Tallawarra Lands North Precinct: Aboriginal Cultural Heritage Assessment

FINAL REPORT

Prepared for Cardno

6 December 2017

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Acknowledgements

Biosis gratefully acknowledges the contributions of the following people and organisations in preparing this report:

Registered Aboriginal Parties

- Illawarra Local Aboriginal Land Council (ILALC)
- Warra Bingi Nunda Gurri
- Woronora Plateau Gundangara Elders Council
- Darug Land Observations
- Three Ducks Dreaming Surveying and Consulting
- The Wadi Wadi Coomaditchie Aboriginal Corporation
- Guunamaa Dreaming and Sites Surveying
- James Davis
- Goobah Development Pty Ltd (Murrin Clan/Peoples)
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- Duncan Falk Consultancy
- Cullendulla (Murrin Clan/Peoples)
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Government Departments

- Office of Environment and Heritage (OEH)
- National Native Title Tribunal (NNTT)
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- South East Local Land Services (LLS)
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Glossary

ACHAR	Aboriginal Cultural Heritage Assessment Report
AHIMS	Aboriginal Heritage Information Management System
DA	Determining Authority
DECCW	Department of Environment, Climate Change and Water (now OEH)
DP	Deposited Plan
EPA	Environment Planning and Assessment
GDA	Geocentric Datum of Australia
GPS	Global Positioning System
GSV	Ground Surface Visibility
ICOMOS	International Council on Monuments and Sites
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
MGA	Map Grid of Australia
NHL	National Heritage List
NPW Act	National Parks and Wildlife Act
NPWS	National Parks and Wildlife Service
NSW	New South Wales
NTSCORP	Native Title Services Corporation
OEH	NSW Office of Environment and Heritage
PAD	Potential Archaeological Deposit
RAP	Registered Aboriginal Party
REF	Review of Environmental Factors
REP	Regional Environmental Plan
SEPP	State Environmental Planning Policy
NNTT	National Native Title Tribunal
ICOMOS	International Council on Monuments and Sites

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Summary

Biosis Pty Ltd was commissioned by Cardno on behalf of Bridgehill Group to undertake an Aboriginal cultural heritage assessment (ACHA) of a proposed development at Tallawarra, Yallah NSW (Northern Precinct).

Bridgehill Group have acquired some of the Tallawarra Lands in the Northern and Central Precincts from Energy Australia, and intend to develop new residential communities and a light industrial development and tourism facilities on those lands.

Cardno on behalf of Bridgehill Group intends to lodge a development application for the Northern Precinct and to modify the existing concept approval for the Northern and Central Precincts (MP 09_0131 MOD 1). Wollongong City Council is the Determining Authority (DA) and will assess the application to help them determine if the proposed development is likely to have a significant effect on the environment, including Aboriginal cultural heritage.

This ACHA covers the Northern Precinct (the study area), and aims to determine whether the proposed modification will have any additional impacts on Aboriginal cultural values. The study area is located within the Tallawarra North Precinct, Yallah NSW. It encompasses Lot 30 DP 1175058 and part Lot 31 DP 1175058, and is approximately 12 kilometres south west of Wollongong CBD (Figure 1). It encompasses 45.06 hectares of private land and the adjacent road reserves.

This report has responded to Section 6.10.1 Aboriginal Cultural Heritage of the *Tallawarra Lands, Yallah: Request for Secretary's Environmental Assessment Requirements* (Urbis 2016) to:

- Confirm the location of archaeological sites relative to the proposed expanded areas.
- Consultation with relevant stakeholders prior to preparation of the EIS.
- Identify the nature and extent of impacts on Aboriginal and cultural heritage values across the project area; and
- Provide the actions that will be taken to avoid or mitigate impacts of the project or Aboriginal cultural heritage values.

SEARs Item	Response
12. Aboriginal Cultural Heritage **Aboriginal Cultural Heritage Assessment in accordance with *the Guide to investigating Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (DECCW 2011) and *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW)**	This report has been conducted in accordance with the *Guide to Investigating Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011). This report supports the Aboriginal cultural heritage assessment, which has been conducted in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010a). Consultation with Registered Aboriginal Parties is currently underway.

There are 86 Aboriginal cultural heritage sites registered with the Aboriginal Heritage Information Management System (AHIMS) register in a 5 square kilometre area around the study area. Two AHIMS sites are located within the study area (Boomberry Point 1 (AHIMS 52-5-0223), and Elizabeth Point (AHIMS 52-5-

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0225). Two AHIMS sites are located within 10 metres of the study area (Gilba Road 1 (52-5-0642), and Gilba Road 2 Fill 1 (AHIMS 52-5-0643).

An archaeological survey was conducted on 29 June 2017. The overall effectiveness of the survey for examining the ground for Aboriginal sites was deemed low. This was attributed to vegetation cover restricting ground surface visibility combined with a low amount of exposures.

No previously unrecorded Aboriginal cultural heritage sites were identified during the field survey. One area of moderate archaeological potential, previously identified by the 2010 Biosis assessment, was redefined.

The proposed modification and associated development will not impact on any additional Aboriginal sites or areas of archaeological potential.

Within the study area, there are two recorded Aboriginal sites that may be subject to harm (52-5-0223, and 52-5-0225). It is expected that the potential of harm to 52-5-0223, and 52-5-0225 from the proposed development will be direct, with a total loss of value.

Two AHIMS sites (52-5-0642, and 52-5-0643) are located within 10 metres of the study area, and may be subject to harm. It is expected that the potential of harm to 52-5-0642, and 52-5-0643 from the proposed development will be indirect, with a partial loss of value.

Consultation

The Aboriginal community was consulted regarding the heritage management of the project throughout its lifespan. Consultation has been undertaken as per the process outlined in the DECCW document, *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010a) (consultation requirements). The appropriate government bodies were notified and advertisements placed in the Illawarra Mercury newspaper (20 June 2017), which resulted in the following Aboriginal organisations registering their interest:

- Illawarra Local Aboriginal Land Council (ILALC)
- Warra Bingi Nunda Gurri
- Woronora Plateau Gundangara Elders Council
- Darug Land Observations
- Three Ducks Dreaming Surveying and Consulting
- The Wadi Wadi Coomaditchie Aboriginal Corporation
- Guunamaa Dreaming and Sites Surveying
- James Davis
- Goobah Development Pty Ltd (Murrin Clan/Peoples)
- Murramarang (Murrin Clan/Peoples
- Minnamunnung
- Duncan Falk Consultancy
- Cullendulla (Murrin Clan/Peoples)
- Biamanga (Murrin Clan/Peoples)

A search conducted by the Office of the Registrar, *Aboriginal Land Rights Act 1983* listed no Aboriginal Owners with land within the study area. The National Native Title Tribunal did not respond to the request for Registered Native Title Claims, Unregistered Claimant Applications or Registered Indigenous Land Use Agreements within the study area.

Upon registration, the Aboriginal parties were invited to provide their knowledge on the study area and on the proposal provided in *Project Information and Assessment Methodology, Aboriginal Cultural Heritage Assessment: Northern and Central Precincts at Tallawarra, Yallah NSW.* Responses from the Registered Aboriginal Parties (RAPs) are included in Appendix 3.

The outcome of the consultation process was that the RAPs considered the study area to have a high level of cultural significance. Three Ducks Dreaming Surveying and Consulting believes there are many significant areas within the area, especially around the creeks and plains. The 2010 Aboriginal archaeological

assessment conducted for the study area identified that the study area is considered to have high cultural significance due to the presence of Aboriginal archaeological sites and the study area proximity to Lake Illawarra, Duck Creek and Mount Brown (Biosis 2010). The results of the consultation process are included in this document.

The recommendations that resulted from the consultation process are provided below.

Conclusions

This assessment has concluded that the proposed modification and subsequent development will not have any impacts on additional AHIMS sites or areas of archaeological potential.

Strategies have been developed based on the archaeological significance of cultural heritage relevant to the study area. The strategies also take into consideration:

- Predicted impacts to Aboriginal cultural heritage
- The planning approvals framework
- Current best conservation practice, widely considered to include:
  - Ethos of the Australia International Council on Monuments and Sites (ICOMOS) Burra Charter
  - The *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW*(DECCW 2010) (the code)

The recommendations that resulted from the consultation process are provided below.

Management recommendations

Prior to any development impacts occurring within the study area, the following is recommended:

Recommendation 1: Continued consultation with the registered Aboriginal parties

It is recommended that Cardno continue to inform these groups about the management of Aboriginal cultural heritage sites within the study area throughout the life of the project. This recommendation is in keeping with the consultation requirements.

Recommendation 2: Further archaeological assessment is required in areas of moderate archaeological potential

Areas identified as having moderate archaeological potential should be avoided wherever possible (Figure 5). If impacts to these areas cannot be avoided subsurface investigations (test excavations) will be required prior to the commencement of works as a condition of the DA or concept approval. Test excavations should be conducted in accordance with the *Code of Practice for archaeological investigation for Aboriginal objects in NSW* (DECCW 2010a) and *Aboriginal cultural heritage consultation requirements for proponents in New South Wales* (DECCW 2010c).

Recommendation 3: No further archaeological assessment is required in areas of low archaeological potential

No further archaeological work is required in areas identified as having low archaeological potential except in the event that unexpected Aboriginal sites, objects or human remains are unearthed during development (refer to Recommendations 6 and 7 below).

Recommendation 4: Fencing of AHIMS sites

AHIMS sites or PAD areas located within 30 metres of the area of proposed works should be clearly marked and fenced in order to avoid unintentional impacts during construction.

Recommendation 5: Aboriginal cultural heritage induction for workers and contractors

The locations of each AHIMS site and PAD area located within the Tallawarra Lands development should be clearly mapped. Workers and contactors working at, or visiting the site should be made aware of the location of all AHIMS sites and PAD areas within the Tallawarra Lands development through an Aboriginal cultural heritage induction.

Recommendation 6: Application for an Aboriginal heritage impact permit (AHIP)

Should the Development Application (DA) be approved, it is recommended that Cardno apply to OEH for an AHIP to destroy the listed Aboriginal sites within the study area which are currently protected under the NSW *National Parks and Wildlife Act 1974*. **The AHIP should be for a term of ten (10) years.** The sites that will be impacted by the proposed works are as follows:

- Boomberry Point 1 (AHIMS 52-5-0223)
- Elizabeth Point (AHIMS 52-5-0225)

For information about AHIPs and their preparation, see below.

Advice preparing AHIPs

An AHIP is required for any activities likely to have an impact on Aboriginal objects or Places or cause land to be disturbed for the purposes of discovering an Aboriginal object. The Office of Environment and Heritage (OEH) issues AHIPs under Part 6 of *the National Parks and Wildlife Act 1974* (NPW Act).

AHIPs should be prepared by a qualified archaeologist and lodged with the OEH. Once the application is lodged processing time can take between 8-12 weeks. It should be noted that there will be an application fee levied by the OEH for the processing of AHIPs, which is dependent on the estimated total cost of the development project.

Recommendation 7: Cardno must abide by the conditions of the AHIP once obtained from OEH

The AHIP will be issued with conditions pertaining to the management and mitigation of Aboriginal heritage sites within the study area. These conditions will be outlined in Schedules A. B and C as follows:

- Schedule A: Aboriginal objects which must not be harmed.
- Schedule B: Aboriginal objects that may be harmed through certain actions.
- Schedule C: Aboriginal objects which may be harmed through the proposed works.

Cardno must undertake all further works to ensure the condition of the AHIP are met before construction begins.

Recommendation 8: Discovery of Unanticipated Aboriginal Objects

All Aboriginal objects and Places are protected under the *NSW National Parks and Wildlife Act 1974*. It is an offence to knowingly disturb an Aboriginal site without a consent permit issued by the Office of Environment and Heritage (OEH). Should any Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified

archaeologist. If the find is determined to be an Aboriginal object, the archaeologist will provide further recommendations. These may include notifying the OEH and Aboriginal stakeholders.

Recommendation 9: Discovery of Aboriginal Ancestral Remains

Aboriginal ancestral remains may be found in a variety of landscapes in NSW, including middens and sandy or soft sedimentary soils. If any suspected human remains are discovered during any activity you must:

1. Immediately cease all work at that location and not further move or disturb the remains
2. Notify the NSW Police and OEH's Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location
3. Not recommence work at that location unless authorised in writing by OEH.

1 Introduction

1.1 Project background

Biosis Pty Ltd was commissioned by Cardno on behalf of Bridgehill Group to undertake an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed Northern Precinct at Tallawarra, Yallah NSW (Figure 3).The purpose of this assessment is to support a development application for the Northern Precinct and to modify the existing concept approval for the Northern Precinct (MP 09_0131 MOD 1) to allow an increased residential lot yield.

A previous Aboriginal archaeological assessment for the Tallawarra Lands Part 3A Concept Plan (MP 09_0131) was conducted by Biosis in 2010. The previous assessment consisted of an Aboriginal archaeological survey, Aboriginal Community consultation, and Aboriginal archaeological test excavations (Biosis 2010). An impact assessment conducted as part of the 2010 assessment concluded that two Aboriginal archaeological sites Boomberry Point 1 (AHIMS 52-5-0223), and Elizabeth Point (AHIMS 52-5-0225); would be impacted on by the proposed development. Both Boomberry Point 1 (AHIMS 52-5-0223), and Elizabeth Point (AHIMS 52-5-0225) were assessed as having moderate archaeological significance. Boomberry Point 1 (AHIMS 52-5-0223) was assessed as having low subsurface archaeological potential, while Elizabeth Point (AHIMS 52-5-0225) was assessed as having moderate subsurface archaeological potential based on the results of the archaeological test excavations. Further assessment in the form of additional archaeological test excavations were recommended prior to development in order to establish the significance and extent of the archaeological resource.

The purpose of this assessment is to determine if the proposed modification will impact on any additional areas of archaeological potential or Aboriginal sites or objects. This investigation has been carried out under Part 6 of the *National Parks and Wildlife Act 1974* (NPW Act). It has been undertaken in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010a) ('the code'). The code has been developed to support the process of investigating and assessing Aboriginal cultural heritage by specifying the minimum standards for archaeological investigation undertaken in NSW under the NPW Act. The archaeological investigation must be undertaken in accordance with the requirements of the code.

It is stated in section 1.2 of the code that where the Aboriginal cultural heritage assessment concludes that the proposed activity will result in harm to Aboriginal objects or declared Aboriginal Places, an application for an Aboriginal Heritage Impact Permit (AHIP) will be required. This application must be supported by an Aboriginal Cultural Heritage Assessment Report (ACHAR) and archaeological report (AR).

The *Environmental Planning and Assessment Act 1979* (EP&A Act) includes provisions for local government authorities to consider environmental impacts in land-use planning and decision making. Each Local Government Area (LGA) is required to create and maintain an LEP that includes Aboriginal and historical heritage items. Local Councils identify items that are of significance within their LGA, and these items are listed on heritage schedules in the local LEP and are protected under the EP&A Act and *Heritage Act 1977.*

1.2 Study area

The study area is located within the Tallawarra North Precinct, Yallah NSW. It encompasses Lot 30 DP 1175058 and part Lot 31 DP 1175058, and is approximately 12 kilometres south west of Wollongong CBD (Figure 1). It encompasses 45.06 hectares of private land and the adjacent road reserves (Figure 2).

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The study area is within the:

- Wollongong Local Government Area (LGA).
- Parish of Calderwood
- County of Camden

The study area is bounded by Lake Illawarra to the east, the suburb of Koonawarra to the north, Energy Australia Tallawarra Power Station to the south, and rural land to the west.

1.3 Proposed development

The Tallawarra Northern Precinct comprises Lot 30 DP 1175058 and part Lot 31 DP 1175058, and is approximately 12 kilometres south west of Wollongong CBD (Figure 1). It encompasses 45.06 hectares of private land and the adjacent road reserves (Figure 2). The development of the Northern Precinct will comprise commercial, retail, industrial, open space and associated civil works.

The modification to the concept approval seeks to increase the footprint and residential yield for the Northern Precinct from 310 lots to 542 lots. Currently approved components of the concept plan for the Northern Precinct include:

- Approximately 310 residential lots (22.3 hectares)
- Environmental management areas in the vicinity of Mount Brown
- Open space areas on the foreshore of Lake Illawarra (87 hectares)
- The Northshore Precinct has existing vehicular access via Gilba Road.

The following amendments are proposed to the Concept Plan for the Northern Precinct:

- Reduce the existing transmission easement width to accommodate a 15 metre wide corridor for underground transmission lines beneath a proposed road
- Expand the R2 zone (for low density residential land) south east into the E1 Public Recreation lands
- Expand the R2 Zone (for low density residential use) south into the E3 Environmental Management up to the ridge
- The composition of lots has been altered from the Concept Plan, with a new indicative layout that includes lots down to 300m2 and 12.5 metres frontages, where suited to the topography of the site.

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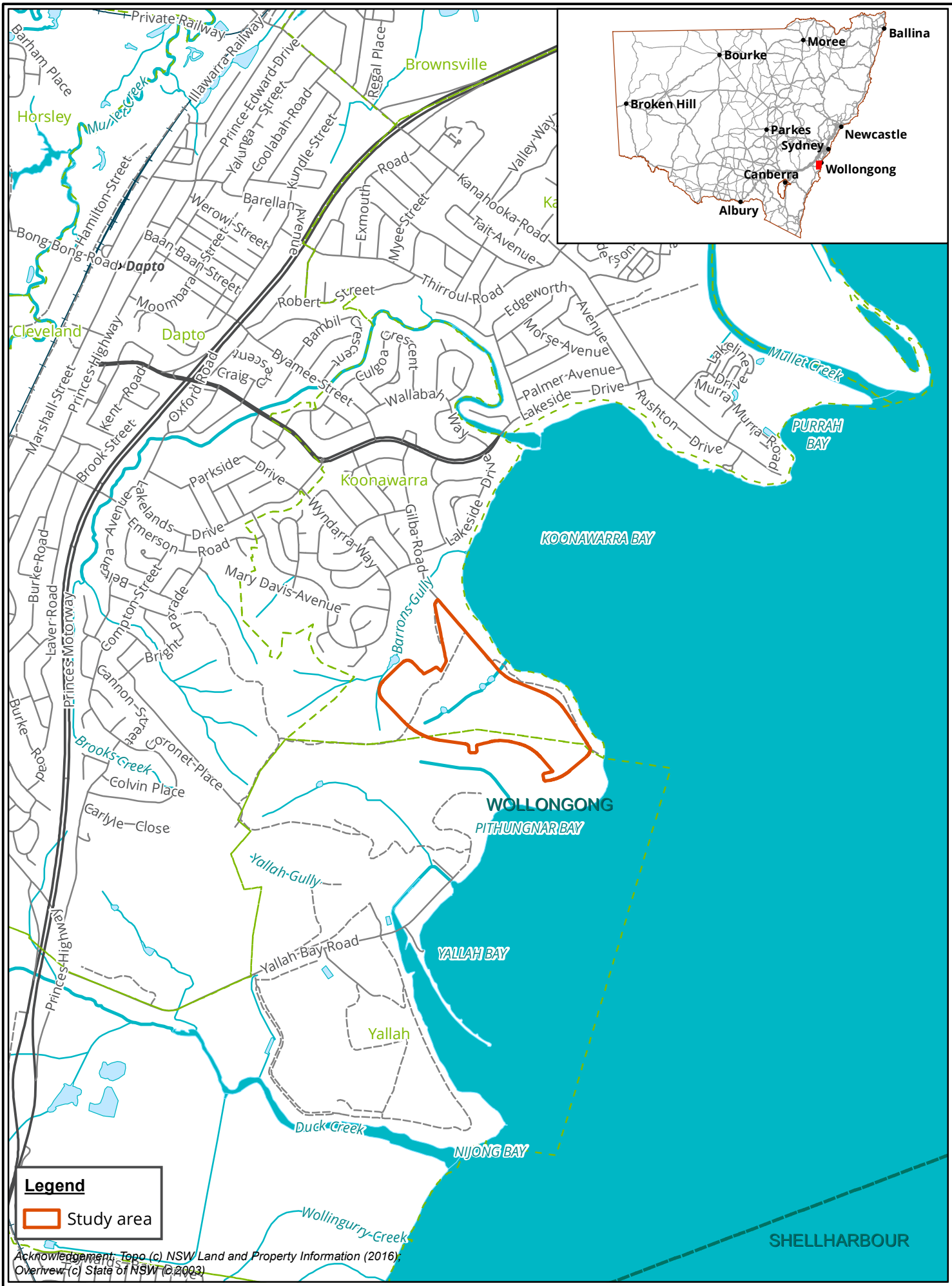

Acknowledgement: Topo (c) NSW Land and Property Information (2016); Overview: (c) State of NSW (c.2003)

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Figure 1: Location of the study area in a regional context

Matter: 24090
Date: 21 July 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
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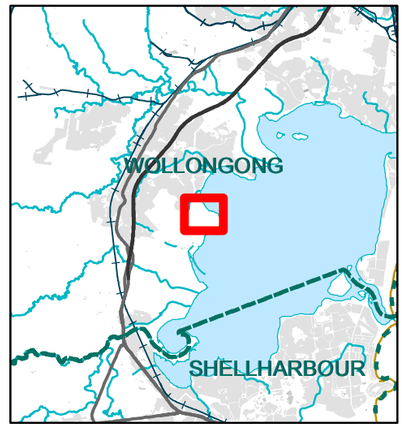
0 250 500 750 1,000
Metres
N

Scale 1:25,000 @ A4, GDA 1994 MGA Zone 56



Legend

Study area

Figure 2: Study area detail

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

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Date: 21 July 2017,
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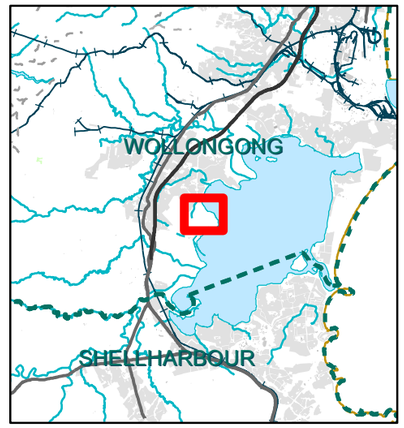

Legend

- Study area
- Proposed development

Figure 3: Proposed development

0 50 100 150 200 250

Metres
Scale: 1:5,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

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Date: 23 August 2017,
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Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

1.4 Planning approvals

The proposed modification will be assessed against Part 3A section 75W of the *Environmental Planning and Assessment Act 1979* NSW (EP&A Act). The Development Application (DA) will be assessed under Part 4 of the EP&A Act.

Other relevant legislation and planning instruments that will inform this assessment include:

- Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999.*
- NSW *National Parks and Wildlife Act 1974* (NPW Act).
- NSW *National Parks and Wildlife Amendment Act 2010.*
- Infrastructure State Environmental Planning Policy 2007.
- Wollongong Development Control Plan *2009.*

1.5 Restricted and confidential information

Appendix 1 in the Archaeological Report contains AHIMS information which is confidential and not to be made public. This is clearly marked on the title page for the Attachment.

1.6 Aboriginal cultural heritage

1.6.1 General description

According to Allen and O'Connell (2003), Aboriginal people have inhabited the Australian continent for the last 50,000 years. New evidence out of the Northern Territory has pushed this date back to around 60,000 years with the Malakanunja II rock shelter dated at 61,000 +9000/-13,000 BP (Clarkson *et al* 2015) In NSW, according to Bowler *et al* (2003), Aboriginal people have occupied the land for over 42,000 years. However, preliminary evidence presented by Biosis (2016) from a subsurface testing program in south-western NSW suggests Aboriginal people may have occupied the semi-arid zone of the region for 50,000 years.

Without being part of the Aboriginal culture and the productions of this culture, it is not possible for non-Aboriginal people to fully understand the meaning of site, objects and places to Aboriginal people – only to move closer towards understanding this meaning with the help of the Aboriginal community. Similarly, definitions of Aboriginal culture and cultural heritage without this involvement constitute outsider interpretations.

With this preface Aboriginal cultural heritage broadly refers to things that relate to Aboriginal culture and hold cultural meaning and significance to Aboriginal people (DECCW 2010a p.3). There is an understanding in Aboriginal culture that everything is interconnected. In essence Aboriginal cultural heritage can be viewed as potentially encompassing any part of the physical and/or mental landscape, that is, 'Country' (DECCW 2010a p.iii).

Aboriginal people's interpretation of cultural value is based on their "traditions, observance, lore, customs, beliefs and history" (DECCW 2010a p.3). The things associated with Aboriginal cultural heritage are continually and actively being defined by Aboriginal people (DECCW 2010a p.3). These things can be associated with traditional, historical or contemporary Aboriginal culture (DECCW 2010a p.3).

1.6.2 Tangible Aboriginal cultural heritage

Three categories of tangible Aboriginal cultural heritage may be defined:

- Things that have been observably modified by Aboriginal people.

- Things that may have been modified by Aboriginal people but no discernible traces of that activity remain.
- Things never physically modified by Aboriginal people (but associated with Dreamtime Ancestors who shaped those things).

1.6.3 Intangible Aboriginal cultural heritage

Examples of intangible Aboriginal cultural heritage would include memories of stories and 'ways of doing', which would include language and ceremonies (DECCW 2010a p.3).

1.6.4 Statutory

Currently Aboriginal cultural heritage, as statutorily defined by the NPW Act, consists of objects and places which are protected under Part 6 of the Act.

Aboriginal objects are defined as:

> *"any deposit, object or material evidence…relating to the Aboriginal habitation of the area that comprises NSW, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains"*

Aboriginal places are defined as a place that is or was of special Aboriginal cultural significance. Places are declared under section 84 of the NPW Act.

1.6.5 Values

Aboriginal cultural heritage is valued by Aboriginal people as it is used to define their identity as both individuals and as part of a group (DECCW 2010a p.iii). More specifically it is used:

- To provide a:
  - "*connection and sense of belonging to Country*" (DECCW 2010a p.iii)
  - Link between the present and the past (DECCW 2010a p.iii)
- As a learning tool to teach Aboriginal culture to younger Aboriginal generations and the general public (DECCW 2010a p.3)
- As further evidence of Aboriginal occupation prior to European settlement for people who do not understand the magnitude to which Aboriginal people occupied the continent (DECCW 2010a p.3).

2 Study area context

This section discusses the study area in regards to its landscape, environmental and Aboriginal cultural heritage context. This section should be read in conjunction with the archaeological report attached in Appendix 6. The background research has been undertaken in accordance with the *Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010b).

2.1 Topography and hydrology

The Illawarra region forms part of the Sydney Basin; a geological basin filled with near horizontal sandstones and shales of Permian to Triassic age overlying older basement rocks of the Lachlan Fold Belt. The Illawarra subregion of the Sydney Basin is characterised by Permian siltstones, shale, sandstones and interbedded volcanics on and below the coastal escarpment. The geology of the region provides useful stone resources for toolmaking, included volcanic rocks useful for manufacture of edge ground axes.

The study area is situated on the Coastal Plain on the edge of Lake Illawarra and the Escarpment. This physiographic unit has formed from the gradual recession westward of the Plateau (Bowman 1971). The Coastal Plain is characterised as a mosaic of foothills, ridges, spurs, hillocks and floodplains with slopes varying from very gently inclined to steep with the occasional low cliff. It is dissected by easterly flowing streams at intervals that become more frequent towards the north (Fuller 1982: 18). The Coastal Plain is widest at the points where Macquarie Rivulet has entrenched into the Plateau at Macquarie Pass and where other waterways that provide the catchment area of Lake Illawarra, such as Duck and Wollingurry Creek systems, have carved into the Escarpment (Bowman 1971).

The Northern Precinct is located approximately 50 metres inland from the shore of Lake Illawarra. Lake Illawarra was formed from the drowning of the Macquarie Rivulet valley during the raising of Holocene sea levels (6-7,000 years ago); the estuary was subsequently formed behind the large sand barrier that now forms the Windang Peninsula. Lake Illawarra is the largest estuarine lagoon on the south coast of NSW, covering an area of 33 square kilometres and extending over 9 kilometres in length and 5 kilometres in width. It receives salt water from the Pacific Ocean and fresh water from the Illawarra Escarpment (Roy 1984). Lake Illawarra is classified as an early Intermediate Barrier Estuary or an estuarine lagoon. Barrier estuaries are characterised by 'narrow elongated entrance channels with broad tidal and back barrier sand flats' (Roy 1984: 5).

The proximity to Lake Illawarra would have provided abundant food resources and is likely to result in the presence of Aboriginal sites, such as middens, in the vicinity of the study area.

2.2 Climate

The climate within the Study Area is generally temperate with a maritime influence. Summers in the coastal regions are generally warm, whilst winters are mild. In the escarpment areas to the west, winters are cold. Moderate to high temperatures, high humidity, onshore winds and peak rainfall characterise summer and autumn (Hazelton 1992). One third of the mean annual rainfall occurs between January and March, with a secondary rainfall peak in June. Winter winds are predominantly westerly, producing drier, cooler conditions.

2.3 Soil landscapes

Soil landscapes have distinct morphological and topological characteristics that result in specific archaeological potential. Because they are defined by a combination of soils, topography, vegetation and

weathering conditions, soil landscapes are essentially terrain units that provide a useful way to summarise archaeological potential and exposure. The study area contains one erosional soil landscape called the Shellharbour soil landscape. Erosional soil landscapes comprise soils that are derived from the erosive action of running water, primarily well-defined streams that have the ability to transport their sediment load. Soils may be either absent, derived from water-washed parent materials, or derived from *in situ* weathered bedrock.

The characteristics of the Shellharbour soil landscape are summarised in Table 1.

Table 1 Shellharbour soil landscape characteristics (Hazelton 1992: 58-60)

Soil Landscape	Topography	Soils
Shellharbour	Rolling low hills with long side slopes and broad drainage lines. Relief 30-50 metres. Slopes <20% incline.	Crests and upper slopes: Hard setting black rich clays overlying <100 cm of brown strongly pedal heavy clay. Mid slopes: Up to 20 cm of brownish black sandy loam overlies <50 cm of strongly pedal reddish brown sandy clay. 50 cm of mottled reddish brown sandy clay overlies <50 cm of brown strongly pedal heavy clay. Foot slopes and drainage plains: Up to 40 cm of reddish brown sandy clay overlies >50 cm of strongly pedal brown heavy clay.

The Shellharbour soil landscape has a high to very high erodibility rating would therefore be susceptible to frequent soil movement. This would result in poor preservation of archaeological material at shallow depths but would potentially lead to exposures of any deeper archaeological deposits were topsoil has eroded away.

2.4 Landscape resources

The Coastal Plain of the Illawarra region provides a number of resources used by Aboriginal inhabitants. The geology of the region provides an abundant supply of raw materials. Quartz is the main stone raw-material type suitable for Aboriginal tool manufacture that is likely to occur in the vicinity of the study area in any abundance. This would have been available locally and also from trading with other groups (Donlon and Sefton, 1988: 23). Igneous material would have come from the south of the study area in areas like Gerrigong (Donlon and Sefton, 1988: 55) due to its volcanic nature. Some of the other fined grain siliceous material may have come from the Cumberland Plain. Silcrete cobbles are known to have occurred along the Cumberland Plain (McDonald 1992), to the north of the study area. Elsewhere on the Illawarra Coastal Plain, the potential raw materials for stone artefact making include silicified wood, tuff, mudstone, quartz, quartzite and basalt. River gravels and cobbles containing silcrete, chert, and other fine grained volcanic rocks were also used (Attenbrow 2010). While previous archaeological work within the region has not identified any specific stone sources, the presence of the volcanic Dapto Latite Member in the region may have provided a suitable source of raw material, providing lithic material for stone axes. Resources would have been accessible in the outcrops of siltstone, shale and tuffaceous sandstones of the Berry Siltstone formation.

Aerial imagery and vegetation mapping undertaken by the National Parks and Wildlife Service (NPWS) shows that the study are has been cleared of native vegetation; however, native vegetation communities in the vicinity of the study area and around Lake Illawarra would have been comparable to vegetation found in the study area prior to clearing. These vegetation communities include (NPWS 2002):

- Saltmarsh located in the intertidal zone around estuaries of Lake Illawarra. It contains salt tolerant estuarine species with the dominant species being Glasswort (*Sarcocornia quinqueflora subsp. quinqueflora*). The mosaic of saltmarsh is patchy and low growing in small areas adjoining mudflats and lake fringes.
- Estuarine Alluvial Wetland occurring in small pockets of low-lying poorly drained soils on the coastal floodplains and estuaries. Common and abundant species that adjoin permanent water bodies are Common Reed *(Phragmites australis*) and Broadleaf Cumbungi (*Typha orientalis*). Isolated small trees of Swamp Oak (*Casuarina glauca*), Prickly-leaved Tea Tree (*Melaleuca styphelioides*) occur on drier banks and margins.
- Estuarine Seagrass-Mudflats can be found on shallow subtidal sediments and mudflats in estuarine environments in and around Lake Illawarra, in coastal lake system. Eelgrass (*Zostera capricorni*) is the dominant species.

A number of these plant species would have been used by Aboriginal groups to make various wooden implements. Wood from the Swamp Oak was used to make tools such as nulla nullas while the bark was removed and made into canoe hulls (Robinson 1991:152). Bark from the tea tree was also used for bedding and to make torches. In addition to tool making, some plants also provided a food source. The rhizomes, green shoots, and young flower spikes of the broad leaf cumbungi were all eaten, and left over fibres could then be used to make string (Robinson 1991: 432).

Local Aboriginal groups would have had access to an abundant range of marine, terrestrial and avian species present in the coastal resource zone which would have provided a variety of uses. Marine animals such as cockles, lobster and periwinkles were eaten. Abalone and stingrays were also used to make fish hooks and tools in addition to their use as a food source. Terrestrial species on the coastal plain, such as kangaroos, possums and wombats would have been exploited for food and to make cloaks, and tools. Avian species were used as a food source, and in the case of the pelican and black duck were often totem animals for Aboriginal groups (Wesson 2009).

2.5 Land use history

Within the proposed study area, soil disturbance is associated with historic pastoral land-use practices and recreational usage. The entire area between Koonawarra and Yallah bays have been subjected to extensive grazing and agricultural practices from 1880s onwards (McDonald 1976). As well as vegetation clearing for pasture and agriculture, other land disturbances within the property include construction of the high voltage transmission lines and towers; recreational usage resulting in impact trails particularly by trail bikes and pedestrian traffic in the low lying areas along the foreshore.

Although these past land activities caused disturbances, they may have impacted only the surface contexts of any existing Aboriginal archaeological site; it is unlikely that they would have destroyed sites. Clearing of the land would have most likely removed a great number of native culturally modified trees.

3 Aboriginal cultural heritage context

3.1 Ethnohistory

Despite a proliferation of known indigenous sites there is considerable ongoing debate about the nature, territory and range of pre-contact indigenous language groups in the greater Sydney region. These debates have arisen largely due to the lack of ethnographic and linguistic information recorded at the time of European contact. By the time colonial diarists, missionaries and proto-anthropologists began making detailed records of indigenous people in the late 19th century, pre-European indigenous groups had been broken up and reconfigured by European settlement activity. The following information relating to indigenous people on the Illawarra is based on early ethnographic accounts.

Despite conflicting views between historical sources of the exact boundaries of tribal groups in the region, the linguistic evidence does identify distinct language groups at the time of European contact. Based on this information it appears that the study area was situated within the Tharawal (also Dharawal, Darawal, Carawal, Turawal, Thurawal) linguistic group. The named groups (often referred to as 'clans', 'bands' or 'tribes') belonging to the Tharawal/Dharawal language group included the following: Gweagal, Norongerraga, Illawarra, Threawal, Tagary, Wandeandega, Wodi Wodi and Ory-ang-ora (Tindale 1974). In his overview of Australian Aboriginal tribal boundaries, Tindale (1974:199-201), places the Illawarra area within the territories of the Wodi Wodi tribe (or 'named group'). Tindale (1940:194-195) describes the Wodi Wodi named group as occupying the area north of the Shoalhaven River to Wollongong.

The areas inhabited by each of the groups are considered to be indicative only and would have changed through time and possibly due to circumstances (i.e. availability and distribution of resources). The type and quantity of interactions between different social groupings would have varied with seasons and resource availability. Interactions between the groups inhabiting the many resource zones of the Sydney Basin (coastal and inland) would have varied but been continuous. This is reflected in the relatively homogenous observable cultural features such as art motifs, technology and resource use (McDonald 1992).

Ethnographic evidence considered by Donlon and Sefton (1988, pp. 22-29) indicates high population mobility on the Woronora Plateau with frequent contact between the neighbouring Gandangarra, Cobrakall (Liverpool and Cabramatta) and Wodi Wodi (Illawarra). The traditional Wodi Wodi land extended from around Stanwell Park to the Shoalhaven River, and as far inland as Picton, Moss Vale and Marulan. The Wodi Wodi spoke the Dharawal language, however Dharawal (Tharawal) was not a word they had heard of or used themselves (Tindale 1974, Navin Officer Heritage Consultants 2000). Many of the town and place names of the Illawarra are derived from the Dharawal language.

The first European explorers in the area were Bass and Flinders when they travelled to Port Kembla in 1796. Flinders wrote about 'Canoe River' in his journal, making reference to the Lake Illawarra entrance (Flinders 1796 in Organ 1990:11).

> '*This part is called Alowrie, by the natives, and is very low and sandy near the sides of the rivulet. About four miles up it, to the north-west, is the lagoon: and behind, stands a semi-circular range of hills, of which the highest is Hat Hill. The water in the lagoon was distinctly seen, and appeared to be several miles in circumference. The land around it is probable fertile, and the slopes of the back hills had certainly that appearance.*'

Lake Illawarra also provided a rich variety of food resources. Allan Cunningham, Government Botanist, wrote in 1818:

...we came out upon the margin of the Lake, which is extensive, but very shoaly on its expanded surface. Pelicans, ducks and teal and some other aquatic birds were swimming, and in detached parties I observed natives of the Lake...in canoes, spearing fish, which is said to be abundant.

After the arrival of European settlers the movement of Aboriginal hunter-gatherers began to be increasingly restricted. European expansion was swift following the initial exploration by Bass and Flinders, and soon there had been considerable loss of land to agriculture. This led to violence and conflict between Europeans and Aboriginal people as both groups sought to compete for the same resources (Attenbrow 2010). At the same time diseases such as small pox were having a devastating effect on the Aboriginal population. Death, starvation and disease were some of the disrupting factors that led to a reorganisation of the social practices of Aboriginal communities after European contact.

The formation of new social groups and alliances were made as Aboriginal people sought to retain some semblance of their previous lifestyle. In 1820, approximately 3000 Aboriginal people were living in the Illawarra, but by 1899 their numbers had declined to only 33 people of non-mixed descent (Organ 1990). Today many Wodi Wodi and Tharawal people continue to live in the Illawarra.

3.2 Aboriginal heritage located in the study area

The archaeological assessment of the study area identified the following Aboriginal sites in the study area:

- Boomberry Point 1 (AHIMS 52-5-0223)
- Elizabeth Point (AHIMS 52-5-0225)

The following Aboriginal sites are located within 10 metres of the study area:

- Gilba Road 1 (52-5-0642) - The location of Gilba Road 1 (52-5-0642) has been incorrectly recorded on the AHIMS database. A review of the site card and description indicates that this site is located along Gilba Road within 10 metres of the study area
- Gilba Road 2 Fill 1 (AHIMS 52-5-0643)

One area of moderate subsurface archaeological potential was identified within the study area. The archaeological report attached in Appendix 5 provides details for Aboriginal sites and areas of potential identified during the archaeological assessment. Figure 4 details the Aboriginal sites within the study area. Areas of archaeological potential arte shown in Figure 5. A brief description of each site is provided below.

52-5-0223 Boomberry Point 1

Consists of a small, dispersed shell midden located on Boomberry Point on a track exposure. The extent of the site has not been determined due to the level of grass cover around the site at the time of recording. *Anadara trapezia* appeared to be the only shell species present at the site. No artefacts were noted. The northern part of the site had been impacted through the dumping of industrial and building rubble.

52-5-0225 Elizabeth Point

Consists of an isolated artefact located on an exposed vehicle track. The flake is of a grey chert and has suffered disturbance due to traffic along the track.

Area of moderate archaeological potential

The area of moderate archaeological potential identified in the 2010 Biosis assessment was redefined based on the findings of the predictive statement and the field survey. The low spur/crest running roughly east-west

through the centre of the study area has been assessed as having moderate subsurface archaeological potential. Previous research indicates that the landform is likely contain low density artefact sites or isolated artefacts that were discarded as Aboriginal people travelled through the landscape. The test excavation program conducted by Biosis in 2010 indicated that this landform unit has been subject to low levels of previous ground disturbance with four distinct and intact soil horizons identified throughout the testing locations in the northern precinct.

3.3 Interpretation of past Aboriginal land use

Ethno-historical information points out that the area was intensively occupied by people of the Dharawal language group. Tangible evidence of this occupation is reflected across the landscape by many recorded sites around Lake Illawarra, the majority of them shell middens and artefacts.

Previous archaeological work around Lake Illawarra has recognised archaeological and cultural landscape values of the locality. All of the previous studies provide a general overview of the Aboriginal archaeological site patterning and predictive behaviour around the lake. Results of previous archaeological assessments indicate that areas of archaeological potential will occur where disturbance has been limited in all the landforms around the lake, with shell middens and artefact sites most likely to be present in the area (Figure 5).

Due to the proximity of the study area to Lake Illawarra, it would have provided have provided access to a range of terrestrial and aquatic flora and fauna species that could be utilised by Aboriginal groups in the region. Aquatic species in the area would have included a range of shellfish species that could be exploited, and this would result in the potential for shell midden sites in the study area. Several sites are recorded in the study area, including three isolated artefacts and a shell midden (Figure 4). This indicates that the study area was utilised by Aboriginal people in the past.

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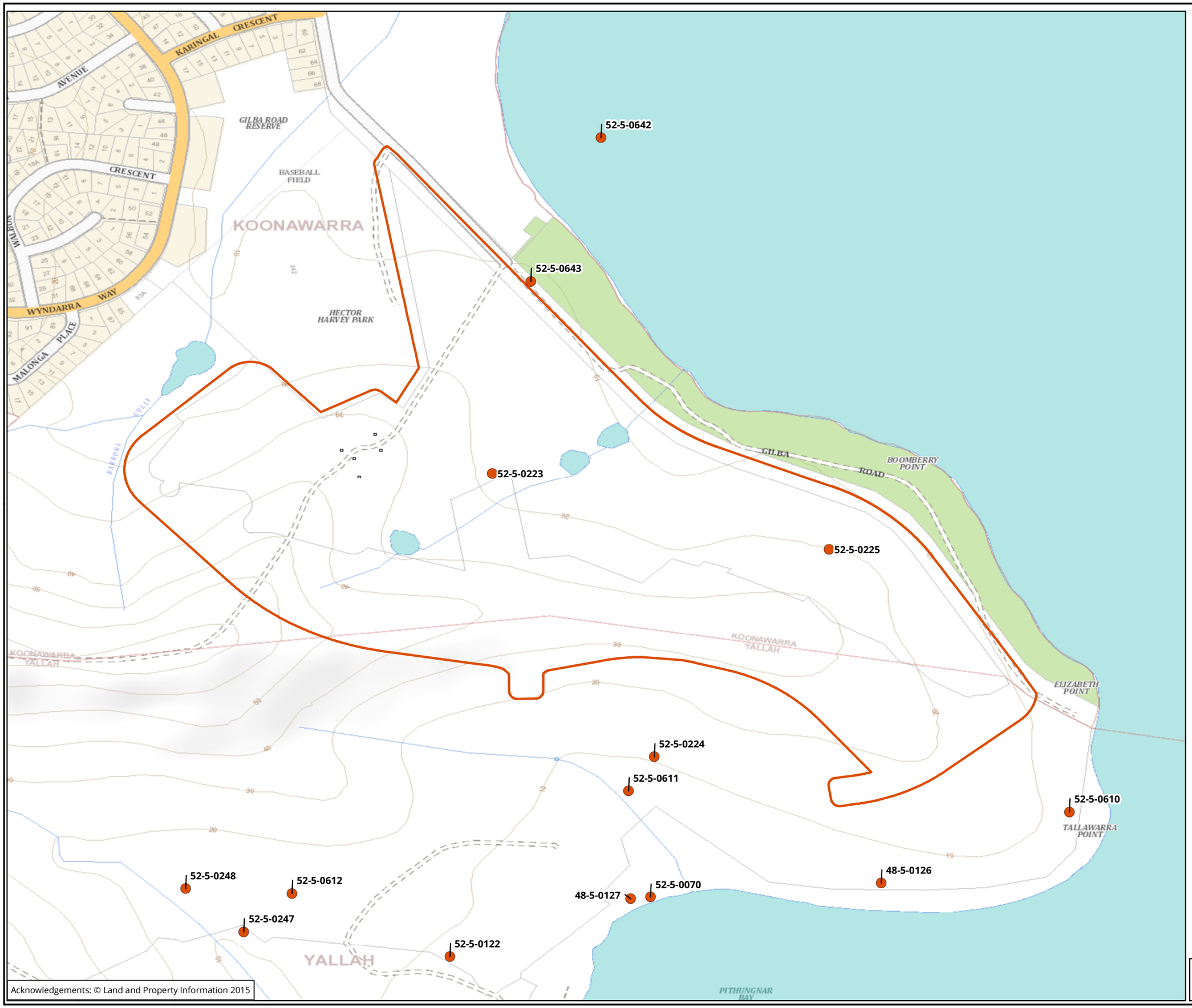

Legend

- AHIMS Records
- Study area

Acknowledgements: © Land and Property Information 2015

Figure 4: AHIMS sites

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

N

Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne, Sydney,Wangaratta & Wollongong

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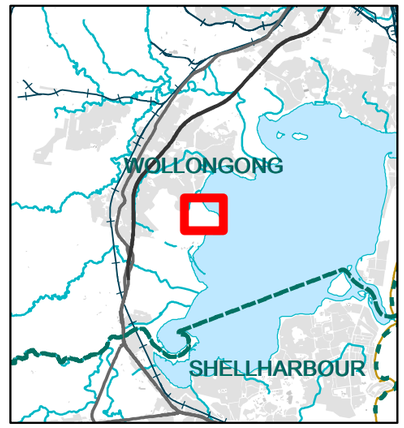

Legend

Study area

Archaeological potential

Moderate

Low

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 5: Aboriginal archaeological sensitivity located in the study area

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne, Newcastle, Sydney, Wangaratta & Wollongong

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4 Aboriginal community consultation

Consultation with the Aboriginal community has been undertaken in compliance with the consultation requirements as detailed below. A consultation log of all communications with RAPs is provided in Appendix 1.

4.1 Stage 1: Notification of project proposal and registration of interest

4.1.1 Identification of relevant Aboriginal stakeholders

In accordance with the consultation guidelines, Biosis Pty Ltd notified the following bodies regarding the Proposal:

- Wollongong City Council.
- NSW Office of Environment and Water (OEH).
- NSW Native Title Services Corporation Limited (NTSCORP Limited).
- Office of the Registrar, Aboriginal Land Rights Act 1983 of Aboriginal Owners.
- National Native Title Tribunal (NNTT).
- South Coast Local Land Services.
- Illawarra Local Aboriginal Land Council (ILALC).

A list of known Aboriginal stakeholders in the Illawarra was provided by OEH (a copy of these responses are provided in Appendix 2 and included:

A search conducted by the Office of the Registrar, Aboriginal Land Rights Act 1983 (NSW) listed no Aboriginal Owners with land within the study area. The National Native Title Tribunal did not respond to the request to find Aboriginal stakeholders. Both Wollongong City Council and South Coast Local Land Services recommended contacting OEH.

4.1.2 Public notice

In accordance with the consultation guidelines, a public notification was placed in the following newspapers:

- Illawarra Mercury (20 June 2017)

The advertisement invited Aboriginal people who hold cultural knowledge to register their interest in a process of community consultation to provide assistance in determining the significance of Aboriginal object(s) and/or places in the vicinity of the study area. A copy of the public notice is provided in Appendix 2.

4.1.3 Registration of Aboriginal parties

Aboriginal groups identified in Section 4.1.1 were sent a letter inviting them to register their interest in a process of community consultation to provide assistance in determining the significance of Aboriginal object(s) and/or places in the vicinity of the study area. In response to the letters and public notice, a total of 14 groups registered their interest in the project. Responses to registration from Aboriginal parties are provided in Appendix 3. A full list of Aboriginal parties who registered for consultation is provided below:

- Illawarra Local Aboriginal Land Council (ILALC)
- Warra Bingi Nunda Gurri
- Woronora Plateau Gundangara Elders Council
- Darug Land Observations
- Three Ducks Dreaming Surveying and Consulting
- The Wadi Wadi Coomaditchie Aboriginal Corporation
- Guunamaa Dreaming and Sites Surveying
- James Davis
- Goobah Development Pty Ltd (Murrin Clan/Peoples)
- Murramarang (Murrin Clan/Peoples
- Minnamunnung
- Duncan Falk Consultancy
- Cullendulla (Murrin Clan/Peoples)
- Biamanga (Murrin Clan/Peoples)

4.2 Stage 2: Presentation of information about the proposed project

On 22 September 2017 Biosis provided RAPs with details about the proposed development works (project information pack). A copy of the project information pack is provided in Appendix 3.

4.3 Stage 3: Gathering information about cultural significance

4.3.1 Archaeological assessment methodology information pack

On 22 September 2017 Biosis provided each RAP with a copy of the project methodology outlining the proposed Aboriginal cultural heritage assessment process and methodology for this project. RAPs were given 28 days to review and prepare feedback on the proposed methodology. A copy of the project methodology pack is provided in Appendix 3.

Biosis received comments from several RAPs, including Three Ducks Dreaming Surveying and Consulting, Darug Land Observations, Biamanga (Murrin Clan/Peoples), Cullendulla (Murrin Clan/Peoples), Goobah Development Pty Ltd (Murrin Clan/Peoples) and Murramarang (Murrin Clan/Peoples), who agreed with the project methodology. Three Ducks Dreaming Surveying and Consulting requested that any artefacts found are provided to the Illawarra Local Aboriginal Land Council for future educational design projects.

4.4 Stage 4: Review of draft Aboriginal cultural heritage assessment report

Following completion of the DRAFT Aboriginal cultural heritage assessment report, it was provided to RAPs on 2 November 2017 for review and comment. RAPs were given 28 days to provide comments. Comments on the draft report are provided in Appendix 4.

Responses on the report were received from Three Ducks Dreaminig, Guunamaa Dreaming Site and Surveying, Murramarang (Murrin Clan/Peoples), Cullendulla (Murrin Clan/Peoples), Biamanga (Murrin Clan/Peoples), Goobah Development Pty Ltd (Murrin Clan/Peoples) and Duncan Falk Consultancy. All groups agreed with the draft report. Duncan Falk Consultancy recommending that any artefacts found are reburied in an agreed location where they will not be impacted upon in the future, and also confirmed that Duncan Falk Consultancy holds evidence regarding language boundaries, noting that Dharawal ranged from the Illawarra to Bong Bong now known as the Southern Highlands and surrounding areas. Guunamaa Dreaming Sites and Surveying requested that only Aboriginal groups from the Illawarra be involved in any further work. Three Ducks Dreaming Surveying and Consulting believes there are many significant areas within the area, especially around the creeks and plains.

5 Aboriginal cultural significance assessment

The two main values addressed when assessing the significance of Aboriginal sites are cultural values to the Aboriginal community and archaeological (scientific) values. This report will assess the cultural values of Aboriginal sites in the study area. Details of the scientific significance assessment of Aboriginal sites in the study area are provided in Appendix 5.

5.1 Introduction to the assessment process

Heritage assessment criteria in NSW fall broadly within the significance values outlined in the Australia International Council on Monuments and Sites (ICOMOS) *Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* (Australia ICOMOS 2013) ('the Burra Charter'). This approach to heritage has been adopted by cultural heritage managers and government agencies as the set of guidelines for best practice heritage management in Australia. These values are provided as background and include:

- **Historical significance** (evolution and association) refers to historic values and encompasses the history of aesthetics, science and society, and therefore to a large extent underlies all of the terms set out in this section. A place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase or activity. It may also have historic value as the site of an important event. For any given place the significance will be greater where evidence of the association or event survives *in situ*, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment.
- **Aesthetic significance** (Scenic/architectural qualities, creative accomplishment) refers to the sensory, scenic, architectural and creative aspects of the place. It is often closely linked with social values and may include consideration of form, scale, colour, texture, and material of the fabric or landscape, and the smell and sounds associated with the place and its use.
- **Social significance** (contemporary community esteem) refers to the spiritual, traditional, historical or contemporary associations and attachment that the place or area has for the present-day community. Places of social significance have associations with contemporary community identity. These places can have associations with tragic or warmly remembered experiences, periods or events. Communities can experience a sense of loss should a place of social significance be damaged or destroyed. These aspects of heritage significance can only be determined through consultative processes with local communities.
- **Scientific significance** (Archaeological, industrial, educational, research potential and scientific significance values) refers to the importance of a landscape, area, place or object because of its archaeological and/or other technical aspects. Assessment of scientific value is often based on the likely research potential of the area, place or object and will consider the importance of the data involved, its rarity, quality or representativeness, and the degree to which it may contribute further substantial information.

The cultural and archaeological significance of Aboriginal and historic sites and places is assessed on the basis of the significance values outlined above. As well as the Burra Charter significance values guidelines, various government agencies have developed formal criteria and guidelines that have application when assessing the significance of heritage places within NSW. Of primary interest are guidelines prepared by the Australian

Government, the NSW OEH and the Heritage Branch, and the NSW Department of Planning and Environment. The relevant sections of these guidelines are presented below.

These guidelines state that an area may contain evidence and associations which demonstrate one or any combination of the Burra Charter significance values outlined above in reference to Aboriginal heritage. Reference to each of the values should be made when evaluating archaeological and cultural significance for Aboriginal sites and places.

In addition to the previously outlined heritage values, the OEH *Guidelines to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011) also specify the importance of considering cultural landscapes when determining and assessing Aboriginal heritage values. The principle behind a cultural landscape is that 'the significance of individual features is derived from their inter-relatedness within the cultural landscape'. This means that sites or places cannot be 'assessed in isolation' but must be considered as parts of the wider cultural landscape. Hence the site or place will possibly have values derived from its association with other sites and places. By investigating the associations between sites, places, and (for example) natural resources in the cultural landscape the stories behind the features can be told. The context of the cultural landscape can unlock 'better understanding of the cultural meaning and importance' of sites and places.

Although other values may be considered – such as educational or tourism values – the two principal values that are likely to be addressed in consideration of Aboriginal sites and places are the cultural/social significance to Aboriginal people and their archaeological or scientific significance to archaeologists and the Aboriginal community. The determinations of archaeological and cultural significance for sites and places should then be expressed as statements of significance that preface a concise discussion of the contributing factors to Aboriginal cultural heritage significance.

5.2 Cultural (social significance) values

Cultural or social significance refers to the spiritual, traditional, historical and/or contemporary associations and values attached to a place or objects by Aboriginal people. Aboriginal cultural heritage is broadly valued by Aboriginal people as it is used to define their identity as both individuals and as part of a group (DECCW 2010a p.iii). More specifically it provides a:

- "*connection and sense of belonging to Country*" (DECCW 2010a p.iii).
- Link between the present and the past (DECCW 2010a p.3).
- A learning tool to teach Aboriginal culture to younger Aboriginal generations and the general public (DECCW 2010a p.3).
- Further evidence of Aboriginal occupation prior to European settlement for people who do not understand the magnitude to which Aboriginal people occupied the continent (DECCW 2010a p.3).

It is acknowledged that Aboriginal people are the primary determiners of the cultural significance of Aboriginal cultural heritage. Table 2 below outlines areas identified as having Aboriginal cultural significance based on the previous Aboriginal consultation for the study area in 2010 (Biosis 2010).

Table 2 Areas of Aboriginal cultural sensitivity, identified through stakeholder consultation in Biosis (2010)

Defined area of Aboriginal cultural sensitivity	Description of component area	Identified cultural values
Duck Creek	Easterly trending creek with fluvial deposits located on the southern and northern banks of the creek.	It would have been used as an access way to the lake and for its resources.
Fig Tree	SSE trending basal slope	Men's business or women's business, a meeting place, birthing tree
Lake Illawarra Foreshore	Open, sloping lake shores and floodplain / swamp land	The lake itself, the foreshore, the midden sites and its association with the birth of Queen Rosie.
Wollingurry Point	Open low slope towards Lake Illawarra	Large midden site situated on a point that extends out into the lake
Ridgeline Access – Mt Brown to the Lake	Steep to moderate slopes trending south east towards Lake Illawarra	Ridgeline - access way from Mt Brown to Lake Illawarra - camping - vista
Mount Brown	Steep to moderate slopes trending south east towards Lake Illawarra	Mt Brown - lookout

5.3 Historic values

Historic significance refers to associations a place or object may have with a historically important person, event, phase or activity to the Aboriginal and other communities. The study area is not known to have any historic associations.

5.4 Archaeological (scientific significance) values

An archaeological (scientific) assessment was undertaken for the study area and is presented in detail as part of the attached Archaeological Report (Appendix 5).

5.5 Aesthetic values

The study area is located in close proximity to Lake Illawarra with some areas of disturbance present throughout. The landscape of the study area has undergone tree clearing and farming practices but due to its proximity to Lake Illawarra and Mount Brown is still closely linked with Aboriginal cultural values and provides a context for Aboriginal sites that gives a strong sense of place.

5.6 Statements of significance

The significance of the Aboriginal sites has been assessed in accordance with the following criteria:

- Requirements of the Code

- The Burra Charter
- Guide to Investigating and reporting on Aboriginal Heritage.

The combined use of these guidelines is widely considered to represent the best practice for assessments of Aboriginal cultural heritage. The identification and assessment of cultural heritage values includes the four values of the Burra Charter: social, historical, scientific and aesthetic values. The resultant statement of significance has been constructed for the study area based on the significance ranking criteria assessed in Table 3.

5.6.1 Statement of significance for Boomberry Point 1 (AHIMS 52-5-0223)

Boomberry Point 1 (52-5-0223) consisted of shell midden containing one shell species. The site was exposed on the side of a track in a hill slope landform. The site was noted to be badly disturbed with highly fragmented shell. The site has no direct historical associations and has low scientific potential. The site is located in on an access track in close proximity to Lake Illawarra. It has moderate aesthetic significance due to Lake Illawarra, but is heavily disturbed. The significance of this site has been assessed as low.

5.6.2 Statement of significance for Elizabeth Point 1 (AHIMS 52-5-0225)

Elizabeth Point 1 (52-5-0225) was recorded as an isolated stone artefact located on a walking track. The artefact was a grey chert flake piece, common in the region and was observed to have been disturbed by the walking track. The site has no direct historical associations and has low scientific potential. It has moderate aesthetic significance due to Lake Illawarra, but is heavily disturbed. The significance of this site has been assessed as low.

5.6.3 Statement of significance for Gilba Road 1 (AHIMS 52-5-0642)

Gilba Road 1 (52-5-0642) was recorded as a stone artefact located at the very beginning of a concrete pathway. Based upon the location of this artefact and current aerial imagery, the artefact has been disturbed as a concrete pathway now extends through the area that the artefact was initially found in. The site has no direct historical associations and has low scientific potential. The site is located on the Lake Illawarra foreshore next to a concrete bicycle track. It has moderate aesthetic significance due to its proximity to Lake Illawarra. The significance of this site has been assessed as low.

5.6.4 Statement of significance for Gilba Road 2 Fill (AHIMS 52-5-0643)

Gilba Road 2 Fill (52-5-0643) site was recorded as an artefact located in an area of fill, with shell and pottery also present. The location of the artefact in an area of fill indicates that it has been disturbed. The site has no direct historical associations and has low scientific potential. The site is located on the Lake Illawarra foreshore in an area of fill. It has moderate aesthetic significance due to its proximity to Lake Illawarra. The significance of this site has been assessed as low.

Table 3 Significance assessment criteria

Site name	Criteria	Ranking
Boomberry Point 1 52-5-0223	Cultural – discussions with the local Aboriginal communities reflect that the site is high in value.	High
	Historical – the site is not connected to any historical event or personage.	Low
	Scientific – the site contains a shell midden with one species present. The site type is common in the region, and it is located in an area of previous disturbance. It is assessed with low scientific	Low

Site name	Criteria	Ranking
	significance.	
	Aesthetic – the site is located in on an access track in close proximity to Lake Illawarra. It has moderate aesthetic significance due to Lake Illawarra, but is heavily disturbed.	Moderate
Elizabeth Point 1 52-5-0225	Cultural – discussions with the local Aboriginal communities reflect that all sites are high in value.	High
	Historical – the site is not connected to any historical event or personage.	Low
	Scientific – the site contains an isolated artefact which is common in the region. The site is located on a walking track and is disturbed. It is assessed with low scientific significance.	Low
	Aesthetic – the site is located in on an access track in close proximity to Lake Ilawarra. It has moderate aesthetic significance due to its location.	Moderate
Gilba Road 1 52-5-0642	Cultural – discussions with the local Aboriginal communities reflect that the site is high in value.	High
	Historical – the site is not connected to any historical event or personage.	Low
	Scientific – the site contains an isolated artefact common in the region, and which is located in an area of previous disturbance. It is assessed with low scientific significance.	Low
	Aesthetic – the site is located on the Lake Illawarra foreshore next to a concrete bicycle track. It has moderate aesthetic significance due to its proximity to Lake Illawarra.	Moderate
Gilba Road 2 Fill 52-5-0643	Cultural – discussions with the local Aboriginal communities reflect that the site is high in value.	High
	Historical – the site is not connected to any historical event or personage. It is assessed with low historical significance	Low
	Scientific – the site contains an isolated artefact common in the region, and which is located in an area of previous disturbance. It is assessed with low scientific significance.	Low
	Aesthetic – the site is located on the Lake Illawarra foreshore in an area of fill. It has moderate aesthetic significance due to its proximity to Lake Illawarra.	Moderate

6 Proposed development limitations & mitigation measures

As previously outlined, Cardno on behalf of Bridgehill is proposing to submit a development application for the Tallawarra Lands Northern Precinct and to modify the existing concept approval for the Northern Precinct (MP 09_0131 MOD 1) to allow an increased residential lot yield.

The proposed development will involve the following activities that have the potential to impact on Aboriginal archaeological sites or objects:

- earthworks
- subdivision
- new housing stock
- public open space areas
- new recreation facilities
- environmental management and conservation areas and riparian corridors
- new internal roads
- new pedestrian and cycle pathways
- landscaping
- power station buffer areas
- installation of services (water, gas, power).

The following amendments are proposed to the Concept Plan in the Northern Precinct:

- Reduce the existing transmission easement width to accommodate a 15 metre wide corridor for underground transmission lines beneath a proposed road.
- Expand the R2 zone (for low density residential land) south east into the E1 Public Recreation lands.
- Expand the R2 Zone (for low density residential use) south into the E3 Environmental Management up to the ridge
- The composition of lots has been altered from the Concept Plan, with a new indicative layout that includes lots down to 300m2 and 12.5 metres frontages, where suited to the topography of the site.

6.1 Predicted physical impacts

The proposed modification and associated development will not impact on any additional Aboriginal sites or areas of archaeological potential.

Within the study area, there are two recorded Aboriginal sites that may be subject to harm (52-5-0223, and 52-5-0225). It is expected that the potential of harm to 52-5-0223, and 52-5-0225 from the proposed development will be direct, with a total loss of value.

Two AHIMS sites (52-5-0642, and 52-5-0643) are located within 10 metres of the study area, and may be subject to harm. It is expected that the potential of harm to 52-5-0642, and 52-5-0643 from the proposed development will be indirect, with a partial loss of value.

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Strategies to avoid or minimise harm to Aboriginal heritage in or near the study area are discussed below. A summary of impacts is provided below in Table 4. Figure 6 shows the proposed development footprint and the AHIMS sites in and adjacent to the study area.

Table 4 Summary of potential archaeological impacts

AHIMS site no.	Site name	Significance	Type of harm	Degree of harm	Consequence of harm
52-5-0223	Boomberry Point 1	Low	Direct	Total	Total loss of value
52-5-0225	Elizabeth Point	Low	Direct	Total	Total loss of value
52-5-0642	Gilba Road 1	Low	Indirect	Partial	Partial loss of value
52-5-0643	Gilba Road 2 Fill	Low	Indirect	Partial	Partial loss of value

6.2 Avoiding harm to Aboriginal heritage

Aboriginal sites Boomberry Point 1 (AHIMS 52-5-0223), and Elizabeth Point (AHIMS 52-5-0225), and the area of moderate archaeological potential are located within the centre of the development footprint and impacts cannot be avoided by the proposed development.

Aboriginal sites Gilba Road 1 (AHIMS 52-5-0642) and Gilba Road 2 Fill (AHIMS 52-5-0643) are located within 10 metres of the area of proposed works. The proposed works are not expected to directly impact on these sites.

Strategies to avoid or minimise harm to Aboriginal heritage in or adjacent to the study area are discussed below.

6.3 Management and mitigation measures

Ideally, heritage management involves conservation of sites through the preservation and conservation of fabric and context within a framework of "*doing as much as necessary, as little as possible*" (Marquis-Kyle and Walker 1994: 13). In cases where conservation is not practical, several options for management are available. For sites, management often involves the salvage of features or artefacts, retrieval of information through excavation or collection (especially where impact cannot be avoided) and interpretation.

Avoidance of impact to archaeological and cultural heritage sites through design of the development is the primary mitigation and management strategy, and should be implemented where practicable.

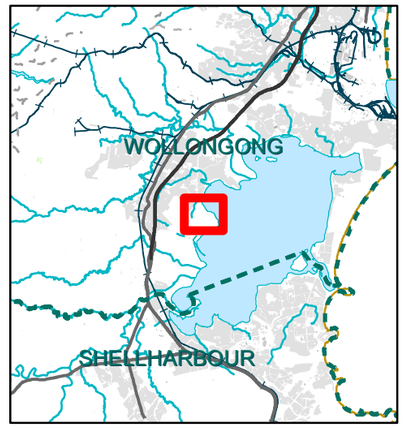
Gilba Road 1 (AHIMS 52-5-0642) and Gilba Road 2 Fill (AHIMS 52-5-0643) are located within 10 metres of the proposed development area. The proposed development will not have any direct impacts on Gilba Road 1 (AHIMS 52-5-0642) and Gilba Road 2 Fill (AHIMS 52-5-0643), however indirect impacts due to changes in the landscape and possible unintentional impacts during construction may occur. Gilba Road 1 (AHIMS 52-5-0642) and Gilba Road 2 Fill (AHIMS 52-5-0643) should be fenced prior to commencement of development activities. Construction workers and contractors should be made aware of the sites in order to prevent any unintentional impacts.

Boomberry Point 1 (AHIMS 52-5-0223), Elizabeth Point (AHIMS 52-5-0225), are currently located within the proposed development area and impacts cannot be avoided. Boomberry Point 1 (AHIMS 52-5-0223),

Elizabeth Point (AHIMS 52-5-0225), should be salvaged under an AHIP prior to development in order to mitigate impacts to the AHIMS sites.

Previous assessments, including a limited archaeological test excavation program conducted by Biosis (2010), identified an area of moderate subsurface archaeological potential within the study area. Further testing is therefore recommended in the area of moderate archaeological potential prior to development, to fully identify the nature and extent of Aboriginal occupation within the study area.

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017



Legend

- Study area
- AHIMS Records
- Proposed development

Figure 3: Proposed development showing Aboriginal sites located in the study area and vicinity

0 50 100 150 200 250

Metres
Scale: 1:5,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

N

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Ballarat, Brisbane, Canberra, Melbourne, Newcastle, Sydney, Wangaratta & Wollongong

Matter: 24090
Date: 23 August 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
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7 Recommendations

The recommendations below respond specifically to the wishes of the registered Aboriginal parties. Recommendations regarding the archaeological value of the site, and the subsequent management of Aboriginal cultural heritage is provided in the archaeological report (Appendix 5).

Recommendation 1: Continued consultation with the registered Aboriginal parties

It is recommended that Cardno continue to inform these groups about the management of Aboriginal cultural heritage sites within the study area throughout the life of the project. This recommendation is in keeping with the consultation requirements.

Recommendation 2: Further archaeological assessment is required in areas of moderate archaeological potential

Areas identified as having moderate archaeological potential should be avoided wherever possible (Figure 5). If impacts to these areas cannot be avoided subsurface investigations (test excavations) will be required prior to the commencement of works as a condition of the DA or concept approval. Test excavations should be conducted in accordance with the *Code of Practice for archaeological investigation for Aboriginal objects in NSW* (DECCW 2010b) and *Aboriginal cultural heritage consultation requirements for proponents in New South Wales* (DECCW 2010a).

Recommendation 3: No further archaeological assessment is required in areas of low archaeological potential

No further archaeological work is required in areas identified as having low archaeological potential except in the event that unexpected Aboriginal sites, objects or human remains are unearthed during development (refer to Recommendations 6 and 7 below).

Recommendation 4: Fencing of AHIMS sites

AHIMS sites or PAD areas located within 30 metres of the area of proposed works should be clearly marked and fenced in order to avoid unintentional impacts during construction.

Recommendation 5: Aboriginal cultural heritage induction for workers and contractors

The locations of each AHIMS site and PAD area located within the Tallawarra Lands development should be clearly mapped. Workers and contactors working at, or visiting the site should be made aware of the location of all AHIMS sites and PAD areas within the Tallawarra Lands development through an Aboriginal cultural heritage induction.

Recommendation 6: Application for an Aboriginal heritage impact permit (AHIP)

Should the Development Application (DA) be approved, it is recommended that Cardno apply to OEH for an AHIP to destroy the listed Aboriginal sites within the study area which are currently protected under the NSW *National Parks and Wildlife Act 1974*. **The AHIP should be for a term of ten (10) years.** The sites that will be impacted by the proposed works are as follows:

- Boomberry Point 1 (AHIMS 52-5-0223)
- Elizabeth Point (AHIMS 52-5-0225)

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For information about AHIPs and their preparation, see below.

Advice preparing AHIPs

An AHIP is required for any activities likely to have an impact on Aboriginal objects or Places or cause land to be disturbed for the purposes of discovering an Aboriginal object. The Office of Environment and Heritage (OEH) issues AHIPs under Part 6 of *the National Parks and Wildlife Act 1974* (NPW Act).

AHIPs should be prepared by a qualified archaeologist and lodged with the OEH. Once the application is lodged processing time can take between 8-12 weeks. It should be noted that there will be an application fee levied by the OEH for the processing of AHIPs, which is dependent on the estimated total cost of the development project.

Recommendation 7: Cardno must abide by the conditions of the AHIP once obtained from OEH

The AHIP will be issued with conditions pertaining to the management and mitigation of Aboriginal heritage sites within the study area. These conditions will be outlined in Schedules A. B and C as follows:

- Schedule A: Aboriginal objects which must not be harmed.
- Schedule B: Aboriginal objects that may be harmed through certain actions.
- Schedule C: Aboriginal objects which may be harmed through the proposed works.

Cardno must undertake all further works to ensure the condition of the AHIP are met before construction begins.

Recommendation 8: Discovery of Unanticipated Aboriginal Objects

All Aboriginal objects and Places are protected under the *NSW National Parks and Wildlife Act 1974*. It is an offence to knowingly disturb an Aboriginal site without a consent permit issued by the Office of Environment and Heritage (OEH). Should any Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object, the archaeologist will provide further recommendations. These may include notifying the OEH and Aboriginal stakeholders.

Recommendation 9: Discovery of Aboriginal Ancestral Remains

Aboriginal ancestral remains may be found in a variety of landscapes in NSW, including middens and sandy or soft sedimentary soils. If any suspected human remains are discovered during any activity you must:

4. Immediately cease all work at that location and not further move or disturb the remains
5. Notify the NSW Police and OEH's Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location
6. Not recommence work at that location unless authorised in writing by OEH.

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Appendices

Appendix 1 Consultation log

A1.1 Stage 1 – Notification of project proposal and registration of interest

Step 1- Identification of Aboriginal people/parties with an interest in the proposed study area.

Organisation contacted	Date and type of contact	Date and type of response	Response details
Wollongong City Council (WCC)	15/06/2017 - Letter	29/06/2017 - email	Encouraged to refer to OEH List
NSW Office of Environment and Water (OEH)	15/06/2017 - Letter	26/08/2017 - email	Provided list of Aboriginal stakeholders
NSW Native Title Services Corporation Limited (NTSCORP Limited)	15/06/2017 - Letter	N/A	
Office of the Registrar, Aboriginal Land Rights Act 1983 of Aboriginal Owners	15/06/2017 - Letter	26/08/2017 - email	Indicated there were no Aboriginal owners and to contact ILALC
National Native Title Tribunal (NNTT)	15/06/2017 - Letter	N/A	
South East Local Land Services	15/06/2017 - Letter	23/06/2017- letter	Recommended to contact OEH
Illawarra Local Aboriginal Land Council (ILALC)	15/06/2017 - Letter	N/A	

Step 2- Public advertisement

The public notice was published in the Illawarra Mercury on the 20 June 2017. A copy of the advertisement is provided in Appendix 2.

Step 3- Registration of interest.

The registration period ran from the 27 June 2017 to the 11 June 2017. Leeway was given to Aboriginal parties/groups who provided responses shortly after the close of this period and they have been registered as Aboriginal parties for consultation.

Organisation contacted	Date and type of contact	Date and type of response	Response details
Badu (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Bellambi Indigenous Corporation Gandangarra Traditional Owners	27/06/2017 - email	N/A	N/A

Organisation contacted	Date and type of contact	Date and type of response	Response details
Biamanga (Murrin Clan/Peoples)	27/06/2017 - email	10/07/2017 - email	Registered interest
Bilinga (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Bilinga Cultural Heritage Technical Services (Mirramajah)	27/06/2017 - email	N/A	N/A
Coomaditchie United Aboriginal Corporation	27/06/2017 - email	N/A	N/A
Cullendulla (Murrin Clan/Peoples)	27/06/2017 - email	10/07/2017 - email	Registered interest
Darug Land Observations	27/06/2017 - email	21/06/2017 - email	Registered interest
Dharug (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Duncan Falk Consultancy	27/06/2017 - email	10/07/2017 - email	Registered interest
Gadhu Dreaming	27/06/2017 - email	N/A	N/A
Garrara Aboriginal Corporation	27/06/2017 - email	N/A	N/A
Goobah Development Pty Ltd (Murrin Clan/Peoples)	27/06/2017 - email	10/07/2017 - email	Registered interest
Gundungurra Tribal Technical Services	27/06/2017 - email	N/A	N/A
Gunyuu (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Gunyuu Cultural Heritage Technical Services (Mirramajah)	27/06/2017 - email	N/A	N/A
Guunamaa Dreaming Sites and Surveying	27/06/2017 - letter	27/06/2017 - email	Registered interest
Illawarra Aboriginal Corporation	27/06/2017 - email	N/A	N/A
Illawarra Local Aboriginal Land Council	27/06/2017 - email	N/A	N/A
Jerringong (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Karrial (Murrin Clan/Peoples)	27/06/2017 - letter	N/A	N/A
Korewal Elouera Jerrungurah Tribal Elders Council	27/06/2017 - letter	N/A	N/A
Kulila Site Consultants & Koori Site Management	27/06/2017 - letter	N/A	N/A

Organisation contacted	Date and type of contact	Date and type of response	Response details
La Perouse Botany Bay Corporation	27/06/2017 - email	N/A	N/A
Minnamunnung	27/06/2017 - email	10/07/2017 - email	Registered interest
Munyunga (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Munyunga Cultural Heritage Technical Services (Mirramajah)	27/06/2017 - email	N/A	N/A
Murramarang (Murrin Clan/Peoples)	27/06/2017 - email	10/07/2017 - email	Registered interest
Murrumbul (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Murrumbul Cultural Heritage Technical Services (Mirramajah)	27/06/2017 - letter	N/A	N/A
NIAC	27/06/2017 - email	N/A	N/A
Nundagurri (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Pemulwuy (Murrin Clan/Peoples)	27/06/2017 - letter	N/A	N/A
South West Rocks Corporation	27/06/2017 - letter	N/A	N/A
The Wodi Wodi Elders Corporation	27/06/2017 - email	N/A	N/A
Three Ducks Dreaming Surveying and Consulting	27/06/2017 - email	27/06/2017 - email	Registered interest
Walbunja (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Walgalu (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Warra Bingi Nunda Gurri	27/06/2017 - email	21/06/2017 - email	Registered interest
Wingikara Cultural Heritage Technical Services (Mirramajah)	27/06/2017 - email	N/A	N/A
Gary Caines	27/06/2017 - email	N/A	N/A
James Davis	27/06/2017 - letter	30/06/2017 - email	Registered interest
Ken Foster	27/06/2017 - letter	N/A	N/A
Norman Simms	27/06/2017 - email	N/A	N/A

Organisation contacted	Date and type of contact	Date and type of response	Response details
Woronora Plateau Gundungara Elders Council	27/06/2017 - email	27/06/2017 - email	Registered interest
Wullung (Murrin Clan/Peoples)	27/06/2017 - email	N/A	N/A
Yerramurra (Murrin Clan/Peoples)	27/06/2017 - letter	N/A	N/A
The Wadi Wadi Coomaditchie Aboriginal Corporation	27/06/2017 - email	28/06/2017 - verbal	Registered interest
Tungai Tonghi	27/06/2017 - email	N/A	N/A

A1.2 Stage 2 – Presentation of information about the proposed project

Step 1- Provision of project information pack.

A copy of the information pack is provided in Appendix 3 and a copy of the covering email is provided following.

Organisation contacted	Date and type of contact	Date and type of response	Response details
Biamanga (Murrin Clan/Peoples)	22/09/2017 – Email	19/10/2017 – email	Confirmed support for proposed draft ACHA methodology; requested that any artefacts found are given to the Illawarra Local Aboriginal Land Council for future educational design projects.
Cullendulla (Murrin Clan/Peoples)	22/09/2017 – Email	19/10/2017 – email	Confirmed support for the ACHA report.
Darug Land Observations	22/09/2017 – Email	29/09/2017 – email	Jamie Workman contacted Biosis on behalf of Darug Land Observations in response to the methodology. Darug Land Observation Pty Ltd supports the methodology, and wishes to be involved in the monitoring of the topsoil removal, test excavations, and any other works to be carried out.
Duncan Falk Consultancy	22/09/2017 – Email	N/A	
Goobah Development Pty Ltd (Murrin Clan/Peoples)	22/09/2017 – Email	19/10/2017 - email	Confirmed support for proposed draft ACHA methodology, wishes to be kept informed of any further developments.
Guunamaa Dreaming Sites and Surveying	22/09/2017 – Email	N/A	
Illawarra Local Aboriginal Land Council	22/09/2017 – Email	N/A	

Organisation contacted	Date and type of contact	Date and type of response	Response details
Individual	22/09/2017 – Email	N/A	
Minnamunnung	22/09/2017 – Email	N/A	
Murramarang (Murrin Clan/Peoples)	22/09/2017 – Email	19/10/2017 - email	Confirmed support for proposed draft ACHA methodology, wishes to be kept informed of any further developments.
The Wadi Wadi Coomaditchie Aboriginal Corporation	22/09/2017 – Post	N/A	
Three Ducks Dreaming Surveying and Consulting	22/09/2017 – Email	22/09/2017 - email	Confirmed support for proposed draft ACHA methodology; requested that any artefacts found are given to the Illawarra Local Aboriginal Land Council for future educational design projects.
Warra Bingi Nunda Gurri	22/09/2017 – Email	N/A	
Woronora Plateau Gundangara Elders	22/09/2017 – Email	N/A	

A1.3 Stage 3 – Gathering information about cultural significance

Step 1- Provision of project methodology pack and consultation meeting.

A copy of the methodology pack is provided in Appendix 3 and a copy of the covering email is provided following.

Organisation contacted	Date and type of contact	Date and type of response	Response details
Biamanga (Murrin Clan/Peoples)	22/09/2017 – Email	19/10/2017 – email	Confirmed support for proposed draft ACHA methodology; requested that any artefacts found are given to the Illawarra Local Aboriginal Land Council for future educational design projects.
Cullendulla (Murrin Clan/Peoples)	22/09/2017 – Email	19/10/2017 – email	Confirmed support for the ACHA report.
Darug Land Observations	22/09/2017 – Email	29/09/2017 – email	Jamie Workman contacted Biosis on behalf of Darug Land Observations in response to the methodology. Darug Land Observation Pty Ltd supports the methodology, and wishes to be involved in the monitoring of the topsoil removal, test excavations, and any other works to be carried out.
Duncan Falk Consultancy	22/09/2017 – Email	N/A	

Organisation contacted	Date and type of contact	Date and type of response	Response details
Goobah Development Pty Ltd (Murrin Clan/Peoples)	22/09/2017 – Email	19/10/2017 - email	Confirmed support for proposed draft ACHA methodology, wishes to be kept informed of any further developments.
Guunamaa Dreaming Sites and Surveying	22/09/2017 – Email	N/A	
Illawarra Local Aboriginal Land Council	22/09/2017 – Email	N/A	
James Davis (individual)	22/09/2017 – Email	N/A	
Minnamunnung	22/09/2017 – Email	N/A	
Murramarang (Murrin Clan/Peoples)	22/09/2017 – Email	19/10/2017 - email	Confirmed support for proposed draft ACHA methodology, wishes to be kept informed of any further developments.
The Wadi Wadi Coomaditchie Aboriginal Corporation	22/09/2017 – Letter	N/A	
Three Ducks Dreaming Surveying and Consulting	22/09/2017 – Email	22/09/2017 - email	Confirmed support for proposed draft ACHA methodology; requested that any artefacts found are given to the Illawarra Local Aboriginal Land Council for future educational design projects.
Warra Bingi Nunda Gurri	22/09/2017 – Email	N/A	
Woronora Plateau Gundangara Elders	22/09/2017 – Email	N/A	

A1.4 Stage 4 – Review of Draft Aboriginal Cultural Heritage Assessment

A copy of the correspondence relevant to this stage of consultation is available in Appendix 4.

Organisation contacted	Date and type of contact	Date and type of response	Response details
Biamanga (Murrin Clan/Peoples)	02/11/2017 - Email	28/11/2017 - Email	Confirmed support for draft ACHA and AR.
Cullendulla (Murrin Clan/Peoples)	02/11/2017 - Email	28/11/2017 - Email	Confirmed support for draft ACHA and AR.
Darug Land Observations	02/11/2017 - Email	N/A	

Organisation contacted	Date and type of contact	Date and type of response	Response details
Duncan Falk Consultancy	02/11/2017 - Email	28/11/2017 - Email	Confirmed support for draft ACHA and AR; recommended that any artefacts found are reburied in an agreed location where they will not be impacted upon in the future. Confirmed that Duncan Falk Consultancy holds evidence regarding language boundaries, noting that Dharawal ranged from the Illawarra to Bong Bong now known as the Southern Highlands and surrounding areas.
Goobah Development Pty Ltd (Murrin Clan/Peoples)	02/11/2017 - Email	28/11/2017 - Email	Confirmed support for draft ACHA and AR; wishes to be kept informed of any further developments.
Guunamaa Dreaming Sites and Surveying	02/11/2017 - Email	06/11/2017 – Email	Confirmed support for draft ACHA and AR; request for Aboriginal groups from Illawarra only to be involved.
Illawarra Local Aboriginal Land Council (ILALC)	02/11/2017 - Email	N/A	
Minnamunnung	02/11/2017 - Email	N/A	
Murramarang (Murrin Clan/Peoples)	02/11/2017 - Email	28/11/2017 - Email	Confirmed support for draft ACHA and AR.
The Wadi Wadi Coomaditchie Aboriginal Corporation	02/11/2017 - Letter	N/A	
Three Ducks Dreaming Surveying and Consulting	02/11/2017 - Email	06/11/2017 - Email	Confirmed support for draft ACHA and AR; believes there are many significant areas within the area, especially around the creeks and plains.
Warra Bingi Nunda Gurri	02/11/2017 - Email	N/A	
Woronora Plateau Gundangara Elders Council	02/11/2017 - Email	N/A	
James Davis (individual)	02/11/2017 - Email	N/A	

Appendix 2 Stage 1: Notification of project proposal and registration of interest

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CARDNO ON BEHALF OF BRIDGEHILL GROUP NOTIFICATION AND REGISTRATION OF ABORIGINAL INTERESTS

Cardno, on behalf of Bridgehill Group intends to lodge a development application for the Northern Precinct at Tallawarra, Yallah, NSW; and to modify the existing concept approval for the Northern and Central Precinct at Tallawarra, Yallah, NSW (MP 09_0131 MOD 1).

An Aboriginal Cultural Heritage Assessment will be undertaken which may result in an application for an Aboriginal Heritage Impact Permit (AHIP).

Cardno, on behalf of Bridgehill Group invites Aboriginal people who hold cultural knowledge in determining the significance of Aboriginal object(s) andr places in the vicinity of the above area to register their interest in a process of community consultation.

The purpose of the Aboriginal community consultation will be to inform the Aboriginal Cultural Heritage Assessment, assist in the preparation of an AHIP application, if required, and assist the Chief Executive Officer of the Office of Environment and Heritage in consideration and determination of the AHIP application.

For more information please contact:

Daniel Thompson
P.O. Box 1285 Wollongong NSW 2500
daniel.thompson@cardno.com.au

To register in writing please contact:

Taryn Gooley
Biosis Pty Ltd
Suite 8, 27 Annie Street Wickham NSW 2293
tgooley@biosis.com.au

REGISTRATIONS MUST BE RECEIVED BEFORE 5.00pm 4th July 2017

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15 June 2017

Wollongong City Council
Locked Bag 8821,
Wollongong DC NSW 2500

To Whom It May Concern,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment
Our Ref: Matter 24090

Cardno, on behalf of Bridgehill Group, intends to lodge a development application for the Northern Precinct and to modify the existing concept approval for the Northern and Central Precinct at Tallawarra, Yallah (MP 09_0131 MOD 1). The Northern Precinct covers an area of 45.06 hectares, while the Central Precincts comprises two areas of 73.2 hectares and 6.497 hectares respectively. Table 1 and Table 2 below, detail the Lot and DP's for each precinct.

The development of the Northern and Central Precincts will comprise both residential and industrial buildings. The modification to the concept approval seeks to increase the footprint and residential yield for the Northern and Central Precincts.

An Aboriginal cultural heritage assessment will be undertaken to inform environmental assessment requirements under *75W and Part 4 of the Environmental Planning and Assessment Act 1979.* The Aboriginal cultural heritage assessment will form the basis for an Aboriginal heritage impact permit under the *National Parks and Wildlife Act 1974* where harm to Aboriginal objects cannot be avoided.

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Cardno, on behalf of Bridgehill wishes to identify Aboriginal people who may have an interest in the proposed study area and hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or Places in the Yallah Area. If you could please provide contact details for any such Aboriginal people or organisations of which you are aware it would be greatly appreciated. Please provide these details by **5pm on Thursday June 29, 2017**.

In accordance with the consultation requirements, please note that the relevant contact for this project is:

Daniel Thompson
P.O. Box 1285
Wollongong NSW 2500
daniel.thompson@cardno.com.au

Biosis Pty Ltd
Newcastle Resource Group

Suite 8, 27 Annie Street
Wickham NSW 2293

Phone: 02 4911 4040

ACN 006 175 097
ABN 65 006 175 097

Email: newcastle@biosis.com.au

biosis.com.au

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Yours sincerely,

Taryn Gooley
Archaeologist
0407 980 961
(02) 4911 4041
tgooley@biosis.com.au

Table 1 Central precinct Lot and DP's

Lot	DP
1	551658
102	716727
15	1050255
1	1146409
1	543285
7	1049520
8	1049520

Table 2 Northern precinct Lot and DP's

Lot	DP
30	1175058
31	1175058

15 June 2017

Illawarra Local Aboriginal Land Council
3 Ellen Street
Wollongong NSW 2500

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Our Ref: Matter 24090

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15 June 2017

Rose O'Sullivan
Office of Environment and Heritage
PO Box 5436
Wollongong NSW 2520

Dear Rose,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment
Our Ref: Matter 24090

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15 June 2017

Stephen Wright, Registrar
Office of the Registrar, Aboriginal Land Rights Act 1983
PO Box 112
Glebe NSW 2037

Dear Stephen,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment
Our Ref: Matter 24090

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31	1175058

15 June 2017

Native Title Services Corporation Limited
PO Box 2105
Strawberry Hills NSW 2012

To Whom It May Concern,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment
Our Ref: Matter 24090

Cardno, on behalf of Bridgehill Group, intends to lodge a development application for the Northern Precinct and to modify the existing concept approval for the Northern and Central Precinct at Tallawarra, Yallah (MP 09_0131 MOD 1). The Northern Precinct covers an area of 45.06 hectares, while the Central Precincts comprises two areas of 73.2 hectares and 6.497 hectares respectively. Table 1 and Table 2 below, detail the Lot and DP's for each precinct.

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31	1175058

15 June 2017

National Native Title Tribunal New South Wales Registry
GPO Box 9973
Sydney NSW 2001

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Suite 8, 27 Annie Street
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31	1175058

15 June 2017

South East Local Land Services
PO Box 3095
Wollongong East NSW 2520

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1	1146409
1	543285
7	1049520
8	1049520

Table 2 Northern precinct Lot and DP's

Lot	DP
30	1175058
31	1175058

Local Land Services South East

NSW GOVERNMENT

RECEIVED
29 JUN 2017
CARDNO (NSW/ACT) Pty Ltd

23 June 2017

TRIM Ref: DOC17/64477

Attn: Mr Daniel Thompson
Biosis
PO Box 1285
Wollongong NSW 2500

Dear Daniel

Re: YALLAH NSW : Proposed Development of Northern and Central Precincts at Tallawarra : Identification of Aboriginal Interested Parties

Thank you for your letter dated 15 June 2017 requesting assistance with identifying Aboriginal stakeholder groups or persons who may have an interest in your project area.

Catchment Management Authorities are listed in *Section 4.1.2 (g)* of the *Aboriginal cultural heritage consultation requirements for proponents 2010,* under *Part 6, National Parks and Wildlife Act 1974* as a source of information to obtain the "names of Aboriginal people who may hold cultural knowledge relevant to determining the significance of Aboriginal *objects* and/or *places*". We understand that with the loss of Catchment Management Authorities in NSW such requests are likely to be forwarded to Local Land Services.

South East Local Land Services is a partner with many Aboriginal communities in the region on natural resource management (NRM) projects. We are not, however, the primary source for contacting or managing contact lists for Aboriginal communities or persons that may inform or provide comment on planning issues. Currently we do not coordinate or administer any Aboriginal reference group for our region.

We strongly recommend that you make contact with the Office of Environment and Heritage (OEH), Cultural Heritage Division, Queanbeyan on T:02 6229 7188 for all-inclusive contact lists of persons and organisations that may assist with your investigation.

Yours sincerely,

Kerry Avery
Aboriginal Community Support Officer
South East Local Land Services

13 Schofields Lane
PO Box 63 Berry NSW 2535
T: 02 44646000 F: 02 44642113 E: enquiry.southeast@lls.nsw.gov.au W: lls.nsw.gov.au/southeast

NSW GOVERNMENT | Office of Environment & Heritage

26 June 2017

Taryn Gooley
Biosis Pty Ltd
Suite 8
27 Annie Street
Wickham NSW 2293

By email: tgooley@biosis.com.au

Dear Taryn

REQUEST FOR INFORMATION ABOUT POTENTIAL ABORIGINAL STAKEHOLDERS AS REQUIRED UNDER OEH ABORIGINAL CULTURAL HERITAGE CONSULTATION REQUIREMENTS FOR PROPONENTS 2010

RE: Northern and Central Precincts, Tallawarra, Yallah

Thank you for your request dated 22 June 2017 regarding the above matter. Attached is a list of known Aboriginal parties for the Wollongong Local Government Area. OEH believes these groups and individuals are likely to have an interest in the project.

The consultation process involves getting the views of, and information from, Aboriginal people and reporting on these. It is not to be confused with other field assessment processes involved in preparing a proposal and a permit application. Consultation does not include the employment of Aboriginal people to assist in field assessment and/or site monitoring. Aboriginal people may provide services to proponents through a contractual arrangement, however, this is separate from consultation. The proponent is not obliged to employ those Aboriginal people registered for consultation. Consultation as per the requirements will continue irrespective of potential or actual employment opportunities for Aboriginal people.

This list is not necessarily an exhaustive list of all interested Aboriginal parties and does not remove the requirement of a proponent or consultant to advertise in local print media and contact other groups in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (April 2010).

The contact details in the attached list are provided solely for the purpose of contacting people about this project. The contact details must remain private and must not be reproduced in publically available reports or other documents.

Under Section 4.1.6 of the Consultation Requirements you must also provide a copy of the names of each Aboriginal person who registered an interest to the relevant OEH regional office and Local Aboriginal Land Council (LALC) within 28 days of the closing date for registering an interest.

Please note that the contact details in the list provided by OEH may be out of date as the list relies on Aboriginal parties advising OEH when their details need changing. If you are aware of any incorrect contact details on the list please contact OEH. AHIP applicants should make a note of any group they are unable to contact as part of their consultation record.

If you wish to discuss any of the above matters further please contact Rose O'Sullivan on 4224 4177.

Yours sincerely

for.

Chris Page
Senior Team Leader, Planning – Illawarra
Regional Operations Group
Office of Environment and Heritage

Enclosure: Attachment 1

NSW GOVERNMENT | Office of Environment & Heritage

Attachment 1.

Organisation/ Name	Contact Person	Address	Phone number; email	Notes
Badu (Murrin Clan/Peoples)	Karia Lea Bond	11 Jeffery Place Moruya NSW 2537	Mobile Phone: 0476 381 207 Email: baduchts@gmail.com	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Bellambi Indigenous Corporation Gandangara Traditional Owners	Ms Kim Moran		Email: kimmoran@hotmail.com Mobile Phone: 0475 863 627	Requests that contact details are not forwarded to the Local Aboriginal Land Council.
Biamanga (Murrin Clan/Peoples)	Seli Storer		Email: biamangachts@gmail.com	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Bilinga (Murrin Clan/Peoples)	Simalene Carriage		Email: bilingachts@gmail.com	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Bilinga Cultural Heritage Technical Services (Mirramajah)	Robert Brown		Email: bilinga@mirramajah.com	This group is a member of the Mirramajah Group
Individual	Gary Caines	28 Gowan Brae Avenue Mt Ousley NSW 2519	Ph: 4227 2690 Email: grc04@live.com.au and garycaines87@gmail.com	
Coomaditchie United Aboriginal Corporation	Lorraine Brown	PO Box 160 Warrawong NSW 2502	Ph: 02 4274 7477	
Cullendulla (Murrin Clan/Peoples)	Corey Smith		Email: cullendullachts@gmail.com	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Darug Land Observations	Anna O'Hara	PO Box 2006 Bendelong NSW 2539	Email: daruglandobservations@gmail.com	
Dharug (Murrin Clan/Peoples)	Andrew Bond		Email: dharugchts@gmail.com	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Duncan Falk Consultancy	Duncan Falk	34 Robinia Drive Bowral NSW 2576	Email: DuncanFalk@hotmail.com Mobile Phone: 0406 610 644	
Individual	James Davis	2 Poplar Ave, Unanderra NSW 2526	Mobile Phone: 0423 715 395 Email: jvdcorp@hotmail.com	

Individual	Ken Foster	68 Australia St Matraville	Mobile Phone: 0411 818 091	
Gadhu Dreaming	Gordon Campbell		Email: gordy2540@hotmail.com	
Garrara Aboriginal Corporation	Raymond Ingrey		Email: raymond@bariyu.org.au	
Goobah Development PTY LTD (Murrin Clan/Peoples)	Basil Smith	66 Grantham Road Batehaven NSW 2536	Mobile Phone: 0405 995 725 Email: bunjilsmith@gmail.com	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Gundungurra Tribal Technical Services	David Bell	67 Dickens Road, Ambervale NSW 2560	Mobile Phone: 0450 124 891 Email: gundungurratectribsevices@gmail.com	
	Pimmy Johnson Bell	67 Dickens Road, Ambervale NSW 2560	Mobile Phone: 0425 066 100 Email: gundungurratectribsevices@gmail.com	
	Peter Foster	4 Tuppal Way Airds NSW 2560	Mobile Phone: 0432 590 289 Email: gundungurratectribsevices@gmail.com	
	Teangi Mereki Foster	1/6 Central Avenue Oak Flats NSW 2529	Mobile Phone: 0420 978 969 Email: gundungurratectribsevices@gmail.com	
	Larry Hoskins	2/3 Colville Place Rosemeadow NSW 2560	Mobile Phone: 0478 009 879 Email: gundungurratectribsevices@gmail.com	
	Christopher Payne	9/15-22 Burns Road Leumah NSW 2560	Mobile Phone: 0466 975 437 Email: gundungurratectribsevices@gmail.com	
	Sam Wickman		Email: gundungurratectribsevices@gmail.com	
Gunyuu (Murrin Clan/Peoples)	Kylie Ann Bell		Email: gunyuuchts@gmail.com	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Gunyuu Cultural Heritage Technical Services (Mirramajah)	Darlene Hoskins-McKenzie		Email: gunyuu@mirramajah.com and management@mirramajah.com (management & administrative email address for the Mirramajah Group of RAPs).	This group is a member of the Mirramajah Group
Guunamaa Dreamin Sites and Surveying	Richard Campbell	2 Minda Crescent Oakflats NSW 2529	Mobile Phone: 0499 688 663 Email: richardcampbell123@outlook.com	
Illawarra Aboriginal Corporation	Rhonda Cruse	22 Kenny Street Wollongong, NSW 2500	Ph: 4228 1585	

Illawarra Local Aboriginal Land Council	Paul Knight	3 Ellen Street Wollongong, NSW 2500	Ph: 4226 3338 Email: ceo@ilalc.org.au	
Jerringong (Murrin Clan/Peoples)	Jodi Anne Stewart	2/10 Burnett Avenue Gerringong NSW 2534	Mobile Phone: 0422 800 184 Email: jerringong@gmail.com	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Karrial (Murrin Clan/Peoples)	Karrial Johnson		Email: karrialchts@gmail.com	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Korewal Elouera Jerrungurah Tribal Elders Council	Uncle Rueben Brown	86 Hertford Street Berkeley NSW 2506	Ph: (02) 4271 3069	
Kullila Site Consultants and Koori Site Management	Paul Charles	14 Werang Road Primbee, NSW 2502	Mobile Phone: 0423 795 389	
La Perouse Botany Bay Corporation	Yvonne Simms	10 Murrong Place La Perouse NSW 2036	Mobile Phone: 0466 094 491 Fax: 9311 3440	
Minnamunnung	Aaron Broad	1 Waratah Avenue Albion Park Rail NSW 2527	Email: minnamunnung@gmail.com	
Munyunga (Murrin Clan/Peoples)	Kaya Dawn Bell		Email: munyungachts@gmail.com	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Munyunga Cultural Heritage Technical Services (Mirramajah)	Suzannah McKenzie		Email: munyunga@mirramajah.com	This group is a member of the Mirramajah Group
Murramarang (Murrin Clan/Peoples)	Roxanne Smith		Email: murramarangchts@gmail.com	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Murrumbul (Murrin Clan/Peoples)	Mark Henry		Email: murrumbul@gmail.com	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Murrumbul Cultural Heritage Technical Services (Mirramajah)	Levi McKenzie-Kirkbright		Email: murrumbul@mirramajah.com	This group is a member of the Mirramajah Group
NIAC		PO Box 595 Moss Vale NSW 2577	Ph: 4883 6639	
Nundagurri (Murrin Clan/Peoples)	Newton Carriage		Email: nundagurri@gmail.com	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Pemulwuy (Murrin Clan/Peoples)	Pemulwuy Johnson		Email: pemulwuyd@gmail.com	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Individual	Norma Simms	10 Murrong Place La Perouse NSW 2036	Mobile Phone: 0466 094 491	
South West Rocks Corporation	Edward Moran (Director)	4 Crystal Place South West Rocks NSW	Mobile Phone: 0499 281 456	

		2431		
Three Ducks Dreaming Surveying and Consulting	Leonard Wright	40 Tuggerah Circuit Flinders NSW 2529	Mobile Phone: 0422 382 950 Email: lbjwright1977@hotmail.com	
Tungai Tonghi	Troy Tungai	10 Paterson Place Barrack Heights 2528	Email: troy.tungai72@hotmail.com Mobile Phone: 0423 350 430	
The Wadi Wadi Coomaditchie Aboriginal Corporation (correspondence via NIAC)		PO Box 595 Moss Vale NSW 2577	Ph: 02 4283 3009	
Walbunja (Murrin Clan/Peoples)	Hika Te Kowhai		Mobile Phone: 0475 352 499 Email: Walbunja@gmail.com	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Walgalu (Murrin Clan/Peoples)	Ronald Stewart		Email: walgaluchts@gmail.com	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Warra Bingi Nunda Gurri	Nathanial Kennedy		Mobile Phone: 0406 924 258 Email: warrabingi@gmail.com	
Wingikara Cultural Heritage Technical Services (Mirramajah)	Wandai Kirkbright		Email: wingikara@mirramajah.com	This group is a member of the Mirramajah Group
The Wodi Wodi Elders Corporation	Rosina Davis (also Muriel Davis, Joyce Donavon, Sandra Donavon)	7 O'Donnell Drive Figtree NSW 2525 (also 484 Northcliffe Drive, Berkeley, NSW 2506)	Ph: 4244 3340 (also 4271 8088)	
Woronora Plateau Gundungara Elders Council	Paul Cummins and Kayla Williamson	11 Garnet Grove Flinders NSW 2529	Mobile Phone: (PC) 0418 971 660, (KW) 0414 438 744 Email: kayla_87_@hotmail.com	
Wullung (Murrin Clan/Peoples)	Lee-Roy James Boota	54 Blackwood Street Gerringong NSW 2534	Mobile Phone: 0403 703 942 Email: wullunglb@gmail.com	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River
Yerramurra (Murrin Clan/Peoples)	Robert Parsons		Email: yerramurra@gmail.com	This group states that their boundaries (Murrin Peoples) extend from the Hawkesbury River to the Snowy River

OFFICE OF THE REGISTRAR
ABORIGINAL LAND RIGHTS ACT 1983 (NSW)

11-13 Mansfield Street
Glebe NSW 2037
PO Box 112, Glebe NSW 2037
P. 02 9562 6327 F. 02 9562 6350

26 June 2017

Taryn Gooley
Biosis Pty Ltd
Suite 8
27 Annie Stree
WICKHAM NSW 2293

Dear Taryn

Re: Request - Search for Registered Aboriginal Owners

I refer to your letter dated 15 June 2017 regarding Aboriginal Cultural Heritage Assessment within the area of Yallah, NSW.

I have searched the Register of Aboriginal Owners and the project area described *does not appear* to have Registered Aboriginal Owners pursuant to Division 3 of the *Aboriginal Land Rights Act* 1983 (NSW).

I suggest that you contact the Illawarra Local Aboriginal Land Council on (02) 4226 3338. They will be able to assist you in identifying other Aboriginal stakeholders for this project.

Yours sincerely

Bianca Ceissman
Administration Support Officer
Office of the Registrar, *Aboriginal Land Rights Act 1983 (NSW)*

From: Joel Thompson
To: Taryn Gooley
Subject: Aboriginal Cultural Heritage - Tallawarra - Notification List
Date: Thursday, 29 June 2017 4:39:55 PM
Attachments: image001.png
image008.jpg
image009.jpg
image010.jpg

Dear Taryn,

I refer to your notification letter regarding proposed ACHAR works at Tallawarra.

As Council's list of Aboriginal parties is less comprehensive and up to date than the OEH list, we would encourage you to refer to their list of contacts in relation to this project.

Regards,

Joel Thompson
Strategic Project Officer - Heritage
Post Locked Bag 8821 Wollongong DC NSW 2500
Phone +61 2 4227 7524
Email jthompson@wollongong.nsw.gov.au ● **www.wollongong.nsw.gov.au**

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27 June 2017

Badu (Murrin Clan/Peoples)
Karlia Lea Bond
11 Jeffery Place
Moruya NSW 2537

Dear Karlia Lea,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

Cardno, on behalf of Bridgehill Group, intends to lodge a development application for the Northern Precinct and to modify the existing concept approval for the Northern and Central Precinct at Tallawarra, Yallah (MP 09_0131 MOD 1). The Northern Precinct covers an area of 45.06 hectares, while the Central Precincts comprises two areas of 73.2 hectares and 6.497 hectares respectively. Table 1 and Table 2 below, detail the Lot and DP's for each precinct.

The development of the Northern and Central Precincts will comprise both residential and industrial buildings. The modification to the concept approval seeks to increase the footprint and residential yield for the Northern and Central Precincts.

An Aboriginal cultural heritage assessment will be undertaken to inform environmental assessment requirements under *75W and Part 4 of the Environmental Planning and Assessment Act 1979.* The Aboriginal cultural heritage assessment will form the basis for an Aboriginal heritage impact permit under the *National Parks and Wildlife Act 1974* where harm to Aboriginal objects cannot be avoided.

Biosis Pty Ltd is assisting Cardno, on behalf of Bridgehill with consultation with the Aboriginal community in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010). The purpose of the Aboriginal community consultation will be to inform the Aboriginal Cultural Heritage Assessment, and to provide the Chief Executive Officer of the Office of Environment and Heritage (OEH) with sufficient information for the consideration and determination of an AHIP application, if it is required.

Cardno, on behalf of Bridgehill wishes to identify Aboriginal people who may have an interest in the proposed study area and hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or Places in the Yallah Area. If you would like to register your interest please respond by **5pm on Tuesday July 11, 2017**.

In accordance with the consultation requirements, please note that the relevant contact for this project is:

Daniel Thompson
P.O. Box 1285
Wollongong NSW 2500
daniel.thompson@cardno.com.au

All correspondence regarding provision of names and contact details of Aboriginal people who may hold cultural knowledge relevant to the study area should be provided in writing to:

Taryn Gooley
Biosis Pty Ltd
Suite 8, 27 Annie Street
Wickham NSW 2293
tgooley@biosis.com.au

If you have any queries regarding the study area please don't hesitate to contact me on the details below.

Yours sincerely,

Taryn Gooley
Archaeologist
0407 980 961
(02) 4911 4041
tgooley@biosis.com.au

Table 1 Central precinct Lot and DP's

Lot	DP
1	551658
102	716727
15	1050255
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Table 2 Northern precinct Lot and DP's

Lot	DP
30	1175058
31	1175058

27 June 2017

Bellambi Indigenous Corporation Gandangarra Traditional Owners
Kim Moran

Dear Kim,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

Biamanga (Murrin Clan/Peoples)
Seli Storer

Dear Seli,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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daniel.thompson@cardno.com.au

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27 June 2017

Bilinga (Murrin Clan/Peoples)
Simalene Carriage

Dear Simalene,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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Wollongong NSW 2500
daniel.thompson@cardno.com.au

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Biosis Pty Ltd
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Wickham NSW 2293
tgooley@biosis.com.au

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27 June 2017

Bilinga Cultural Heritage Technical Services (Mirramajah)
Robert Brown

Dear Robert,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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Wollongong NSW 2500
daniel.thompson@cardno.com.au

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Biosis Pty Ltd
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Wickham NSW 2293
tgooley@biosis.com.au

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Yours sincerely,

Taryn Gooley
Archaeologist
0407 980 961
(02) 4911 4041
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Table 1 Central precinct Lot and DP's

Lot	DP
1	551658
102	716727
15	1050255
1	1146409
1	543285
7	1049520
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Table 2 Northern precinct Lot and DP's

Lot	DP
30	1175058
31	1175058

27 June 2017

Coomaditchie United Aboriginal Corporation
Lorraine Brown
PO Box 160
Warrawong NSW 2502

Dear Lorraine,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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Newcastle Resource Group

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27 June 2017

Cullendulla (Murrin Clan/Peoples)
Corey Smith

Dear Corey,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

Darug Land Observations
Anna O'Hara

Dear Anna,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment
Our Ref: Matter 24090

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27 June 2017

Dharug (Murrin Clan/Peoples)
Andrew Bond

Dear Andrew,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

Duncan Falk Consultancy
Duncan Falk

Dear Duncan,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

Gadhu Dreaming
Gordon Campbell

Dear Gordon,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

Garrara Aboriginal Corporation
Raymond Ingrey

Dear Raymond,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

Goobah Development Pty Ltd (Murrin Clan/Peoples)
Basil Smith
66 Grantham Road
Batehaven NSW 2536

Dear Basil,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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Gundungurra Tribal Technical Services
David Bell
67 Dickens Road
Ambervale NSW 2560

Dear David,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

Gunyuu (Murrin Clan/Peoples)
Kylie Ann Bell

Dear Kylie Ann,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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Gunyuu Cultural Heritage Technical Services (Mirramajah)
Darlene Hoskins-McKenzie

Dear Darlene,

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Lot	DP
1	551658
102	716727
15	1050255
1	1146409
1	543285
7	1049520
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Table 2 Northern precinct Lot and DP's

Lot	DP
30	1175058
31	1175058

27 June 2017

Guunamaa Dreaming Sites and Surveying
Richard Campbell
2 Minda Crescent
Oakflats NSW 2529

Dear Richard,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

Illawarra Aboriginal Corporation
Rhonda Cruse
22 Kenny Street
Wollongong NSW 2500

Dear Rhonda,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

Illawarra Local Aboriginal Land Council
Paul Knight
3 Ellen Street
Wollongong NSW 2500

Dear Paul,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

Jerringong (Murrin Clan/Peoples)
Jodi Anne Stewart
2/10 Burnett Ave
Gerringong NSW 2534

Dear Jodi Anne,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

Karrial (Murrin Clan/Peoples)
Karrial Johnson

Dear Karrial,

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Our Ref: Matter 24090

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27 June 2017

Korewal Elouera Jerrungurah Tribal Elders Council
Uncle Rueben Brown
86 Hertford Street
Berkeley NSW 2506

Dear Uncle Rueben,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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Kulila Site Consultants & Koori Site Management
Paul Charles
14 Werang Road
Brimbee NSW 2502

Dear Paul,

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Our Ref: Matter 24090

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27 June 2017

La Perouse Botany Bay Corporation
Yvonne Simms
10 Murrong Place
La Perouse NSW 2036

Dear Yvonne,

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Our Ref: Matter 24090

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27 June 2017

Minnamunnung
Aaron Broad
1 Waratah Avenue
Albion Park Rail NSW 2527

Dear Aaron,

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27 June 2017

Munyunga (Murrin Clan/Peoples)
Kaya Dawn Bell

Dear Kaya Dawn,

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Our Ref: Matter 24090

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0407 980 961
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Table 1 Central precinct Lot and DP's

Lot	DP
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15	1050255
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Table 2 Northern precinct Lot and DP's

Lot	DP
30	1175058
31	1175058

27 June 2017

Munyunga Cultural Heritage Technical Services (Mirramajah)
Suzannah McKenzie

Dear Suzannah,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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Lot	DP
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27 June 2017

Murramarang (Murrin Clan/Peoples)
Roxanne Smith

Dear Roxanne,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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Lot	DP
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27 June 2017

Murrumbul (Murrin Clan/Peoples)
Mark Henry

Dear Mark,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

Murrumbul Cultural Heritage Technical Services (Mirramajah)
Levi McKenzie-Kirkbright

Dear Levi,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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31	1175058

27 June 2017

NIAC

PO Box 595
Moss Vale NSW 2577

Dear Sir or Madam,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

Nundagurri (Murrin Clan/Peoples)
Newton Carriage

Dear Newton,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

Pemulwuy (Murrin Clan/Peoples)
Pemulwuy Johnson

Dear Pemulwuy,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

South West Rocks Corporation
Edward Moran
4 Crystal Place
South West Rocks NSW 2431

Dear Edward,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

The Wodi Wodi Elders Corporation
Rosina Davis
7 O'Donnell Drive
Figtree NSW 2525

Dear Rosina ,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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Biosis Pty Ltd
Newcastle Resource Group

Suite 8, 27 Annie Street
Wickham NSW 2293

Phone: 02 4911 4040

ACN 006 175 097
ABN 65 006 175 097

Email: newcastle@biosis.com.au

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27 June 2017

Three Ducks Dreaming Surveying and Consulting
Leonard Wright
40 Tuggerah Circuit
Flinders NSW 2529

Dear Leonard ,

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tgooley@biosis.com.au

Table 1 Central precinct Lot and DP's

Lot	DP
1	551658
102	716727
15	1050255
1	1146409
1	543285
7	1049520
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Table 2 Northern precinct Lot and DP's

Lot	DP
30	1175058
31	1175058

27 June 2017

Walbunja (Murrin Clan/Peoples)
Hika Te Kowhai
15 Renee Crescent
Moruya Heads NSW 2537

Dear Hika Te ,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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Yours sincerely,

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27 June 2017

Walgalu (Murrin Clan/Peoples)
Ronald Stewart

Dear Ronald,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

Warra Bingi Nunda Gurri
Nathanial Kennedy

Dear Nathanial,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

Wingikara Cultural Heritage Technical Services (Mirramajah)
Wandai Kirkbright

Dear Wandai ,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

Gary Caines
28 Gowan Brae Avenue
Mt Ousley NSW 2519

Dear Gary,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

James Davis
2 Poplar Avenue
Unanderra NSW 2526

Dear James,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

Ken Foster
68 Australia Street
Matraville NSW 2036

Dear Ken ,

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Our Ref: Matter 24090

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27 June 2017

Norma Simms
10 Murrong Place
La Perouse NSW 2036

Dear Norma,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

Woronora Plateau Gundungara Elders Council
Kayla Williamson
11 Garnet Grove
Flinders NSW 2529

Dear Kayla,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

Wullung (Murrin Clan/Peoples)
Lee-Roy James
54 Blackwood Street
Gerringong NSW 2534

Dear Lee-Roy,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

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27 June 2017

Yerramurra (Murrin Clan/Peoples)
Robert Parsons

Dear Robert,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

Cardno, on behalf of Bridgehill Group, intends to lodge a development application for the Northern Precinct and to modify the existing concept approval for the Northern and Central Precinct at Tallawarra, Yallah (MP 09_0131 MOD 1). The Northern Precinct covers an area of 45.06 hectares, while the Central Precincts comprises two areas of 73.2 hectares and 6.497 hectares respectively. Table 1 and Table 2 below, detail the Lot and DP's for each precinct.

The development of the Northern and Central Precincts will comprise both residential and industrial buildings. The modification to the concept approval seeks to increase the footprint and residential yield for the Northern and Central Precincts.

An Aboriginal cultural heritage assessment will be undertaken to inform environmental assessment requirements under *75W and Part 4 of the Environmental Planning and Assessment Act 1979.* The Aboriginal cultural heritage assessment will form the basis for an Aboriginal heritage impact permit under the *National Parks and Wildlife Act 1974* where harm to Aboriginal objects cannot be avoided.

Biosis Pty Ltd is assisting Cardno, on behalf of Bridgehill with consultation with the Aboriginal community in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010). The purpose of the Aboriginal community consultation will be to inform the Aboriginal Cultural Heritage Assessment, and to provide the Chief Executive Officer of the Office of Environment and Heritage (OEH) with sufficient information for the consideration and determination of an AHIP application, if it is required.

Cardno, on behalf of Bridgehill wishes to identify Aboriginal people who may have an interest in the proposed study area and hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or Places in the Yallah Area. If you would like to register your interest please respond by **5pm on Tuesday July 11, 2017**.

In accordance with the consultation requirements, please note that the relevant contact for this project is:

Daniel Thompson
P.O. Box 1285
Wollongong NSW 2500
daniel.thompson@cardno.com.au

All correspondence regarding provision of names and contact details of Aboriginal people who may hold cultural knowledge relevant to the study area should be provided in writing to:

Taryn Gooley
Biosis Pty Ltd
Suite 8, 27 Annie Street
Wickham NSW 2293
tgooley@biosis.com.au

If you have any queries regarding the study area please don't hesitate to contact me on the details below.

Yours sincerely,

Taryn Gooley
Archaeologist
0407 980 961
(02) 4911 4041
tgooley@biosis.com.au

Table 1 Central precinct Lot and DP's

Lot	DP
1	551658
102	716727
15	1050255
1	1146409
1	543285
7	1049520
8	1049520

Table 2 Northern precinct Lot and DP's

Lot	DP
30	1175058
31	1175058

27 June 2017

Wadi Wadi
Keith Ball
43 Coruma Cresent
Flinders NSW 2529

Dear Keith,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

Cardno, on behalf of Bridgehill Group, intends to lodge a development application for the Northern Precinct and to modify the existing concept approval for the Northern and Central Precinct at Tallawarra, Yallah (MP 09_0131 MOD 1). The Northern Precinct covers an area of 45.06 hectares, while the Central Precincts comprises two areas of 73.2 hectares and 6.497 hectares respectively. Table 1 and Table 2 below, detail the Lot and DP's for each precinct.

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Archaeologist
0407 980 961
(02) 4911 4041
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Table 2 Northern precinct Lot and DP's

Lot	DP
30	1175058
31	1175058

27 June 2017

Tungai Tonghi
Troy Tungai

Dear Troy,

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah NSW – Aboriginal cultural heritage assessment

Our Ref: Matter 24090

Cardno, on behalf of Bridgehill Group, intends to lodge a development application for the Northern Precinct and to modify the existing concept approval for the Northern and Central Precinct at Tallawarra, Yallah (MP 09_0131 MOD 1). The Northern Precinct covers an area of 45.06 hectares, while the Central Precincts comprises two areas of 73.2 hectares and 6.497 hectares respectively. Table 1 and Table 2 below, detail the Lot and DP's for each precinct.

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Suite 8, 27 Annie Street
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tgooley@biosis.com.au

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Table 2 Northern precinct Lot and DP's

Lot	DP
30	1175058
31	1175058

From:	Kayla Williamson
To:	Taryn Gooley
Subject:	Northern Precent at Tallawarra, Yallah, NSW
Date:	Wednesday, 21 June 2017 6:42:21 AM

Hi Taryn

Woronora Plateau Gundangara Elders Council would like to register for the Northern Precent at Tallawarra, Yallah, NSW (MP 09_0131 MOD 1)

Please send all correspondence to:

11 Garnett Grove
FLINDERS NSW 2529

Or email

Kayla_87_@hotmail.com

Kind Regards

Kayla Williamson
0414438744

Sent from my iPhone

From:	nathanial Kennedy
To:	Taryn Gooley
Subject:	Expression of Interest for the Northern Precinct at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assesment
Date:	Wednesday, 21 June 2017 5:09:57 PM

Hi Taryn,

I would like to register Warra Bingi Nunda Gurri's interest for the ACHA for the Northern Precinct at Tallawarra.

Tallawrra is located within the Yuin nation and i have grown up and still live in Dapto which is just north of Tallawarra.

Please keep me in the loop with any consultation for the project.

Regards,

--
Nathanial Kennedy
Senior Aboriginal Sites Officer

M: 0406924258
E: warrabingi@gmail.com

Warra Bingi Nunda Gurri
Indigenous Sites Conservation
45 Rosemont St, West Wollongong
NSW 2500

From:	Richard Campbell
To:	Mathew Smith
Subject:	RE: 24090-Tallawarra, Yallah ACHA
Date:	Tuesday, 27 June 2017 12:07:16 PM
Attachments:	image1fd2ac.PNG

Hi matt, I would like to put my expression of interest in for Tallawarra I have worked with this site before yes again glad to work along side you guys on this site
Thanks
Richard
Sent from my Windows 10 phone

From: Mathew Smith
Sent: Tuesday, 27 June 2017 10:20 AM
To: 'richardcampbell123@outlook.com'
Subject: 24090-Tallawarra, Yallah ACHA
Hi Richard,
Biosis is currently undertaking an Aboriginal Cultural Heritage Assessment at Tallawarra, Yallah and wishes to identify Aboriginal people who may have an interest in the proposed study area and hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or Places in the area.
If you would like to register your interest please provide your details by **5pm on 11 July 2017**.
Thanks,
Mathew

Mathew Smith
Field Archaeologist
M: 0409 991 176
D: (02) 4201 1090
E: msmith@biosis.com.au
Biosis Logo
Leaders in Ecology and Heritage Consulting

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From: leonard b j wright
To: Mathew Smith
Subject: Re: 24090-Tallawarra, Yallah ACHA
Date: Tuesday, 27 June 2017 12:14:10 PM
Attachments: imageb7b23b.PNG

Hi Mathew

I would like to thank you for the email an would like to make our expressions of interest for the works at yallah an be more then welcome to be apart of the works oit their...

Kind regards Leonard Wright and Troy Tungai

Sent from my Samsung Galaxy smartphone.

-------- Original message --------
From: Mathew Smith
Date: 27/6/17 10:45 am (GMT+10:00)
To: '"lbjwright1977@hotmail.com"'
Subject: 24090-Tallawarra, Yallah ACHA

Hi Leonard,

Biosis is currently undertaking an Aboriginal Cultural Heritage Assessment at Tallawarra, Yallah and wishes to identify Aboriginal people who may have an interest in the proposed study area and hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or Places in the area.

If you would like to register your interest please provide your details by **5pm on 11 July 2017**.

Thanks,

Mathew

Mathew Smith
Field Archaeologist
M: 0409 991 176
D: (02) 4201 1090
E: msmith@biosis.com.au

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From: James Davis
To: Mathew Smith
Subject: Re: 24090-Tallawarra, Yallah ACHA
Date: Friday, 30 June 2017 3:41:46 PM
Attachments: imagedf0f47.PNG

Hi mathew
could you please register my interest for the aboriginal cultural heritage assessment at Tallawarra,Yallah
James Davis
Wodi Wodi Traditional Owner

From: Mathew Smith
Sent: Tuesday, 27 June 2017 10:13 AM
To: 'jvdcorp@hotmail.com'
Subject: 24090-Tallawarra, Yallah ACHA

Hi James,

Biosis is currently undertaking an Aboriginal Cultural Heritage Assessment at Tallawarra, Yallah and wishes to identify Aboriginal people who may have an interest in the proposed study area and hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or Places in the area.

If you would like to register your interest please provide your details by **5pm on 11 July 2017**.

Thanks,

Mathew

Mathew Smith
Field Archaeologist
M: 0409 991 176
D: (02) 4201 1090
E: msmith@biosis.com.au

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DARUG LAND
OBSERVATIONS PTY LTD
ABN 27 602 765 453

EMAIL: DARUGLANDOBSERVATIONS@GMAIL.COM
PO BOX 2006 BENDALONG NSW 2539
MOBILE: 0413 687 279

30th June 2017

Your ref: Matter 24090

Taryn Gooley
Biosis Pty Ltd
Suite 8, 27 Annie Street
WICKHAM NSW 2293

Notification and Registration of ALL Aboriginal Interests

RE: Proposed Development of Northern and Central Precincts at Tallawarra, Yallah, NSW

Aboriginal Archaeological & Cultural Heritage Assessment

Dear Taryn,

Please be advised that Darug Land Observations Pty Ltd is seeking to be involved in any and all consultation meetings and fieldwork.

This office specialises in Aboriginal and community consultations, and has a membership that comprises of Traditional owners from the area in question. Those retain strong story, song lines, oral history and continued contact.

We would also like to state that we do not accept or support any person or organisation that are NOT from the DARUG Nation that comments regarding the said area.

Please also be advised that this Aboriginal organisation does not do volunteer work or attend unpaid meetings. I hope that you advise your client of this so that, 'This Group', will not be discriminated against and refused paid fieldwork. DLO's rate is $440 half day (less than 4 hours) and $880 per day (flat rate), including GST.

All correspondence should be emailed to: daruglandobservations@gmail.com and any further consultation during this project can be directed to Anna O'Hara on 0413 687 279.

Yours sincerely,

Jamie Workman
Darug Land Observations Pty Ltd

Uncle Gordon Workman
Darug Elder

From:	Duncan Falk
To:	Mathew Smith
Subject:	Re: 24090-Tallawarra, Yallah ACHA
Date:	Saturday, 1 July 2017 3:36:47 PM
Attachments:	image12727d.PNG OutlookEmoji-1495866360385_Untitled-1.jpgd608a4d6-99c6-4f31-945d-7df147fbcc08.jpg

Hello Mathew,

Duncan Falk Consultancy does hold relevant cultural knowledge and would like to register interest for the Aboriginal Cultural Heritage Assessment at Tallawarra, Yallah.

Duncan Falk
Manager
Duncan Falk Consultancy
T +61 406 610 644
duncanfalk@hotmail.com

From: Mathew Smith
Sent: Tuesday, 27 June 2017 10:42:41 AM
To: 'DuncanFalk@hotmail.com'
Subject: 24090-Tallawarra, Yallah ACHA

Hi Duncan,

Biosis is currently undertaking an Aboriginal Cultural Heritage Assessment at Tallawarra, Yallah and wishes to identify Aboriginal people who may have an interest in the proposed study area and hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or Places in the area.

If you would like to register your interest please provide your details by 5pm on 11 July 2017.

Thanks,

Mathew

Mathew Smith
Field Archaeologist
M: 0409 991 176
D: (02) 4201 1090
E: msmith@biosis.com.au
Biosis Logo
Leaders in Ecology and Heritage Consulting

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From: Aaron Michael Broad
To: Mathew Smith
Subject: Re: 24090-Tallawarra, Yallah ACHA
Date: Friday, 7 July 2017 1:10:06 PM
Attachments: image056fa4.PNG

I am interested. In the tallawarra yallah ACHA PROJECT

On 27 Jun 2017 10:23 AM, "Mathew Smith" <MSmith@biosis.com.au> wrote:

> Hi Aaron,
>
> Biosis is currently undertaking an Aboriginal Cultural Heritage Assessment at Tallawarra, Yallah and wishes to identify Aboriginal people who may have an interest in the proposed study area and hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or Places in the area.
>
> If you would like to register your interest please provide your details by **5pm on 11 July 2017**.
>
> Thanks,
>
> Mathew
>
> **Mathew Smith**
> Field Archaeologist
> M: 0409 991 176
> D: (02) 4201 1090
> E: msmith@biosis.com.au
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From:	Goobah
To:	Taryn Gooley
Subject:	24090-Tallawarra, Yallah ACHA
Date:	Monday, 10 July 2017 12:27:55 PM

Hi Taryn,

This is Goobahs expression of interest to register for the above project. We wish to be kept informed of any further developments and all correspondence should be sent to this email address.

--
Regards Basil Smith
Chief Executive Officer
Goobah PH 0405995725

This email may contain privileged information. Privilege is not waived if it has been sent to you in error, or if you are not the intended recipient. Please immediately notify me and delete the email if you have received this in error.

From: Biamanga
To: Mathew Smith; Taryn Gooley
Subject: Re: 24090-Tallawarra, Yallah ACHA
Date: Monday, 10 July 2017 12:30:58 PM
Attachments: image04c344.PNG

Hi Taryn

This is Biamangas expression of interest to register for the above project and we wish to be kept informed of any further developments thankyou

On Tuesday, 27 June 2017, Mathew Smith <MSmith@biosis.com.au> wrote:

> Hi Seli,
>
> Biosis is currently undertaking an Aboriginal Cultural Heritage Assessment at Tallawarra, Yallah and wishes to identify Aboriginal people who may have an interest in the proposed study area and hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or Places in the area.
>
> If you would like to register your interest please provide your details by **5pm on 11 July 2017**.
>
> Thanks,
>
> Mathew
>
> **Mathew Smith**
> Field Archaeologist
> M: 0409 991 176
> D: (02) 4201 1090
> E: msmith@biosis.com.au
>
> Biosis Logo
>
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--
Kind Regards
Seli Storer
Chief Executive Officer
Biamanga

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delete the email if you have received this in error.

From:	Cullendulla
To:	Mathew Smith; Taryn Gooley
Subject:	Re: 24090-Tallawarra, Yallah ACHA
Date:	Monday, 10 July 2017 12:26:32 PM
Attachments:	image41ec91.PNG

Hi Taryn,

This is Cullendullas expression of interest to register for the above project and we wish to be kept informed of any further developments thankyou

On Tuesday, 27 June 2017, Mathew Smith <MSmith@biosis.com.au> wrote:

> Hi Corey,
>
> Biosis is currently undertaking an Aboriginal Cultural Heritage Assessment at Tallawarra, Yallah and wishes to identify Aboriginal people who may have an interest in the proposed study area and hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or Places in the area.
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> If you would like to register your interest please provide your details by **5pm on 11 July 2017**.
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> Mathew
>
> **Mathew Smith**
> Field Archaeologist
> M: 0409 991 176
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--
Kind Regards
Corey Smith
Cultural Heritage Officer
Cullendulla

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you in error, or if you are not the intended recipient. Please immediately notify me and delete the email if you have received this in error.

From:	Murramarang
To:	Mathew Smith; Taryn Gooley
Subject:	Re: 24090-Tallawarra, Yallah ACHA
Date:	Monday, 10 July 2017 12:29:06 PM
Attachments:	image6eca124.PNG

Hi Taryn

This is Murramarangs expression of interest to register for the above project and we wish to be kept informed of any further developments thankyou

On Tuesday, 27 June 2017, Mathew Smith <MSmith@biosis.com.au> wrote:

> Hi Roxanne,
>
> Biosis is currently undertaking an Aboriginal Cultural Heritage Assessment at Tallawarra, Yallah and wishes to identify Aboriginal people who may have an interest in the proposed study area and hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or Places in the area.
>
> If you would like to register your interest please provide your details by **5pm on 11 July 2017**.
>
> Thanks,
>
> Mathew
>
> **Mathew Smith**
> Field Archaeologist
> M: 0409 991 176
> D: (02) 4201 1090
> E: msmith@biosis.com.au
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--
Kind Regards
Roxanne Smith
Cultural Heritage Officer
Murramarang

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delete the email if you have received this in error.

Appendix 3 Stage 2: Presentation of information about the proposed project and Stage 3: Gathering information about cultural significance

22 September 2017

Ms Seli Storer
Biamanga (Murrin Clan/Peoples)
biamangachts@gmail.com

Dear Seli

Re: Project Information and Assessment Methodology, Aboriginal Cultural Heritage Assessment: Northern and Central Precincts at Tallawarra, Yallah NSW
Our Ref: Matter 24090

The following project information and assessment methodology has been provided in accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010). The aim of this document is to provide registered Aboriginal parties (RAPs) with information about proposed project, and the proposed Aboriginal cultural heritage assessment process.

It would be appreciated if you would provide feedback on the methodology presented in this letter to Biosis by **5 pm Friday 20 October 2017** either by email, phone or return mail.

Please address feedback on the methodology to:

Taryn Gooley
Consultant Archaeologist
8 Tate Street Wollongong, NSW 2500
(02) 4201 1090
tgooley@biosis.com.au

Please do not hesitate to contact me if you require additional information or have any queries about the methodology or information provided.

Yours sincerely,

Taryn Gooley
Consultant Archaeologist

Stage 2 – Project information

Proposed development

Concept approval for the Tallawarra Lands Mixed Use Development was granted on 23 May 2013 (MP09_0131). The concept plan consists of residential (approximately 1,010 lots, together with 200 retirement dwellings), commercial, industrial (approximately 40ha) and retail development (approximately 16ha), public open space areas, new recreational facilities, internal road network, environmental management, conservation areas and riparian corridors.

Bridgehill Group have acquired some of the Tallawarra Lands in the Northern and Central Precincts from Energy Australia, and intend to develop new residential communities and a light industrial development and tourism facilities on those lands.

Bridgehill Group, intends to lodge a development application for the Northern Precinct under Part 4 of the *Environmental Planning and Assessment Act 1979;* and to modify the existing concept approval for the Northern and Central Precinct at Tallawarra, Yallah (MP 09_0131 MOD 1) under Part 3A section 75W of the *Environmental Planning and Assessment Act 1979*.

The proposed modification seeks to:

- Increase the footprint for residential development in the Central and Northern precincts; and
- Modify the overall approved residential yield from 1010 to 1480 lots.

The proposed modifications will result in reduced environmental lands between the Central and Northern precincts. Details on the proposed modification are outlined in Table 1 below.

Table 1 Proposed modification details – residential lots

Area	Approved Concept Yeild	Proposed modification
Central Precinct	350 Lots	588 Lots
Northern Precinct	310 Lots	542 Lots

Study area

The study area is located in the suburb of Yallah within the Wollongong Local Government Area and is located approximately 13 km south of Wollongong town centre. The Northern Precinct covers an area of 45.06 hectares (Figure 1), while the Central Precincts comprises two areas of 73.2 hectares and 6.497 hectares respectively (Figure 2). Table 2 and Table 3 below, detail the Lot and DP's for each precinct.

Table 2 Central precinct Lot and DP's

Lot	DP
1	551658
102	716727
15	1050255
1	1146409
1	543285
7	1049520
8	1049520

Table 3 Northern precinct Lot and DP's

Lot	DP
30	1175058
31	1175058

Previous Archaeological Assessment

Biosis prepared an Aboriginal Archaeological Assessment report for the Tallawarra Lands Part 3A Concept Plan Application in 2010. Aboriginal Community consultation was undertaken for this assessment in accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DECC NSW 2005) for projects being assessed under Part 3A of the EP&A Act. Nine Aboriginal stakeholders registered an interest in the project, each group was invited to participate in the sub-surface archaeological investigations, consultation meetings and development of management and mitigation measures for this project.

The assessment involved subsurface investigations of a number of Potential Archaeological Deposit (PAD) locations and sensitive landforms within the Tallawarra Lands. A 'gap analysis' was undertaken to ensure that all information relevant to Tallawarra Lands was captured. This included searches of relevant heritage registers and databases, along with a review of the environmental context, regional archaeological patterning based on previous studies, and predictive modelling to confirm placement of proposed test pits to be excavated during the sub-surface investigations.

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sites across the Tallawarra Lands including four isolated artefacts and four campsites. Areas of high, moderate, low, and no areas of archaeological potential have been defined across the Tallawarra Lands.

The majority of the Northern Precinct was assessed as having moderate archaeological potential with small areas of low archaeological potential also being identified. The Central Precinct was identified as having areas of high, moderate and low archaeological potential.

The Biosis (2010) assessment recommended further archaeological assessment such as test excavations and recording be undertaken in areas of moderate and high archaeological potential if impacts on those areas cannot be avoided. Areas of low or no archaeological potential and areas of high disturbance do not require any further archaeological investigations.

Stage 3 - Aboriginal cultural heritage assessment methodology

The assessment process includes the following tasks:

Background Research

This task identifies known Aboriginal sites, areas of potential archaeological sensitivity and previous disturbance, and informs the predictive modelling for the assessment/study area. Biosis has undertaken the following tasks as part of the background research for this assessment:

- A search of the Aboriginal Heritage Information Management System (AHIMS) was completed to identify registered sites in the vicinity of the assessment/study area. The results of the AHIMS search has been used to obtain relevant site cards and relevant previously completed Aboriginal cultural heritage assessments.
- Review of relevant reports identified through the AHIMS search.
- Review of aerial photographs and other resources to gauge the existing landscape and previous history of land disturbance.
- Review of the historical heritage databases.
- A brief summary of the historical uses of the study areas.

The background research has identified that the proposed works has the potential to impact on the following AHIMS sites (Figure 3 and Figure 4):

- Northern Precinct
  - Boomberry Point 1 (AHIMS 52-5-0223)
  - Gilba Road 1 (AHIMS 52-5-0642)
  - Elizabeth Point (AHIMS 52-5-0225)
  - Gilba Road 2 Fill 1 (AHIMS 52-5-0643)
- Central Precinct
  - Tallawarra Pipeline PAD 3 (AHIMS 52-5-0523)
  - TLPD AFT 7 (AHIMS 52-5-0613)
  - TLPD AFT 8 (AHIMS 52-5-0614)

- TLPD AFT 9 (AHIMS 52-5-0615)

Consultation with the Aboriginal Community

This task will allow the Aboriginal community the opportunity to participate in decisions regarding the management of their cultural heritage by providing proponents information regarding cultural significance and inputting into management options.

Aboriginal community consultation will be undertaken in accordance with *the Aboriginal cultural heritage consultation requirements for proponents 2010*, which includes:

- **COMPLETED.** Biosis ascertained the names of Aboriginal people or groups who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/ or Places within the proposed study area.
- **COMPLETED.** Aboriginal stakeholders were provided with notification by letter of the proposed project on 26 June 2017 via Biosis on behalf of Cardno and given the opportunity to be involved in consultation.
- This document outlines the details of the proposed project and proposed archaeological testing methodology. The registered Aboriginal parties must be given an opportunity to review and provide feedback to the proponent within a minimum of **28 days** of Biosis providing the methodology document.
- The DRAFT Aboriginal Cultural Heritage Assessment Report (ACHAR) and Archaeological Report (AR) will be provided to all registered Aboriginal parties for comment – the proponent must allow **28 days** for comment. All comments and correspondence sent and received regarding the project will be included in the final report in an Appendix.
- Representatives of the registered Aboriginal parties will be invited to participate in any archaeological excavations which will take place within the study areas

Field Survey

A number of archaeological surveys have been undertaken within the study area over the last 10 years. An inspection of the assessment area has been undertaken as part of the current assessment in order to identify any previously unknown Aboriginal objects or places, should they be present, and to record the current condition of AHIMS sites.

Any known sites identified by the AHIMS search which are within the assessment area were inspected to determine their current condition. Registered sites in the near vicinity were visited to ensure they will not be impacted by the proposed works. Areas of potential archaeological deposit (PAD) identified by previous assessments were also be inspected.

Mapping was undertaken in ArcGIS and MapInfo Professional.

Archaeological testing

The archaeological survey and desktop assessment have identified that the proposed works have the potential to impact on eight AHIMS sites (Figure 3 and Figure 4) and areas identified as having moderate and high archaeological potential (Figure 5 and Figure 6). Biosis is therefore recommending Aboriginal archaeological test excavations be undertaken accordance with the *Code of Practice for archaeological*

investigation for Aboriginal objects in NSW (DECCW 2010) in areas of moderate and high archaeological potential should the proposed modifications to the concept approval be granted.

Aboriginal cultural heritage assessment report and archaeological report

Biosis Pty Ltd will prepare an Archaeological cultural heritage assessment report (ACHAR) and archaeological report (AR) for the proposed project. The ACHAR will document the findings of the assessment, and detail the consultation process. The AR will be included as an appendix to the ACHAR and will document the desktop assessment, archaeological survey, and test excavation results.

The main aim of the report is to document the assessment of potential development related impacts to Aboriginal cultural heritage and to formulate strategies to manage these impacts. Reporting will follow the guidelines of the OEH, in particular the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010a), the Code of Practice and the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011).

The report will contain:

- Details of the Aboriginal consultation process undertaken as part of the assessment
- A review and summary of the environmental context of the study area
- A review and summary of the Aboriginal archaeological context of the study area
- Archaeological survey results
- Aboriginal site significance assessment
- Impact assessment
- Management strategies
- Maps detailing any Aboriginal sites identified during the assessment process.
- The RAPs will be provided with the draft archaeological and cultural heritage report and their comments on report content sought.
- Comments on the report's content are to be provided to Biosis by the party's respective nominated spokesperson(s). All comments not provided in writing will be recorded in an informal logbook by Biosis.
- These comments and responses to these comments will be documented in the final ACHAR.

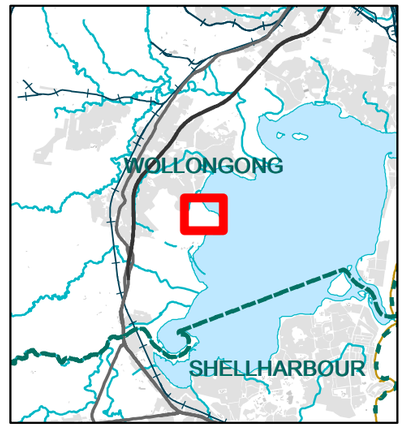
As part of this methodology registered Aboriginal parties will be provided with the draft report for comment and allowed **28 days** for review.

The final report will incorporate all comments.

References

DECCW 2010. *Aboriginal cultural heritage consultation requirements for proponents 2010.* NSW Department of Environment, Climate Change and Water, Sydney NSW

Biosis 2010. Tallawarra Lands: Part 3A concept plan Aboriginal archaeological and cultural heritage assessment. Report to TRUenergy.



Legend

Study area

Figure 1: Northern study area detail

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

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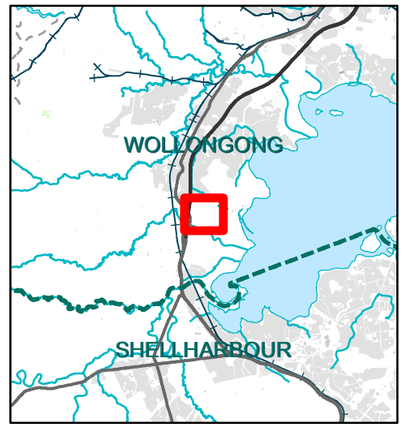
Ballarat, Brisbane, Canberra, Melbourne, Newcastle, Sydney, Wangaratta & Wollongong

Matter: 24090
Date: 21 July 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
Location:\\bio-data-01\matters$\24000s\24090\Mapping\24090_F2_NorthernPrecinct_StudyArea

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017



Legend

Study area

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 2: Central study area detail

0 40 80 120 160 200

Metres
Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

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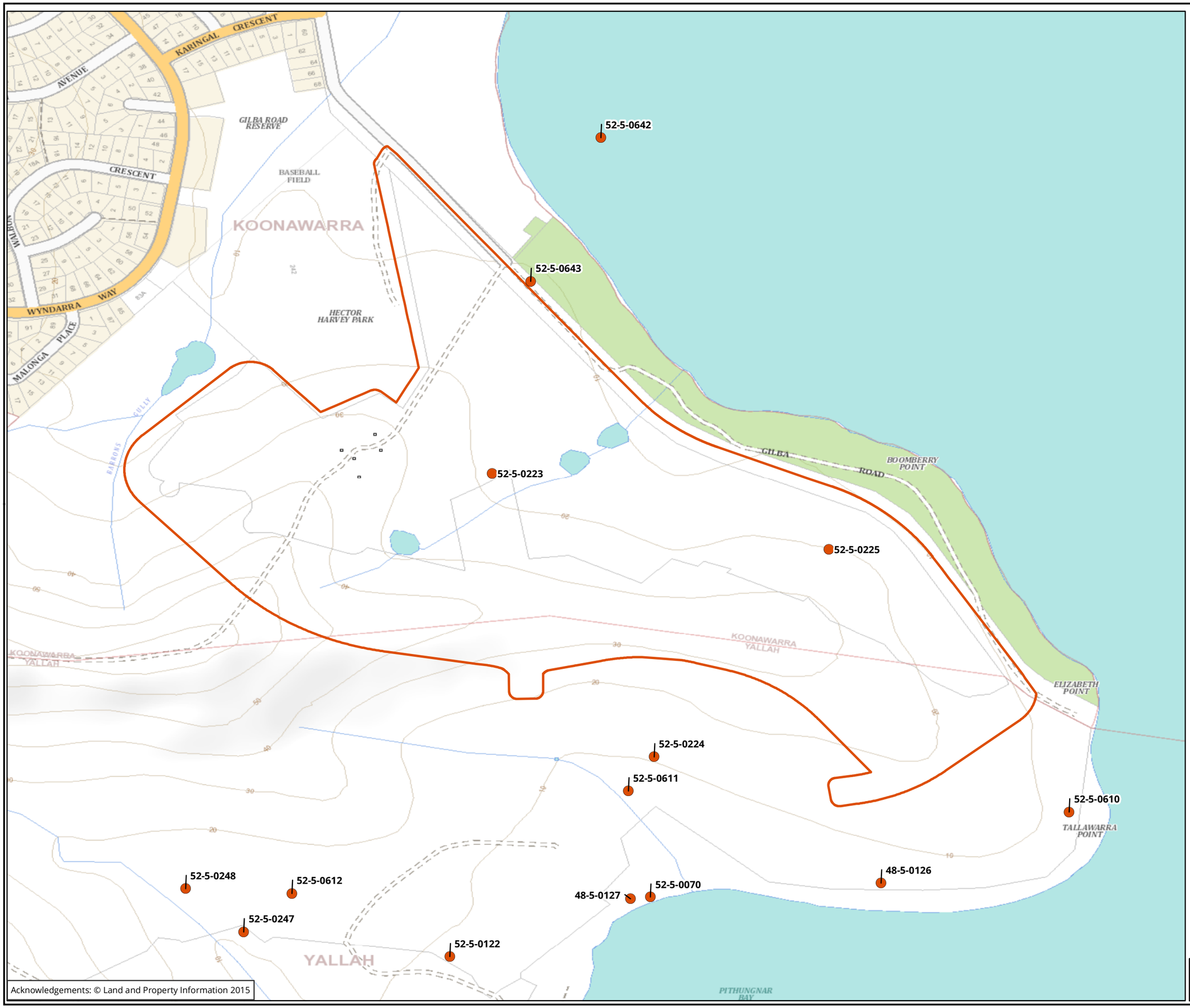

Legend

- AHIMS Records
- Study area

Figure 3: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

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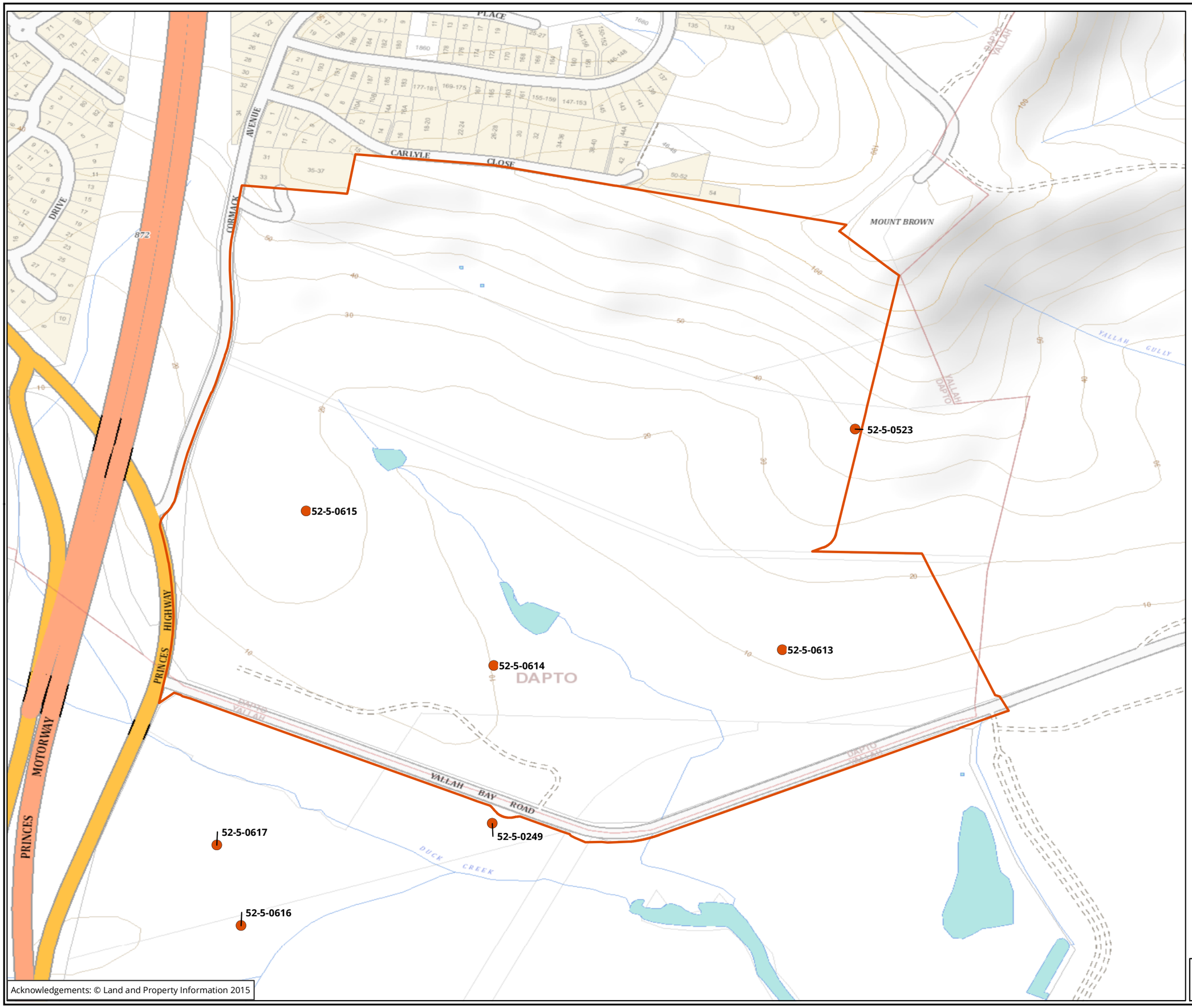

Legend

- AHIMS Records
- Study area

Figure 4: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

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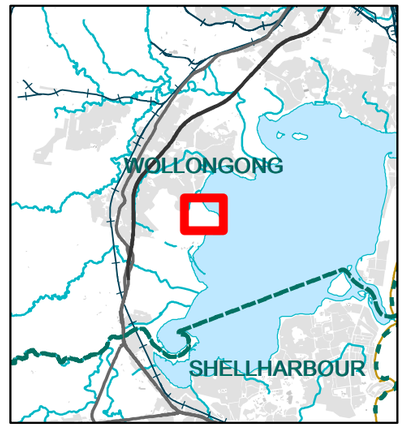

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Study area

Archaeological potential

Moderate

Low

Figure 5: Areas of archaeological potential (northern)

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

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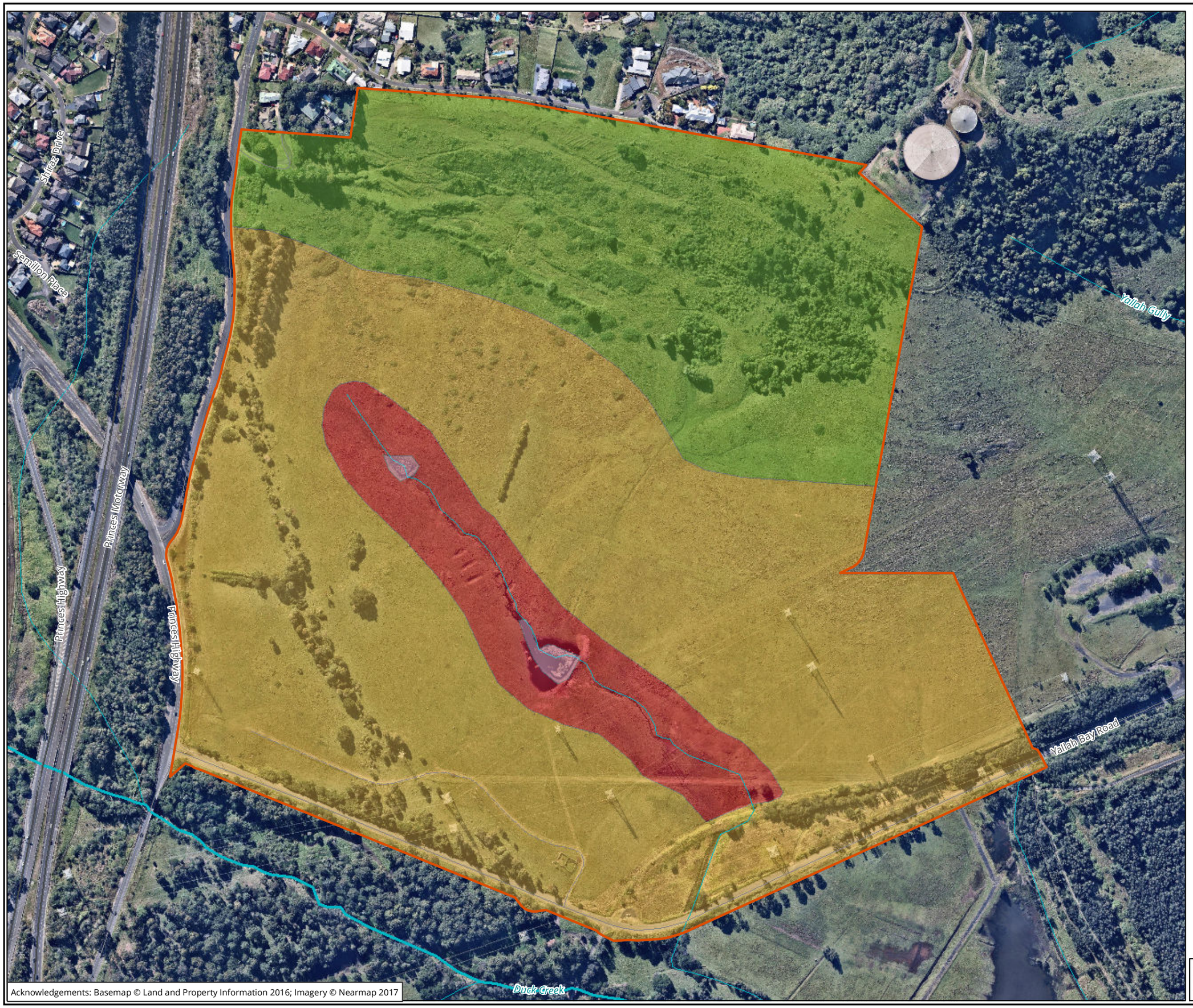

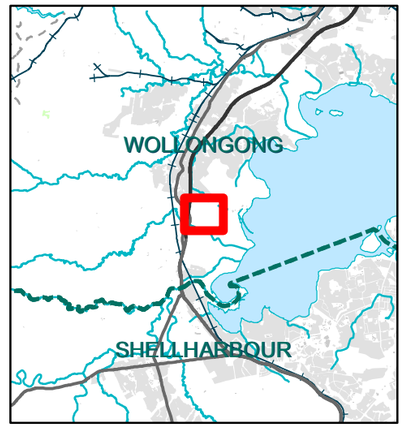

Legend

Study area

Archaeological potential

High

Moderate

Low

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 6: Areas of archaeological potential (central)

0 40 80 120 160 200

Metres

Scale: 1:4,000 @ A3

Coordinate System: GDA 1994 MGA Zone 56

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22 September 2017

Mr Corey Smith
Cullendulla (Murrin Clan/Peoples)
cullendullachts@gmail.com

Dear Corey

Re: Project Information and Assessment Methodology, Aboriginal Cultural Heritage Assessment: Northern and Central Precincts at Tallawarra, Yallah NSW
Our Ref: Matter 24090

The following project information and assessment methodology has been provided in accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010). The aim of this document is to provide registered Aboriginal parties (RAPs) with information about proposed project, and the proposed Aboriginal cultural heritage assessment process.

It would be appreciated if you would provide feedback on the methodology presented in this letter to Biosis by **5 pm Friday 20 October 2017** either by email, phone or return mail.

Please address feedback on the methodology to:

Taryn Gooley
Consultant Archaeologist
8 Tate Street Wollongong, NSW 2500
(02) 4201 1090
tgooley@biosis.com.au

Please do not hesitate to contact me if you require additional information or have any queries about the methodology or information provided.

Yours sincerely,

Taryn Gooley
Consultant Archaeologist

Stage 2 – Project information

Proposed development

Concept approval for the Tallawarra Lands Mixed Use Development was granted on 23 May 2013 (MP09_0131). The concept plan consists of residential (approximately 1,010 lots, together with 200 retirement dwellings), commercial, industrial (approximately 40ha) and retail development (approximately 16ha), public open space areas, new recreational facilities, internal road network, environmental management, conservation areas and riparian corridors.

Bridgehill Group have acquired some of the Tallawarra Lands in the Northern and Central Precincts from Energy Australia, and intend to develop new residential communities and a light industrial development and tourism facilities on those lands.

Bridgehill Group, intends to lodge a development application for the Northern Precinct under Part 4 of the *Environmental Planning and Assessment Act 1979;* and to modify the existing concept approval for the Northern and Central Precinct at Tallawarra, Yallah (MP 09_0131 MOD 1) under Part 3A section 75W of the *Environmental Planning and Assessment Act 1979*.

The proposed modification seeks to:

- Increase the footprint for residential development in the Central and Northern precincts; and
- Modify the overall approved residential yield from 1010 to 1480 lots.

The proposed modifications will result in reduced environmental lands between the Central and Northern precincts. Details on the proposed modification are outlined in Table 1 below.

Table 1 Proposed modification details – residential lots

Area	Approved Concept Yeild	Proposed modification
Central Precinct	350 Lots	588 Lots
Northern Precinct	310 Lots	542 Lots

Study area

The study area is located in the suburb of Yallah within the Wollongong Local Government Area and is located approximately 13 km south of Wollongong town centre. The Northern Precinct covers an area of 45.06 hectares (Figure 1), while the Central Precincts comprises two areas of 73.2 hectares and 6.497 hectares respectively (Figure 2). Table 2 and Table 3 below, detail the Lot and DP's for each precinct.

Table 2 Central precinct Lot and DP's

Lot	DP
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Table 3 Northern precinct Lot and DP's

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The assessment involved subsurface investigations of a number of Potential Archaeological Deposit (PAD) locations and sensitive landforms within the Tallawarra Lands. A 'gap analysis' was undertaken to ensure that all information relevant to Tallawarra Lands was captured. This included searches of relevant heritage registers and databases, along with a review of the environmental context, regional archaeological patterning based on previous studies, and predictive modelling to confirm placement of proposed test pits to be excavated during the sub-surface investigations.

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The Biosis (2010) assessment recommended further archaeological assessment such as test excavations and recording be undertaken in areas of moderate and high archaeological potential if impacts on those areas cannot be avoided. Areas of low or no archaeological potential and areas of high disturbance do not require any further archaeological investigations.

Stage 3 - Aboriginal cultural heritage assessment methodology

The assessment process includes the following tasks:

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This task identifies known Aboriginal sites, areas of potential archaeological sensitivity and previous disturbance, and informs the predictive modelling for the assessment/study area. Biosis has undertaken the following tasks as part of the background research for this assessment:

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- Management strategies
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The final report will incorporate all comments.

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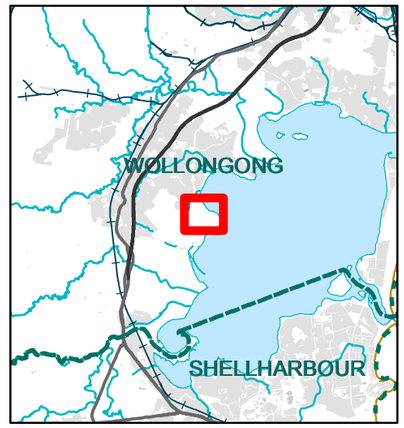

Legend

Study area

Figure 1: Northern study area detail

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

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Ballarat, Brisbane, Canberra, Melbourne, Newcastle, Sydney, Wangaratta & Wollongong

Matter: 24090
Date: 21 July 2017,
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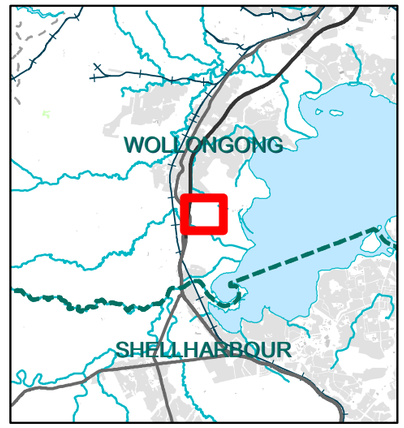
Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017



Legend

Study area

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 2: Central study area detail

0 40 80 120 160 200

Metres
Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

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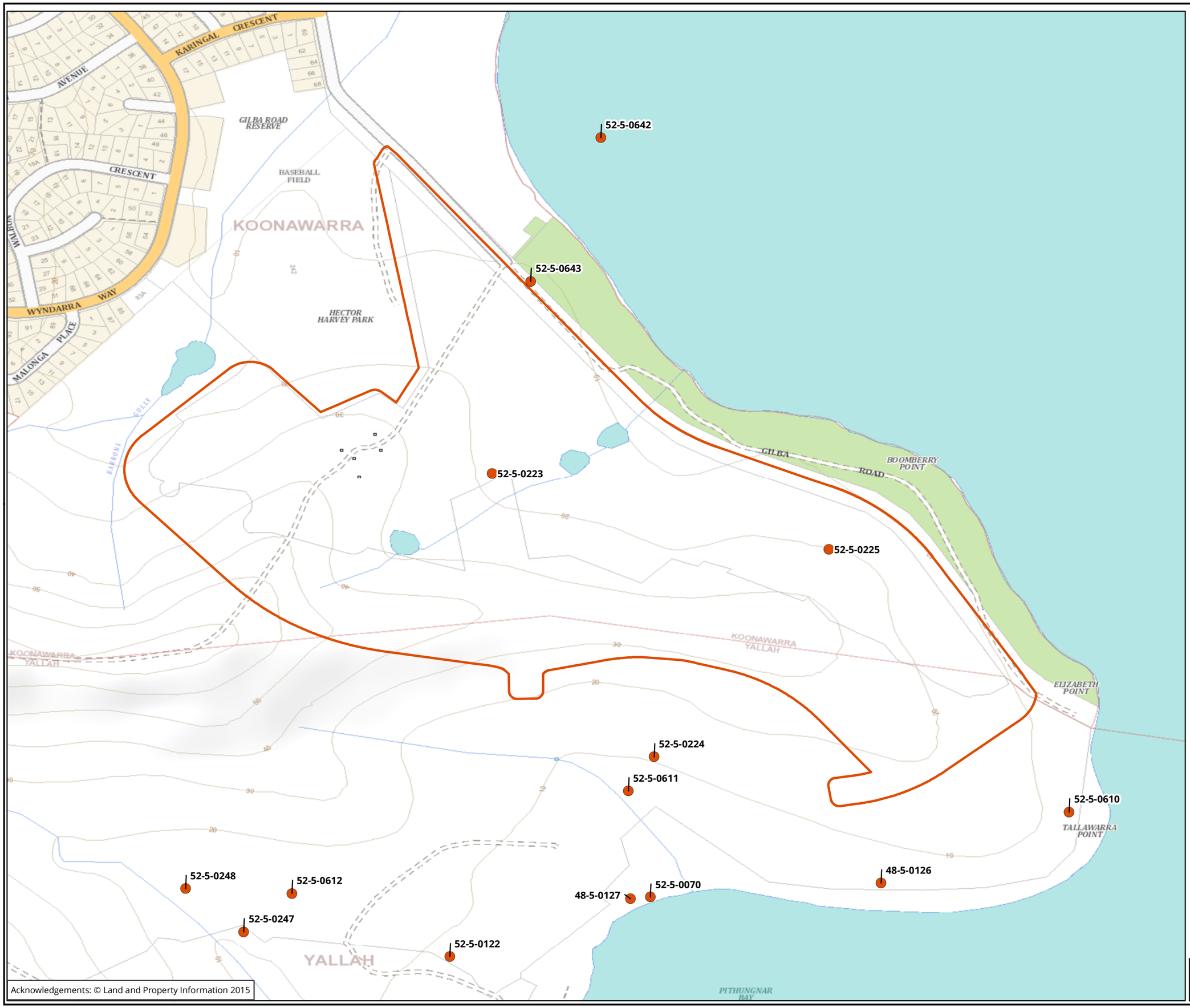

Legend

- AHIMS Records
- Study area

Figure 3: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

N

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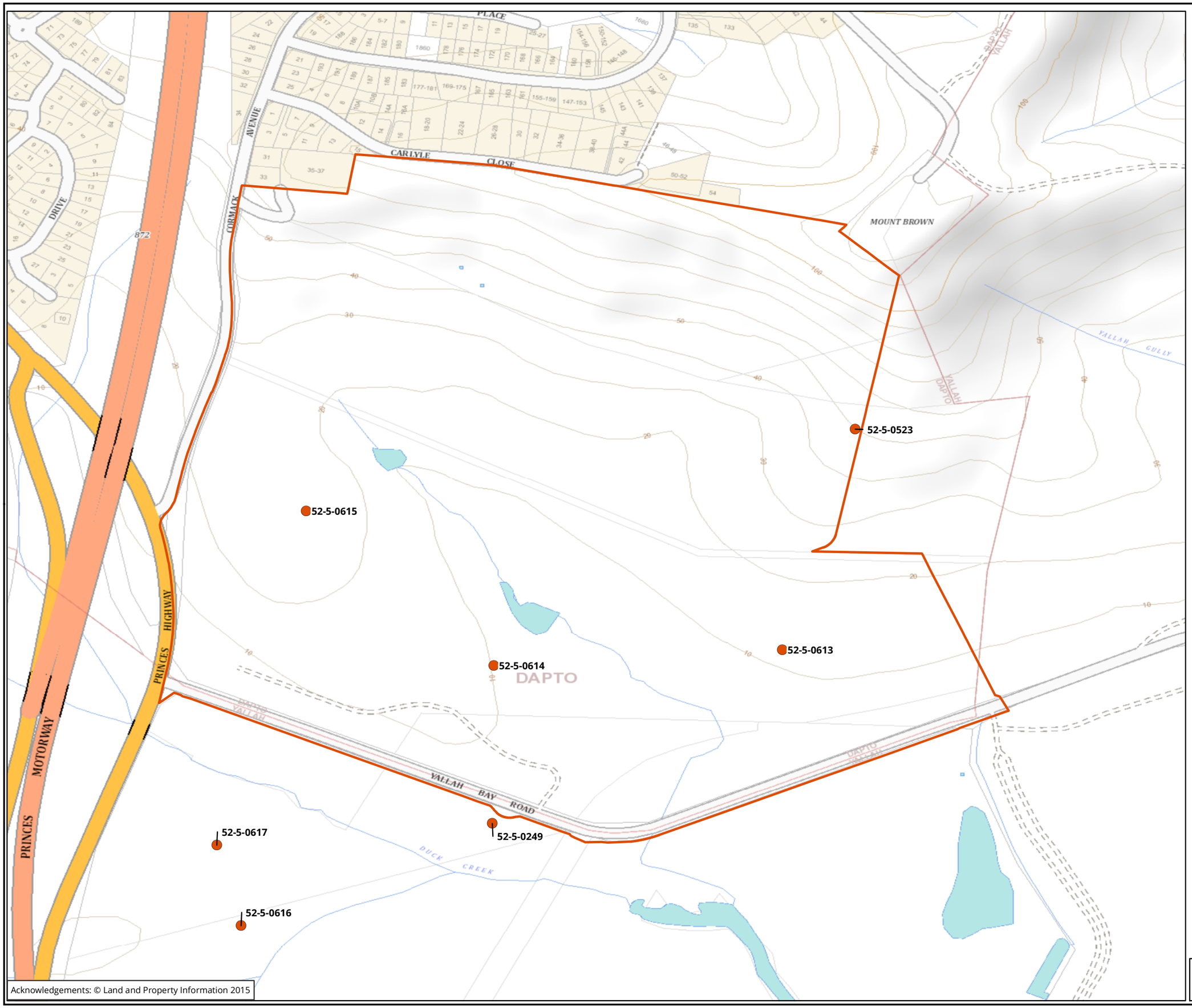

Legend

- AHIMS Records
- Study area

Figure 4: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

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24090_AR_F8_AHIMS.mxd

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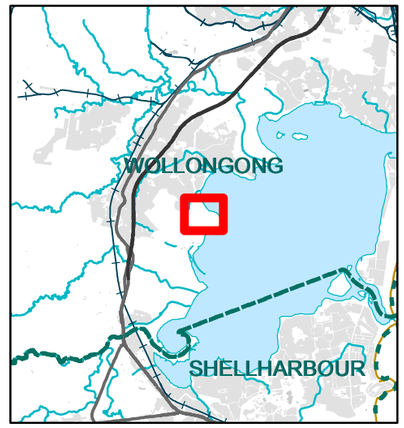

Legend

Study area

Archaeological potential

Moderate

Low

Figure 5: Areas of archaeological potential (northern)

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

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Date: 21 July 2017,
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Location:\\bio-data-01\matters$\24000s\24090\Mapping
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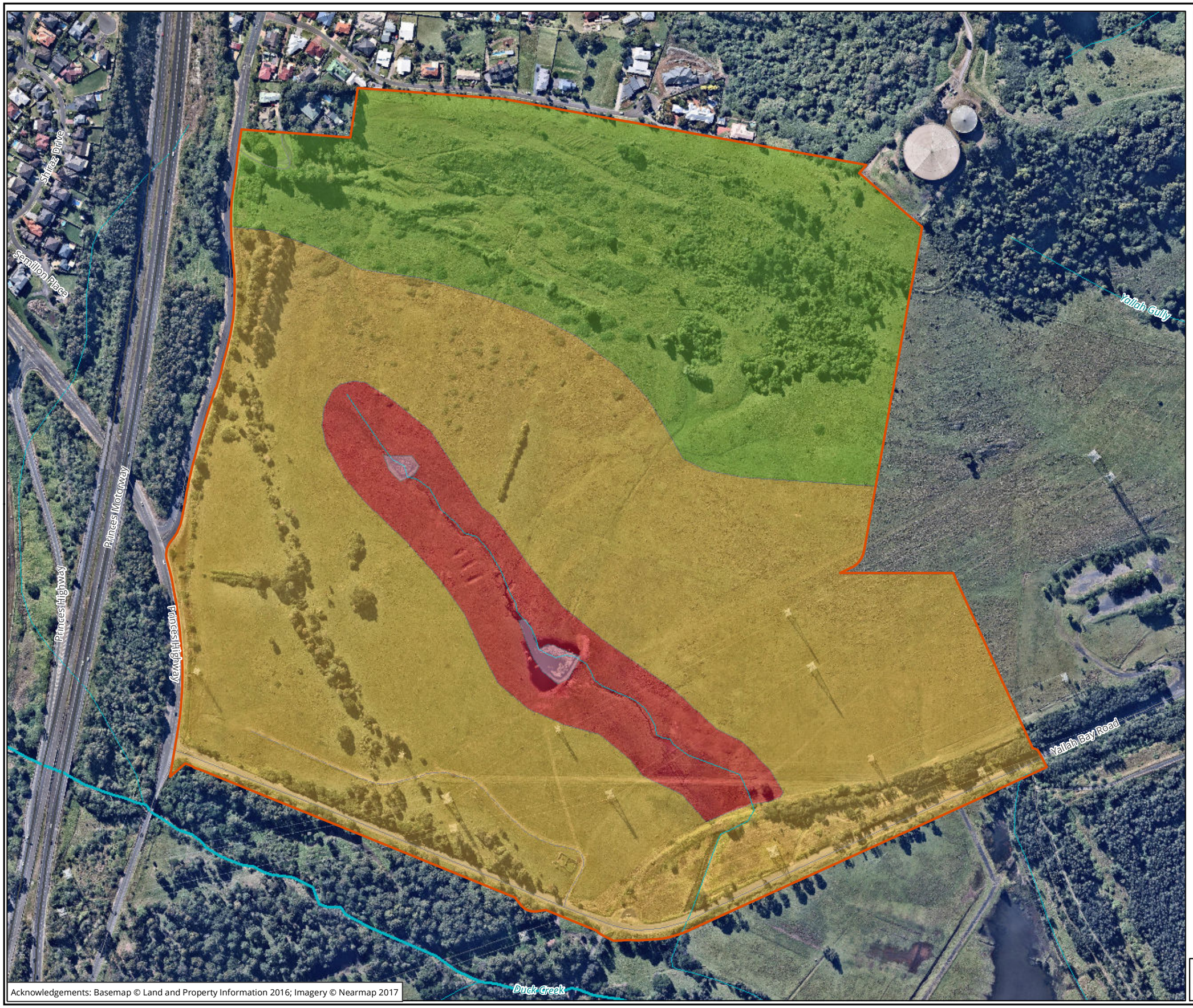

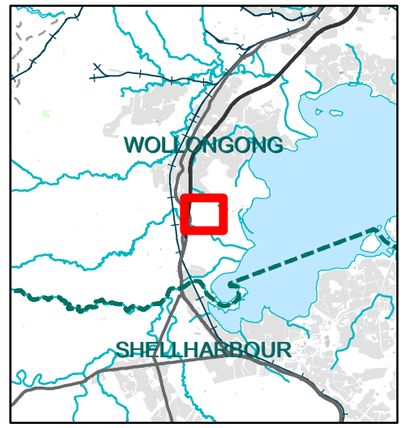

Legend

Study area

Archaeological potential

High

Moderate

Low

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 6: Areas of archaeological potential (central)

0 40 80 120 160 200

Metres

Scale: 1:4,000 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

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Matter: 24090
Date: 21 July 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
Location:\\bio-data-01\matters$\24000s\24090\Mapping\24090_F10_CentralPrecinct_ArchPotent

22 September 2017

Ms Anna O'Hara
PO BOX 2006
Bendalong, NSW 2539
Darug Land Observations
daruglandobservations@gmail.com
Ph: 0413 687 279

Dear Anna

Re: Project Information and Assessment Methodology, Aboriginal Cultural Heritage Assessment: Northern and Central Precincts at Tallawarra, Yallah NSW
Our Ref: Matter 24090

The following project information and assessment methodology has been provided in accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010). The aim of this document is to provide registered Aboriginal parties (RAPs) with information about proposed project, and the proposed Aboriginal cultural heritage assessment process.

It would be appreciated if you would provide feedback on the methodology presented in this letter to Biosis by **5 pm Friday 20 October 2017** either by email, phone or return mail.

Please address feedback on the methodology to:

Taryn Gooley
Consultant Archaeologist
8 Tate Street Wollongong, NSW 2500
(02) 4201 1090
tgooley@biosis.com.au

Please do not hesitate to contact me if you require additional information or have any queries about the methodology or information provided.
Yours sincerely,

Taryn Gooley
Consultant Archaeologist

Stage 2 – Project information

Proposed development

Concept approval for the Tallawarra Lands Mixed Use Development was granted on 23 May 2013 (MP09_0131). The concept plan consists of residential (approximately 1,010 lots, together with 200 retirement dwellings), commercial, industrial (approximately 40ha) and retail development (approximately 16ha), public open space areas, new recreational facilities, internal road network, environmental management, conservation areas and riparian corridors.

Bridgehill Group have acquired some of the Tallawarra Lands in the Northern and Central Precincts from Energy Australia, and intend to develop new residential communities and a light industrial development and tourism facilities on those lands.

Bridgehill Group, intends to lodge a development application for the Northern Precinct under Part 4 of the *Environmental Planning and Assessment Act 1979;* and to modify the existing concept approval for the Northern and Central Precinct at Tallawarra, Yallah (MP 09_0131 MOD 1) under Part 3A section 75W of the *Environmental Planning and Assessment Act 1979*.

The proposed modification seeks to:

- Increase the footprint for residential development in the Central and Northern precincts; and
- Modify the overall approved residential yield from 1010 to 1480 lots.

The proposed modifications will result in reduced environmental lands between the Central and Northern precincts. Details on the proposed modification are outlined in Table 1 below.

Table 1 Proposed modification details – residential lots

Area	Approved Concept Yeild	Proposed modification
Central Precinct	350 Lots	588 Lots
Northern Precinct	310 Lots	542 Lots

Study area

The study area is located in the suburb of Yallah within the Wollongong Local Government Area and is located approximately 13 km south of Wollongong town centre. The Northern Precinct covers an area of 45.06 hectares (Figure 1), while the Central Precincts comprises two areas of 73.2 hectares and 6.497 hectares respectively (Figure 2). Table 2 and Table 3 below, detail the Lot and DP's for each precinct.

Table 2 Central precinct Lot and DP's

Lot	DP
1	551658
102	716727
15	1050255
1	1146409
1	543285
7	1049520
8	1049520

Table 3 Northern precinct Lot and DP's

Lot	DP
30	1175058
31	1175058

Previous Archaeological Assessment

Biosis prepared an Aboriginal Archaeological Assessment report for the Tallawarra Lands Part 3A Concept Plan Application in 2010. Aboriginal Community consultation was undertaken for this assessment in accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DECC NSW 2005) for projects being assessed under Part 3A of the EP&A Act. Nine Aboriginal stakeholders registered an interest in the project, each group was invited to participate in the sub-surface archaeological investigations, consultation meetings and development of management and mitigation measures for this project.

The assessment involved subsurface investigations of a number of Potential Archaeological Deposit (PAD) locations and sensitive landforms within the Tallawarra Lands. A 'gap analysis' was undertaken to ensure that all information relevant to Tallawarra Lands was captured. This included searches of relevant heritage registers and databases, along with a review of the environmental context, regional archaeological patterning based on previous studies, and predictive modelling to confirm placement of proposed test pits to be excavated during the sub-surface investigations.

The predictive modelling suggested that there is high potential for additional shell middens, stone artefact scatters and or isolated finds to be identified within the Tallawarra Lands. Where previous land use has resulted in high levels of disturbance, archaeological sites will have low integrity. The archaeological sub-surface investigations undertaken resulted in the in the identification of eight new Aboriginal archaeological

sites across the Tallawarra Lands including four isolated artefacts and four campsites. Areas of high, moderate, low, and no areas of archaeological potential have been defined across the Tallawarra Lands.

The majority of the Northern Precinct was assessed as having moderate archaeological potential with small areas of low archaeological potential also being identified. The Central Precinct was identified as having areas of high, moderate and low archaeological potential.

The Biosis (2010) assessment recommended further archaeological assessment such as test excavations and recording be undertaken in areas of moderate and high archaeological potential if impacts on those areas cannot be avoided. Areas of low or no archaeological potential and areas of high disturbance do not require any further archaeological investigations.

Stage 3 - Aboriginal cultural heritage assessment methodology

The assessment process includes the following tasks:

Background Research

This task identifies known Aboriginal sites, areas of potential archaeological sensitivity and previous disturbance, and informs the predictive modelling for the assessment/study area. Biosis has undertaken the following tasks as part of the background research for this assessment:

- A search of the Aboriginal Heritage Information Management System (AHIMS) was completed to identify registered sites in the vicinity of the assessment/study area. The results of the AHIMS search has been used to obtain relevant site cards and relevant previously completed Aboriginal cultural heritage assessments.
- Review of relevant reports identified through the AHIMS search.
- Review of aerial photographs and other resources to gauge the existing landscape and previous history of land disturbance.
- Review of the historical heritage databases.
- A brief summary of the historical uses of the study areas.

The background research has identified that the proposed works has the potential to impact on the following AHIMS sites (Figure 3 and Figure 4):

- Northern Precinct
  - Boomberry Point 1 (AHIMS 52-5-0223)
  - Gilba Road 1 (AHIMS 52-5-0642)
  - Elizabeth Point (AHIMS 52-5-0225)
  - Gilba Road 2 Fill 1 (AHIMS 52-5-0643)
- Central Precinct
  - Tallawarra Pipeline PAD 3 (AHIMS 52-5-0523)
  - TLPD AFT 7 (AHIMS 52-5-0613)
  - TLPD AFT 8 (AHIMS 52-5-0614)

- TLPD AFT 9 (AHIMS 52-5-0615)

Consultation with the Aboriginal Community

This task will allow the Aboriginal community the opportunity to participate in decisions regarding the management of their cultural heritage by providing proponents information regarding cultural significance and inputting into management options.

Aboriginal community consultation will be undertaken in accordance with *the Aboriginal cultural heritage consultation requirements for proponents 2010*, which includes:

- **COMPLETED.** Biosis ascertained the names of Aboriginal people or groups who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/ or Places within the proposed study area.
- **COMPLETED.** Aboriginal stakeholders were provided with notification by letter of the proposed project on 26 June 2017 via Biosis on behalf of Cardno and given the opportunity to be involved in consultation.
- This document outlines the details of the proposed project and proposed archaeological testing methodology. The registered Aboriginal parties must be given an opportunity to review and provide feedback to the proponent within a minimum of **28 days** of Biosis providing the methodology document.
- The DRAFT Aboriginal Cultural Heritage Assessment Report (ACHAR) and Archaeological Report (AR) will be provided to all registered Aboriginal parties for comment – the proponent must allow **28 days** for comment. All comments and correspondence sent and received regarding the project will be included in the final report in an Appendix.
- Representatives of the registered Aboriginal parties will be invited to participate in any archaeological excavations which will take place within the study areas

Field Survey

A number of archaeological surveys have been undertaken within the study area over the last 10 years. An inspection of the assessment area has been undertaken as part of the current assessment in order to identify any previously unknown Aboriginal objects or places, should they be present, and to record the current condition of AHIMS sites.

Any known sites identified by the AHIMS search which are within the assessment area were inspected to determine their current condition. Registered sites in the near vicinity were visited to ensure they will not be impacted by the proposed works. Areas of potential archaeological deposit (PAD) identified by previous assessments were also be inspected.

Mapping was undertaken in ArcGIS and MapInfo Professional.

Archaeological testing

The archaeological survey and desktop assessment have identified that the proposed works have the potential to impact on eight AHIMS sites (Figure 3 and Figure 4) and areas identified as having moderate and high archaeological potential (Figure 5 and Figure 6). Biosis is therefore recommending Aboriginal archaeological test excavations be undertaken accordance with the *Code of Practice for archaeological*

investigation for Aboriginal objects in NSW (DECCW 2010) in areas of moderate and high archaeological potential should the proposed modifications to the concept approval be granted.

Aboriginal cultural heritage assessment report and archaeological report

Biosis Pty Ltd will prepare an Archaeological cultural heritage assessment report (ACHAR) and archaeological report (AR) for the proposed project. The ACHAR will document the findings of the assessment, and detail the consultation process. The AR will be included as an appendix to the ACHAR and will document the desktop assessment, archaeological survey, and test excavation results.

The main aim of the report is to document the assessment of potential development related impacts to Aboriginal cultural heritage and to formulate strategies to manage these impacts. Reporting will follow the guidelines of the OEH, in particular the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010a), the Code of Practice and the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011).

The report will contain:

- Details of the Aboriginal consultation process undertaken as part of the assessment
- A review and summary of the environmental context of the study area
- A review and summary of the Aboriginal archaeological context of the study area
- Archaeological survey results
- Aboriginal site significance assessment
- Impact assessment
- Management strategies
- Maps detailing any Aboriginal sites identified during the assessment process.
- The RAPs will be provided with the draft archaeological and cultural heritage report and their comments on report content sought.
- Comments on the report's content are to be provided to Biosis by the party's respective nominated spokesperson(s). All comments not provided in writing will be recorded in an informal logbook by Biosis.
- These comments and responses to these comments will be documented in the final ACHAR.

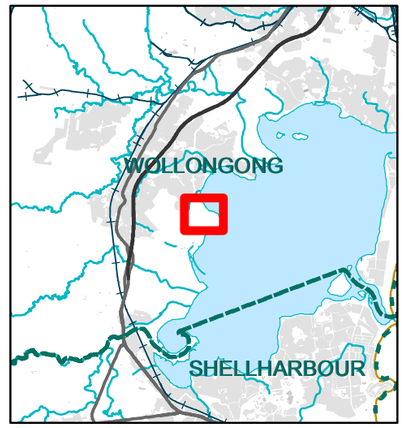
As part of this methodology registered Aboriginal parties will be provided with the draft report for comment and allowed **28 days** for review.

The final report will incorporate all comments.

References

DECCW 2010. *Aboriginal cultural heritage consultation requirements for proponents 2010.* NSW Department of Environment, Climate Change and Water, Sydney NSW

Biosis 2010. Tallawarra Lands: Part 3A concept plan Aboriginal archaeological and cultural heritage assessment. Report to TRUenergy.



Legend

Study area

Figure 1: Northern study area detail

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

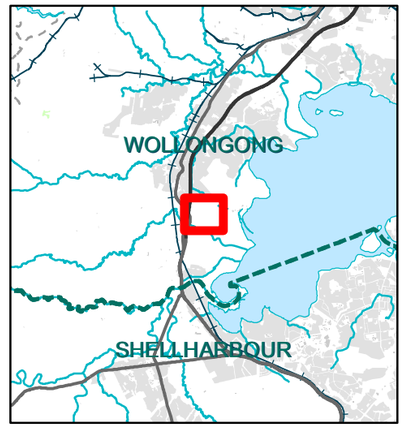
N

Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne, Newcastle, Sydney, Wangaratta & Wollongong

Matter: 24090
Date: 21 July 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
Location:\\bio-data-01\matters$\24000s\24090\Mapping\24090_F2_NorthernPrecinct_StudyArea

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017



Legend

Study area

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 2: Central study area detail

0 40 80 120 160 200

Metres
Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

biosis

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Date: 12 July 2017,
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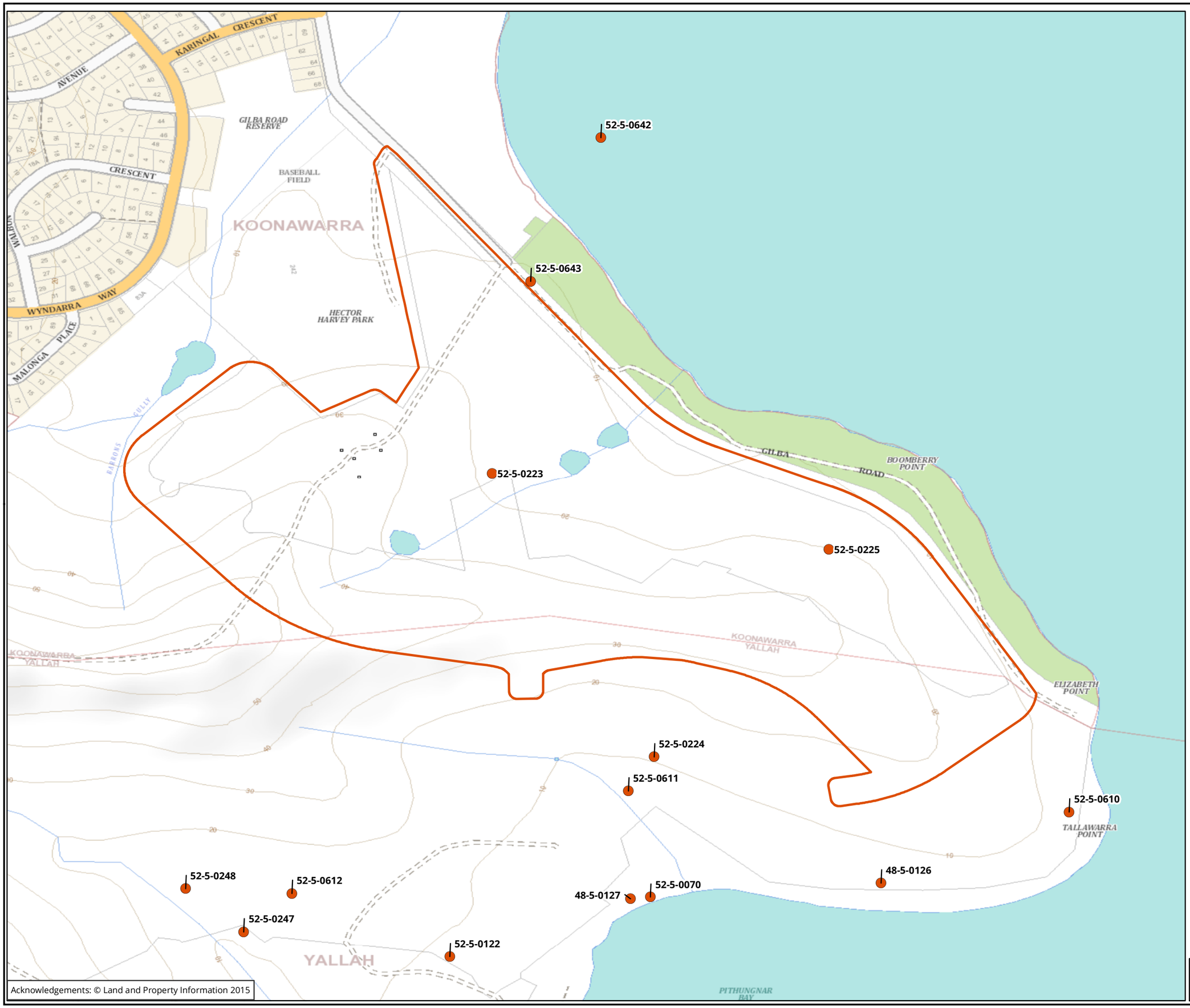

Legend

- AHIMS Records
- Study area

Figure 3: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

N

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Ballarat, Brisbane, Canberra, Melbourne, Sydney,Wangaratta & Wollongong

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Date: 22 August 2017,
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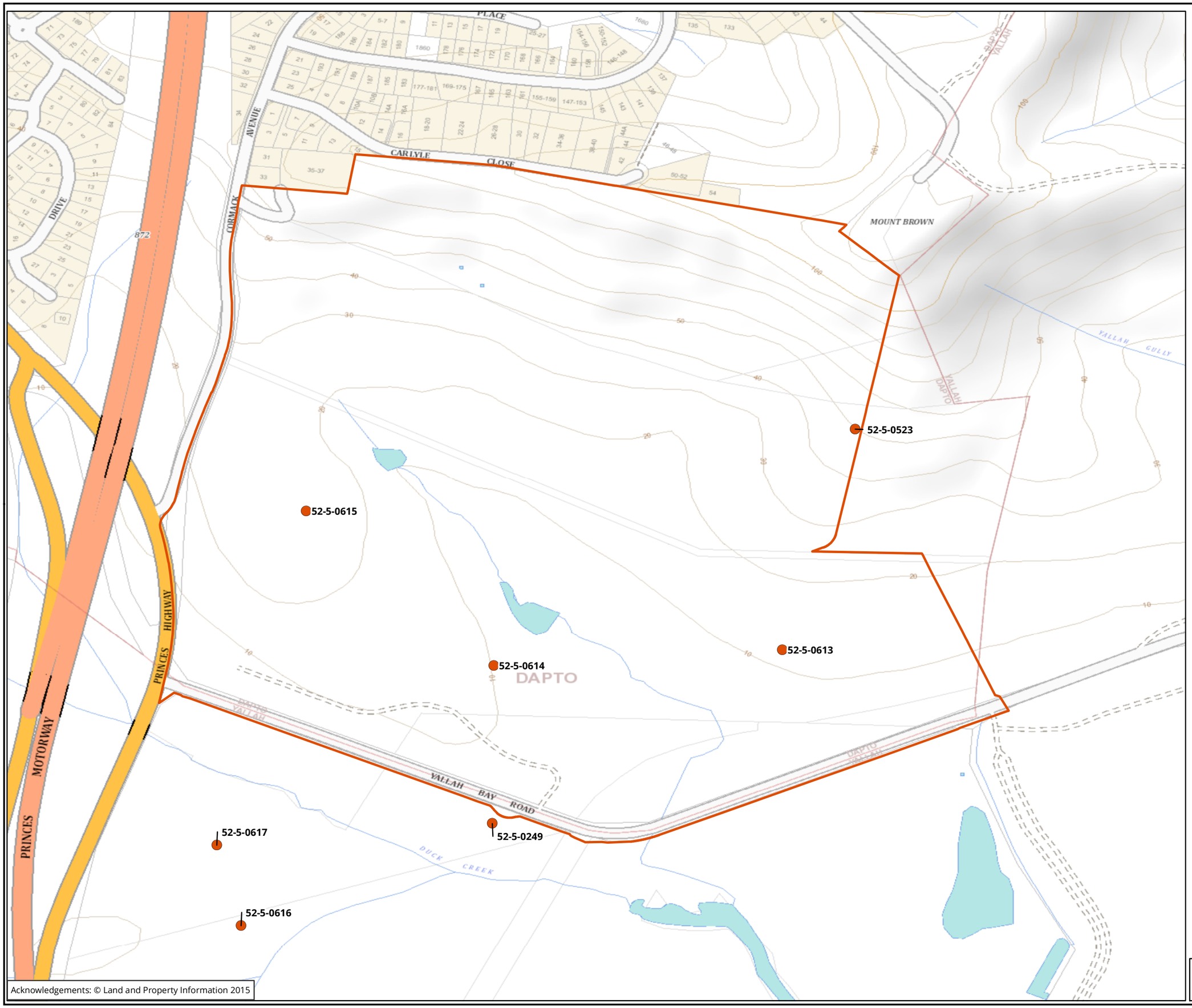

Legend

- AHIMS Records
- Study area

Figure 4: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne, Sydney,Wangaratta & Wollongong

Matter:
Date: 22 August 2017,
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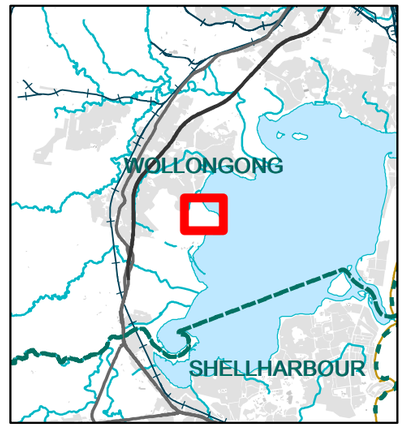
Acknowledgements: © Land and Property Information 2015



Legend

Study area

Archaeological potential

Moderate

Low

Figure 5: Areas of archaeological potential (northern)

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

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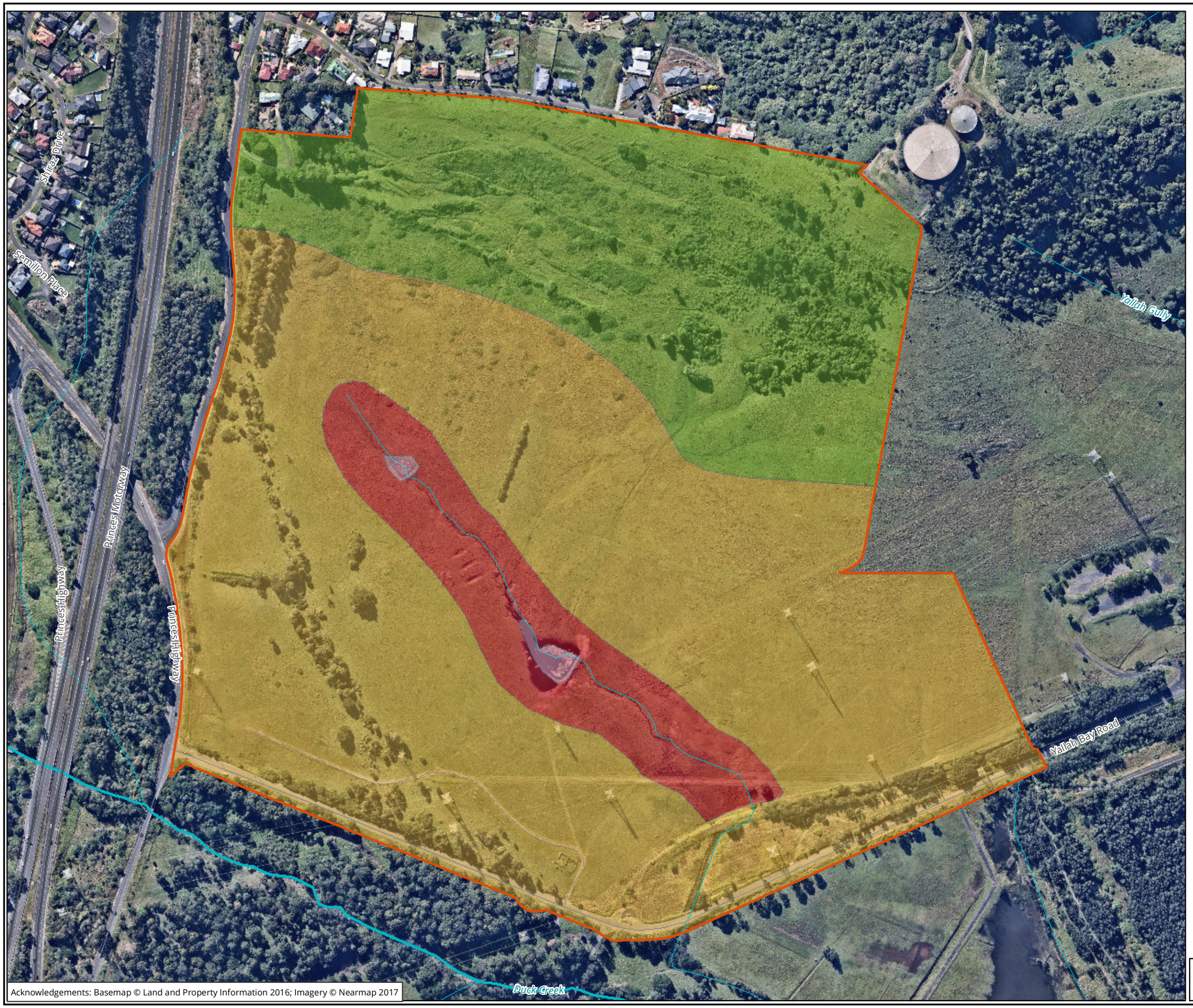

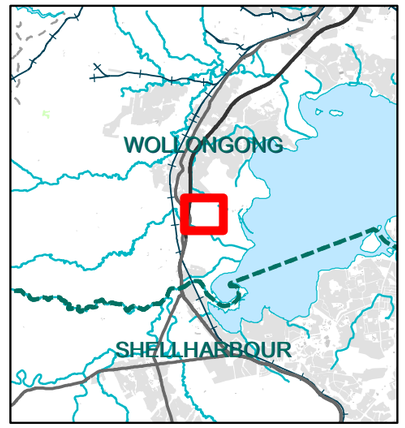

Legend

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Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 6: Areas of archaeological potential (central)

0 40 80 120 160 200

Metres

Scale: 1:4,000 @ A3

Coordinate System: GDA 1994 MGA Zone 56

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22 September 2017

Mr Duncan Falk
PO Box 1018
Mittagong, NSW 2575
Duncan Falk Consultancy
DuncanFalk@hotmail.com
Ph: 0406 610 644

Dear Duncan

Re: Project Information and Assessment Methodology, Aboriginal Cultural Heritage Assessment: Northern and Central Precincts at Tallawarra, Yallah NSW
Our Ref: Matter 24090

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Consultant Archaeologist

Stage 2 – Project information

Proposed development

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Stage 3 - Aboriginal cultural heritage assessment methodology

The assessment process includes the following tasks:

Background Research

This task identifies known Aboriginal sites, areas of potential archaeological sensitivity and previous disturbance, and informs the predictive modelling for the assessment/study area. Biosis has undertaken the following tasks as part of the background research for this assessment:

- A search of the Aboriginal Heritage Information Management System (AHIMS) was completed to identify registered sites in the vicinity of the assessment/study area. The results of the AHIMS search has been used to obtain relevant site cards and relevant previously completed Aboriginal cultural heritage assessments.
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  - TLPD AFT 8 (AHIMS 52-5-0614)

- TLPD AFT 9 (AHIMS 52-5-0615)

Consultation with the Aboriginal Community

This task will allow the Aboriginal community the opportunity to participate in decisions regarding the management of their cultural heritage by providing proponents information regarding cultural significance and inputting into management options.

Aboriginal community consultation will be undertaken in accordance with *the Aboriginal cultural heritage consultation requirements for proponents 2010*, which includes:

- **COMPLETED.** Biosis ascertained the names of Aboriginal people or groups who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/ or Places within the proposed study area.
- **COMPLETED.** Aboriginal stakeholders were provided with notification by letter of the proposed project on 26 June 2017 via Biosis on behalf of Cardno and given the opportunity to be involved in consultation.
- This document outlines the details of the proposed project and proposed archaeological testing methodology. The registered Aboriginal parties must be given an opportunity to review and provide feedback to the proponent within a minimum of **28 days** of Biosis providing the methodology document.
- The DRAFT Aboriginal Cultural Heritage Assessment Report (ACHAR) and Archaeological Report (AR) will be provided to all registered Aboriginal parties for comment – the proponent must allow **28 days** for comment. All comments and correspondence sent and received regarding the project will be included in the final report in an Appendix.
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A number of archaeological surveys have been undertaken within the study area over the last 10 years. An inspection of the assessment area has been undertaken as part of the current assessment in order to identify any previously unknown Aboriginal objects or places, should they be present, and to record the current condition of AHIMS sites.

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Archaeological testing

The archaeological survey and desktop assessment have identified that the proposed works have the potential to impact on eight AHIMS sites (Figure 3 and Figure 4) and areas identified as having moderate and high archaeological potential (Figure 5 and Figure 6). Biosis is therefore recommending Aboriginal archaeological test excavations be undertaken accordance with the *Code of Practice for archaeological*

investigation for Aboriginal objects in NSW (DECCW 2010) in areas of moderate and high archaeological potential should the proposed modifications to the concept approval be granted.

Aboriginal cultural heritage assessment report and archaeological report

Biosis Pty Ltd will prepare an Archaeological cultural heritage assessment report (ACHAR) and archaeological report (AR) for the proposed project. The ACHAR will document the findings of the assessment, and detail the consultation process. The AR will be included as an appendix to the ACHAR and will document the desktop assessment, archaeological survey, and test excavation results.

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The report will contain:

- Details of the Aboriginal consultation process undertaken as part of the assessment
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- A review and summary of the Aboriginal archaeological context of the study area
- Archaeological survey results
- Aboriginal site significance assessment
- Impact assessment
- Management strategies
- Maps detailing any Aboriginal sites identified during the assessment process.
- The RAPs will be provided with the draft archaeological and cultural heritage report and their comments on report content sought.
- Comments on the report's content are to be provided to Biosis by the party's respective nominated spokesperson(s). All comments not provided in writing will be recorded in an informal logbook by Biosis.
- These comments and responses to these comments will be documented in the final ACHAR.

As part of this methodology registered Aboriginal parties will be provided with the draft report for comment and allowed **28 days** for review.

The final report will incorporate all comments.

References

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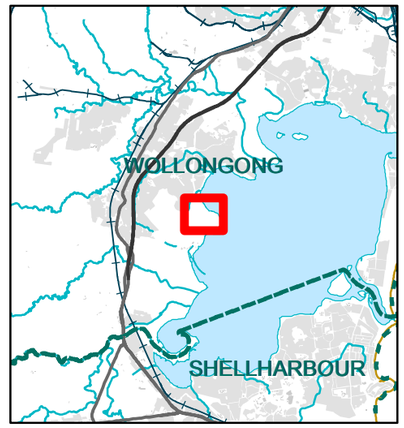
Biosis 2010. Tallawarra Lands: Part 3A concept plan Aboriginal archaeological and cultural heritage assessment. Report to TRUenergy.



Legend

Study area

Figure 1: Northern study area detail

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

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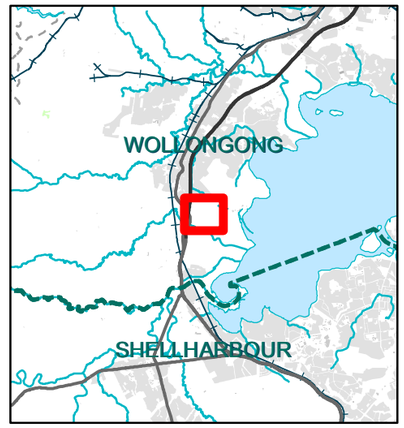
Matter: 24090
Date: 21 July 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
Location:\\bio-data-01\matters$\24000s\24090\Mapping\24090_F2_NorthernPrecinct_StudyArea

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017



Legend

Study area

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 2: Central study area detail

0 40 80 120 160 200

Metres
Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

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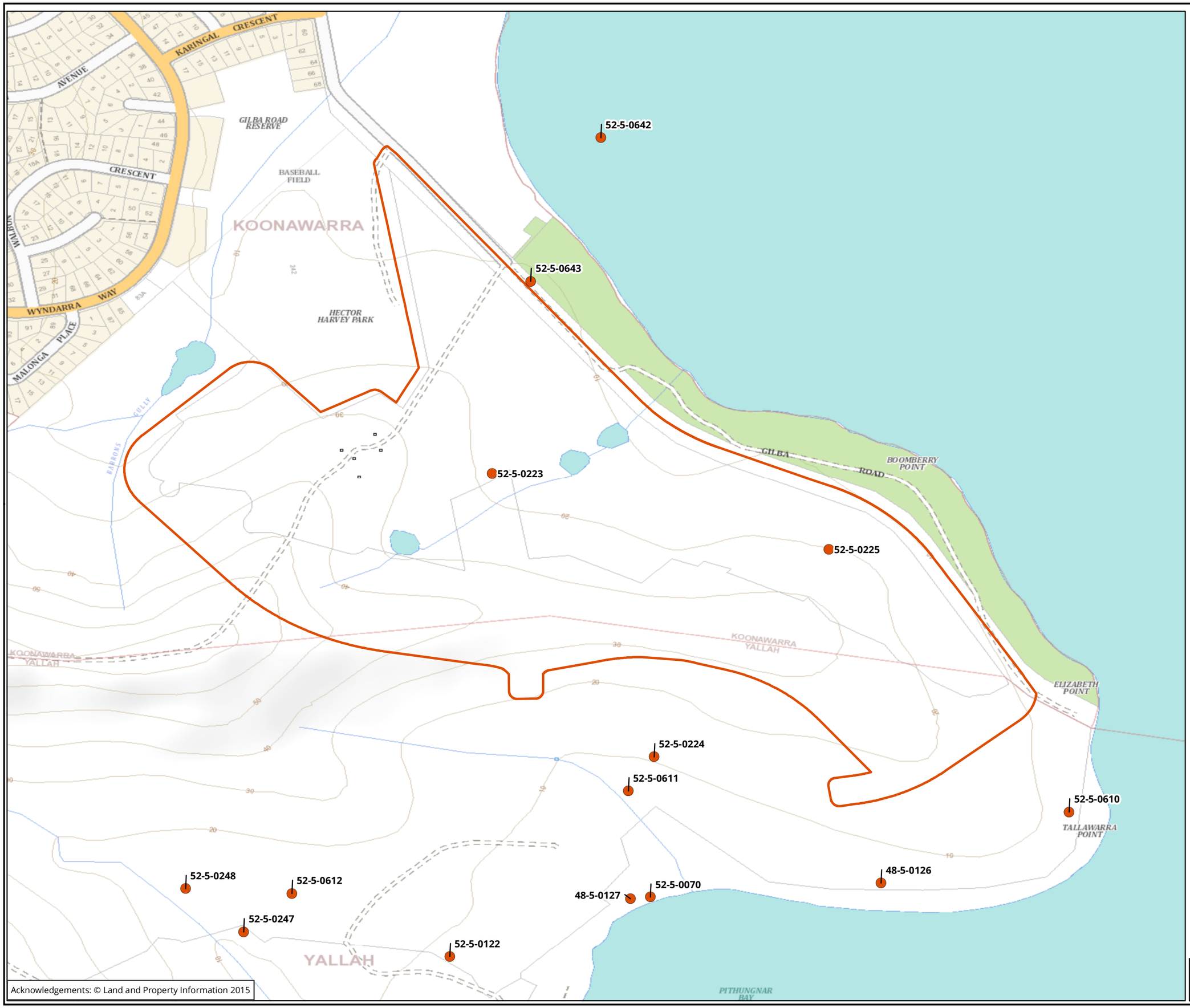

Legend

- AHIMS Records
- Study area

Figure 3: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

N

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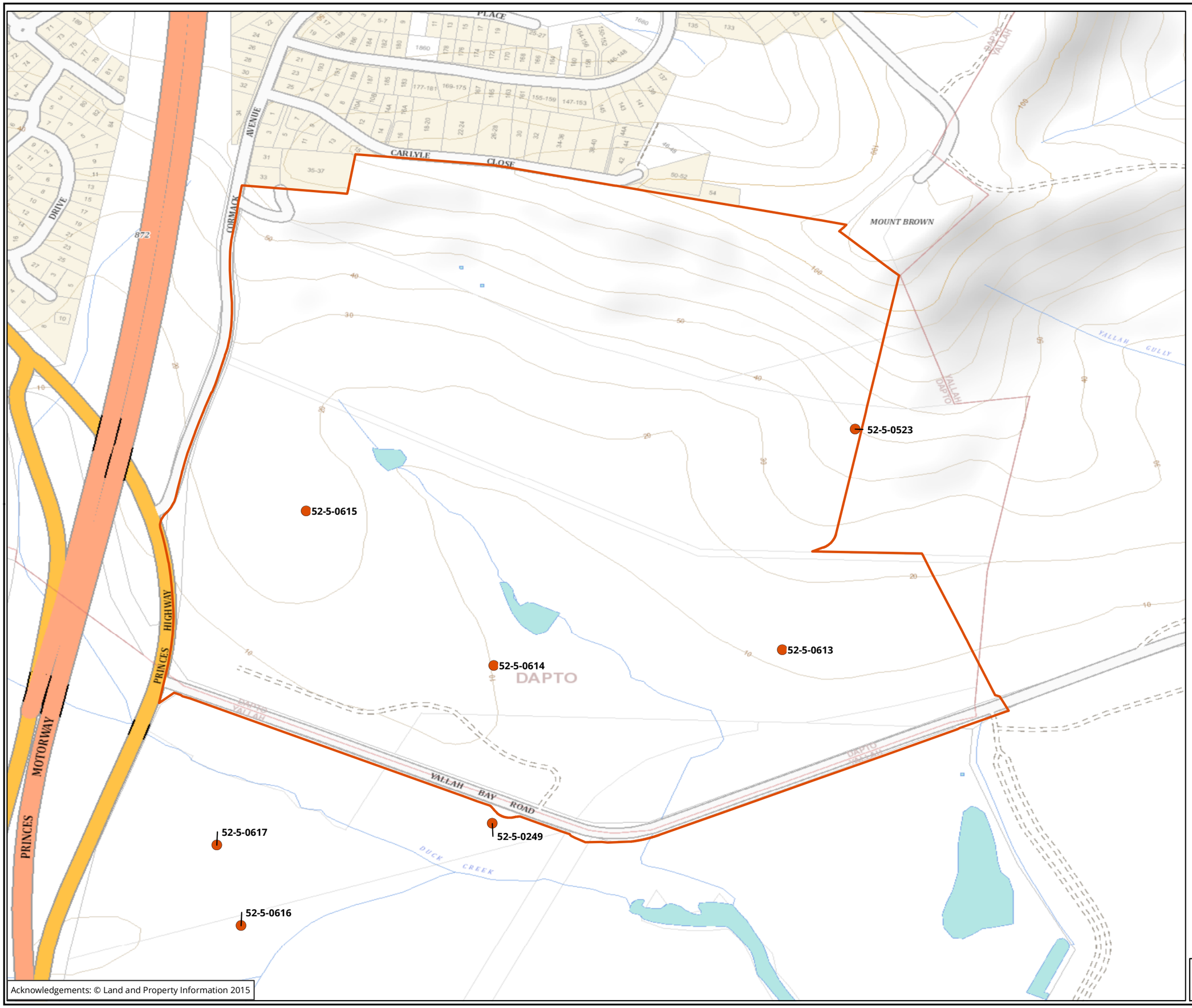

Legend

- AHIMS Records
- Study area

Figure 4: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

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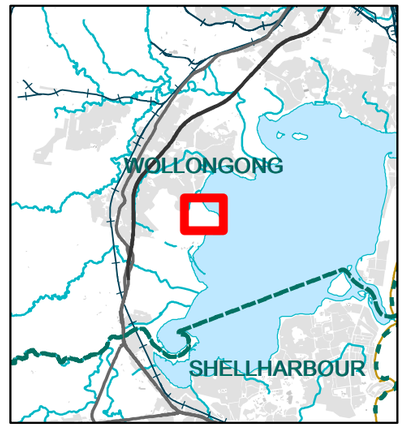

Legend

Study area

Archaeological potential

Moderate

Low

Figure 5: Areas of archaeological potential (northern)

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

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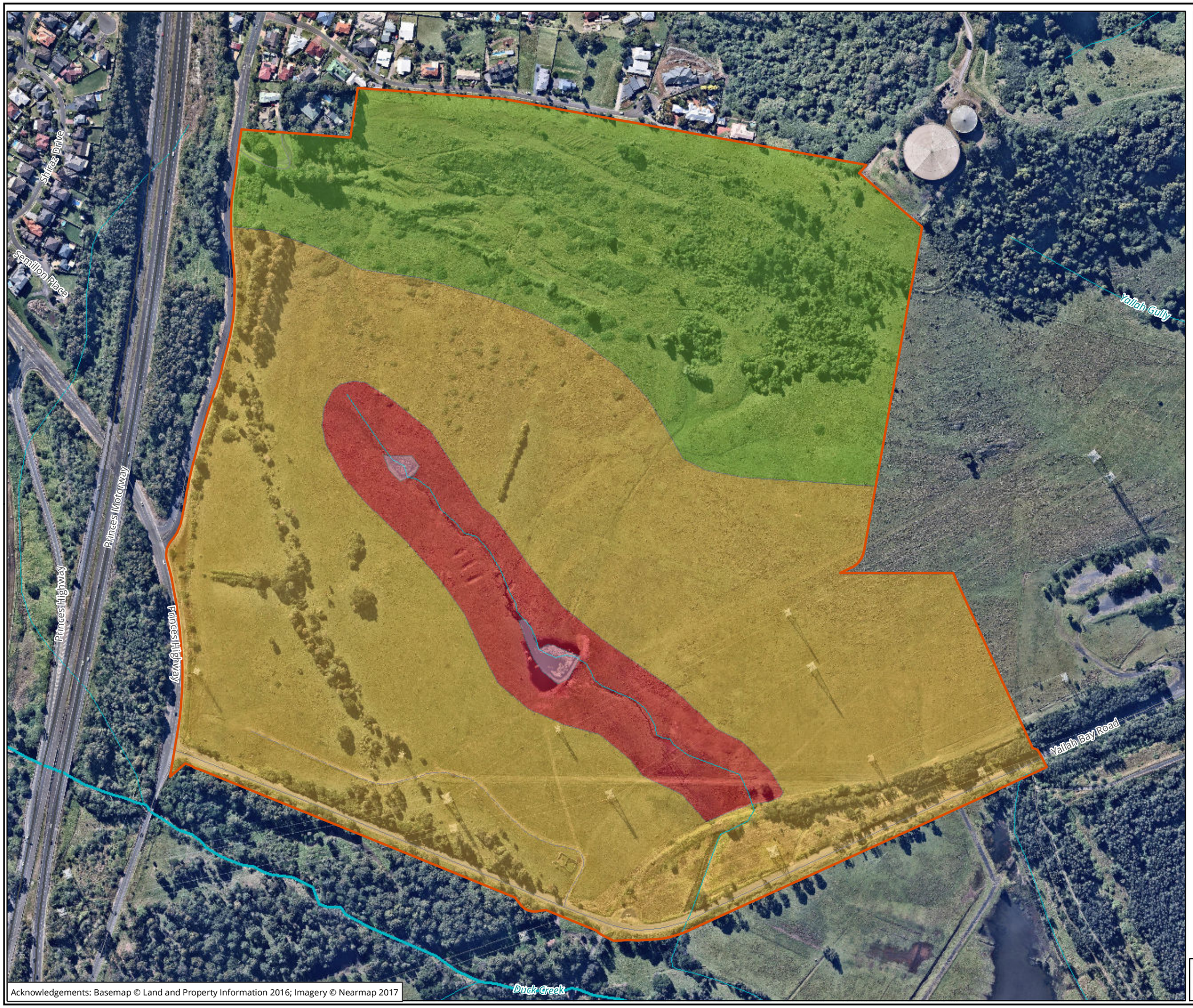

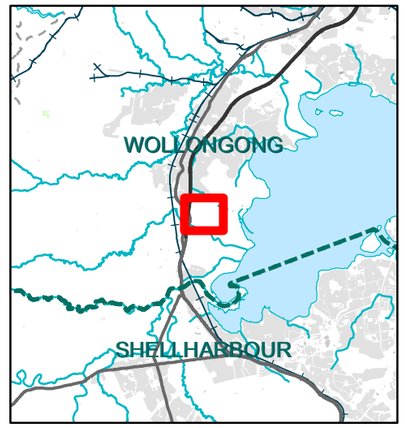

Legend

Study area

Archaeological potential

High

Moderate

Low

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 6: Areas of archaeological potential (central)

0 40 80 120 160 200

Metres

Scale: 1:4,000 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

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22 September 2017

Basil Smith
66 Grantham Road
Batehaven, NSW 2536
Goobah Development Pty Ltd (Murrin Clan/Peoples)
bunjilsmith@gmail.com
Ph: 0405 995 725

Dear Basil

Re: Project Information and Assessment Methodology, Aboriginal Cultural Heritage Assessment: Northern and Central Precincts at Tallawarra, Yallah NSW
Our Ref: Matter 24090

The following project information and assessment methodology has been provided in accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010). The aim of this document is to provide registered Aboriginal parties (RAPs) with information about proposed project, and the proposed Aboriginal cultural heritage assessment process.

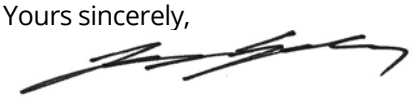
It would be appreciated if you would provide feedback on the methodology presented in this letter to Biosis by **5 pm Friday 20 October 2017** either by email, phone or return mail.

Please address feedback on the methodology to:

Taryn Gooley
Consultant Archaeologist
8 Tate Street Wollongong, NSW 2500
(02) 4201 1090
tgooley@biosis.com.au

Please do not hesitate to contact me if you require additional information or have any queries about the methodology or information provided.

Yours sincerely,



Taryn Gooley
Consultant Archaeologist

Stage 2 – Project information

Proposed development

Concept approval for the Tallawarra Lands Mixed Use Development was granted on 23 May 2013 (MP09_0131). The concept plan consists of residential (approximately 1,010 lots, together with 200 retirement dwellings), commercial, industrial (approximately 40ha) and retail development (approximately 16ha), public open space areas, new recreational facilities, internal road network, environmental management, conservation areas and riparian corridors.

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The proposed modification seeks to:

- Increase the footprint for residential development in the Central and Northern precincts; and
- Modify the overall approved residential yield from 1010 to 1480 lots.

The proposed modifications will result in reduced environmental lands between the Central and Northern precincts. Details on the proposed modification are outlined in Table 1 below.

Table 1 Proposed modification details – residential lots

Area	Approved Concept Yeild	Proposed modification
Central Precinct	350 Lots	588 Lots
Northern Precinct	310 Lots	542 Lots

Study area

The study area is located in the suburb of Yallah within the Wollongong Local Government Area and is located approximately 13 km south of Wollongong town centre. The Northern Precinct covers an area of 45.06 hectares (Figure 1), while the Central Precincts comprises two areas of 73.2 hectares and 6.497 hectares respectively (Figure 2). Table 2 and Table 3 below, detail the Lot and DP's for each precinct.

Table 2 Central precinct Lot and DP's

Lot	DP
1	551658
102	716727
15	1050255
1	1146409
1	543285
7	1049520
8	1049520

Table 3 Northern precinct Lot and DP's

Lot	DP
30	1175058
31	1175058

Previous Archaeological Assessment

Biosis prepared an Aboriginal Archaeological Assessment report for the Tallawarra Lands Part 3A Concept Plan Application in 2010. Aboriginal Community consultation was undertaken for this assessment in accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DECC NSW 2005) for projects being assessed under Part 3A of the EP&A Act. Nine Aboriginal stakeholders registered an interest in the project, each group was invited to participate in the sub-surface archaeological investigations, consultation meetings and development of management and mitigation measures for this project.

The assessment involved subsurface investigations of a number of Potential Archaeological Deposit (PAD) locations and sensitive landforms within the Tallawarra Lands. A 'gap analysis' was undertaken to ensure that all information relevant to Tallawarra Lands was captured. This included searches of relevant heritage registers and databases, along with a review of the environmental context, regional archaeological patterning based on previous studies, and predictive modelling to confirm placement of proposed test pits to be excavated during the sub-surface investigations.

The predictive modelling suggested that there is high potential for additional shell middens, stone artefact scatters and or isolated finds to be identified within the Tallawarra Lands. Where previous land use has resulted in high levels of disturbance, archaeological sites will have low integrity. The archaeological sub-surface investigations undertaken resulted in the in the identification of eight new Aboriginal archaeological

sites across the Tallawarra Lands including four isolated artefacts and four campsites. Areas of high, moderate, low, and no areas of archaeological potential have been defined across the Tallawarra Lands.

The majority of the Northern Precinct was assessed as having moderate archaeological potential with small areas of low archaeological potential also being identified. The Central Precinct was identified as having areas of high, moderate and low archaeological potential.

The Biosis (2010) assessment recommended further archaeological assessment such as test excavations and recording be undertaken in areas of moderate and high archaeological potential if impacts on those areas cannot be avoided. Areas of low or no archaeological potential and areas of high disturbance do not require any further archaeological investigations.

Stage 3 - Aboriginal cultural heritage assessment methodology

The assessment process includes the following tasks:

Background Research

This task identifies known Aboriginal sites, areas of potential archaeological sensitivity and previous disturbance, and informs the predictive modelling for the assessment/study area. Biosis has undertaken the following tasks as part of the background research for this assessment:

- A search of the Aboriginal Heritage Information Management System (AHIMS) was completed to identify registered sites in the vicinity of the assessment/study area. The results of the AHIMS search has been used to obtain relevant site cards and relevant previously completed Aboriginal cultural heritage assessments.
- Review of relevant reports identified through the AHIMS search.
- Review of aerial photographs and other resources to gauge the existing landscape and previous history of land disturbance.
- Review of the historical heritage databases.
- A brief summary of the historical uses of the study areas.

The background research has identified that the proposed works has the potential to impact on the following AHIMS sites (Figure 3 and Figure 4):

- Northern Precinct
  - Boomberry Point 1 (AHIMS 52-5-0223)
  - Gilba Road 1 (AHIMS 52-5-0642)
  - Elizabeth Point (AHIMS 52-5-0225)
  - Gilba Road 2 Fill 1 (AHIMS 52-5-0643)
- Central Precinct
  - Tallawarra Pipeline PAD 3 (AHIMS 52-5-0523)
  - TLPD AFT 7 (AHIMS 52-5-0613)
  - TLPD AFT 8 (AHIMS 52-5-0614)

- TLPD AFT 9 (AHIMS 52-5-0615)

Consultation with the Aboriginal Community

This task will allow the Aboriginal community the opportunity to participate in decisions regarding the management of their cultural heritage by providing proponents information regarding cultural significance and inputting into management options.

Aboriginal community consultation will be undertaken in accordance with *the Aboriginal cultural heritage consultation requirements for proponents 2010*, which includes:

- **COMPLETED.** Biosis ascertained the names of Aboriginal people or groups who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/ or Places within the proposed study area.
- **COMPLETED.** Aboriginal stakeholders were provided with notification by letter of the proposed project on 26 June 2017 via Biosis on behalf of Cardno and given the opportunity to be involved in consultation.
- This document outlines the details of the proposed project and proposed archaeological testing methodology. The registered Aboriginal parties must be given an opportunity to review and provide feedback to the proponent within a minimum of **28 days** of Biosis providing the methodology document.
- The DRAFT Aboriginal Cultural Heritage Assessment Report (ACHAR) and Archaeological Report (AR) will be provided to all registered Aboriginal parties for comment – the proponent must allow **28 days** for comment. All comments and correspondence sent and received regarding the project will be included in the final report in an Appendix.
- Representatives of the registered Aboriginal parties will be invited to participate in any archaeological excavations which will take place within the study areas

Field Survey

A number of archaeological surveys have been undertaken within the study area over the last 10 years. An inspection of the assessment area has been undertaken as part of the current assessment in order to identify any previously unknown Aboriginal objects or places, should they be present, and to record the current condition of AHIMS sites.

Any known sites identified by the AHIMS search which are within the assessment area were inspected to determine their current condition. Registered sites in the near vicinity were visited to ensure they will not be impacted by the proposed works. Areas of potential archaeological deposit (PAD) identified by previous assessments were also be inspected.

Mapping was undertaken in ArcGIS and MapInfo Professional.

Archaeological testing

The archaeological survey and desktop assessment have identified that the proposed works have the potential to impact on eight AHIMS sites (Figure 3 and Figure 4) and areas identified as having moderate and high archaeological potential (Figure 5 and Figure 6). Biosis is therefore recommending Aboriginal archaeological test excavations be undertaken accordance with the *Code of Practice for archaeological*

investigation for Aboriginal objects in NSW (DECCW 2010) in areas of moderate and high archaeological potential should the proposed modifications to the concept approval be granted.

Aboriginal cultural heritage assessment report and archaeological report

Biosis Pty Ltd will prepare an Archaeological cultural heritage assessment report (ACHAR) and archaeological report (AR) for the proposed project. The ACHAR will document the findings of the assessment, and detail the consultation process. The AR will be included as an appendix to the ACHAR and will document the desktop assessment, archaeological survey, and test excavation results.

The main aim of the report is to document the assessment of potential development related impacts to Aboriginal cultural heritage and to formulate strategies to manage these impacts. Reporting will follow the guidelines of the OEH, in particular the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010a), the Code of Practice and the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011).

The report will contain:

- Details of the Aboriginal consultation process undertaken as part of the assessment
- A review and summary of the environmental context of the study area
- A review and summary of the Aboriginal archaeological context of the study area
- Archaeological survey results
- Aboriginal site significance assessment
- Impact assessment
- Management strategies
- Maps detailing any Aboriginal sites identified during the assessment process.
- The RAPs will be provided with the draft archaeological and cultural heritage report and their comments on report content sought.
- Comments on the report's content are to be provided to Biosis by the party's respective nominated spokesperson(s). All comments not provided in writing will be recorded in an informal logbook by Biosis.
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As part of this methodology registered Aboriginal parties will be provided with the draft report for comment and allowed **28 days** for review.

The final report will incorporate all comments.

References

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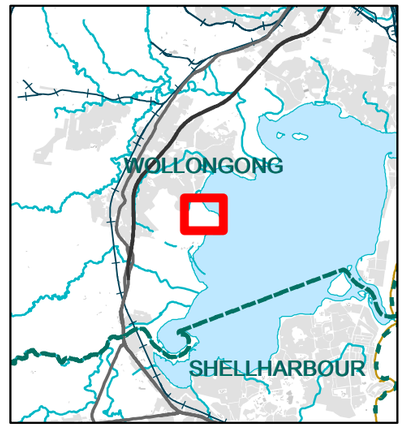

Legend

Study area

Figure 1: Northern study area detail

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

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Ballarat, Brisbane, Canberra, Melbourne, Newcastle, Sydney, Wangaratta & Wollongong

Matter: 24090
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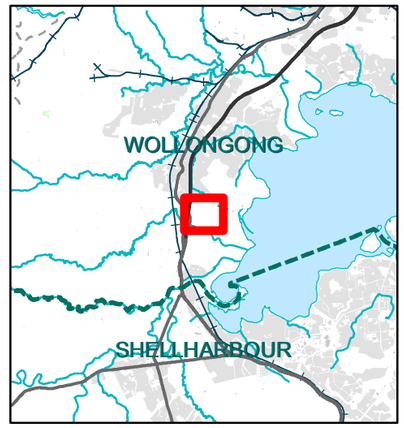

Legend

Study area

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 2: Central study area detail

0 40 80 120 160 200

Metres
Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

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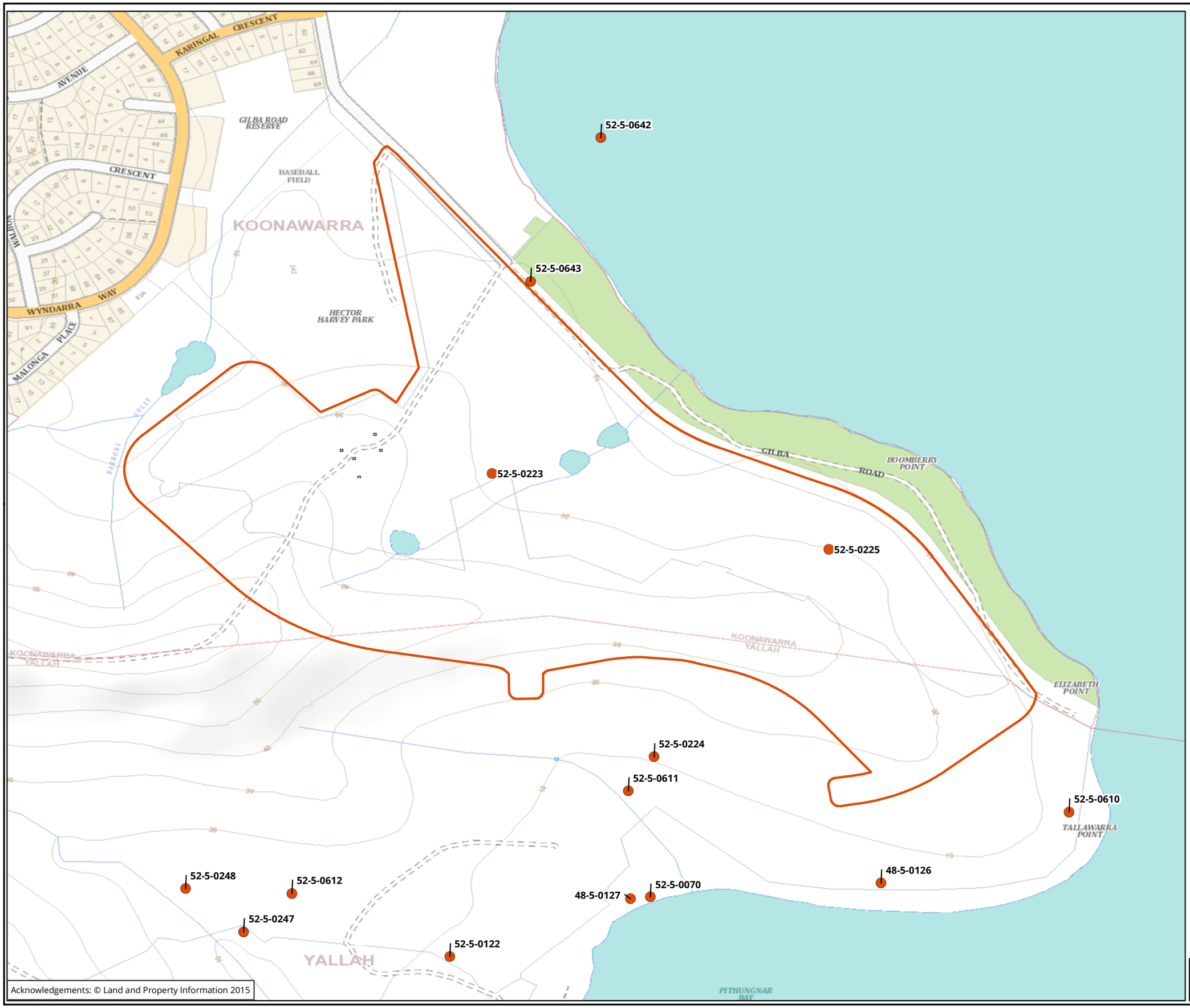

Legend

- AHIMS Records
- Study area

Figure 3: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

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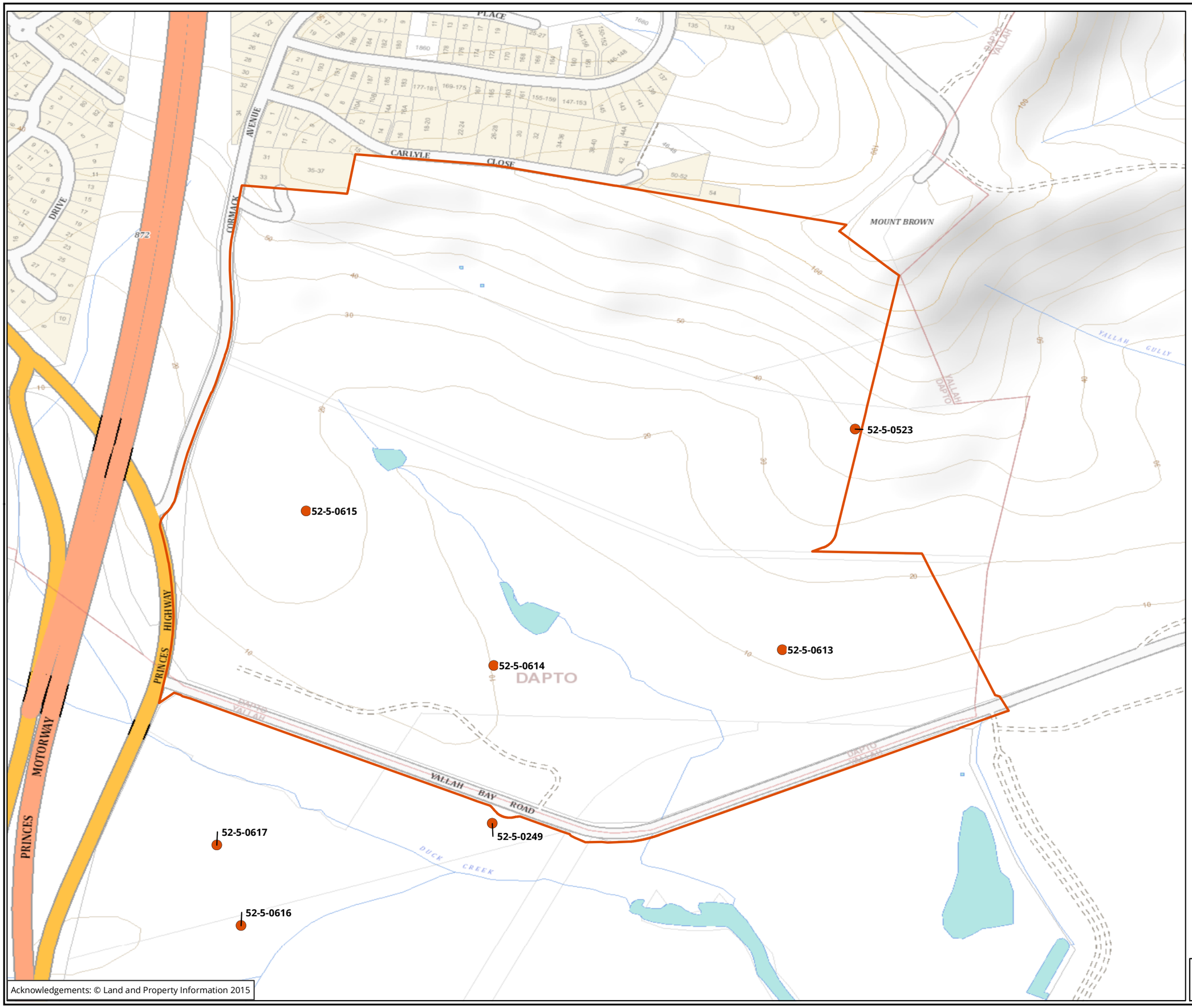

Legend

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- Study area

Figure 4: AHIMS search results

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0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

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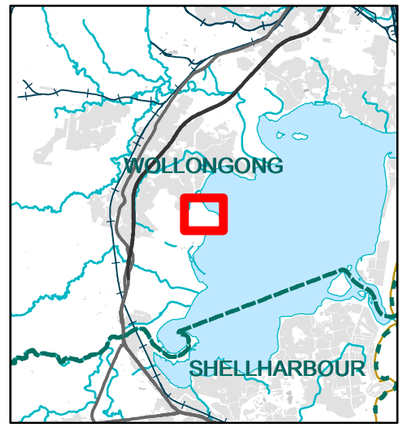

Legend

Study area

Archaeological potential

Moderate

Low

Figure 5: Areas of archaeological potential (northern)

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

Biosis Pty Ltd

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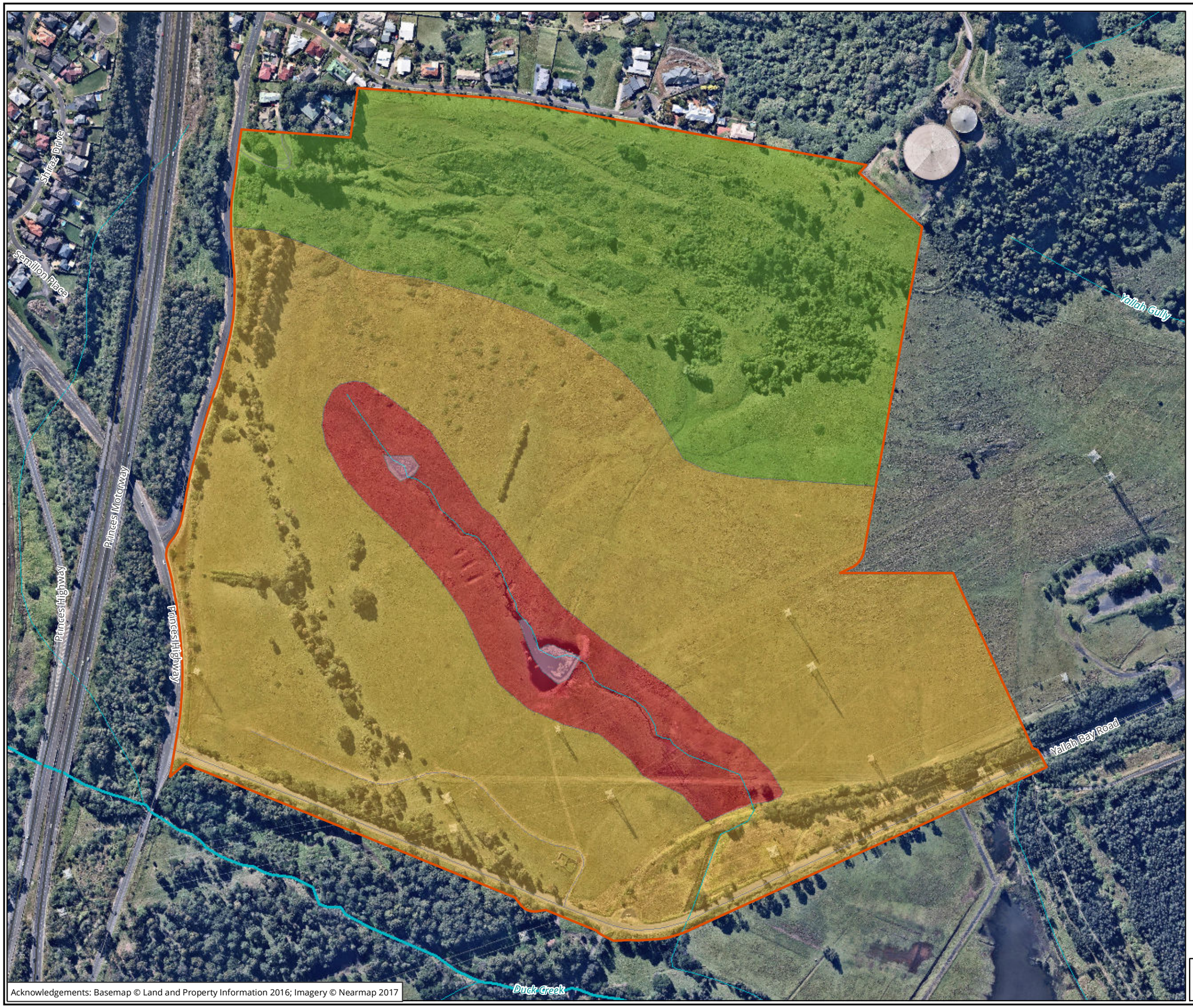

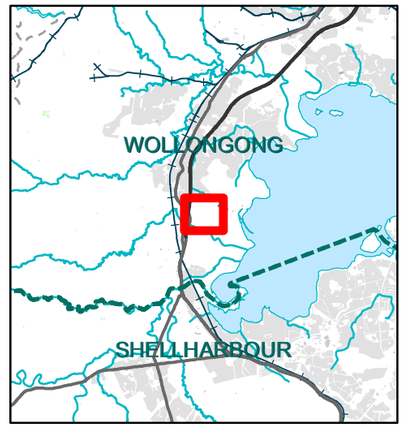

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Moderate

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Figure 6: Areas of archaeological potential (central)

0 40 80 120 160 200

Metres

Scale: 1:4,000 @ A3

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22 September 2017

Mr Richard Campbell
2 Minda Crescent
Oakflats, NSW 2529
Guunamaa Dreaming Sites and Surveying
richardcampbell123@outlook.com
Ph: 0499 688 663

Dear Richard

Re: Project Information and Assessment Methodology, Aboriginal Cultural Heritage Assessment: Northern and Central Precincts at Tallawarra, Yallah NSW
Our Ref: Matter 24090

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Stage 2 – Project information

Proposed development

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The assessment involved subsurface investigations of a number of Potential Archaeological Deposit (PAD) locations and sensitive landforms within the Tallawarra Lands. A 'gap analysis' was undertaken to ensure that all information relevant to Tallawarra Lands was captured. This included searches of relevant heritage registers and databases, along with a review of the environmental context, regional archaeological patterning based on previous studies, and predictive modelling to confirm placement of proposed test pits to be excavated during the sub-surface investigations.

The predictive modelling suggested that there is high potential for additional shell middens, stone artefact scatters and or isolated finds to be identified within the Tallawarra Lands. Where previous land use has resulted in high levels of disturbance, archaeological sites will have low integrity. The archaeological sub-surface investigations undertaken resulted in the in the identification of eight new Aboriginal archaeological

sites across the Tallawarra Lands including four isolated artefacts and four campsites. Areas of high, moderate, low, and no areas of archaeological potential have been defined across the Tallawarra Lands.

The majority of the Northern Precinct was assessed as having moderate archaeological potential with small areas of low archaeological potential also being identified. The Central Precinct was identified as having areas of high, moderate and low archaeological potential.

The Biosis (2010) assessment recommended further archaeological assessment such as test excavations and recording be undertaken in areas of moderate and high archaeological potential if impacts on those areas cannot be avoided. Areas of low or no archaeological potential and areas of high disturbance do not require any further archaeological investigations.

Stage 3 - Aboriginal cultural heritage assessment methodology

The assessment process includes the following tasks:

Background Research

This task identifies known Aboriginal sites, areas of potential archaeological sensitivity and previous disturbance, and informs the predictive modelling for the assessment/study area. Biosis has undertaken the following tasks as part of the background research for this assessment:

- A search of the Aboriginal Heritage Information Management System (AHIMS) was completed to identify registered sites in the vicinity of the assessment/study area. The results of the AHIMS search has been used to obtain relevant site cards and relevant previously completed Aboriginal cultural heritage assessments.
- Review of relevant reports identified through the AHIMS search.
- Review of aerial photographs and other resources to gauge the existing landscape and previous history of land disturbance.
- Review of the historical heritage databases.
- A brief summary of the historical uses of the study areas.

The background research has identified that the proposed works has the potential to impact on the following AHIMS sites (Figure 3 and Figure 4):

- Northern Precinct
  - Boomberry Point 1 (AHIMS 52-5-0223)
  - Gilba Road 1 (AHIMS 52-5-0642)
  - Elizabeth Point (AHIMS 52-5-0225)
  - Gilba Road 2 Fill 1 (AHIMS 52-5-0643)
- Central Precinct
  - Tallawarra Pipeline PAD 3 (AHIMS 52-5-0523)
  - TLPD AFT 7 (AHIMS 52-5-0613)
  - TLPD AFT 8 (AHIMS 52-5-0614)

- TLPD AFT 9 (AHIMS 52-5-0615)

Consultation with the Aboriginal Community

This task will allow the Aboriginal community the opportunity to participate in decisions regarding the management of their cultural heritage by providing proponents information regarding cultural significance and inputting into management options.

Aboriginal community consultation will be undertaken in accordance with *the Aboriginal cultural heritage consultation requirements for proponents 2010*, which includes:

- **COMPLETED.** Biosis ascertained the names of Aboriginal people or groups who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/ or Places within the proposed study area.
- **COMPLETED.** Aboriginal stakeholders were provided with notification by letter of the proposed project on 26 June 2017 via Biosis on behalf of Cardno and given the opportunity to be involved in consultation.
- This document outlines the details of the proposed project and proposed archaeological testing methodology. The registered Aboriginal parties must be given an opportunity to review and provide feedback to the proponent within a minimum of **28 days** of Biosis providing the methodology document.
- The DRAFT Aboriginal Cultural Heritage Assessment Report (ACHAR) and Archaeological Report (AR) will be provided to all registered Aboriginal parties for comment – the proponent must allow **28 days** for comment. All comments and correspondence sent and received regarding the project will be included in the final report in an Appendix.
- Representatives of the registered Aboriginal parties will be invited to participate in any archaeological excavations which will take place within the study areas

Field Survey

A number of archaeological surveys have been undertaken within the study area over the last 10 years. An inspection of the assessment area has been undertaken as part of the current assessment in order to identify any previously unknown Aboriginal objects or places, should they be present, and to record the current condition of AHIMS sites.

Any known sites identified by the AHIMS search which are within the assessment area were inspected to determine their current condition. Registered sites in the near vicinity were visited to ensure they will not be impacted by the proposed works. Areas of potential archaeological deposit (PAD) identified by previous assessments were also be inspected.

Mapping was undertaken in ArcGIS and MapInfo Professional.

Archaeological testing

The archaeological survey and desktop assessment have identified that the proposed works have the potential to impact on eight AHIMS sites (Figure 3 and Figure 4) and areas identified as having moderate and high archaeological potential (Figure 5 and Figure 6). Biosis is therefore recommending Aboriginal archaeological test excavations be undertaken accordance with the *Code of Practice for archaeological*

investigation for Aboriginal objects in NSW (DECCW 2010) in areas of moderate and high archaeological potential should the proposed modifications to the concept approval be granted.

Aboriginal cultural heritage assessment report and archaeological report

Biosis Pty Ltd will prepare an Archaeological cultural heritage assessment report (ACHAR) and archaeological report (AR) for the proposed project. The ACHAR will document the findings of the assessment, and detail the consultation process. The AR will be included as an appendix to the ACHAR and will document the desktop assessment, archaeological survey, and test excavation results.

The main aim of the report is to document the assessment of potential development related impacts to Aboriginal cultural heritage and to formulate strategies to manage these impacts. Reporting will follow the guidelines of the OEH, in particular the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010a), the Code of Practice and the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011).

The report will contain:

- Details of the Aboriginal consultation process undertaken as part of the assessment
- A review and summary of the environmental context of the study area
- A review and summary of the Aboriginal archaeological context of the study area
- Archaeological survey results
- Aboriginal site significance assessment
- Impact assessment
- Management strategies
- Maps detailing any Aboriginal sites identified during the assessment process.
- The RAPs will be provided with the draft archaeological and cultural heritage report and their comments on report content sought.
- Comments on the report's content are to be provided to Biosis by the party's respective nominated spokesperson(s). All comments not provided in writing will be recorded in an informal logbook by Biosis.
- These comments and responses to these comments will be documented in the final ACHAR.

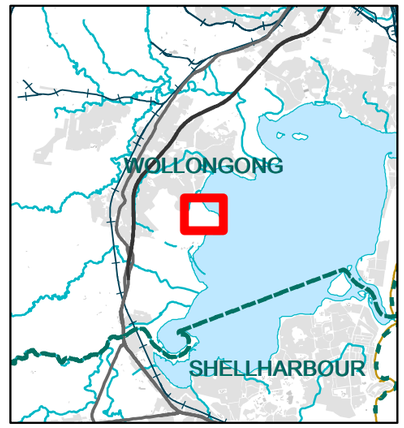
As part of this methodology registered Aboriginal parties will be provided with the draft report for comment and allowed **28 days** for review.

The final report will incorporate all comments.

References

DECCW 2010. *Aboriginal cultural heritage consultation requirements for proponents 2010.* NSW Department of Environment, Climate Change and Water, Sydney NSW

Biosis 2010. Tallawarra Lands: Part 3A concept plan Aboriginal archaeological and cultural heritage assessment. Report to TRUenergy.



Legend

Study area

Figure 1: Northern study area detail

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

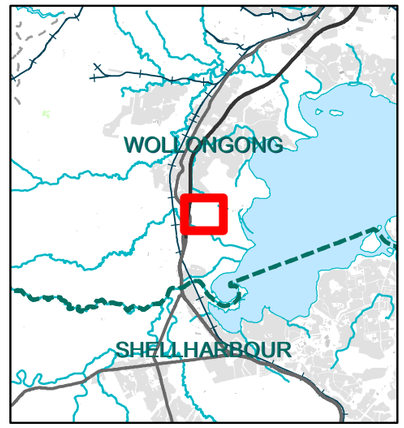
N

Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne, Newcastle, Sydney, Wangaratta & Wollongong

Matter: 24090
Date: 21 July 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
Location:\\bio-data-01\matters$\24000s\24090\Mapping\24090_F2_NorthernPrecinct_StudyArea

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017



Legend

Study area

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 2: Central study area detail

0 40 80 120 160 200

Metres
Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

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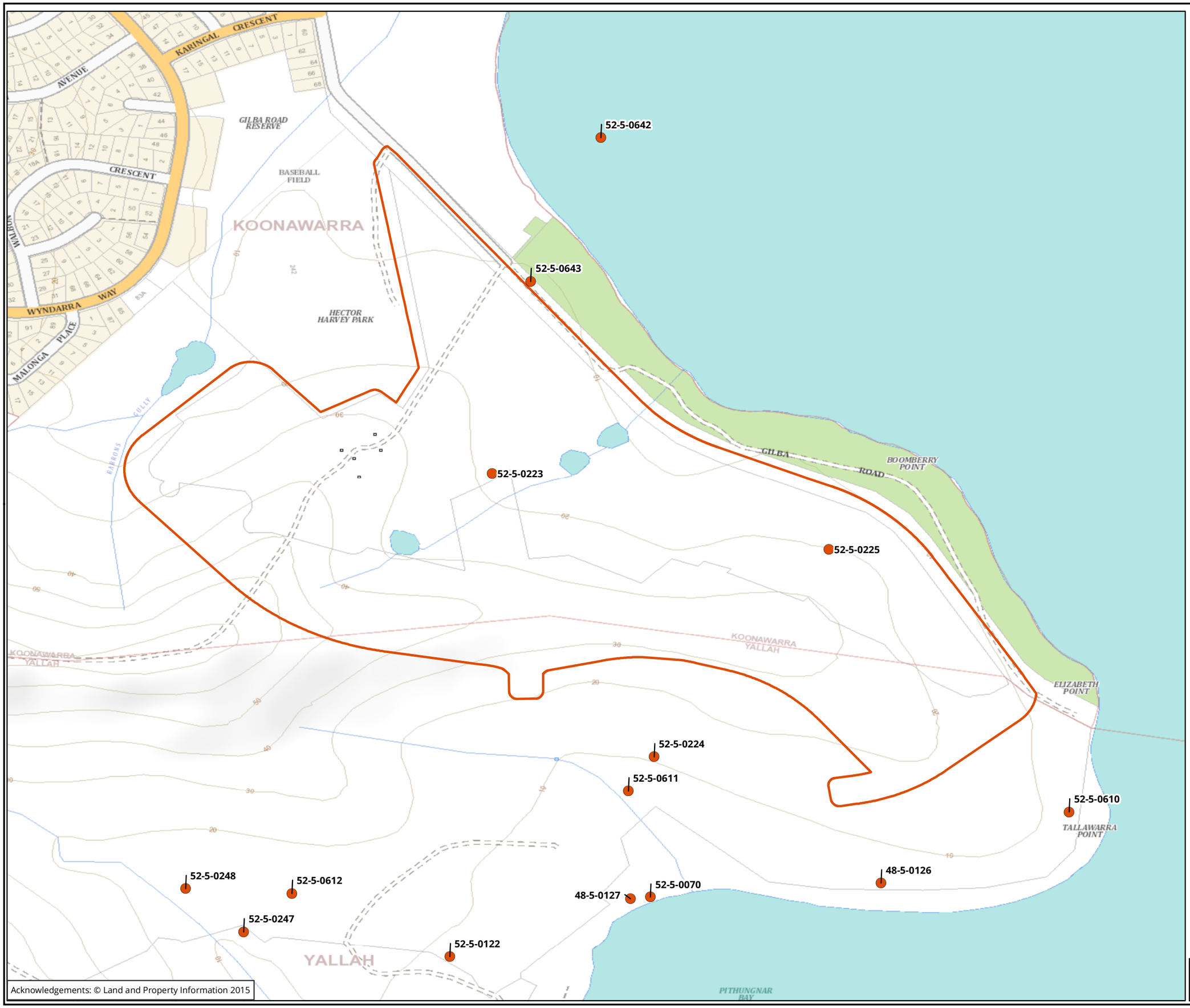

Legend

- AHIMS Records
- Study area

Acknowledgements: © Land and Property Information 2015

Figure 3: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

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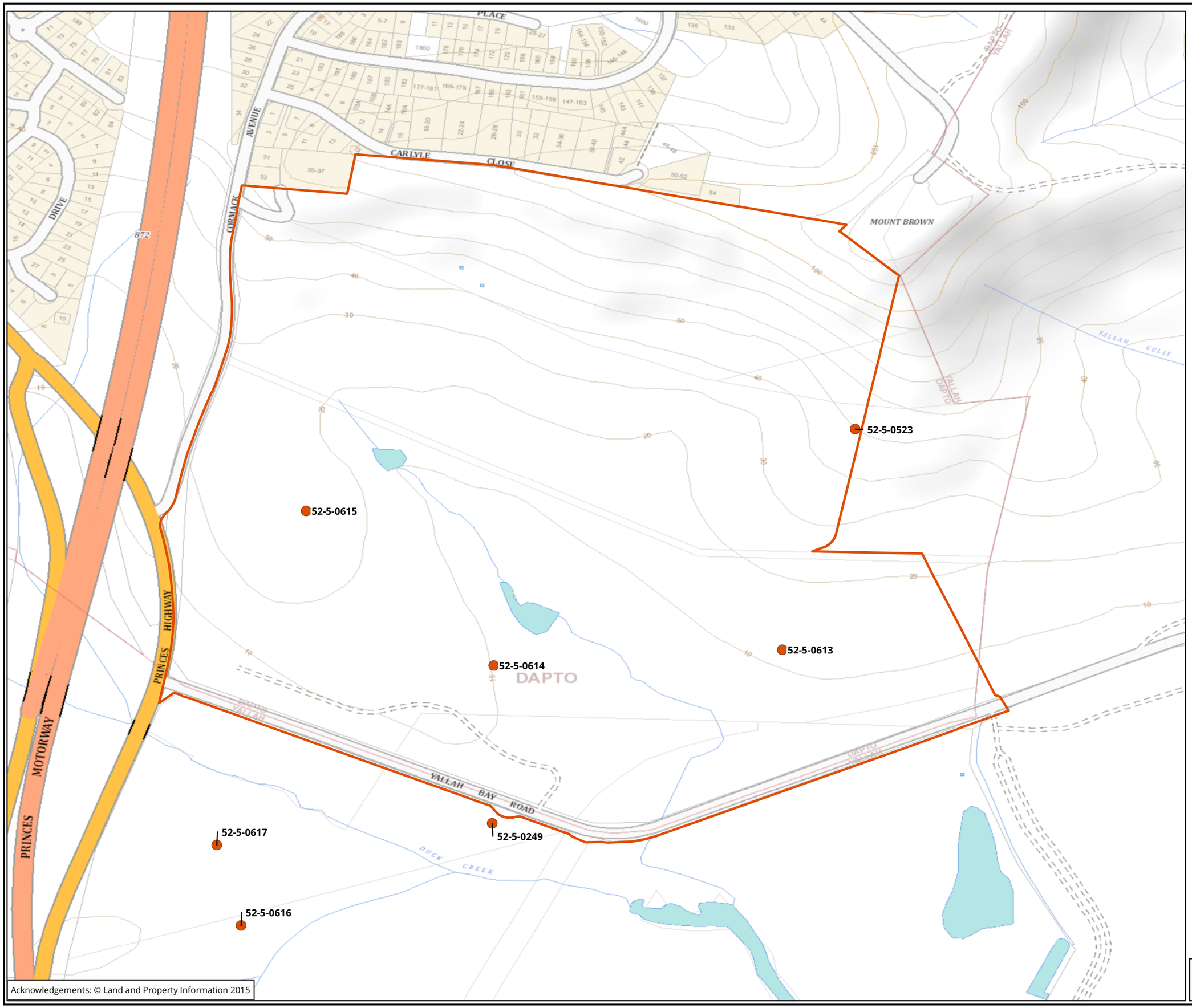

Legend

- AHIMS Records
- Study area

Figure 4: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

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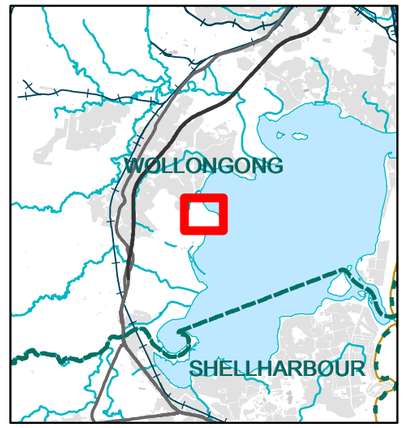

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Study area

Archaeological potential

Moderate

Low

Figure 5: Areas of archaeological potential (northern)

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

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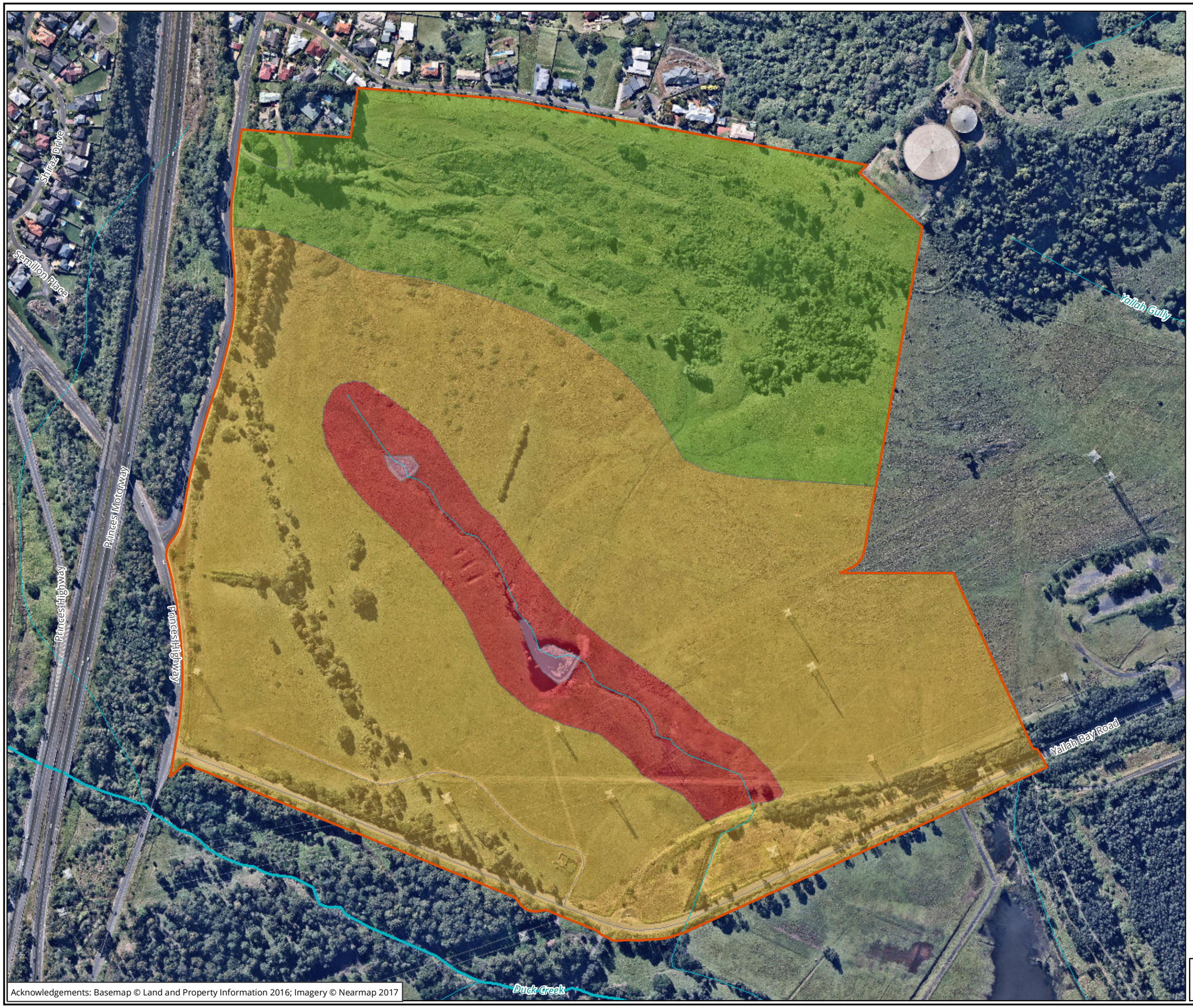

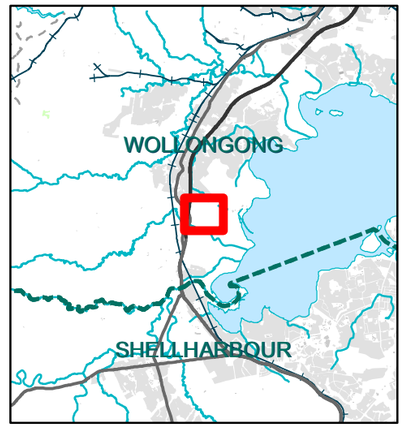

Legend

Study area

Archaeological potential

High

Moderate

Low

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 6: Areas of archaeological potential (central)

0 40 80 120 160 200

Metres

Scale: 1:4,000 @ A3

Coordinate System: GDA 1994 MGA Zone 56

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22 September 2017

Illawarra Local Aboriginal Land Council (ILALC)
3 Ellen Street
Wollongong, NSW 2500
ceo@ilalc.org.au

Dear Illawarra Local Aboriginal Land Council

Re: Project Information and Assessment Methodology, Aboriginal Cultural Heritage Assessment: Northern and Central Precincts at Tallawarra, Yallah NSW
Our Ref: Matter 24090

The following project information and assessment methodology has been provided in accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010). The aim of this document is to provide registered Aboriginal parties (RAPs) with information about proposed project, and the proposed Aboriginal cultural heritage assessment process.

It would be appreciated if you would provide feedback on the methodology presented in this letter to Biosis by **5 pm Friday 20 October 2017** either by email, phone or return mail.

Please address feedback on the methodology to:

Taryn Gooley
Consultant Archaeologist
8 Tate Street Wollongong, NSW 2500
(02) 4201 1090
tgooley@biosis.com.au

Please do not hesitate to contact me if you require additional information or have any queries about the methodology or information provided.

Yours sincerely,

Taryn Gooley
Consultant Archaeologist

Stage 2 – Project information

Proposed development

Concept approval for the Tallawarra Lands Mixed Use Development was granted on 23 May 2013 (MP09_0131). The concept plan consists of residential (approximately 1,010 lots, together with 200 retirement dwellings), commercial, industrial (approximately 40ha) and retail development (approximately 16ha), public open space areas, new recreational facilities, internal road network, environmental management, conservation areas and riparian corridors.

Bridgehill Group have acquired some of the Tallawarra Lands in the Northern and Central Precincts from Energy Australia, and intend to develop new residential communities and a light industrial development and tourism facilities on those lands.

Bridgehill Group, intends to lodge a development application for the Northern Precinct under Part 4 of the *Environmental Planning and Assessment Act 1979;* and to modify the existing concept approval for the Northern and Central Precinct at Tallawarra, Yallah (MP 09_0131 MOD 1) under Part 3A section 75W of the *Environmental Planning and Assessment Act 1979*.

The proposed modification seeks to:

- Increase the footprint for residential development in the Central and Northern precincts; and
- Modify the overall approved residential yield from 1010 to 1480 lots.

The proposed modifications will result in reduced environmental lands between the Central and Northern precincts. Details on the proposed modification are outlined in Table 1 below.

Table 1 Proposed modification details – residential lots

Area	Approved Concept Yeild	Proposed modification
Central Precinct	350 Lots	588 Lots
Northern Precinct	310 Lots	542 Lots

Study area

The study area is located in the suburb of Yallah within the Wollongong Local Government Area and is located approximately 13 km south of Wollongong town centre. The Northern Precinct covers an area of 45.06 hectares (Figure 1), while the Central Precincts comprises two areas of 73.2 hectares and 6.497 hectares respectively (Figure 2). Table 2 and Table 3 below, detail the Lot and DP's for each precinct.

Table 2 Central precinct Lot and DP's

Lot	DP
1	551658
102	716727
15	1050255
1	1146409
1	543285
7	1049520
8	1049520

Table 3 Northern precinct Lot and DP's

Lot	DP
30	1175058
31	1175058

Previous Archaeological Assessment

Biosis prepared an Aboriginal Archaeological Assessment report for the Tallawarra Lands Part 3A Concept Plan Application in 2010. Aboriginal Community consultation was undertaken for this assessment in accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DECC NSW 2005) for projects being assessed under Part 3A of the EP&A Act. Nine Aboriginal stakeholders registered an interest in the project, each group was invited to participate in the sub-surface archaeological investigations, consultation meetings and development of management and mitigation measures for this project.

The assessment involved subsurface investigations of a number of Potential Archaeological Deposit (PAD) locations and sensitive landforms within the Tallawarra Lands. A 'gap analysis' was undertaken to ensure that all information relevant to Tallawarra Lands was captured. This included searches of relevant heritage registers and databases, along with a review of the environmental context, regional archaeological patterning based on previous studies, and predictive modelling to confirm placement of proposed test pits to be excavated during the sub-surface investigations.

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The Biosis (2010) assessment recommended further archaeological assessment such as test excavations and recording be undertaken in areas of moderate and high archaeological potential if impacts on those areas cannot be avoided. Areas of low or no archaeological potential and areas of high disturbance do not require any further archaeological investigations.

Stage 3 - Aboriginal cultural heritage assessment methodology

The assessment process includes the following tasks:

Background Research

This task identifies known Aboriginal sites, areas of potential archaeological sensitivity and previous disturbance, and informs the predictive modelling for the assessment/study area. Biosis has undertaken the following tasks as part of the background research for this assessment:

- A search of the Aboriginal Heritage Information Management System (AHIMS) was completed to identify registered sites in the vicinity of the assessment/study area. The results of the AHIMS search has been used to obtain relevant site cards and relevant previously completed Aboriginal cultural heritage assessments.
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- Review of the historical heritage databases.
- A brief summary of the historical uses of the study areas.

The background research has identified that the proposed works has the potential to impact on the following AHIMS sites (Figure 3 and Figure 4):

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Mapping was undertaken in ArcGIS and MapInfo Professional.

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The archaeological survey and desktop assessment have identified that the proposed works have the potential to impact on eight AHIMS sites (Figure 3 and Figure 4) and areas identified as having moderate and high archaeological potential (Figure 5 and Figure 6). Biosis is therefore recommending Aboriginal archaeological test excavations be undertaken accordance with the *Code of Practice for archaeological*

investigation for Aboriginal objects in NSW (DECCW 2010) in areas of moderate and high archaeological potential should the proposed modifications to the concept approval be granted.

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- Management strategies
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The final report will incorporate all comments.

References

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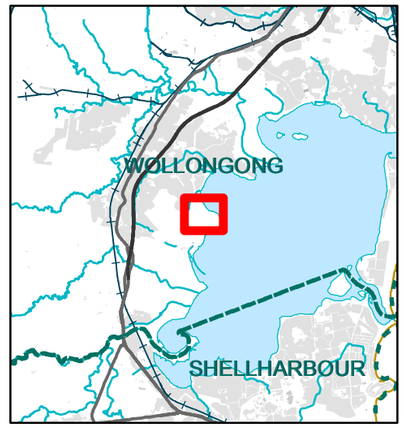
Biosis 2010. Tallawarra Lands: Part 3A concept plan Aboriginal archaeological and cultural heritage assessment. Report to TRUenergy.



Legend

Study area

Figure 1: Northern study area detail

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

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Matter: 24090
Date: 21 July 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
Location:\\bio-data-01\matters$\24000s\24090\Mapping\24090_F2_NorthernPrecinct_StudyArea

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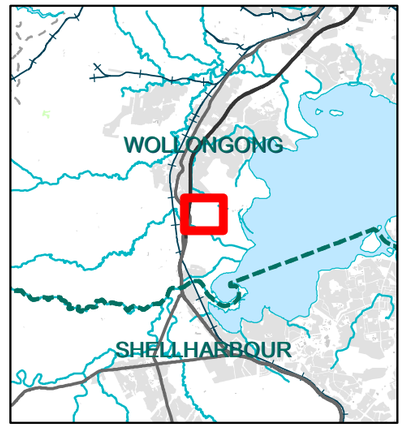

Legend

Study area

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 2: Central study area detail

0 40 80 120 160 200

Metres
Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

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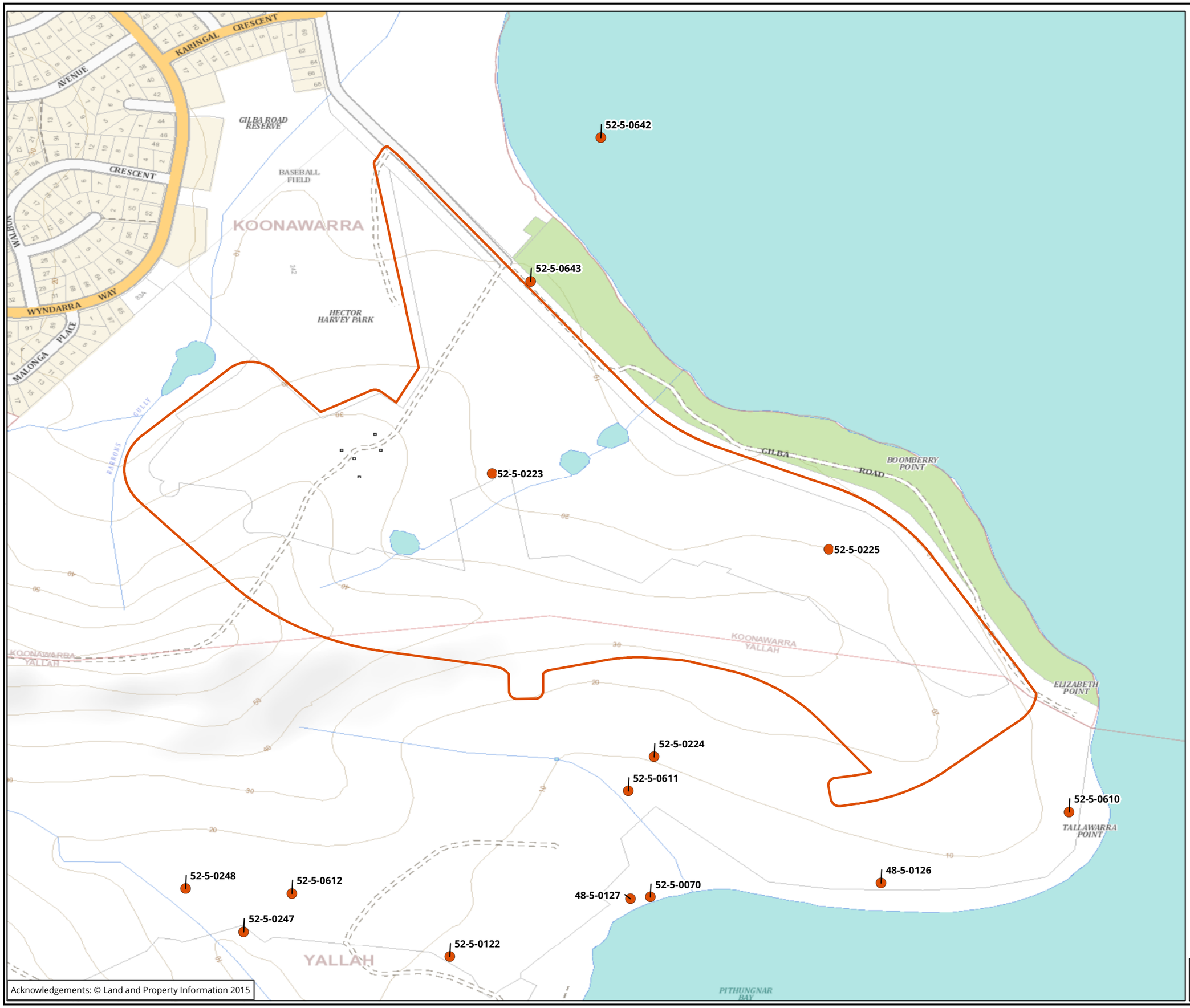

Legend

- AHIMS Records
- Study area

Figure 3: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

N

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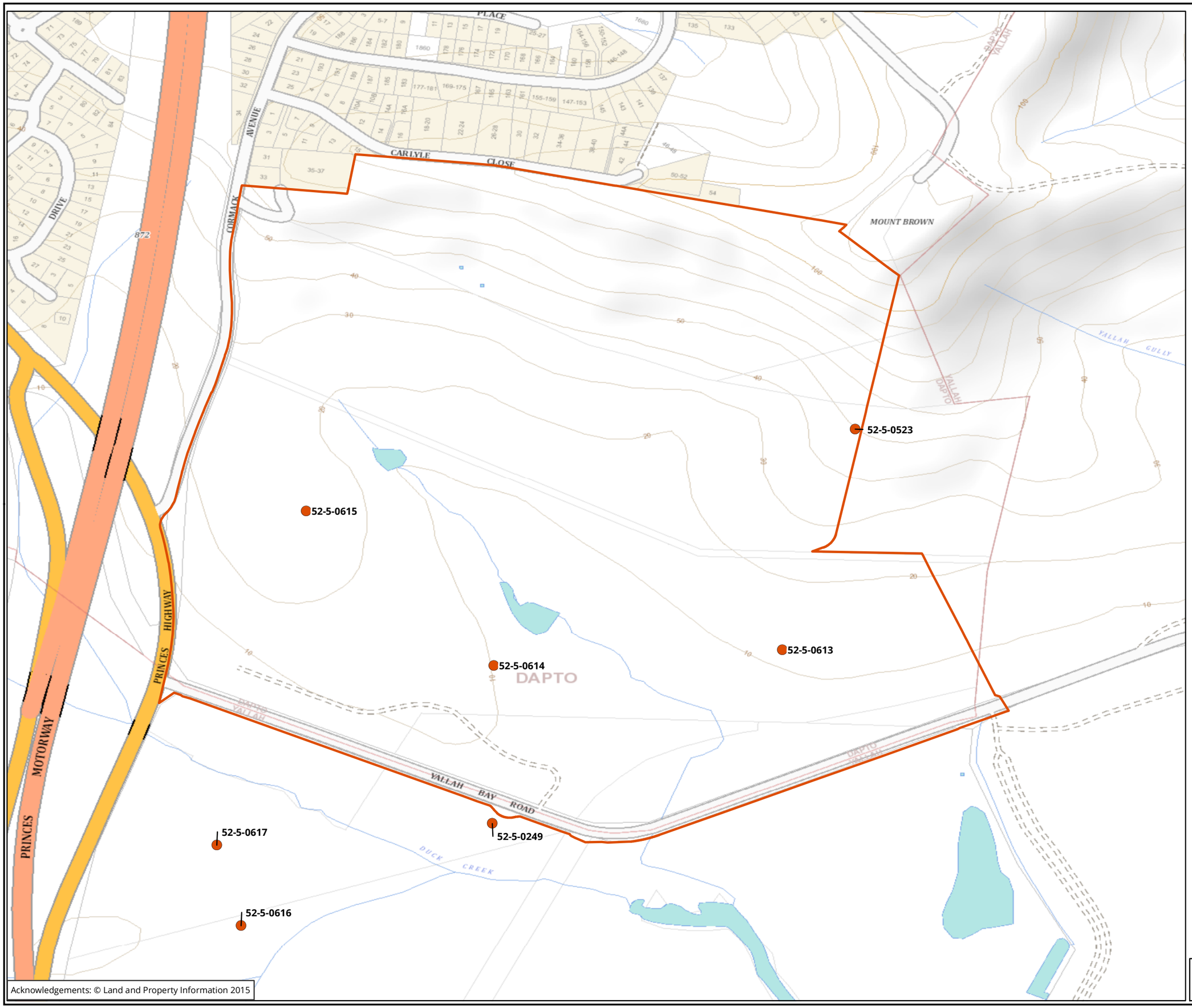

Legend

- AHIMS Records
- Study area

Figure 4: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

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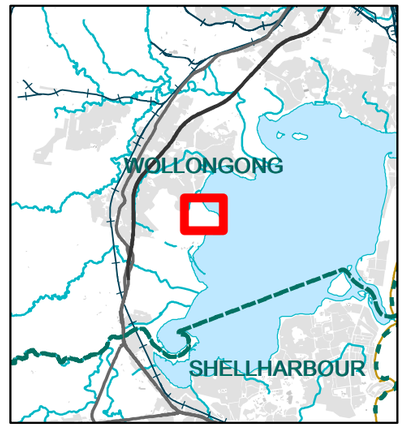

Legend

Study area

Archaeological potential

Moderate

Low

Figure 5: Areas of archaeological potential (northern)

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

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Matter: 24090
Date: 21 July 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
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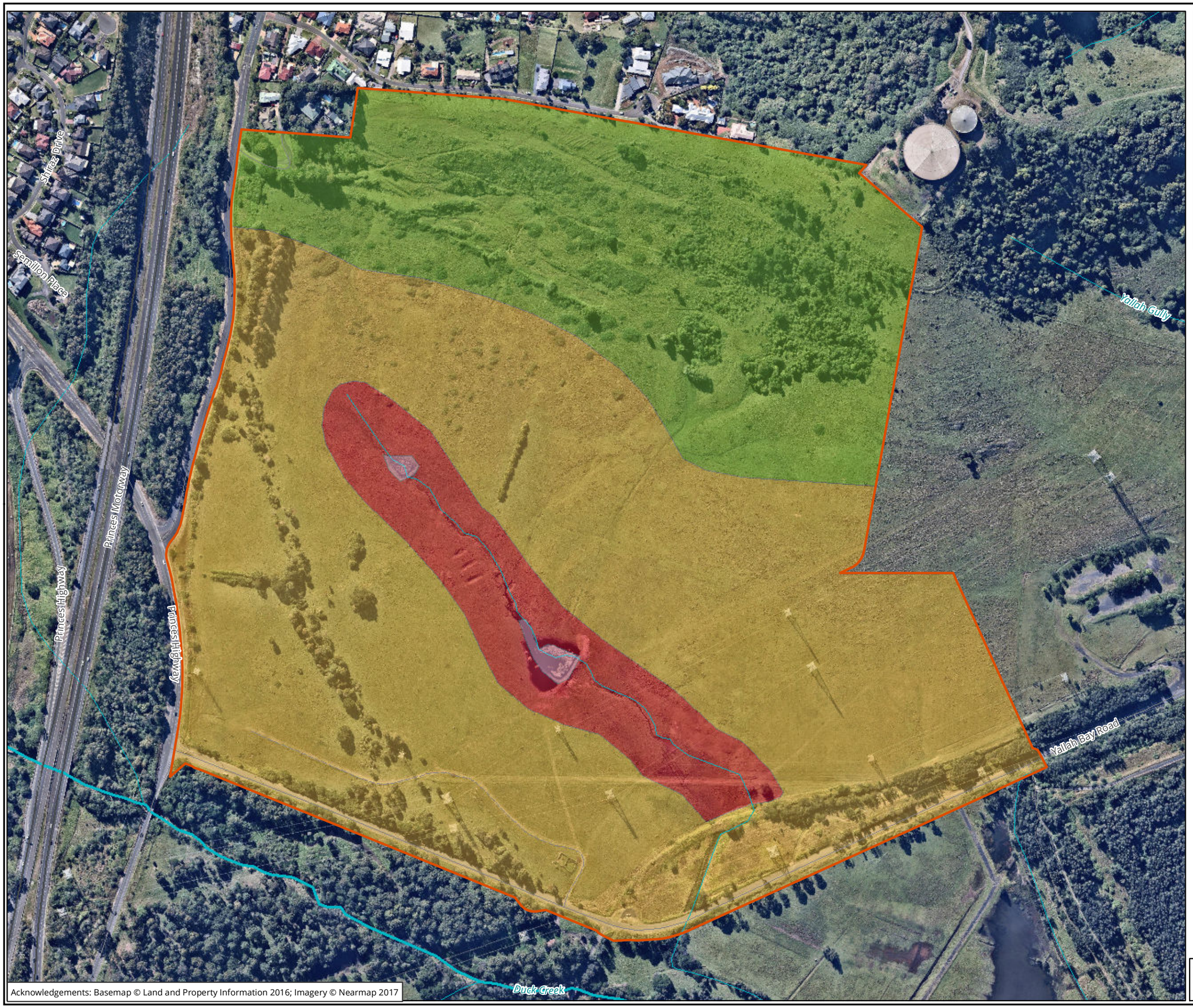
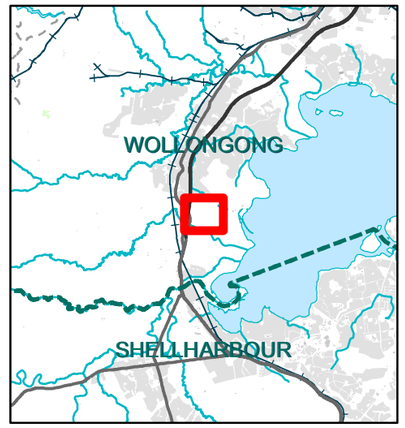




Legend

Study area

Archaeological potential

High

Moderate

Low

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 6: Areas of archaeological potential (central)

0 40 80 120 160 200

Metres

Scale: 1:4,000 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne, Newcastle, Sydney, Wangaratta & Wollongong

Matter: 24090
Date: 21 July 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
Location:\\bio-data-01\matters$\24000s\24090\Mapping\24090_F10_CentralPrecinct_ArchPotent

22 September 2017

Mr James Davis
2 Poplar Avenue
Unanderra, NSW 2526
jvdcorp@hotmail.com
Ph: 0423 715 395

Dear James

Re: Project Information and Assessment Methodology, Aboriginal Cultural Heritage Assessment: Northern and Central Precincts at Tallawarra, Yallah NSW
Our Ref: Matter 24090

The following project information and assessment methodology has been provided in accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010). The aim of this document is to provide registered Aboriginal parties (RAPs) with information about proposed project, and the proposed Aboriginal cultural heritage assessment process.

It would be appreciated if you would provide feedback on the methodology presented in this letter to Biosis by **5 pm Friday 20 October 2017** either by email, phone or return mail.

Please address feedback on the methodology to:

Taryn Gooley
Consultant Archaeologist
8 Tate Street Wollongong, NSW 2500
(02) 4201 1090
tgooley@biosis.com.au

Please do not hesitate to contact me if you require additional information or have any queries about the methodology or information provided.

Yours sincerely,

Taryn Gooley
Consultant Archaeologist

Stage 2 – Project information

Proposed development

Concept approval for the Tallawarra Lands Mixed Use Development was granted on 23 May 2013 (MP09_0131). The concept plan consists of residential (approximately 1,010 lots, together with 200 retirement dwellings), commercial, industrial (approximately 40ha) and retail development (approximately 16ha), public open space areas, new recreational facilities, internal road network, environmental management, conservation areas and riparian corridors.

Bridgehill Group have acquired some of the Tallawarra Lands in the Northern and Central Precincts from Energy Australia, and intend to develop new residential communities and a light industrial development and tourism facilities on those lands.

Bridgehill Group, intends to lodge a development application for the Northern Precinct under Part 4 of the *Environmental Planning and Assessment Act 1979;* and to modify the existing concept approval for the Northern and Central Precinct at Tallawarra, Yallah (MP 09_0131 MOD 1) under Part 3A section 75W of the *Environmental Planning and Assessment Act 1979*.

The proposed modification seeks to:

- Increase the footprint for residential development in the Central and Northern precincts; and
- Modify the overall approved residential yield from 1010 to 1480 lots.

The proposed modifications will result in reduced environmental lands between the Central and Northern precincts. Details on the proposed modification are outlined in Table 1 below.

Table 1 Proposed modification details – residential lots

Area	Approved Concept Yeild	Proposed modification
Central Precinct	350 Lots	588 Lots
Northern Precinct	310 Lots	542 Lots

Study area

The study area is located in the suburb of Yallah within the Wollongong Local Government Area and is located approximately 13 km south of Wollongong town centre. The Northern Precinct covers an area of 45.06 hectares (Figure 1), while the Central Precincts comprises two areas of 73.2 hectares and 6.497 hectares respectively (Figure 2). Table 2 and Table 3 below, detail the Lot and DP's for each precinct.

Table 2 Central precinct Lot and DP's

Lot	DP
1	551658
102	716727
15	1050255
1	1146409
1	543285
7	1049520
8	1049520

Table 3 Northern precinct Lot and DP's

Lot	DP
30	1175058
31	1175058

Previous Archaeological Assessment

Biosis prepared an Aboriginal Archaeological Assessment report for the Tallawarra Lands Part 3A Concept Plan Application in 2010. Aboriginal Community consultation was undertaken for this assessment in accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DECC NSW 2005) for projects being assessed under Part 3A of the EP&A Act. Nine Aboriginal stakeholders registered an interest in the project, each group was invited to participate in the sub-surface archaeological investigations, consultation meetings and development of management and mitigation measures for this project.

The assessment involved subsurface investigations of a number of Potential Archaeological Deposit (PAD) locations and sensitive landforms within the Tallawarra Lands. A 'gap analysis' was undertaken to ensure that all information relevant to Tallawarra Lands was captured. This included searches of relevant heritage registers and databases, along with a review of the environmental context, regional archaeological patterning based on previous studies, and predictive modelling to confirm placement of proposed test pits to be excavated during the sub-surface investigations.

The predictive modelling suggested that there is high potential for additional shell middens, stone artefact scatters and or isolated finds to be identified within the Tallawarra Lands. Where previous land use has resulted in high levels of disturbance, archaeological sites will have low integrity. The archaeological sub-surface investigations undertaken resulted in the in the identification of eight new Aboriginal archaeological

sites across the Tallawarra Lands including four isolated artefacts and four campsites. Areas of high, moderate, low, and no areas of archaeological potential have been defined across the Tallawarra Lands.

The majority of the Northern Precinct was assessed as having moderate archaeological potential with small areas of low archaeological potential also being identified. The Central Precinct was identified as having areas of high, moderate and low archaeological potential.

The Biosis (2010) assessment recommended further archaeological assessment such as test excavations and recording be undertaken in areas of moderate and high archaeological potential if impacts on those areas cannot be avoided. Areas of low or no archaeological potential and areas of high disturbance do not require any further archaeological investigations.

Stage 3 - Aboriginal cultural heritage assessment methodology

The assessment process includes the following tasks:

Background Research

This task identifies known Aboriginal sites, areas of potential archaeological sensitivity and previous disturbance, and informs the predictive modelling for the assessment/study area. Biosis has undertaken the following tasks as part of the background research for this assessment:

- A search of the Aboriginal Heritage Information Management System (AHIMS) was completed to identify registered sites in the vicinity of the assessment/study area. The results of the AHIMS search has been used to obtain relevant site cards and relevant previously completed Aboriginal cultural heritage assessments.
- Review of relevant reports identified through the AHIMS search.
- Review of aerial photographs and other resources to gauge the existing landscape and previous history of land disturbance.
- Review of the historical heritage databases.
- A brief summary of the historical uses of the study areas.

The background research has identified that the proposed works has the potential to impact on the following AHIMS sites (Figure 3 and Figure 4):

- Northern Precinct
  - Boomberry Point 1 (AHIMS 52-5-0223)
  - Gilba Road 1 (AHIMS 52-5-0642)
  - Elizabeth Point (AHIMS 52-5-0225)
  - Gilba Road 2 Fill 1 (AHIMS 52-5-0643)
- Central Precinct
  - Tallawarra Pipeline PAD 3 (AHIMS 52-5-0523)
  - TLPD AFT 7 (AHIMS 52-5-0613)
  - TLPD AFT 8 (AHIMS 52-5-0614)

- TLPD AFT 9 (AHIMS 52-5-0615)

Consultation with the Aboriginal Community

This task will allow the Aboriginal community the opportunity to participate in decisions regarding the management of their cultural heritage by providing proponents information regarding cultural significance and inputting into management options.

Aboriginal community consultation will be undertaken in accordance with *the Aboriginal cultural heritage consultation requirements for proponents 2010*, which includes:

- **COMPLETED.** Biosis ascertained the names of Aboriginal people or groups who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/ or Places within the proposed study area.
- **COMPLETED.** Aboriginal stakeholders were provided with notification by letter of the proposed project on 26 June 2017 via Biosis on behalf of Cardno and given the opportunity to be involved in consultation.
- This document outlines the details of the proposed project and proposed archaeological testing methodology. The registered Aboriginal parties must be given an opportunity to review and provide feedback to the proponent within a minimum of **28 days** of Biosis providing the methodology document.
- The DRAFT Aboriginal Cultural Heritage Assessment Report (ACHAR) and Archaeological Report (AR) will be provided to all registered Aboriginal parties for comment – the proponent must allow **28 days** for comment. All comments and correspondence sent and received regarding the project will be included in the final report in an Appendix.
- Representatives of the registered Aboriginal parties will be invited to participate in any archaeological excavations which will take place within the study areas

Field Survey

A number of archaeological surveys have been undertaken within the study area over the last 10 years. An inspection of the assessment area has been undertaken as part of the current assessment in order to identify any previously unknown Aboriginal objects or places, should they be present, and to record the current condition of AHIMS sites.

Any known sites identified by the AHIMS search which are within the assessment area were inspected to determine their current condition. Registered sites in the near vicinity were visited to ensure they will not be impacted by the proposed works. Areas of potential archaeological deposit (PAD) identified by previous assessments were also be inspected.

Mapping was undertaken in ArcGIS and MapInfo Professional.

Archaeological testing

The archaeological survey and desktop assessment have identified that the proposed works have the potential to impact on eight AHIMS sites (Figure 3 and Figure 4) and areas identified as having moderate and high archaeological potential (Figure 5 and Figure 6). Biosis is therefore recommending Aboriginal archaeological test excavations be undertaken accordance with the *Code of Practice for archaeological*

investigation for Aboriginal objects in NSW (DECCW 2010) in areas of moderate and high archaeological potential should the proposed modifications to the concept approval be granted.

Aboriginal cultural heritage assessment report and archaeological report

Biosis Pty Ltd will prepare an Archaeological cultural heritage assessment report (ACHAR) and archaeological report (AR) for the proposed project. The ACHAR will document the findings of the assessment, and detail the consultation process. The AR will be included as an appendix to the ACHAR and will document the desktop assessment, archaeological survey, and test excavation results.

The main aim of the report is to document the assessment of potential development related impacts to Aboriginal cultural heritage and to formulate strategies to manage these impacts. Reporting will follow the guidelines of the OEH, in particular the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010a), the Code of Practice and the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011).

The report will contain:

- Details of the Aboriginal consultation process undertaken as part of the assessment
- A review and summary of the environmental context of the study area
- A review and summary of the Aboriginal archaeological context of the study area
- Archaeological survey results
- Aboriginal site significance assessment
- Impact assessment
- Management strategies
- Maps detailing any Aboriginal sites identified during the assessment process.
- The RAPs will be provided with the draft archaeological and cultural heritage report and their comments on report content sought.
- Comments on the report's content are to be provided to Biosis by the party's respective nominated spokesperson(s). All comments not provided in writing will be recorded in an informal logbook by Biosis.
- These comments and responses to these comments will be documented in the final ACHAR.

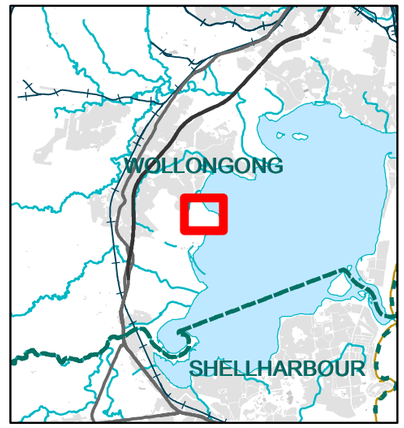
As part of this methodology registered Aboriginal parties will be provided with the draft report for comment and allowed **28 days** for review.

The final report will incorporate all comments.

References

DECCW 2010. *Aboriginal cultural heritage consultation requirements for proponents 2010.* NSW Department of Environment, Climate Change and Water, Sydney NSW

Biosis 2010. Tallawarra Lands: Part 3A concept plan Aboriginal archaeological and cultural heritage assessment. Report to TRUenergy.



Legend

Study area

Figure 1: Northern study area detail

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

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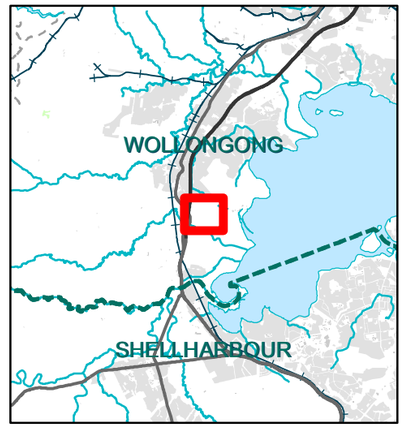
Ballarat, Brisbane, Canberra, Melbourne, Newcastle, Sydney, Wangaratta & Wollongong

Matter: 24090
Date: 21 July 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
Location:\\bio-data-01\matters$\24000s\24090\Mapping\24090_F2_NorthernPrecinct_StudyArea

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017



Legend

Study area

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 2: Central study area detail

0 40 80 120 160 200

Metres
Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

biosis

Biosis Pty Ltd

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Matter: 24090
Date: 12 July 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
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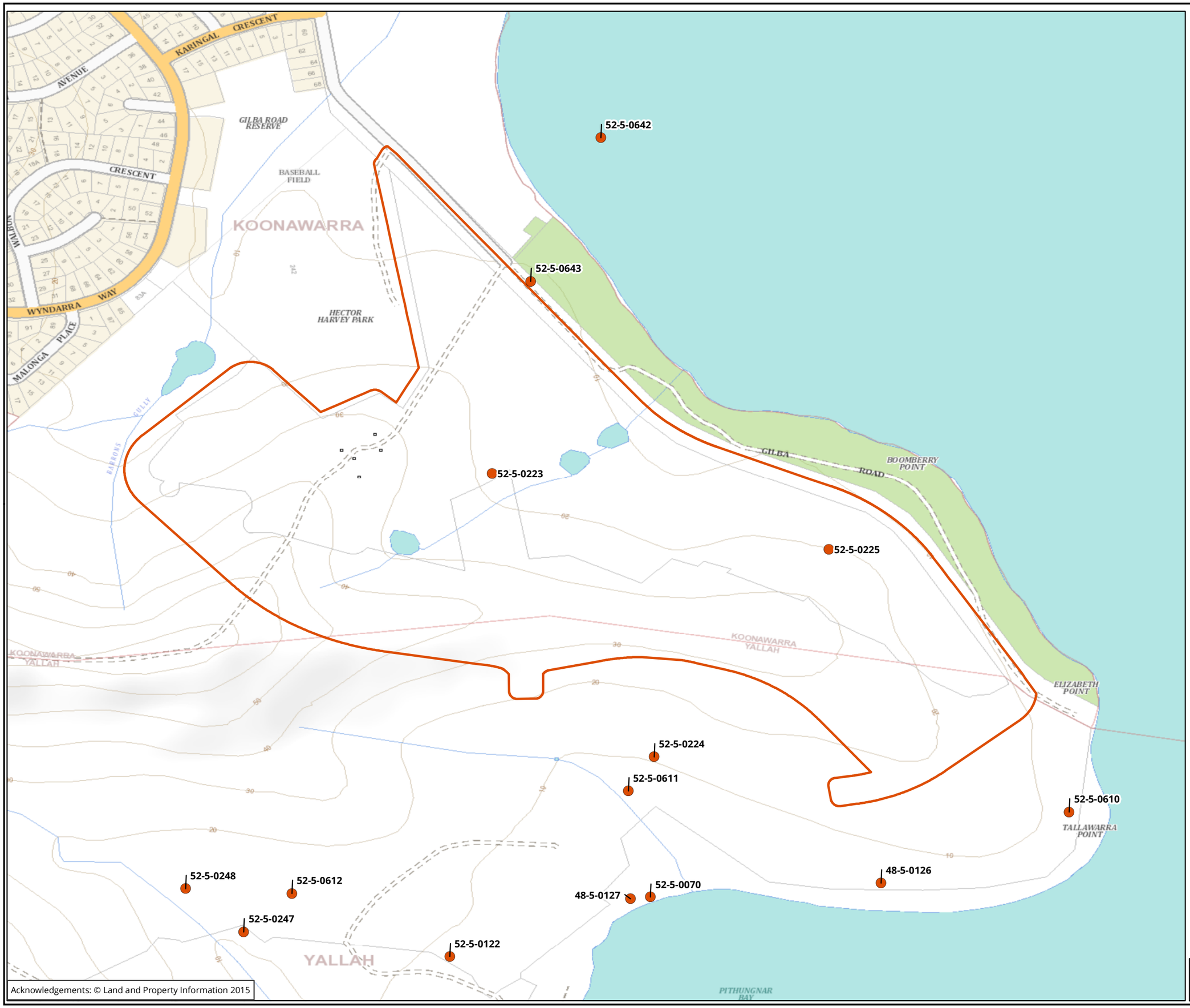

Legend

- AHIMS Records
- Study area

Figure 3: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

N

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Ballarat, Brisbane, Canberra, Melbourne, Sydney,Wangaratta & Wollongong

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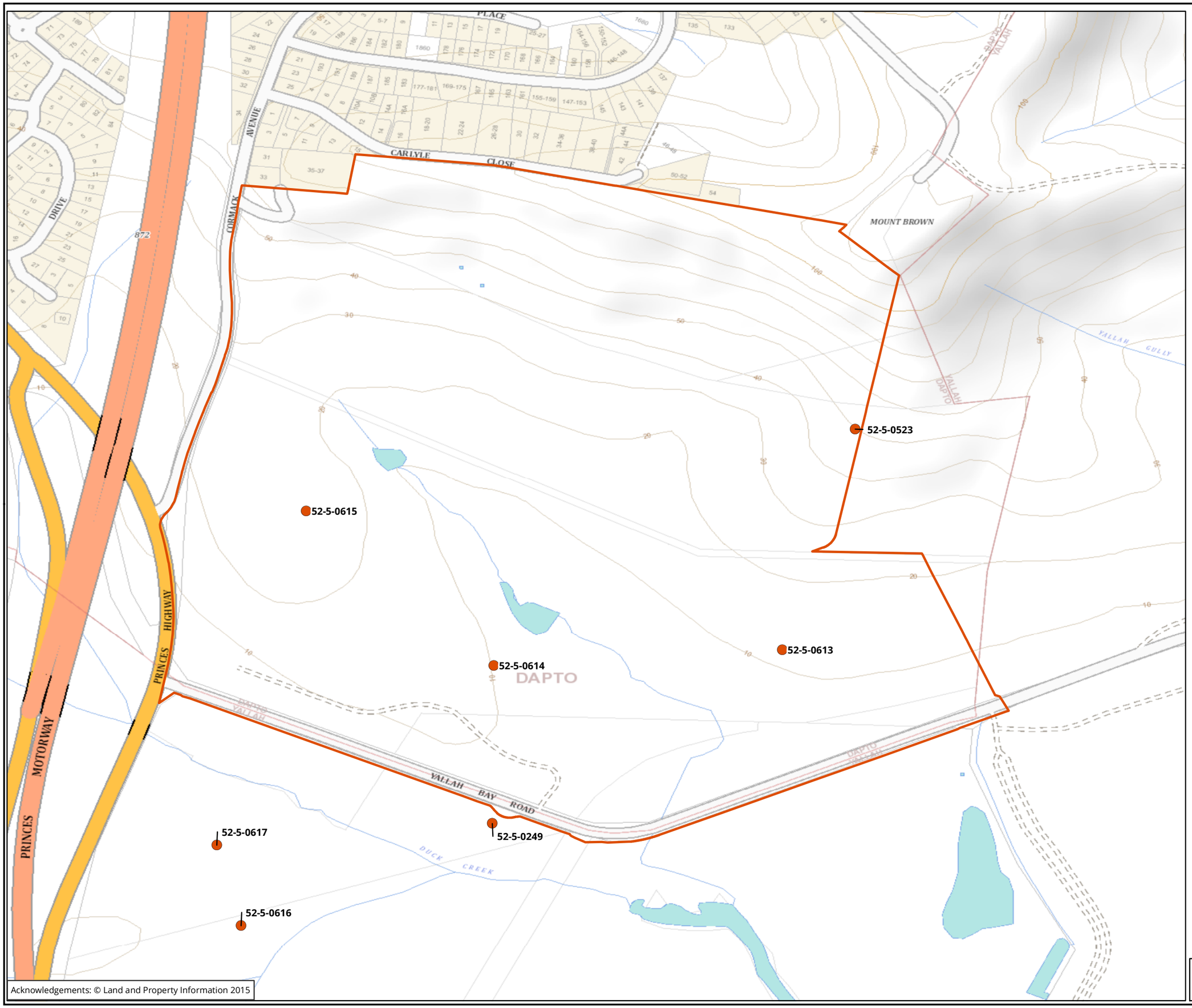

Legend

- AHIMS Records
- Study area

Figure 4: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

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Ballarat, Brisbane, Canberra, Melbourne, Sydney,Wangaratta & Wollongong

Matter:
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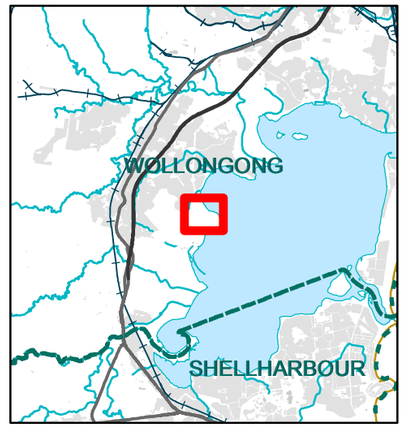
Acknowledgements: © Land and Property Information 2015



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Study area

Archaeological potential

Moderate

Low

Figure 5: Areas of archaeological potential (northern)

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

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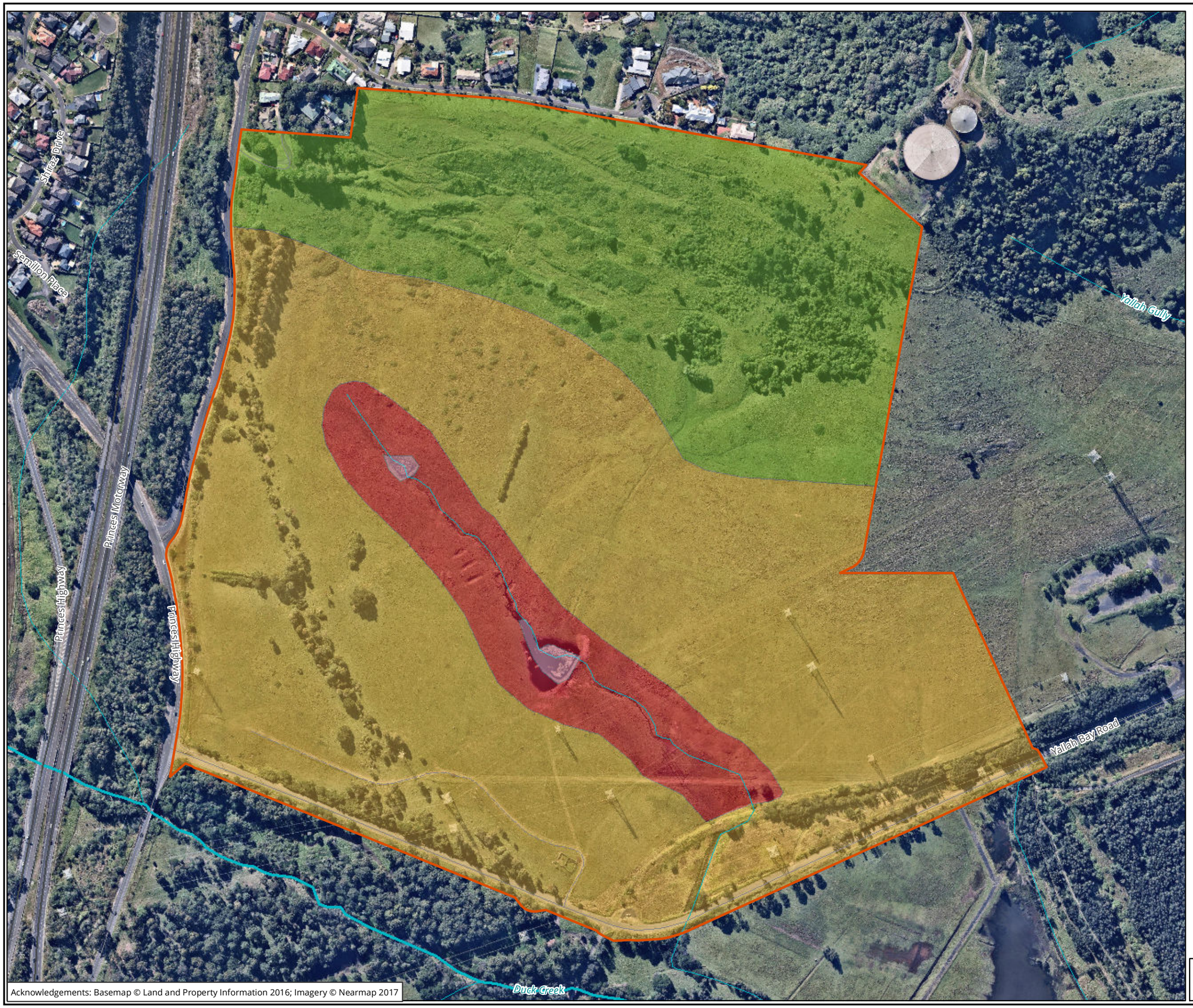

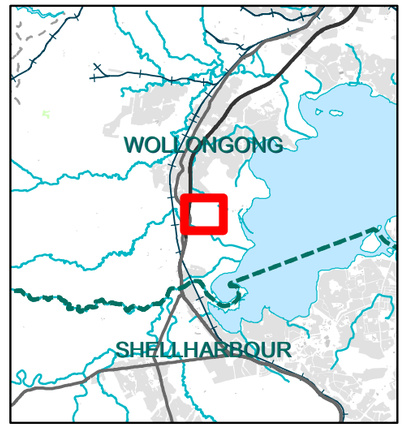

Legend

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High

Moderate

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Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 6: Areas of archaeological potential (central)

0 40 80 120 160 200

Metres

Scale: 1:4,000 @ A3

Coordinate System: GDA 1994 MGA Zone 56

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22 September 2017

Mr Aaron Broad
1 Waratah Avenue
Albion Park Rail, NSW 2527
Minnamunnung
minnamunnung@gmail.com
Ph: 0402 526 888

Dear Aaron

Re: Project Information and Assessment Methodology, Aboriginal Cultural Heritage Assessment: Northern and Central Precincts at Tallawarra, Yallah NSW
Our Ref: Matter 24090

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tgooley@biosis.com.au

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Stage 2 – Project information

Proposed development

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Stage 3 - Aboriginal cultural heritage assessment methodology

The assessment process includes the following tasks:

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  - Tallawarra Pipeline PAD 3 (AHIMS 52-5-0523)
  - TLPD AFT 7 (AHIMS 52-5-0613)
  - TLPD AFT 8 (AHIMS 52-5-0614)

- TLPD AFT 9 (AHIMS 52-5-0615)

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Aboriginal community consultation will be undertaken in accordance with *the Aboriginal cultural heritage consultation requirements for proponents 2010*, which includes:

- **COMPLETED.** Biosis ascertained the names of Aboriginal people or groups who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/ or Places within the proposed study area.
- **COMPLETED.** Aboriginal stakeholders were provided with notification by letter of the proposed project on 26 June 2017 via Biosis on behalf of Cardno and given the opportunity to be involved in consultation.
- This document outlines the details of the proposed project and proposed archaeological testing methodology. The registered Aboriginal parties must be given an opportunity to review and provide feedback to the proponent within a minimum of **28 days** of Biosis providing the methodology document.
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investigation for Aboriginal objects in NSW (DECCW 2010) in areas of moderate and high archaeological potential should the proposed modifications to the concept approval be granted.

Aboriginal cultural heritage assessment report and archaeological report

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The report will contain:

- Details of the Aboriginal consultation process undertaken as part of the assessment
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- Management strategies
- Maps detailing any Aboriginal sites identified during the assessment process.
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- These comments and responses to these comments will be documented in the final ACHAR.

As part of this methodology registered Aboriginal parties will be provided with the draft report for comment and allowed **28 days** for review.

The final report will incorporate all comments.

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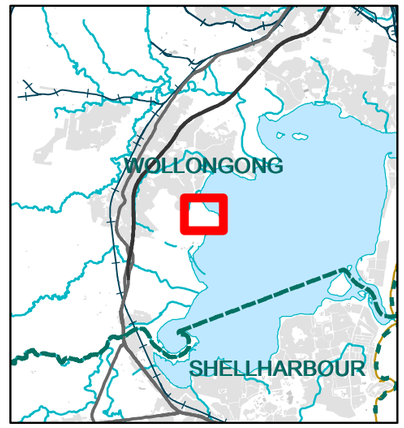

Legend

Study area

Figure 1: Northern study area detail

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

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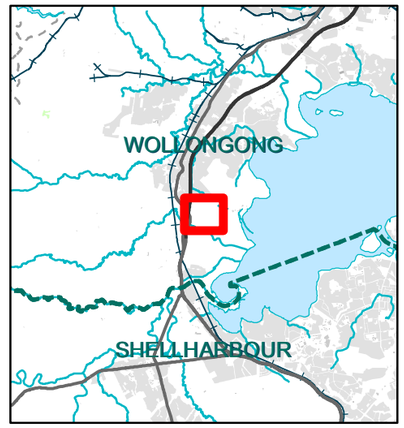
Matter: 24090
Date: 21 July 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
Location:\\bio-data-01\matters$\24000s\24090\Mapping\24090_F2_NorthernPrecinct_StudyArea

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017



Legend

Study area

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 2: Central study area detail

0 40 80 120 160 200

Metres
Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

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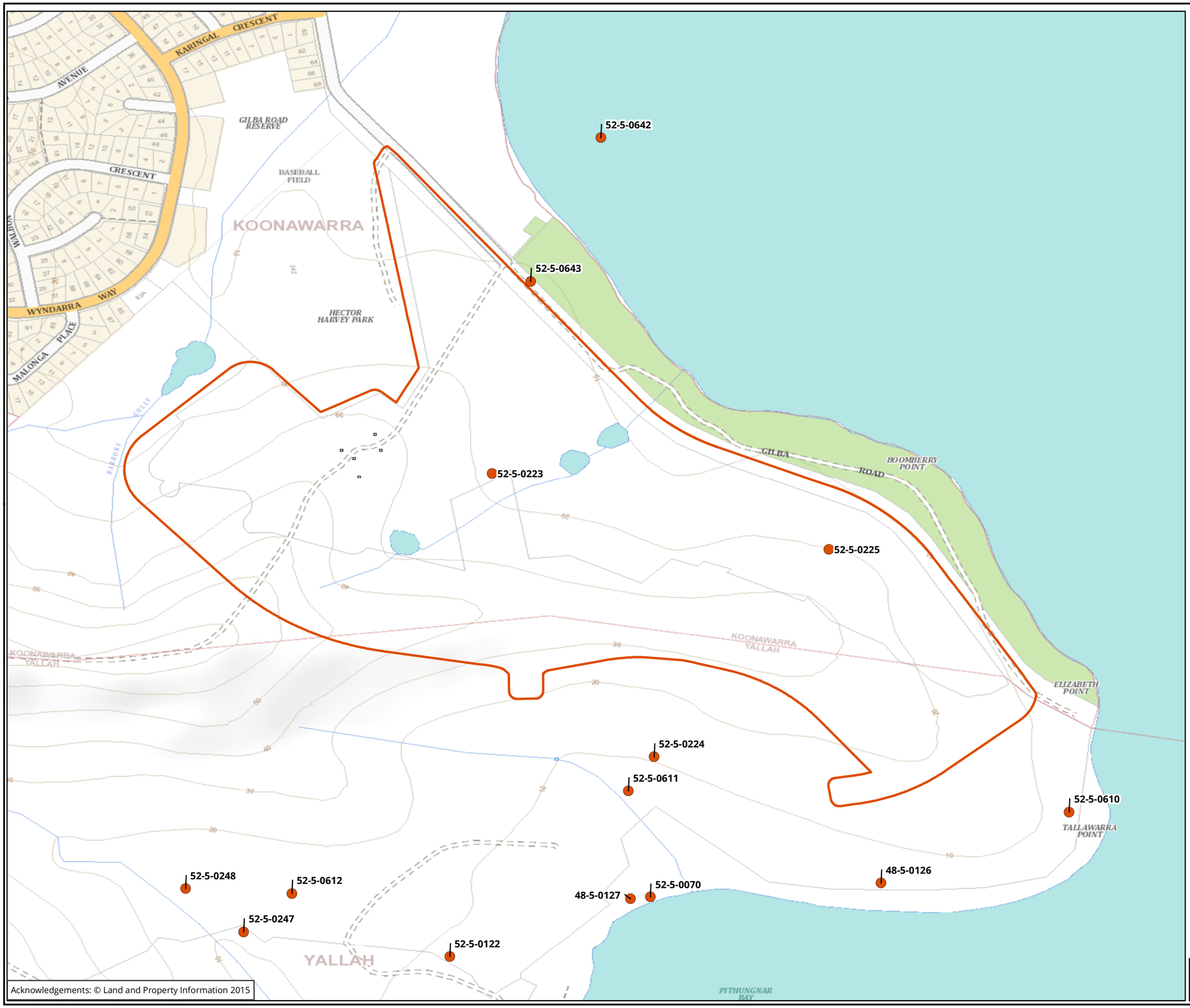

Legend

- AHIMS Records
- Study area

Figure 3: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

N

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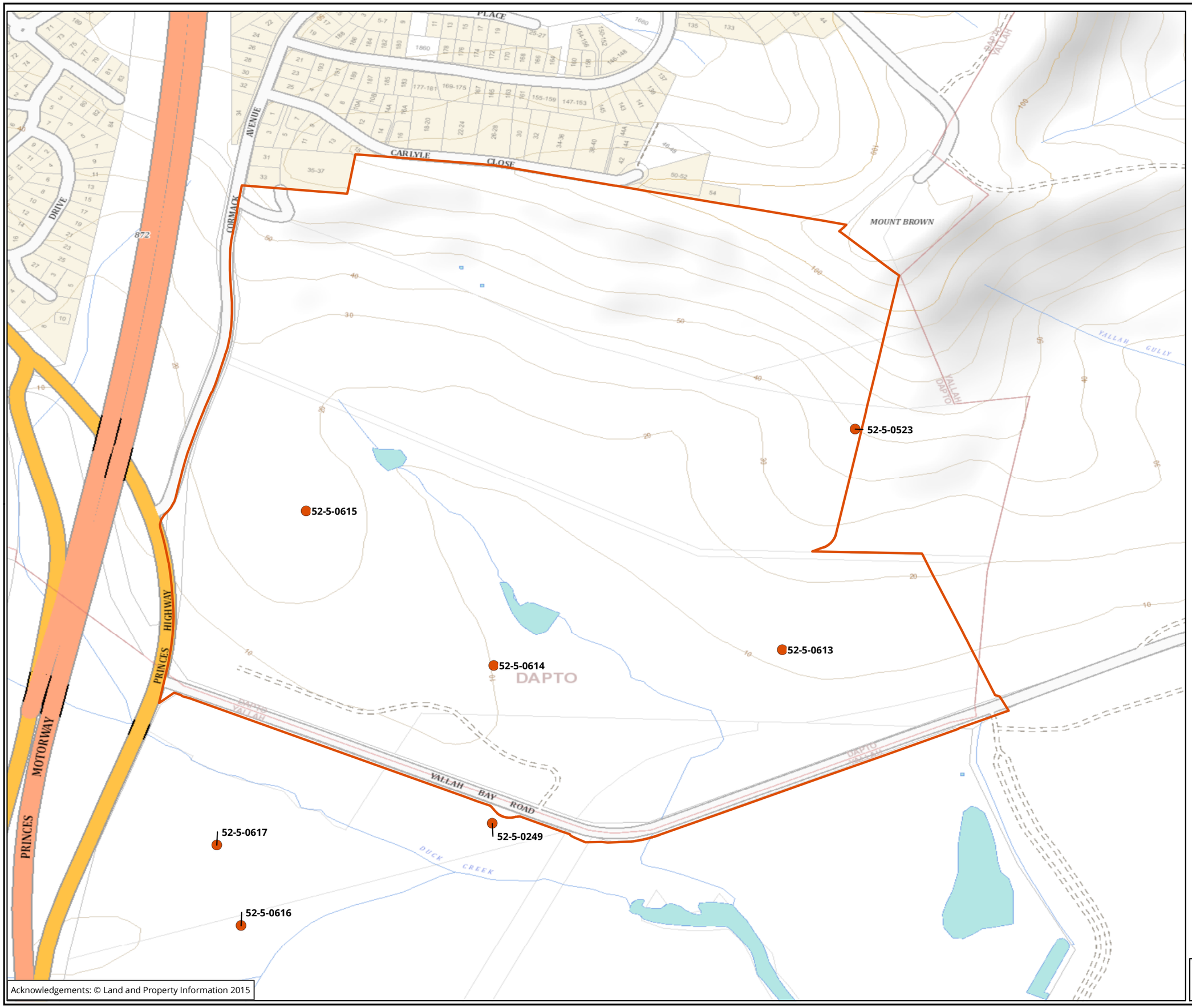

Legend

- AHIMS Records
- Study area

Figure 4: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

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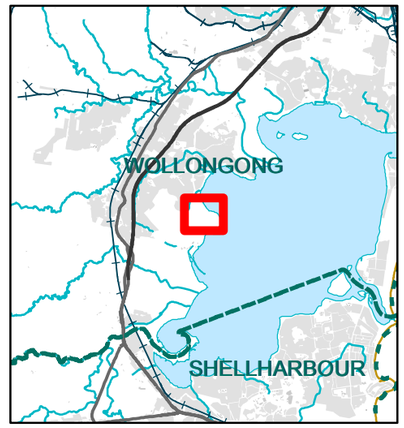

Legend

Study area

Archaeological potential

Moderate

Low

Figure 5: Areas of archaeological potential (northern)

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

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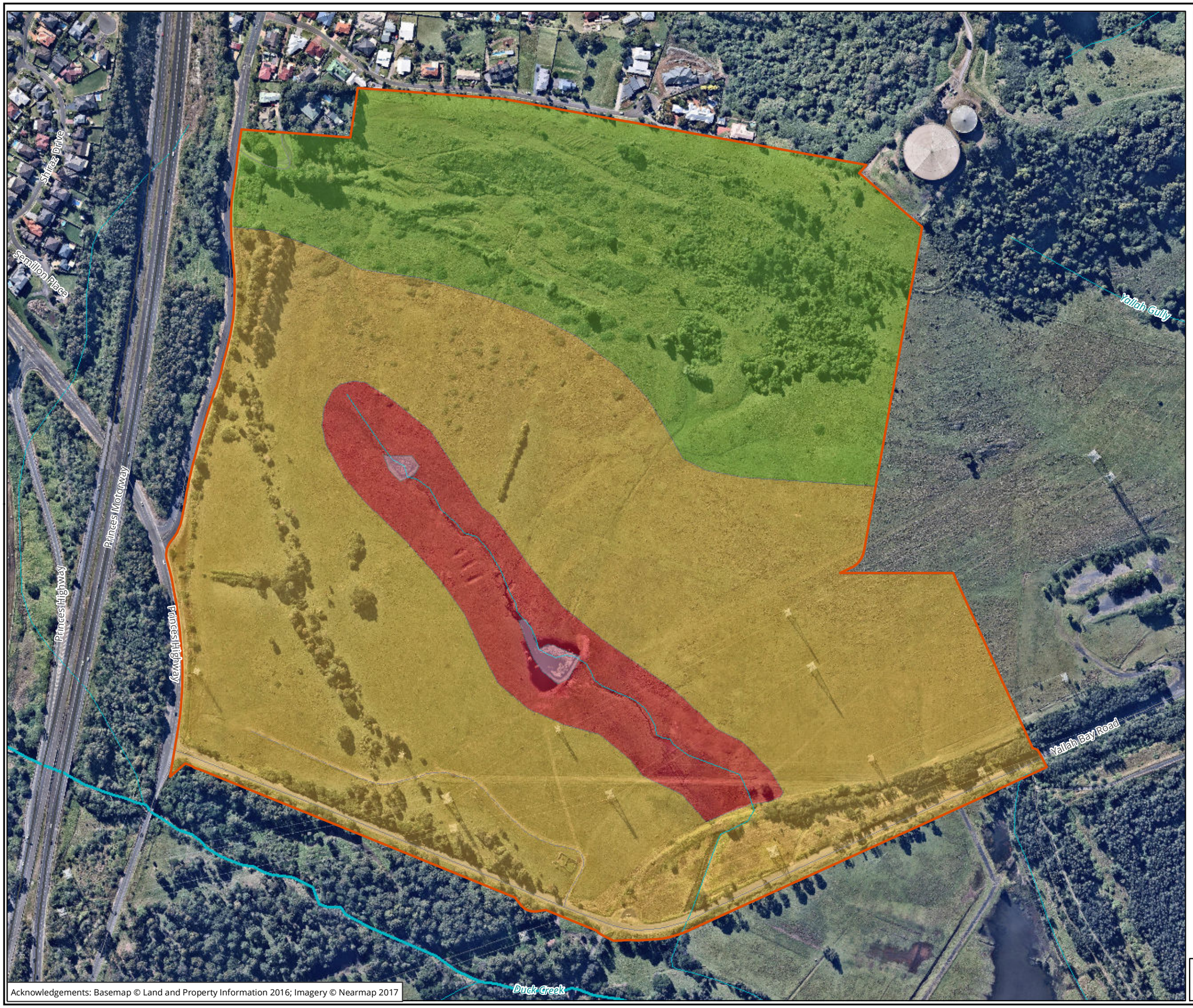
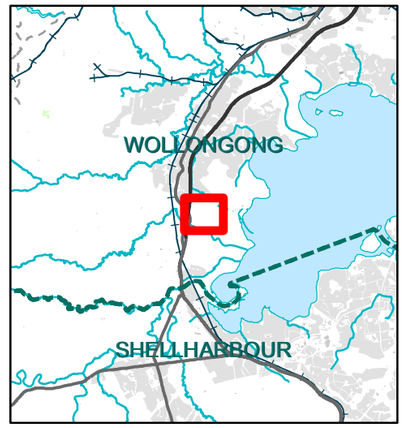
24090_F10_NorthernPrecinct_ArchPotent





Legend

Study area

Archaeological potential

High

Moderate

Low

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 6: Areas of archaeological potential (central)

0 40 80 120 160 200

Metres

Scale: 1:4,000 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

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22 September 2017

Ms Roxanne Smith
Murramarang (Murrin Clan/Peoples)
murramarangchts@gmail.com

Dear Roxanne

Re: Project Information and Assessment Methodology, Aboriginal Cultural Heritage Assessment: Northern and Central Precincts at Tallawarra, Yallah NSW
Our Ref: Matter 24090

The following project information and assessment methodology has been provided in accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010). The aim of this document is to provide registered Aboriginal parties (RAPs) with information about proposed project, and the proposed Aboriginal cultural heritage assessment process.

It would be appreciated if you would provide feedback on the methodology presented in this letter to Biosis by **5 pm Friday 20 October 2017** either by email, phone or return mail.

Please address feedback on the methodology to:

Taryn Gooley
Consultant Archaeologist
8 Tate Street Wollongong, NSW 2500
(02) 4201 1090
tgooley@biosis.com.au

Please do not hesitate to contact me if you require additional information or have any queries about the methodology or information provided.

Yours sincerely,

Taryn Gooley
Consultant Archaeologist

Stage 2 – Project information

Proposed development

Concept approval for the Tallawarra Lands Mixed Use Development was granted on 23 May 2013 (MP09_0131). The concept plan consists of residential (approximately 1,010 lots, together with 200 retirement dwellings), commercial, industrial (approximately 40ha) and retail development (approximately 16ha), public open space areas, new recreational facilities, internal road network, environmental management, conservation areas and riparian corridors.

Bridgehill Group have acquired some of the Tallawarra Lands in the Northern and Central Precincts from Energy Australia, and intend to develop new residential communities and a light industrial development and tourism facilities on those lands.

Bridgehill Group, intends to lodge a development application for the Northern Precinct under Part 4 of the *Environmental Planning and Assessment Act 1979;* and to modify the existing concept approval for the Northern and Central Precinct at Tallawarra, Yallah (MP 09_0131 MOD 1) under Part 3A section 75W of the *Environmental Planning and Assessment Act 1979*.

The proposed modification seeks to:

- Increase the footprint for residential development in the Central and Northern precincts; and
- Modify the overall approved residential yield from 1010 to 1480 lots.

The proposed modifications will result in reduced environmental lands between the Central and Northern precincts. Details on the proposed modification are outlined in Table 1 below.

Table 1 Proposed modification details – residential lots

Area	Approved Concept Yeild	Proposed modification
Central Precinct	350 Lots	588 Lots
Northern Precinct	310 Lots	542 Lots

Study area

The study area is located in the suburb of Yallah within the Wollongong Local Government Area and is located approximately 13 km south of Wollongong town centre. The Northern Precinct covers an area of 45.06 hectares (Figure 1), while the Central Precincts comprises two areas of 73.2 hectares and 6.497 hectares respectively (Figure 2). Table 2 and Table 3 below, detail the Lot and DP's for each precinct.

Table 2 Central precinct Lot and DP's

Lot	DP
1	551658
102	716727
15	1050255
1	1146409
1	543285
7	1049520
8	1049520

Table 3 Northern precinct Lot and DP's

Lot	DP
30	1175058
31	1175058

Previous Archaeological Assessment

Biosis prepared an Aboriginal Archaeological Assessment report for the Tallawarra Lands Part 3A Concept Plan Application in 2010. Aboriginal Community consultation was undertaken for this assessment in accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DECC NSW 2005) for projects being assessed under Part 3A of the EP&A Act. Nine Aboriginal stakeholders registered an interest in the project, each group was invited to participate in the sub-surface archaeological investigations, consultation meetings and development of management and mitigation measures for this project.

The assessment involved subsurface investigations of a number of Potential Archaeological Deposit (PAD) locations and sensitive landforms within the Tallawarra Lands. A 'gap analysis' was undertaken to ensure that all information relevant to Tallawarra Lands was captured. This included searches of relevant heritage registers and databases, along with a review of the environmental context, regional archaeological patterning based on previous studies, and predictive modelling to confirm placement of proposed test pits to be excavated during the sub-surface investigations.

The predictive modelling suggested that there is high potential for additional shell middens, stone artefact scatters and or isolated finds to be identified within the Tallawarra Lands. Where previous land use has resulted in high levels of disturbance, archaeological sites will have low integrity. The archaeological sub-surface investigations undertaken resulted in the in the identification of eight new Aboriginal archaeological

sites across the Tallawarra Lands including four isolated artefacts and four campsites. Areas of high, moderate, low, and no areas of archaeological potential have been defined across the Tallawarra Lands.

The majority of the Northern Precinct was assessed as having moderate archaeological potential with small areas of low archaeological potential also being identified. The Central Precinct was identified as having areas of high, moderate and low archaeological potential.

The Biosis (2010) assessment recommended further archaeological assessment such as test excavations and recording be undertaken in areas of moderate and high archaeological potential if impacts on those areas cannot be avoided. Areas of low or no archaeological potential and areas of high disturbance do not require any further archaeological investigations.

Stage 3 - Aboriginal cultural heritage assessment methodology

The assessment process includes the following tasks:

Background Research

This task identifies known Aboriginal sites, areas of potential archaeological sensitivity and previous disturbance, and informs the predictive modelling for the assessment/study area. Biosis has undertaken the following tasks as part of the background research for this assessment:

- A search of the Aboriginal Heritage Information Management System (AHIMS) was completed to identify registered sites in the vicinity of the assessment/study area. The results of the AHIMS search has been used to obtain relevant site cards and relevant previously completed Aboriginal cultural heritage assessments.
- Review of relevant reports identified through the AHIMS search.
- Review of aerial photographs and other resources to gauge the existing landscape and previous history of land disturbance.
- Review of the historical heritage databases.
- A brief summary of the historical uses of the study areas.

The background research has identified that the proposed works has the potential to impact on the following AHIMS sites (Figure 3 and Figure 4):

- Northern Precinct
  - Boomberry Point 1 (AHIMS 52-5-0223)
  - Gilba Road 1 (AHIMS 52-5-0642)
  - Elizabeth Point (AHIMS 52-5-0225)
  - Gilba Road 2 Fill 1 (AHIMS 52-5-0643)
- Central Precinct
  - Tallawarra Pipeline PAD 3 (AHIMS 52-5-0523)
  - TLPD AFT 7 (AHIMS 52-5-0613)
  - TLPD AFT 8 (AHIMS 52-5-0614)

- TLPD AFT 9 (AHIMS 52-5-0615)

Consultation with the Aboriginal Community

This task will allow the Aboriginal community the opportunity to participate in decisions regarding the management of their cultural heritage by providing proponents information regarding cultural significance and inputting into management options.

Aboriginal community consultation will be undertaken in accordance with *the Aboriginal cultural heritage consultation requirements for proponents 2010*, which includes:

- **COMPLETED.** Biosis ascertained the names of Aboriginal people or groups who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/ or Places within the proposed study area.
- **COMPLETED.** Aboriginal stakeholders were provided with notification by letter of the proposed project on 26 June 2017 via Biosis on behalf of Cardno and given the opportunity to be involved in consultation.
- This document outlines the details of the proposed project and proposed archaeological testing methodology. The registered Aboriginal parties must be given an opportunity to review and provide feedback to the proponent within a minimum of **28 days** of Biosis providing the methodology document.
- The DRAFT Aboriginal Cultural Heritage Assessment Report (ACHAR) and Archaeological Report (AR) will be provided to all registered Aboriginal parties for comment – the proponent must allow **28 days** for comment. All comments and correspondence sent and received regarding the project will be included in the final report in an Appendix.
- Representatives of the registered Aboriginal parties will be invited to participate in any archaeological excavations which will take place within the study areas

Field Survey

A number of archaeological surveys have been undertaken within the study area over the last 10 years. An inspection of the assessment area has been undertaken as part of the current assessment in order to identify any previously unknown Aboriginal objects or places, should they be present, and to record the current condition of AHIMS sites.

Any known sites identified by the AHIMS search which are within the assessment area were inspected to determine their current condition. Registered sites in the near vicinity were visited to ensure they will not be impacted by the proposed works. Areas of potential archaeological deposit (PAD) identified by previous assessments were also be inspected.

Mapping was undertaken in ArcGIS and MapInfo Professional.

Archaeological testing

The archaeological survey and desktop assessment have identified that the proposed works have the potential to impact on eight AHIMS sites (Figure 3 and Figure 4) and areas identified as having moderate and high archaeological potential (Figure 5 and Figure 6). Biosis is therefore recommending Aboriginal archaeological test excavations be undertaken accordance with the *Code of Practice for archaeological*

investigation for Aboriginal objects in NSW (DECCW 2010) in areas of moderate and high archaeological potential should the proposed modifications to the concept approval be granted.

Aboriginal cultural heritage assessment report and archaeological report

Biosis Pty Ltd will prepare an Archaeological cultural heritage assessment report (ACHAR) and archaeological report (AR) for the proposed project. The ACHAR will document the findings of the assessment, and detail the consultation process. The AR will be included as an appendix to the ACHAR and will document the desktop assessment, archaeological survey, and test excavation results.

The main aim of the report is to document the assessment of potential development related impacts to Aboriginal cultural heritage and to formulate strategies to manage these impacts. Reporting will follow the guidelines of the OEH, in particular the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010a), the Code of Practice and the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011).

The report will contain:

- Details of the Aboriginal consultation process undertaken as part of the assessment
- A review and summary of the environmental context of the study area
- A review and summary of the Aboriginal archaeological context of the study area
- Archaeological survey results
- Aboriginal site significance assessment
- Impact assessment
- Management strategies
- Maps detailing any Aboriginal sites identified during the assessment process.
- The RAPs will be provided with the draft archaeological and cultural heritage report and their comments on report content sought.
- Comments on the report's content are to be provided to Biosis by the party's respective nominated spokesperson(s). All comments not provided in writing will be recorded in an informal logbook by Biosis.
- These comments and responses to these comments will be documented in the final ACHAR.

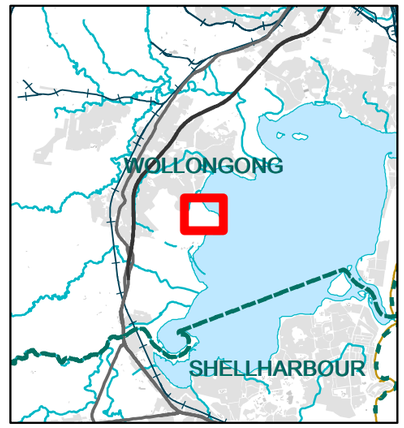
As part of this methodology registered Aboriginal parties will be provided with the draft report for comment and allowed **28 days** for review.

The final report will incorporate all comments.

References

DECCW 2010. *Aboriginal cultural heritage consultation requirements for proponents 2010.* NSW Department of Environment, Climate Change and Water, Sydney NSW

Biosis 2010. Tallawarra Lands: Part 3A concept plan Aboriginal archaeological and cultural heritage assessment. Report to TRUenergy.



Legend

Study area

Figure 1: Northern study area detail

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

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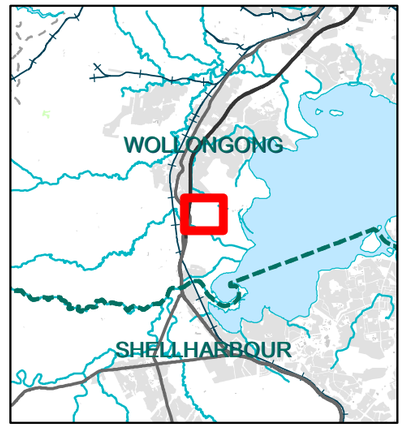

Legend

Study area

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 2: Central study area detail

0 40 80 120 160 200

Metres
Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

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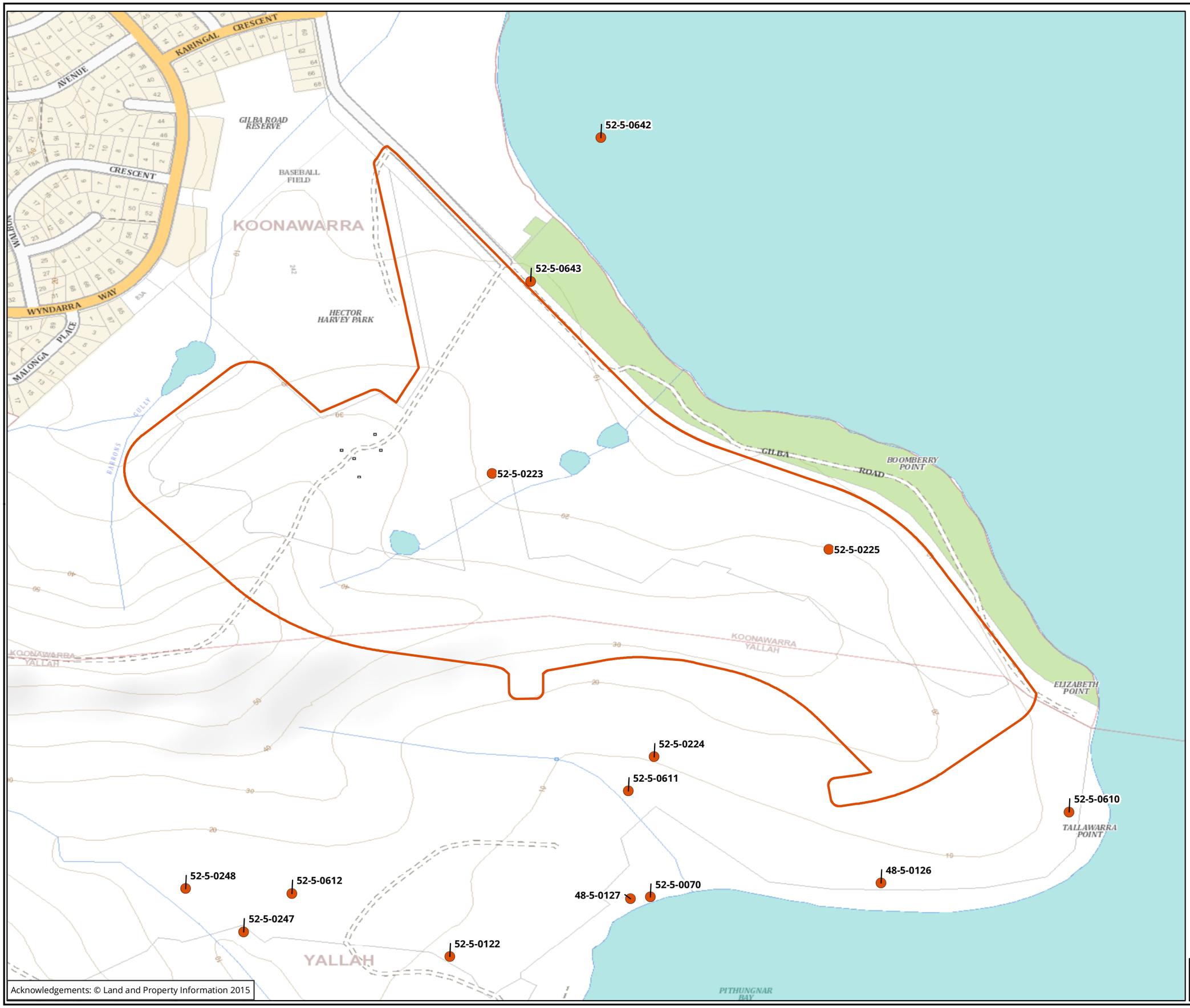

Legend

- AHIMS Records
- Study area

Figure 3: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

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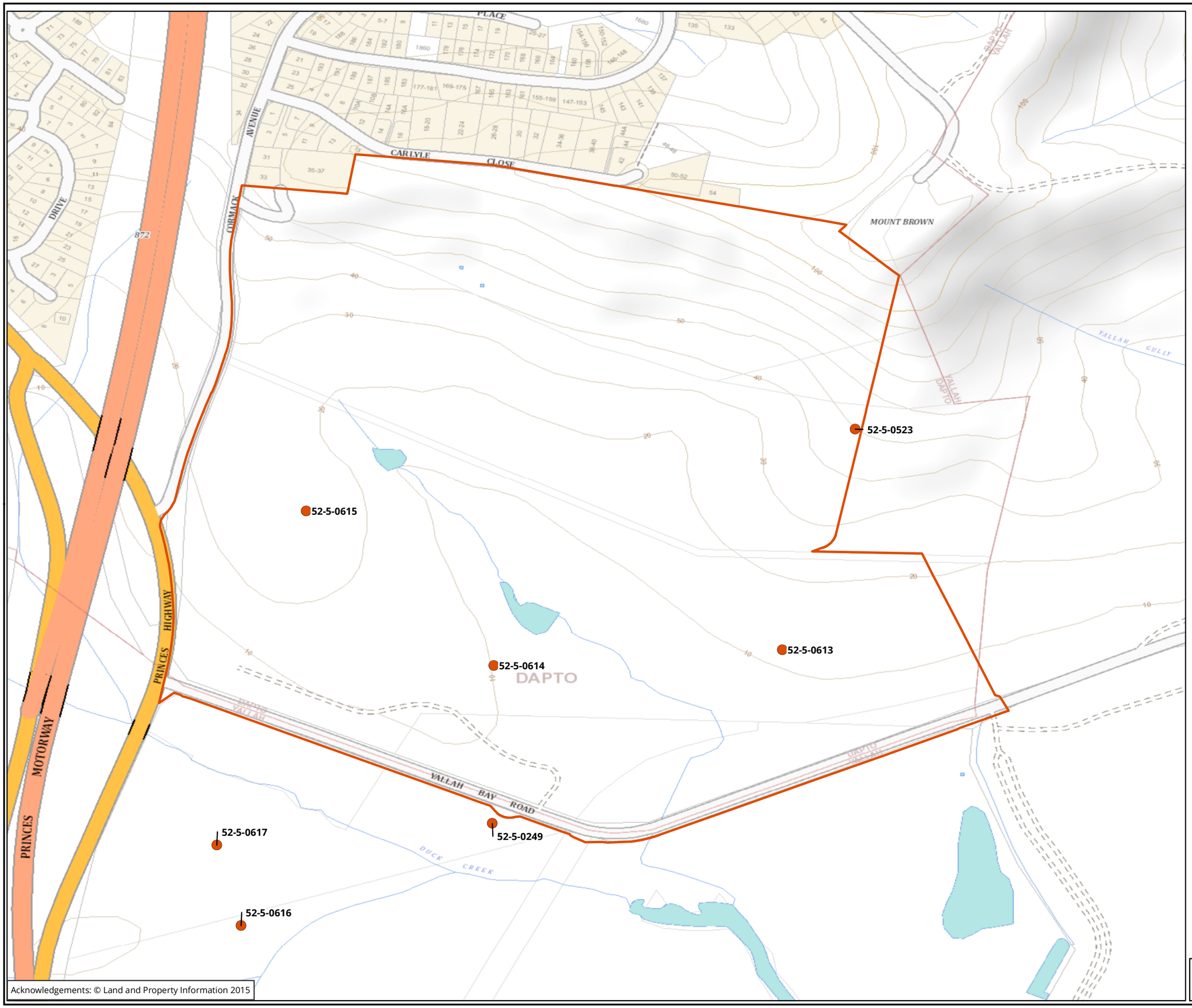

Legend

- AHIMS Records
- Study area

Figure 4: AHIMS search results

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Metres

Scale: 1:5,000 @ A3

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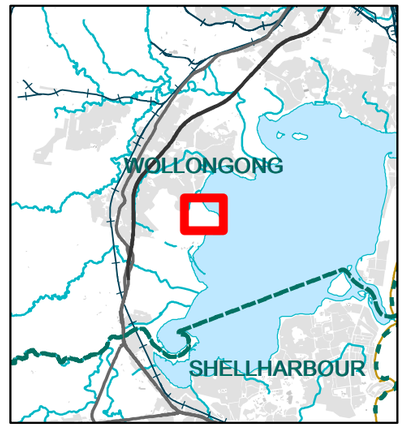

Legend

Study area

Archaeological potential

Moderate

Low

Figure 5: Areas of archaeological potential (northern)

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

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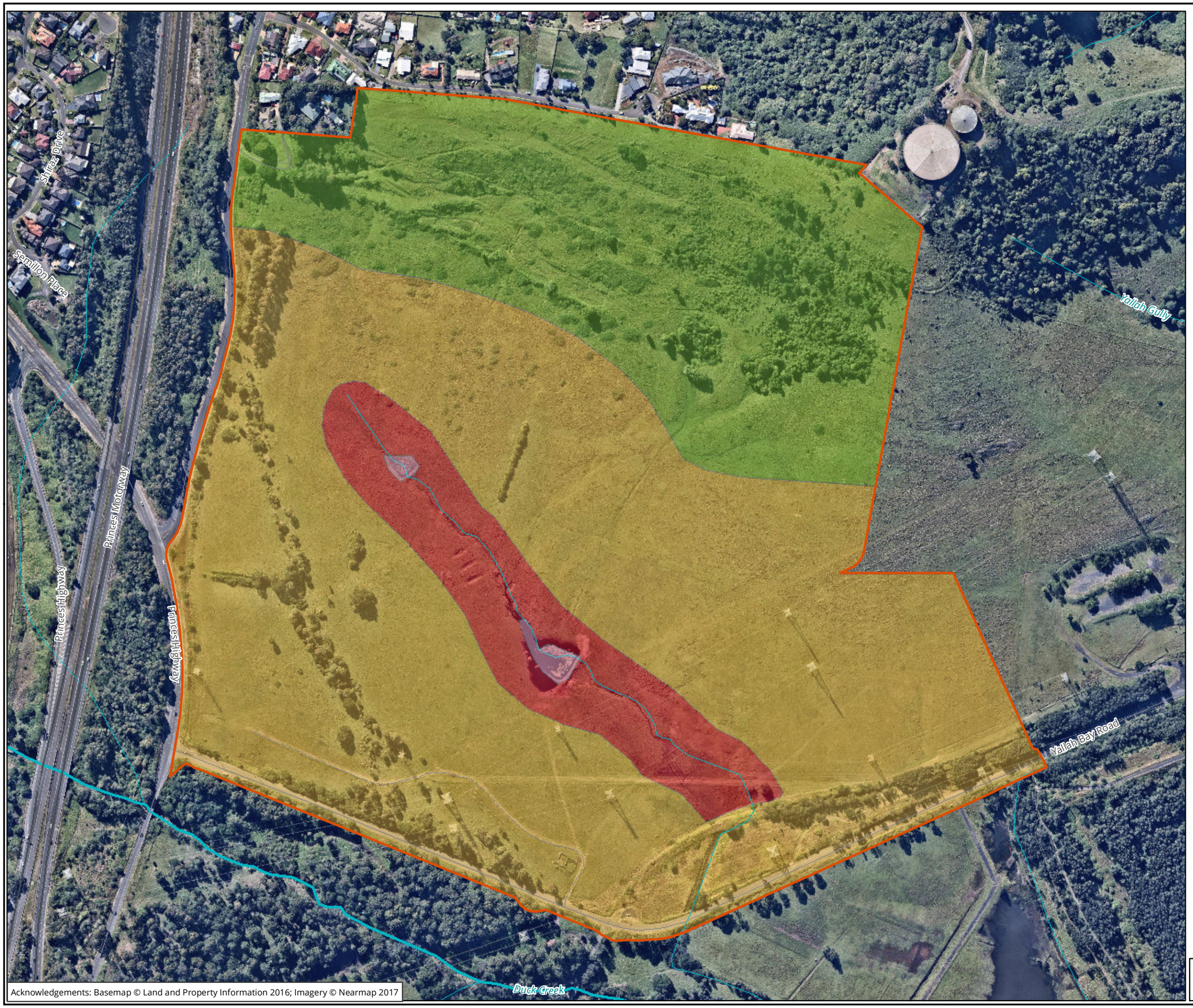

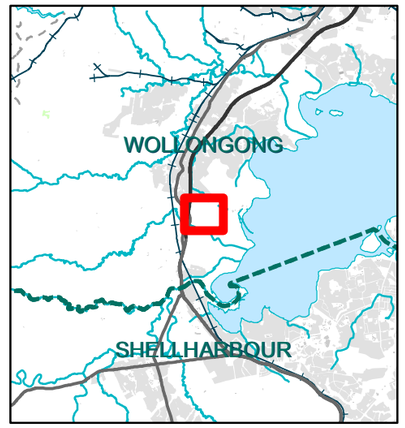

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Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 6: Areas of archaeological potential (central)

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Metres

Scale: 1:4,000 @ A3

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22 September 2017

Mr Keith Ball
43 Coruma Cresent
Flinders, NSW 2529
The Wadi Wadi Coomaditchie Aboriginal Corporation

Dear Keith

Re: Project Information and Assessment Methodology, Aboriginal Cultural Heritage Assessment: Northern and Central Precincts at Tallawarra, Yallah NSW
Our Ref: Matter 24090

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Yours sincerely,

Taryn Gooley
Consultant Archaeologist

Biosis Pty Ltd
Newcastle Resource Group

Suite 8, 27 Annie Street
Wickham NSW 2293

Phone: 02 4911 4040

ACN 006 175 097
ABN 65 006 175 097

Email: newcastle@biosis.com.au

biosis.com.au

Stage 2 – Project information

Proposed development

Concept approval for the Tallawarra Lands Mixed Use Development was granted on 23 May 2013 (MP09_0131). The concept plan consists of residential (approximately 1,010 lots, together with 200 retirement dwellings), commercial, industrial (approximately 40ha) and retail development (approximately 16ha), public open space areas, new recreational facilities, internal road network, environmental management, conservation areas and riparian corridors.

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Stage 3 - Aboriginal cultural heritage assessment methodology

The assessment process includes the following tasks:

Background Research

This task identifies known Aboriginal sites, areas of potential archaeological sensitivity and previous disturbance, and informs the predictive modelling for the assessment/study area. Biosis has undertaken the following tasks as part of the background research for this assessment:

- A search of the Aboriginal Heritage Information Management System (AHIMS) was completed to identify registered sites in the vicinity of the assessment/study area. The results of the AHIMS search has been used to obtain relevant site cards and relevant previously completed Aboriginal cultural heritage assessments.
- Review of relevant reports identified through the AHIMS search.
- Review of aerial photographs and other resources to gauge the existing landscape and previous history of land disturbance.
- Review of the historical heritage databases.
- A brief summary of the historical uses of the study areas.

The background research has identified that the proposed works has the potential to impact on the following AHIMS sites (Figure 3 and Figure 4):

- Northern Precinct
  - Boomberry Point 1 (AHIMS 52-5-0223)
  - Gilba Road 1 (AHIMS 52-5-0642)
  - Elizabeth Point (AHIMS 52-5-0225)
  - Gilba Road 2 Fill 1 (AHIMS 52-5-0643)
- Central Precinct
  - Tallawarra Pipeline PAD 3 (AHIMS 52-5-0523)
  - TLPD AFT 7 (AHIMS 52-5-0613)
  - TLPD AFT 8 (AHIMS 52-5-0614)

- TLPD AFT 9 (AHIMS 52-5-0615)

Consultation with the Aboriginal Community

This task will allow the Aboriginal community the opportunity to participate in decisions regarding the management of their cultural heritage by providing proponents information regarding cultural significance and inputting into management options.

Aboriginal community consultation will be undertaken in accordance with *the Aboriginal cultural heritage consultation requirements for proponents 2010*, which includes:

- **COMPLETED.** Biosis ascertained the names of Aboriginal people or groups who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/ or Places within the proposed study area.
- **COMPLETED.** Aboriginal stakeholders were provided with notification by letter of the proposed project on 26 June 2017 via Biosis on behalf of Cardno and given the opportunity to be involved in consultation.
- This document outlines the details of the proposed project and proposed archaeological testing methodology. The registered Aboriginal parties must be given an opportunity to review and provide feedback to the proponent within a minimum of **28 days** of Biosis providing the methodology document.
- The DRAFT Aboriginal Cultural Heritage Assessment Report (ACHAR) and Archaeological Report (AR) will be provided to all registered Aboriginal parties for comment – the proponent must allow **28 days** for comment. All comments and correspondence sent and received regarding the project will be included in the final report in an Appendix.
- Representatives of the registered Aboriginal parties will be invited to participate in any archaeological excavations which will take place within the study areas

Field Survey

A number of archaeological surveys have been undertaken within the study area over the last 10 years. An inspection of the assessment area has been undertaken as part of the current assessment in order to identify any previously unknown Aboriginal objects or places, should they be present, and to record the current condition of AHIMS sites.

Any known sites identified by the AHIMS search which are within the assessment area were inspected to determine their current condition. Registered sites in the near vicinity were visited to ensure they will not be impacted by the proposed works. Areas of potential archaeological deposit (PAD) identified by previous assessments were also be inspected.

Mapping was undertaken in ArcGIS and MapInfo Professional.

Archaeological testing

The archaeological survey and desktop assessment have identified that the proposed works have the potential to impact on eight AHIMS sites (Figure 3 and Figure 4) and areas identified as having moderate and high archaeological potential (Figure 5 and Figure 6). Biosis is therefore recommending Aboriginal archaeological test excavations be undertaken accordance with the *Code of Practice for archaeological*

investigation for Aboriginal objects in NSW (DECCW 2010) in areas of moderate and high archaeological potential should the proposed modifications to the concept approval be granted.

Aboriginal cultural heritage assessment report and archaeological report

Biosis Pty Ltd will prepare an Archaeological cultural heritage assessment report (ACHAR) and archaeological report (AR) for the proposed project. The ACHAR will document the findings of the assessment, and detail the consultation process. The AR will be included as an appendix to the ACHAR and will document the desktop assessment, archaeological survey, and test excavation results.

The main aim of the report is to document the assessment of potential development related impacts to Aboriginal cultural heritage and to formulate strategies to manage these impacts. Reporting will follow the guidelines of the OEH, in particular the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010a), the Code of Practice and the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011).

The report will contain:

- Details of the Aboriginal consultation process undertaken as part of the assessment
- A review and summary of the environmental context of the study area
- A review and summary of the Aboriginal archaeological context of the study area
- Archaeological survey results
- Aboriginal site significance assessment
- Impact assessment
- Management strategies
- Maps detailing any Aboriginal sites identified during the assessment process.
- The RAPs will be provided with the draft archaeological and cultural heritage report and their comments on report content sought.
- Comments on the report's content are to be provided to Biosis by the party's respective nominated spokesperson(s). All comments not provided in writing will be recorded in an informal logbook by Biosis.
- These comments and responses to these comments will be documented in the final ACHAR.

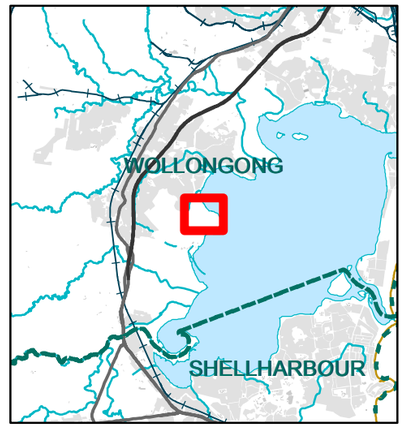
As part of this methodology registered Aboriginal parties will be provided with the draft report for comment and allowed **28 days** for review.

The final report will incorporate all comments.

References

DECCW 2010. *Aboriginal cultural heritage consultation requirements for proponents 2010.* NSW Department of Environment, Climate Change and Water, Sydney NSW

Biosis 2010. Tallawarra Lands: Part 3A concept plan Aboriginal archaeological and cultural heritage assessment. Report to TRUenergy.



Legend

Study area

Figure 1: Northern study area detail

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

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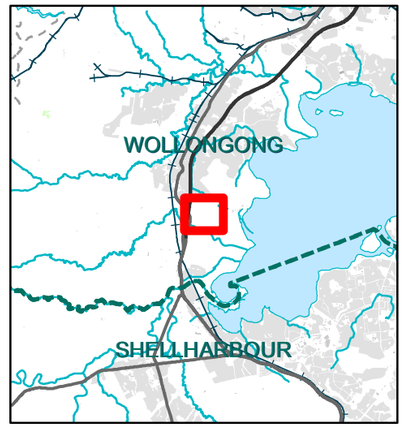
Matter: 24090
Date: 21 July 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
Location:\\bio-data-01\matters$\24000s\24090\Mapping\24090_F2_NorthernPrecinct_StudyArea

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017



Legend

Study area

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 2: Central study area detail

0 40 80 120 160 200

Metres
Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

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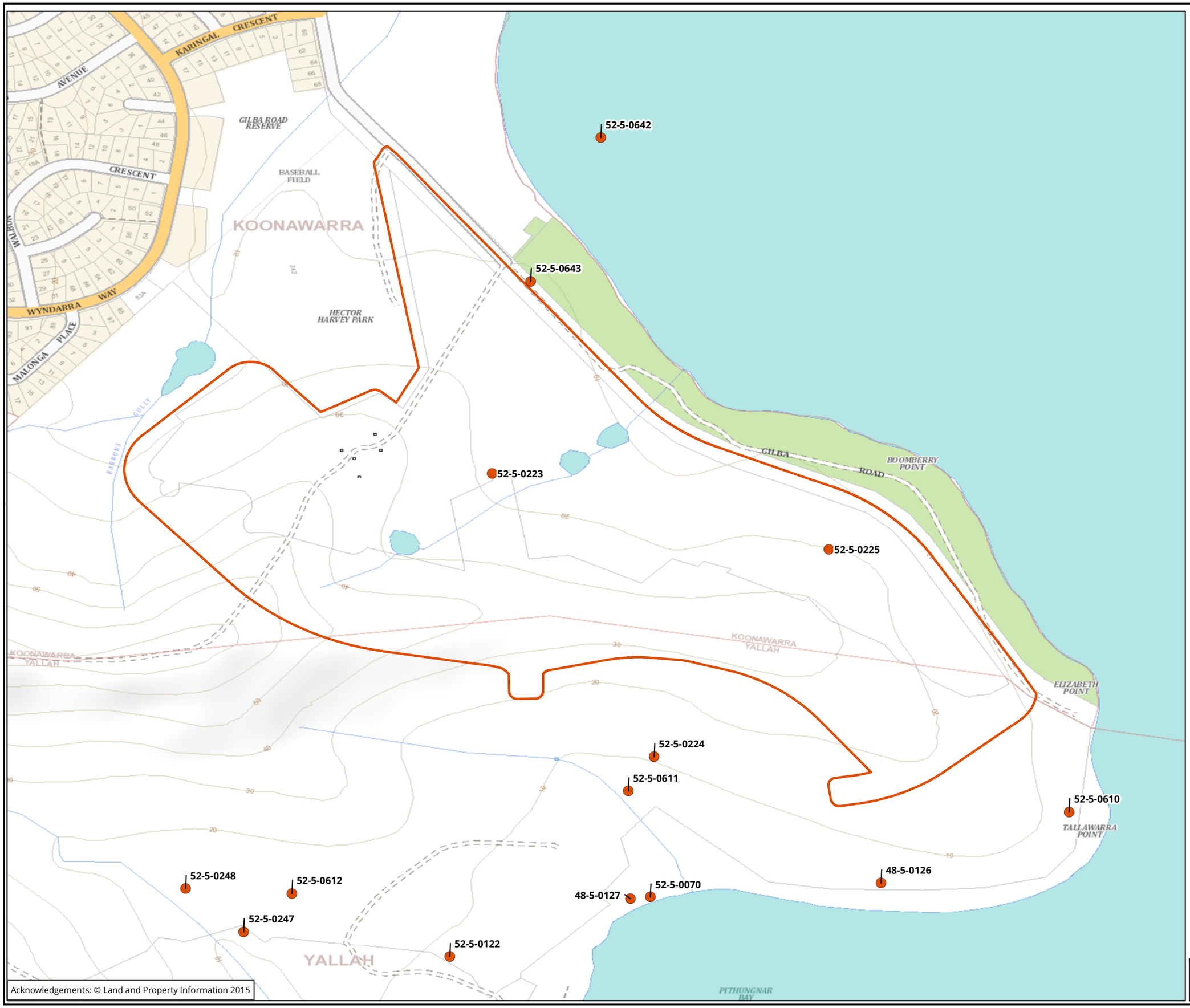

Legend

- AHIMS Records
- Study area

Figure 3: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

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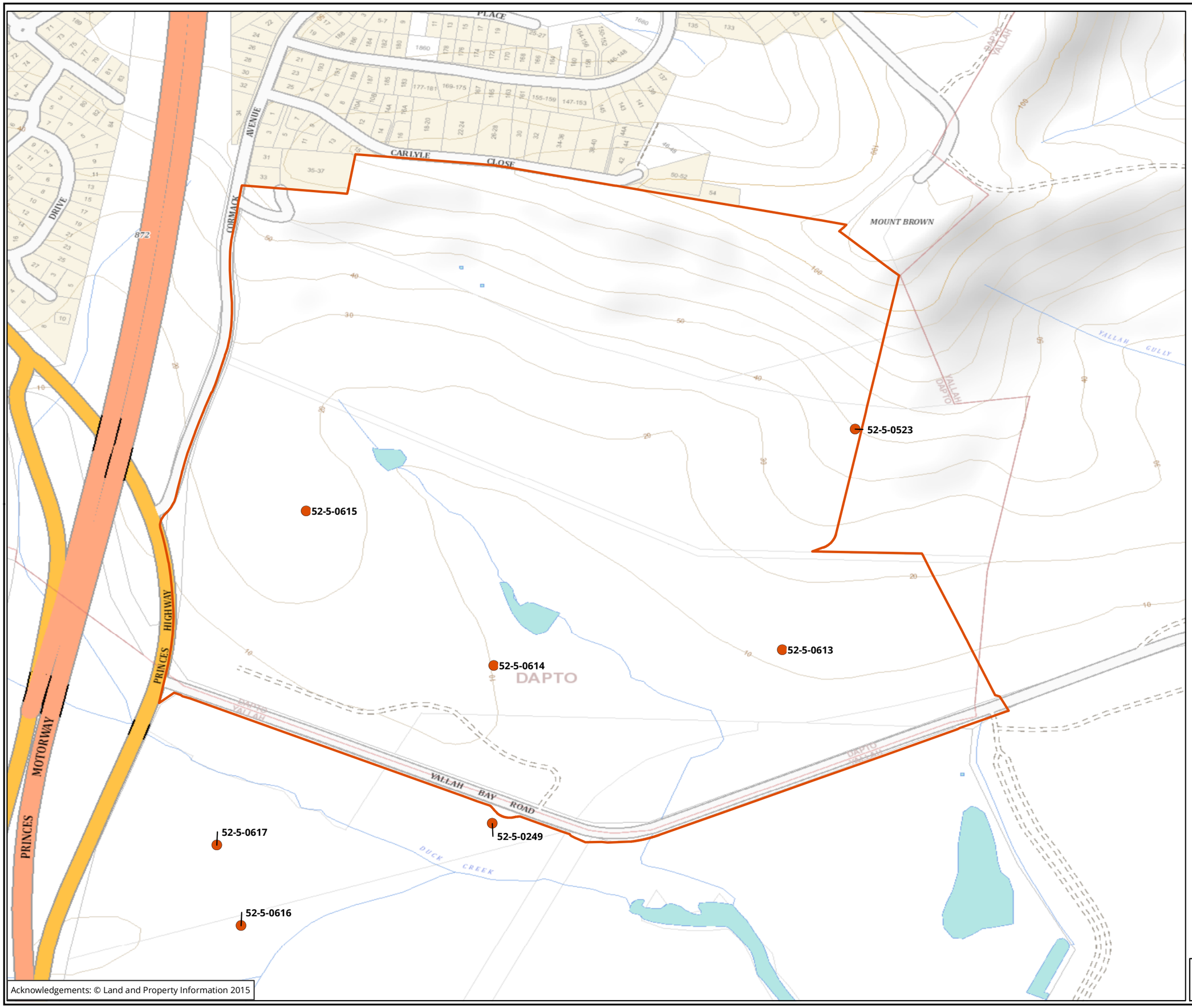
24090_AR_F8_AHIMS.mxd

Acknowledgements: © Land and Property Information 2015



Legend

- AHIMS Records
- Study area

Figure 4: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

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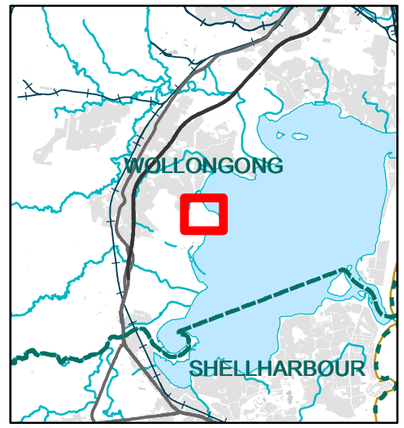

Legend

Study area

Archaeological potential

Moderate

Low

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 5: Areas of archaeological potential (northern)

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

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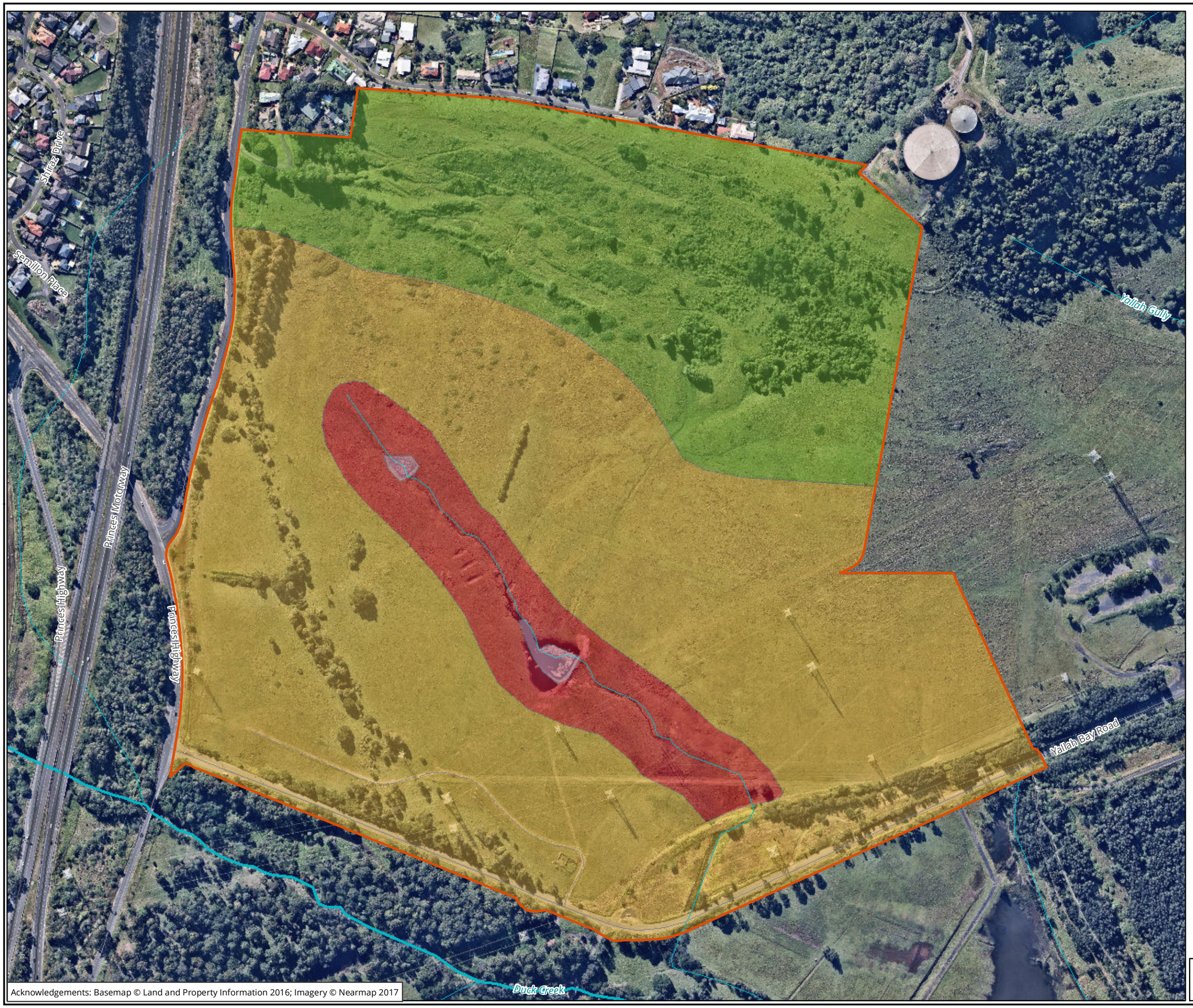

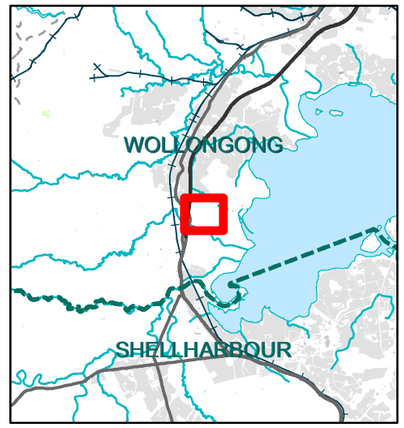

Legend

Study area

Archaeological potential

High

Moderate

Low

Figure 6: Areas of archaeological potential (central)

0 40 80 120 160 200

Metres

Scale: 1:4,000 @ A3

Coordinate System: GDA 1994 MGA Zone 56

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Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

22 September 2017

Mr Leonard Wright
40 Tuggerah Circuit
Flinders, NSW 2529
Three Ducks Dreaming Surveying and Consulting
lbjwright1977@hotmail.com
Ph: 0422 382 950

Dear Leonard

Re: Project Information and Assessment Methodology, Aboriginal Cultural Heritage Assessment: Northern and Central Precincts at Tallawarra, Yallah NSW
Our Ref: Matter 24090

The following project information and assessment methodology has been provided in accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010). The aim of this document is to provide registered Aboriginal parties (RAPs) with information about proposed project, and the proposed Aboriginal cultural heritage assessment process.

It would be appreciated if you would provide feedback on the methodology presented in this letter to Biosis by **5 pm Friday 20 October 2017** either by email, phone or return mail.

Please address feedback on the methodology to:

Taryn Gooley
Consultant Archaeologist
8 Tate Street Wollongong, NSW 2500
(02) 4201 1090
tgooley@biosis.com.au

Please do not hesitate to contact me if you require additional information or have any queries about the methodology or information provided.

Yours sincerely,

Taryn Gooley
Consultant Archaeologist

Stage 2 – Project information

Proposed development

Concept approval for the Tallawarra Lands Mixed Use Development was granted on 23 May 2013 (MP09_0131). The concept plan consists of residential (approximately 1,010 lots, together with 200 retirement dwellings), commercial, industrial (approximately 40ha) and retail development (approximately 16ha), public open space areas, new recreational facilities, internal road network, environmental management, conservation areas and riparian corridors.

Bridgehill Group have acquired some of the Tallawarra Lands in the Northern and Central Precincts from Energy Australia, and intend to develop new residential communities and a light industrial development and tourism facilities on those lands.

Bridgehill Group, intends to lodge a development application for the Northern Precinct under Part 4 of the *Environmental Planning and Assessment Act 1979;* and to modify the existing concept approval for the Northern and Central Precinct at Tallawarra, Yallah (MP 09_0131 MOD 1) under Part 3A section 75W of the *Environmental Planning and Assessment Act 1979*.

The proposed modification seeks to:

- Increase the footprint for residential development in the Central and Northern precincts; and
- Modify the overall approved residential yield from 1010 to 1480 lots.

The proposed modifications will result in reduced environmental lands between the Central and Northern precincts. Details on the proposed modification are outlined in Table 1 below.

Table 1 Proposed modification details – residential lots

Area	Approved Concept Yeild	Proposed modification
Central Precinct	350 Lots	588 Lots
Northern Precinct	310 Lots	542 Lots

Study area

The study area is located in the suburb of Yallah within the Wollongong Local Government Area and is located approximately 13 km south of Wollongong town centre. The Northern Precinct covers an area of 45.06 hectares (Figure 1), while the Central Precincts comprises two areas of 73.2 hectares and 6.497 hectares respectively (Figure 2). Table 2 and Table 3 below, detail the Lot and DP's for each precinct.

Table 2 Central precinct Lot and DP's

Lot	DP
1	551658
102	716727
15	1050255
1	1146409
1	543285
7	1049520
8	1049520

Table 3 Northern precinct Lot and DP's

Lot	DP
30	1175058
31	1175058

Previous Archaeological Assessment

Biosis prepared an Aboriginal Archaeological Assessment report for the Tallawarra Lands Part 3A Concept Plan Application in 2010. Aboriginal Community consultation was undertaken for this assessment in accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DECC NSW 2005) for projects being assessed under Part 3A of the EP&A Act. Nine Aboriginal stakeholders registered an interest in the project, each group was invited to participate in the sub-surface archaeological investigations, consultation meetings and development of management and mitigation measures for this project.

The assessment involved subsurface investigations of a number of Potential Archaeological Deposit (PAD) locations and sensitive landforms within the Tallawarra Lands. A 'gap analysis' was undertaken to ensure that all information relevant to Tallawarra Lands was captured. This included searches of relevant heritage registers and databases, along with a review of the environmental context, regional archaeological patterning based on previous studies, and predictive modelling to confirm placement of proposed test pits to be excavated during the sub-surface investigations.

The predictive modelling suggested that there is high potential for additional shell middens, stone artefact scatters and or isolated finds to be identified within the Tallawarra Lands. Where previous land use has resulted in high levels of disturbance, archaeological sites will have low integrity. The archaeological sub-surface investigations undertaken resulted in the in the identification of eight new Aboriginal archaeological

sites across the Tallawarra Lands including four isolated artefacts and four campsites. Areas of high, moderate, low, and no areas of archaeological potential have been defined across the Tallawarra Lands.

The majority of the Northern Precinct was assessed as having moderate archaeological potential with small areas of low archaeological potential also being identified. The Central Precinct was identified as having areas of high, moderate and low archaeological potential.

The Biosis (2010) assessment recommended further archaeological assessment such as test excavations and recording be undertaken in areas of moderate and high archaeological potential if impacts on those areas cannot be avoided. Areas of low or no archaeological potential and areas of high disturbance do not require any further archaeological investigations.

Stage 3 - Aboriginal cultural heritage assessment methodology

The assessment process includes the following tasks:

Background Research

This task identifies known Aboriginal sites, areas of potential archaeological sensitivity and previous disturbance, and informs the predictive modelling for the assessment/study area. Biosis has undertaken the following tasks as part of the background research for this assessment:

- A search of the Aboriginal Heritage Information Management System (AHIMS) was completed to identify registered sites in the vicinity of the assessment/study area. The results of the AHIMS search has been used to obtain relevant site cards and relevant previously completed Aboriginal cultural heritage assessments.
- Review of relevant reports identified through the AHIMS search.
- Review of aerial photographs and other resources to gauge the existing landscape and previous history of land disturbance.
- Review of the historical heritage databases.
- A brief summary of the historical uses of the study areas.

The background research has identified that the proposed works has the potential to impact on the following AHIMS sites (Figure 3 and Figure 4):

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  - Boomberry Point 1 (AHIMS 52-5-0223)
  - Gilba Road 1 (AHIMS 52-5-0642)
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This task will allow the Aboriginal community the opportunity to participate in decisions regarding the management of their cultural heritage by providing proponents information regarding cultural significance and inputting into management options.

Aboriginal community consultation will be undertaken in accordance with *the Aboriginal cultural heritage consultation requirements for proponents 2010*, which includes:

- **COMPLETED.** Biosis ascertained the names of Aboriginal people or groups who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/ or Places within the proposed study area.
- **COMPLETED.** Aboriginal stakeholders were provided with notification by letter of the proposed project on 26 June 2017 via Biosis on behalf of Cardno and given the opportunity to be involved in consultation.
- This document outlines the details of the proposed project and proposed archaeological testing methodology. The registered Aboriginal parties must be given an opportunity to review and provide feedback to the proponent within a minimum of **28 days** of Biosis providing the methodology document.
- The DRAFT Aboriginal Cultural Heritage Assessment Report (ACHAR) and Archaeological Report (AR) will be provided to all registered Aboriginal parties for comment – the proponent must allow **28 days** for comment. All comments and correspondence sent and received regarding the project will be included in the final report in an Appendix.
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Field Survey

A number of archaeological surveys have been undertaken within the study area over the last 10 years. An inspection of the assessment area has been undertaken as part of the current assessment in order to identify any previously unknown Aboriginal objects or places, should they be present, and to record the current condition of AHIMS sites.

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Mapping was undertaken in ArcGIS and MapInfo Professional.

Archaeological testing

The archaeological survey and desktop assessment have identified that the proposed works have the potential to impact on eight AHIMS sites (Figure 3 and Figure 4) and areas identified as having moderate and high archaeological potential (Figure 5 and Figure 6). Biosis is therefore recommending Aboriginal archaeological test excavations be undertaken accordance with the *Code of Practice for archaeological*

investigation for Aboriginal objects in NSW (DECCW 2010) in areas of moderate and high archaeological potential should the proposed modifications to the concept approval be granted.

Aboriginal cultural heritage assessment report and archaeological report

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- Management strategies
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As part of this methodology registered Aboriginal parties will be provided with the draft report for comment and allowed **28 days** for review.

The final report will incorporate all comments.

References

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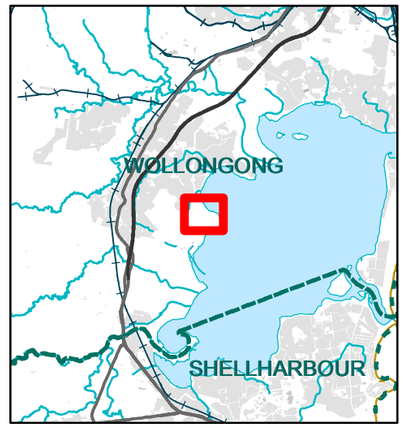
Biosis 2010. Tallawarra Lands: Part 3A concept plan Aboriginal archaeological and cultural heritage assessment. Report to TRUenergy.



Legend

Study area

Figure 1: Northern study area detail

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

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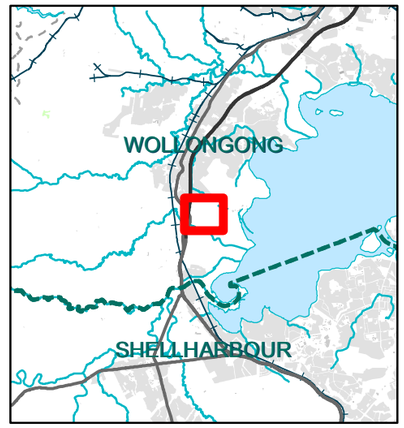
Ballarat, Brisbane, Canberra, Melbourne, Newcastle, Sydney, Wangaratta & Wollongong

Matter: 24090
Date: 21 July 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
Location:\\bio-data-01\matters$\24000s\24090\Mapping\24090_F2_NorthernPrecinct_StudyArea

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017



Legend

Study area

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 2: Central study area detail

0 40 80 120 160 200

Metres
Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

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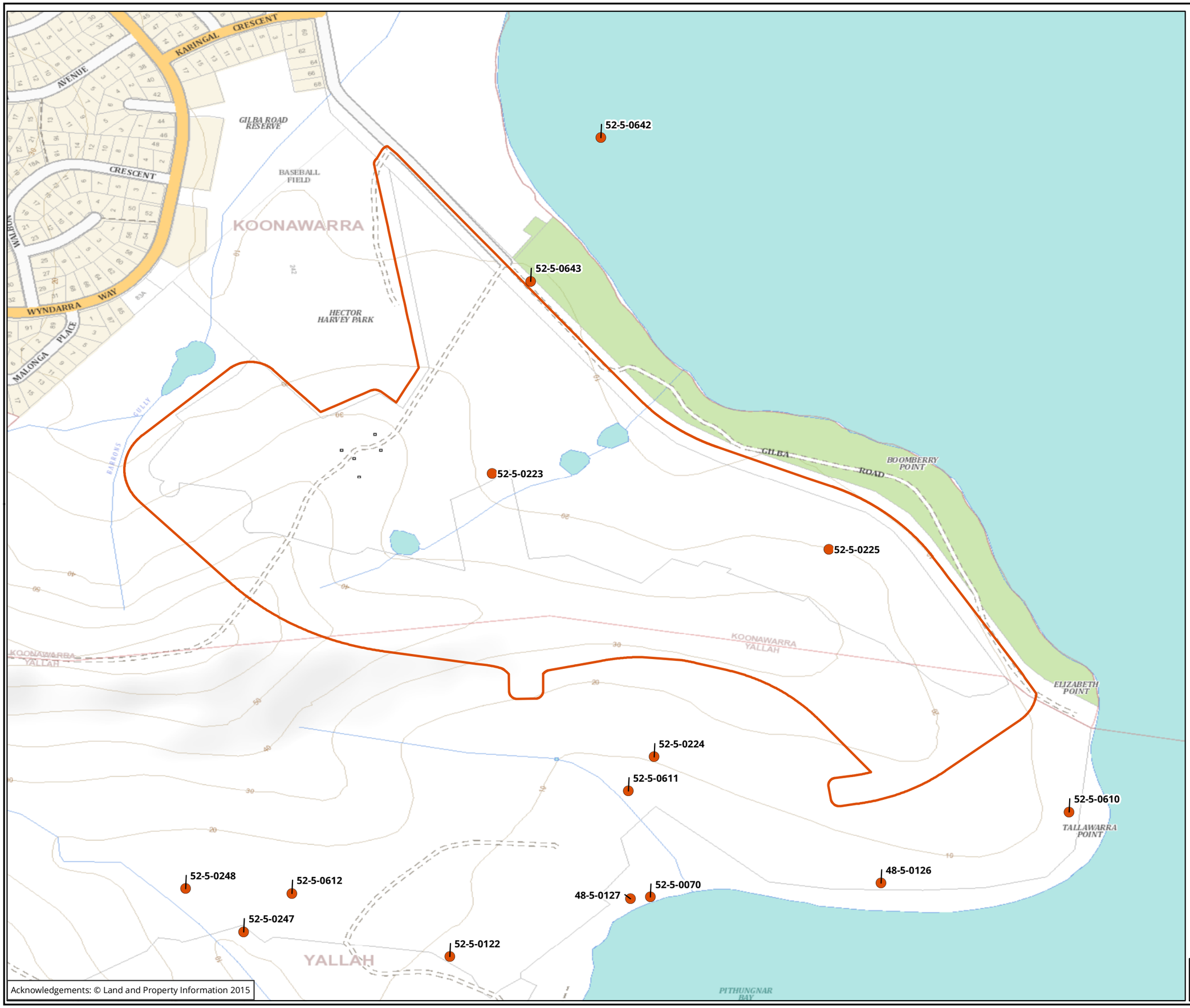

Legend

- AHIMS Records
- Study area

Figure 3: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

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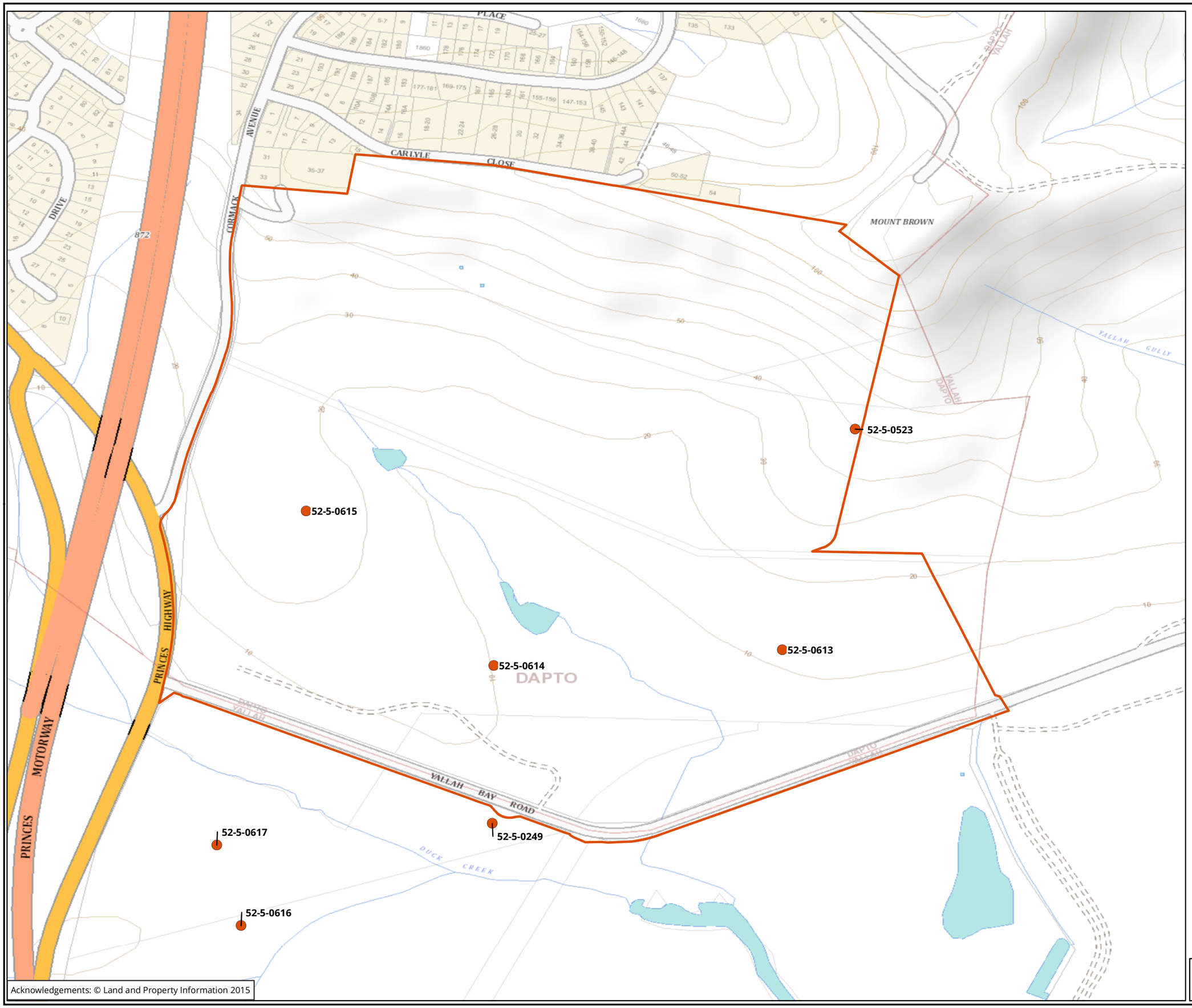

Legend

- AHIMS Records
- Study area

Figure 4: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

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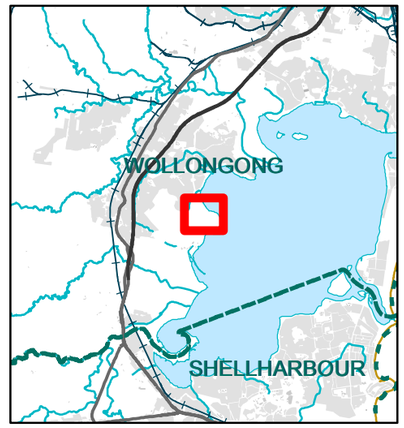

Legend

Study area

Archaeological potential

Moderate

Low

Figure 5: Areas of archaeological potential (northern)

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

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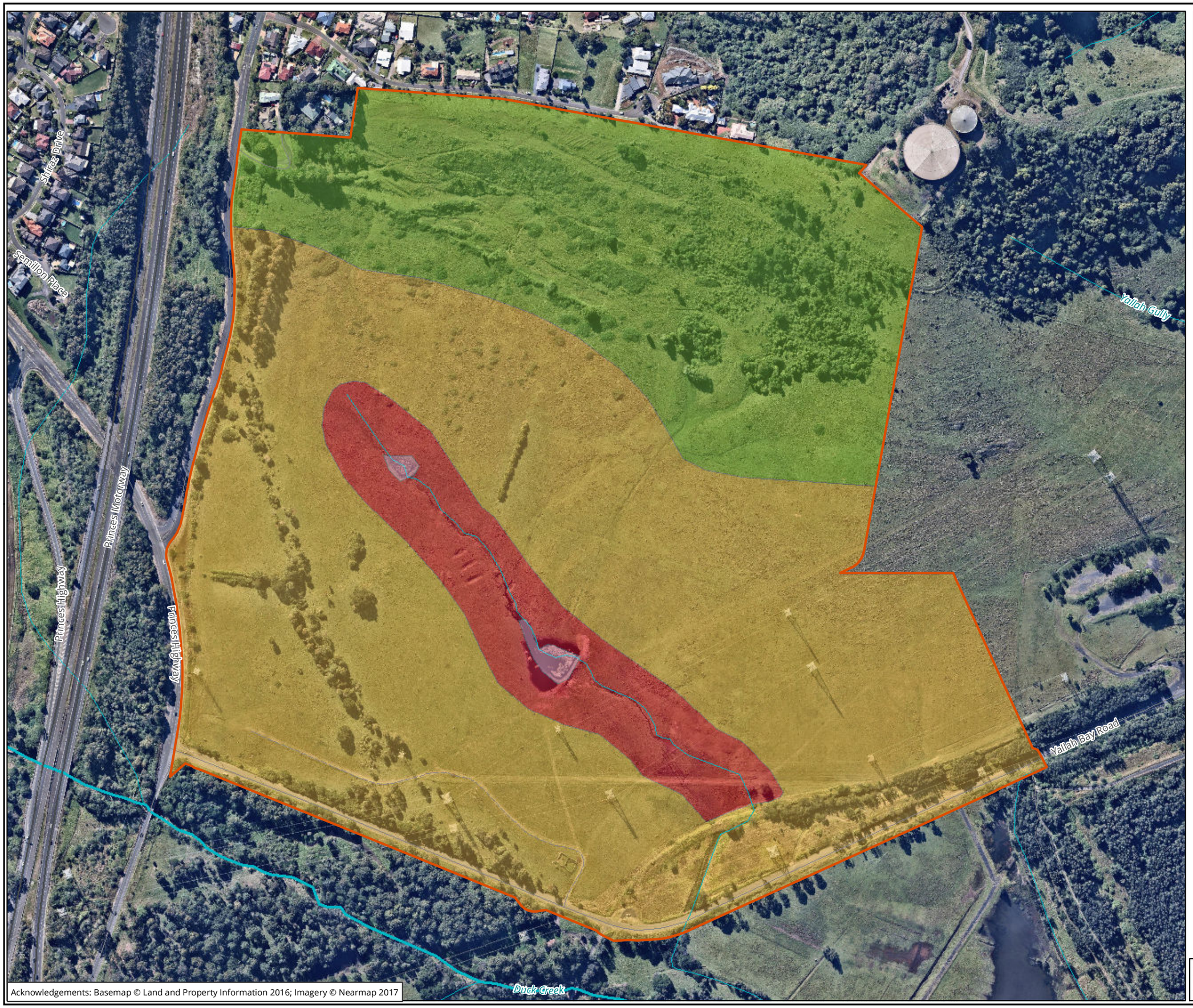

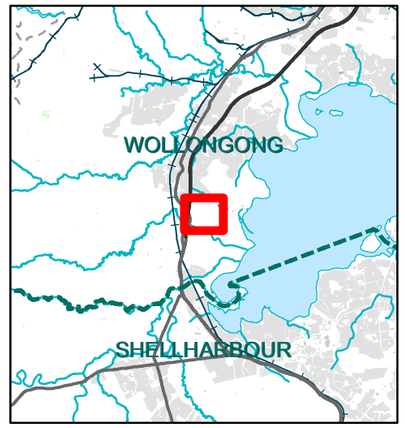

Legend

Study area

Archaeological potential

High

Moderate

Low

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 6: Areas of archaeological potential (central)

0 40 80 120 160 200

Metres

Scale: 1:4,000 @ A3

Coordinate System: GDA 1994 MGA Zone 56

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Ballarat, Brisbane, Canberra, Melbourne, Newcastle, Sydney, Wangaratta & Wollongong

Matter: 24090
Date: 21 July 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
Location:\\bio-data-01\matters$\24000s\24090\Mapping\24090_F10_CentralPrecinct_ArchPotent

22 September 2017

Mr Nathanial Kennedy
45 Rosemont Street
West Wollongong, NSW 2500
Warra Bingi Nunda Gurri Indigenous Sites Conservation
warrabingi@gmail.com
Ph: 0406924258

Dear Nathanial

Re: Project Information and Assessment Methodology, Aboriginal Cultural Heritage Assessment: Northern and Central Precincts at Tallawarra, Yallah NSW
Our Ref: Matter 24090

The following project information and assessment methodology has been provided in accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010). The aim of this document is to provide registered Aboriginal parties (RAPs) with information about proposed project, and the proposed Aboriginal cultural heritage assessment process.

It would be appreciated if you would provide feedback on the methodology presented in this letter to Biosis by **5 pm Friday 20 October 2017** either by email, phone or return mail.

Please address feedback on the methodology to:

Taryn Gooley
Consultant Archaeologist
8 Tate Street Wollongong, NSW 2500
(02) 4201 1090
tgooley@biosis.com.au

Please do not hesitate to contact me if you require additional information or have any queries about the methodology or information provided.

Yours sincerely,

Taryn Gooley
Consultant Archaeologist

Stage 2 – Project information

Proposed development

Concept approval for the Tallawarra Lands Mixed Use Development was granted on 23 May 2013 (MP09_0131). The concept plan consists of residential (approximately 1,010 lots, together with 200 retirement dwellings), commercial, industrial (approximately 40ha) and retail development (approximately 16ha), public open space areas, new recreational facilities, internal road network, environmental management, conservation areas and riparian corridors.

Bridgehill Group have acquired some of the Tallawarra Lands in the Northern and Central Precincts from Energy Australia, and intend to develop new residential communities and a light industrial development and tourism facilities on those lands.

Bridgehill Group, intends to lodge a development application for the Northern Precinct under Part 4 of the *Environmental Planning and Assessment Act 1979;* and to modify the existing concept approval for the Northern and Central Precinct at Tallawarra, Yallah (MP 09_0131 MOD 1) under Part 3A section 75W of the *Environmental Planning and Assessment Act 1979*.

The proposed modification seeks to:

- Increase the footprint for residential development in the Central and Northern precincts; and
- Modify the overall approved residential yield from 1010 to 1480 lots.

The proposed modifications will result in reduced environmental lands between the Central and Northern precincts. Details on the proposed modification are outlined in Table 1 below.

Table 1 Proposed modification details – residential lots

Area	Approved Concept Yeild	Proposed modification
Central Precinct	350 Lots	588 Lots
Northern Precinct	310 Lots	542 Lots

Study area

The study area is located in the suburb of Yallah within the Wollongong Local Government Area and is located approximately 13 km south of Wollongong town centre. The Northern Precinct covers an area of 45.06 hectares (Figure 1), while the Central Precincts comprises two areas of 73.2 hectares and 6.497 hectares respectively (Figure 2). Table 2 and Table 3 below, detail the Lot and DP's for each precinct.

Table 2 Central precinct Lot and DP's

Lot	DP
1	551658
102	716727
15	1050255
1	1146409
1	543285
7	1049520
8	1049520

Table 3 Northern precinct Lot and DP's

Lot	DP
30	1175058
31	1175058

Previous Archaeological Assessment

Biosis prepared an Aboriginal Archaeological Assessment report for the Tallawarra Lands Part 3A Concept Plan Application in 2010. Aboriginal Community consultation was undertaken for this assessment in accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DECC NSW 2005) for projects being assessed under Part 3A of the EP&A Act. Nine Aboriginal stakeholders registered an interest in the project, each group was invited to participate in the sub-surface archaeological investigations, consultation meetings and development of management and mitigation measures for this project.

The assessment involved subsurface investigations of a number of Potential Archaeological Deposit (PAD) locations and sensitive landforms within the Tallawarra Lands. A 'gap analysis' was undertaken to ensure that all information relevant to Tallawarra Lands was captured. This included searches of relevant heritage registers and databases, along with a review of the environmental context, regional archaeological patterning based on previous studies, and predictive modelling to confirm placement of proposed test pits to be excavated during the sub-surface investigations.

The predictive modelling suggested that there is high potential for additional shell middens, stone artefact scatters and or isolated finds to be identified within the Tallawarra Lands. Where previous land use has resulted in high levels of disturbance, archaeological sites will have low integrity. The archaeological sub-surface investigations undertaken resulted in the in the identification of eight new Aboriginal archaeological

sites across the Tallawarra Lands including four isolated artefacts and four campsites. Areas of high, moderate, low, and no areas of archaeological potential have been defined across the Tallawarra Lands.

The majority of the Northern Precinct was assessed as having moderate archaeological potential with small areas of low archaeological potential also being identified. The Central Precinct was identified as having areas of high, moderate and low archaeological potential.

The Biosis (2010) assessment recommended further archaeological assessment such as test excavations and recording be undertaken in areas of moderate and high archaeological potential if impacts on those areas cannot be avoided. Areas of low or no archaeological potential and areas of high disturbance do not require any further archaeological investigations.

Stage 3 - Aboriginal cultural heritage assessment methodology

The assessment process includes the following tasks:

Background Research

This task identifies known Aboriginal sites, areas of potential archaeological sensitivity and previous disturbance, and informs the predictive modelling for the assessment/study area. Biosis has undertaken the following tasks as part of the background research for this assessment:

- A search of the Aboriginal Heritage Information Management System (AHIMS) was completed to identify registered sites in the vicinity of the assessment/study area. The results of the AHIMS search has been used to obtain relevant site cards and relevant previously completed Aboriginal cultural heritage assessments.
- Review of relevant reports identified through the AHIMS search.
- Review of aerial photographs and other resources to gauge the existing landscape and previous history of land disturbance.
- Review of the historical heritage databases.
- A brief summary of the historical uses of the study areas.

The background research has identified that the proposed works has the potential to impact on the following AHIMS sites (Figure 3 and Figure 4):

- Northern Precinct
  - Boomberry Point 1 (AHIMS 52-5-0223)
  - Gilba Road 1 (AHIMS 52-5-0642)
  - Elizabeth Point (AHIMS 52-5-0225)
  - Gilba Road 2 Fill 1 (AHIMS 52-5-0643)
- Central Precinct
  - Tallawarra Pipeline PAD 3 (AHIMS 52-5-0523)
  - TLPD AFT 7 (AHIMS 52-5-0613)
  - TLPD AFT 8 (AHIMS 52-5-0614)

- TLPD AFT 9 (AHIMS 52-5-0615)

Consultation with the Aboriginal Community

This task will allow the Aboriginal community the opportunity to participate in decisions regarding the management of their cultural heritage by providing proponents information regarding cultural significance and inputting into management options.

Aboriginal community consultation will be undertaken in accordance with *the Aboriginal cultural heritage consultation requirements for proponents 2010*, which includes:

- **COMPLETED.** Biosis ascertained the names of Aboriginal people or groups who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/ or Places within the proposed study area.
- **COMPLETED.** Aboriginal stakeholders were provided with notification by letter of the proposed project on 26 June 2017 via Biosis on behalf of Cardno and given the opportunity to be involved in consultation.
- This document outlines the details of the proposed project and proposed archaeological testing methodology. The registered Aboriginal parties must be given an opportunity to review and provide feedback to the proponent within a minimum of **28 days** of Biosis providing the methodology document.
- The DRAFT Aboriginal Cultural Heritage Assessment Report (ACHAR) and Archaeological Report (AR) will be provided to all registered Aboriginal parties for comment – the proponent must allow **28 days** for comment. All comments and correspondence sent and received regarding the project will be included in the final report in an Appendix.
- Representatives of the registered Aboriginal parties will be invited to participate in any archaeological excavations which will take place within the study areas

Field Survey

A number of archaeological surveys have been undertaken within the study area over the last 10 years. An inspection of the assessment area has been undertaken as part of the current assessment in order to identify any previously unknown Aboriginal objects or places, should they be present, and to record the current condition of AHIMS sites.

Any known sites identified by the AHIMS search which are within the assessment area were inspected to determine their current condition. Registered sites in the near vicinity were visited to ensure they will not be impacted by the proposed works. Areas of potential archaeological deposit (PAD) identified by previous assessments were also be inspected.

Mapping was undertaken in ArcGIS and MapInfo Professional.

Archaeological testing

The archaeological survey and desktop assessment have identified that the proposed works have the potential to impact on eight AHIMS sites (Figure 3 and Figure 4) and areas identified as having moderate and high archaeological potential (Figure 5 and Figure 6). Biosis is therefore recommending Aboriginal archaeological test excavations be undertaken accordance with the *Code of Practice for archaeological*

investigation for Aboriginal objects in NSW (DECCW 2010) in areas of moderate and high archaeological potential should the proposed modifications to the concept approval be granted.

Aboriginal cultural heritage assessment report and archaeological report

Biosis Pty Ltd will prepare an Archaeological cultural heritage assessment report (ACHAR) and archaeological report (AR) for the proposed project. The ACHAR will document the findings of the assessment, and detail the consultation process. The AR will be included as an appendix to the ACHAR and will document the desktop assessment, archaeological survey, and test excavation results.

The main aim of the report is to document the assessment of potential development related impacts to Aboriginal cultural heritage and to formulate strategies to manage these impacts. Reporting will follow the guidelines of the OEH, in particular the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010a), the Code of Practice and the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011).

The report will contain:

- Details of the Aboriginal consultation process undertaken as part of the assessment
- A review and summary of the environmental context of the study area
- A review and summary of the Aboriginal archaeological context of the study area
- Archaeological survey results
- Aboriginal site significance assessment
- Impact assessment
- Management strategies
- Maps detailing any Aboriginal sites identified during the assessment process.
- The RAPs will be provided with the draft archaeological and cultural heritage report and their comments on report content sought.
- Comments on the report's content are to be provided to Biosis by the party's respective nominated spokesperson(s). All comments not provided in writing will be recorded in an informal logbook by Biosis.
- These comments and responses to these comments will be documented in the final ACHAR.

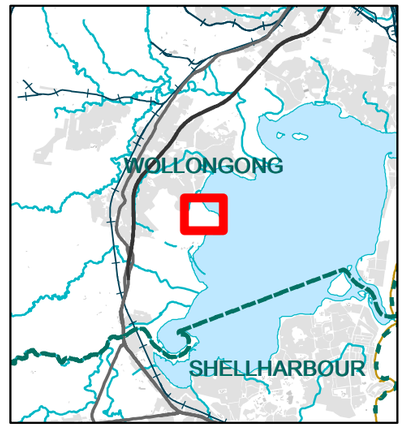
As part of this methodology registered Aboriginal parties will be provided with the draft report for comment and allowed **28 days** for review.

The final report will incorporate all comments.

References

DECCW 2010. *Aboriginal cultural heritage consultation requirements for proponents 2010.* NSW Department of Environment, Climate Change and Water, Sydney NSW

Biosis 2010. Tallawarra Lands: Part 3A concept plan Aboriginal archaeological and cultural heritage assessment. Report to TRUenergy.



Legend

Study area

Figure 1: Northern study area detail

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

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Date: 21 July 2017,
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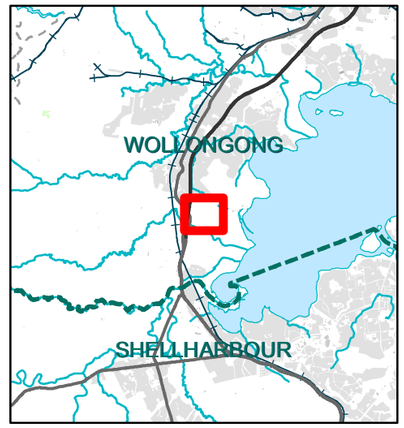
Location:\\bio-data-01\matters$\24000s\24090\Mapping\24090_F2_NorthernPrecinct_StudyArea

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017



Legend

Study area

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 2: Central study area detail

0 40 80 120 160 200

Metres
Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

biosis

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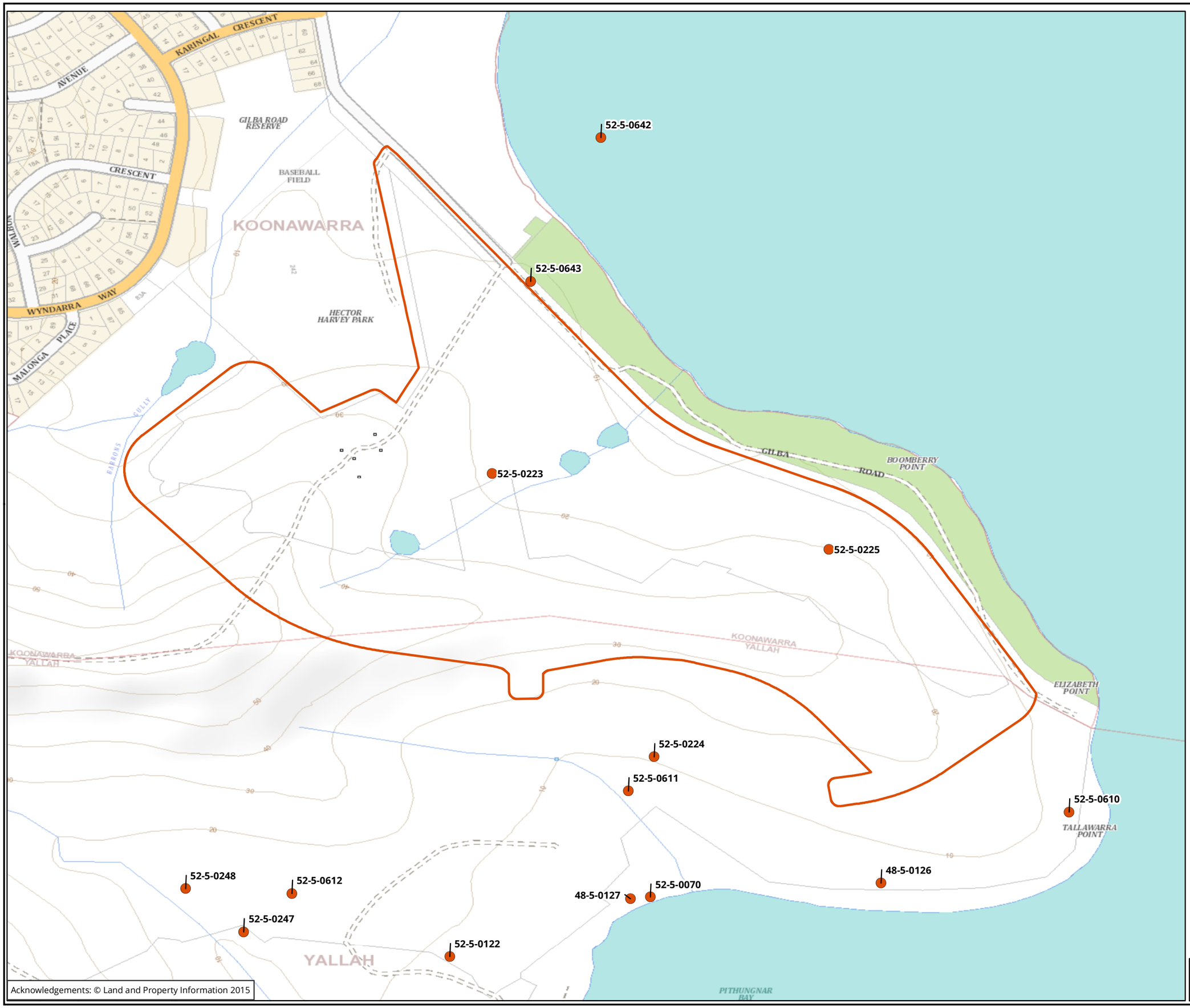

Legend

- AHIMS Records
- Study area

Figure 3: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

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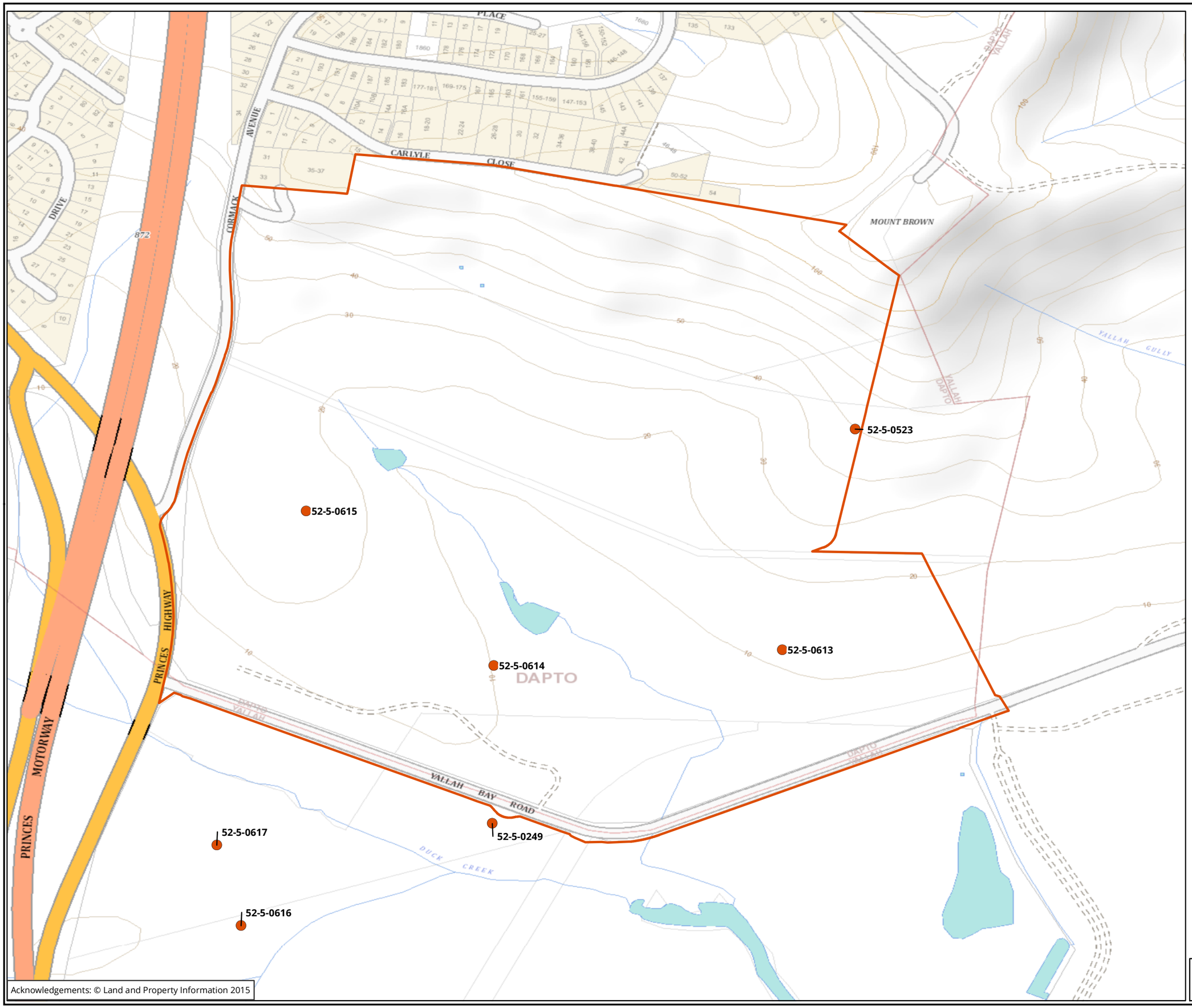

Legend

- AHIMS Records
- Study area

Figure 4: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

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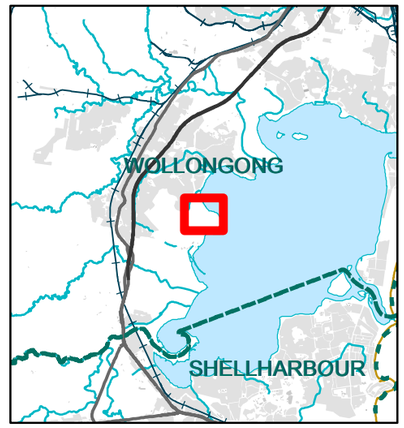
24090_AR_F8_AHIMS.mxd

Acknowledgements: © Land and Property Information 2015



Legend

Study area

Archaeological potential

Moderate

Low

Figure 5: Areas of archaeological potential (northern)

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

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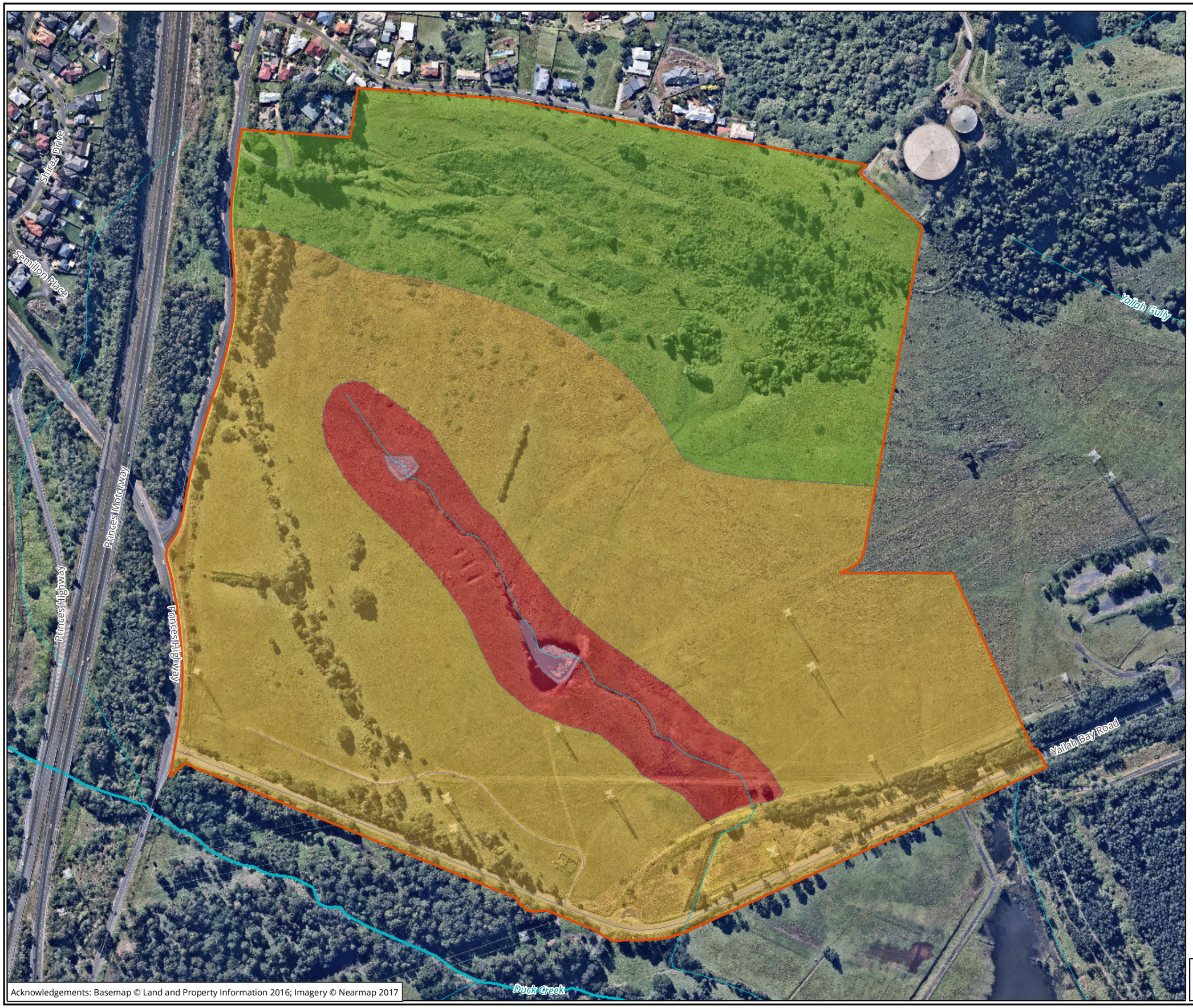

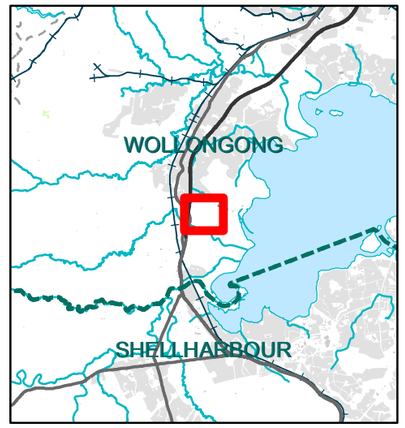

Legend

Study area

Archaeological potential

High

Moderate

Low

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 6: Areas of archaeological potential (central)

0 40 80 120 160 200

Metres

Scale: 1:4,000 @ A3

Coordinate System: GDA 1994 MGA Zone 56

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22 September 2017

Ms Kayla Williamson
11 Garnett Grove
Flinders, NSW 2529
Woronora Plateau Gundangara Elders Council
Kayla_87_@hotmail.com
Ph: 0414438744

Dear Kayla

Re: Project Information and Assessment Methodology, Aboriginal Cultural Heritage Assessment: Northern and Central Precincts at Tallawarra, Yallah NSW
Our Ref: Matter 24090

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Stage 2 – Project information

Proposed development

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Stage 3 - Aboriginal cultural heritage assessment methodology

The assessment process includes the following tasks:

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investigation for Aboriginal objects in NSW (DECCW 2010) in areas of moderate and high archaeological potential should the proposed modifications to the concept approval be granted.

Aboriginal cultural heritage assessment report and archaeological report

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The report will contain:

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- These comments and responses to these comments will be documented in the final ACHAR.

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The final report will incorporate all comments.

References

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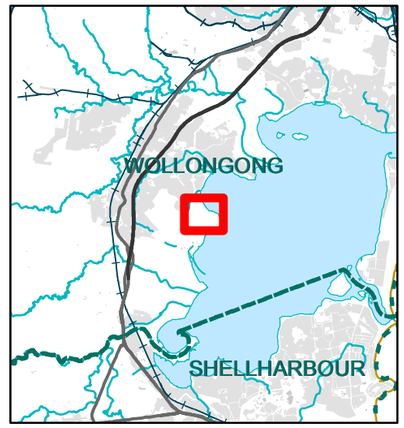

Legend

Study area

Figure 1: Northern study area detail

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne, Newcastle, Sydney, Wangaratta & Wollongong

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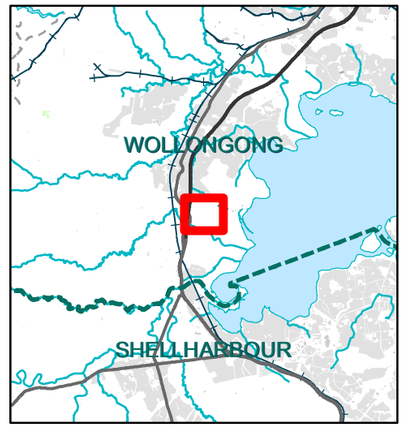

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Study area

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Figure 2: Central study area detail

0 40 80 120 160 200

Metres
Scale: 1:4,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

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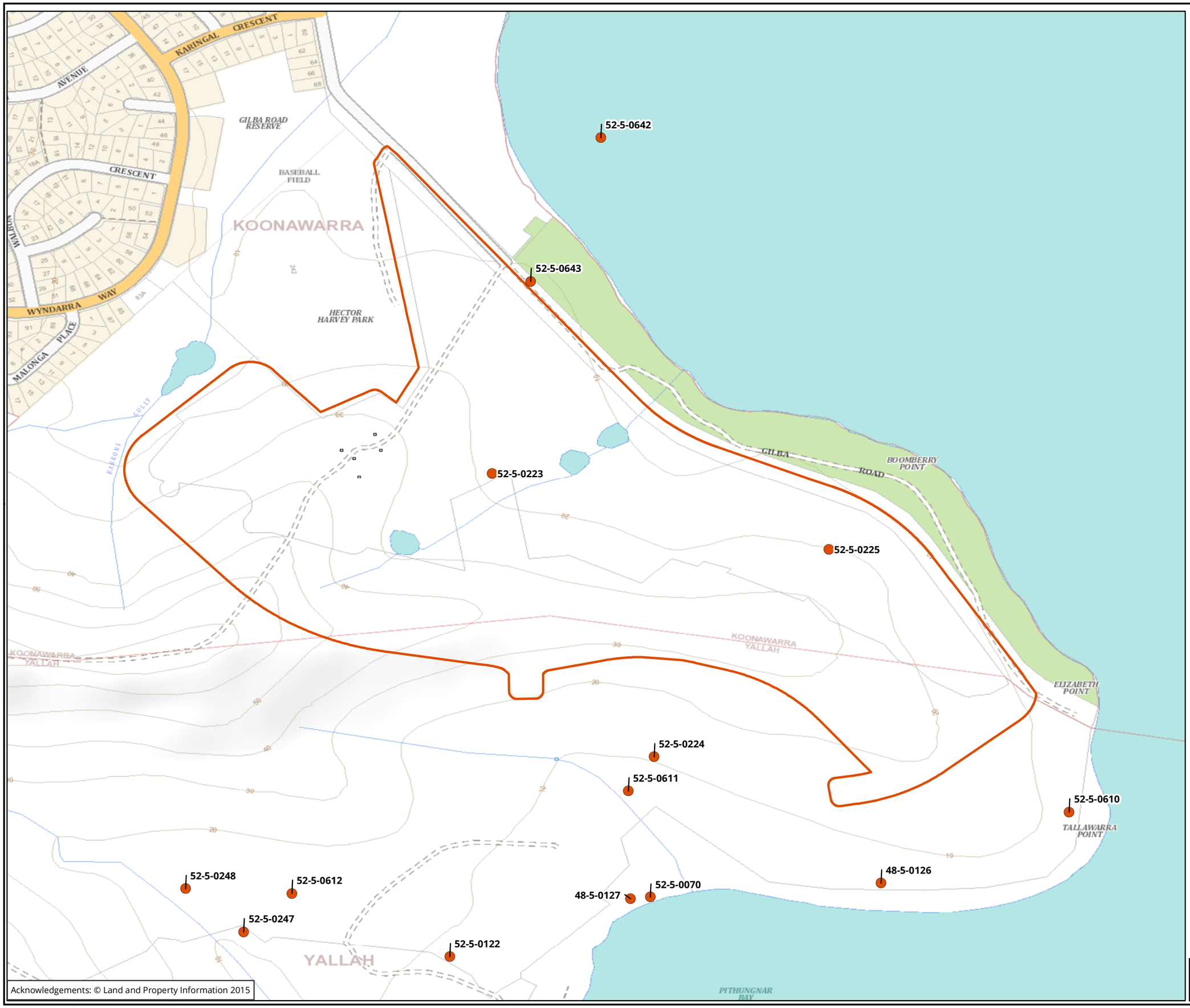
Ballarat, Brisbane, Canberra, Melbourne, Newcastle, Sydney, Wangaratta & Wollongong

Matter: 24090
Date: 12 July 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
Location:\\bio-data-01\matters$\24000s\24090\Mapping\24090_F2_CentralPrecinct_StudyArea



Legend

- AHIMS Records
- Study area

Figure 3: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

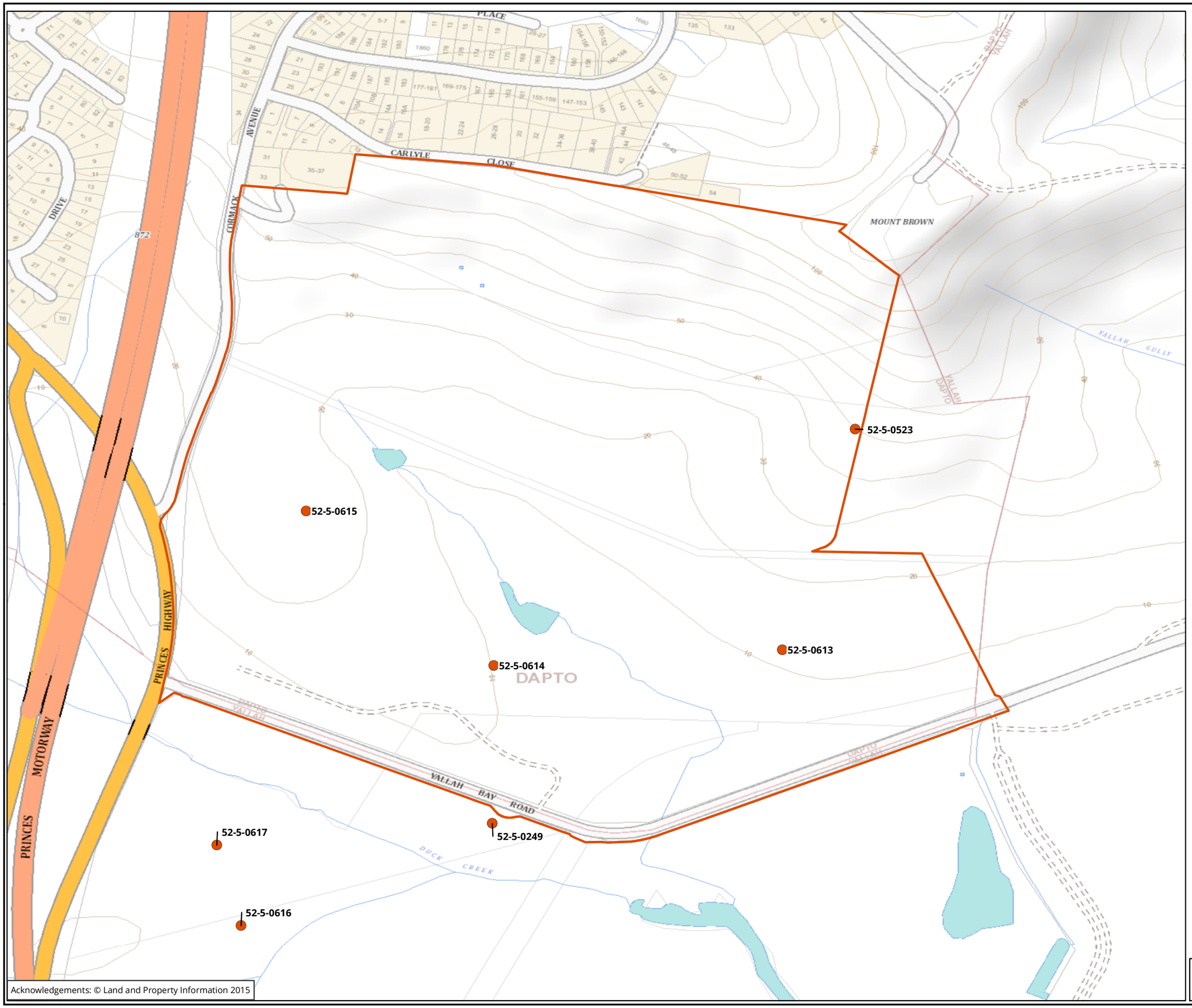
Coordinate System: GCS GDA 1994

N

Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne, Sydney,Wangaratta & Wollongong

Matter:
Date: 22 August 2017,
Checked by: lharley, Generated by: lharley
Location:P:\24000s\24090\Mapping
24090_AR_F8_AHIMS.mxd



Legend

- AHIMS Records
- Study area

Figure 4: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

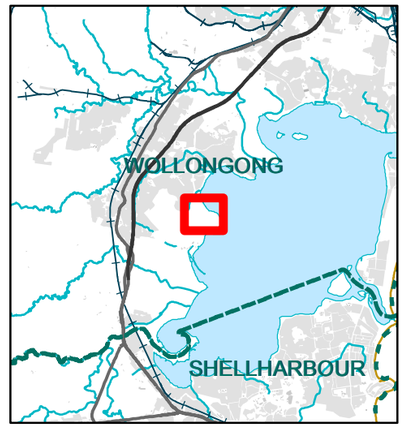
Coordinate System: GCS GDA 1994

Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne, Sydney,Wangaratta & Wollongong

Matter:
Date: 22 August 2017,
Checked by: lharley, Generated by: lharley
Location:P:\24000s\24090\Mapping
24090_AR_F8_AHIMS.mxd

Acknowledgements: © Land and Property Information 2015



Legend

Study area

Archaeological potential

Moderate

Low

Figure 5: Areas of archaeological potential (northern)

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

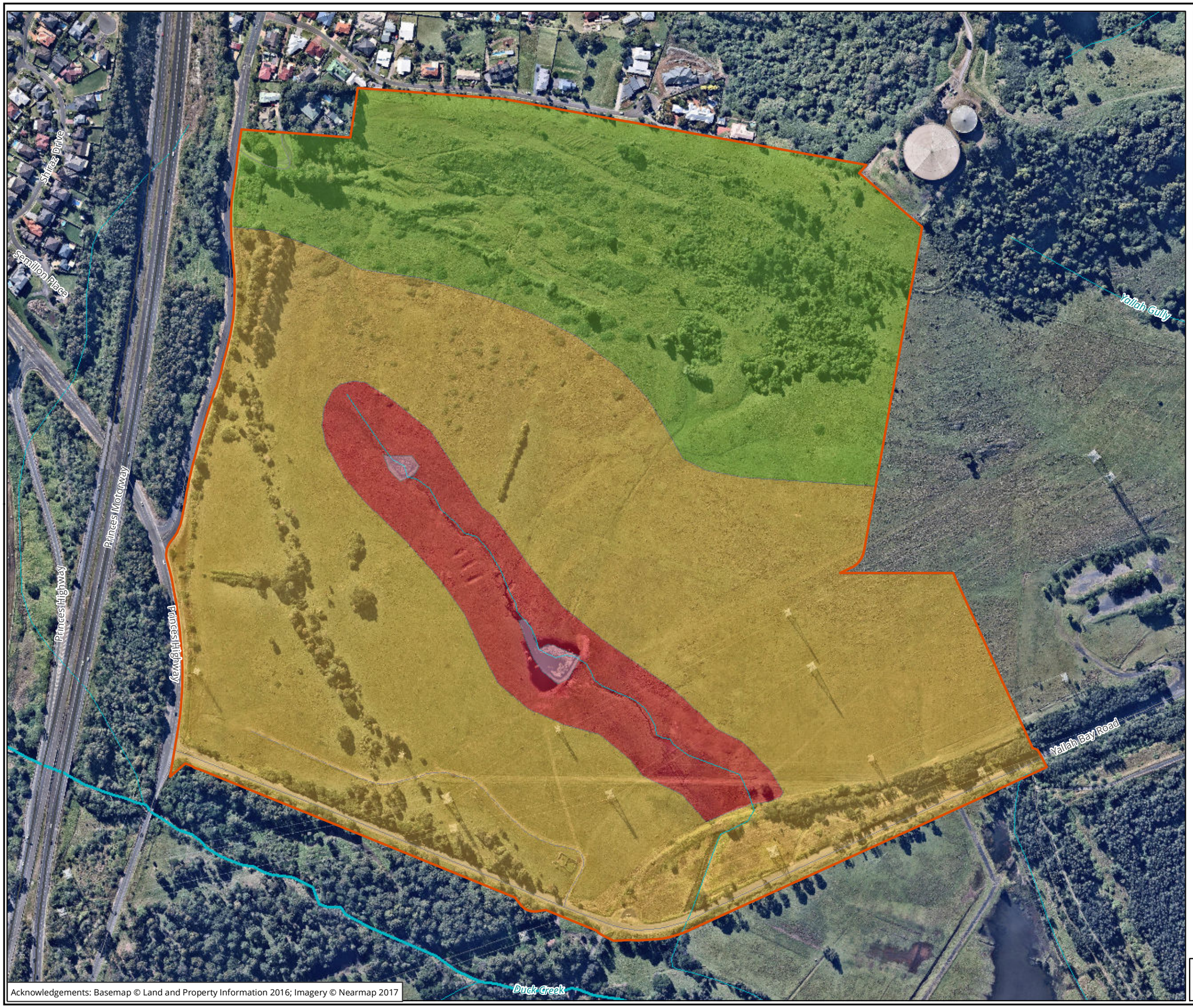
N

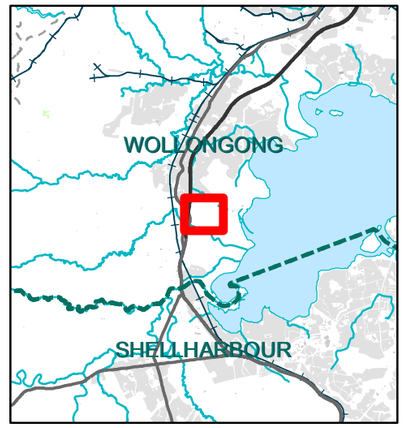
Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne, Newcastle, Sydney, Wangaratta & Wollongong

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Matter: 24090
Date: 21 July 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
Location:\\bio-data-01\matters$\24000s\24090\Mapping
24090_F10_NorthernPrecinct_ArchPotent





Legend

Study area

Archaeological potential

High

Moderate

Low

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Figure 6: Areas of archaeological potential (central)

0 40 80 120 160 200

Metres

Scale: 1:4,000 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne, Newcastle, Sydney, Wangaratta & Wollongong

Matter: 24090
Date: 21 July 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
Location:\\bio-data-01\matters$\24000s\24090\Mapping\24090_F10_CentralPrecinct_ArchPotent

From:	leonard b j wright
To:	Ashleigh Keevers-Eastman
Subject:	Re: Aboriginal Cultural Heritage Assessment: Northern and Central Precincts at Tallawarra, Yallah, NSW
Date:	Friday, 22 September 2017 12:31:46 PM
Attachments:	image99971e.PNG

Hi Ashleigh,

Thanks forbthe email an i am happy with wat is proposed fir the methodology an only thing asked if any artefacts found an finished analyzing from you guys that all go back to Illawarra local aboriginal lands council for future educational design projects runned by them or repat thanks an look forward to hearing from you soon.

Kind regards Leonard Wright

Sent from my Samsung Galaxy smartphone.

-------- Original message --------
From: Ashleigh Keevers-Eastman
Date: 22/9/17 11:44 am (GMT+10:00)
To: "'lbjwright1977@hotmail.com'"
Subject: Aboriginal Cultural Heritage Assessment: Northern and Central Precincts at Tallawarra, Yallah, NSW

Dear Mr Leonard Wright,
Thank you for your registration of interest in this project. Attached is information about the proposed project and the Aboriginal Cultural Heritage Assessment (ACHA) methodology.

We are seeking your input into the project methodology. It would be appreciated if you could provide feedback on the methodology to Biosis Pty Ltd by **20th of October 2017**, either by email or return mail. Please address methodology feedback to:

Taryn Gooley
Consultant Archaeologist
8 Tate Street Wollongong, NSW 2500
(02) 4201 1090
tgooley@biosis.com.au
If you have any queries regarding the project or the information in this letter, please don't hesitate Taryn Gooley on (02) 4201 1090.

Kind regards,
Ashleigh Keevers-Eastman
Research Assistant
Biosis Pty Ltd.

Ashleigh Keevers-Eastman
Research Assistant - Heritage
M: 0428 175 025
D: (02) 4911 4042

E: akeevers-eastman@biosis.com.au

Biosis Logo

Leaders in Ecology and Heritage Consulting

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DARUG LAND
OBSERVATIONS PTY LTD
ABN 27 602 765 453

EMAIL: DARUGLANDOBSERVATIONS@GMAIL.COM
PO BOX 2006 BENDALONG NSW 2539
MOBILE: 0413 687 279

28th September, 2017

Matter # 24090

Taryn Gooley
Biosis Pty Ltd
8 Tate Street
WOLLONGONG NSW 2500

Email: tgooley@biosis.com.au

Dear Taryn,

RE: NORTHERN AND CENTRAL PRECINCTS AT TALLAWARRA, YALLAH, NSW

Project Information and Assessment Methodology

Darug Land Observations Pty Ltd (DLO) has reviewed the project information and assessment methodology, and supports the methodology for the proposed Tallawarra Lands mixed-use development, consisting of residential, commercial, industrial and retail development. As well as public open space areas, new recreational facilities, internal road network, environmental management, conservation areas and riparian corridors.

Furthermore, Darug Land Observations Pty Ltd would be involved in the monitoring of the topsoil removal, test excavations and/or any other form of works to be carried out on the site.

Yours sincerely,

Jamie Workman
Darug Land Observations Pty Ltd

Uncle Gordon Workman
Darug Elder

From: Biamanga
To: Ashleigh Keevers-Eastman; Taryn Gooley
Subject: Re: Aboriginal Cultural Heritage Assessment: Northern and Central Precincts at Tallawarra, Yallah, NS
Date: Thursday, 19 October 2017 4:40:06 PM
Attachments: imagedb69ad.PNG

Hi Taryn

This is Biamangas support of the proposed draft ACHA methodology for the above project.

On Friday, 22 September 2017, Ashleigh Keevers-Eastman <AKeevers-Eastman@biosis.com.au> wrote:

> Dear Seli Storer,
>
> Thank you for your registration of interest in this project. Attached is information about the proposed project and the Aboriginal Cultural Heritage Assessment (ACHA) methodology.
>
> We are seeking your input into the project methodology. It would be appreciated if you could provide feedback on the methodology to Biosis Pty Ltd by **20th of October 2017**, either by email or return mail. Please address methodology feedback to:
>
> Taryn Gooley
>
> Consultant Archaeologist
>
> 8 Tate Street Wollongong, NSW 2500
>
> (02) 4201 1090
>
> tgooley@biosis.com.au
>
> If you have any queries regarding the project or the information in this letter, please don't hesitate Taryn Gooley on (02) 4201 1090.
>
> Kind regards,
>
> Ashleigh Keevers-Eastman
>
> Research Assistant
>
> Biosis Pty Ltd.

Ashleigh Keevers-Eastman
Research Assistant - Heritage
M: 0428 175 025
D: (02) 4911 4042
E: akeevers-eastman@biosis.com.au
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--
Kind Regards
Seli Storer
Chief Executive Officer
Biamanga

This email may contain privileged information. Privilege is not waived if it has been sent to you in error, or if you are not the intended recipient. Please immediately notify me and delete the email if you have received this in error.

From: Cullendulla
To: Taryn Gooley
Subject: Re: Aboriginal Cultural Heritage Assessment: Northern and Central Precincts at Tallawarra, Yallah, NSW
Date: Thursday, 19 October 2017 4:38:31 PM
Attachments: image95f071.PNG

Hi Taryn Gooley

This is Cullendullas support for the ACHA report for the above project.

On Friday, 22 September 2017, Ashleigh Keevers-Eastman <AKeevers-Eastman@biosis.com.au> wrote:

> Dear Corey Smith,
>
> Thank you for your registration of interest in this project. Attached is information about the proposed project and the Aboriginal Cultural Heritage Assessment (ACHA) methodology.
>
> We are seeking your input into the project methodology. It would be appreciated if you could provide feedback on the methodology to Biosis Pty Ltd by **20th of October 2017**, either by email or return mail. Please address methodology feedback to:
>
> Taryn Gooley
>
> Consultant Archaeologist
>
> 8 Tate Street Wollongong, NSW 2500
>
> (02) 4201 1090
>
> tgooley@biosis.com.au
>
> If you have any queries regarding the project or the information in this letter, please don't hesitate Taryn Gooley on (02) 4201 1090.
>
> Kind regards,
>
> Ashleigh Keevers-Eastman
>
> Research Assistant
>
> Biosis Pty Ltd.
>
> **Ashleigh Keevers-Eastman**
> Research Assistant - Heritage
> M: 0428 175 025
> D: (02) 4911 4042
> E: akeevers-eastman@biosis.com.au
> Biosis Logo
> Leaders in Ecology and Heritage Consulting

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--
Kind Regards
Corey Smith
Cultural Heritage Officer
Cullendulla

This email may contain privileged information. Privilege is not waived if it has been sent to you in error, or if you are not the intended recipient. Please immediately notify me and delete the email if you have received this in error.

From:	Goobah
To:	Taryn Gooley
Subject:	Aboriginal Cultural Heritage Assessment: Northern and Central Precincts of Tallawarra, Yallah, NSW
Date:	Thursday, 19 October 2017 4:43:41 PM

Hi Taryn

Goobah support the proposed ACHA methodology for the project at Northern and Central Precincts at Tallawarra, Yallah, NSW.

We would like to be informed about any further developments and all correspondence should be sent to this email address thank you.

--

Regards Basil Smith
Chief Executive Officer
Goobah PH 0405995725

This email may contain privileged information. Privilege is not waived if it has been sent to you in error, or if you are not the intended recipient. Please immediately notify me and delete the email if you have received this in error.

From: Murramarang
To: Ashleigh Keevers-Eastman; Taryn Gooley
Subject: Re: Aboriginal Cultural Heritage Assessment: Northern and Central Precincts at Tallawarra, Yallah, NSW
Date: Thursday, 19 October 2017 4:37:09 PM
Attachments: image4ccd52.PNG

Hi Taryn

This is Murramarangs support for the proposed ACHA methodology for the above project and we would like to be informed of any further developments thankyou.

On Friday, 22 September 2017, Ashleigh Keevers-Eastman <AKeevers-Eastman@biosis.com.au> wrote:

> Dear Roxanne Smith,
>
> Thank you for your registration of interest in this project. Attached is information about the proposed project and the Aboriginal Cultural Heritage Assessment (ACHA) methodology.
>
> We are seeking your input into the project methodology. It would be appreciated if you could provide feedback on the methodology to Biosis Pty Ltd by **20th of October 2017**, either by email or return mail. Please address methodology feedback to:
>
> Taryn Gooley
>
> Consultant Archaeologist
>
> 8 Tate Street Wollongong, NSW 2500
>
> (02) 4201 1090
>
> tgooley@biosis.com.au
>
> If you have any queries regarding the project or the information in this letter, please don't hesitate Taryn Gooley on (02) 4201 1090.
>
> Kind regards,
>
> Ashleigh Keevers-Eastman
>
> Research Assistant
>
> Biosis Pty Ltd.

Ashleigh Keevers-Eastman
Research Assistant - Heritage
M: 0428 175 025
D: (02) 4911 4042
E: akeevers-eastman@biosis.com.au
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--

Kind Regards
Roxanne Smith
Cultural Heritage Officer
Murramarang

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Appendix 4 Stage 4: Review of draft cultural heritage assessment report

1 November 2017

Seli Storer
Biamanga (Murrin Clan/Peoples)

Dear Seli Storer,

RE: Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment – Draft ACHAR and AR
Our Ref: Matter 24090

Following your registration for the Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment, enclosed are copies of the draft Aboriginal Cultural Heritage Assessment Reports (ACHAR) and Archaeological Reports (AR) for the project following the completion of the archaeological survey, for your review. Once comments have been received by Registered Aboriginal Parties (RAPs), the comments will be incorporated into a final report which will then be issued to all RAPs for their records.

In accordance with the *aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010), we provide the ACHARs and ARs for your review and feedback. If you would like further information, please do not hesitate to contact us. It would be appreciated if you would provide feedback on the reports to Biosis Pty Ltd by **4pm Thursday 30 November 2017** either by email, return mail or a phone call.

Please address feedback on the reports to:

Taryn Gooley
Consultant Archaeologist
8 Tate Street Wollongong, NSW 2500
(02) 4201 1090
tgooley@biosis.com.au

Please do not hesitate to contact me if you require additional information or have any queries about the methodology or information provided.

Yours sincerely,

Taryn Gooley
Consultant Archaeologist

1 November 2017

Corey Smith
Cullendulla (Murrin Clan/Peoples)

Dear Corey Smith,

RE: Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment – Draft ACHAR and AR
Our Ref: Matter 24090

Following your registration for the Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment, enclosed are copies of the draft Aboriginal Cultural Heritage Assessment Reports (ACHAR) and Archaeological Reports (AR) for the project following the completion of the archaeological survey, for your review. Once comments have been received by Registered Aboriginal Parties (RAPs), the comments will be incorporated into a final report which will then be issued to all RAPs for their records.

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Taryn Gooley
Consultant Archaeologist
8 Tate Street Wollongong, NSW 2500
(02) 4201 1090
tgooley@biosis.com.au

Please do not hesitate to contact me if you require additional information or have any queries about the methodology or information provided.

Yours sincerely,

Taryn Gooley
Consultant Archaeologist

1 November 2017

Anna O'Hara
Darug Land Observations
PO BOX 2006
Bendalong NSW 2539

Dear Anna O'Hara,

RE: Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment – Draft ACHAR and AR
Our Ref: Matter 24090

Following your registration for the Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment, enclosed are copies of the draft Aboriginal Cultural Heritage Assessment Reports (ACHAR) and Archaeological Reports (AR) for the project following the completion of the archaeological survey, for your review. Once comments have been received by Registered Aboriginal Parties (RAPs), the comments will be incorporated into a final report which will then be issued to all RAPs for their records.

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Consultant Archaeologist
8 Tate Street Wollongong, NSW 2500
(02) 4201 1090
tgooley@biosis.com.au

Please do not hesitate to contact me if you require additional information or have any queries about the methodology or information provided.

Yours sincerely,

Taryn Gooley
Consultant Archaeologist

Biosis Pty Ltd
Newcastle Resource Group

Suite 8, 27 Annie Street
Wickham NSW 2293

Phone: 02 4911 4040

ACN 006 175 097
ABN 65 006 175 097

Email: newcastle@biosis.com.au

biosis.com.au

1 November 2017

Duncan Falk
Duncan Falk Consultancy
PO Box 1018
Mittagong NSW 2575

Dear Duncan Falk,

RE: Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment – Draft ACHAR and AR
Our Ref: Matter 24090

Following your registration for the Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment, enclosed are copies of the draft Aboriginal Cultural Heritage Assessment Reports (ACHAR) and Archaeological Reports (AR) for the project following the completion of the archaeological survey, for your review. Once comments have been received by Registered Aboriginal Parties (RAPs), the comments will be incorporated into a final report which will then be issued to all RAPs for their records.

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Please address feedback on the reports to:

Taryn Gooley
Consultant Archaeologist
8 Tate Street Wollongong, NSW 2500
(02) 4201 1090
tgooley@biosis.com.au

Please do not hesitate to contact me if you require additional information or have any queries about the methodology or information provided.

Yours sincerely,

Taryn Gooley
Consultant Archaeologist

1 November 2017

Basil Smith
Goobah Development Pty Ltd (Murrin Clan/Peoples)
66 Grantham Road
Batehaven NSW 2536

Dear Basil Smith,

RE: Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment – Draft ACHAR and AR
Our Ref: Matter 24090

Following your registration for the Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment, enclosed are copies of the draft Aboriginal Cultural Heritage Assessment Reports (ACHAR) and Archaeological Reports (AR) for the project following the completion of the archaeological survey, for your review. Once comments have been received by Registered Aboriginal Parties (RAPs), the comments will be incorporated into a final report which will then be issued to all RAPs for their records.

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Taryn Gooley
Consultant Archaeologist
8 Tate Street Wollongong, NSW 2500
(02) 4201 1090
tgooley@biosis.com.au

Please do not hesitate to contact me if you require additional information or have any queries about the methodology or information provided.

Yours sincerely,

Taryn Gooley
Consultant Archaeologist

1 November 2017

Richard Campbell
Guunamaa Dreaming Sites and Surveying
2 Minda Crescent
Oakflats NSW 2529

Dear Richard Campbell,

RE: Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment – Draft ACHAR and AR
Our Ref: Matter 24090

Following your registration for the Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment, enclosed are copies of the draft Aboriginal Cultural Heritage Assessment Reports (ACHAR) and Archaeological Reports (AR) for the project following the completion of the archaeological survey, for your review. Once comments have been received by Registered Aboriginal Parties (RAPs), the comments will be incorporated into a final report which will then be issued to all RAPs for their records.

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Consultant Archaeologist
8 Tate Street Wollongong, NSW 2500
(02) 4201 1090
tgooley@biosis.com.au

Please do not hesitate to contact me if you require additional information or have any queries about the methodology or information provided.

Yours sincerely,

Taryn Gooley
Consultant Archaeologist

1 November 2017

Illawarra Local Aboriginal Land Council (ILALC)
3 Ellen Street
Wollongong, NSW 2500

Dear Sir or Madam,

RE: Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment – Draft ACHAR and AR
Our Ref: Matter 24090

Following your registration for the Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment, enclosed are copies of the draft Aboriginal Cultural Heritage Assessment Reports (ACHAR) and Archaeological Reports (AR) for the project following the completion of the archaeological survey, for your review. Once comments have been received by Registered Aboriginal Parties (RAPs), the comments will be incorporated into a final report which will then be issued to all RAPs for their records.

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Please address feedback on the reports to:

Taryn Gooley
Consultant Archaeologist
8 Tate Street Wollongong, NSW 2500
(02) 4201 1090
tgooley@biosis.com.au

Please do not hesitate to contact me if you require additional information or have any queries about the methodology or information provided.

Yours sincerely,

Taryn Gooley
Consultant Archaeologist

1 November 2017

Aaron Broad
Minnamunnung
1 Waratah Avenue
Albion Park Rail NSW 2527

Dear Aaron Broad,

RE: Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment – Draft ACHAR and AR
Our Ref: Matter 24090

Following your registration for the Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment, enclosed are copies of the draft Aboriginal Cultural Heritage Assessment Reports (ACHAR) and Archaeological Reports (AR) for the project following the completion of the archaeological survey, for your review. Once comments have been received by Registered Aboriginal Parties (RAPs), the comments will be incorporated into a final report which will then be issued to all RAPs for their records.

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Taryn Gooley
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8 Tate Street Wollongong, NSW 2500
(02) 4201 1090
tgooley@biosis.com.au

Please do not hesitate to contact me if you require additional information or have any queries about the methodology or information provided.

Yours sincerely,

Taryn Gooley
Consultant Archaeologist

1 November 2017

Roxanne Smith
Murramarang (Murrin Clan/Peoples)

Dear Roxanne Smith,

RE: Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment – Draft ACHAR and AR
Our Ref: Matter 24090

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Please address feedback on the reports to:

Taryn Gooley
Consultant Archaeologist
8 Tate Street Wollongong, NSW 2500
(02) 4201 1090
tgooley@biosis.com.au

Please do not hesitate to contact me if you require additional information or have any queries about the methodology or information provided.

Yours sincerely,

Taryn Gooley
Consultant Archaeologist

1 November 2017

Keith Ball
The Wadi Wadi Coomaditchie Aboriginal Corporation
43 Coruma Cresent
Flinders NSW 2529

Dear Keith Ball,

RE: Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment – Draft ACHAR and AR
Our Ref: Matter 24090

Following your registration for the Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment, enclosed are copies of the draft Aboriginal Cultural Heritage Assessment Reports (ACHAR) and Archaeological Reports (AR) for the project following the completion of the archaeological survey, for your review. Once comments have been received by Registered Aboriginal Parties (RAPs), the comments will be incorporated into a final report which will then be issued to all RAPs for their records.

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Yours sincerely,

Taryn Gooley
Consultant Archaeologist

1 November 2017

Leonard Wright
Three Ducks Dreaming Surveying and Consulting
40 Tuggerah Circuit
Flinders NSW 2529

Dear Leonard Wright,

RE: Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment – Draft ACHAR and AR
Our Ref: Matter 24090

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Yours sincerely,

Taryn Gooley
Consultant Archaeologist

1 November 2017

Nathanial Kennedy
Warra Bingi Nunda Gurri
Warra Bingi Nunda Gurri Indigenous Sites Conservation 45 Rosemont St
West Wollongong NSW 2500

Dear Nathanial Kennedy,

RE: Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment – Draft ACHAR and AR
Our Ref: Matter 24090

Following your registration for the Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment, enclosed are copies of the draft Aboriginal Cultural Heritage Assessment Reports (ACHAR) and Archaeological Reports (AR) for the project following the completion of the archaeological survey, for your review. Once comments have been received by Registered Aboriginal Parties (RAPs), the comments will be incorporated into a final report which will then be issued to all RAPs for their records.

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Yours sincerely,

Taryn Gooley
Consultant Archaeologist

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Newcastle Resource Group

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Wickham NSW 2293

Phone: 02 4911 4040

ACN 006 175 097
ABN 65 006 175 097

Email: newcastle@biosis.com.au

biosis.com.au

1 November 2017

Kayla Williamson
Woronora Plateau Gundangara Elders Council
11 Garnett Grove
FLINDERS NSW 2529

Dear Kayla Williamson,

RE: Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment – Draft ACHAR and AR
Our Ref: Matter 24090

Following your registration for the Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment, enclosed are copies of the draft Aboriginal Cultural Heritage Assessment Reports (ACHAR) and Archaeological Reports (AR) for the project following the completion of the archaeological survey, for your review. Once comments have been received by Registered Aboriginal Parties (RAPs), the comments will be incorporated into a final report which will then be issued to all RAPs for their records.

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Yours sincerely,

Taryn Gooley
Consultant Archaeologist

1 November 2017

James Davis
2 Poplar Avenue
Unanderra NSW 2526

Dear James Davis,

RE: Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment – Draft ACHAR and AR
Our Ref: Matter 24090

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tgooley@biosis.com.au

Please do not hesitate to contact me if you require additional information or have any queries about the methodology or information provided.

Yours sincerely,

Taryn Gooley
Consultant Archaeologist

From:	leonard b j wright
To:	Charlotte Allen
Subject:	Re: 24090 - Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment
Date:	Monday, 6 November 2017 8:13:53 AM
Attachments:	image513d88.PNG

Hi Charlotte,

Thanks for the email an just read what was sent an I'm happy to provide what ever is needed as we no their is a lot of significant areas within that area specially with the creeks an plains...thanks an look forward on working with you guys soon...

Kind regards Leonard Wright

Get Outlook for iOS

From: Charlotte Allen
Sent: Thursday, November 2, 2017 8:56:28 AM
To: 'lbjwright1977@hotmail.com'
Subject: 24090 - Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment

Good morning,

Following your registration for the Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment, we would like to provide you with copies of the draft Aboriginal Cultural Heritage Assessment Reports (ACHAR) and Archaeological Reports (AR) for the project following the completion of the archaeological survey, for your review and feedback. Due to the size of the files we are unable to send these by email, but they can downloaded from the following webpage: https://spaces.hightail.com/receive/C0dncRlRNu.

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Please do not hesitate to contact Taryn Gooley, Consultant Archaeologist, if you require additional information or have any queries about the methodology or information provided.

Kind regards,
Charlotte

Charlotte Allen
Research Assistant - Heritage
M: 0437 641 267
D: (02) 9101 8712
E: callen@biosis.com.au

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From:	Richard Campbell
To:	Charlotte Allen
Subject:	RE: 24090 - Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment
Date:	Monday, 6 November 2017 8:28:30 AM
Attachments:	image0581cb.PNG

Hi charlotte I Richard Campbell if Guunamaa Dream'n have no issues regarding the following project just to include aboriginal REPRESENTATIVES from ILAWARRA ONLY there are to many from HIKA TE-ORFIE and this is very hard on the locals as he has 31 groups in total we should be only taking one group from each organisation that is my only concern for this
King Regards
Richard campbell
Guunamaa Dream'n
Sent from my Windows 10 phone

From: Charlotte Allen
Sent: Thursday, 2 November 2017 8:58 AM
To: 'richardcampbell123@outlook.com'
Subject: 24090 - Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment

Good morning,

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From:	Murramarang
To:	Charlotte Allen; Taryn Gooley
Subject:	Re: 24090 - Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment
Date:	Tuesday, 28 November 2017 10:34:50 PM
Attachments:	image3ad21a.PNG

Hi Taryn

This is Murramarangs support for the Draft ACHA and AR report for the above project.

On Thu, Nov 2, 2017 at 8:56 AM, Charlotte Allen <callen@biosis.com.au> wrote:

> Good morning,
>
> Following your registration for the Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment, we would like to provide you with copies of the draft Aboriginal Cultural Heritage Assessment Reports (ACHAR) and Archaeological Reports (AR) for the project following the completion of the archaeological survey, for your review and feedback. Due to the size of the files we are unable to send these by email, but they can downloaded from the following webpage: https://spaces.hightail.com/receive/C0dncRlRNu.
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> Charlotte
>
> **Charlotte Allen**
> Research Assistant - Heritage
> M: 0437 641 267
> D: (02) 9101 8712
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--
Kind Regards
Roxanne Smith
Cultural Heritage Officer
Murramarang

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From:	Cullendulla
To:	Charlotte Allen; Taryn Gooley
Subject:	Re: 24090 - Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment
Date:	Tuesday, 28 November 2017 10:36:28 PM
Attachments:	image024139.PNG

Hi Taryn

Cullendulla support the attached Draft ACHA and AR report for the above project

On Thu, Nov 2, 2017 at 8:56 AM, Charlotte Allen <callen@biosis.com.au> wrote:

> Good morning,
>
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> Kind regards,
> Charlotte
>
> **Charlotte Allen**
> Research Assistant - Heritage
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--
Kind Regards
Corey Smith
Cultural Heritage Officer
Cullendulla

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From:	Biamanga
To:	Charlotte Allen; Taryn Gooley
Subject:	Re: 24090 - Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment
Date:	Tuesday, 28 November 2017 10:38:24 PM
Attachments:	image4dd8c.PNG

Hi Taryn

Biamanga support the draft Aboriginal Cultural Heritage assessment Reports and Archaeological Reports for the above project.

On Thu, Nov 2, 2017 at 8:56 AM, Charlotte Allen <callen@biosis.com.au> wrote:

> Good morning,
>
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> Please do not hesitate to contact Taryn Gooley, Consultant Archaeologist, if you require additional information or have any queries about the methodology or information provided.
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> Charlotte
>
> **Charlotte Allen**
> Research Assistant - Heritage
> M: 0437 641 267
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> E: callen@biosis.com.au
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> Leaders in Ecology and Heritage Consulting
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--
Kind Regards
Seli Storer
Chief Executive Officer
Biamanga

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From:	Goobah
To:	Taryn Gooley
Subject:	24090 - Northern and Central Precincts at Tallawarra, Yallah NSW, Aboriginal Cultural Heritage Assessment
Date:	Tuesday, 28 November 2017 10:39:55 PM

Hi Taryn

Goobah support the draft Aboriginal Cultural Heritage assessment Reports and Archaeological Reports for the above project.

We wish to be kept informed of any further developments and all correspondence should be sent to this email address thankyou.

--
Regards Basil Smith
Chief Executive Officer
Goobah PH 0405995725

This email may contain privileged information. Privilege is not waived if it has been sent to you in error, or if you are not the intended recipient. Please immediately notify me and delete the email if you have received this in error.

Duncan Falk Consultancy

Duncan Falk
Manager
T +61 406 610 644
E: duncanfalk@hotmail.com

29 November 2017

Biosis
c/o Taryn Gooley

Via e-mail: tgooley@biosis.com.au

RE: Northern and Central Precincts at Tallawarra, Yallah NSW, ACHA

Dear Taryn,

The AR and ACHA for central and northern precincts are fully endorsed by Duncan Falk Consultancy (DFC), the recommendations in the ACHA and AR for northern and central precincts are strongly agreed with and it is also recommended that any artefacts that are found are reburied in an agreed location where they will not be impacted upon in the future.

DFC also holds evidence backing up the true language boundaries, Dharawal did range from the Illawarra to Bong Bong now know as the Southern Highlands and surrounding areas. This evidence will be provided at request.

Kind Regards

Duncan

Appendix 5 Archaeological report

Tallawarra Lands North Precinct: Archaeological Report

FINAL REPORT

Prepared for Cardno

26 September 2017

Biosis offices

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Document information

Report to:	Cardno
Prepared by:	Mathew Smith Samantha Keats
Biosis project no.:	24090
File name:	24090.Tallawarra.North.AR.FIN01.20170926.docx

Citation: Biosis 2017. Tallawarra lands subdivision Archaeological Report. Report for Cardno. M Smith & S. Keats, Biosis Pty Ltd, Wollongong. Project no 24090.

LGA:	Wollongong

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Final 01	Amanda Atkinson	30/08/2017	Biosis

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Acknowledgements

Biosis gratefully acknowledges the contributions of the following people and organisations in preparing this report:

Registered Aboriginal Parties

- Illawarra Local Aboriginal Land Council (ILALC)
- Warra Bingi Nunda Gurri
- Woronora Plateau Gundangara Elders Council
- Darug Land Observations
- Three Ducks Dreaming Surveying and Consulting
- The Wadi Wadi Coomaditchie Aboriginal Corporation
- Guunamaa Dreaming and Sites Surveying
- James Davis
- Goobah Development Pty Ltd (Murrin Clan/Peoples)
- Murramarang (Murrin Clan/Peoples
- Minnamunnung
- Duncan Falk Consultancy
- Cullendulla (Murrin Clan/Peoples)
- Biamanga (Murrin Clan/Peoples)

Government Departments

- Office of Environment and Heritage (OEH)
- National Native Title Tribunal (NNTT)
- Wollongong City Council (WCC)
- South East Local Land Services (LLS)
- Office of the Registrar Aboriginal Land Rights Act

Client

- Cardno

Biosis

- Alexander Beben for assistance in the field
- Sonika Kumar for mapping

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Glossary

ACHAR	Aboriginal Cultural Heritage Assessment Report
AHIMS	Aboriginal Heritage Information Management System
Consultation requirements	*Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010a)
DA	Determining Authority
DECCW	Department of Environment, Climate Change and Water (now OEH)
DP	Deposited Plan
EPA	Environment Planning and Assessment
GDA	Geocentric Datum of Australia
GPS	Global Positioning System
GSV	Ground Surface Visibility
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
MGA	Map Grid of Australia
NPW Act	National Parks and Wildlife Act
NPWS	National Parks and Wildlife Service
NSW	New South Wales
NTSCORP	Native Title Services Corporation
OEH	NSW Office of Environment and Heritage
PAD	Potential Archaeological Deposit
Study area	Defined as Lot 30 DP 1175058 and part Lot 31 DP 1175058
RAP	Registered Aboriginal Party
REF	Review of Environmental Factors
REP	Regional Environmental Plan
SEPP	State Environmental Planning Policy
The code	*Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010)

Summary

Biosis Pty Ltd was commissioned by Cardno on behalf of Bridgehill Group to undertake an Aboriginal cultural heritage assessment (ACHA) and archaeological report (AR) (this report) of a proposed development at Tallawarra, Yallah NSW (Northern Precinct).

Bridgehill Group have acquired some of the Tallawarra Lands in the Northern and Central Precincts from Energy Australia, and intend to develop new residential communities and a light industrial development and tourism facilities on those lands.

Cardno on behalf of Bridgehill Group intends to lodge a development application for the Northern Precinct and to modify the existing concept approval for the Northern and Central Precincts (MP 09_0131 MOD 1). Wollongong City Council is the Determining Authority (DA) and will assess the application to help them determine if the proposed development is likely to have a significant effect on the environment, including Aboriginal cultural heritage.

This AR covers the Northern Precinct (the study area), and aims to determine whether the proposed modification will have any additional impacts on Aboriginal cultural values. The study area is located within the Tallawarra North Precinct, Yallah NSW. It encompasses Lot 30 DP 1175058 and part Lot 31 DP 1175058, and is approximately 12 kilometres south west of Wollongong CBD (Figure 1). It encompasses 45.06 hectares of private land and the adjacent road reserves.

This report has responded to Section 6.10.1 Aboriginal Cultural Heritage of the *Tallawarra Lands, Yallah: Request for Secretary's Environmental Assessment Requirements* (Urbis 2016) to:

- Confirm the location of archaeological sites relative to the proposed expanded areas.
- Consultation with relevant stakeholders prior to preparation of the EIS.
- Identify the nature and extent of impacts on Aboriginal and cultural heritage values across the project area; and
- Provide the actions that will be taken to avoid or mitigate impacts of the project or Aboriginal cultural heritage values.

SEARs Item	Response
12. Aboriginal Cultural Heritage **Aboriginal Cultural Heritage Assessment in accordance with *the Guide to investigating Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (DECCW 2011) and *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW)**	This report has been conducted in accordance with the *Guide to Investigating Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (DECCW 2011). This report supports the Aboriginal cultural heritage assessment, which has been conducted in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW). Consultation with Registered Aboriginal Parties is currently underway.

There are 86 Aboriginal cultural heritage sites registered with the Aboriginal Heritage Information Management System (AHIMS) register in a 5 square kilometre area around the study area. Two AHIMS sites are located within the study area (Boomberry Point 1 (AHIMS 52-5-0223), and Elizabeth Point (AHIMS 52-5-

0225). Two AHIMS sites are located within 10 metres of the study area (Gilba Road 1 (52-5-0642), and Gilba Road 2 Fill 1 (AHIMS 52-5-0643).

An archaeological survey was conducted on 29 June 2017. The overall effectiveness of the survey for examining the ground for Aboriginal sites was deemed low. This was attributed to vegetation cover restricting ground surface visibility combined with a low amount of exposures.

No previously unrecorded Aboriginal cultural heritage sites were identified during the field survey. One area of moderate archaeological sensitivity was identified. There is potential for development activities to impact Aboriginal sites and the area of archaeological sensitivity.

This assessment has concluded that the proposed modification and subsequent development will not have any impacts on additional AHIMS sites or areas of archaeological potential.

Strategies have been developed based on the archaeological significance of cultural heritage relevant to the study area. The strategies also take into consideration:

- Predicted impacts to Aboriginal cultural heritage
- The planning approvals framework
- Current best conservation practice, widely considered to include:
  - Ethos of the Australia International Council on Monuments and Sites (ICOMOS) Burra Charter
  - The *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW*(DECCW 2010) (the code)

The recommendations that resulted from the consultation process are provided below.

Management recommendations

Prior to any development impacts occurring within the study area, the following is recommended:

Recommendation 1: Further archaeological assessment is required in areas of moderate archaeological potential

Areas identified as having moderate archaeological potential should be avoided wherever possible (Figure 10). If impacts to these areas cannot be avoided subsurface investigations (test excavations) will be required prior to the commencement of works as a condition of the DA or concept approval. Test excavations should be conducted in accordance with the *Code of Practice for archaeological investigation for Aboriginal objects in NSW* (DECCW 2010a) and *Aboriginal cultural heritage consultation requirements for proponents in New South Wales* (DECCW 2010c).

Recommendation 2: No further archaeological assessment is required in areas of low archaeological potential

No further archaeological work is required in areas identified as having low archaeological potential except in the event that unexpected Aboriginal sites, objects or human remains are unearthed during development (refer to Recommendations 6 and 7 below).

Recommendation 3: Fencing of AHIMS sites

AHIMS sites or PAD areas located within 30 metres of the area of proposed works should be clearly marked and fenced in order to avoid unintentional impacts during construction.

Recommendation 4: Aboriginal cultural heritage induction for workers and contractors

The locations of each AHIMS site and PAD area located within the Tallawarra Lands development should be clearly mapped. Workers and contactors working at, or visiting the site should be made aware of the location of all AHIMS sites and PAD areas within the Tallawarra Lands development through an Aboriginal cultural heritage induction.

Recommendation 5: Application for an Aboriginal heritage impact permit (AHIP)

Should the Development Application (DA) be approved, it is recommended that Cardno apply to OEH for an AHIP to destroy the listed Aboriginal sites within the study area which are currently protected under the NSW *National Parks and Wildlife Act 1974*. **The AHIP should be for a term of ten (10) years.** The sites that will be impacted by the proposed works are as follows:

- Boomberry Point 1 (AHIMS 52-5-0223)
- Elizabeth Point (AHIMS 52-5-0225)

For information about AHIPs and their preparation, see below.

Advice preparing AHIPs

An AHIP is required for any activities likely to have an impact on Aboriginal objects or Places or cause land to be disturbed for the purposes of discovering an Aboriginal object. The Office of Environment and Heritage (OEH) issues AHIPs under Part 6 of *the National Parks and Wildlife Act 1974* (NPW Act).

AHIPs should be prepared by a qualified archaeologist and lodged with the OEH. Once the application is lodged processing time can take between 8-12 weeks. It should be noted that there will be an application fee levied by the OEH for the processing of AHIPs, which is dependent on the estimated total cost of the development project.

Recommendation 6: Discovery of Unanticipated Aboriginal Objects

All Aboriginal objects and Places are protected under the *NSW National Parks and Wildlife Act 1974*. It is an offence to knowingly disturb an Aboriginal site without a consent permit issued by the Office of Environment and Heritage (OEH). Should any Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object, the archaeologist will provide further recommendations. These may include notifying the OEH and Aboriginal stakeholders.

Recommendation 7: Discovery of Aboriginal Ancestral Remains

Aboriginal ancestral remains may be found in a variety of landscapes in NSW, including middens and sandy or soft sedimentary soils. If any suspected human remains are discovered during any activity you must:

1. Immediately cease all work at that location and not further move or disturb the remains
2. Notify the NSW Police and OEH's Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location
3. Not recommence work at that location unless authorised in writing by OEH.

Recommendation 8: Continued consultation with the registered Aboriginal stakeholders

As per the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010), it is recommended that the proponent provides a copy of this report to the Aboriginal stakeholders and considers

all comments received. The proponent should continue to inform these groups about the management of Aboriginal cultural heritage sites within the study area throughout the life of the project.

1 Introduction

1.1 Project background

Biosis Pty Ltd was commissioned by Cardno on behalf of Bridgehill Group to undertake an Aboriginal archaeological investigation for the proposed Northern Precinct at Tallawarra, Yallah NSW (Figure 3). The purpose of this assessment is to support a development application for the Northern Precinct and to modify the existing concept approval for the Northern Precinct (MP 09_0131 MOD 1) to allow an increased residential lot yield.

A previous Aboriginal archaeological assessment for the Tallawarra Lands Part 3A Concept Plan (MP 09_0131) was conducted by Biosis in 2010. The previous assessment consisted of an Aboriginal archaeological survey, Aboriginal Community consultation, and Aboriginal archaeological test excavations (Biosis 2010). An impact assessment conducted as part of the 2010 assessment concluded that two Aboriginal archaeological sites; Boomberry Point 1 (AHIMS 52-5-0223), and Elizabeth Point (AHIMS 52-5-0225), would be impacted on by the proposed development. Both Boomberry Point 1 (AHIMS 52-5-0223), and Elizabeth Point (AHIMS 52-5-0225) were assessed as having moderate archaeological significance. Boomberry Point 1 (AHIMS 52-5-0223) was assessed as having low subsurface archaeological sensitivity, while Elizabeth Point (AHIMS 52-5-0225) was assessed as having moderate subsurface archaeological sensitivity based on the results of the archaeological test excavations.

This investigation has been carried out under Part 6 of the *National Parks and Wildlife Act 1974* (NPW Act). It has been undertaken in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010a) ('the code'). The code has been developed to support the process of investigating and assessing Aboriginal cultural heritage by specifying the minimum standards for archaeological investigation undertaken in NSW under the NPW Act. The archaeological investigation must be undertaken in accordance with the requirements of the code.

It is stated in section 1.2 of the code that where the Aboriginal cultural heritage assessment concludes that the proposed activity will result in harm to Aboriginal objects or declared Aboriginal Places, an application for an Aboriginal Heritage Impact Permit (AHIP) will be required. This application must be supported by an Aboriginal Cultural Heritage Assessment Report (ACHAR) and archaeological report (AR).

The *Environmental Planning and Assessment Act 1979* (EP&A Act) includes provisions for local government authorities to consider environmental impacts in land-use planning and decision making. Each Local Government Area (LGA) is required to create and maintain an LEP that includes Aboriginal and historical heritage items. Local Councils identify items that are of significance within their LGA, and these items are listed on heritage schedules in the local LEP and are protected under the EP&A Act and *Heritage Act 1977.*

1.2 Study area

The study area is located within the Tallawarra North Precinct, Yallah NSW. It encompasses Lot 30 DP 1175058 and part Lot 31 DP 1175058, and is approximately 12 kilometres south west of Wollongong CBD (Figure 1). The study area contains 45.06 hectares of private land and the adjacent road reserves (Figure 2).

The study area is within the:

- Wollongong Local Government Area (LGA).
- Parish of Calderwood

- County of Camden

The study area is bounded by Lake Illawarra to the east, the suburb of Koonawarra to the north, Energy Australia Tallawarra Power Station to the south, and rural land to the west.

1.3 Planning approvals

The proposed modification will be assessed against Part 3A section 75W of the *Environmental Planning and Assessment Act 1979* NSW (EP&A Act). The Development Application (DA) will be assessed under Part 4 of the EP&A Act.

Other relevant legislation and planning instruments that will inform this assessment include:

- Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999.*
- NSW *National Parks and Wildlife Act 1974* (NPW Act).
- NSW *National Parks and Wildlife Amendment Act 2010.*
- Infrastructure State Environmental Planning Policy 2007.
- Wollongong Development Control Plan *2009.*

1.4 Objectives of the investigation

The purpose of this assessment is to determine if the proposed modification will impact on any additional areas of archaeological sensitivity or Aboriginal sites or objects.

The objectives of the investigation can be summarised as follows:

- To conduct additional background research in order to recognise any identifiable trends in site distribution and location.
- To search statutory and non-statutory registers and planning instruments to identify listed Aboriginal cultural heritage sites within the study area.
- To highlight environmental information considered relevant to past Aboriginal occupation of the locality and associated land use and the identification and integrity/preservation of Aboriginal sites.
- To summarise past Aboriginal occupation in the locality of the study area using ethnohistory and the archaeological record.
- To formulate a model to broadly predict the type and character of Aboriginal sites likely to exist throughout the study area, their location, frequency and integrity.
- To conduct a field survey of the study area to locate unrecorded or previously recorded Aboriginal sites and to further assess the archaeological potential of the study area.
- To assess the significance of any known Aboriginal sites in consultation with the Aboriginal community.
- To identify the impacts of the proposed development on any known or potential Aboriginal sites within the study area.
- To recommend strategies for the management of Aboriginal cultural heritage within the context of the proposed development.

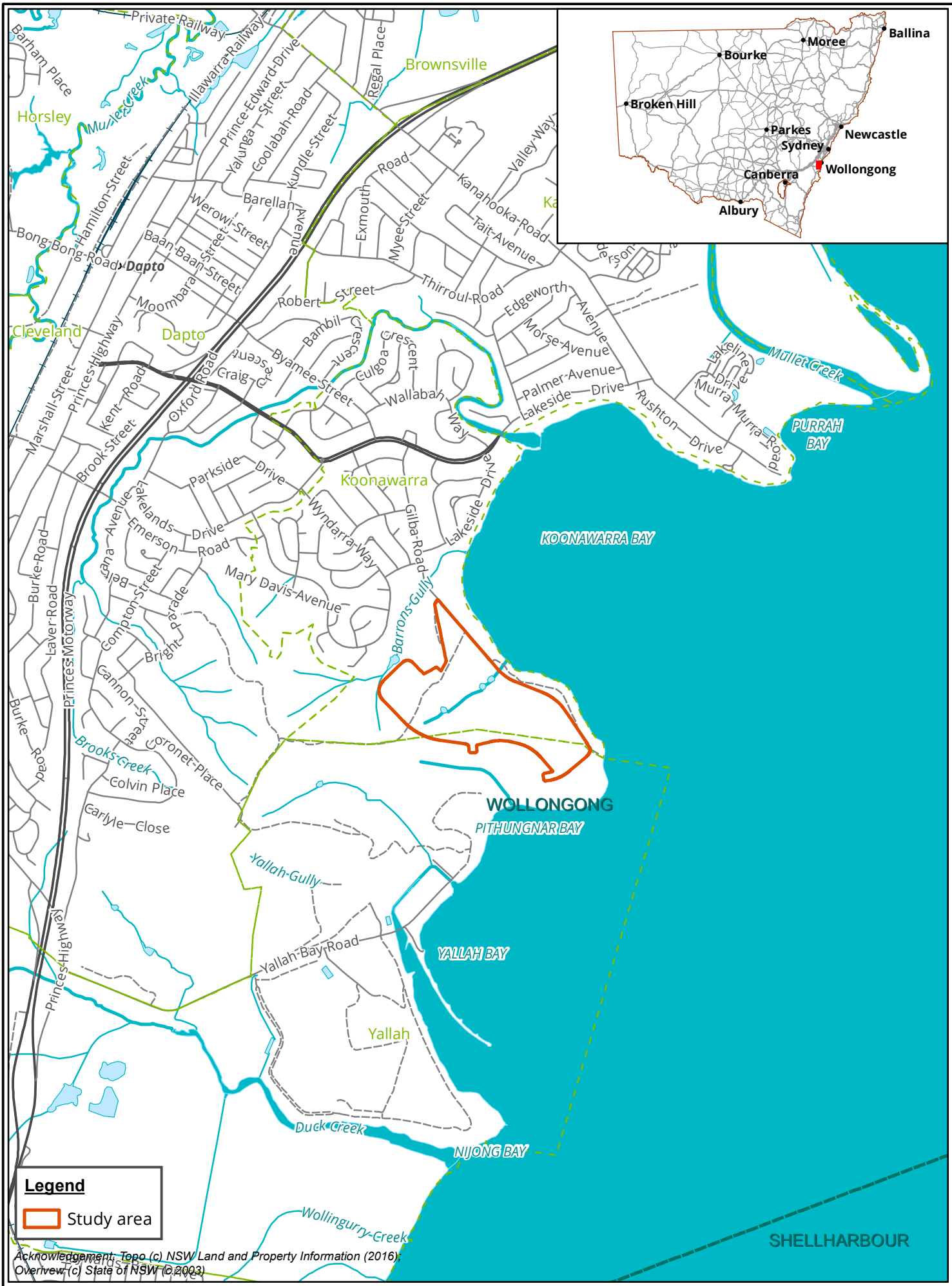
1.5 Investigators and contributors

The roles, previous experience and qualifications of the Biosis project team involved in the preparation of this archaeological report are described below in Table 1.

Table 1 Investigators and contributors

Name and qualifications	Experience summary	Project role
Taryn Gooley BA /Sci (Hons) Archaeology	Taryn is a consultant archaeologist with seven years of experience across south eastern NSW and Western Australia. Taryn has a particular interest in Aboriginal archaeology of North Western NSW, and the Hunter Valley and Newcastle regions. Taryn has experience in the successful completion of Aboriginal Cultural Heritage assessments, archaeological surveys, test excavations, and salvage excavations, as well as Aboriginal community consultation. She is also accomplished in obtaining approvals under the NSW National Parks and Wildlife Act 1974.	• Project Manager
Mathew Smith BA/BSc (Hons) Archaeology	Mathew is a field archaeologist with Biosis Wollongong office. Mathew has over one year of experience as an archaeologist, and specialises in lithics analysis. In addition to this, Mathew has well developed skills in archaeological survey and test excavation, as well as Aboriginal community consultation and background research.	• Background research • Aboriginal groups consultation • Report writing
Samantha Keats BA	Samantha is a field archaeologist with Biosis Wollongong office. Samantha has over one year of experience as an archaeologist, with a particular research focus on rock art assemblages and ochre in the north-west Kimberley region of Australia. Samantha has experience in conducting desktop assessments, archaeological survey and Aboriginal and historical excavation as well as consulting with Traditional Owners. She has participated in a number of European historical excavations and monitoring programs in NSW and has authored several Statement of Heritage Impact reports and Heritage Assessments.	• Report writing
Ashleigh Pritchard Dip. GIS.	Ashleigh has eight years' experience in the field of mapping and has contributed to over 600 consultant reports in both the Natural and Cultural heritage teams across NSW, Victoria and Queensland for a diverse range of clients. Ashleigh has utilised the functionality of GIS to undertake spatial analysis projects such as calculations of habitat loss as well as geo-referencing and digitising. She has extensive experience in spatial data management and map production for large, ongoing impact monitoring projects in NSW. More recently Ashleigh has used spatial modelling to detect cliff lines with potential to support Aboriginal shelter	• GIS/Mapping

Name and qualifications	Experience summary	Project role
	sites and areas of upland swamp potential in the Sydney Catchment Authority special areas using LiDAR data.	
Alexander Beben **Principal Archaeologist** **BA (Hons), MA**	Alexander is Biosis' Principal Archaeologist with 12 years' experience in NSW. Alexander has a detailed knowledge the Aboriginal and non-Aboriginal heritage requirements of the *Environmental Planning & Assessment Act 1979, NSW Heritage Act 1977* and *NSW Parks and Wildlife Act 1974.* Alexander is experienced in undertaking Aboriginal and non-Aboriginal heritage projects, especially archaeological investigation of known or potential archaeological deposits and implementing EIS approval requirements relating to the salvage of known sites. Alex has authored in excess of 150 heritage reports including heritage assessments, archaeological reports, AHIP applications, salvage reports and management plans. Alexander is adept at undertaking consultation with Aboriginal stakeholders, particularly coordinating their involvement in archaeological surveys and excavations Recently, Alex has focused on non-Aboriginal heritage projects and approvals and has managed some of the largest heritage projects in NSW, including an impressive portfolio of Roads and Maritime projects.	• Quality assurance



Acknowledgement: Topo (c) NSW Land and Property Information (2016); Overview: (c) State of NSW (c.2003)

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Figure 1: Location of the study area in a regional context

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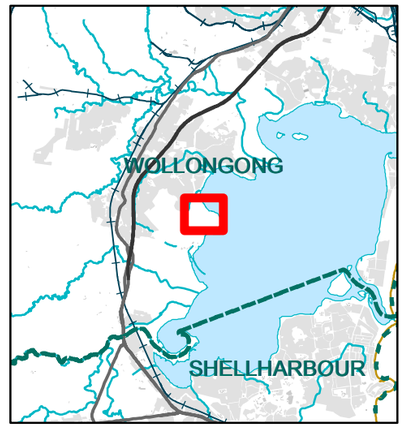

Legend

Study area

Figure 2: Study area detail

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

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Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

2 Proposed development

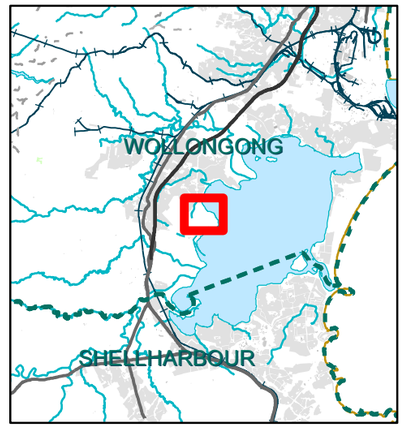
The Tallawarra Northern Precinct comprises Lot 30 DP 1175058 and part Lot 31 DP 1175058, and is approximately 12 kilometres south west of Wollongong CBD (Figure 1). It encompasses 45.06 hectares of private land and the adjacent road reserves (Figure 2). The development of the Northern Precinct will comprise commercial, retail, industrial, open space and associated civil works (Figure 3).

The modification to the concept approval seeks to increase the footprint and residential yield for the Northern Precinct from 310 lots to 542 lots. Currently approved components of the concept plan for the Northern Precinct include:

- Approximately 310 residential lots (22.3 hectares).
- Environmental management areas in the vicinity of Mount Brown.
- Open space areas on the foreshore of Lake Illawarra (87 hectares).
- The Northshore Precinct has existing vehicular access via Gilba Road.

The following amendments are proposed to the Concept Plan for the Northern Precinct:

- Reduce the existing transmission easement width to accommodate a 15 metre wide corridor for underground transmission lines beneath a proposed road;
- Expand the R2 zone (for low density residential land) south east into the E1 Public Recreation lands
- Expand the R2 Zone (for low density residential use) south into the E3 Environmental Management up to the ridge.
- The composition of lots has been altered from the Concept Plan, with a new indicative layout that includes lots down to 300m2 and 12.5 metres frontages, where suited to the topography of the site.



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- Study area
- Proposed development

Figure 3: Proposed development

0 50 100 150 200 250

Metres
Scale: 1:5,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

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3 Desktop assessment

The desktop assessment involves researching and reviewing existing archaeological studies and reports relevant to the study area and Lake Illawarra region. This information is combined to develop an Aboriginal site prediction model for the study area, and to identify known Aboriginal sites and/or places recorded in the study area. This Desktop Assessment has been prepared in accordance with requirements 1 to 4 of the *Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010).

3.1 Landscape context

It is important to consider the local environment of the study area any heritage assessment. The local environmental characteristics can influence human occupation and associated land use and consequently the distribution and character of cultural material. Environmental characteristics and geomorphological processes can affect the preservation of cultural heritage materials to varying degrees or even destroy them completely. Lastly landscape features can contribute to the cultural significance that places can have for people.

3.1.1 Geology, Topography and hydrology

The Illawarra region forms part of the Sydney Basin; a geological basin filled with near horizontal sandstones and shales of Permian to Triassic age overlying older basement rocks of the Lachlan Fold Belt. The Illawarra subregion of the Sydney Basin is characterised by Permian siltstones, shale, sandstones and interbedded volcanics on and below the coastal escarpment. The geology of the region provides useful stone resources for toolmaking, included volcanic rocks useful for manufacture of edge ground axes. The study area is dominated by the Broughton Formation geological unit (Figure 4).

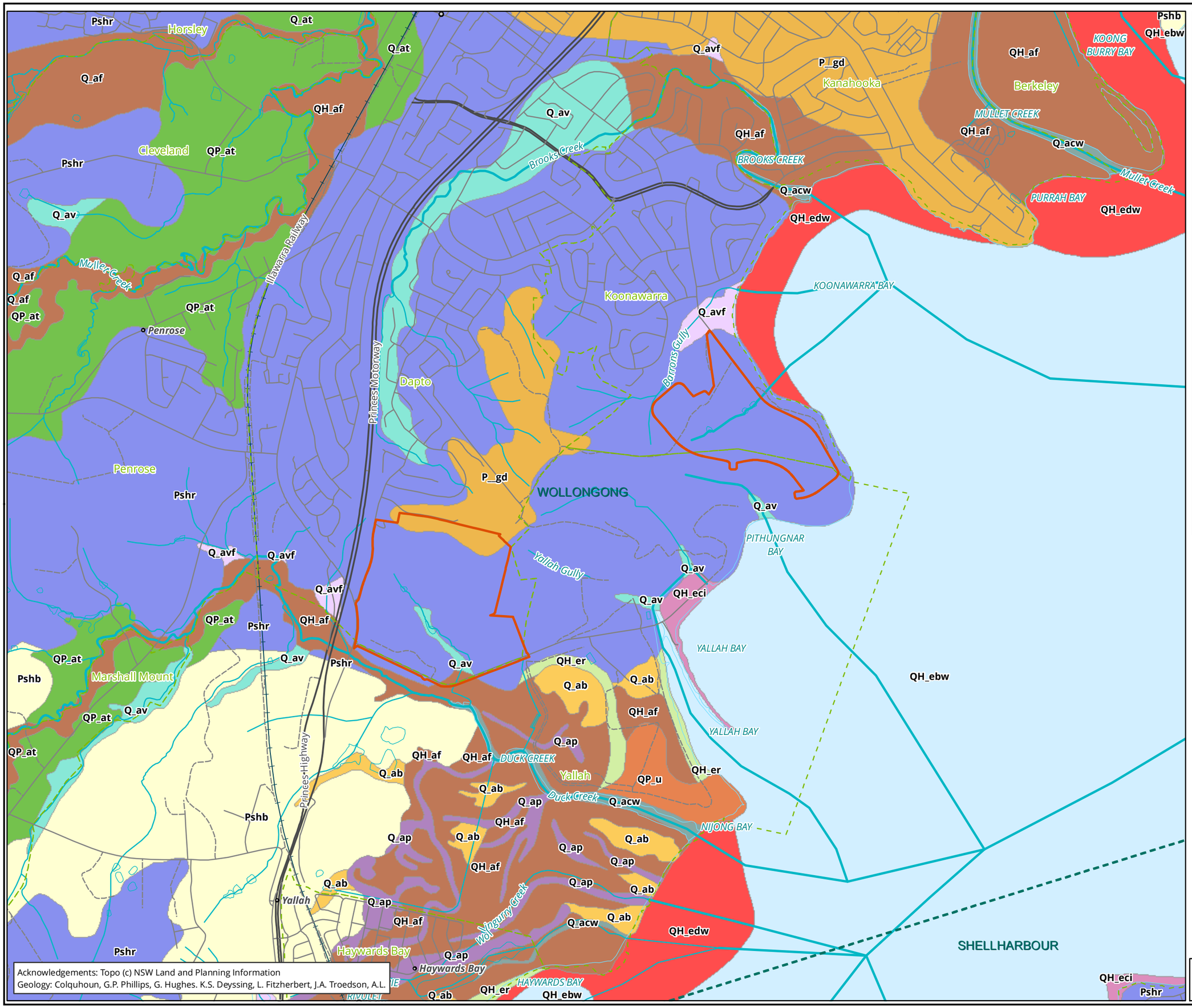
The study area is situated on the Coastal Plain on the edge of Lake Illawarra and the Escarpment (Figure 6). This physiographic unit has formed from the gradual recession westward of the Plateau (Bowman 1971). The Coastal Plain is characterised as a mosaic of foothills, ridges, spurs, hillocks and floodplains with slopes varying from very gently inclined to steep with the occasional low cliff. It is dissected by easterly flowing streams at intervals that become more frequent towards the north (Fuller 1982, p.18). The Coastal Plain is widest at the points where Macquarie Rivulet has entrenched into the Plateau at Macquarie Pass and where other waterways that provide the catchment area of Lake Illawarra, such as Duck and Wollingurry Creek systems, have carved into the Escarpment (Bowman 1971).

Situated on the western shore of Lake Illawarra, the study area extends from Koonawarra to Yallah bays (from north to south). Lake Illawarra was formed from the drowning of the Macquarie Rivulet valley during the raising of Holocene sea levels (6-7,000 years ago); the estuary was subsequently formed behind the large sand barrier that now forms the Windang Peninsula. Lake Illawarra is the largest estuarine lagoon on the south coast of NSW, covering an area of 33 square kilometres and extending over 9 kilometres in length and 5 kilometres in width. It receives salt water from the Pacific Ocean and fresh water from the Illawarra Escarpment (Roy 1984). Lake Illawarra is classified as an early Intermediate Barrier Estuary or an estuarine lagoon. Barrier estuaries are characterised by 'narrow elongated entrance channels with broad tidal and back barrier sand flats' (Roy 1984, p. 5).

The proximity to Lake Illawarra would have provided abundant food resources and is likely to result in the presence of Aboriginal sites, such as middens, in the vicinity of the study area.

3.1.2 Climate

The climate within the Study Area is generally temperate with a maritime influence. Summers in the coastal regions are generally warm, while winters are mild. In the escarpment areas to the west, winters are cold. Moderate to high temperatures, high humidity, onshore winds and peak rainfall characterise summer and autumn (Hazelton 1992). One third of the mean annual rainfall occurs between January and March, with a secondary rainfall peak in June. Winter winds are predominantly westerly, producing drier, cooler conditions.



Acknowledgements: Topo (c) NSW Land and Planning Information
Geology: Colquhoun, G.P. Phillips, G. Hughes. K.S. Deyssing, L. Fitzherbert, J.A. Troedson, A.L.

Legend

Study area

Geological units

- Alluvial backswamp deposits
- Alluvial channel deposits- subaqueous
- Alluvial fan deposits
- Alluvial floodplain deposits
- Alluvial palaeochannel deposits
- Alluvial terrace deposits
- Alluvial valley deposits
- Berry Siltstone
- Broughton Formation
- Dapto Latite Member
- Estuarine basin and bay (subaqueous)
- Estuarine in-channel bar and beach deposits
- Estuarine shoreline ridge and dune
- Estuarine- fluvial delta front (subaqueous)
- Pleistocene undifferentiated regolith

Figure 4: Geology within the study area

0 200 400 600 800 1,000

Metres

Scale: 1:20,000 @ A3

Coordinate System: GDA 1994 MGA Zone 55

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3.1.3 Soil landscapes

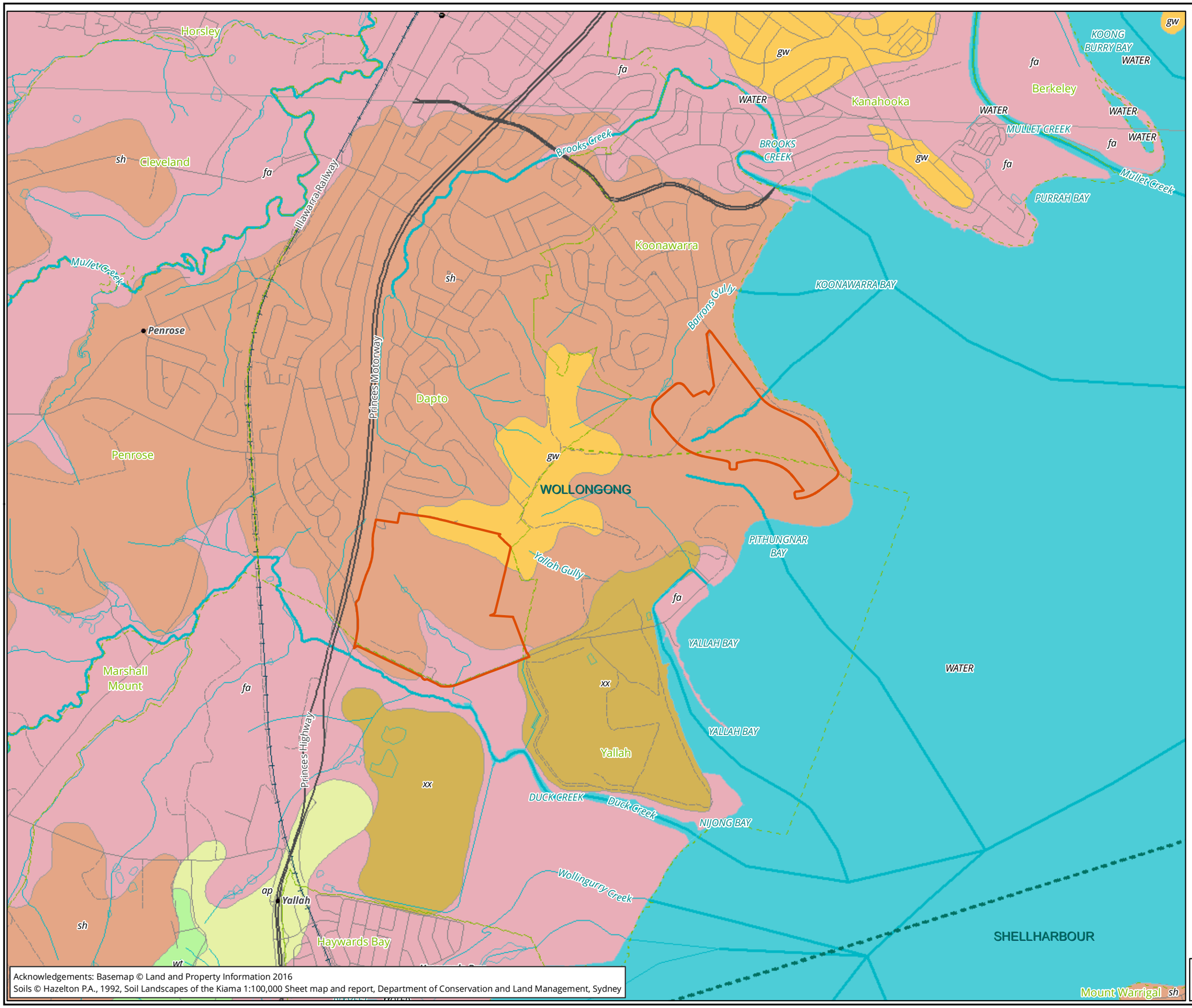
Soil landscapes have distinct morphological and topological characteristics that result in specific archaeological potential. Because they are defined by a combination of soils, topography, vegetation and weathering conditions, soil landscapes are essentially terrain units that provide a useful way to summarise archaeological potential and exposure. The study area contains one erosional soil landscape called the Shellharbour soil landscape (Figure 5). Erosional soil landscapes comprise soils that are derived from the erosive action of running water, primarily well-defined streams that have the ability to transport their sediment load. Soils may be either absent, derived from water-washed parent materials, or derived from *in situ* weathered bedrock.

The characteristics of the Shellharbour soil landscape are summarised in Table 2.

Table 2 Shellharbour soil landscape characteristics (Hazelton 1992, p. 58-60)

Soil Landscape	Topography	Soils
Shellharbour	Rolling low hills with long side slopes and broad drainage lines. Relief 30-50 metres. Slopes <20% incline.	Crests and upper slopes: Hard setting black rich clays overlying <100 cm of brown strongly pedal heavy clay. Mid slopes: Up to 20 cm of brownish black sandy loam overlies <50 cm of strongly pedal reddish brown sandy clay. 50 cm of mottled reddish brown sandy clay overlies <50 cm of brown strongly pedal heavy clay. Foot slopes and drainage plains: Up to 40 cm of reddish brown sandy clay overlies >50 cm of strongly pedal brown heavy clay.

The Shellharbour soil landscape has a high to very high erodibility rating would therefore be susceptible to frequent soil movement. This would result in poor preservation of archaeological material at shallow depths but would potentially lead to exposures of any deeper archaeological deposits were topsoil has eroded away.



Legend

Study area

Soil landscape units (1:100,000)

- ALBION PARK
- DISTURBED TERRAIN
- FAIRY MEADOW
- GWYNNEVILLE
- SHELLHARBOUR
- WATER
- WATTAMOLLA ROAD

Figure 5: 1:100,000 Soil landscapes within study area

0 200 400 600 800 1,000

Metres

Scale: 1:20,000 @ A3

Coordinate System: GDA 1994 MGA Zone 55

N

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Acknowledgements: Basemap © Land and Property Information 2016
Soils © Hazelton P.A., 1992, Soil Landscapes of the Kiama 1:100,000 Sheet map and report, Department of Conservation and Land Management, Sydney

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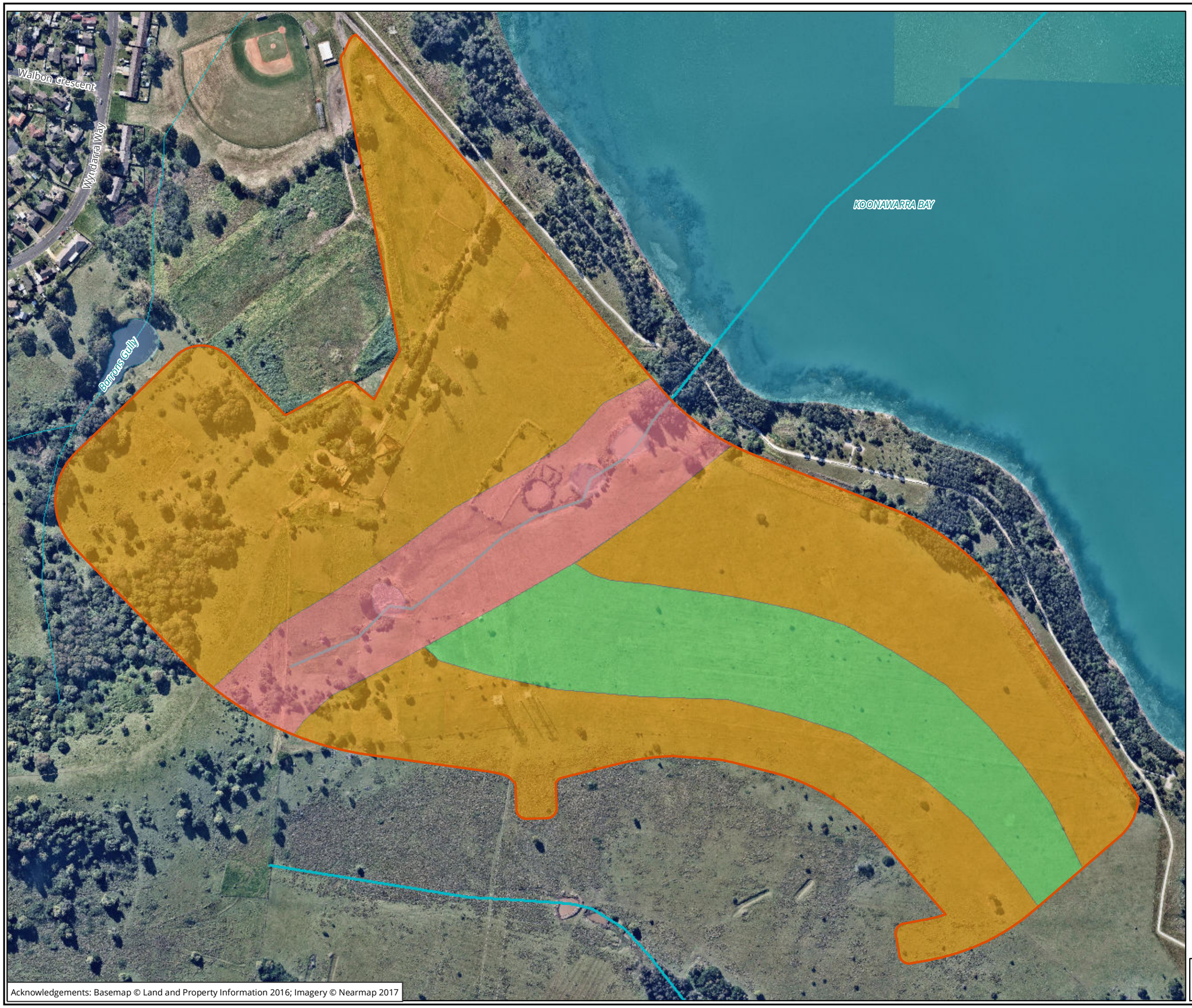
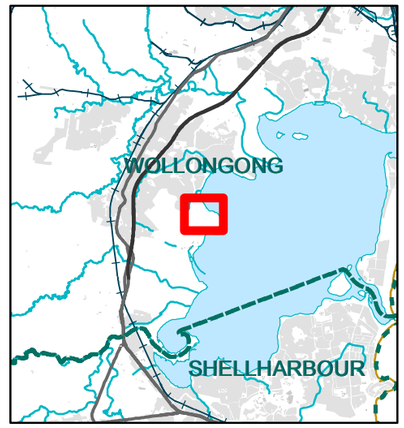




Legend

Study area

Landforms

Creekline

Crest

Hill slope

Figure 6: Landforms within the study area

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne, Newcastle, Sydney, Wangaratta & Wollongong

Matter: 24090
Date: 21 July 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
Location:\\bio-data-01\matters$\24000s\24090\Mapping\24090_F6_NorthernPrecinct_Landforms

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

3.1.4 Landscape resources

The Coastal Plain of the Illawarra region provides a number of resources used by Aboriginal inhabitants. The geology of the region provides an abundant supply of raw materials. Quartz is the main stone raw-material type suitable for Aboriginal tool manufacture that is likely to occur in the vicinity of the study area in any abundance. This would have been available locally and also from trading with other groups (Donlon and Sefton 1988, p. 23). Igneous material would have come from the south of the study area in areas like Gerringong (Donlon and Sefton 1988, p. 55) due to its volcanic nature. Some of the other fined grain siliceous material may have come from the Cumberland Plain. Silcrete cobbles are known to have occurred along the Cumberland Plain (McDonald 2003), to the north of the study area. Elsewhere on the Plain, the potential raw materials for stone artefact making include silicified wood, tuff, mudstone, quartz, quartzite and basalt. River gravels and cobbles containing silcrete, chert, and other fine grained volcanic rocks were also used (Attenbrow 2010). While previous archaeological work within the region has not identified any specific stone sources, the presence of the volcanic Dapto Latite Member in the region may have provided a suitable source of raw material, providing lithic material for stone axes. Resources would have been accessible in the outcrops of siltstone, shale and tuffaceous sandstones of the Berry Siltstone formation.

Aerial imagery and vegetation mapping undertaken by the National parks and Wildlife Service (NPWS) shows that the study are has been cleared of native vegetation; however, native vegetation communities in the vicinity of the study area and around Lake Illawarra would have been comparable to vegetation found in the study area prior to clearing. These vegetation communities include (NPWS 2002):

- Lowland Woollybutt – Melaleuca Forest located on flat low-lying Shoalhaven Group sediments at elevations between 10 and 35 metres above sea level. It is characterised by the presence of woolybutt (*Eucalyptus longifolia*), stringybark (*E. globoidea/E. eugenioides*), and honey myrtle (*Melaleuca decora).*
- Coastal Swamp Oak Forest occuring in estuarine environment that include low-lying areas of coastal floodplain and the finges of lakes and lagoons. Common and abundant species that occur include swamp oak (Casuarine glauca) , Common Reed (Phragmites australis), and various sedges

A number of these plant species would have been used by Aboriginal groups to make various wooden implements. Wood from the Swamp oak was used to make tools such as nulla nullas, while the bark was removed and made into canoe hulls (Robinson 1991, p.152).

Local Aboriginal groups would have had access to an abundant range of marine, terrestrial and avian species present in the coastal resource zone which would have provided a variety of uses. Marine animals such as cockles, lobster and periwinkles were eaten (Wesson 2009). Abalone and stingrays were also used to make fish hooks and tools in addition to their use as a food source (Wesson 2009). Terrestrial species on the coastal plain, such as kangaroos, possums and wombats would have been exploited for food and to make cloaks, and tools (Attenbrow 2010). Avian species were used as a food source, and in the case of the pelican and black duck were often totem animals for Aboriginal groups (Wesson 2009).

3.1.5 Land use history

Within the proposed study area, soil disturbance is associated with historic pastoral land-use practices and recreational usage. The entire area between Koonawarra and Yallah bays have been subjected to extensive grazing and agricultural practices from the 1880's onwards. As well as vegetation clearing for pasture and agriculture, other land disturbances within the property include construction of the high voltage transmission lines and towers; recreational usage resulting in impact trails particularly by trail bikes and pedestrian traffic in the low lying areas along the foreshore.

Although these past land activities caused disturbances, they may have impacted only the surface contexts of any existing Aboriginal archaeological site; it is unlikely that they would have destroyed sites. Clearing of the

land would have most likely removed any native culturally modified trees that were originally present in the study area.

3.2 Previous archaeological work

The majority of south coast sites date to the last 6,000 years when the sea-level stabilised following the last ice age. Prior to this, sea-levels were lower and the coast-line was located approximately 14 km to the east of its current position. Coastal sites older than 6,000 years are rare, as most would have been inundated by the rising sea. Pleistocene-aged Aboriginal sites on the south coast include Bass Point, dated at 17,010+/-650 BP (ANU-536) (Bowdler 1976, p. 254) and Burrill Lake rock shelter, dated at 20,830+/-810 BP (ANU-138) (Lampert 1971, p.122). Test excavations undertaken at the Wollingurry Point midden dated the site to 3360 +/- 90 years BP (Navin 1987, p. 104).

Several studies of site patterns and distribution have been completed for the Illawarra and South Coast. Regional overview (Figure 7).

Sefton's (1984) study formed part of the Local Environmental Study prior to the Stage 1 of the West Dapto Release Area (WDRA) development in Horsley, north of the study area. A copy of the Sefton's report could not be obtained, but the review was revised from the AMBS study (2006).

The following key elements constitute Sefton's site predictive model of the WDRA:

- Archaeological sites at Bass Point provide evidence of Pleistocene occupation, and there is no evidence to suggest West Dapto could not have been occupied at this time.
- It is possible that stratified occupational deposit could be located in the Pleistocene sediments of the flood plains at West Dapto. Stratified occupational deposit of Holocene age is also likely (and more possible) to occur in the floodplain sediments.
- Ethnohistorical records suggest two major zones of exploitation: (1) the coastal zone, including the shoreline, off shore islands and Lake Illawarra; and (2) the inland zone, including undulating tablelands. Groups who used both areas were small, mobile, and associated with a locality, but also ranged over larger areas. On this basis, it could be expected that the West Dapto area could have been exploited from both east and west directions, in addition to tracks along ridgelines.
- The Lake Illawarra shoreline presents restricted areas for campsites relative to the concentrated resources. Midden sites may not represent base camps (occupation sites) but instead preferred sites for resource exploitation. These preferred sites are expected to occur within two kilometers of the Lake Illawarra shoreline, and would have been established around the lake shore.
- The resources of West Dapto (flora, fauna, available water) would have made the locality attractive to occupation and exploitation. However, resources would have been scattered and at low density in comparison to the lake, and the locality was probably not economically self-contained. Base camps would not have been suitable for exploitation of these resources.
- Stone materials are not sourced within the area, with the exception of latite cobbles and occasional quartz pebbles. Consequently, stone would have been conserved at camp sites.
- Tracks connecting the coast to the interior would be expected through the West Dapto area, due to its geographic location between the two. Aboriginal tracks are usually along ridges, and consequently, sites could be expected in the saddles of ridges.
- Along the eastern coastal plain and the foothills of the escarpment to the west, sites are likely to occur on ridgelines or on dry level land within 100 metres of a creek line.

- In the foothills of the Escarpment to the west, sites may also occur further away from water on saddles of the Marshall Mount spur and on level areas of smaller ridgelines along the escarpment slopes and foothills.
- Extractive sites will also be located in West Dapto. These would occur as scarred trees, isolated large cores, tools of latite or small isolated stone artefacts. These sites may occur in all landform contexts, although scarred trees could only be identified in areas where trees have not been fired or cleared.
- It is not expected that latite quarry sites will occur at West Dapto. Although these tools have been located in adjacent areas on the shores of Lake Illawarra, those tools have been prepared from pebbles or cobbles and not from quarried materials (AMBS 2006, p. 87-8).

The following four areas were identified in WDRA as having high archaeological potential:

- All level areas of the Western foothills zone and the Coastal Plain within 100 metres of a creek located on:
  - Quaternary deposited flood plains.
  - Budgong Sandstone
  - Berry Siltstone.
- Saddles on the ridges of Marshall Point spur.
- Level areas in the Forest Creek Valley in the Escarpment Protection Zone.
- Level areas of the escarpment slopes on the topographic benches and bluffs.

Three main categories of sites being of potential significance were also identified:

- Stratified occupational deposits: may occur in the flood plain deposits of West Dapto, these deposits would have significant research potential and would be rare. Such a site may contain stone artefacts, food refuse and charcoal, which could be dated to establish a chronology of occupation of West Dapto. This would be significant to the public and be of educational significance. If the site were of Pleistocene age, it would be of major heritage significance to the Australian people, such as that identified at Bass Point.
- Surface camp sites: these unstratified deposits are likely to contain stone artefacts, and possibly, remnants of shell and charcoal. Bone is unlikely to have survived. These sites may provide information on settlement patterns, economic exploitation and stone tool manufacture and maintenance. These sites have research potential, but it is also predicted that they will be the most common site type at West Dapto.
- Scarred trees: although the identification of scarred trees is recognized to be problematical, any found in West Dapto will be of research potential (i.e. study of individual tree scars, relationship with other site types). Scarred trees are rare in the North Illawarra as in most areas, mature native trees have been burnt, and the rarity of scarred trees increases their significance (AMBS 2006, p. 90).

Sefton (1990) completed an archaeological survey for West Dapto Stage One Release Area in 1990, located to the west of the study area, south of Bong Bong Road. The survey targeted areas previously identified as having high archaeological potential, i.e. all level areas 100 metres of a creek situated on Quaternary deposits (floodplains) and/or Budgong Sandstone, and areas with remnant mature native vegetation. Three new Aboriginal sites were identified: two scarred trees Bong Bong 1 (AHIMS 52-2-1542) and Bong Bong 3 (52-2-1543) and an artefact scatter, Bong Bong 2 (AHIMS 52-2-1544). Two scars are located on Forest Red Gum *Eucalyptus tereticornis* and Narrow-leaf Stringybark *Eucalyptus eugenoides* trees. Two stone artefacts associated with Bong Bong 2 were located in an erosion gully above a cow track, approximately 2 metres from Reid Creek. Sefton concluded that the alluvium of the Robins Creek floodplains would contain significant stratified

archaeological deposits. However, floodplains associated with the Mullet Creek tributary, derived from Budgong Sandstone, would have been waterlogged and sites were unlikely to be present below alluvial deposits (Sefton 1990, p. 9).

Koettig (1992) conducted an assessment of Aboriginal sites for the electrification of the Dapto to Kiama railway line. Landforms surveyed included the low lying coastal plain and foothills. Due to the levels of previous disturbance during the construction of the railway it was considered that any possible archaeological sites would have been destroyed. No sites were located during the survey. Since the railway crosses areas that are deemed as having high archaeological sensitivity, such as dunes, old terraces, areas close to water sources that have not been affected by the recent development, archaeological material could still remain. Any new development outside the boundary of the railway easement was assessed as having archaeological sensitivity (Koettig 1992, p. 4).

Navin Officer (1993) completed archaeological testing of a proposed residential subdivision on the southern side of Bong Bong Road, West Dapto. This investigation followed on from Silcox's 1993 recommendation that the site had three areas of potential archaeological sensitivity. Area WD1 located within the lower slope and undulating creek flat landform was divided into five transects which were then sampled with a 35 test excavation units consisting of combination of auger holes and spade probes. One surface artefact was located at the western end of the identified WD1 Area. A series of ten random probes was excavated at 1to2 metres apart averaging 28 centimetres in depth. Four additional artefacts were recovered and the area was deemed as a site WD1, registered on AHIMS 52-2-1688. WD 2 Area located within a low rise landform between a creek and a swampy cut-off channel had a single transect running through it with a total of five test excavation units and no artefacts recovered. WD 3 Area was subject to only three random spade probes as it had a similar landform as WD 2; no artefacts were recovered.

Artefacts at the site WD1 (AHIMS 52-2-1688) were recovered from upper 26 centimetre of the loam deposit within 1 metre by 2 metre area, and consisted of silicified wood, chert and quartz flakes and one unidentified sedimentary core. Navin Officer stated that it was unlikely the artefacts were *in situ*, due to the extensive land use modifications of the topsoil from where artefacts were recovered (Navin Office 1993, p.11). Given the dense grass cover, size of the test area and the limitations of subsurface testing, Navin Officer considered that there was a possibility that more artefacts were present both on surface and subsurface in WD1 Area. However, potential for archaeologically significant sites and/or undisturbed archaeological deposits was assessed to be minimal (Navin Officer 1993, p.12). Consent to Destroy was issued by the National Park and Wildlife in 1993 in order to destroy the site WD1 (AHIMS 52-2-1688).

Navin Officer (1994) was commissioned by Camp Scott and Furphy to undertake an archaeological survey of the proposed Illawarra water quality project installation at Kembla Grange. The survey was a targeted survey of creek banks and flats, areas of exposure around an existing dam, and flat ground on the southern part of their study area. These areas had higher degree of ground surface visibility and were considered as being favoured by Aboriginal people for occupation activities. Footslopes, creek banks, creek flats and plains were all aggrading landforms due to colluvial deposition and mass soil movement and deposition of sediments by water. The steep slopes on the spurs and in the north were sampled (1994, p. 7). During this survey there were no new Aboriginal sites identified. It was argued that archaeological potential in the proposed works area was low due to the results of previous testing in the similar landforms (Navin Officer 1993).

AMBS (2006) completed an Aboriginal Heritage Management Plan for the West Dapto Release Area (WDRA). This large scale study was commissioned by the Wollongong City Council and encompasses the study area. From the initial survey program, a total of 24 archaeological sites; 13 open camp sites, 6 isolated finds, 5 scarred trees were located within the boundaries of the WDRA study area. These were positioned on all landforms including creek lines (6), alluvial flats (3), spanning creek lines and alluvial flats (3), hillslopes (8) and spur crests (4). A second stage of assessment consisted of subsurface testing of a 100 square metres area

(100, 1 metre by 1 metre test pits) was undertaken across all representative landforms of the Mullet, Duck and Marshall Mount Creeks catchment area.

A total of 425 artefacts (353 from within < 20 centimetres of deposit) were recovered from the following landscape contexts:

- Hillslopes (158, of which 146 were from one test pit).
- Alluvial flats -Pleistocene and Holocene terraces more than 10 metres away from stream channels (118).
- Streams- edges of Pleistocene and Holocene terraces within 10 metres of stream channels (86).
- Spur crests (63).

A range of raw materials were represented including, chert, quartz, quartzite, silcrete, silicified tuff and fine-grained siliceous. Artefact types included broken flakes, flakes, flaked pieces and cores. The range of raw materials and artefact types was considered characteristic of the region by AMBS.

AMBS concluded that from known site patterning it is likely that additional archaeological sites may occur throughout all landforms of the WDRA, although at varying site and artefact densities, and subsequently all parts of the WDRA are considered to have some archaeological potential. AMBS classified the current study area as low to moderate potential. In general, the highest artefact density was encountered along second-order streams, followed by the first order streams, spur crests and then hillslopes. Although artefact numbers recovered from individual test pit was low, high artefact recovery across all the landforms illustrate that the use of WDRA area was widespread, but not intensive. It was concluded that low density artefact scatters would be relatively common within the entire WDRA area (AMBS 2006: 245).

The report recommended further investigation and management of those areas considered to have higher archaeological potential, including a number of spur crests within the Mullet Creek corridor, the benched foot slopes within the Escarpment foothills adjacent to creek lines and the lower tributaries of major creeks (AMBS 2006: 266). These landforms would have provided camping sites, functioned as travel routes or provided a range of resources.

Areas of cultural value highlighted by the Aboriginal stakeholders throughout the development of this report are closely related to the archaeological record and the natural environment (AMBS 2006: VIII). All archaeological sites were identified as having cultural values, with the connection between cultural and natural values being emphasised. Large scatters and scarred trees were considered of higher significance, as were those sites retained within a natural setting. Conservation of important archaeological sites and natural areas such as creek lines and vegetated areas was a common theme identified among the Aboriginal

As part of the WDRA, AMBS commissioned Philip Hughes to complete a geomorphology / archaeological testing program prior to the commencement of the larger sub-surface investigation program. Hughes (2005) excavated a series of test pits using a combination of hand excavation and a backhoe within various landforms identified by AMBS (2006). The geomorphic testing revealed that while all landforms had the potential to contain artefact-bearing deposits, archaeological evidence for Aboriginal occupation and use of the Pleistocene terraces would be restricted to the Holocene period (AMBS 2006, p. 176). Artefact bearing deposits across all landforms comprise soft to firm soils and sediment (Hughes 2005, p. 4). The depth of deposits varies across landforms, with the shallowest sediments occurring on ridges and hill slopes, and the deepest sediments occurring on Holocene terraces. 'Richer' archaeological deposits could be expected within Holocene terraces, but they would be disturbed by floods and perhaps buried in deeper alluvium (AMBS 2006: 177). Artefacts were retrieved from alluvial flats at a maximum depth of 60 to70 centimetres.

Biosis (2009) was commissioned by Connectland Pty Ltd to undertake Aboriginal archaeological and cultural heritage assessment for the proposed Illawarra Employment and Teaching Centre, West Dapto, located

approximately 3.3km North West of the study area.. The assessed area encompassed 42.88 hectares to the north of Bong Bong Road and west of Mullet Creek. Archaeological survey was targeted towards areas that will be impacted by the proposed development, and landforms and areas identified in the predictive modelling as having high likelihood for the presence of sites, i.e. ridgelines and waterways. Two Isolated artefacts were identified during the site survey, Bong Bong Road IA1 (AHIMS 52-2-3659) to the immediate north of Bong Bong Road within the exposure around the tree, and Bong Bong Road IA2 (AHIMS 52-2-3660). Comprehensive review of AMBS study (2006) indicated that the newly recorded site 52-2-3660 was most likely already recorded site WDRA_AX_01 (AHIMS 52-2-3289). Both Bong Bong Road IA1 and Bong Bong Road IA2 were assessed as having low scientific significance and they were considered to be a common occurrence within the region (Biosis 2009, p.42-3). Their presence conforms to the site predictive model for the region where Aboriginal sites are likely to occur on level, well-drained ground adjacent to wetlands and resources. It was recommended that both sites be salvaged and relocated in the event impacts cannot be avoided.

3.2.1 Local overview

A number of Aboriginal cultural heritage investigations have been conducted within the region (within approximately 5 kilometres of the study area). Most of these investigations were undertaken as part of development applications and included surface and sub-surface investigations. These investigations are summarised below.

Sefton (1980) undertook an archaeological survey of the proposed transmission line routes in the West Dapto-Yallah Area of the City of Wollongong. During this survey two archaeological sites were identified. Registered site Yallah Site 1 (52-5-0123) consisted of one isolated artefact that was located on the northern bank of a tributary of Duck Creek, made from fossilised wood. Site Yallah Site 2 (52-5-0122) was located within 150 metres of the Lake Illawarra on a lower slope and is a sparse scatter of seven artefacts made from chert, jasper and rhyolite. This site was located on a gradual slope, and has been previously disturbed by quarrying, erosion and underground services (Sefton 1980, p. 10). Both sites are approximately 3 kilometres south-east of the study area and are within close proximity to reliable, permanent sources of water on flat elevated grounds. It was recommended that any excavations in the vicinity of site Yallah 2 be monitored, and no impacts were proposed to site Yallah 1.

Dallas and Navin (1987) conducted an archaeological survey along the Southern Foreshore of Lake Illawarra and on Bevans, Picnic, Berageree and Werrang islands approximately 7 kilometres south east of the current study area. The survey identified five new shell midden sites and one previously recorded midden site (AHIMS 52-5-0119). In their discussion of the survey results Dallas and Navin suggested that the locations of the middens on the islands was not necessarily indicative of preferential use. Rather, they suggest it was more likely that the lack of disturbances on the islands compared to the more heavily disturbed Illawarra Lake foreshore has resulted in the destruction of foreshore middens and the preservation of island middens.

Navin Officer (1997) undertook an archaeological investigation of a proposed residential subdivision at Lot 1 DP253917, Mount Brown Road in South Dapto, approximately 2.5 kilometres west of the current study area. A survey was conducted as part of this assessment, but the survey did not identify any Aboriginal sites. The absence of sites was attributed to a number of factors including the very low ground surface visibility, a lack of specific resources in the area, and shallow soils with an absence of colluvium material adjacent to drainage lines. Previous land use practices also indicated that little material would have remained *in situ* due to disturbances. The results of this survey were consistent with those obtained from other archaeological surveys in the local area and with the regional pattern of sparse site occurrence in the low hilly lands interior of Lake Illawarra and the coastal plain (Navin Officer 1997, p.7).

Comber Consultants Pty Ltd (2010) undertook an Aboriginal archaeological assessment for the proposed bike and pedestrian path around Lake Illawarra, which the current study area partly lies within. As part of this assessment Comber undertook basic predictive modelling and developed predictive statements for various

site types. These statements indicated that there was a possibility for middens, burials, open camp sites, axe grinding grooves and isolated finds to be present in the study area.

Following background research, Comber conducted a survey of their study area. No Aboriginal archaeological sites were recorded during this survey, but area 2, which the current study area lies partially in, and area 4 of their study area were identified as having a high potential to contain sub surface archaeological deposits.

Considering a high number of previously recorded Aboriginal archaeological sites (13) within the vicinity of the study area and the landform they were in (Lake Illawarra foreshore), it was recommended that archaeological sub-surface testing be undertaken in areas 2 and 4 in order to determine the existence, and then nature and extent of any such deposits.

3.2.2 Previous Aboriginal archaeological test excavations within the study area

Biosis (2010) conducted an Aboriginal Archaeological Assessment of the Tallawarra lands for TRUenergy which encompassed the current study area. Biosis was commissioned to conduct sub-surface testing for a number of areas assessed by Kelleher and Nightingale (2006) as having moderate and high archaeological sensitivity.

A total of 10 areas were excavated across five landform types (Figure 7). These landforms included foreshore, spur line, drainage line, hill slope, and creek line landforms. The excavations identified 24 stone artefacts and one piece of ochre across the 10 excavation areas; the highest number of artefacts were uncovered in the creek line landform (n=13) followed by the drainage line landform (n=10) (Biosis 2010, pp.134-135). The foreshore and hill slope landforms each contained one artefact and the spur line did not contain any (Biosis 2010, pp.134-135). The artefact assemblage consisted of a range of raw materials including chert, quartzite, silcrete, basalt, chalcedony and siltstone.

An analysis of the soil profiles within various landform units in the study area indicated that depth of deposit increased with proximity to water (specifically Duck Creek). Disturbances to the soil stratigraphy were found to be limited to the upper (top soil) layer, with lower stratigraphic units showing very low to no evidence of previous disturbance. Two areas (TLPD-2 and TLPD-3) within the current study area were tested during the 2010 test excavation program (Biosis 2010). The test pit soil profiles within TLPD-2 and TLPD-3 (AHIMS 52-5-0613), were all noted to have four distinct stratigraphic units displaying little to no evidence of previous disturbance in the topsoil and lower layers.

Biosis concluded that the low number of artefacts indicated that Aboriginal people were using the Tallawarra Lands, with occupation focusing on Duck Creek, but it was likely sporadic or low density (Biosis 2010, p 147).

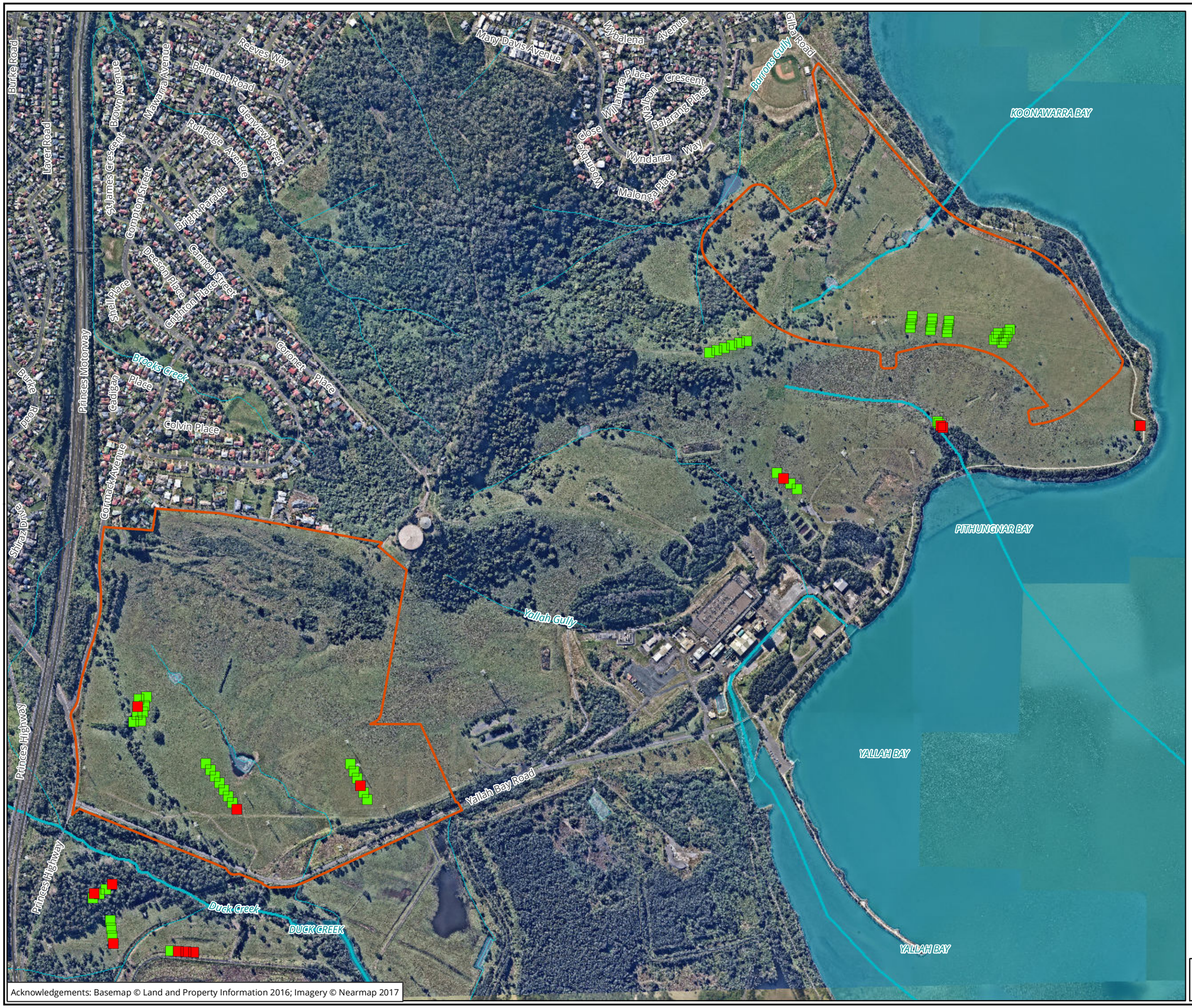
Biosis (2011) were commissioned by the Lake Illawarra Authority to undertake archaeological assessment and test excavations of the Tallawarra recreational shareway based on the recommendations of Comber (2010). The Tallawarra Lands development encompasses parts of the area assessed by Biosis (2011).

As part of this assessment Biosis undertook background research and used it to construct several predictive statements for the study area. These statements indicated that (Biosis 2011, pp. 36-39):

- Midden shell and lithic material have been known to occur on sand bodies such as coastal beach dune systems, elevated ground adjacent to wetlands such as low gradient basal colluvial slopes, terminal spur line crests and alluvial terraces along valley floor drainage corridors.
- Artefact scatters may be identified anywhere within the study area but they are more likely to be identified near water-related landforms and on gently inclined slopes within 100 m of water. Stone artefacts are more likely to consist of sandstone, quartz or volcanics.
- Shelters, grinding grooves and raw materials suitable for stone tool manufacture will not occur within the study area due to a lack of suitable geology.

- Scarred trees may occur anywhere within the study area where mature trees remain.
- A burial was recorded on the shores of Lake Illawarra. Due to alluvial deposits within the study area and previously recorded burial, there is a possibility that unrecorded burials may be located in the area.

The test excavations undertaken as part of the assessment involved 157 auger holes along the foreshore. The excavations identified one new artefact scatter Tallawarra Point 1 (AHIMS and extended the pre-existing site Tallawarra Power Station Midden (AHIMS 52-5-0070). Two artefacts consisting of a quartz flake fragment and a silcrete geometric microlith were identified at Tallawarra Point 1. It was suggested that this site was likely representative of transient occupation. Six stone artefacts were also excavated in a tidal creek landform directly south of Tallawarra Power Station Midden (AHIMS 52-5-0070). The artefacts consisted of four chert flakes, 1 quartz flake and one silcrete flake. This scatter was identified as part of the Tallawarra Power Station Midden (AHIMS 52-5-0070). Biosis suggested that the Tallwara Power Station Midden was representative of camping activities or frequent travel through the area (Biosis 2011, p. 61-62). No midden material was encountered during the test excavations.



Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

Legend

Study area

Biosis 2010 Test Pits

No artefacts present

Artefact(s) present

Figure 7: Previous test excavations

0 100 200 300 400 500

Metres

Scale: 1:9,000 @ A3

Coordinate System: GDA 1994 MGA Zone 56

Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne, Newcastle, Sydney, Wangaratta & Wollongong

Matter: 24090
Date: 13 July 2017,
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3.2.3 AHIMS site analysis

A search of the OEH Aboriginal Heritage Information Management System (AHIMS) database (Client Service ID: 287109) identified 86 Aboriginal archaeological sites within a 5 square kilometre search area, centred on the proposed study area. AHIMS search results are provided in Appendix 1.

Two AHIMS sites (Boomberry Point 1 (AHIMS 52-5-0223) and Elizabeth Point (AHIMS 52-5-0225) are located *within* the study area (Figure 8). Two AHIMS sites (Gilba Road 1 (52-5-0642) and Gilba Road 2 Fill 1 (AHIMS 52-5-0643) are located within 10 metres of the study area. The location of Gilba Road 1 (52-5-0642) has been incorrectly recorded on the AHIMS database. A review of the site card and description indicates that this site is located along Gilba Road within 10 metres of the study area.

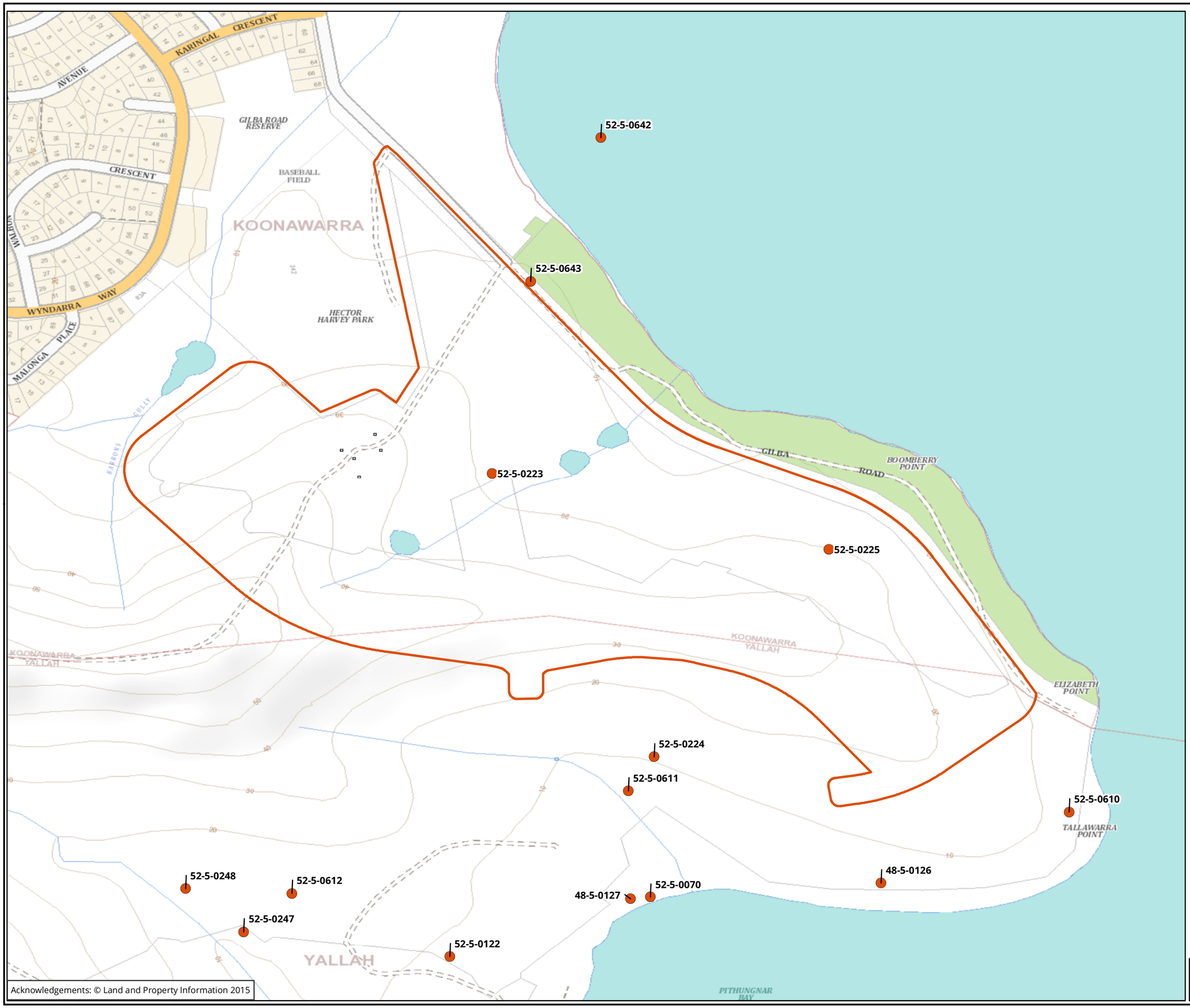
Table 3 provides the frequencies of Aboriginal site types in the vicinity of the study area. The mapping coordinates recorded for these sites were checked for consistency with their descriptions and location on maps from Aboriginal heritage reports where available. The descriptions and maps were relied upon when notable discrepancies occurred in the locations of sites.

It should be noted that the AHIMS database reflects Aboriginal sites that have been officially recorded and included on the list. Large areas of NSW have not been subject to systematic, archaeological survey; hence AHIMS listings may reflect previous survey patterns and should not be considered a complete list of Aboriginal sites within a given area. Some recorded sites consist of more than one element, for example artefacts and a modified tree, however for the purposes of this breakdown and the predictive modelling, all individual site types will be studied and compared. This explains why there are 102 results presented here, compared to the 86 sites identified in AHIMS.

Table 3 AHIMS site type frequency

Site type	Number of occurrences	Frequency (%)
Aboriginal ceremony and dreaming	2	1.96
Artefact	67	65.69
Modified tree	1	0.98
PAD	13	12.75
Shell	18	17.65
Stone Arrangement	1	0.98
Total	102	100

A simple analysis of the Aboriginal cultural heritage sites registered within the 5 square kilometre buffer of the study area indicates that artefacts are the most commonly recorded site type (n=67, 65.69%). This is followed by shells sites (n=18, 17.6%) and PAD sites (n=13, 12.75%). Aboriginal ceremony and dreaming (n=2, 1.96%), modified tree (n=1, 0.98%) and stone arrangement (n=1, 0.98%) were also recorded in the region.



Legend

- AHIMS Records
- Study area

Figure 8: AHIMS search results

NOT TO BE MADE PUBLIC

0 40 80 120 160 200

Metres

Scale: 1:5,000 @ A3

Coordinate System: GCS GDA 1994

N

Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne, Sydney,Wangaratta & Wollongong

Matter:
Date: 22 August 2017,
Checked by: lharley, Generated by: lharley
Location:P:\24000s\24090\Mapping\24090_AR_F8_AHIMS.mxd

Acknowledgements: © Land and Property Information 2015

3.3 Discussion

Ethno-historical information regarding the study area indicates that the region was intensively occupied by the Wodi Wodi of the Dharawal language group before European occupation.

The current study area is characterised by the coastal plain landscape, and is situated on the open banks of Lake Illawarra backing onto the slopes of the Mount Brown. The proximity to Lake Illawarra would have provided access to aquatic animals which would have been used by Aboriginal groups in the area as a food source and for tool production. The easy access to aquatic species should result in the potential for shell middens to be present in the study area. This is supported by AHIMS data which showed that middens were the second most common site type in the region. Geology of the Illawarra region also provided access to stone resources useful for tool manufacture. The AHIMS data indicated that stone artefacts are the most common site type in the region so they are likely to be present in the study area

Previous archaeological work within the study area has not only focussed on specific development activities but has recognised the archaeological and cultural landscape values of the locality. The previous studies provide a general overview of Aboriginal archaeological site modelling and predictive behaviour within the current study area. In general, previous archaeological work indicates that areas of archaeological potential will occur where disturbance has been limited, and the most likely site type to be encountered will be middens sites and artefacts.

3.3.1 Predictive Statements

A number of predictive statements have been formulated to broadly predict the type and character of Aboriginal cultural heritage sites likely to exist(ed) throughout the study area and where they are more likely to be located.

The predictive statements are based on:

- Site distribution in relation to landscape descriptions within the study area.
- Consideration of site type, raw material types and site densities likely to be present within the study area.
- Findings of the ethnohistorical research on the potential for material traces to present within the study area.
- Potential Aboriginal use of natural resources present or once present within the study area.
- Consideration of the temporal and spatial relationships of sites within the study area and surrounding region.

Based on this information, a number of predictive statements have been developed, indicating the site types most likely to be encountered during the survey and subsequent sub-surface investigations across the present study area (Table 4). The definition of each site type is described firstly, followed by the predicted likelihood of this site type occurring within the study area.

Table 4 Aboriginal site prediction statements

Site type	Site description	Potential
Flaked stone artefact scatters and isolated artefacts	Artefact scatter sites can range from high-density concentrations of flaked stone and ground stone artefacts to sparse, low-density 'background' scatters and isolated finds.	High: Stone artefact sites are the most common previously recorded site in the region, occurring across a wide range of landforms and within the study area. They have high potential to be present in undisturbed areas within the study area.
Shell middens	Deposits of shells accumulated over either singular large resource gathering events or over longer periods of time.	Moderate: Shell midden sites have been recorded within the vicinity of study area. The proximity of the study area to Lake Illawarra indicates a high potential for the presence of shell middens
Quarries	Raw stone material procurement sites.	Low: There is no record of any quarries being within or surrounding the study area.
Potential archaeological deposits (PADs)	Potential sub surface deposits of cultural material.	Moderate: PADs have been recorded in the region across a wide range of landforms. They have the potential to be present in undisturbed landforms of the study area
Modified trees	Trees with cultural modifications	Low: Due to extensive vegetation clearing from of the study area there is low potential for modified trees.
Axe grinding grooves	Grooves created in stone platforms through ground stone tool manufacture.	Low: The geology of the Study Area lacks suitable horizontal sandstone rock outcrops for axe-grinding grooves. Therefore there is low potential for axe grinding grooves to occur in the study area.
Burials	Aboriginal burial sites.	Low: Aboriginal burial sites are generally situated within deep, soft sediments, caves or hollow trees. Areas of deep sandy deposits will have the potential for Aboriginal burials. The soil profiles associated with the study area are not commonly associated with burials.
Rock shelters with art and / or deposit	Rock shelter sites include rock overhangs, shelters or caves, and generally occur on, or next to, moderate to steeply sloping ground characterised by cliff lines and escarpments. These naturally formed features may contain rock art, stone artefacts or midden deposits and may also be associated with grinding grooves.	Low: The sites will only occur where suitable sandstone exposures or overhangs possessing sufficient sheltered space exist, which are not present in the study area.
Aboriginal ceremony and Dreaming Sites	Such sites are often intangible places and features and are identified through oral histories, ethnohistoric data, or Aboriginal	Low: There are currently no recorded mythological stories for the study area.

Site type	Site description	Potential
	informants.	
Post-contact sites	These are sites relating to the shared history of Aboriginal and non-Aboriginal people of an area and may include places such as missions, massacre sites, post-contact camp sites and buildings associated with post-contact Aboriginal use.	Low: There are no post-contact sites previously recorded in the study area and historical sources do not identify one.
Aboriginal places	Aboriginal places may not contain any "archaeological" indicators of a site, but are nonetheless important to Aboriginal people. They may be places of cultural, spiritual or historic significance. Often they are places tied to community history and may include natural features (such as swimming and fishing holes), places where Aboriginal political events commenced or particular buildings.	Low: There are currently no recorded Aboriginal historical associations for the study area.

4 Archaeological survey

A field survey of the study area was undertaken on 29 June 2017. The field survey sampling strategy, methodology and a discussion of results are provided below.

4.1 Archaeological survey objectives

The objectives of the survey were to:

- To attempt to re-identify Aboriginal archaeological sites Boomberry Point 1 (AHIMS 52-5-0223), Elizabeth Point 1 1 (AHIMS 52-5-0225), Gilba Road 1 1 (AHIMS 52-5-0642) and Gilba Road 2 Fill 1 (AHIMS 52-5-0643) previously identified in or immediately adjacent to the study area.
- To undertake a systematic survey of the study area targeting areas with the potential for Aboriginal heritage.
- Identify and record Aboriginal archaeological sites visible on the ground surface.
- Identify and record areas of potential archaeological deposits (PADs).

4.2 Archaeological survey methodology

The survey methods were intended to assess and understand the landforms and to determine whether any archaeological material from Aboriginal occupation or land use exists within the study area.

4.2.1 Sampling strategy

The survey effort targeted these portions of the study area:

- All landforms (including each occurrence of a specific landform type that will be impacted) that will be potentially be impacted.
- Landforms with a higher potential for Aboriginal heritage and justifying the selection of these landforms.

4.2.2 Survey methods

The archaeological survey was conducted on foot with a field team of one archaeologist. Recording during the survey followed the archaeological survey requirements of the code and industry best practice methodology. Information that recorded during the survey included:

- Aboriginal objects or sites present in the study area during the survey.
- Survey coverage.
- Any resources that may have potentially have been exploited by Aboriginal people.
- Landform.
- Photographs of the site indicating landform.
- Evidence of disturbance.
- Aboriginal artefacts, culturally modified trees or any other Aboriginal sites.

Where possible, Identification of natural soil deposits within the study area was undertaken. Photographs and recording techniques were incorporated into the survey including representative photographs of survey units, landform, vegetation coverage, ground surface visibility and the recording of soil information for each survey unit were possible. Any potential Aboriginal objects observed during the survey were documented and photographed. The location of Aboriginal cultural heritage and points marking the boundary of the landform elements were recorded using a hand-held Global Positioning System and the Map Grid of Australia (94) coordinate system.

4.3 Archaeological survey results

A total of 5 transects were walked across three landforms (Figure 9). This follows the methodology set out in Burke and Smith (2004, p. 65) which states that a single person can only effectively visually survey an area of two linear metres. No new Aboriginal sites or PADs were identified in the study area. The results from the field survey have been summarised in Table 5 below.

The Northern Precinct consists of a crest running through the southern portion of the study area, an open drainage depression in the centre and a simple slope and flats associated with Lake Illawarra (Table 6, Plate 3 and Plate 4).

4.3.1 Constraints to the survey

With any archaeological survey there are several factors that influence the effectiveness (the likelihood of finding sites) of the survey. The factors that contributed most to the effectiveness of the survey within the study area were visibility, exposure and disturbance.

4.3.2 Visibility

In most archaeological reports and guidelines visibility refers to ground surface visibility, and is usually a percentage estimate of the ground surface that is visible and allowing for the detection of (usually stone) artefacts that may be present on the ground surface (NSW NPWS 1997, Appendix 4). Visibility within the study area was generally poor, with areas of exposure isolated to disturbance associated with the horse ring, dam and fence lines. Visibility was 80% within these areas (Plate 1).

4.3.3 Exposure

Exposure refers to the geomorphic conditions of the local landform being surveyed, and attempts to describe the relationship between those conditions and the likelihood the prevailing conditions provide for the exposure of (buried) archaeological materials. Whilst also usually expressed as a percentage estimate, exposure is different to visibility in that it is in part a summation of geomorphic processes, rather than a simple observation of the ground surface (Burke and Smith 2004, p. 79; NSW NPWS 1997, Appendix 4). Overall, the study area displayed areas of exposure of approximately 5%.

4.3.4 Disturbances

Disturbance in the study area is associated with natural and human agents. Natural agents generally affect small areas and include the burrowing and scratching in soil by animals, such as wombats, foxes, rabbits and wallabies, and sometimes exposure from slumping or scouring. Disturbances associated with recent human action are prevalent in the study area and cover large sections of the land surface. The agents include residential development such as landscaping and construction of residential buildings; farming practices, such as initial vegetation clearance for creation of paddocks, fencing and stock grazing; light industrial practices such as creation of artificial dams within the study area. Areas that have gone through disturbance are associated with horse ring, dams, fence lines and infrastructure associated with the Tallawarra Power Station (Plate 2).

Plate 1 **The study area showing poor surface visibility due to vegetaton cover, facing south**

Plate 2 **Disturbance associated with the construction of horse ring and dams, facing north**

Plate 3 Crest running through the southern part of the study area, facing west

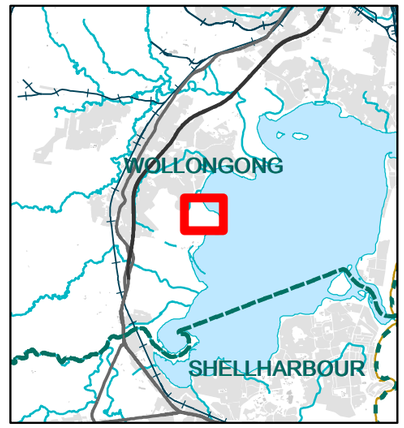
Plate 4 Simple slope down towards open drainage depression, facing east

Table 5 Survey coverage

Survey Unit	Landform	Survey unit area (m²)	Visibility (%)	Exposure (%)	Effective coverage area (m²)	Effective coverage (%)
1	Creek line	53,175	80	5	1,329	2.49
2	Crest	64,767	80	5	1,619	2.49
3	Hill slope	272,730	80	5	10,909	3.99

Table 6 Landform summary

Landform	Landform area (m²)	Area effectively surveyed (m²)	Landform effectively surveyed (%)	No. of Aboriginal sites	No. of artefacts or features
Creek line	53,175	1,329	2.49	0	0
Hill slope	64,767	1,619	2.49	0	0
Crest	272,730	10,909	3.99	0	0



Legend

Study area

Transects

Figure 9: Survey coverage

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

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Ballarat, Brisbane, Canberra, Melbourne, Newcastle, Sydney, Wangaratta & Wollongong

Matter: 24090
Date: 21 July 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
Location:\\bio-data-01\matters$\24000s\24090\Mapping\24090_F9_NorthernPrecinct_SurveyCov

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017

4.3.5 Discussion of archaeological survey results

The study area is located within a crest and simple slope landform pattern associated with a creek line that drains into Lake Illawarra. There is one soil landscaped present within the study area, an erosional soil landscape called the Shellharbour soil landscape. Erosional soils have a high to very high erodibility rating and would therefore be susceptible to frequent soil movement and result in poor preservation of archaeological material at shallow depths but would potentially lead to exposures of any deeper archaeological deposits were topsoil has eroded away.

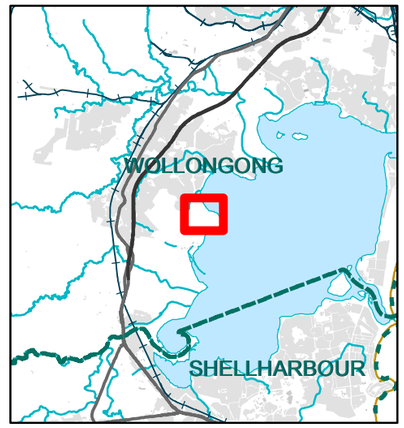
The field survey revealed that parts of the study area had been subject to previous ground disturbance due to construction of towers for the Tallawarra Power Station. These areas would have displaced surface cultural material and disturbed deeper buried archaeological deposits. Having said that, most of the study area had only limited disturbance that was due to the construction of horse training rings, dams and fence lines, animal trampling from horse agistment. Although these processes would displace surface cultural material, they would not affect deeper buried archaeological deposits. Due to the low levels of ground surface visibility and exposure the AHIMS sites recorded in and adjacent to the study area could not be relocated.

A review of previous archaeological studies, surveys, test excavations and regional predictive modelling indicates that all landforms within the study area were utilised to some degree by Aboriginal people in the past. This has concluded that:

- Majority of the test pits conducted by AMBS (2006) in the West Dapto Release Area contained artefacts were located within alluvial flats, following by hillslopes, then spur crests , then 3rd order, then 2nd order, then 4th and at last 1st order creek lines.
- AHMS (2012) in excavations further along Robins Creek determined that alluvial flats had the highest density of artefacts (30.2 per metre square), followed by hillslope (17.3 metre square) and spur crest (16.9 metre square).
- Previous investigations along Robins Creek have determined that the alluvial terraces associated with this landform have the potential to contain cultural material which appears to be well preserved *in situ*. Artefacts within the *Fairy Meadow* soil landscape at this location were retrieved from between 60 to 80 centimetres depth.
- Predictive modelling indicates that of sites located on stream landforms, majority were along the 3rd order, following by 4th, then 2nd and last 1st order creek lines.

Based on the site survey and previous assessments the low spur/crest running roughly east-west through the center of the study area has been assessed as having moderate subsurface archaeological potential (Figure 10). Previous research indicates that the landform is likely contain low density artefact sites or isolated artefacts that were discarded as Aboriginal people travelled through the landscape. The test excavation program conducted by Biosis in 2010 indicated that this landform unit has been subject to low levels of previous ground disturbance with four distinct and intact soil horizons identified throughout the testing locations in the northern precinct.

Areas that have undergone significant previous disturbance would have removed sub-surface deposits from their original contexts and were assessed as low potential as a result (Figure 10). Hillslopes were also assessed as low potential as they tended to be sloped and at the time of survey were heavily waterlogged and unsuitable for occupation or travel.



Legend

Study area

Archaeological potential

Moderate

Low

Figure 10: Archaeological potential

0 30 60 90 120 150

Metres

Scale: 1:3,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

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5 Scientific values and significance assessment

The two main values addressed when assessing the significance of Aboriginal sites are cultural values to the Aboriginal community and archaeological (scientific) values. This report will assess scientific values while the Aboriginal Cultural Heritage Assessment Report will detail the cultural values of Aboriginal sites in the study area.

5.1 Introduction to the assessment process

Heritage assessment criteria in NSW fall broadly within the significance values outlined in the Australia International Council on Monuments and Sites (ICOMOS) Burra Charter (Australia ICOMOS 2013). This approach to heritage has been adopted by cultural heritage managers and government agencies as the set of guidelines for best practice heritage management in Australia. These values are provided as background and include:

- **Historical significance** (evolution and association) refers to historic values and encompasses the history of aesthetics, science and society, and therefore to a large extent underlies all of the terms set out in this section. A place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase or activity. It may also have historic value as the site of an important event. For any given place the significance will be greater where evidence of the association or event survives in situ, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment.
- **Aesthetic significance** (Scenic/architectural qualities, creative accomplishment) refers to the sensory, scenic, architectural and creative aspects of the place. It is often closely linked with social values and may include consideration of form, scale, colour, texture, and material of the fabric or landscape, and the smell and sounds associated with the place and its use.
- **Social significance** (contemporary community esteem) refers to the spiritual, traditional, historical or contemporary associations and attachment that the place or area has for the present-day community. Places of social significance have associations with contemporary community identity. These places can have associations with tragic or warmly remembered experiences, periods or events. Communities can experience a sense of loss should a place of social significance be damaged or destroyed. These aspects of heritage significance can only be determined through consultative processes with local communities.
- **Scientific significance** (Archaeological, industrial, educational, research potential and scientific significance values) refers to the importance of a landscape, area, place or object because of its archaeological and/or other technical aspects. Assessment of scientific value is often based on the likely research potential of the area, place or object and will consider the importance of the data involved, its rarity, quality or representativeness, and the degree to which it may contribute further substantial information.

The cultural and archaeological significance of Aboriginal and historic sites and places is assessed on the basis of the significance values outlined above. As well as the ICOMOS Burra Charter significance values guidelines, various government agencies have developed formal criteria and guidelines that have application when assessing the significance of heritage places within NSW. Of primary interest are guidelines prepared by the Commonwealth Department of the Environment and Energy, OEH and the Heritage Branch, NSW Department of Planning and Environment. The relevant sections of these guidelines are presented below.

These guidelines state that an area may contain evidence and associations which demonstrate one or any combination of the ICOMOS Burra Charter significance values outlined above in reference to Aboriginal heritage. Reference to each of the values should be made when evaluating archaeological and cultural significance for Aboriginal sites and places.

In addition to the previously outlined heritage values, the OEH Guidelines (DECC 2005) also specify the importance of considering cultural landscapes when determining and assessing Aboriginal heritage values. The principle behind a cultural landscape is that 'the significance of individual features is derived from their inter-relatedness within the cultural landscape'. This means that sites or places cannot be 'assessed in isolation' but must be considered as parts of the wider cultural landscape. Hence the site or place will possibly have values derived from its association with other sites and places. By investigating the associations between sites, places, and (for example) natural resources in the cultural landscape the stories behind the features can be told. The context of the cultural landscape can unlock 'better understanding of the cultural meaning and importance' of sites and places.

Although other values may be considered – such as educational or tourism values – the two principal values that are likely to be addressed in a consideration of Aboriginal sites and places are the cultural/social significance to Aboriginal people and their archaeological or scientific significance to archaeologists. The determinations of archaeological and cultural significance for sites and places should then be expressed as statements of significance that preface a concise discussion of the contributing factors to Aboriginal cultural heritage significance.

5.2 Archaeological (scientific significance) values

Archaeological significance (also called scientific significance, as per the ICOMOS Burra Charter) refers to the value of archaeological objects or sites as they relate to research questions that are of importance to the archaeological community, including indigenous communities, heritage managers and academic archaeologists. Generally the value of this type of significance is determined on the basis of the potential for sites and objects to provide information regarding the past life-ways of people (Burke and Smith 2004, p. 249, NPWS 1997b). For this reason, the NPWS (part of DECC) summarises the situation as 'while various criteria for archaeological significance assessment have been advanced over the years, most of them fall under the heading of archaeological research potential' (NPWS 1997b, p. 26). The NPWS criteria for archaeological significance assessment are based largely on the ICOMOS Burra Charter.

Research potential

Research potential is assessed by examining site content and site condition. Site content refers to all cultural materials and organic remains associated with human activity at a site. Site content also refers to the site structure – the size of the site, the patterning of cultural materials within the site, the presence of any stratified deposits and the rarity of particular artefact types. As the site contents criterion is not applicable to scarred trees, the assessment of scarred trees is outlined separately below. The site content ratings used for archaeological sites are provided in Table 7. Site condition refers to the degree of disturbance to the contents of a site at the time it was recorded. The site condition ratings used for archaeological sites are provided in Table 8.

Table 7 Site contents ratings used for archaeological sites.

Rating	Description
0	No cultural material remaining.
1	Site contains a small number (e.g. 0–10 artefacts) or limited range of cultural materials with no evident

Rating	Description
	stratification.
2	Site contains a larger number, but limited range of cultural materials; and/or some intact stratified deposit remains; and/or are or unusual example(s) of a particular artefact type.
3	Site contains a large number and diverse range of cultural materials; and/or largely intact stratified deposit; and/or surface spatial patterning of cultural materials that still reflect the way in which the cultural materials were deposited.

Table 8 Site condition ratings used for archaeological sites.

Rating	Description
0	Site destroyed.
1	Site in a deteriorated condition with a high degree of disturbance; lack of stratified deposits; some cultural materials remaining.
2	Site in a fair to good condition, but with some disturbance.
3	Site in an excellent condition with little or no disturbance. For surface artefact scatters this may mean that the spatial patterning of cultural materials still reflects the way in which the cultural materials were laid down.

Pearson and Sullivan note that Aboriginal archaeological sites are generally of high research potential because 'they are the major source of information about Aboriginal prehistory' (1995, p.149). Indeed, the often great time depth of Aboriginal archaeological sites gives them research value from a global perspective, as they are an important record of humanity's history. Research potential can also refer to specific local circumstances in space and time – a site may have particular characteristics (well preserved samples for absolute dating, or a series of refitting artefacts, for example) that mean it can provide information about certain aspects of Aboriginal life in the past that other less or alternatively valuable sites may not (Burke and Smith 2004, p.247-8). When determining research potential value particular emphasis has been placed on the potential for absolute dating of sites.

The following sections provide statements of significance for the Aboriginal archaeological sites recorded during the surface survey for the assessment. The significance of each site follows the assessment process outlined above. This includes a statement of significance based on the categories defined in the Burra Charter. These categories include social, historic, scientific, aesthetic and cultural (in this case archaeological) landscape values. Nomination of the level of value—high, moderate, low or not applicable—for each relevant category is also proposed. Where suitable the determination of cultural (archaeological) landscape value is applied to both individual sites and places (to explore their associations) and also, to the Study Area as a whole. The nomination levels for the archaeological significance of each site are summarised below.

Representativeness

Representativeness refers to the regional distribution of a particular site type. Representativeness is assessed by whether the site is common, occasional, or rare in a given region. Assessments of representativeness are subjectively biased by current knowledge of the distribution and number of archaeological sites in a region. This varies from place to place depending on the extent of archaeological research. Consequently, a site that is assigned low significance values for contents and condition, but a high significance value for representativeness, can only be regarded as significant in terms of knowledge of the regional archaeology. Any such site should be subject to re-assessment as more archaeological research is undertaken.

Assessment of representativeness also takes into account the contents and condition of a site. For example, in any region there may only be a limited number of sites of any type that have suffered minimal disturbance. Such sites would therefore be given a high significance rating for representativeness, although they may occur commonly within the region. The representativeness ratings used for archaeological sites are provided in Table 9.

Table 9 Site representativeness ratings used for archaeological sites

Rating	Description
1	Common occurrence.
2	Occasional occurrence.
3	Rare occurrence.

Overall scientific significance ratings for sites, based on a cumulative score for site contents, site integrity and representativeness are provided in Table 10.

Table 10 Scientific significance ratings used for archaeological sites

Rating	Description
1-3	Low scientific significance.
4-6	Moderate scientific significance.
7-9	High scientific significance.

Each site is given a score on the basis of these criteria – the overall scientific significance is determined by the cumulative score. This scoring procedure has been applied to the Aboriginal archaeological sites identified during the survey. The results are in Table 11.

5.2.1 Statements of archaeological significance

The following archaeological significance assessment is based on Requirement 11 of the Code. Using the assessment criteria detailed in Scientific Values and Significance Assessment, an assessment of significance was determined and a rating for each site was determined. The results of the archaeological significance assessment are given in Table 12 below.

Table 11 Scientific significance assessment of archaeological sites recorded within the study area.

Site name	Site content	Site condition	Representativeness	Scientific significance
Boomberry Point 1 52-5-0223	1	1	1	3 - Low
Elizabeth Point 52-5-0225	1	1	1	3 - Low
Gilba Road 1 52-5-0642	1	1	1	3 - Low
Gilba Road 2 Fill 52-5-0643	1	1	1	3 - Low

Table 12 Statements of scientific significance for archaeological sites recorded within the study area.

Site Name	Statement of Significance
Boomberry Point 1 52-5-0223	This site consisted of shell midden containing one shell species. The site was exposed on the side of a track in a hill slope landform. The site was noted to be badly disturbed with highly fragmented shell. The site has been assessed as having low archaeological significance.
Elizabeth Point 52-5-0225	Elizabeth Point (52-5-0225) was recorded as an isolated stone artefact located on a walking track. The artefact was a grey chert flake piece, common in the region and was observed to have been disturbed by the walking track. The site has been assessed as having low archaeological significance.
Gilba Road 1 52-5-0642	Site was recorded as a stone artefact located at the very beginning of a concrete pathway. Based on the location of this artefact and current aerial imagery the artefact has been disturbed as the concrete pathway now extends through the area the artefact was initially found in. The site has been assessed as having low archaeological significance.
Gilba Road 2 Fill 52-5-0643	The site was recorded as an artefact and was located in an area of fill, with shell and pottery also present. This location of the artefact in an area of fill indicates that the site has been disturbed and therefore has low archaeological significance.

6 Impact assessment

As previously outlined, the Project proposes to modify the existing concept approval for the Northern Precinct (MP 09_0131 MOD 1) to allow an increased residential lot yield. The DA and modification to the concept approval seeks to create the footprint and increase residential yield for the Northern Precincts.

6.1 Predicted physical impacts

The proposed works will include earthworks, the construction of new residential dwellings and associated infrastructure including roads, underground piping and cabling, and associated earthworks.

Within the study area, there are two recorded Aboriginal sites that may be subject to harm (52-5-0223, and 52-5-0225). It is expected that the potential of harm to 52-5-0223, and 52-5-0225 from the proposed development will be direct, with a total loss of value (Figure 11).

Two AHIMS sites (52-5-0642, and 52-5-0643) are located within 10 metres of the study area, and may be subject to harm (Figure 11). It is expected that the potential of harm to 52-5-0642, and 52-5-0643 from the proposed development will be indirect, with a partial loss of value.

Strategies to avoid or minimise harm to Aboriginal heritage in or near the study area are discussed below. A summary of impacts is provided below in Table 13.

Table 13 Summary of potential archaeological impacts

AHIMS site no.	Site name	Significance	Type of harm	Degree of harm	Consequence of harm
52-5-0223	Boomberry Point 1	Low	Direct	Total	Total loss of value
52-5-0225	Elizabeth Point	Low	Direct	Total	Total loss of value
52-5-0642	Gilba Road 1	Low	Indirect	Partial	Partial loss of value
52-5-0643	Gilba Road 2 Fill	Low	Indirect	Partial	Partial loss of value

6.2 Management and mitigation measures

Ideally, heritage management involves conservation of sites through the preservation and conservation of fabric and context within a framework of "*doing as much as necessary, as little as possible*" (Marquis-Kyle and Walker 1994: 13). In cases where conservation is not practical, several options for management are available. For sites, management often involves the salvage of features or artefacts, retrieval of information through excavation or collection (especially where impact cannot be avoided) and interpretation.

Avoidance of impact to archaeological and cultural heritage sites through design of the development is the primary mitigation and management strategy, and should be implemented where practicable.

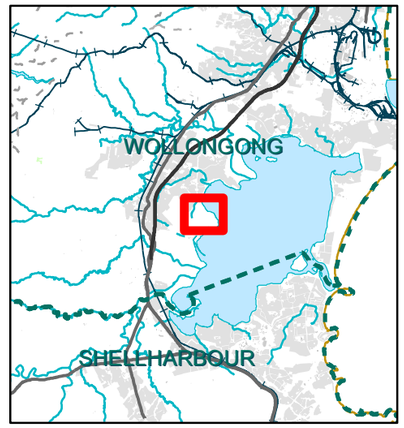
Gilba Road 1 (AHIMS 52-5-0642) and Gilba Road 2 Fill (AHIMS 52-5-0643) are located within 10 metres of the proposed development area. The proposed development will not have any direct impacts on Gilba Road 1 (AHIMS 52-5-0642) and Gilba Road 2 Fill (AHIMS 52-5-0643), however indirect impacts due to changes in the landscape and possible unintentional impacts during construction may occur. Gilba Road 1 (AHIMS 52-5-

0642) and Gilba Road 2 Fill (AHIMS 52-5-0643) should be fenced prior to commencement of development activities. Construction workers and contractors should be made aware of the sites in order to prevent any unintentional impacts.

Boomberry Point 1 (AHIMS 52-5-0223), Elizabeth Point (AHIMS 52-5-0225), are currently located within the proposed development area and impacts cannot be avoided. Boomberry Point 1 (AHIMS 52-5-0223), Elizabeth Point (AHIMS 52-5-0225), should be salvaged under an AHIP prior to development in order to mitigate impacts to the AHIMS sites.

Previous assessments, including a limited archaeological test excavation program conducted by Biosis (2010), identified areas of moderate subsurface archaeological potential within the study area. Further testing is therefore recommended in the areas of moderate archaeological sensitivity prior to development, to fully identify the nature and extent of Aboriginal occupation within the study area.

Acknowledgements: Basemap © Land and Property Information 2016; Imagery © Nearmap 2017



Legend

- Study area
- AHIMS Records
- Proposed development

Figure 11: Proposed development showing location of AHIMS sites

0 50 100 150 200 250

Metres
Scale: 1:5,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

N

biosis®
Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne, Newcastle, Sydney, Wangaratta & Wollongong

Matter: 24090
Date: 23 August 2017,
Checked by: RAM, Drawn by: LH, Last edited by: lharley
Location:P:\24000s\24090\Mapping
24090_AR_F3_PropDev

7 Recommendations

Strategies have been developed based on the archaeological (significance) of cultural heritage relevant to the study area and influenced by:

- Predicted impacts to Aboriginal cultural heritage.
- The planning approvals framework.
- Current best conservation practise, widely considered to include:
  - Ethos of the Australia ICOMOS Burra Charter
  - The Code

Prior to any impacts occurring within the study area, the following is recommended:

Recommendation 1: Further archaeological assessment is required in areas of moderate archaeological potential

Areas identified as having moderate archaeological potential should be avoided wherever possible (Figure 10). If impacts to these areas cannot be avoided subsurface investigations (test excavations) will be required prior to the commencement of works as a condition of the DA or concept approval. Test excavations should be conducted in accordance with the *Code of Practice for archaeological investigation for Aboriginal objects in NSW* (DECCW 2010a) and *Aboriginal cultural heritage consultation requirements for proponents in New South Wales* (DECCW 2010c).

Recommendation 2: No further archaeological assessment is required in areas of low archaeological potential

No further archaeological work is required in areas identified as having low archaeological potential except in the event that unexpected Aboriginal sites, objects or human remains are unearthed during development (refer to Recommendations 6 and 7 below).

Recommendation 3: Fencing of AHIMS sites

AHIMS sites or PAD areas located within 30 metres of the area of proposed works should be clearly marked and fenced in order to avoid unintentional impacts during construction.

Recommendation 4: Aboriginal cultural heritage induction for workers and contractors

The locations of each AHIMS site and PAD area located within the Tallawarra Lands development should be clearly mapped. Workers and contactors working at, or visiting the site should be made aware of the location of all AHIMS sites and PAD areas within the Tallawarra Lands development through an Aboriginal cultural heritage induction.

Recommendation 5: Application for an Aboriginal heritage impact permit (AHIP)

Should the Development Application (DA) be approved, it is recommended that Cardno apply to OEH for an AHIP to destroy the listed Aboriginal sites within the study area which are currently protected under the NSW *National Parks and Wildlife Act 1974*. **The AHIP should be for a term of ten (10) years.** The sites that will be impacted by the proposed works are as follows:

- Boomberry Point 1 (AHIMS 52-5-0223)

- Elizabeth Point (AHIMS 52-5-0225)

For information about AHIPs and their preparation, see below.

Advice preparing AHIPs

An AHIP is required for any activities likely to have an impact on Aboriginal objects or Places or cause land to be disturbed for the purposes of discovering an Aboriginal object. The Office of Environment and Heritage (OEH) issues AHIPs under Part 6 of *the National Parks and Wildlife Act 1974* (NPW Act).

AHIPs should be prepared by a qualified archaeologist and lodged with the OEH. Once the application is lodged processing time can take between 8-12 weeks. It should be noted that there will be an application fee levied by the OEH for the processing of AHIPs, which is dependent on the estimated total cost of the development project.

Recommendation 6: Discovery of Unanticipated Aboriginal Objects

All Aboriginal objects and Places are protected under the *NSW National Parks and Wildlife Act 1974*. It is an offence to knowingly disturb an Aboriginal site without a consent permit issued by the Office of Environment and Heritage (OEH). Should any Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object, the archaeologist will provide further recommendations. These may include notifying the OEH and Aboriginal stakeholders.

Recommendation 7: Discovery of Aboriginal Ancestral Remains

Aboriginal ancestral remains may be found in a variety of landscapes in NSW, including middens and sandy or soft sedimentary soils. If any suspected human remains are discovered during any activity you must:

4. Immediately cease all work at that location and not further move or disturb the remains
5. Notify the NSW Police and OEH's Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location
6. Not recommence work at that location unless authorised in writing by OEH.

Recommendation 8: Continued consultation with the registered Aboriginal stakeholders

As per the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010), it is recommended that the proponent provides a copy of this report to the Aboriginal stakeholders and considers all comments received. The proponent should continue to inform these groups about the management of Aboriginal cultural heritage sites within the study area throughout the life of the project.

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Appendices

Appendix 1 AHIMS results

THE FOLLOWING APPENDIX IS NOT TO BE MADE PUBLIC

AHIMS site no.	Site name	Site type
52-5-0246	Yallah Gully 3	Artefact, Shell
52-5-0247	Yallah Gully 2	Artefact
52-5-0248	Yallah Gully 1	Artefact
52-5-0249	Ash Pond 1	Artefact
52-5-0122	Yallah (Yallah Site2)	Artefact
52-5-0123	Yallah Site 1	Artefact
52-5-0221	Kurrura point	Shell, Artefact
52-5-0222	Mogurah Point	Shell, Artefact
52-5-0062	Yallah	Modified Tree (Carved or Scarred)
52-5-0070	Tallawarra;Tallawarra Power Station; same as 48-5-0127	Shell, Artefact
52-5-0223	Boomberry Pt 1	Shell, Artefact
52-5-0224	Boomberry Point 2	Shell, Artefact
52-5-0225	Elizabeth Point	Artefact
52-5-0226	Mullet Ck	Shell, Artefact
52-5-0227	Macquarie Rivlet 1	Artefact
52-5-0229	Macquarie Rivlet 3	Artefact
52-5-0230	Macquarie Rivlet 4	Artefact
52-5-0231	Haywards Bay	Shell, Artefact
52-5-0237	Wollingurry Point	Shell, Artefact
52-5-0398	TEST PITTING AREA 19	Artefact
52-5-0412	Test Pithing area 19	Artefact

AHIMS site no.	Site name	Site type
52-5-0523	Tallawara Pipeline PAD3	Potential Archaeological Deposit (PAD)
52-5-0516	Tallawara Canal Midden 1	Artefact : -, Potential Archaeological Deposit (PAD)
52-5-0524	KPAD1 Wyndarra Way	Potential Archaeological Deposit (PAD)
52-5-0622	Cleveland Road AFT-7	Artefact
52-5-0623	Cleveland Road AFT-8	Artefact
52-5-0610	TLPD AFT-1	Artefact
52-5-0611	TLPD AFT-5	Artefact
52-5-0612	TLPD AFT-6	Artefact
52-5-0613	TLPD AFT-7	Artefact
52-5-0614	TLPD AFT-8	Artefact
52-5-0615	TLPD AFT-9	Artefact
52-5-0619	Cleveland Road AFT-6	Artefact
52-5-0616	TLPD AFT-10b	Artefact
52-5-0617	TLPD AFT-10c	Artefact
52-2-3831	Cleveland Road FT 1	Aboriginal Ceremony and Dreaming
52-2-3832	Cleveland Road FT 2	Aboriginal Ceremony and Dreaming
52-5-0642	Gilba Road 1	Artefact
52-5-0643	Gilba Road 2 Fill	Artefact
52-5-0823	Yallah to Oak Flats PAD 8 (YTOF PAD 8)	Potential Archaeological Deposit (PAD)
52-2-4209	Fowlers Road 01	Artefact, Potential Archaeological Deposit (PAD)
52-2-4208	Fowlers Raod 01	Potential Archaeological Deposit (PAD), Artefact
52-2-1159	Karro Bay;Albion Park;	Shell, Artefact
52-2-1802	Wollingurry Creek 3;	Artefact
52-2-1803	Haywards Bay 2;	Shell, Artefact

AHIMS site no.	Site name	Site type
52-2-1688	WD1-1;	Artefact
52-2-1809	Wollingurry Ck 2;	Artefact
52-2-1810	Wollingurry Ck 1;	Artefact
52-5-0433	West Dapto Release Area PAD	Potential Archaeological Deposit (PAD), Artefact
52-5-0527	Wyndarra Way Isolated Find 1	Artefact
48-5-0065	Haywards Bay 2 (see site number 52-2-1803)	Potential Archaeological Deposit (PAD)
48-5-0066	Woolingurry Creek 1 (same as 52-2-1810)	Stone Arrangement
48-5-0067	Wollingurry Creek 2 (same as 52-2-1809)	Artefact
48-5-0068	Wollingurry Creek 3 (see site number 52-2-1802)	Artefact
52-5-0532	WWIF1 (Wyndarra Way Isolated Find 1)	Artefact
48-5-0126	Tallawarra Point 1	Artefact
48-5-0127	Tallawarra Power Station Midden, same as 52-5-0070	Artefact
52-5-0766	AHUGC001	Shell
52-5-0791	YTOF AS 7	Artefact
52-5-0763	Yallah to Oak Flats AS 2	Artefact
52-5-0409	Test Pitting Area 20	Artefact
52-5-0492	WDRA_AX_36	Artefact
52-5-0481	Larkins Lane Site 8 (LLS8)	Artefact, Shell
52-5-0482	Larkins Lane Site 7 (LLS7)	Artefact, Shell
52-5-0483	WDRA_AS_10 same as 52-5-0513	Artefact
52-5-0484	WDRA_AS_09 same as 52-5-0512	Artefact
52-5-0507	WDRA_AX_02	Artefact
52-5-0478	Larkins Lane Site 6 (LLS6)	Artefact
52-5-0479	Larkins Lane Site 9 (LLS9)	Shell

AHIMS site no.	Site name	Site type
52-5-0480	Larkins Lane Site 10 (LLS10)	Artefact
52-5-0512	WDR_AS_09 same as 52-5-0484	Artefact
52-5-0513	WDR_AS_10 same as 52-5-0483	Artefact
52-5-0473	Larkins Lane site 1 (LLS1)	Artefact
52-5-0474	Larkins Lane Site 2 (LLS2)	Shell
52-5-0475	Larkins Lane Site 3 (LLS3)	Shell
52-5-0476	Larkins Lane Site 4 (LLS4)	Shell
52-5-0477	Larkins Lane Site 5 (LLS5)	Shell
52-5-0471	Tallawarra Pipeline 1	Artefact
52-5-0472	Tallawarra Pipeline 2	Artefact
52-5-0500	WDRA_AX_27	Artefact
52-5-0501	WDRA_AX_28	Artefact
52-2-3765	Cleveland Road PAD 3	Potential Archaeological Deposit (PAD)
52-5-0585	Cleveland Road PAD 4	Potential Archaeological Deposit (PAD)
52-5-0586	Cleveland Road PAD-4	Potential Archaeological Deposit (PAD)
52-5-0583	Cleveland Road PAD 1	Potential Archaeological Deposit (PAD)
52-5-0584	Cleveland Road PAD 2	Potential Archaeological Deposit (PAD)