		28.0 0	0.300		486m	North
211100 03					UNK								4.81	586m	South
GW200 530	20BL168 111	Bore		Dewatering (groundwater)	Mining		29/10/2001	72.00	72.00					599m	South
GW079 065	20BL153 300	Bore	Local Govt	Monitoring Bore	Monitoring Bore									661m	North
GW203 134	20BL173 693	Bore	Private	Monitoring Bore	Monitoring Bore	Aldi Wallsend - MW01	21/01/2014	10.50	10.50		4.00			690m	South West
GW203 136	20BL173 693	Bore	Private	Monitoring Bore	Monitoring Bore	Aldi Wallsend - MW03	21/01/2014	5.00	5.00					690m	South West
GW203 135	20BL173 693	Bore	Private	Monitoring Bore	Monitoring Bore	Aldi Wallsend - MW02	21/01/2014	7.50	7.50					740m	South West
GW055 989	20BL120 208	Bore	Private	Domestic	Domestic		01/01/1981	12.90	12.90					762m	South East
GW201 917	20BL171 241	Bore	Private	Monitoring Bore	Monitoring Bore		15/03/2007	3.10	3.10		3.00		7.80	1000m	South West
GW201 916	20BL171 241	Bore	Private	Monitoring Bore	Monitoring Bore		15/03/2007	3.50	3.50		3.40		7.80	1009m	South West
GW201 914	20BL171 241	Bore	Private	Monitoring Bore	Monitoring Bore		15/03/2007	4.00	4.00				7.60	1019m	South West
GW201 921	20BL171 241	Bore	Private	Monitoring Bore	Monitoring Bore		23/03/2007	3.50	3.50		2.50		7.60	1020m	South West
GW201 920	20BL171 241	Bore	Private	Monitoring Bore	Monitoring Bore		23/03/2007	3.50	3.50		2.50		7.00	1020m	South West
GW201 915	20BL171 241	Bore	Private	Monitoring Bore	Monitoring Bore		15/03/2007	4.80	4.80		3.10		7.40	1033m	South West
GW201 919	20BL171 241	Bore	Private	Monitoring Bore	Monitoring Bore		23/03/2007	3.50	3.50		2.00		6.50	1034m	South West
GW201 918	20BL171 241	Bore	Private	Monitoring Bore	Monitoring Bore		16/03/2007	4.70	4.70		4.00		6.70	1043m	South West
GW201 776	20BL169 664	Bore	Private	Test Bore	Monitoring Bore		03/02/2005	10.00	10.00		8.60			1171m	East
GW201 777	20BL169 664	Bore	Private	Test Bore	Monitoring Bore		04/02/2005	8.00	8.00					1179m	East
GW201 775	20BL169 664	Bore	Private	Test Bore	Monitoring Bore		04/02/2005	10.00	10.00					1201m	East
GW080 314	20BL168 438	Well		Test Bore			01/01/2001	4.03						1647m	South West
GW201 555	20BL173 044	Bore	Private	Monitoring Bore	Monitoring Bore		28/11/2011	6.00	6.00		1.15			1730m	South

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)	Yield (L/s)	Elev (AHD)	Dist	Dir
GW201 554	20BL173 044	Bore	Private	Monitoring Bore	Monitoring Bore		28/11/2011	4.40	4.40		1.29			1733m	South
GW201 556	20BL173 044	Bore	Private	Monitoring Bore	Monitoring Bore		28/11/2011	5.60	5.60		1.25			1734m	South
GW080 307	20BL168 438	Well		Test Bore			01/01/2001	3.82						1745m	South West
GW079 078		Bore			Monitoring Bore									1788m	South West
GW079 079		Bore			Monitoring Bore									1818m	South West
GW079 087		Bore			Monitoring Bore									1851m	South West
GW080 308	20BL168 438	Well		Test Bore			01/01/2001	4.07						1858m	South West
GW202 448	20BL173 323	Bore	Private	Monitoring Bore	Monitoring Bore		01/07/2010	4.20	4.20		3.79			1861m	South West
GW080 306	20BL168 438	Well		Test Bore			01/01/2001	4.42						1900m	South West
GW080 310	20BL168 438	Well		Test Bore			01/01/2001	4.04						1948m	South West
GW080 309	20BL168 438	Well		Test Bore			01/01/2001	4.10						1949m	South West
GW079 080		Bore			Monitoring Bore									1950m	South West
GW202 447	20BL173 323	Bore	Private	Monitoring Bore	Monitoring Bore		01/07/2010	5.00	5.20		3.26			1975m	South West
GW201 030	20BL172 655	Bore	Other Govt	Monitoring Bore	Monitoring Bore		18/09/2008	2.00	2.00					1982m	North East

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

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

Driller's Logs

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

Groundwater No	Drillers Log	Distance	Direction
GW079063	0.00m-4.00m Topsoil overburden 4.00m-24.00m Sand, siltstone 24.00m-27.00m Coal seam 27.00m-43.00m Sand, fine, siltstone 43.00m-46.00m Coal seam 46.00m-47.00m Siltstone	113m	North
GW078161	0.00m-4.00m Overburden - Surface Coal Pump 4.00m-40.00m Sand - Siltstone (Grey) 40.00m-41.50m Coal Seam 41.50m-57.00m Sand - Siltstone (Grey) Some small fractures 57.00m-60.00m Coal Seam 60.00m-80.00m Sand - Siltstone (Grey) 80.00m-83.00m Coal Seam 83.00m-84.00m Sand - Siltstone (Grey)	131m	North West
GW053493	0.00m-0.20m Topsoil 0.20m-11.80m Clay 11.80m-60.00m Shale Grey	340m	East
GW078201	0.00m-1.50m Overburden & Soil/Clay 1.50m-27.50m Sandstone 27.50m-31.00m Siltstone	486m	North
GW200530	0.00m-7.00m alluvials 7.00m-72.00m no records taken	599m	South
GW203134	0.00m-1.50m Clay, Sandy 1.50m-4.50m Clay; dark to light 4.50m-6.00m Clay; light 6.00m-10.50m Clay; dark	690m	South West
GW203136	0.00m-1.50m Clay; sandy, light 1.50m-4.50m Clay; soft, dark 4.50m-5.00m Clay; soft to hard, dark to light	690m	South West
GW203135	0.00m-1.50m Clay; soft, sandy, light colour 1.50m-3.00m Clay; soft, dark to light 3.00m-4.50m Clay; soft to hard, dark 4.50m-7.50m Clay; hard, dark	740m	South West
GW055989	0.00m-0.10m Topsoil 0.10m-2.80m Clay 2.80m-10.10m Shale 10.10m-12.90m Conglomerate Water Supply	762m	South East
GW201917	0.00m-0.20m Fill; Concrete 0.20m-0.30m Fill; sand, fine-medium gravel, light brown 0.30m-1.00m Sand; clayey, fine-medium sand, low-medium plasticity clay, brown/grey, extremely weathered siltstone 1.00m-3.10m Clay; silty, low-medium plasticity, some fine-medium sand, black, highly weathered, coal, hydrocarbon odour	1000m	South West
GW201916	0.00m-0.70m Sand; gravelly, fine-coarse sand, fine-coarse gravel, grey/light brown, dry (fill) 0.70m-1.25m Siltstone; extremely weathered bedrock, dry, pale grey/brown 1.25m-2.00m Clay; silty, sandy, low-medium plasticity, fine-medium sand, black, highly weathered coal, moist 2.00m-3.50m Sand; silty, fine-medium sand, black, highly weathered coal, moist-wet	1009m	South West
GW201914	0.00m-0.25m Fill; sandy gravel, fine-coarse gravel, firm-medium sand, brown/grey, moist 0.25m-1.00m Siltstone; highly weathered, carbonaceous, brown/grey 1.00m-4.00m Clay; silt, sandy, low-medium plasticity, fine-medium sand, highly weathered coal, dry	1019m	South West
GW201920	0.00m-0.30m Fill; Asphalt, dry 0.30m-0.70m Fill; gravelly sand, fine-coarse sand, grey, fine-coarse gravel, moist 0.70m-1.50m Fill; gravelly sand, fine-coarse sand, grey/brown, fine-coarse gravel, moist 1.50m-2.10m Sandstone; extremely weathered, grey/brown, moist 2.10m-3.50m Coal; highly weathered, silty, sandy, clay, medium, plasticity, black, fine-medium sand & some fine-medium gravel, incre	1020m	South West

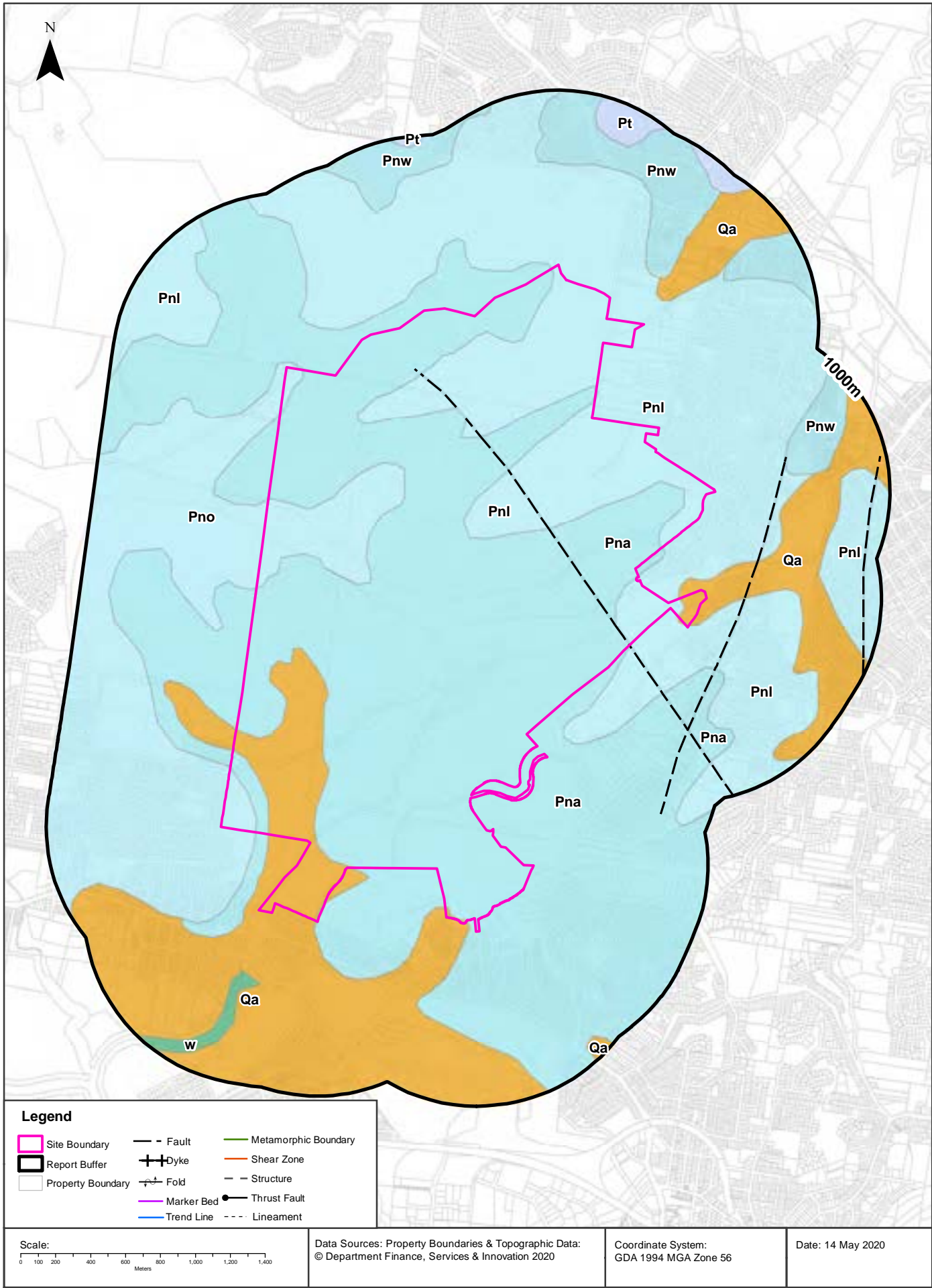
Groundwater No	Drillers Log	Distance	Direction
GW201921	0.00m-0.30m Fill; Asphalt, dry 0.30m-0.70m Fill; gravelly sand, fine-coarse sand, grey, fine-coarse gravel, dry 0.70m-1.50m Fill; gravelly sand, fine-coarse sand, grey/brown, fine-coarse gravel, some low plasticity clay, moist 1.50m-1.80m Clay; gravelly sandy, medium plasticity, orange/brown, fine-coarse sand & gravel, moist 1.80m-3.40m Clay; silty, sandy, moderate plasticity, black, fine-medium sand, highly weathered coal, moist 3.40m-3.50m Sandstone; grey/brown, wet	1020m	South West
GW201915	0.00m-0.20m Fill; Asphalt Rd 0.20m-0.50m Sand; gravelly, fine-coarse sand, fine-coarse gravel, brown grey (fill), dry 0.50m-0.75m Clay; gravelly, (fill), low-medium plasticity, fine-medium gravel, grey/brown, moist 0.75m-2.00m Sandstone, weathered; orange/grey, dry 2.00m-2.75m Gravel; clayey, sandstone, fine-medium gravel, some low-medium plasticity clay, brown/grey, moist, increase moisture @2m 2.75m-4.80m Clay; silty, low-medium plasticity, black, highly weathered coal, wet	1033m	South West
GW201919	0.00m-0.30m Fill; Asphalt, dry 0.30m-0.80m Fill; gravelly sand, fine-coarse sand, fine-coarse gravel, dry 0.80m-1.20m Fill; gravelly sand, fine-coarse sand, brown & grey, fine-coarse gravel, trace low plasticity clay, moist 1.20m-2.00m Clay; residual, gravelly, sandy, low-medium plasticity, brown/orange, fine-medium sand, fine-medium gravel, moist 2.00m-3.30m Coal; highly weathered, silty, sandy clay, medium plasticity, black, fine-medium sand, moist 3.30m-3.50m Sandstone; brown & grey, wet, highly weathered	1034m	South West
GW201918	0.00m-0.20m Fill; Concrete 0.20m-0.50m Fill; sand, coarse, with gravel, dark brown, wet 0.50m-1.00m Sandy Clay; medium plasticity, fine-coarse sand, with some fine gravel, brown, moist, grey @ 0.7m 1.00m-2.20m Sandstone & Weathered Rock; orange & grey, dry 2.20m-3.00m Silty Clay; low-medium plasticity, some fine-medium sand, moist, black 3.00m-4.00m Silty Clay; highly weathered coal, becomes soft @ 3m 4.00m-4.70m Silty Clay; black, slick water @ 4m	1043m	South West
GW201776	0.00m-0.50m Fill; gravel, sand, dry, loose, no odour 0.50m-2.00m Silty Clay; grey, stiff, low plasticity, no odour, damp 2.00m-2.25m Silty Clay; as above, moist, no odour 2.25m-3.50m Sandstone; hard, white/orange, solid flight auger refusal at 2.3m 3.50m-8.00m Sandstone; as above, fractured, grey/brown, dry 8.00m-10.00m Sandstone; as above, wet, water @ 8m	1171m	East
GW201777	0.00m-0.20m Topsoil/Grass 0.20m-1.00m Fill; Gravel, sand, dry, loose, no odour 1.00m-2.00m Silty Clay; grey/brown, stiff, low plasticity, damp, no odour 2.00m-3.00m Silty Clay; as above, sand present 3.00m-3.25m Sandy Clay; dry, orange/grey, loose, no odour, weathered sandstone present 3.25m-6.00m Sandstone; hard, dry, solid flight auger refusal at 3.3m 6.00m-8.00m Sandstone; grey, hard, dry, no odour	1179m	East
GW201775	0.00m-0.15m Fill; Concrete 0.15m-0.50m Fill; gravel, no odour, wet 0.50m-1.00m Fill; as above, clay present 1.00m-2.00m Silty Clay; grey, no odour, damp, stiff 2.00m-2.75m Silty Clay; grey/white, damp, firm, no odour 2.75m-3.00m Sandy Clay; dry/damp, loose, soft, no odour, sandstone present 3.00m-6.00m Sandstone; auger refusal, hard, orange/white, dry, fractured 6.00m-8.00m Sandstone; as above, grey 8.00m-10.00m Sandstone; as above, white, dry	1201m	East
GW201555	0.00m-1.00m Gravel, clayey sandy; loose/moderately dense, brown/orange, less gravel @ 0.2m 1.00m-1.70m Silty Clay; firm/soft, grey 1.70m-2.00m Silty Clay; firm/soft, grey/brown, with orange mottles 2.00m-2.10m Silty Clay; firm/stiff, grey/black 2.10m-2.50m Gravel, silty clayey; dense, grey, possible ash & slag 2.50m-2.70m Gravel, silty, clayey; dense, orange 2.70m-3.00m Gravel, silty clayey; dense, grey 3.00m-6.00m Silty Clay; soft, grey, with minor gravel (shale fragments)	1730m	South
GW201554	0.00m-1.00m Gravel, sandy, loose, moderately dense, orange, clayey, less gravelly @ 0.2m 1.00m-2.10m Sandy Clay, Silty, firm, orange/grey 2.10m-4.40m Silty Clay; firm, grey, with orange mottles	1733m	South
GW201556	0.00m-0.20m Gravel; loose, orange 0.20m-0.70m Gravel, sandy clayey; loose/moderately dense, orange 0.70m-1.00m Silty Clay; firm, black/brown, with charcoal 1.00m-2.10m Silty Clay; soft, grey, becoming darker @ 1.5m 2.10m-2.50m Sand, gravelly, clayey; moderately dense, grey 2.50m-5.60m Silty Clay; firm/soft, grey, with orange mottles	1734m	South

Groundwater No	Drillers Log	Distance	Direction
GW202448	0.00m-0.20m Fill, Sand; medium dense, slightly moist, dark brown, contains gravel & roots 0.20m-0.50m Fill, Gravel; very loose, slightly moist, grey & black 0.50m-0.90m Sand; medium dense, slightly moist, dark brown, fine grained 0.90m-1.30m Sand; as above, becomes grey-brown 1.30m-2.40m Sand; as above, becomes grey with minor orange staining 2.40m-2.60m Sand; as above, becomes very moist to saturated, slight organic odour 2.60m-3.30m Sand; as above, strong organic odour notes from 2.5m, becomes saturated @ 2.6m 3.30m-3.50m Sandy Clay; soft, saturated, high plasticity, grey-brown, organic odour 3.50m-3.60m Clayey sand; loose, saturated, low plasticity, grey, strong organic odour 3.60m-4.20m Sand; loose, saturated, grey, strong organic odour	1861m	South West
GW202447	0.00m-0.50m Fill, Clayey Sand; medium dense, slightly moist, low plasticity, grey-brown, contains wood & leaves 0.50m-0.90m Fill, Gravel; slightly moist, black stained gravels, HC odour 0.90m-1.70m Sandy Clay; medium stiff, slightly moist, medium plasticity, grey-brown, slight HC odour 1.70m-2.20m Sand; very loose, very moist, grey-brown, HC odour 2.20m-3.00m Sand; as above, grey, HC odour, becomes saturated @ 2.2m 3.00m-3.80m Sand; as above, black staining & potential HC visible from 3.0-3.2m 3.80m-4.70m Sandy Clay; medium stiff, saturated, HC odour 4.70m-5.20m Clay; high plasticity, moist, no odour	1975m	South West

Drill Log Data Source: NSW Department of Primary Industries - Office of Water / Water Administration Ministerial Corp
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Geology 1:250,000

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



Geology

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

Geological Units

What are the Geological Units onsite?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Pna	Conglomerate, sandstone, siltstone, coal, tuff		Newcastle Coal Measures		Palaeozoic			1:250,000
Pnl	Sandstone, siltstone, claystone, coal, tuff	Lambton Subgroup	Newcastle Coal Measures	Lambton Subgroup	Palaeozoic			1:250,000
Pno	Sandstone, conglomerate, siltstone, coal, tuff	Boolaroo Subgroup	Newcastle Coal Measures	Boolaroo Subgroup	Palaeozoic			1:250,000
Qa	Undifferentiated alluvial deposits; sand, silt, clay and gravel; some residual and colluvial deposits. Includes some channel, levee, lacustrine, floodplain and swamp deposits. May include some higher level Tertiary terraces	undifferentiated			Cainozoic			1:250,000

What are the Geological Units within the dataset buffer?

Symbol	Description	Unit Name	Group	Sub Group	Age	Dom Lith	Map Sheet	Dataset
Pna	Conglomerate, sandstone, siltstone, coal, tuff		Newcastle Coal Measures		Palaeozoic			1:250,000
Pnl	Sandstone, siltstone, claystone, coal, tuff	Lambton Subgroup	Newcastle Coal Measures	Lambton Subgroup	Palaeozoic			1:250,000
Pno	Sandstone, conglomerate, siltstone, coal, tuff	Boolaroo Subgroup	Newcastle Coal Measures	Boolaroo Subgroup	Palaeozoic			1:250,000
Pnw	Sandstone	Waratah Sandstone	Newcastle Coal Measures		Palaeozoic			1:250,000
Pt	Siltstone, sandstone, coal, tuff, claystone, conglomerate, minor clay	Tomago Coal Measures	Tomago Coal Measures		Palaeozoic			1:250,000
Qa	Undifferentiated alluvial deposits; sand, silt, clay and gravel; some residual and colluvial deposits. Includes some channel, levee, lacustrine, floodplain and swamp deposits. May include some higher level Tertiary terraces	undifferentiated			Cainozoic			1:250,000
w	Water				Cainozoic			1:250,000

Geological Structures

What are the Geological Structures onsite?

Feature	Name	Description	Map Sheet	Dataset
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000

What are the Geological Structures within the dataset buffer?

Feature	Name	Description	Map Sheet	Dataset
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Concealed	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000
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Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000
Fault		Fault, Accurate	Bohena	1:250,000

Geological Data Source : NSW Department of Industry, Resources & Energy
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Naturally Occurring Asbestos Potential

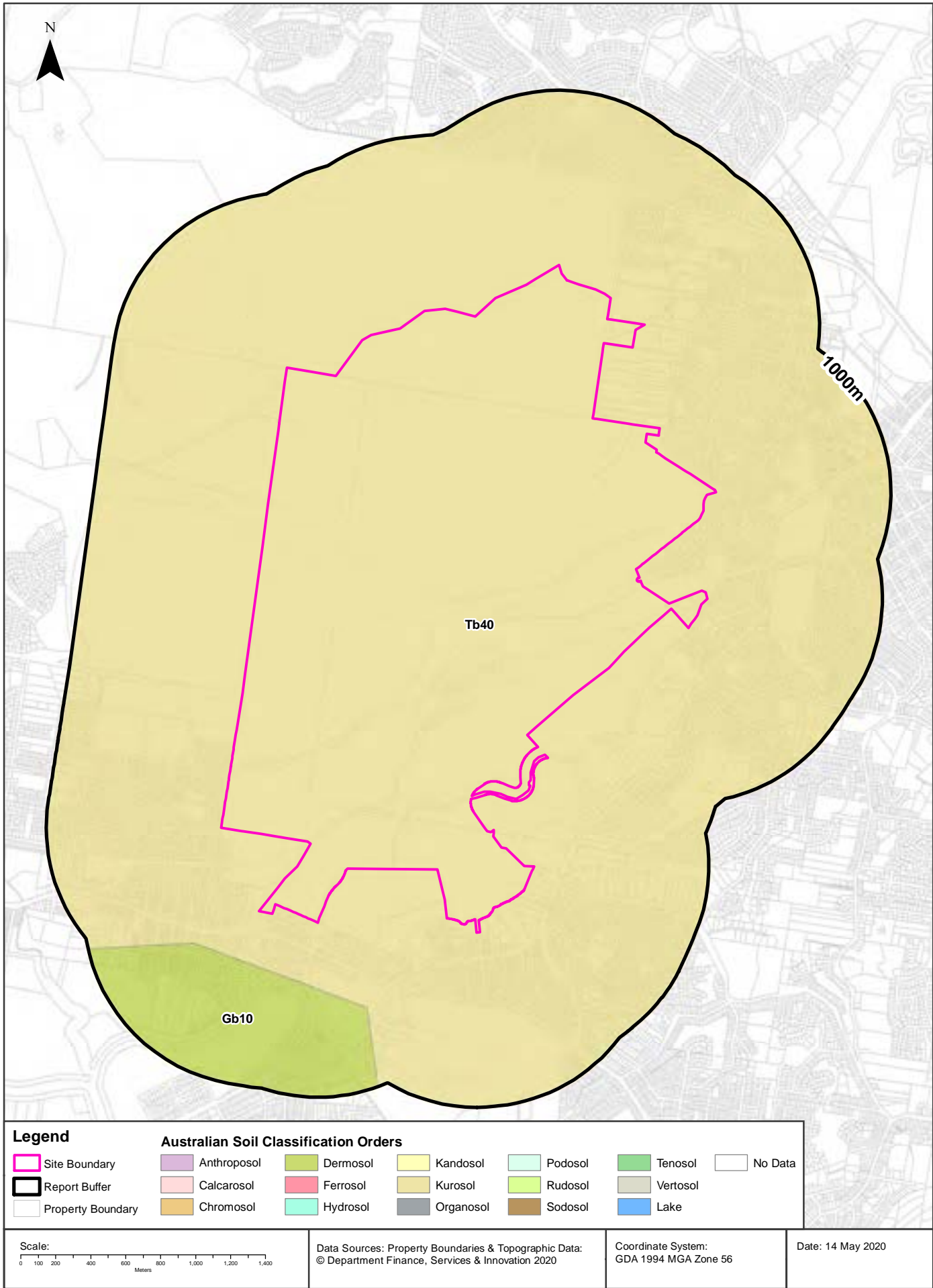
Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

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



Soils

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

Atlas of Australian Soils

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

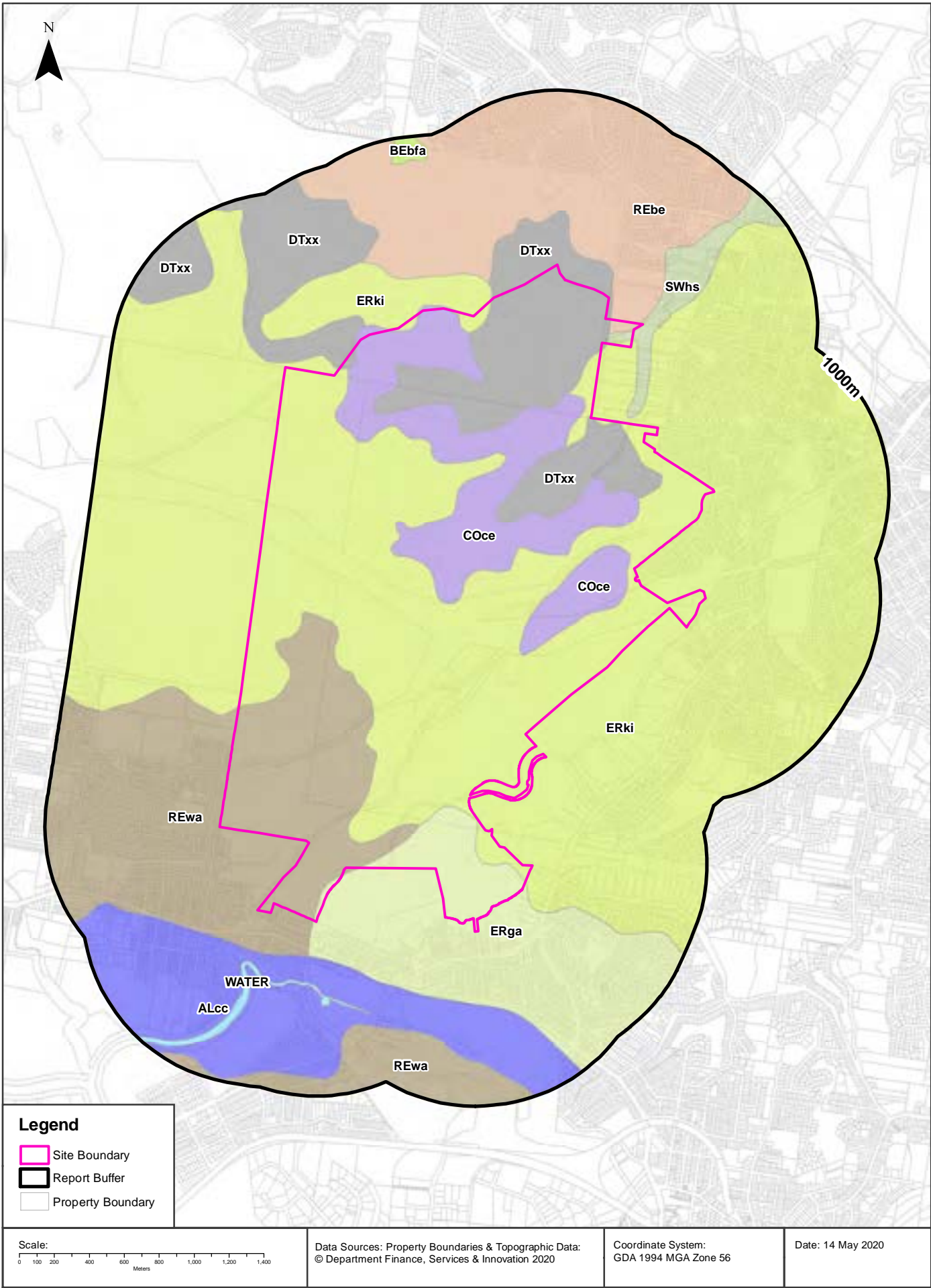
Map Unit Code	Soil Order	Map Unit Description	Distance
Tb40	Kurosol	Undulating to hilly areas with some steep slopes and cliffs, rock outcrops, and narrow terraced valleys: chief soils are hard acidic yellow mottled soils (Dy3.41) with some shallow soils such as (Um4.1) and (Uc4.1) on the steeper slopes. Associated are: (Gn2.2) soils and (Dd1) soils, both of which occur on slopes; undescribed soils in the valleys; and some (Dy5) and (Uc1 .2) soils along the coast. As mapped, small areas of units Gb10 and Cb28 are included.	0m
Gb10	Dermosol	River terraces, levees, flood-plains, coastal swamps, and tidal flats: this unit contains the same land forms and soils as unit Gb9, but in addition has (i) swamps and levees of the lower river flood-plain of (Uf6.6), (Ug5), and other undescribed soils; (ii) estuarine flats of peaty or organic soils over acid clays; and (iii) tidal mud flats. The soils of these areas are not well known but probably have similarities with the soils of units J3, Mc4, NY1, and NN1. The smaller areas mapped as unit Gb10 consist mainly of areas of (i) and/or (iii) above.	302m

Atlas of Australian Soils Data Source: CSIRO

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Soil Landscapes

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



Soils

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

Soil Landscapes

What are the onsite Soil Landscapes?

Soil Code	Name	Group	Process	Map Sheet	Scale
COce	CEDAR HILL		COLLUVIAL	Newcastle	1:100,000
DTxx	DISTURBED TERRAIN		DISTURBED TERRAIN	Newcastle	1:100,000
ERga	GATESHEAD		EROSIONAL	Newcastle	1:100,000
ERki	KILLINGWORTH		EROSIONAL	Newcastle	1:100,000
REbe	BERESFIELD		RESIDUAL	Newcastle	1:100,000
REwa	WARNERS BAY		RESIDUAL	Newcastle	1:100,000
SWhs	HEXHAM SWAMP		SWAMP	Newcastle	1:100,000

What are the Soil Landscapes within the dataset buffer?

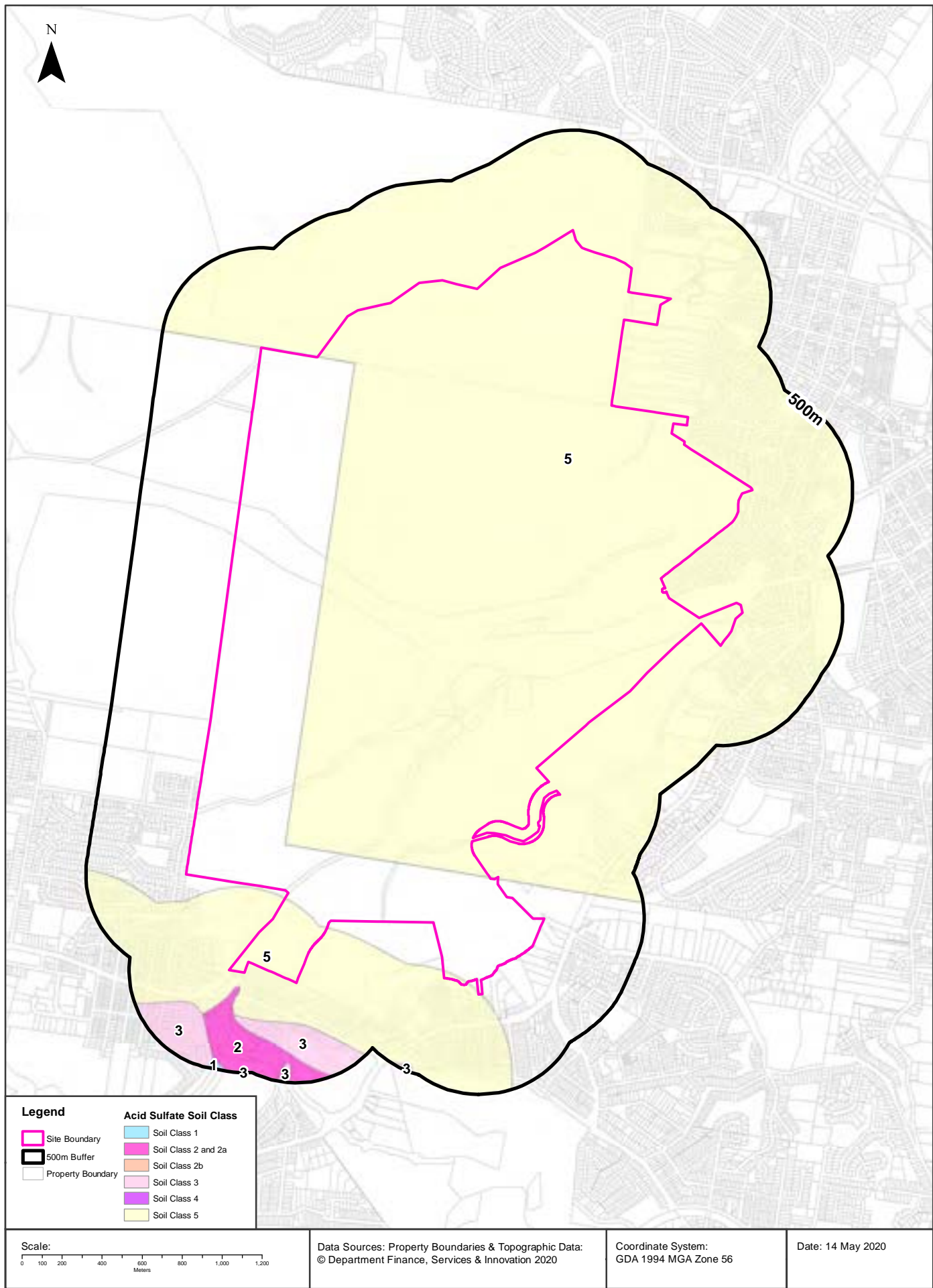
Soil Code	Name	Group	Process	Map Sheet	Scale
ALcc	COCKLE CREEK		ALLUVIAL	Newcastle	1:100,000
BEbfa	BOBS FARM variant a		BEACH	Newcastle	1:100,000
COce	CEDAR HILL		COLLUVIAL	Newcastle	1:100,000
DTxx	DISTURBED TERRAIN		DISTURBED TERRAIN	Newcastle	1:100,000
ERga	GATESHEAD		EROSIONAL	Newcastle	1:100,000
ERki	KILLINGWORTH		EROSIONAL	Newcastle	1:100,000
REbe	BERESFIELD		RESIDUAL	Newcastle	1:100,000
REwa	WARNERS BAY		RESIDUAL	Newcastle	1:100,000
SWhs	HEXHAM SWAMP		SWAMP	Newcastle	1:100,000
WATER	WATER		WATER	Newcastle	1:100,000

Soils Landscapes Data Source : NSW Office of Environment and Heritage

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Acid Sulfate Soils

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



Acid Sulfate Soils

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

Environmental Planning Instrument - Acid Sulfate Soils

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

Soil Class	Description	EPI Name
5	Works within 500 metres of adjacent Class 1, 2, 3, or 4 land that is below 5 metres AHD and by which the watertable is likely to be lowered below 1 metre AHD on adjacent Class 1, 2, 3 or 4 land, present an environmental risk	Lake Macquarie Local Environmental Plan 2014
5	Works within 500 metres of adjacent Class 1, 2, 3, or 4 land that is below 5 metres AHD and by which the watertable is likely to be lowered below 1 metre AHD on adjacent Class 1, 2, 3 or 4 land, present an environmental risk	Newcastle Local Environmental Plan 2012

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

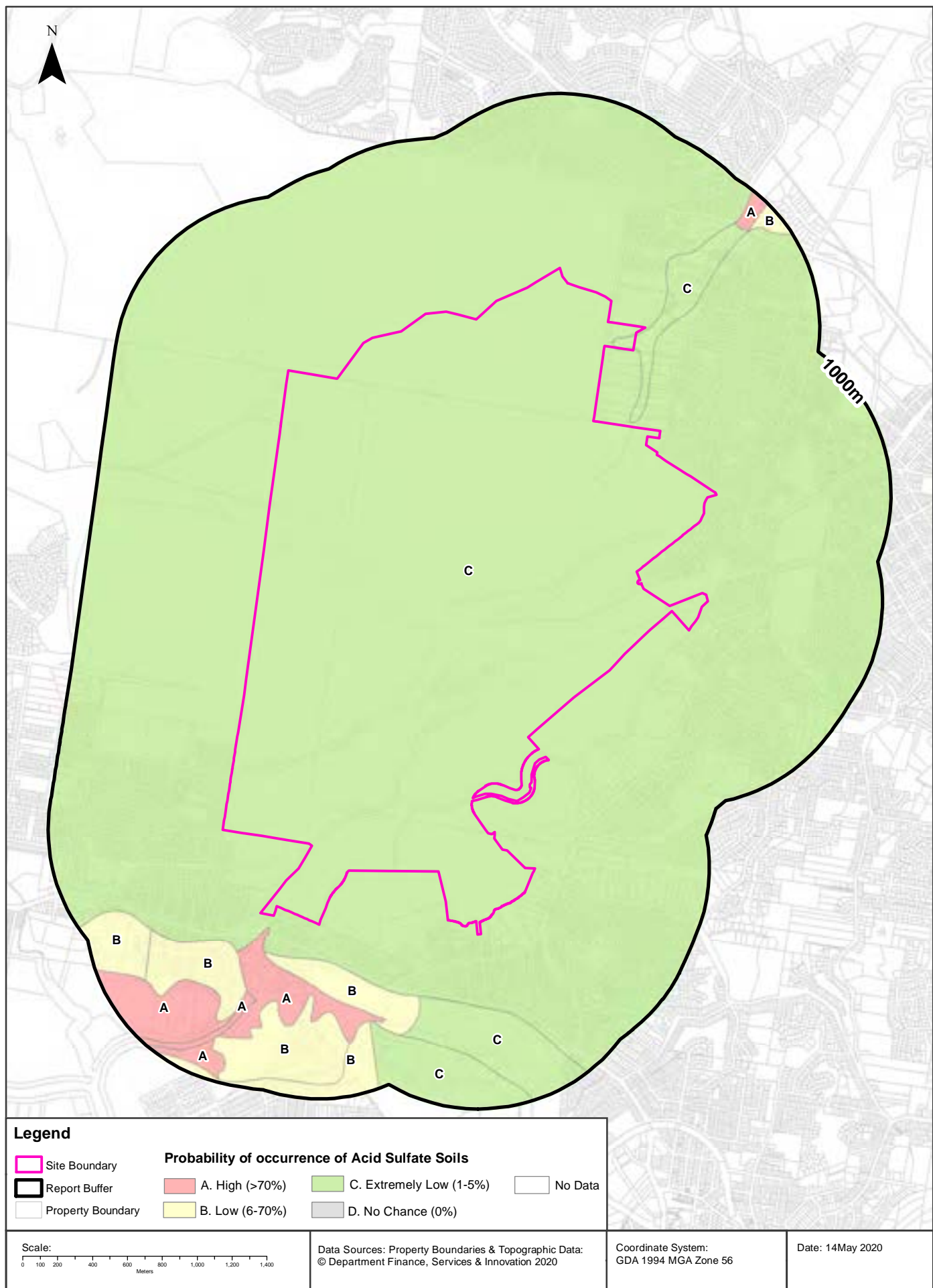
Soil Class	Description	EPI Name	Distance	Direction
2	Works below natural ground surface present an environmental risk; Works by which the watertable is likely to be lowered present an environmental risk	Lake Macquarie Local Environmental Plan 2014	73m	South West
3	Works more than 1 metre below natural ground surface present an environmental risk; Works by which the watertable is likely to be lowered more than 1 metre below natural ground surface, present an environmental risk	Lake Macquarie Local Environmental Plan 2014	203m	South
1	Any works present an environmental risk	Lake Macquarie Local Environmental Plan 2014	451m	South West

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Atlas of Australian Acid Sulfate Soils

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



Acid Sulfate Soils

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

Atlas of Australian Acid Sulfate Soils

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

Class	Description	Distance
C	Extremely low probability of occurrence. 1-5% chance of occurrence with occurrences in small localised areas.	0m
A	High Probability of occurrence. >70% chance of occurrence.	72m
B	Low Probability of occurrence. 6-70% chance of occurrence.	203m

Atlas of Australian Acid Sulfate Soils Data Source: CSIRO

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Dryland Salinity

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

Dryland Salinity - National Assessment

Is there Dryland Salinity - National Assessment data onsite?

No

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

No

What Dryland Salinity assessments are given?

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

Dryland Salinity Data Source : National Land and Water Resources Audit

The Commonwealth and all suppliers of source data used to derive the maps of "Australia, Forecast Areas Containing Land of High Hazard or Risk of Dryland Salinity from 2000 to 2050" do not warrant the accuracy or completeness of information in this product. Any person using or relying upon such information does so on the basis that the Commonwealth and data suppliers shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information. Any persons using this information do so at their own risk.

In many cases where a high risk is indicated, less than 100% of the area will have a high hazard or risk.

Dryland Salinity Potential of Western Sydney

Dryland Salinity Potential of Western Sydney within the dataset buffer?

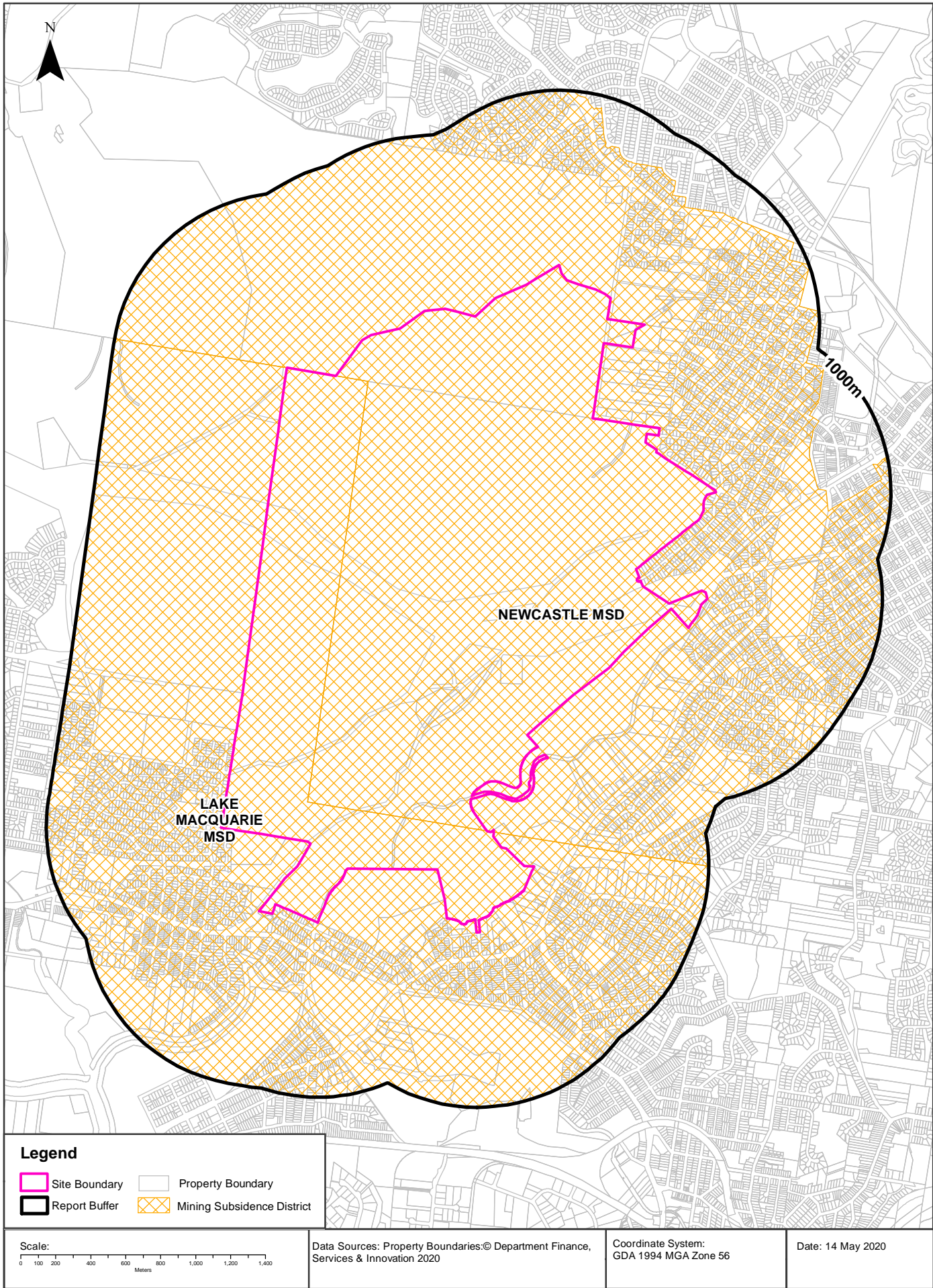
Feature Id	Classification	Description	Distance	Direction
N/A	Outside Data Coverage			

Dryland Salinity Potential of Western Sydney Data Source : NSW Office of Environment and Heritage

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Mining Subsidence Districts

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



Mining Subsidence Districts

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

Mining Subsidence Districts

Mining Subsidence Districts within the dataset buffer:

District	Distance	Direction
LAKE MACQUARIE	0m	Onsite
NEWCASTLE	0m	Onsite

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

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

State Significant Precincts

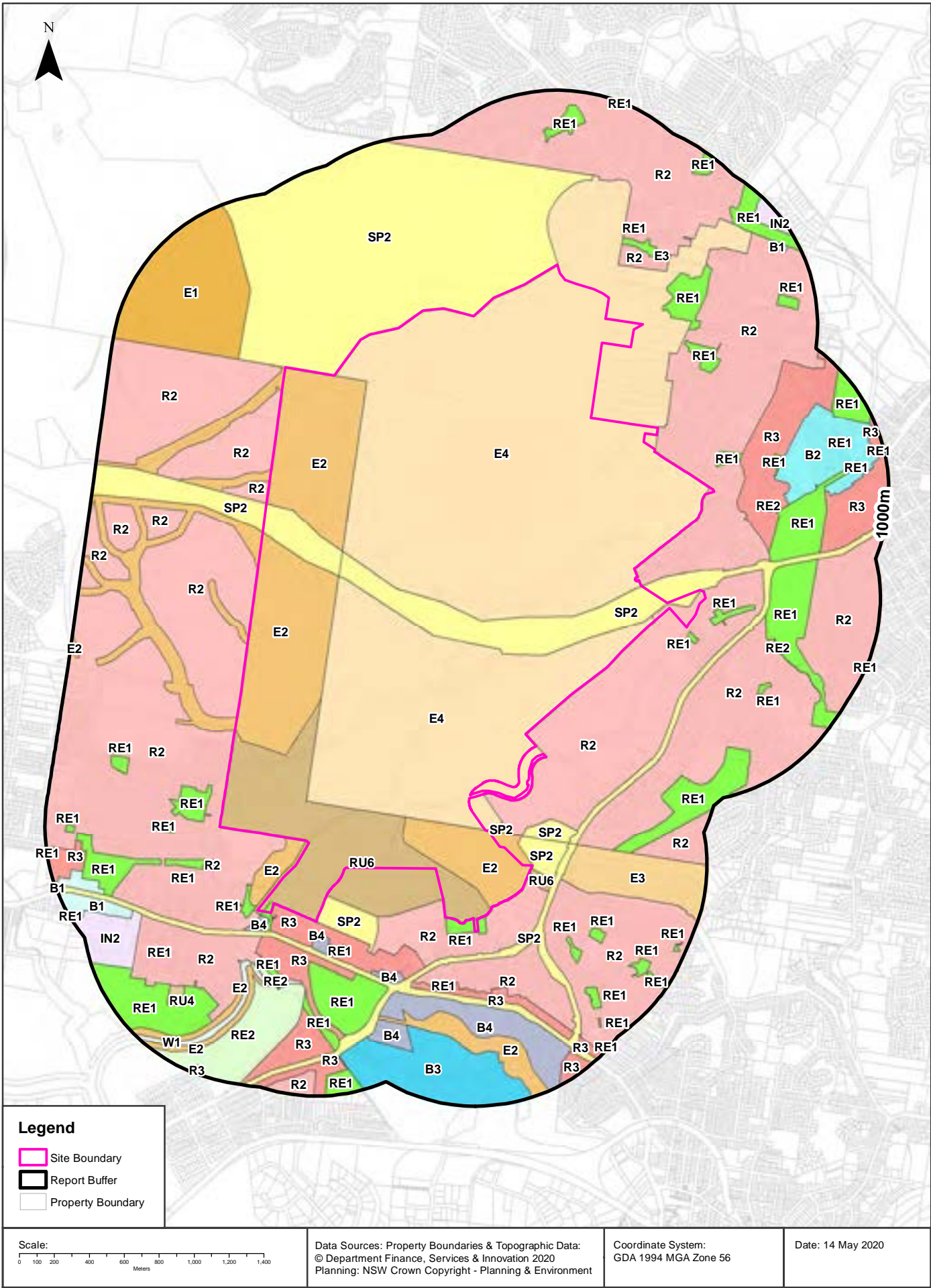
What SEPP State Significant Precincts exist within the dataset buffer?

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
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EPI Planning Zones

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



Environmental Planning Instrument

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

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
E4	Environmental Living		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		0m	Onsite
E2	Environmental Conservation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		0m	Onsite
RU6	Transition		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		0m	Onsite
SP2	Infrastructure	Classified Road	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		0m	Onsite
SP2	Infrastructure	Infrastructure	Lake Macquarie Local Environmental Plan 2014	23/12/2016	23/12/2016	06/12/2019	Amendment No 16	0m	Onsite
R2	Low Density Residential		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		0m	North East
R2	Low Density Residential		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		0m	North West
R3	Medium Density Residential		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		0m	South
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		0m	South
SP2	Infrastructure	Educational Establishment	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		0m	South
SP2	Infrastructure	Infrastructure	Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		0m	South
SP2	Infrastructure	Water Resource Management	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		0m	North
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		20m	South West
R2	Low Density Residential		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		21m	North West
B4	Mixed Use		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		26m	South West
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		32m	East
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		60m	South West
B4	Mixed Use		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		63m	South
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		81m	East
SP2	Infrastructure	Educational Establishment	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		116m	South East
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		117m	North East
R3	Medium Density Residential		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		138m	South
R3	Medium Density Residential		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		138m	North East
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		141m	North East
R2	Low Density Residential		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		142m	South West
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		148m	South
R2	Low Density Residential		Lake Macquarie Local Environmental Plan 2014	23/12/2016	23/12/2016	06/12/2019	Amendment No 16	163m	South

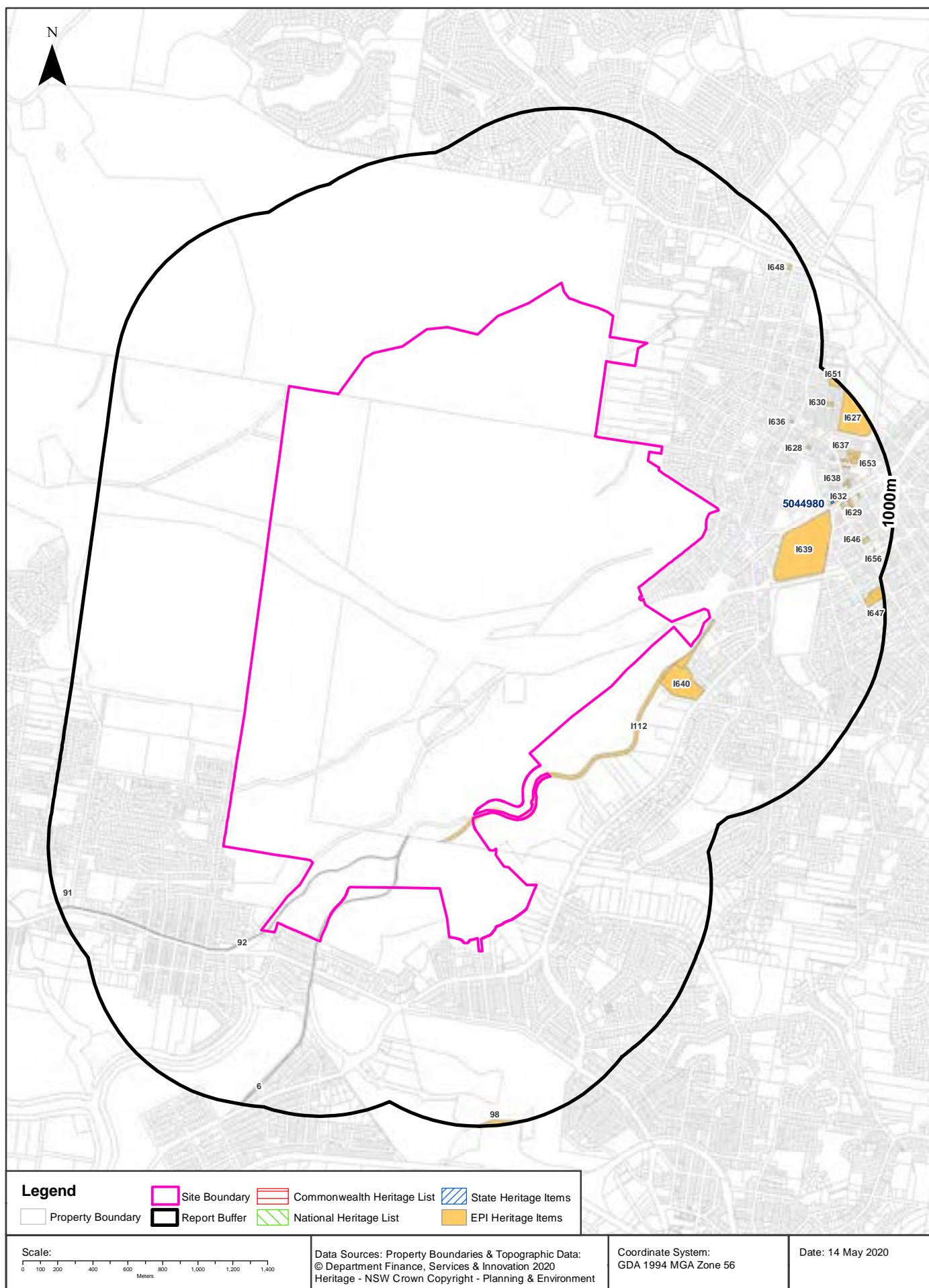
Zone	Description	Purpose	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
R2	Low Density Residential		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		177m	South East
E3	Environmental Management		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		180m	South East
R2	Low Density Residential		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		184m	North East
R2	Low Density Residential		Lake Macquarie Local Environmental Plan 2014	17/07/2015	17/07/2015	06/12/2019	Amendment No 2	194m	South West
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		201m	South West
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		230m	South
R2	Low Density Residential		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		255m	East
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		261m	South West
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		261m	North East
E1	National Parks and Nature Reserves		Newcastle Local Environmental Plan 2012	01/03/2013	01/03/2013	13/09/2019	State Environmental Planning Policy Amendment (Minmi-Newcastle Link Road) 2013	273m	North West
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		279m	South West
RE2	Private Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		290m	South West
W1	Natural Waterways		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		290m	South West
RE2	Private Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		292m	East
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		298m	North East
R3	Medium Density Residential		Lake Macquarie Local Environmental Plan 2014	23/12/2016	23/12/2016	06/12/2019	Amendment No 16	308m	South
E2	Environmental Conservation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		315m	South West
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		326m	South
R2	Low Density Residential		Newcastle Local Environmental Plan 2012	12/07/2019	12/07/2019	13/09/2019	Amendment No 39	337m	North
B2	Local Centre		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		350m	East
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		350m	East
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		351m	East
E3	Environmental Management		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		352m	North East
RE2	Private Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		363m	South West
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		371m	East
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		373m	South
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		386m	South West
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		387m	South
B4	Mixed Use		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		407m	South
B4	Mixed Use		Lake Macquarie Local Environmental Plan 2014	23/12/2016	23/12/2016	06/12/2019	Amendment No 16	409m	South
E2	Environmental Conservation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		432m	South West
R2	Low Density Residential		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		446m	West

Zone	Description	Purpose	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		454m	South East
RE2	Private Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		454m	East
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		466m	South East
E2	Environmental Conservation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		492m	South
R3	Medium Density Residential		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		493m	South
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		532m	East
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		534m	South West
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		571m	South West
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		573m	South West
RU4	Primary Production Small Lots		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		606m	South West
B3	Commercial Core		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		614m	South
R3	Medium Density Residential		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		628m	East
B4	Mixed Use		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		656m	South
IN2	Light Industrial		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		664m	South West
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		667m	South
B1	Neighbourhood Centre		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		689m	South West
R2	Low Density Residential		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		693m	West
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		699m	North
R2	Low Density Residential		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		717m	West
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		748m	East
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		748m	South East
B1	Neighbourhood Centre		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		749m	South West
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		769m	North East
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		770m	North East
R3	Medium Density Residential		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		776m	South West
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		782m	South
R3	Medium Density Residential		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		783m	South
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		801m	North East
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		808m	East
R3	Medium Density Residential		Lake Macquarie Local Environmental Plan 2014	23/12/2016	23/12/2016	06/12/2019	Amendment No 16	824m	South
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		829m	South West
B1	Neighbourhood Centre		Newcastle Local Environmental Plan 2012	28/11/2014	28/11/2014	13/09/2019	Amendment No 9	843m	North East
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		846m	South
R2	Low Density Residential		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		853m	South

Zone	Description	Purpose	EPI Name	Published Date	Commenced Date	Currency Date	Amendment	Distance	Direction
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		856m	South East
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		858m	North East
IN2	Light Industrial		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		860m	North East
R3	Medium Density Residential		Lake Macquarie Local Environmental Plan 2014	23/12/2016	23/12/2016	06/12/2019	Amendment No 16	867m	South
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		931m	South East
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		936m	East
R3	Medium Density Residential		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		951m	South West
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		975m	South
RE1	Public Recreation		Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	06/12/2019		979m	West
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		985m	North
RE1	Public Recreation		Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	13/09/2019		991m	East

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Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



Heritage

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

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
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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
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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
5044980	Railway Goods Shed	76 Cowper Street Wallsend	Newcastle	02/04/1999	00739	1801	643m	East

Heritage Data Source: NSW Crown Copyright - Office of Environment & Heritage
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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
I112	Former West Wallsend Steam Tram Line	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	0m	Onsite
92	West Wallsend Steam Tram Line	Item - General	Local	Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	24/11/2017	0m	Onsite
6	Speers Point Steam Tram Line	Item - General	Local	Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	24/11/2017	0m	South

Map Id	Name	Classification	Significance	EPI Name	Published Date	Commenced Date	Currency Date	Distance	Direction
I640	Woodlands House	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	122m	East
I639	Wallsend Park	Item - Landscape	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	394m	East
I628	Rm Evans Funeral Chapel	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	610m	North East
I632	Railway Goods Shed	Item - General	State	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	630m	East
I636	Wallsend Fire Station	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	644m	North East
I635	Colliery Inn	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	690m	East
I644	Wallsend Masonic Hall	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	715m	East
I645	Newcastle Muslim Association (Building)	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	722m	East
I650	St Andrews Presbyterian Church	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	723m	East
I634	Stables	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	726m	East
I633	Terminus Hotel	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	735m	East
I649	Lemon Grove Hotel	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	743m	East
I655	Wallsend Precinct - Public Reserve (Wallsend Rotunda Park)	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	748m	East
I638	Former Grapes Inn	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	748m	East
I629	Clarens House	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	749m	East
I631	Former School Of Arts (Fellowship House)	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	790m	East
I654	Wallsend Precinct - Post Office	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	798m	East
I637	Wallsend Precinct - Courthouse	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	800m	East
I653	Wallsend Precinct - Police Station	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	801m	East
I627	Federal Park	Item - Landscape	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	815m	North East
I646	St Lukes Anglican Church	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	831m	East
I630	Clarke Street Cottages	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	856m	North East
I647	Wallsend Public School	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	880m	East
I648	Racecourse Hotel	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	900m	North East

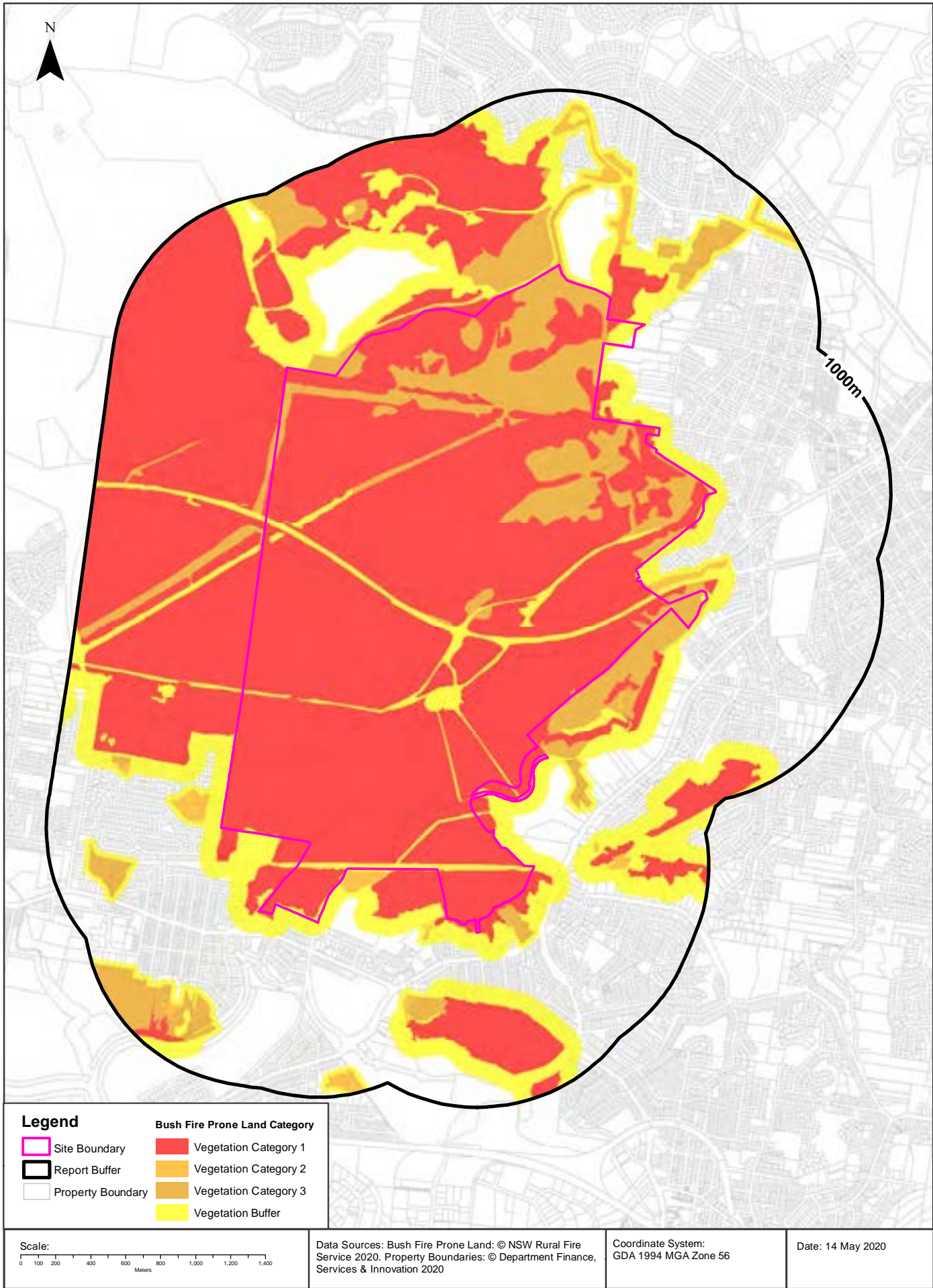
Map Id	Name	Classification	Significance	EPI Name	Published Date	Commenced Date	Currency Date	Distance	Direction
I656	Whitton Street Postal Pillar Box	Item - General	Local	Newcastle Local Environmental Plan 2012	08/07/2016	08/07/2016	27/03/2020	909m	East
91	School Teacher's Residence	Item - General	Local	Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	24/11/2017	920m	South West
I651	Plattsburg Public School	Item - General	Local	Newcastle Local Environmental Plan 2012	15/06/2012	15/06/2012	27/03/2020	947m	North East
98	Cardiff Railway Workshops	Item - General	Local	Lake Macquarie Local Environmental Plan 2014	12/09/2014	10/10/2014	24/11/2017	965m	South

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Natural Hazards - Bush Fire Prone Land

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



Natural Hazards

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

Bush Fire Prone Land

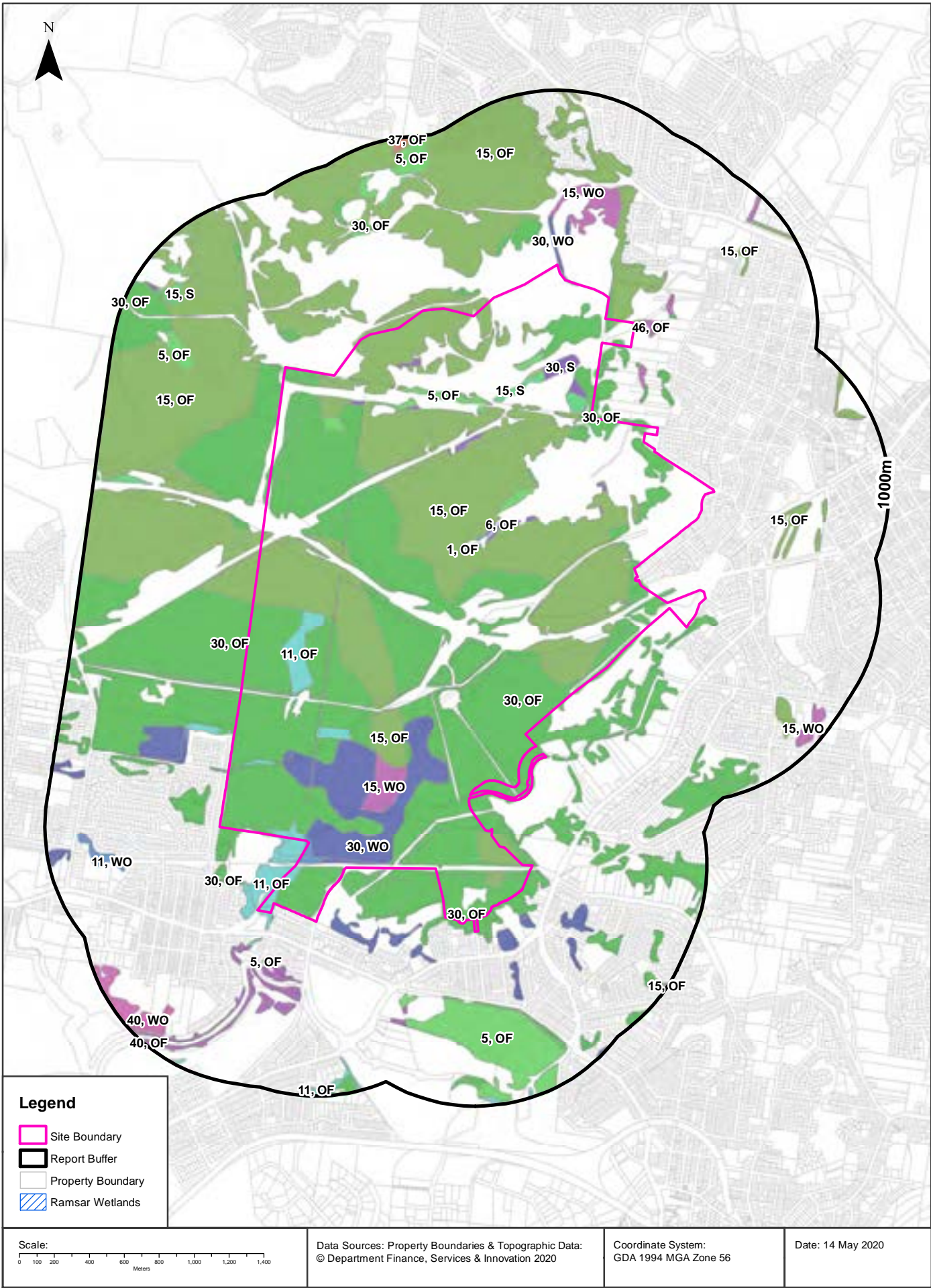
What are the nearest Bush Fire Prone Land Categories that exist within the dataset buffer?

Bush Fire Prone Land Category	Distance	Direction
Vegetation Buffer	0m	Onsite
Vegetation Category 1	0m	Onsite
Vegetation Category 2	0m	Onsite
Vegetation Category 3	0m	Onsite

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

Ecological Constraints - Vegetation & Ramsar Wetlands

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



Ecological Constraints

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

Lower Hunter and Central Coast Regional Vegetation Survey

What vegetation from the Lower Hunter and Central Coast Regional Survey exists within the dataset buffer?

Map Id	Unit Desc	Canopy Code	Canopy Cover	Species	Distance	Direction
30	Coastal Plains Smooth-barked Apple Woodland	OF	Mid Dense (Open Forest) 50- <100% cover	A. costata / C. gummifera / E. capitellata / E. umbra	0m	Onsite
15	Coastal Foothills Spotted Gum - Ironbark Forest	OF	Mid Dense (Open Forest) 50- <100% cover	C. maculata / E. umbra / E. siderophloia	0m	Onsite
30	Coastal Plains Smooth-barked Apple Woodland	WO	Sparse (Woodland) 20-<50% cover	A. costata / C. gummifera / E. capitellata / E. umbra	0m	Onsite
11	Coastal Sheltered Apple - Peppermint Forest	OF	Mid Dense (Open Forest) 50- <100% cover	A. costata / E. piperita	0m	Onsite
15	Coastal Foothills Spotted Gum - Ironbark Forest	WO	Sparse (Woodland) 20-<50% cover	C. maculata / E. umbra / E. siderophloia	0m	Onsite
5	Alluvial Tall Moist Forest	OF	Mid Dense (Open Forest) 50- <100% cover	E. saligna / S. glomulifera / Glochidion ferdinandi	0m	Onsite
15	Coastal Foothills Spotted Gum - Ironbark Forest	S	Scrub	C. maculata / E. umbra / E. siderophloia	0m	Onsite
30	Coastal Plains Smooth-barked Apple Woodland	S	Scrub	A. costata / C. gummifera / E. capitellata / E. umbra	0m	Onsite
11	Coastal Sheltered Apple - Peppermint Forest	WO	Sparse (Woodland) 20-<50% cover	A. costata / E. piperita	0m	Onsite
6	Coastal Narrabeen Moist Forest	OF	Mid Dense (Open Forest) 50- <100% cover	S. glomulifera / E. saligna / E. acmenoides	0m	Onsite
46	Freshwater Wetland Complex	OF	Mid Dense (Open Forest) 50- <100% cover	Ludwigia peploides subsp montevidensis / Paspalum distichum / Eleocharis sphacelata / Juncus usitatus	0m	Onsite
5	Alluvial Tall Moist Forest	S	Scrub	E. saligna / S. glomulifera / Glochidion ferdinandi	0m	Onsite
1	Coastal Wet Gully Forest	OF	Mid Dense (Open Forest) 50- <100% cover	S. glomulifera / E. saligna / Acmena smithii / Guioa semiglaucula	0m	Onsite
40	Swamp Oak Rushland Forest	OF	Mid Dense (Open Forest) 50- <100% cover	C. glauca / Melaleuca ericifolia / Baumea juncea	204m	South West
40	Swamp Oak Rushland Forest	WO	Sparse (Woodland) 20-<50% cover	C. glauca / Melaleuca ericifolia / Baumea juncea	740m	South West
37	Swamp Mahogany - Paperbark Forest	OF	Mid Dense (Open Forest) 50- <100% cover	Melaleuca quinquinervia / E. robusta / C. glauca	901m	North

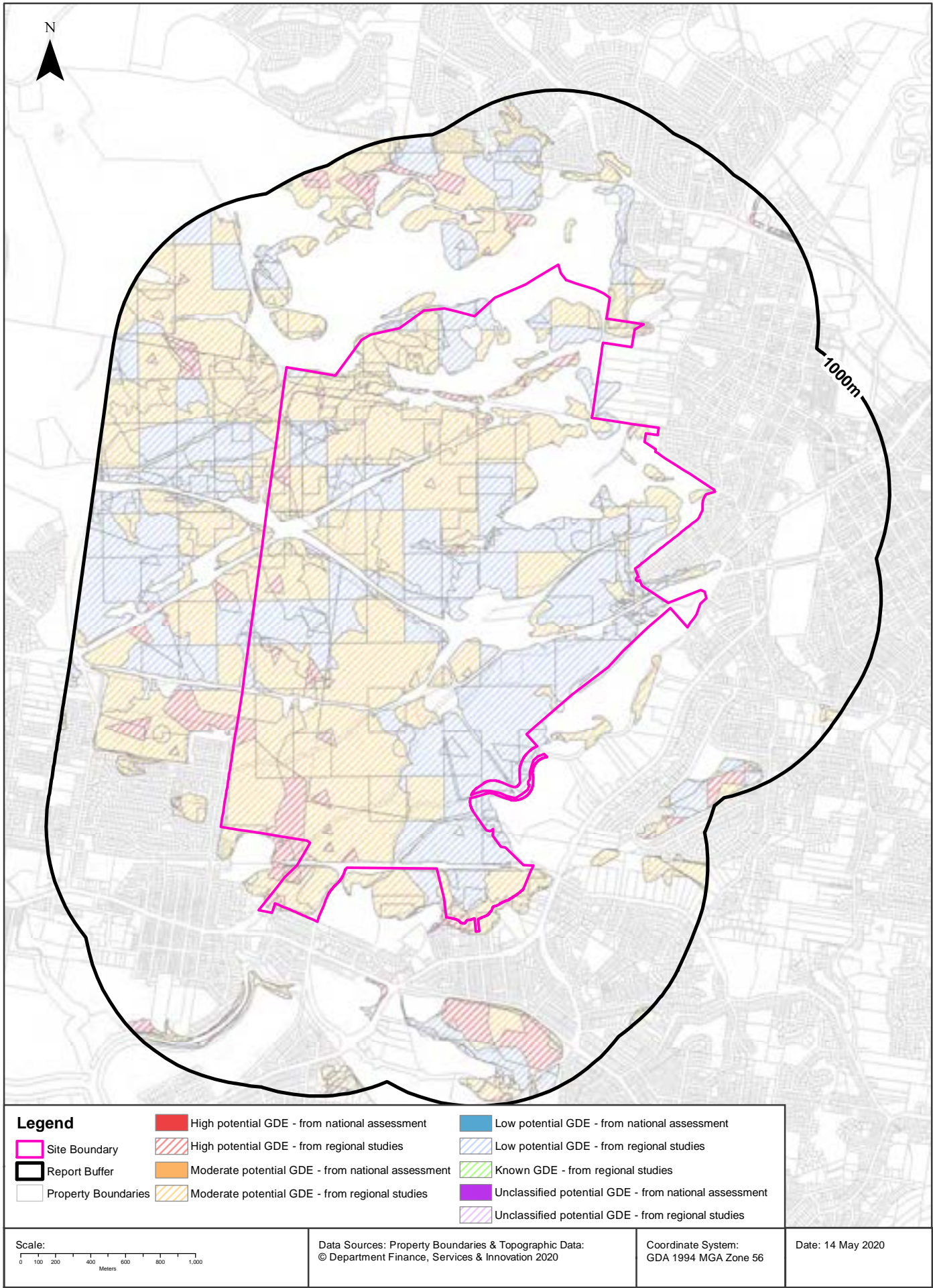
Lower Hunter and Central Coast Regional Vegetation Survey: NSW Office of Environment and Heritage

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

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

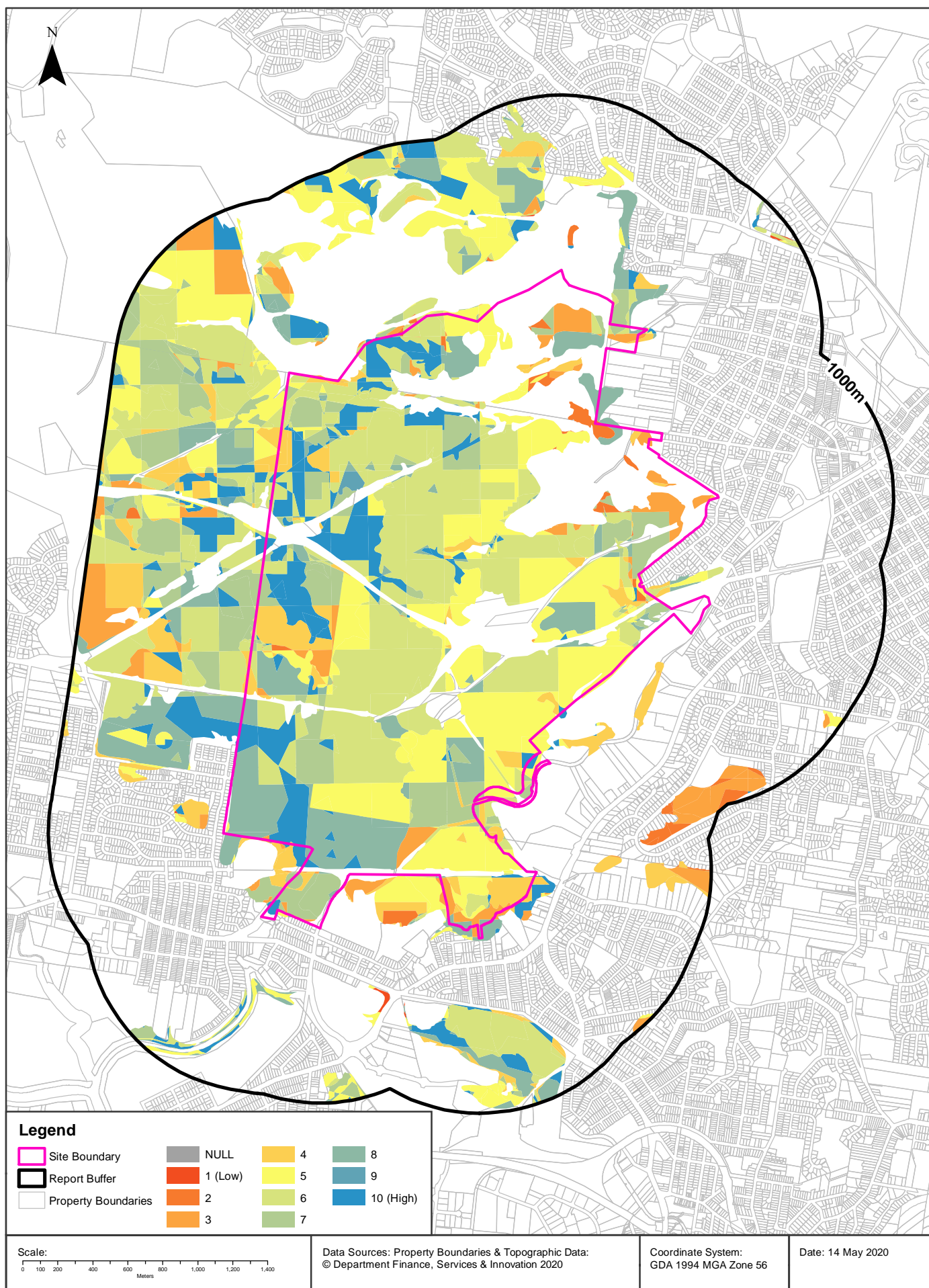
Groundwater Dependent Ecosystems Atlas

Type	GDE Potential	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	High potential GDE - from regional studies	Deeply dissected sandstone plateaus.	Vegetation		0m
Terrestrial	High potential GDE - from regional studies	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		0m
Terrestrial	High potential GDE - from regional studies	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	Low potential GDE - from regional studies	Deeply dissected sandstone plateaus.	Vegetation		0m
Terrestrial	Low potential GDE - from regional studies	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		0m
Terrestrial	Low potential GDE - from regional studies	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	Moderate potential GDE - from regional studies	Deeply dissected sandstone plateaus.	Vegetation		0m
Terrestrial	Moderate potential GDE - from regional studies	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		0m
Terrestrial	Moderate potential GDE - from regional studies	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m

Groundwater Dependent Ecosystems Atlas Data Source: The Bureau of Meteorology
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Ecological Constraints - Inflow Dependent Ecosystems Likelihood

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287



Ecological Constraints

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

Inflow Dependent Ecosystems Likelihood

Type	IDE Likelihood	Geomorphology	Ecosystem Type	Aquifer Geology	Distance
Terrestrial	2	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		0m
Terrestrial	2	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	3	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		0m
Terrestrial	3	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	4	Deeply dissected sandstone plateaus.	Vegetation		0m
Terrestrial	4	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		0m
Terrestrial	4	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	5	Deeply dissected sandstone plateaus.	Vegetation		0m
Terrestrial	5	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		0m
Terrestrial	5	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	6	Deeply dissected sandstone plateaus.	Vegetation		0m
Terrestrial	6	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		0m
Terrestrial	6	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	7	Deeply dissected sandstone plateaus.	Vegetation		0m
Terrestrial	7	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		0m
Terrestrial	7	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	8	Deeply dissected sandstone plateaus.	Vegetation		0m
Terrestrial	8	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		0m
Terrestrial	8	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	9	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	10	Deeply dissected sandstone plateaus.	Vegetation		0m
Terrestrial	10	Plateau flank dissected into narrow strike ridges and valleys.	Vegetation		0m
Terrestrial	10	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		0m
Terrestrial	1	Undulating to low hilly country on weak rocks, with alluvial and sandy littoral plains.	Vegetation		275m

Inflow Dependent Ecosystems Likelihood Data Source: The Bureau of Meteorology
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Ecological Constraints

Newcastle Link Road, New Wallsend Colliery Site, Newcastle, NSW 2287

NSW BioNet Atlas

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

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Amphibia	Crinia tinnula	Wallum Froglet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Amphibia	Litoria aurea	Green and Golden Bell Frog	Endangered	Not Sensitive	Vulnerable	
Animalia	Amphibia	Mixophyes balbus	Stuttering Frog	Endangered	Category 2	Vulnerable	
Animalia	Amphibia	Pseudophryne australis	Red-crowned Toadlet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Actitis hypoleucos	Common Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA;JAMBA
Animalia	Aves	Amaurornis moluccana	Pale-vented Bush-hen	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Anas querquedula	Garganey	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA;JAMBA
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	Apus pacificus	Fork-tailed Swift	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA;JAMBA
Animalia	Aves	Ardea ibis	Cattle Egret	Not Listed	Not Sensitive	Not Listed	CAMBA;JAMBA
Animalia	Aves	Ardenna grisea	Sooty Shearwater	Not Listed	Not Sensitive	Not Listed	CAMBA;JAMBA
Animalia	Aves	Ardenna pacificus	Wedge-tailed Shearwater	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Ardenna tenuirostris	Short-tailed Shearwater	Not Listed	Not Sensitive	Not Listed	ROKAMBA;JAMBA
Animalia	Aves	Arenaria interpres	Ruddy Turnstone	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA;JAMBA
Animalia	Aves	Artamus cyanopterus cyanopterus	Dusky Woodswallow	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Botaurus poiciloptilus	Australasian Bittern	Endangered	Not Sensitive	Endangered	
Animalia	Aves	Calidris acuminata	Sharp-tailed Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA;JAMBA
Animalia	Aves	Calidris canutus	Red Knot	Not Listed	Not Sensitive	Endangered	ROKAMBA;CAMBA;JAMBA
Animalia	Aves	Calidris ferruginea	Curlew Sandpiper	Endangered	Not Sensitive	Critically Endangered	ROKAMBA;CAMBA;JAMBA
Animalia	Aves	Calidris melanotos	Pectoral Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;JAMBA
Animalia	Aves	Calidris minuta	Little Stint	Not Listed	Not Sensitive	Not Listed	ROKAMBA
Animalia	Aves	Calidris ruficollis	Red-necked Stint	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA;JAMBA
Animalia	Aves	Calidris tenuirostris	Great Knot	Vulnerable	Not Sensitive	Critically Endangered	ROKAMBA;CAMBA;JAMBA
Animalia	Aves	Callocephalon fimbriatum	Gang-gang Cockatoo	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Calyptorhynchus lathamii	Glossy Black-Cockatoo	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Charadrius leschenaultii	Greater Sand-plover	Vulnerable	Not Sensitive	Vulnerable	ROKAMBA;CAMBA;JAMBA

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Aves	Charadrius mongolus	Lesser Sand-plover	Vulnerable	Not Sensitive	Endangered	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Chlidonias leucopterus	White-winged Black Tern	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
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	Daphoenositta chrysoptera	Varied Sittella	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Diomedea exulans	Wandering Albatross	Endangered	Not Sensitive	Endangered	JAMBA
Animalia	Aves	Ephippiorhynchus asiaticus	Black-necked Stork	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Epthianura albifrons	White-fronted Chat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Falco hypoleucos	Grey Falcon	Endangered	Category 2	Not Listed	
Animalia	Aves	Falco subniger	Black Falcon	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Gallinago hardwickii	Latham's Snipe	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Gelochelidon nilotica	Gull-billed Tern	Not Listed	Not Sensitive	Not Listed	CAMBA
Animalia	Aves	Glossopsitta pusilla	Little Lorikeet	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Haematopus fuliginosus	Sooty Oystercatcher	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Haematopus longirostris	Pied Oystercatcher	Endangered	Not Sensitive	Not Listed	
Animalia	Aves	Haliaeetus leucogaster	White-bellied Sea-Eagle	Vulnerable	Not Sensitive	Not Listed	CAMBA
Animalia	Aves	Hieraaetus morphnoides	Little Eagle	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Hirundapus caudacutus	White-throated Needletail	Not Listed	Not Sensitive	Vulnerable	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Hirundo rustica	Barn Swallow	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Hydroprogne caspia	Caspian Tern	Not Listed	Not Sensitive	Not Listed	CAMBA;JAMBA
Animalia	Aves	Irediparra gallinacea	Comb-crested Jacana	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ixobrychus flavicollis	Black Bittern	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Lathamus discolor	Swift Parrot	Endangered	Category 3	Critically Endangered	
Animalia	Aves	Limicola falcinellus	Broad-billed Sandpiper	Vulnerable	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Limosa lapponica	Bar-tailed Godwit	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Limosa limosa	Black-tailed Godwit	Vulnerable	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Lophochroa leadbeateri	Major Mitchell's Cockatoo	Vulnerable	Category 2	Not Listed	
Animalia	Aves	Lophoictinia isura	Square-tailed Kite	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Macronectes giganteus	Southern Giant Petrel	Endangered	Not Sensitive	Endangered	
Animalia	Aves	Macronectes halli	Northern Giant-Petrel	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Aves	Melanodryas cucullata cucullata	Hooded Robin (south-eastern form)	Vulnerable	Not Sensitive	Not Listed	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
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	Motacilla flava	Yellow Wagtail	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Neochmia ruficauda	Star Finch	Presumed Extinct	Not Sensitive	Endangered	
Animalia	Aves	Neophema pulchella	Turquoise Parrot	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Ninox connivens	Barking Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Ninox strenua	Powerful Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Numenius madagascariensis	Eastern Curlew	Not Listed	Not Sensitive	Critically Endangered	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Numenius minutus	Little Curlew	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Numenius phaeopus	Whimbrel	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Oxyura australis	Blue-billed Duck	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pandion cristatus	Eastern Osprey	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Petroica boodang	Scarlet Robin	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Philomachus pugnax	Ruff	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Plegadis falcinellus	Glossy Ibis	Not Listed	Not Sensitive	Not Listed	CAMBA
Animalia	Aves	Pluvialis fulva	Pacific Golden Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Pluvialis squatarola	Grey Plover	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Pomatostomus temporalis temporalis	Grey-crowned Babbler (eastern subspecies)	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Pterodroma solandri	Providence Petrel	Vulnerable	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Ptilinopus magnificus	Wompoo Fruit-Dove	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ptilinopus regina	Rose-crowned Fruit-Dove	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Ptilinopus superbus	Superb Fruit-Dove	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Rostratula australis	Australian Painted Snipe	Endangered	Not Sensitive	Endangered	
Animalia	Aves	Stagonopleura guttata	Diamond Firetail	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Sternula albifrons	Little Tern	Endangered	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Stictonetta naevosa	Freckled Duck	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Thinornis rubricollis	Hooded Plover	Critically Endangered	Not Sensitive	Vulnerable	
Animalia	Aves	Todiramphus chloris	Collared Kingfisher	Vulnerable	Not Sensitive	Not Listed	
Animalia	Aves	Tringa brevipes	Grey-tailed Tattler	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tringa glareola	Wood Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tringa incana	Wandering Tattler	Not Listed	Not Sensitive	Not Listed	JAMBA
Animalia	Aves	Tringa nebularia	Common Greenshank	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Aves	Tringa stagnatilis	Marsh Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Animalia	Aves	Tryngites subruficollis	Buff-breasted Sandpiper	Not Listed	Not Sensitive	Not Listed	ROKAMBA;JAMBA
Animalia	Aves	Tyto longimembris	Eastern Grass Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Tyto novaehollandiae	Masked Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Tyto tenebrosa	Sooty Owl	Vulnerable	Category 3	Not Listed	
Animalia	Aves	Xenus cinereus	Terek Sandpiper	Vulnerable	Not Sensitive	Not Listed	ROKAMBA;CAMBA; JAMBA
Animalia	Insecta	Petalura gigantea	Giant Dragonfly	Endangered	Not Sensitive	Not Listed	
Animalia	Mammalia	Arctocephalus forsteri	New Zealand Fur-seal	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Arctocephalus pusillus doriferus	Australian Fur-seal	Vulnerable	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	Isodon obesulus obesulus	Southern Brown Bandicoot (eastern)	Endangered	Not Sensitive	Endangered	
Animalia	Mammalia	Megaptera novaeangliae	Humpback Whale	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Micronomus norfolkensis	Eastern Coastal Free-tailed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Miniopterus australis	Little Bent-winged Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Miniopterus orianae oceanensis	Large Bent-winged Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Myotis macropus	Southern Myotis	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Petauroides volans	Greater Glider	Not Listed	Not Sensitive	Vulnerable	
Animalia	Mammalia	Petaurus australis	Yellow-bellied Glider	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Petaurus norfolkensis	Squirrel Glider	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Phascolarctos cinereus	Koala	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Pseudomys novaehollandiae	New Holland Mouse	Not Listed	Not Sensitive	Vulnerable	
Animalia	Mammalia	Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	Not Sensitive	Vulnerable	
Animalia	Mammalia	Saccolaimus flaviventris	Yellow-bellied Sheath-tail-bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Scoteanax rueppellii	Greater Broad-nosed Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Mammalia	Vespudelus troughtoni	Eastern Cave Bat	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Antaresia stimsoni	Stimson's Python	Vulnerable	Not Sensitive	Not Listed	
Animalia	Reptilia	Aspidites ramsayi	Woma	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	Diplodactylus platyurus	Eastern Fat-tailed Gecko	Endangered	Not Sensitive	Not Listed	
Animalia	Reptilia	Eretmochelys imbricata	Hawksbill Turtle	Not Listed	Not Sensitive	Vulnerable	
Plantae	Flora	Angophora inopina	Charmhaven Apple	Vulnerable	Not Sensitive	Vulnerable	

Kingdom	Class	Scientific	Common	NSW Conservation Status	NSW Sensitivity Class	Federal Conservation Status	Migratory Species Agreements
Plantae	Flora	Callistemon linearifolius	Netted Bottle Brush	Vulnerable	Category 3	Not Listed	
Plantae	Flora	Commersonia prostrata	Dwarf Kerrawang	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Cryptostylis hunteriana	Leafless Tongue Orchid	Vulnerable	Category 2	Vulnerable	
Plantae	Flora	Cymbidium canaliculatum	Tiger Orchid	Endangered Population	Category 2	Not Listed	
Plantae	Flora	Cynanchum elegans	White-flowered Wax Plant	Endangered	Not Sensitive	Endangered	
Plantae	Flora	Davidsonia jerseyana	Davidson's Plum	Endangered	Category 2	Endangered	
Plantae	Flora	Diuris praecox	Rough Doubletail	Vulnerable	Category 2	Vulnerable	
Plantae	Flora	Eucalyptus nicholii	Narrow-leaved Black Peppermint	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Eucalyptus parramattensis subsp. decadens		Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Eucalyptus parramattensis subsp. parramattensis		Endangered Population	Not Sensitive	Not Listed	
Plantae	Flora	Eucalyptus scoparia	Wallangarra White Gum	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Euphrasia arguta		Critically Endangered	Not Sensitive	Critically Endangered	
Plantae	Flora	Grevillea parviflora subsp. parviflora	Small-flower Grevillea	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Grevillea shiressii		Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Macadamia tetraphylla	Rough-shelled Bush Nut	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Maundia triglochinosoides		Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Melaleuca biconvexa	Biconvex Paperbark	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Muehlenbeckia costata	Scrambling Lignum	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Phaius australis	Southern Swamp Orchid	Endangered	Category 2	Endangered	
Plantae	Flora	Pultenaea maritima	Coast Headland Pea	Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Rhodamnia rubescens	Scrub Turpentine	Critically Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Rhodomyrtus psidioides	Native Guava	Critically Endangered	Not Sensitive	Not Listed	
Plantae	Flora	Rutidosia heterogama	Heath Wrinklewort	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Syzygium paniculatum	Magenta Lilly Pilly	Endangered	Not Sensitive	Vulnerable	
Plantae	Flora	Tetratheca glandulosa		Vulnerable	Not Sensitive	Not Listed	
Plantae	Flora	Tetratheca juncea	Black-eyed Susan	Vulnerable	Not Sensitive	Vulnerable	
Plantae	Flora	Zannichellia palustris		Endangered	Not Sensitive	Not Listed	

Data does not include NSW category 1 sensitive species.

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

LC Code	Location Confidence
Premise match	Georeferenced to the site location / premise or part of site
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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Ramboll - Former New Wallsend Colliery Site, Newcastle Link Road

APPENDIX 3 SITE PHOTOGRAPHS

Location 1



Household waste - foam, mattress, chipboard, plastic, flat screen tv

Location 2





Plastic household waste and tv cattered either side of path. several lawn mowers. pile of possible ACM, (sample taken)

Location 3



Domestic waste littering either side of path across a large area

Location 4











Brick foundation of some form of previous structure, surrounded by domestic waste - foam, tyres, chair, metal outdoor table frame, metal framing, file, plastic

Location 5







Trailer frame with tyres, timber waste, plaster board, masonite, old stereo, metal waste, plastic, computer monitor metal

Location 6



Possible homeless persons shelter 20m of the side of the track

Location 7



Van body burnt, east of cycle track

Location 8



Car body on power line easement

Location 9



Household domestic waste chair, plastic etc

Location 10



Old fabric sofa

Location 11





Two car bodies, couple of car seats and a flat screen tv

Location 12



Single sheet of ACM, (sample taken)

Location 13



Tv and plastic waste

Location 14



Car body on track

Location 15



Car body

Location 16



Car body surrounded by household plastic waste

Location 17





Household waste across track. metal, plastic, glass insulation materials pool chlorine container empty

Location 18



Car body side of track

Location 19



Two car bodies 15m apart

Location 20







Domestic waste - plastics, mattresses, paint tins, , timber bed frame concrete, timber door, corrugated worksheets, metal framing, tyre, children's toys and other miscellaneous items

Location 21



Fridge and dining chair

Location 22



Sofas and other household waste scattered on each side of track

Location 23



Household waste, sofa, timber, plastics

Location 24



Car seat abandoned on track

Location 25



Car tyres scattered thru bush

Location 26



Previously identified site inspected. no ACM but some scattered household waste

Location 27



Car body

Location 28





Some of previous brick infrastructure foundation with domestic waste nearby

Location 29





Minor household waste - oven, bricks, corrugated iron sheets, shade cloth

Location 30







ACM sheeting, pile approx 2m wide x 3m long stacked in sheets to a height of about 0.4m thick, (sample taken)

Location 31



Household waste - wooden drawers, wooden crates, metal frame, cardboard, blower vac motor

Location 32





Potential unrestricted entry into site, directly accessed off link road - just west of the end of the concrete barrier south side of the west bound lane

Location 33



Former B-Pit shaft area inspected – no residual surface infrastructure observed

Location 34



Previously marked location from GHD (2006) inspected and nothing found

Location 35



Car body off track and down ditch

Location 36





Various household waste - spray cans, paint tins, plastic, carpet, carpet underlay, pinball machine, car seats, esky, old clothes, chipboard, metal

Location 37



Car body

Location 38



Car body

Location 39



Car body, west of main track

Location 40





Corrugated iron sheets

Location 41



Potential ACM, (sample taken)

Location 42



Household waste - plastic, metal, trampoline, fan

Location 43



Household plastic and metal waste. coles supermarket trolley

Location 44



Car body

Location 45



Car body side of track

Location 46



Car body

Location 47



Possible homeless persons shelter

Location 48



Household and domestic waste old stove, furniture etc

Location 49



Two car bodies 10m apart

Location 50



Car body next to fire track

Location 51



Sheet metal, lawn mower, metal frame and plastic waste scattered along path for approx 20m

Location 52





Household waste, plastic, metal frame, gas bottle, sheet metal and lawn mower

Location 53



Car body

Location 54



Constructed homeless person shelter made of plastic and shade cloth. bags on ground, possibly occupied

Location 55



Old sofa

Location 56



Domestic waste both sides of track, synthetic seating, carpeting

Location 57



Plastic car panel and various plastic containers scattered over an area approx 10m x 5m

Location 58





Metal waste, tyre, plastic, mdf/plywood sheeting and styrene foam scattered either side of road

Location 59



Broken asphalt paving – former paved road

Location 60





Two car bodies located 10m apart

Location 61





Household waste scattered across approx area spanning 10m x 20m - tyres, plastic tubs, flat screen tv

Location 62





Various household waste scattering an area approx 20xm x 20m - toilet, plastic containers, signage, washer/dryers. possible ACM sheeting, (sample taken)

Location 63



Plasterboard, tiles, and household waste (including old vacuum)

Location 64



View across Wallsend Borehole Colliery site - scattered piles of carbonaceous material

Location 65



ACM sheeting and other waste (steel, glass and timber), (sample taken). ACM sheet approx 0.6m x 1.2m

Location 66



Metal frame waste

Location 67





Various waste surrounding/in Serpentine pond (masonite sheeting, general waste, several tyres, several plastic containers, several plastic chairs). carbonaceous material in filled area uphill of pond in possible old landslide

Location 68





Various plastic, brick and metal waste scattered across an area approx 20m x 5 m.

Location 69











Multitude of household/ domestic waste scattered across an area spanning approx 30m x 20m. waste includes various plastics, metal, timber, electronics, mattresses, carpet, lino, tiles, metal drums, fractured fibreglass roofing, car seats, bricks, shoes,

Location 70



Potential ACM scattered across a area of 5 square metres, (sample taken)

Location 71



Mixture of plastic, electrical and metal waste - mostly old flat screen tv's. scattered either side of track

Location 72



Previously marked location from GHD (2006) inspected and nothing found

Location 73





Various household and domestic/industrial building waste scattering an area approx 20m x 10m, including timber, lino, plastic, metal, broken concrete and pebblecrete, arm chair, brick, tyres. potential acm sheeting so sample taken

Location 74



Approx 10-15kg of plastic wrapped ACM sheeting, (sample taken)

Location 75



Previously marked location from GHD (2006) inspected and nothing found

Location 76



Old domestic waste particle board, timber, washer dryer

Location 77



Discarded gas ban, metal plastic

Location 78



Mattresses, steel, paint can, glass on side of track

Location 79



Cardboard on side of track

Location 80



Household waste, furniture, old bedding, material, plastic

Location 81



Household waste plastic, fabrics ets

Location 82





Household and domestic waste spread along 50m of track incl, furniture, plastic, plasterboard, metal etc