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15-41 Warnervale Road, Warnervale, NSW
Central Coast LGA - Rezoning and
Redevelopment

ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT

Final

AV Jennings

April 2018



Built & Urban Heritage | Aboriginal Heritage | Archaeology | Interpretation | Intangible Cultural Heritage | World Heritage

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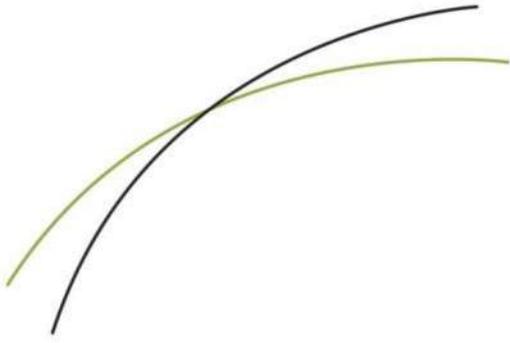
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PROJECT NAME: 15-41 Warnervale Road, Warnervale - Rezoning and Redevelopment

REAL PROPERTY DESCRIPTION: Lots 1-3 DP 247082, Lot 1 DP385242, Lots 73-76 DP7091, Lot 102 DP588421 and Lots 1-3 DP1101086.

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Executive Summary

Background and Purpose of the Report

Extent Heritage Pty Ltd (Extent) has been commissioned by ADW Johnson on behalf of AV Jennings (the proponent), to undertake an Aboriginal Cultural Heritage Assessment Report (ACHAR) of the proposed rezoning and redevelopment of 15-41 Warnervale Road, Warnervale (hereafter the 'subject area'), which is part of Precinct 7A, a residential precinct within a proposed Smart City around Warnervale, NSW.

A previous archaeological investigation of Precinct 7A was undertaken in 2009 by Archaeological Surveys and Reports Pty Ltd (AS&R). This report identified 18 Aboriginal objects/sites within the Precinct, primarily located in association with a broad ridgeline in the southwest of the Precinct. Eleven of these sites are within the present subject area. The report recommended that further investigation was required and that appropriate permits should be obtained if development in these areas was proposed.

Given the approval pathway being implemented for the project and the potential for Aboriginal objects to be harmed through the development, an ACHAR was undertaken to identify whether any Aboriginal sites, objects or cultural values may be affected by the proposed development. The ACHAR provides information on the location, distribution and significance of Aboriginal objects and cultural values places within the subject area; any potential harm to objects that may be caused by the proposed development; and recommendations for the management of such harm in accordance with the legal requirements of the *National Parks and Wildlife Act 1974* and Office of Environment and Heritage policy and guidelines for protection and management of Aboriginal heritage in NSW.

The ACHAR was undertaken in two stages with a preliminary ACHAR prepared based on an archaeological survey of the subject area (Extent Heritage Sept 2017). The preliminary ACHAR recommended test excavation. The second stage involved test excavation with the results integrated into the final version of the ACHAR.

Aboriginal Consultation

Aboriginal consultation was undertaken in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (April 2010). A total of 11 Aboriginal stakeholders registered an interest in the project. Of these, two participated in the field survey, Guringai Tribal Link Aboriginal Corporation and Darkinjung Local Aboriginal Land Council. Feedback on the draft of the preliminary ACHAR was supportive and received from A1 Indigenous Services, Amanda Hickey Cultural Services, Awabakal Traditional Owners Aboriginal Corporation, Darkinjung Local Aboriginal Land Council, Guringai Tribal Link Aboriginal Corporation and Widescope Indigenous Group.

Test excavation was conducted following the Code of Practice and included participation of six Aboriginal stakeholder groups, including Awabakal Traditional Owners Aboriginal Corporation, Darkinjung Local Aboriginal Land Council, Guringai Tribal Link Aboriginal Corporation, A1 Indigenous Services, Amanda Hickey Cultural Services and Widescope Indigenous Group. No feedback was received on the draft of the final ACHAR.

Findings

The preliminary ACHAR identified extant Aboriginal objects and areas of archaeological sensitivity within the subject area. The archaeological resource of the subject area comprises 11 previously identified sites (#45-3-3404 to 45-3-3414) consisting of five isolated finds and six artefact scatters. Of these, four were relocated: one isolated find (45-3-3408 Bitova ISO5) and three artefact scatters (45-3-3409 Bitova OS6, 45-3-3410 Bitova OS7 and 45-3-3407 Bitova OS4). In addition, there are four newly identified sites, two artefact scatters (Warnervale AS1 and Warnervale AS2) and two isolated finds

(Warnervale IF1 and IF2), all located on the southern ridgeline and slopes. Additionally, areas of low, moderate and high sensitivity were identified based on landform and contours.

Test excavation was then undertaken to further investigate the spatial distribution and characteristics of the identified Aboriginal sites, and the areas of low, moderate and high archaeological sensitivity. Test excavation was carried out following the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010). Archaeological excavation across the subject area totalled 35.5m² and varied in depth between 5 and 110cm with an average depth of 27cm below ground surface, within compacted sandy clay and silty clay soil profiles. The investigation undertook 117 test pits, split between the high sensitivity area on a 25m grid (11 0.25m² test pits), the moderate sensitivity area on a 50m grid (40 0.25m² test pits, one 0.50m² test pit and six 1m² test pits), the low sensitivity area on a 75m grid (51 0.25m² test pits and two 1m² test pits) and the potential wetland areas (six 0.25m² test pits).

The majority of the test pits comprised soils consistent with the Gorokan soil landscape and generally had a very shallow or absent A1 soil horizon. In the low-lying areas, formerly wetland/swamp, the soils were consistent with the Wyong soil landscape. No artefacts were recovered from these test pits and waterlogging was evident in these areas following rain during the test excavation program.

A total of 12 Aboriginal objects were recovered from the test excavation. Silcrete was the dominant raw material followed by indurated mudstone/tuff (IMT) and fine grained siliceous (FGS) with one piece of quartzite also recovered. The objects were mostly flakes and flake fragments with several angular fragments and one core-tool. Artefacts were recovered from between 0 and 40cm deep, and in an overall artefact density of 0.34 artefacts per square metre, ranging from 0 to 3 artefacts per square metre.

Overall, the assessment identified two Aboriginal archaeological sites within the subject area (**Figure ES 1**). While there have been at least 15 discrete recordings of artefact sites (11 previously recorded surface artefact sites, four artefact sites identified during the survey and nine test pits which contained artefacts), based on the survey and test excavation these are considered to reflect a more extensive low-density surface and subsurface scatter across the crest and southern slopes of the ridgeline in the southern subject area. For management purposes this is split into two discrete areas, one isolated find from test pit 26 – ‘Warnervale Residential Isolated Find 1’ (AHIMS #45-3-4055) of low heritage significance and one artefact scatter – ‘Warnervale Residential Artefact Scatter 1’ (AHIMS # 45-3-4054) of moderate to high heritage significance comprising the previously identified sites. The artefact scatter is a low-density surface and subsurface scatter that comprises of the 15 previously identified Aboriginal archaeological sites within the subject area, the other test pits that contained subsurface Aboriginal objects, on the crest and slopes of the southern ridgeline.

Potential Impacts

The proposed development involves rezoning and redevelopment of the subject area in stages. The rezoning is proposed for the southern part of the subject area, including reduction of the park/parkland area (RE1) in the existing Precinct 7A Zoning plan, rezoning of parts of the RU6 (Transition) zone along the south-eastern edge of the subject area, and rezoning of a portion of the E3 Environmental Management Zone along the development perimeter. Activities within the rezoned subject area include the subdivision of the subject area into several hundred lots, and establishment of infrastructure (e.g. roads, drainage, etc.), a park and the construction of four wetlands. Bulk earthworks are required across the subject area as part of this redevelopment.

The rezoning itself will have no impact to the archaeological resource within the subject area. During the subsequent redevelopment, it is considered likely that there will be an impact to most, if not all, of

the archaeological resource present within the subject area, based on the development plans as presently proposed.

Bulk earthworks as a component of DA2 (1002/17) will have a direct impact on 'Warnervale Residential Isolated Find 1' (AHIMS# 45-3-4055) and part of 'Warnervale Residential Artefact Scatter 1' (AHIMS # 45-3-4054), which includes five previously recorded Aboriginal sites within this development footprint. Bulk earthworks as a component of DA1 will not have a direct impact on any recorded Aboriginal sites.

Recommendations

Based on the findings of the report and the potential Aboriginal heritage impacts, the following recommendations are made:

- Site cards for the previously identified 11 sites (45-3-3404 to 45-3-3414) are updated to include additional artefact details and current site condition.
- No further archaeological investigation or assessment is required in advance of the proposed rezoning.
- Following a comprehensive understanding of the archaeological resource being developed as part of the ACHAR, conservation opportunities within the proposed development should be maximised where possible.
- Works within the DA 1 (561/2017) area can proceed with caution. It is considered that there is a low risk of Aboriginal objects being present within these parts of the subject area. However, the nature of disturbance does not preclude the potential for isolated finds, which is a common site type across the region, even in disturbed contexts. In the event that unexpected Aboriginal objects, sites or places (or potential Aboriginal objects, site or places) are discovered during construction, all works in the vicinity should cease and the proponent should determine the subsequent course of action in consultation with a heritage professional and/or the Office of Environment and Heritage (OEH) as appropriate. A process of consultation with Aboriginal community representatives would also be required.
- For areas beyond DA 1, requirements in accordance with **Figure 35** should be adopted. These include:
 - Areas where it is considered that there is a low risk of Aboriginal objects being present. In these areas development works can proceed with caution. However, the nature of disturbance does not preclude the potential for isolated finds, which is a common site type across the region, even in disturbed contexts. In the event that unexpected Aboriginal objects, sites or places (or potential Aboriginal objects, site or places) are discovered during construction, all works in the vicinity should cease and the proponent should determine the subsequent course of action in consultation with a heritage professional and/or the Office of Environment and Heritage (OEH) as appropriate. A process of consultation with Aboriginal community representatives would also be required.
 - Areas where Aboriginal objects, sites and/or deposits have been identified. An Aboriginal Heritage Impact Permit (AHIP) would be required to allow their harm/destruction before any development may proceed. It is understood that two AHIP applications will be required, one covering the DA2 (1002/2017) areas and one covering the park area following rezoning with an associated DA. This ACHAR, if consultation with the Aboriginal RAPs is maintained, will be used as supporting documentation for both of these AHIP applications.
 - Prior to impact to Aboriginal objects, sites and/or deposits of moderate and/or high significance, impact mitigation measures will be required. An appropriate mitigation strategy should be developed, and may include (but not be limited to) conservation,

surface collection, and/or interpretation of the cultural heritage. The mitigation strategy is proposed to be developed as part of an Aboriginal Cultural Heritage Management Plan (ACHMP) for the subject area. An AHIP must not be sought until the ACHMP has been developed and finalised. Once the AHIP has been issued, development may commence in accordance with the ACHAR recommendations, the ACHMP mitigation measures, and the AHIP conditions.

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1 INTRODUCTION

1.1 Project Description

Extent Heritage Pty Ltd (Extent) has been commissioned by ADW Johnson on behalf of AV Jennings (the proponent), to undertake an Aboriginal Cultural Heritage Assessment Report (ACHAR) of the proposed rezoning and redevelopment of 15-41 Warnervale Road, Warnervale (hereafter the 'subject area'), which is part of Precinct 7A, a residential precinct within a proposed Smart City around Warnervale, NSW.

A previous archaeological investigation of Precinct 7A was undertaken in 2009 entitled, "The archaeological investigation for sites of Indigenous cultural significance in Precinct 7A, Warnervale, Central Coast, NSW" by Archaeological Surveys and Reports Pty Ltd (AS&R). This report identified 18 Aboriginal objects/sites within the Precinct, primarily located in association with a broad ridgeline in the southwest of the Precinct. The report recommended that further investigation was required and that appropriate permits should be obtained if development in these areas was proposed.

The subject area is subject to the 2013 Development Control Plan (DCP) for Warnervale South (incorporating the subject area). The DCP requires the development of an Aboriginal Cultural Heritage Management Plan (ACHMP) for areas in the vicinity of identified Aboriginal sites before development is approved or undertaken (Chapter 6.5, Section 2.13).

The proposed development is being assessed as part of a series of Development Applications (DA) which will be submitted to Central Coast Council for consideration under Part 4 of the *Environmental Planning and Assessment Act 1979*. The project is therefore subject to the conditions and requirements of the *National Parks and Wildlife Act 1974*. As a result, this report has been developed as an ACHAR in accordance with the following relevant OEH guidelines:

- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011).
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010).
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010).

This report describes the results of archaeological investigation and Aboriginal community consultation undertaken to identify the extent and significance of any physical remains of past Aboriginal occupation within the subject area. The principle objectives of the investigation were to:

- Identify the type, nature and extent of any Aboriginal sites, objects, archaeological deposits, and potential archaeological deposits within the subject area.
- Map the locations of known and potential Aboriginal sites, objects and deposits identified.
- Assess the significance of the subject area.
- Assess and identify heritage constraints and opportunities and the potential impacts of the proposed development.
- Identify and recommend measures to mitigate any heritage impacts, and risks to the proposed development.

The results of this ACHAR will assist the development of a CHMP for the subject area, in accordance with the requirements of the DCP.

1.1.1 Staging of the ACHAR

The ACHAR and associated field investigations were undertaken in two stages. The first stage involved developing the ACHAR with the field investigation component comprising archaeological survey. The draft ACHAR recommended test excavation to further characterise the archaeological resource present within the subject area. This ACHAR was developed between May to September 2017. The second stage of the ACHAR involved test excavation which was undertaken in October – November 2017 with the results of the test excavation integrated into this version of the ACHAR.

1.2 Legislative Context

There are several Commonwealth and State Acts (and associated regulations) that manage and protect Aboriginal cultural heritage. These are outlined in detail in **Appendix 1** and summarised in **Table 1**.

Table 1. Summary of legislative context for the project.

Legislation	Description	Relevant to Subject Area?	Details
Commonwealth			
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	Protects Aboriginal places on the World, National and Commonwealth Heritage Registers.	No	There are no listed items within or in close proximity to the subject area.
<i>Native Title Act 1993</i>	Administers rights and interests over lands and waters by Aboriginal people. Often used in NSW to identify relevant stakeholders for consultation.	No	The subject area consists of freehold land, and cannot be subject to a claim under this Act.
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</i>	Protection of areas identified by Aboriginal people as of high significance and under threat.	No	There are no known areas within or in close proximity to the subject area that have been identified by Aboriginal people as of high significance.
State (NSW)			
<i>National Parks and Wildlife Act 1974</i>	Protects blanket protection for all Aboriginal objects. Includes process and mechanisms for development where Aboriginal objects are present.	Yes	The results of previous investigations demonstrate that Aboriginal objects are present within the subject area.
<i>Environmental Planning and Assessment Act 1979</i>	Requires assessment and management of Aboriginal heritage through a range of environmental and approval contexts.	Yes	See Section 1.1 for discussion.
<i>Aboriginal Land Rights Act 1983</i>	Allows transfer of ownership of vacant crown land to a Local Aboriginal Land Council. Often used in NSW to identify relevant stakeholders for consultation.	No	The subject area consists of freehold land, and cannot be subject to a claim under this Act.

1.3 Subject Area

The subject area is located at 15-41 Warnervale Road, Warnervale, NSW (**Figure 1**). The real property description is Lots 1-3 in Deposited Plan (DP) 247082, Lot 1 DP385242, Lots 73-76 DP7091, Lots 1-3 DP1101086 and Lot 102 DP588421. The approximately 50-hectare area is located within the Central

Coast Local Government Area (formerly Wyong LGA) in the Parish of Munmorah, County of Cumberland.

The subject area is partially bounded by Warnervale Road to the north and to the east is partially bounded by Virginia Road. The subject area is within Precinct 7A, a residential precinct within a proposed Smart City around Warnervale (Wyong Shire LEP 2013).

1.3.1 Proposed Development

The proposed development is part of a proposed 'Smart City', planned by Wyong Shire Council (WSC, now Central Coast Council) to address predicted shortages in housing, add to the growth of the economy and be a component of a 'integrated education and business precinct' (WSC 2015).

Extent understands that AV Jennings proposes to rezone and develop the subject area in stages. The rezoning is proposed for the southern part of the subject area, including reduction of the park/parkland area (RE1) in the existing Precinct 7A Zoning plan, rezoning of parts of the RU6 (Transition) zone along the south-eastern edge of the subject area, and rezoning of a portion of the E3 Environmental Management Zone along the development perimeter (**Figure 2**). The staged residential development will be subject to separate DA applications to cover the different stages. Activities within the rezoned subject area include the subdivision of the subject area into several hundred lots, and establishment of infrastructure (e.g. roads, drainage, etc.), a park and the construction of four wetlands and associated sewer/water lead-ins adjacent to the subject area (**Figure 3**).

Stage 1A and Stage 1B have already had a DA submitted - DA561/2017 - with a second DA for additional stages of development recently submitted – DA1002/2017 (**Figure 4**). Earth works including both cutting and filling will occur across the site with excavation and or fill of up to 5m across the subject area as part of the initial stage for DA 2 (**Figure 5**). The difference between the outline of the proposed development and the staged development and cut and fill plan reflect differences between the proposed development after rezoning (**Figure 3**) and the proposed development based on the current zoning (**Figure 4** and **Figure 5**). The remainder of the subject area, not covered by DA 1 (561/2017) and DA 2 is subject to rezoning, will be subject to a third DA.

The proposed rezoning and redevelopment of the parkland area currently zoned for public recreation incorporates the areas in which the previous archaeological investigation (AS&R 2009) identified Aboriginal sites. The development within the parkland area, whilst not finalised, may include picnic shelters and areas with amenities, a playground, an amphitheatre with paved performance area, 2.5m shared path and parking along the edges (**Figure 6**). In addition to works within the subject area there will be adjacent sewer and water mains connections with associated 5m wide corridors, works on Warnervale Road and Virginia Road adjacent to the subject area and temporary sediment basins associated with the works (**Figure 7**).

1.4 Key Findings of the Report

Key findings of the ACHAR are:

- Aboriginal occupation of the Wyong region extends back to the Pleistocene (10-50,000+ years ago), but the majority of sites are likely to reflect Holocene (<10,000 years ago) occupation, with evidence of continuous use of the coastal area through the Holocene and into contact period.
- Central Coast Aboriginal groups included the coastal Kuring-gai/Guringai (around Broken Bay); the coastal Awabakal (from Broken Bay to the Hunter River); and the hinterland Darkinjung (from the Hawkesbury River to Wollombi and the Watagan Mountains, and the Hunter River).
- The most common Aboriginal archaeological site features in the region are artefacts (both isolated finds and artefact scatters), with axe grinding grooves and art sites found in sandstone country and middens along the coast and lakeshores.

- The subject area is comprised primarily of a broad ridgeline and slopes within the Gorokan soil landscape. Soils of archaeological interest within the erosional Gorokan soil landscape are generally less than 50cm in depth and comprise brown loamy sand overlying yellowish brown clayey sand. The low lying edges of the subject area, formerly wetlands/swamp, contain the Wyong soil landscape which has an A horizon that is generally 10-40cm of brownish black loam. The potential deposits across the subject area are likely to be less than 50cm in depth.
- Ground disturbance within the subject area is related to vegetation clearance and use of the land for cattle grazing, including the creation of several dams and tanks, including a concrete circular tank on the top of the crest, which has been demolished. Ground disturbance from historical land use is likely to have had an impact on the survival of archaeological evidence within the subject area due to the susceptibility of topsoil layers to sheet wash erosion and the shallow topsoil deposits characteristic of the underlying soil landscapes.
- A previous archaeological survey resulted in the identification of eleven surface artefact scatters or isolated finds, located on the crest/southern slopes of the ridge in the southern part of the subject area. The artefact bearing deposit in this area was predicted to be 2-5cm thick, and further investigation was recommended for the area around five of the sites. The parts of the subject area below the current 10m contour were identified as former wetland/swampland.
- For the preliminary ACHAR an archaeological survey of the subject area was carried out, focussing on the southern ridgeline (the area identified as having the highest potential) and along vehicle tracks where visibility was higher and ground surface exposures were present. Four of the 11 previously recorded sites were relocated: 45-3-3408, 45-3-3409, 45-3-3410 and 45-3-3407. Seven sites were not relocated: 45-3-3404, 45-3-3405, 45-3-3406, 45-3-3411, 45-3-3412, 45-3-3413 and 45-3-3414.
- Areas of high, moderate and low sensitivity were identified based on landform; the crest of the southern ridgeline was identified as an area of high sensitivity (excluding areas with high previous disturbance), the southern slopes above the 10m -14m AHD contours was an area of moderate sensitivity with the remainder of the subject area identified as having low sensitivity.
- Test excavation as part of the second stage of the ACHAR confirmed the presence of subsurface Aboriginal objects dispersed across the southern slopes within soils characteristic of the Gorokan Soil Landscape. A total of 12 Aboriginal objects were recovered from the test excavation primarily on the southern slopes (TP13, 18, 30, 71, 84, 90, 91 and 96) and one on the western slope in the southern subject area (TP26). The remainder of the test pits identified no cultural material across other parts of the subject area. The overall artefact density for the subject area is 0.34 artefacts per square metre.
- The number of Aboriginal sites within the subject area was reconsidered and two Aboriginal sites were identified – 'Warnervale Residential Isolated Find 1' (WR IF1 – AHIMS # 45-3-4055) comprising test pit 26 and 'Warnervale Residential Artefact Scatter 1' (WR AS1 – AHIMS # 45-3-4054) a low density surface and subsurface artefact scatter encompassing the other artefact containing test pits and all previously recorded surface artefact sites on the southern slopes.
- Areas for the proposed wetlands comprise the Wyong soil landscape. No artefacts were recovered from test excavation within the western area. These areas have low to nil archaeological potential.
- The proposed rezoning does not involve ground disturbance and will have no impact on the archaeological resource present within the subject area.
- The proposed development within DA1 will impact an area with low to no archaeological potential.
- The proposed development stages in DA 2 and DA3 will have an impact to site WR AS1. The bulk earthworks as part of initial stage of DA 2 would have a direct impact on the two Aboriginal archaeological sites within the subject area, WR IF1 and the WR AS1 site complex including five of the previously recorded artefact scatters (Warnervale IF2, Warnervale AS2, 45-3-3412, 45-3-3413, and 45-3-3406). The proposed development within DA 3 including the parkland area is likely to have some level of impact on the remainder of the WR AS1 site complex (including ten previously recorded surface artefact scatters present within the residual lot area).

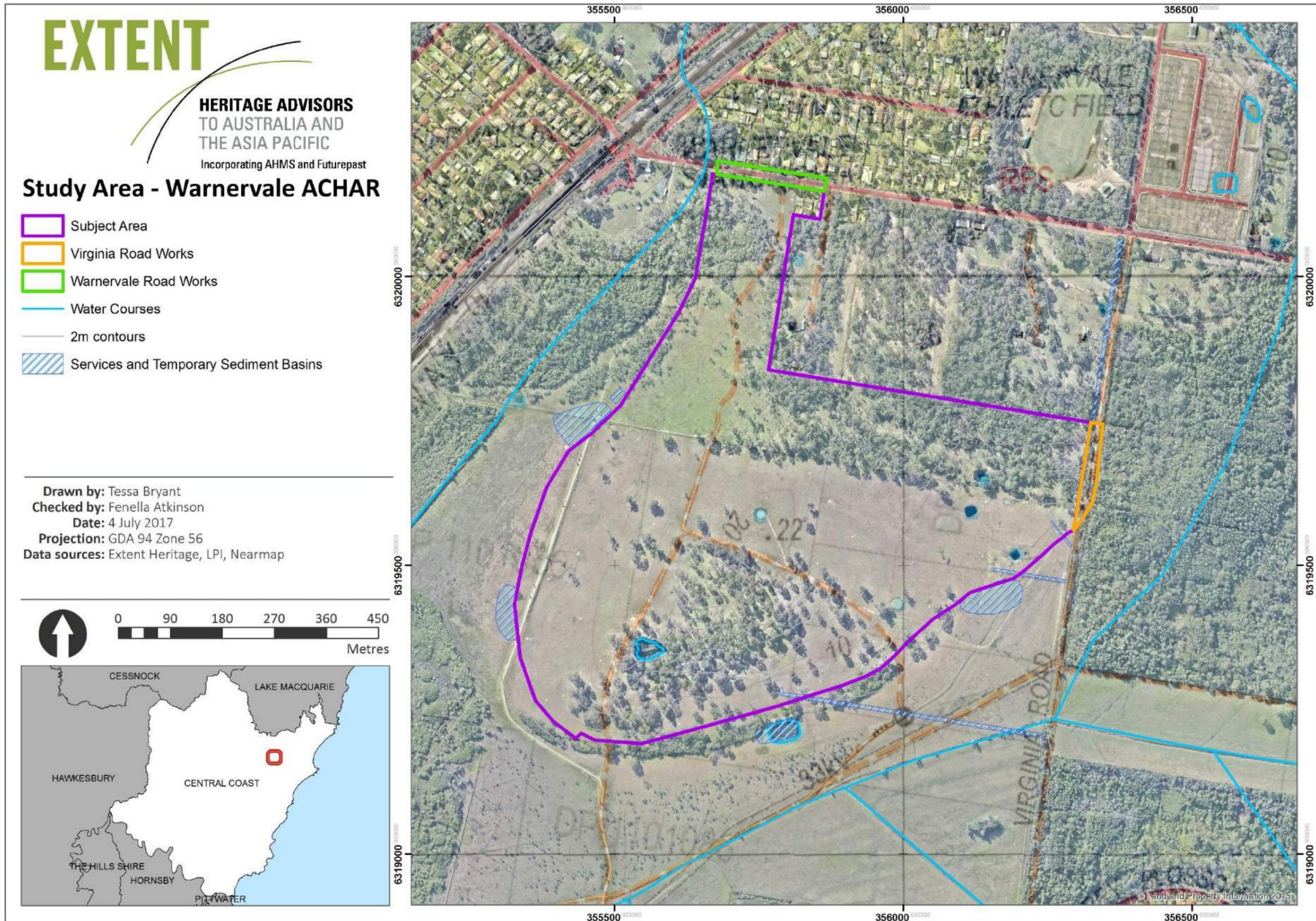


Figure 1. Map of the subject area – Warnervale Road, Warnervale.

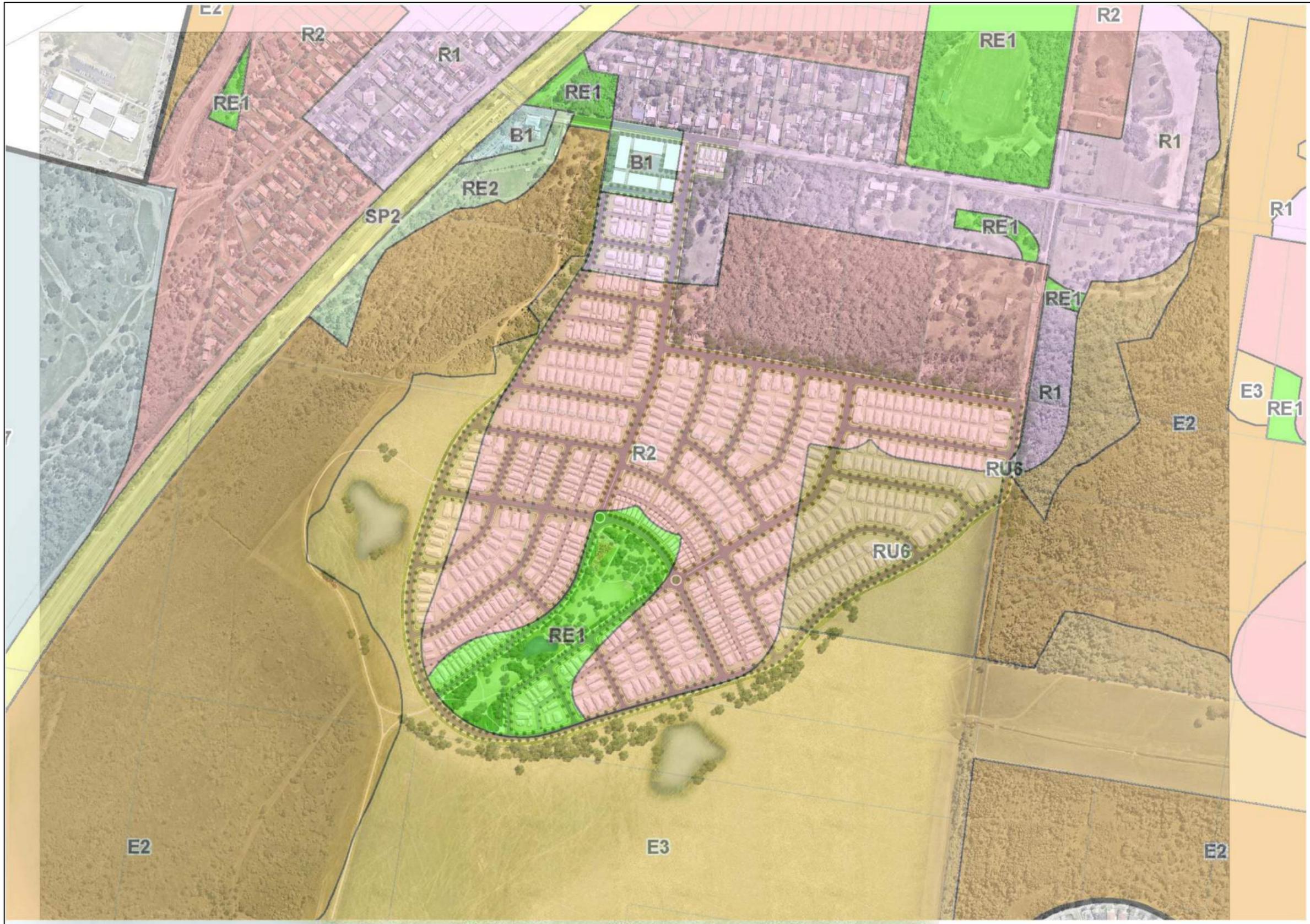


Figure 2. 1-2500 A1 Zoning Overlay Warnervale (Source: ADW Johnson May 2017).



Figure 3. Stormwater plan showing the stages of development for the subject area (AV Jennings April 2017).

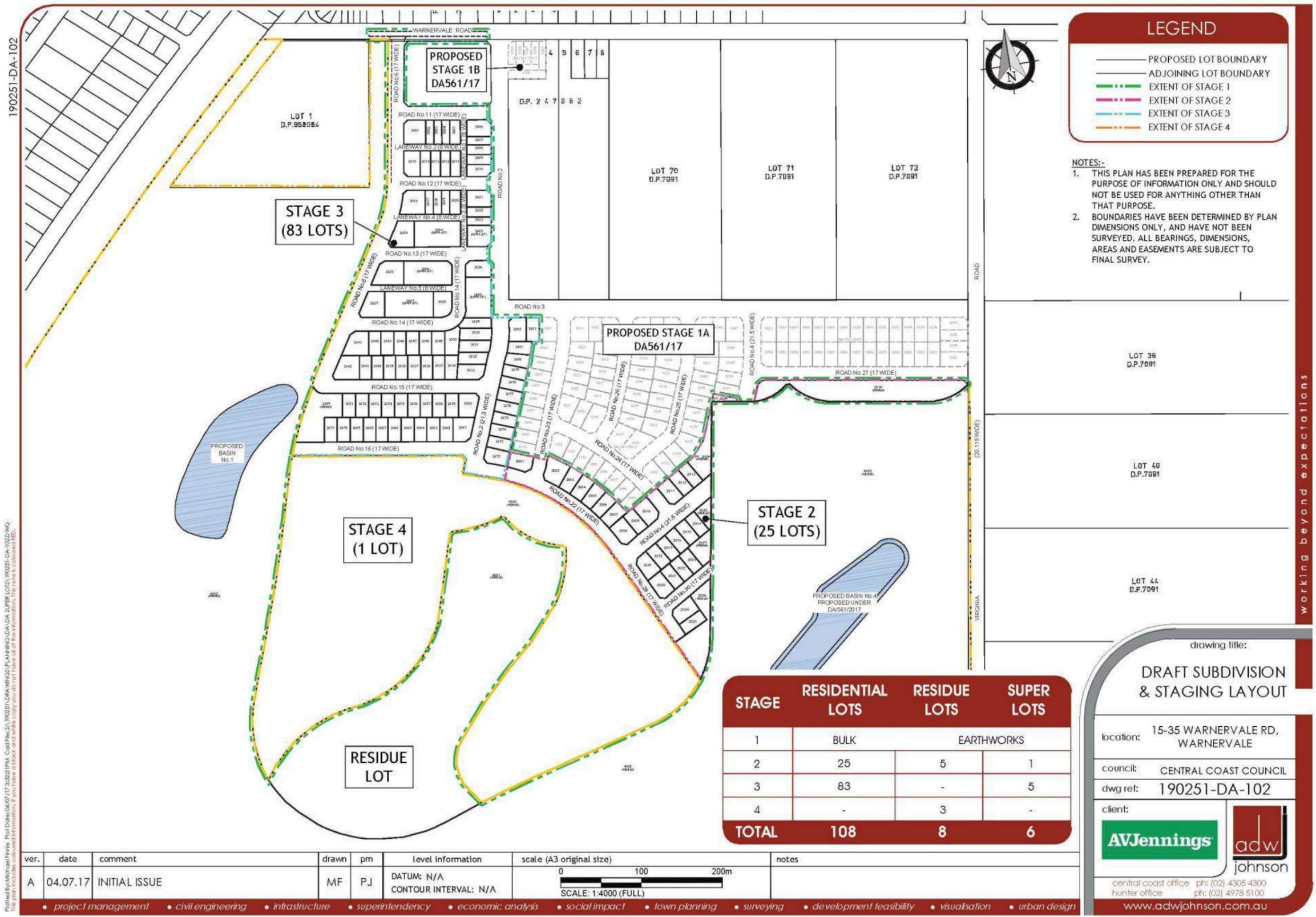


Figure 4. Stages for proposed development including already submitted DA areas based on current land zoning (Source: ADW Johnson July 2017).

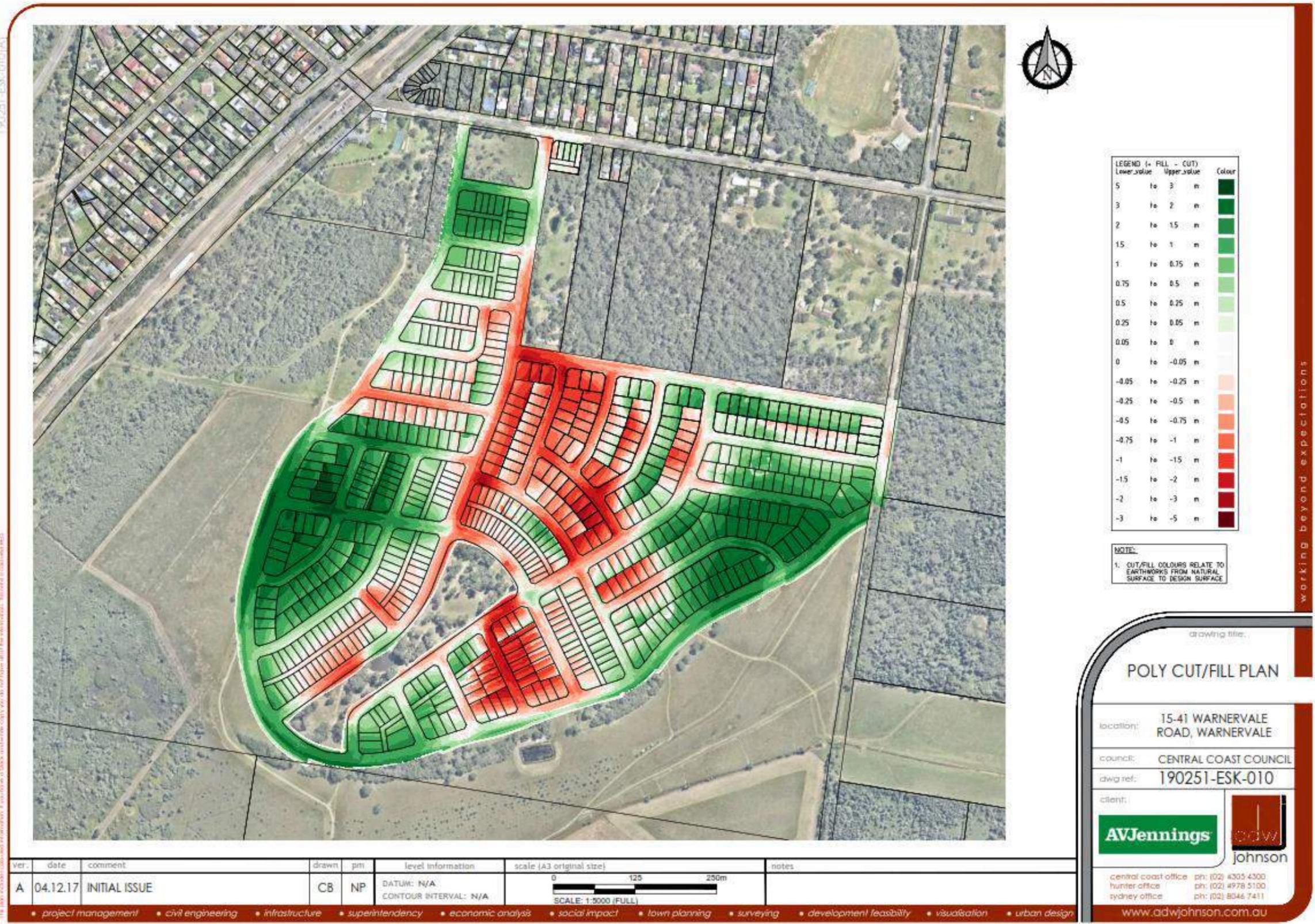


Figure 5. Cut and fill plan overlay for DA 1 and DA 2 (Source: ADW Johnson January 2018).

The Park

LEGEND

1. Medium density housing overlooking park
2. 2.5m shared path
3. Picnic area with shaded tables and amenities
4. Playground
5. Picnic shelters
6. Amphitheatre with paved performance area, existing trees and stepped lawn seating
7. Open lawn area
8. Significant existing trees retained
9. Pond with shaded paved seating area (TBC pending engineering input)
10. Parking against edge of park with trees in parking bays
11. Informal lawn and planting



Figure 6. Warnervale Master Plan for the parkland area (Source: ADW Johnson July 2017).

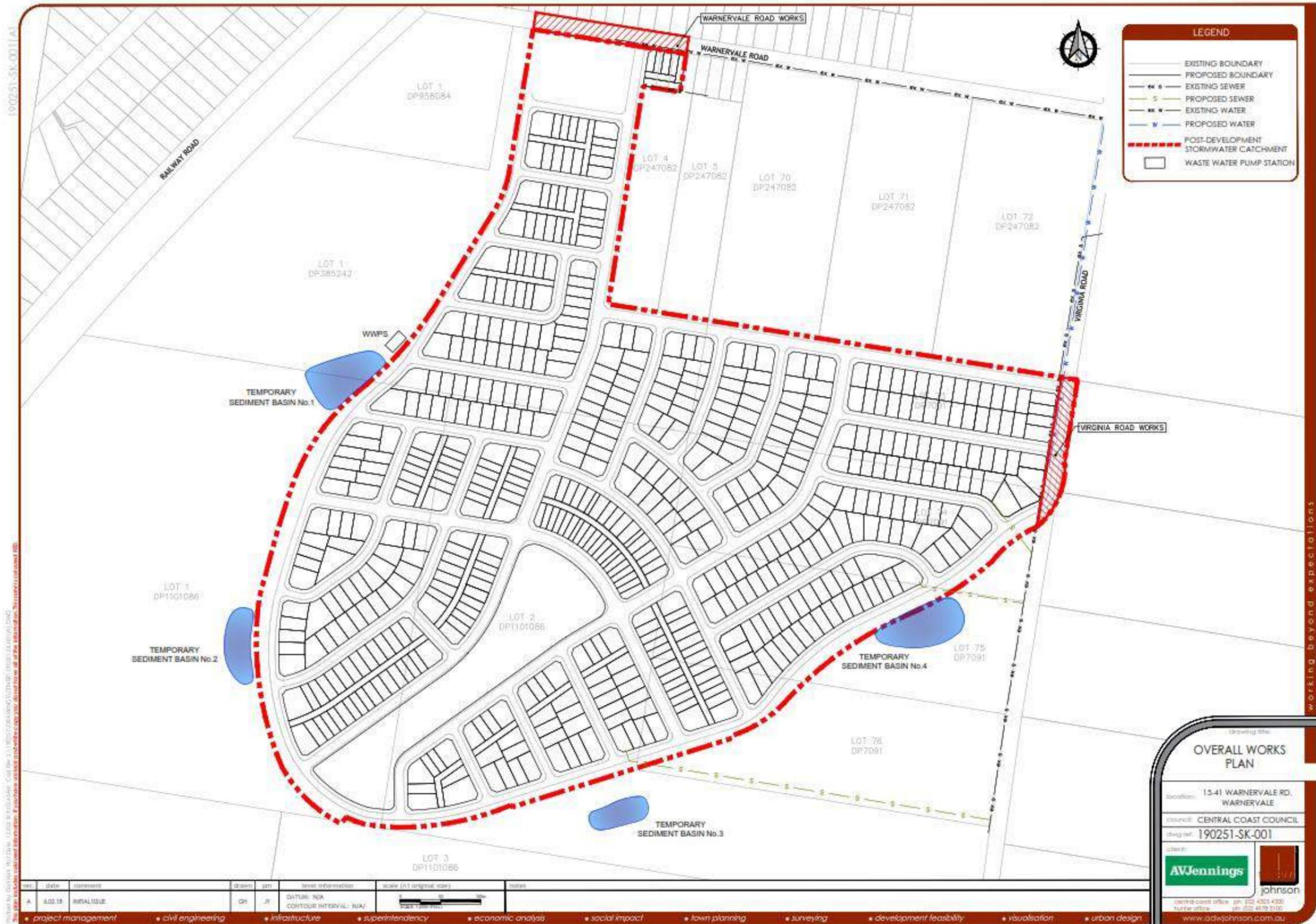


Figure 7. Area of works within and adjacent to the Warnervale subject area (Source: ADW Johnson February 2018).

2 ABORIGINAL CONSULTATION

2.1 The Process

Aboriginal consultation for this project has been undertaken in accordance with procedures set out in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010). These guidelines identify a five stage process of consultation, which includes:

Stage 1: Notification of project proposal and registration of interest

- Pre-Notification – Identification of Aboriginal parties through contacting various government agencies.
- Notification – Contacting any Aboriginal community organisations identified to determine their interest (if any) in the project. This includes the placement of an advertisement in local print media seeking expressions of interest from Aboriginal community members.

Stage 2: Presentation of information about the proposed project

- Presentation of Project Information and Assessment Methodology – briefing registered Aboriginal parties (RAPs) about the project and scope of the Aboriginal Cultural Heritage Assessment Report (ACHAR). This is usually undertaken through written correspondence and/or an on-site visit, and may undergo several iterations through the project as the nature of the assessment changes (e.g. field survey may lead to a requirement for test excavations).

Stage 3: Gathering information about cultural significance

- Seeking cultural information – Collection of information identifying any known Aboriginal objects of cultural value or places of cultural significance in the subject area.
- Consultation protocols – Identification of any protocols that the RAPs would like adopted during the information gathering process, including how sensitive information will be managed.
- Potential impacts and mitigation measures – Discussion of potential impacts to heritage and appropriate mitigation options prior to developing the ACHAR. This is often undertaken on-site at the end of any field program and/or as part of the overall report review phase.

Stage 4: Review of draft Aboriginal cultural heritage assessment report

- Review of draft report – Provision of the draft ACHAR to the RAPs for review and comment on the overall findings, assessment of cultural significance and recommendations for management of Aboriginal heritage within the subject area.

The consultation process for this project has two aims. Firstly, it is designed to comply with the OEH consultation procedures to obtain input on our proposed assessment methodology and comment on our assessment report and management recommendations. Secondly, to identify cultural places and values that may be affected by the proposed future development of the subject area through consultation with knowledge holders.

2.2 This Project

A complete log of actions and correspondence regarding Aboriginal community consultation is included in **Appendix 2-1** and summarised in **Table 2**.

Overall, the consultation process identified 10 Aboriginal stakeholders in the region (**Appendix 2-2**). Eleven Aboriginal stakeholders registered an interest in the project, including six of the stakeholders identified in the notification stage (**Appendix 2-3**), and who participated in the field program.

The eleven registered Aboriginal parties (RAPs) are:

- A1 Indigenous Services (A1)
- Amanda Hickey Cultural Services (AHCS)
- Awabakal Traditional Owners Aboriginal Corporation (ATOAC)
- Darkinjung Local Aboriginal Land Council (DLALC)
- Guringai Tribal Link Aboriginal Corporation (GTLAC)
- Hunter Valley Cultural Surveying
- Lower Hunter Aboriginal Incorporated (LHAI)
- Valley ELM Corp
- Wattaka Wonnarua Cultural Consultancy Services (WWCCS)
- Widescope Indigenous Group (WIG)
- Yinarr Cultural Services

Table 2. Summary of Aboriginal consultation for the project.

Consultation Stage	Description	Date Initiated	Date Completed	Details
1	Pre-Notification	05/05/2017	17/05/2017	Further correspondence and information in Appendix 2-4 .
	Notification (including advertisement in Central Coast Gosford Express Advocate)	17/05/2017	31/05/2017	Further correspondence and information in Appendix 2-5 . Newspaper advert presented in Appendix 2-6 .
2	Presentation of Information/Assessment Methodology	05/06/2017	03/07/2017	Further correspondence and information in Appendix 2-6 . Two comments received from RAPs, and addressed.
3	Field Investigation	05/07/2017	12/07/2017	A representative from two groups engaged to undertake the site survey: <ul style="list-style-type: none"> • Survey undertaken with a representative of GTLAC on the 05/07/2017 • Survey undertaken with representatives of Darkinjung LALC on 12/07/2017
	Test Excavation	16/10/2017	1/11/2017	Representatives from ATOAC and GTLAC were present for the 13 day test excavation. A representative from DLALC was present 16, 17, 19, 20 and 23 rd of October. A representative from A1 was present 23-25 th October, a representative from WIG was present 26-27 th October and a representative for AHCS was present 30- 31 st October and 1 st November.
4	Pre-Test Excavation Report Review	04/08/2017	01/09/2017	Further details are presented in Section 2.3 and Appendix 2-8 .
	Report Review	07/03/2018	18/04/2018	Further details are presented in Section 2.3 and Appendix 2-8 .

2.3 Aboriginal Stakeholder Feedback

2.3.1 Review of ACHAR Prior to Test Excavations

Feedback from the RAPs was recorded over the course of the consultation process. Prior to the test excavations, the ACHAR was distributed for a period of 28 days for review and comment by the RAPs (see **Table 2**). A follow up reminder of the finalisation of the report was also provided one week prior to the end of the comment period. **Appendix 2-8** includes any feedback received from the RAPs in relation to the report. Where relevant, such feedback has been integrated into the report, and summarised below:

- Based on discussion with GTLAC and DLALC during the survey, the central southern ridgeline is an area of archaeological sensitivity that requires further assessment including test excavation to characterise the Aboriginal deposits present within the subject area.
- GTLAC expressed interest in doing a walkover of the area of Stage 1 once vegetation has been cleared, to look for Aboriginal objects on the ground surface.
- Feedback on the draft report was received from A1 Indigenous Services, AHCS and Widescope Indigenous Group that was supportive of the report and recommendations.
- More substantial feedback was received from DLALC, ATOAC and GTLAC:
 - DLALC were supportive of the recommendations, and: i) suggested that the area with existing artefacts be excluded from future development; ii) that artefacts recovered from the test excavations be reburied onsite in a protected area; and iii) any artefacts of cultural significance or education value to be held under a care and control agreement.
 - ATOAC agreed with the proposed recommendations. They sought that: i) the Warnervale area was not part of Darkinjung country and ask for this to be clarified in the local Aboriginal history section of the report; ii) the formation of an Aboriginal Consultative Committee to manage appropriate outcomes be established; iii) recommended that the traditional language be used for naming streets, parks and conservation areas; iv) identified that there was no recommendation for a care and control recommendation for Aboriginal objects and sought for this to be clarified; and v) did not support any removal of topsoil and believe all topsoil should remain within the proposed development area.
 - GTLAC were supportive of the proposed methodology. They agreed with ATOAC that the historical content requires amending to reflect the correct traditional owners, the Guringai mob. GTLAC also recommended that: i) such a large scale development within a cultural landscape requires an Aboriginal Cultural Heritage Management Plan to be developed in consultation with GTLAC and remain effective throughout the staggered stages of this proposed development; ii) requested assistance with an opportunity to engage the proponent and begin discussions for the proposed street names, park areas & community facilities within the development; and iii) commented that the permanent location of any artefact materials unearthed during the proposed testing and then AHIP activities could be formally addressed within an ACHMP.

These suggestions from the RAPs could be addressed as part of an Aboriginal Cultural Heritage Management Plan for the project, proposed to be developed as part of the Aboriginal Heritage Impact Permit documentation.

2.3.2 Review of ACHAR After Test Excavations

A second review period was undertaken with a report that included the results of the test excavation. This was distributed for a period of 28 days for review, A follow up reminder of the finalisation of the

report was also provided one week prior to the end of the comment period. No feedback was received from the RAPs on the draft ACHAR with test excavation (see **Appendix 2-8**).

3 EXISTING ENVIRONMENT

3.1 Key Findings

- The subject area is comprised primarily of a broad ridgeline and slopes within the Gorokan soil landscape. Soils of archaeological interest within the erosional Gorokan soil landscape are generally less than 50cm in depth and comprise brown loamy sand overlying yellowish brown clayey sand. The low-lying edges of the subject area, formerly wetlands/swamp, contain the Wyong soil landscape which has an A horizon that is generally 10-40cm of brownish black loam. The potential deposits across the subject area are likely to be less than 50cm in depth.
- Ground disturbance within the subject area is related to vegetation clearance and use of the land for cattle grazing, including the creation of a number of dams and tanks, including a concrete circular tank on the top of the crest, which has been demolished. Ground disturbance from historical land use is likely to have had an impact on the survival of archaeological evidence within the subject area due to the susceptibility of topsoil layers to sheet wash erosion and the shallow topsoil deposits characteristic of the underlying soil landscapes.

3.2 Geology, Geomorphology and Soils

The subject area is located within the Sydney Basin and is a crest and slopes underlain primarily by the geological Tuggerah formation. The Tuggerah formation consists of grey to green-green grey laminates, red-brown claystone and siltstone, interbedded with fine to medium-grained green-grey sandstone (Och *et al.* 2015). The edges of the subject area to the west, south and east are underlain by Quaternary alluvium gravels and sand (**Figure 8**).

The subject area crosses two soil landscapes, Gorokan and Wyong (**Figure 9**). Gorokan (Murphy 1993: 56-57) is an erosional soil landscape, encompassing the majority of the subject area. The area is characterised by undulating low hills and rises with local relief <30m and slope gradients <15% on lithic sandstones. Soil materials present generally comprises loose dark brown loamy sand (A1 horizon) overlying shallow yellowish brown hardsetting clayey sand (A2 Horizon) overlying yellowish brown strongly pedal clay (B Horizon). Ironstone fragments are common throughout the A1 and A2 horizons. Moderate sheet erosion has occurred within this soil landscape, removing the sandy topsoil where vegetation cover has been disturbed. Sheet erosion is known to have occurred on some of the slopes in the southern part of the subject area.

Wyong is an alluvial soil landscape, located in the west and far eastern portions of the subject area (Murphy 1993: 81). This landscape is characterised by generally broad, poorly drained floodplains and alluvial flats. Slope gradients are <3% and local relief is <10m. Levees, meander scrolls, oxbows and swamps are common. Low lying, slightly elevated terraces are occasionally present. Soil materials present comprise a brownish black loam (A1 Horizon), 10-40cm in depth, overlying mottled brownish grey plastic clay (B Horizon).

From an archaeological perspective, cultural materials are usually constrained to the A1 and/or A2 horizons, usually the upper 50cm (or less) of the soil profile. Beneath the A Horizon soils is a heavy clay layer that pre-dates the accepted colonisation of Australia by Aboriginal people (~50ka). The A horizon soils within the Gorokan soil landscape are generally 45cm or less in depth, on crest, ridges and upper slopes; with the potential to be slightly thicker on midslopes and lower slopes. The A horizon within the Wyong soil landscape is generally 10-40cm thick. In many areas, soil deflation and erosion tend to expose rather than bury former land surfaces on which stone artefacts may have been deposited, removing the upper part of the soil profile.

The recent geomorphic history of the locality has several implications for Aboriginal occupation and archaeological potential in the local area. Much of the local area would have been uninhabitable during

the Holocene, when it was inundated by estuarine water or subsequently comprised brackish or freshwater swamps. Elevated land surrounding the low-lying floodplain would have been the primary location for Aboriginal habitation right through the mid-late Holocene. This includes most of the subject area, particularly the central southern ridgeline. Occupation may have also been possible on the elevated banks/levees of the Wyong River, although frequent inundation by overbank alluvium may have obscured any evidence.

3.3 Hydrology

A series of lakes are located to the north and east of the subject area, including Tuggerah Lake (3.6km to the east), Budgewoi Lake (5.5km to the east), Lake Munmorah (10km to the north east) and Lake Macquarie (12km to the north). Tuggerah Lake was formed between 6,000 and 4,000 years ago, after the sea level ceased rising and a sandy barrier formed to separate the lake from the ocean. During that period, the floodplain around this area would have been an estuarine water body. Between 4,000 and 2,000 years BP (Before Present), the floodplain transformed to wetlands as the western lake shore prograded. In the late Holocene (last 2,000 years), the floodplain was largely dominated by freshwater wetlands, subject to occasional inundation (see Sloss *et al* 2007 for a further discussion on Holocene sea levels for the east coast of Australia). The Wyong River, located eight kilometres to the south of the subject area, has changed course a number of times during the Holocene period, leaving several cut-off oxbow lakes on the floodplain (Kuskie and Webster 2003:4).

The areas to the west, south and east of the subject area were previously swampland that has since been drained (e.g. **Figure 10**). Within these areas there are now modified drainage lines; one to the west of the subject area and one that runs east to west along the southern boundary of the subject area, both draining into Porters Creek. These drainage lines are within 200m of the west and south-eastern parts of the subject area.

Prior to the mid-Holocene, the swampland/floodplain areas were probably a tidal coastal lagoon with a boundary between 5 to 7 metres downslope of the current 10m contour with slope runoff emptying into the lagoon (Appleton 2009:43). The mechanically excavated drainage channels drain to the southwest but originally the swampland would have drained south into Wyong Creek (Appleton 2009:43).

3.4 Past Vegetation

The Gorokan soil landscape consists of partially cleared low open-forest with extensive clearing in areas that have been used for horse and cattle grazing and urban development (Murphy 1993:81). Common trees species still present include smooth-barked apple (*Angophora costata*), scribbly gum (*Eucalyptus haemastoma*), red bloodwood (*E. gummufera*), brown stringybark (*E. capitellata*) and forest oak (*Allocasuarina torulosa*). Paperbarks (*Melaleuca spp.*) are common along drainage lines and in poorly drained areas.

Within the Wyong soil landscape vegetation would have originally been a closed forest but has been extensively cleared and replaced with pasture (Murphy 1993:56-57). Species still present include narrow-leaved paperbark (*Melaleuca linariifolia*), prickly leaved paperbark (*Melaleuca stypheliodes*), woollybutt (*Eucalyptus longifolia*) and swamp mahogany (*E. robusta*).

Based on a review of past land disturbance (see below), there are areas of vegetation within the subject area that appear to have remained relatively unchanged over the last fifty years. These areas may contain natural bushland vegetation.

3.5 Existing Disturbance

Notable impacts in the local area prior to this time were usually in the form of land clearance – timber felling in the early nineteenth century and clearance for farming in the later nineteenth century (Scott 1999:9-10). The Great Northern Railway (located to the west of the subject area) opened in Wyong Shire during the period 1887-1889. The subject area appears on subdivision sale plans from c1917, as part of the 'Warner Estate' (Warner c1917). It was claimed that this Estate was virgin forest 10 years earlier (A. H. Warner c1917:2).

A review of historical aerial photographs from the last 50 years indicates that disturbance to the subject area has been relatively minimal within this period. The aerial photographs show that in:

- 1954 (**Figure 11**) – Vegetation cover across the subject area is almost complete apart from the eastern edge of the subject area near what is now Virginia Road.
- 1965 (**Figure 12**) – Areas within the subject area, particularly in the central and southern portions have been cleared with tree cover thinned across the entire subject area. The central paddock appears to have been cultivated and a large dam has been created on the southern slope and another dam has been created in the east of the subject area. The northern area along Warnervale Road has also been cleared.
- 1979 (**Figure 13**) – The northern portion of the subject area has been allowed to revegetate. Further dams have been added in the east of the subject area and tree cover has been further thinned in the southern subject area.
- 1990 (**Figure 14**) – Houses have been constructed in the top north-eastern portion of the subject area along Warnervale Road. The northern part of the subject area has relatively dense vegetation cover and there is increased vegetation cover across the central ridge up to the vehicle track that traverses the crest. Additional dams were constructed in the central and western subject area.
- 2010 (**Figure 15**) – Clearance of some trees within the north-west top portion of the subject area. Regrowth of vegetation in the north-eastern edge along Virginia Road. Vehicle tracks and eroded areas throughout the subject area are more prominent.
- 2016 (**Figure 16**) – Clearance along vehicle tracks within vegetated 'woodland' area in the top north-eastern corner of the subject area. The woodland area in the north-western top part of the subject area near Warnervale Road has been contracted. A large circular tank (now demolished) has been installed on the crest of the ridgeline in the southern subject area with an associated vehicle access track.

Ground disturbance has primarily occurred in areas around the tanks and dams and along vehicle tracks. Areas within the central part of the subject area were likely cultivated in the past, around 1965. The later aerials show the central and southern parts of the subject area were cleared almost entirely (presumably for pasture) while parts of the northern section of the subject area were allowed to revegetate. The soils within the subject area that have the potential to contain archaeological deposits are relatively shallow and are likely to have been disturbed and truncated through vegetation clearance. Sheet wash causing erosion is common within the erosional Gorokan soil landscape and has been previously recorded within the subject area along vehicle tracks where erosion scours to underlying clays were present (AS&R 2009).

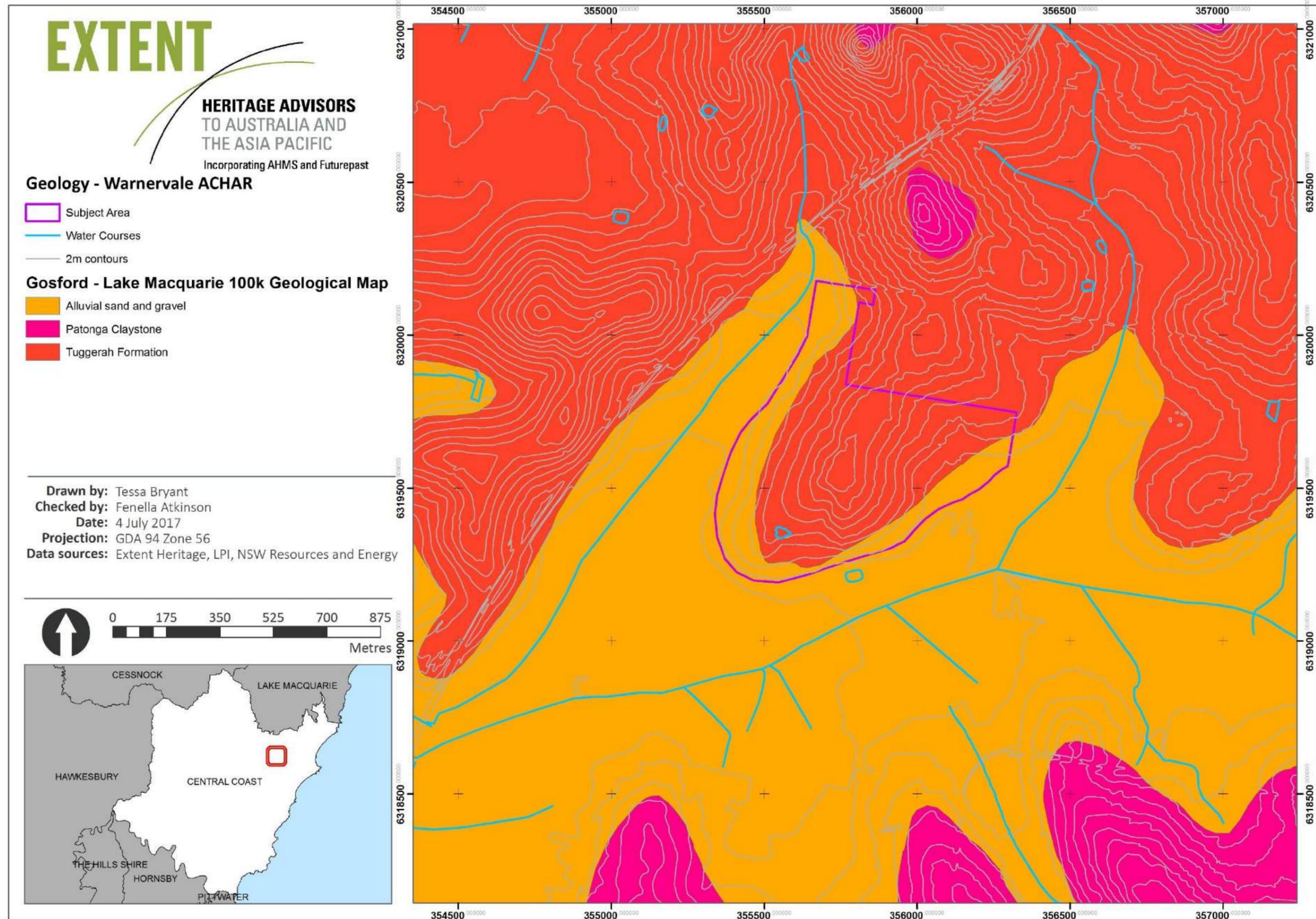


Figure 8. Geology of the subject area.

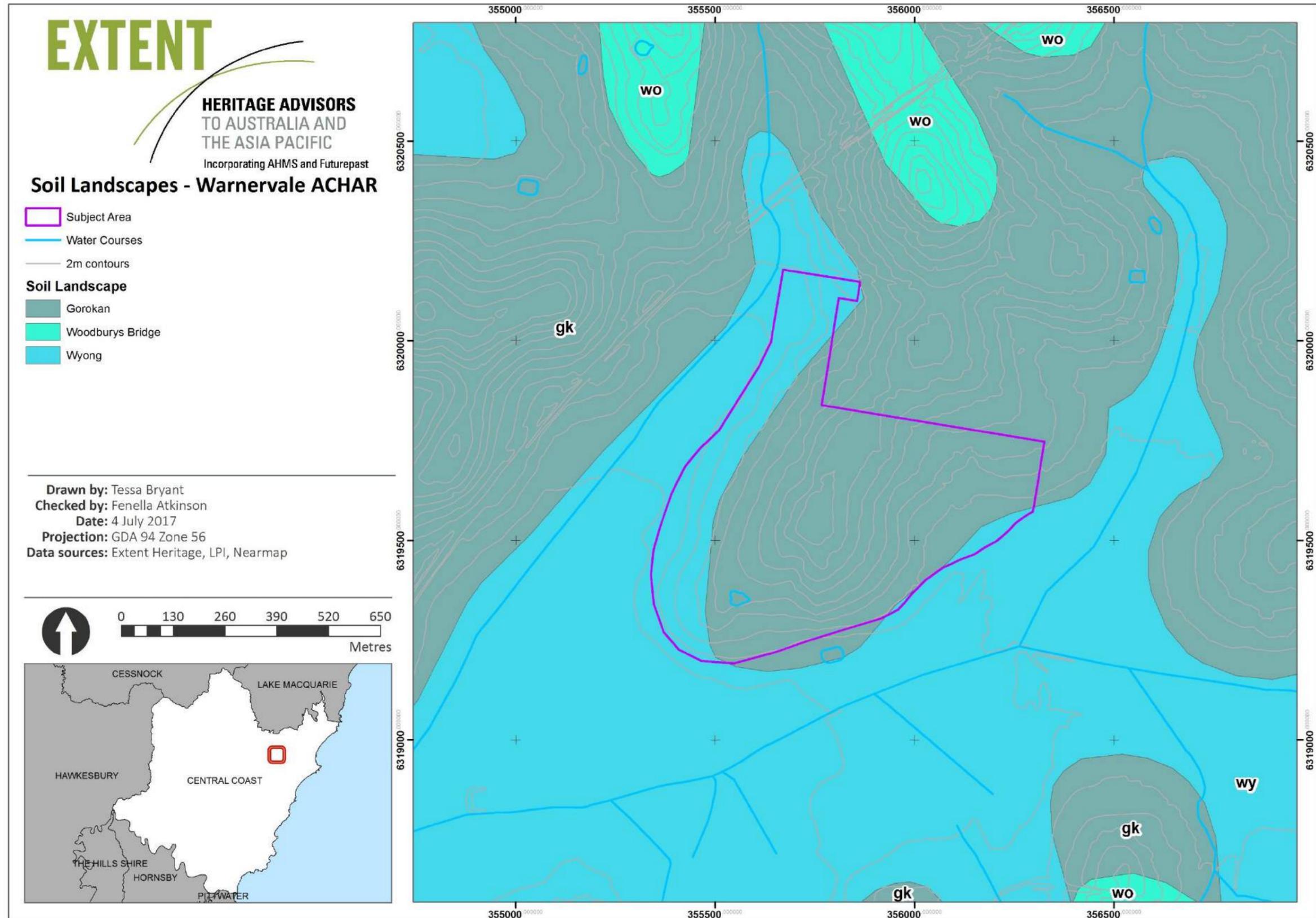


Figure 9. Soil landscapes of the subject area.

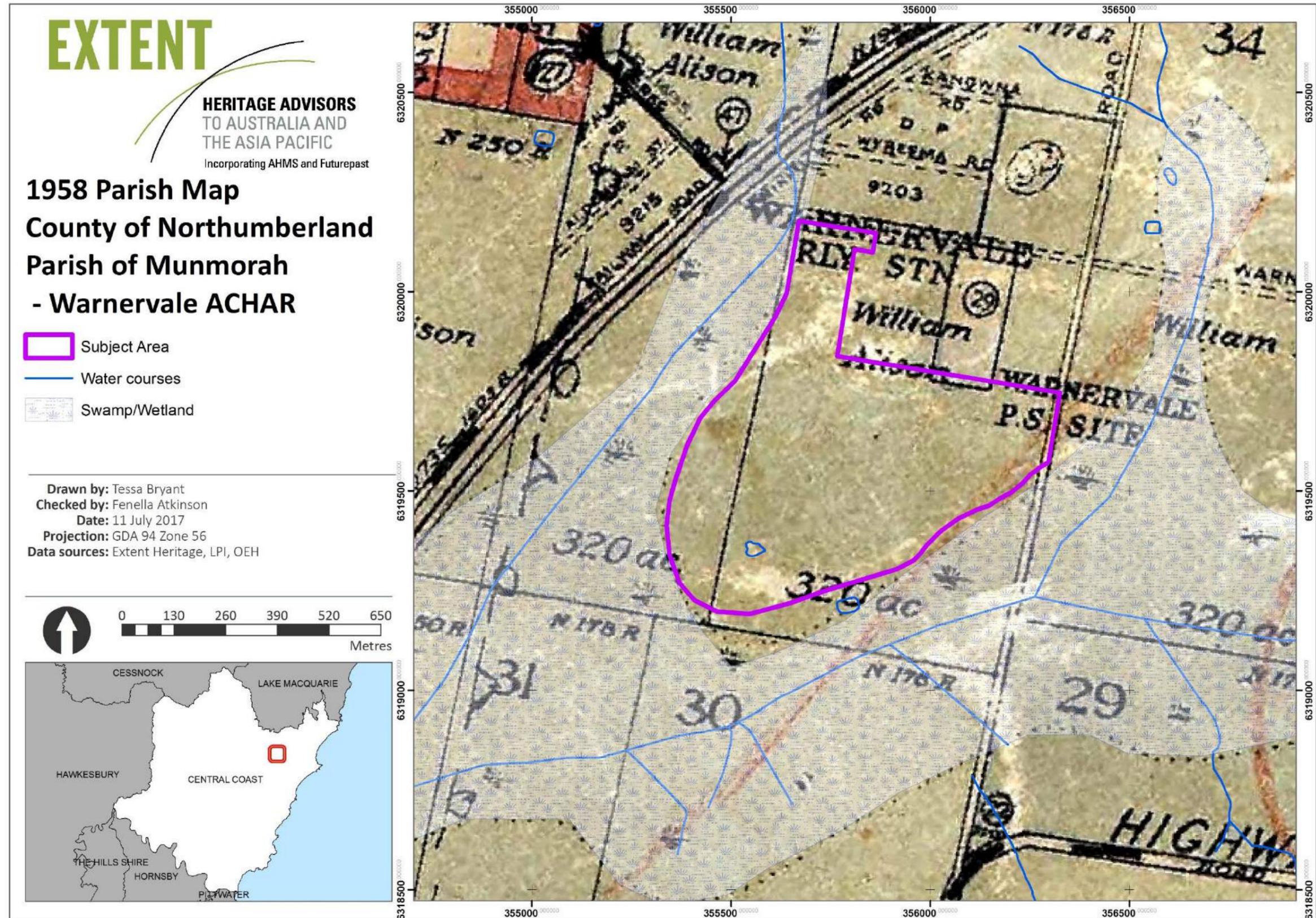


Figure 10. The subject area and modern watercourses overlaid on a 1958 map (Parish of Munmorah County of Northumberland Edition 11 sheet 1 extract).

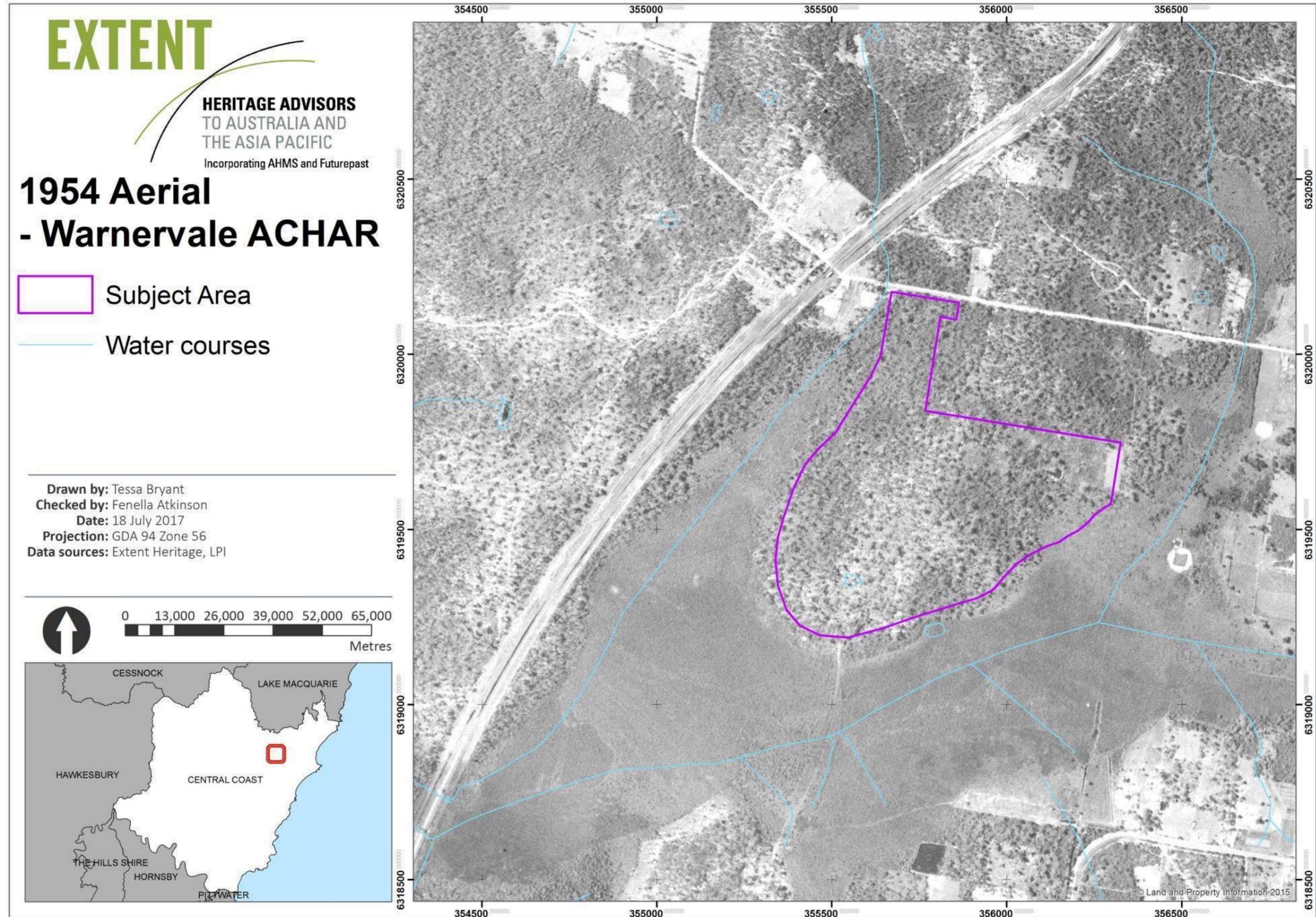


Figure 11. 1954 aerial photograph showing the subject area (Source: LPI, Lake Macquarie, Photo CAC 44-5121).

EXTENT

HERITAGE ADVISORS
TO AUSTRALIA AND
THE ASIA PACIFIC
Incorporating AHMS and Futurepast

1965 Aerial Warnervale ACHAR

 Subject Area

Drawn by: Tessa Bryant
Checked by: Fenella Atkinson
Date: 4 July 2017
Projection: GDA 94 Zone 56
Data sources: Extent Heritage, LPI

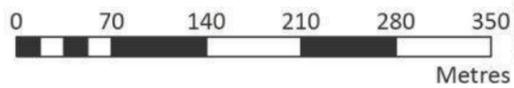


Figure 12. 1965 aerial photograph showing the subject area (Source: LPI; Photo number 1357 4/6/65).

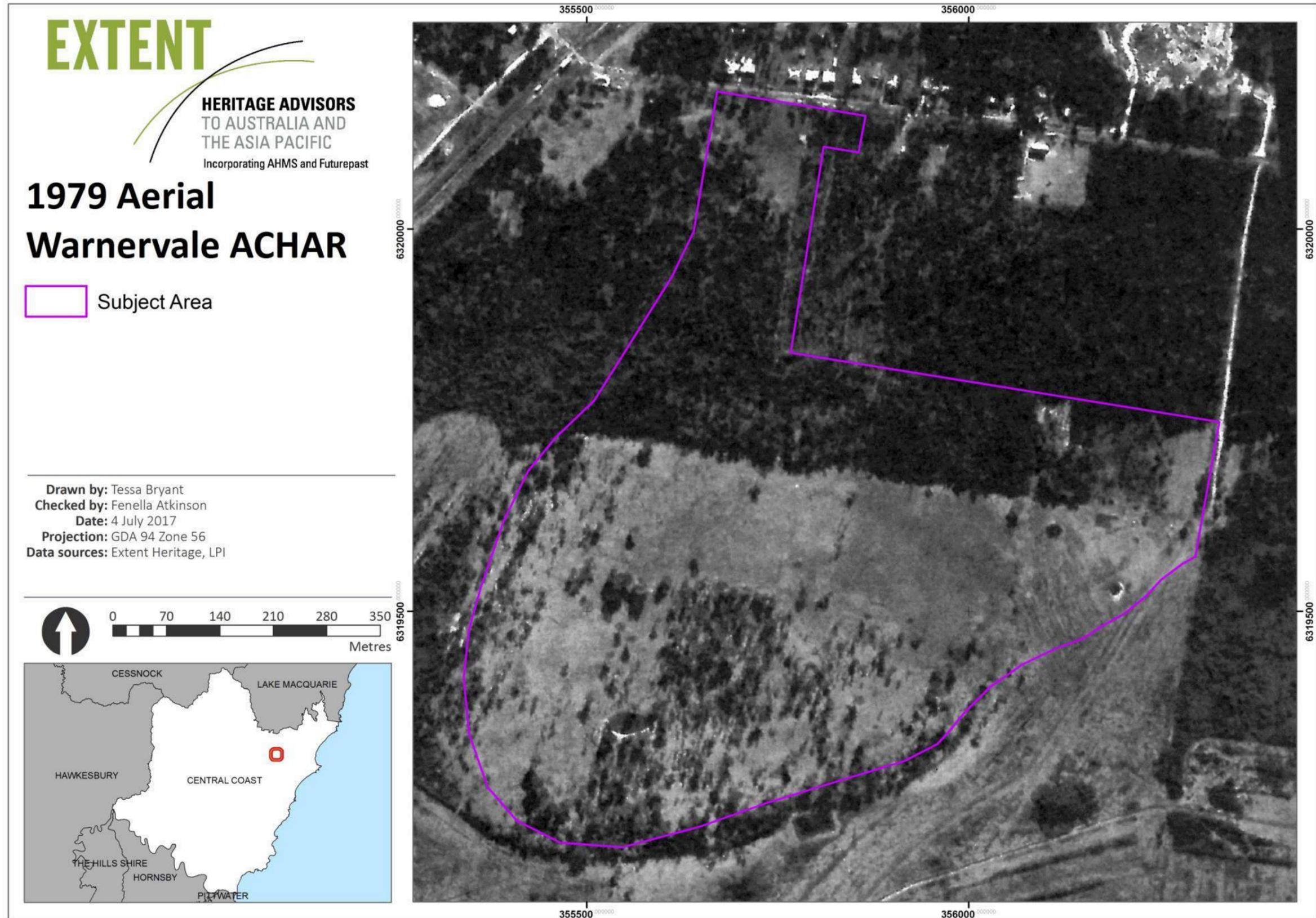


Figure 13. 1979 aerial photograph showing the subject area (Source: LPI, Photo number 2785 3/7/79).

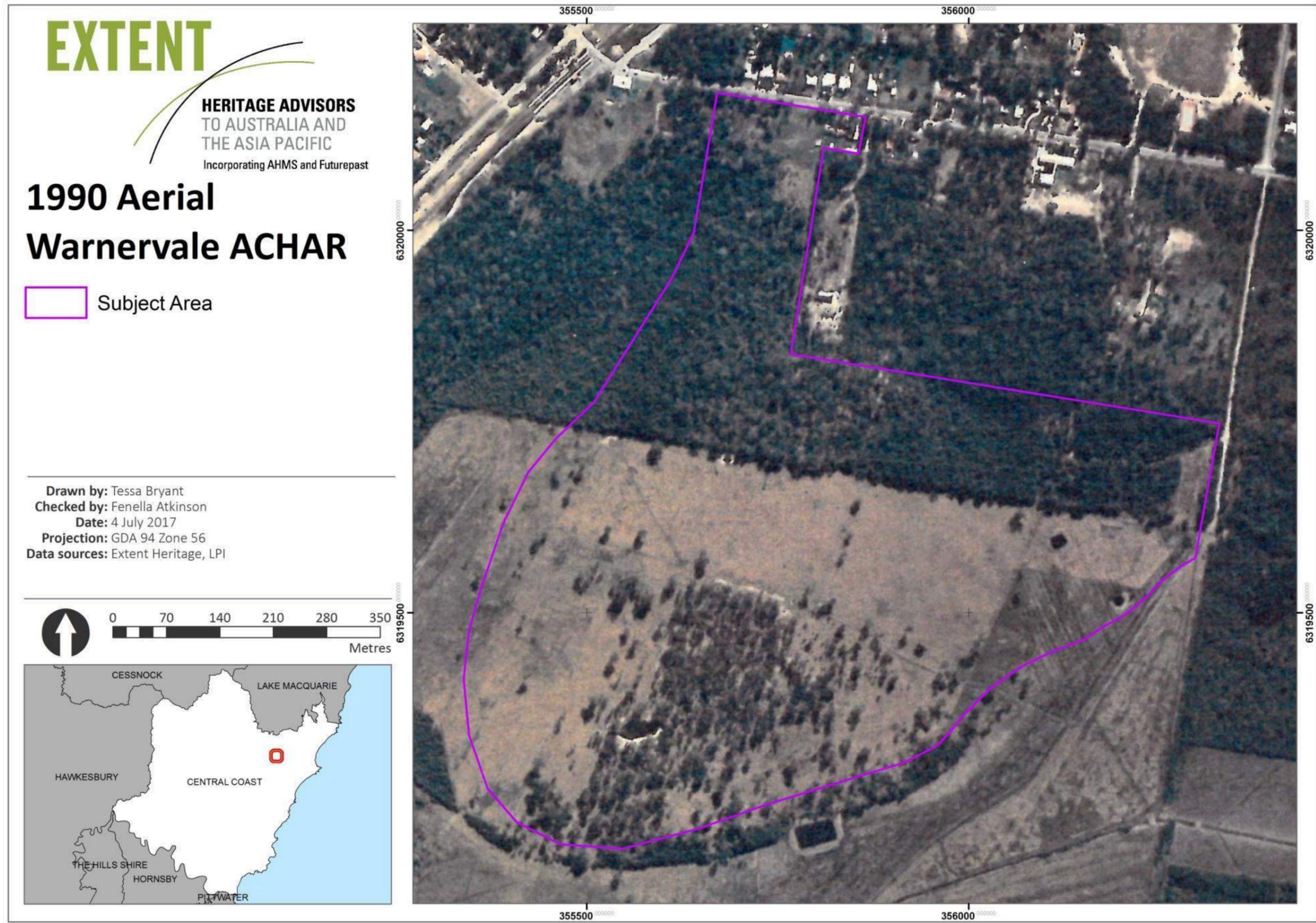


Figure 14. 1990 aerial photograph showing the subject area (Source: LPI, Photo number 3730, 24/4/90).

EXTENT

HERITAGE ADVISORS
TO AUSTRALIA AND
THE ASIA PACIFIC
Incorporating AHMS and Futurepast

2010 Aerial Warnervale ACHAR

 Subject Area

Drawn by: Tessa Bryant
Checked by: Fenella Atkinson
Date: 4 July 2017
Projection: GDA 94 Zone 56
Data sources: Extent Heritage, Nearmap



0 70 140 210 280 350
Metres

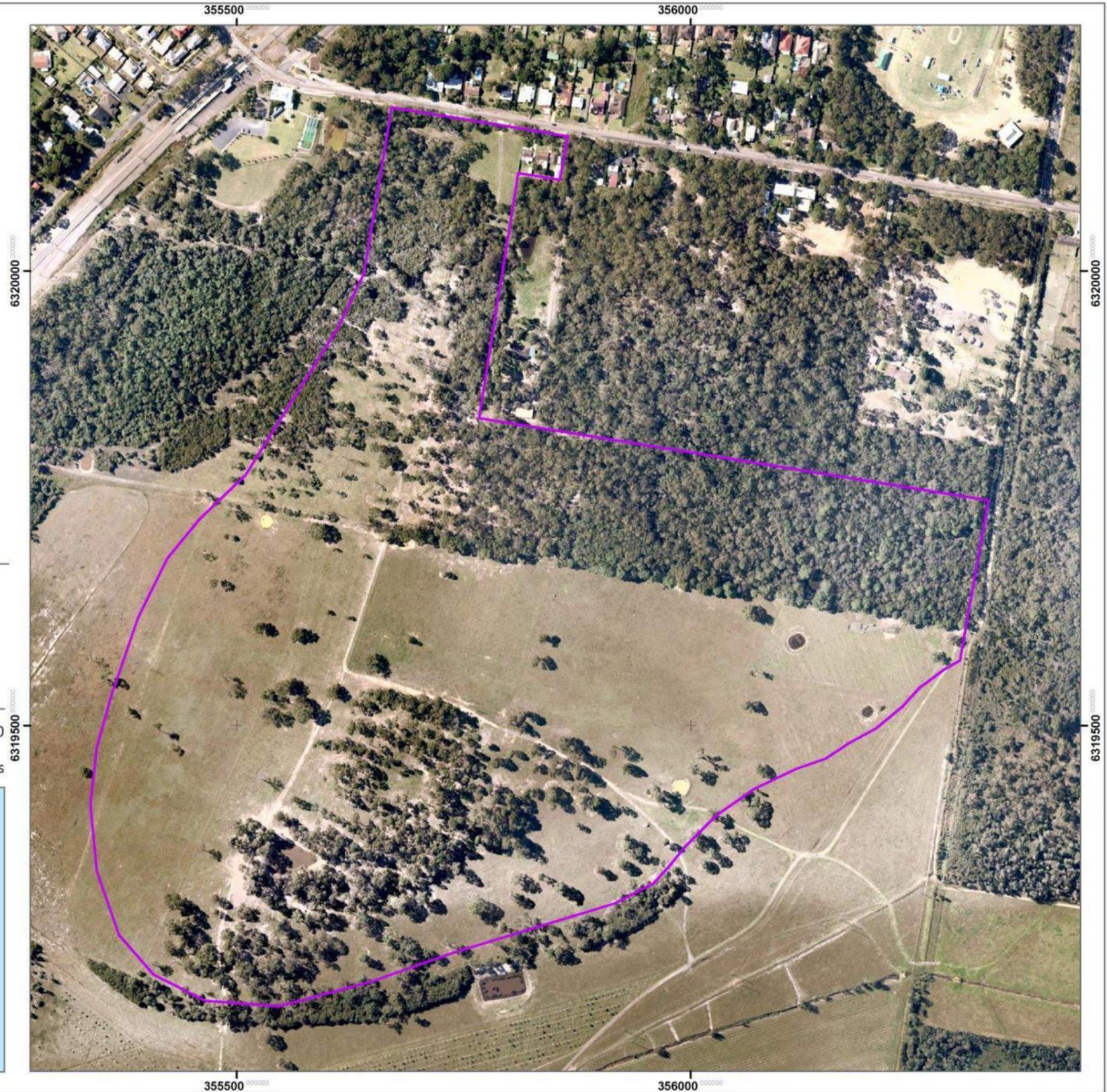


Figure 15. 2010 aerial photograph showing the subject area (Source: Nearmap).

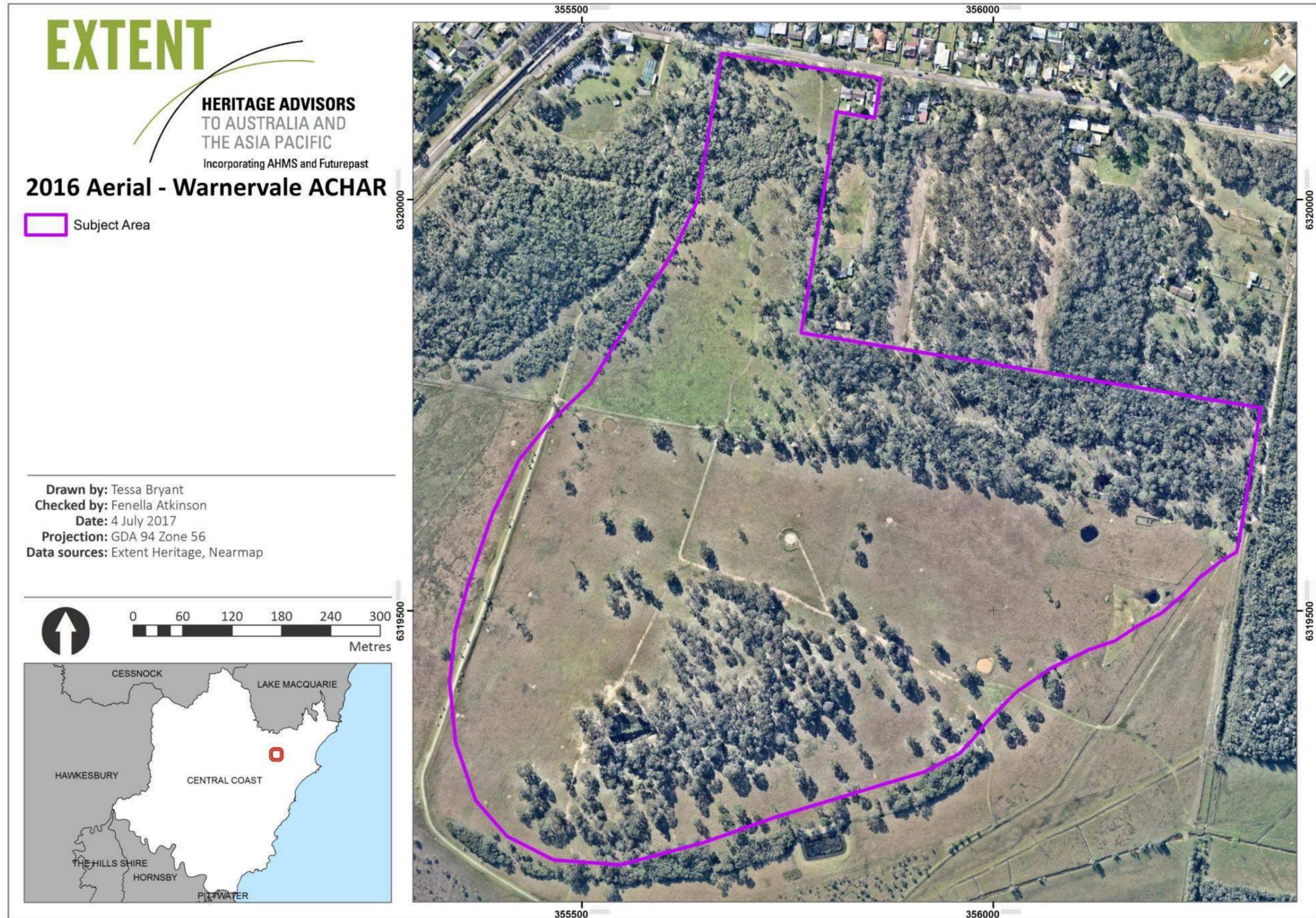


Figure 16. 2016 aerial photograph showing the subject area (Source: Nearmap).

4 ETHNOGRAPHIC RECORD

4.1 Key Findings

- The Central Coast with its coastline, lakes, swamps and floodplains provided rich and varied resources that have been used by Aboriginal people for thousands of years.
- Central Coast Aboriginal groups included the coastal Kuring-gai/Guringai (around Broken Bay); the coastal Awabakal (from Broken Bay to the Hunter River); and the hinterland Darkinjung (from the Hawkesbury River to Wollombi and the Watagan Mountains, and the Hunter River).
- The traditional owners of the Warnervale area are the Guringai Mob.
- Seasonal movement of people occurred between the coastal plains and the hinterland, in order to exploit seasonal hunting grounds and to escape the winter cold, and these movements promoted contact between local people and more distant groups facilitating exchange, intermarriage, initiations and conflicts.
- Reports from the post-contact period in the 1820s put the Aboriginal population of the Central Coast (Brisbane Water district) at anywhere from 65 people to in excess of 200 people (for one group - the 'Tugrah Beech' Tribe alone).
- Aboriginal people who stayed in areas settled by Europeans during the early to mid-1800s tended to live on the fringes of European society and became increasingly dependent on welfare. Government allocations of blankets and slop clothing, bartering of fish and game for sugar, flour and alcohol reflect the changes that occurred in Aboriginal culture and lifestyle.

4.2 Regional Information

The coastal and hinterland regions of the NSW Central Coast were utilised by Aboriginal people for thousands of years prior to European settlement. The coast and lakes, inland waterways, swamps, floodplains, valleys and mountain ranges of the region provided Aboriginal people with rich and varied resource zones, as well as occupational areas, ceremonial sites and transport corridors for movement throughout the landscape. Aboriginal sites provide tangible evidence of an ongoing link with the long history of Aboriginal use and occupation in the area.

4.3 Aboriginal History of the NSW Central Coast Region

There is considerable debate about the nature, territory and range of the pre-contact Aboriginal language groups along the NSW Central Coast. This is largely because by the time colonial diarists and missionaries began making detailed records of Aboriginal people in the 19th Century. Aboriginal groups had already been reduced in number, and were dispersed by European settlement activity; but also because of the complexity of the traditional relationship between Aboriginal people, language and country.

At the time of European settlement, the Aboriginal people of the Central Coast were separated into named territorial groups on the basis of language. Three main language groups occupied the Wyong region. This included Awabakal to the north, whose range extended from Broken Bay to the Hunter River, the coastal Kuring-gai (Guringai), who occupied an area around Broken Bay and range extended from the northern side of Sydney Harbour to Lake Macquarie; and the hinterland Darkinjung, who occupied an area from Wollombi and Putty in the west down to Colo and Macdonald Rivers to the Hawkesbury and Brisbane Water, Tuggerah Lakes and their hinterlands to the east (Brown, 2005). Seasonal movement of people occurred between the coastal plains and the hinterland, in order to exploit seasonal hunting grounds and to escape the winter cold. According to Tench, the task of fishing was divided between husband and wife, the woman using a hook and line and the man using a fish gig (spear) (Tench 1996: 258-260). When fish were scarce, or the weather was foul, coastal groups turned

their attention to gathering shellfish, hunting reptiles and small animals, digging fern roots, or gathering berries (Tench 1996: 258-260). These seasonal movements promoted contact between local people and more distant groups and also facilitated exchange, intermarriage, initiations and conflicts.

Aboriginal groups of the Central Coast enjoyed a rich economy, providing quality and variety in food. These foods ranged from fish, shellfish and eel; to emu, kangaroo, echidna, flying fox, and swamp wallaby, as well as fern roots, yams and other vegetables, fruit and Burrawang palm seeds (Vinnicombe 1980: V19-31; Heritage Concepts 2006:12). This diet was derived from marine foods in the coastal zones; and from the plants, wildfowl and small marsupials of the open forests and hinterland areas.

Shelters were constructed out of sheets of bark and timber (Vinnicombe 1980: IV:3-4). Caves and rock overhangs were also used as shelter and, according to Tench, were perhaps even the preferred type of shelter (1996).

Traditional clothing was made from possum skin and wrapped around the waist, leaving scarification and body paint visible to the observer (Vinnicombe 1980: IV:6). Equipment manufactured from locally available plant resources included string bags, 'coolamons' (wooden vessels) and bark canoes. Weapons included the spear, 'mootim' (fish spear), 'woomerah' (spear-thrower), 'waddy' (club), boomerang, wooden shield and 'mogo' (stone hatchet) (Vinnicombe 1980: IV:6-7). Today, grinding grooves, where traditional owners made tools and weapons, are still evident (Dallas and Bell 1989).

4.4 Local Aboriginal History

In the early 1800s, the most notable Central Coast Aboriginal person in European eyes was Bungaree, often described as 'the King of Broken Bay'. After moving to Sydney and becoming a well-known personality, he circumnavigated Australia with Flinders (departing 1799) and was subsequently granted land by Governor Macquarie in Mosman (Georges Head) along with fifteen others. Later, Governor Brisbane set him up with a fishing boat and net with which to work Sydney Harbour. Whilst still returning to his home country from time to time, he remained for the most part in Sydney until his death in 1830. Others from within his group did however return to Broken Bay and the Central Coast, where a number of descendants remain today.

The traditional life of the Kuring-gai (Guringai), Awabakal and Darkinjung people was broken through the course of the early 19th century. The impact of smallpox and influenza decimated the Aboriginal population, with several epidemics killing large numbers of people (Collins 1798). European occupation of traditional hunting lands deprived Aboriginal groups of sources of food and access to camping and ceremonial sites. This forced individuals to either relocate into the potentially hostile lands of neighbouring Aboriginal groups, to partially integrate into colonial society as fringe dwellers, to resist, or to use a combination of these approaches. The displacement and dislocation from traditional lands meant that remnant Aboriginal bands were forced to combine to 'to provide mutual protection and to maintain viable social and economic units' (Ross 1988:49). Resistance by Aboriginal groups was often met with retaliatory action by white settlers and the colonial administration. A combination of these factors led to the demise of traditional lifestyles and a decrease in the Aboriginal population.

In 1827, Police Magistrate Willoughby Bean reported to the Colonial Secretary that there were five family groups or 'tribes' of Aboriginal people in the Brisbane Water district. Those listed were the Broken Bay Tribe, the Tuggera Beach Tribe, the Wyong Tribe, the Narara Tribe and the Erina Tribe, accounting for a total population of 65 individuals (Sainty and Johnson 1980:15; ARC Heritage 2009:17; David Scobie Architects 2010:12). The numbers mentioned by Bean do not correspond to another list generated by the Newcastle Magistrates Allman and Brooks in September 1826. The 'Tugrah Beech Tribe', number 200 strong, was listed with the Newcastle tribes, with 'Chuge' as 'Chief'. Accepting the richness of natural resources to sustain a population, and the accuracy of Allman and Brooks' numbers in just one group of Central Coast people, the population of Aboriginal people in the Brisbane Water district would have been far in excess of Bean's estimate of 65 persons. Nor do the clans described

represent the generally accepted version of the Darkinjung Nation being made up of 12 clans (Umulliko Darkinjung Research Working Group 2003:23). This was also at a time when it is known that a number of other people from the area were living down in Sydney among Bungaree's mob and others may have resettled with neighbouring Aboriginal people to the west and north.

There are no ethnographic events recorded within the subject area. A corroboree was recorded in 1840 as occurring near the mouth of the Wyong River on Tuggerah Lake (~4.5km southeast) in celebration with inland Aboriginal people from the Wollombi area (Brayshaw 1987:81-82). An inland trade and travelling route from Singleton (Hunter Valley) to Gosford (Brisbane Water) likely was to the west of the subject area, traversing Cockfighters (Wollombi) Creek, MacDonald River and Mangrove Mountain for access to marine resources (McCarthy 1939:406-407, Attenbrow 2010).

Aboriginal people who stayed in settled areas during the early to mid-1800s tended to live on the fringes of white society and became increasingly dependent on welfare. Government allocations of blankets and slop clothing, bartering of fish and game for sugar, flour and alcohol reflect the changes that occurred in Aboriginal culture and lifestyle.

Aboriginal people have an enduring connection with the Central Coast and Aboriginal and Torres Strait Islander peoples make up 2.9% of the region's population (ABS 2011 Census). Guringai Tribal Link Aboriginal Corporation, established in 2003, represents the Aboriginal traditional owners of the Warnervale area. The Darkinjung Local Aboriginal Land Council, established under the *Aboriginal Land Rights Act 1983*, represents the Aboriginal people of the Central Coast and together with GTLAC are both actively involved in protection and raising awareness of the Aboriginal cultural heritage of the Central Coast.

4.5 Registered Aboriginal Stakeholder Information

The ATOAC and GTLAC provided feedback identifying the subject area as within the traditional lands of the Guringai Mob.

5 ARCHAEOLOGICAL RECORD

This section discusses the regional and local archaeological context for the purposes of determining settlement and site location patterns. Archaeologists examine regional and local trends in the distribution of known sites in relation to environment and topography because they provide evidence about economic and social systems in the past and also assist in predicting likely site types, site locations and the nature of the archaeological resource in any given area.

5.1 Key Findings

- Aboriginal occupation of the Wyong region extends back to the Pleistocene, but the majority of sites are likely to reflect Holocene occupation, with evidence of continuous use of the coastal area through the Holocene and into contact period.
- The most common Aboriginal archaeological site features in the region are artefacts (both isolated finds and artefact scatters), with axe grinding grooves and art sites found in sandstone country and middens along the coast and lakeshores.
- There have been relatively few archaeological excavations undertaken within the Warnervale and wider Wyong area.
- A previous archaeological survey resulted in the identification of eleven surface artefact scatters or isolated finds, located on the crest/southern slopes of the ridge in the southern part of the subject area. The artefact bearing deposit in this area was predicted to be 2-5cm thick, and further investigation was recommended for the area around five of the sites. The parts of the subject area below the current 10m contour were identified as former wetland/swampland.
- The subject area has areas predicted to have high-moderate potential for Aboriginal archaeological deposits, in the areas with surface exposures of Aboriginal objects on crest of the ridge and spurs/slopes to the south. The remainder of the subject area has been identified as having low potential.
- No Aboriginal Heritage Impact Permits have been previously issued for the subject area.

5.2 Regional Background

The subject area is located within the Gosford-Wyong region, on the northern rim of the Sydney Basin. The archaeology of the Gosford-Wyong region has been documented through a number of academic and impact assessment investigations over the past 30 years. The majority of these investigations have been archaeological surveys; only a small number of archaeological excavations have been undertaken. Comparatively little work has been carried out to the west of the lakes (Heritage Concepts 2008:14).

Aboriginal occupation in the Wyong region dates back into the Pleistocene period with an earliest radiocarbon date of approximately 13,015 years before present taken from charcoal excavated from a rockshelter site called Loggers Shelter (Attenbrow, 1987). This site is located in the Upper Mangrove Creek catchment, approximately 31 kilometres to the west of the current subject area. However, the antiquity of Aboriginal occupation is likely to extend back further into the Pleistocene. Sites dating to this earlier period are rare and tend to be recovered from deep sand deposits. Dates recovered from a sand body in Pitt Town further south in Sydney date to ~36,000 years ago (Williams *et al.* 2014) and artefacts associated with charcoal were dated to >35ka at Glennies Creek in the Hunter Valley to the north (Koettig 1986a, 1986b).

The lake systems themselves (including Lake Macquarie, Brisbane Water and Tuggerah Lakes) are drowned river valleys that were submerged during the rising sea levels that occurred after the Last Glacial Maximum, some 18,000 years ago. The Quaternary deposits on the eastern side of the lake system comprise a series of relict sand dunes of late Pleistocene age, whilst deposits to the north – e.g.

the Moffats Swamp site (70km north) - date to around 17,000 years ago (Bessant 2002). Other sites in the vicinity of the subject area, specifically shell middens (e.g. those at Summerland Point, Lake Macquarie ~17km north east), have been dated to 7-8,000 years ago (Brayshaw 1989).

Furthermore, on the Reid's Mistake Headland (~27km north east of the subject area), excavations by Dyall & Bentley (1972) revealed an occupation site with the skeletal remains of some 21 individuals. The site contained numerous occupation layers and was one of the most repeatedly used sites in the area. The basal layers of these deposits were dated to 7,850 +/- 100 14C years BP, while the skeletons were found in the later layers of occupation, thought to be around 2,700 years BP. However, the clarity and integrity of the site has been disputed (Dallas 1993). The majority of the skeletal remains were male and juveniles, with evidence of spinal damage caused by lifting. Caries (dental decay typically found after European contact) were found in two of the skeletons, suggesting they were buried post-1788, but most likely before 1835 considering the activities in the area after this time. This evidence indicates use of the coast line by Aboriginal people was continuous and ongoing for the entirety of the Holocene and well into the contact period.

A summary of key regional studies that have relevance for the current assessment are provided below.

Department of Planning Comprehensive Coastal Assessment (DEC 2005)

The NSW Department of Environment and Conservation (DEC) published the *Aboriginal Cultural Heritage Data Audit* as part of the 2005 Department of Planning Comprehensive Coastal Assessment. This collated and presented a review and summary of available data and information on Aboriginal cultural heritage items and values for the NSW coastal region. The DEC study considered a total of 234 listed sites in the Gosford and Wyong LGAs, located predominantly in hinterland sandstone country (DEC 2005: Appendix 1; **Table 3**). For the 234 sites, 294 site features were recorded, and demonstrate that artefact scatters, grinding grooves and art sites are the most prevalent in the LGA; though it should be noted that this data is no longer likely to accurately reflect the distribution and nature of sites (**Figure 17**).

Table 3. Aboriginal sites in the Wyong LGA (after DEC Comprehensive Coastal Assessment 2005).

Site Feature	Number	%
Artefact Scatter	101	34.35
Grinding Groove	70	23.81
Art Site	50	17.01
Shell Midden	37	12.59
Rockshelter with Artefacts	17	5.78
Modified Tree	5	1.70
Rockshelter with Shell Materials	3	1.02
Waterhole	3	1.02
Ochre Quarry	2	0.68
Ceremonial Ring	2	0.68
Fish Trap	1	0.34
Stone Quarry	1	0.34
Aboriginal Ceremonial and Dreaming Site	1	0.34
Burial	1	0.34
Total	294	100.00

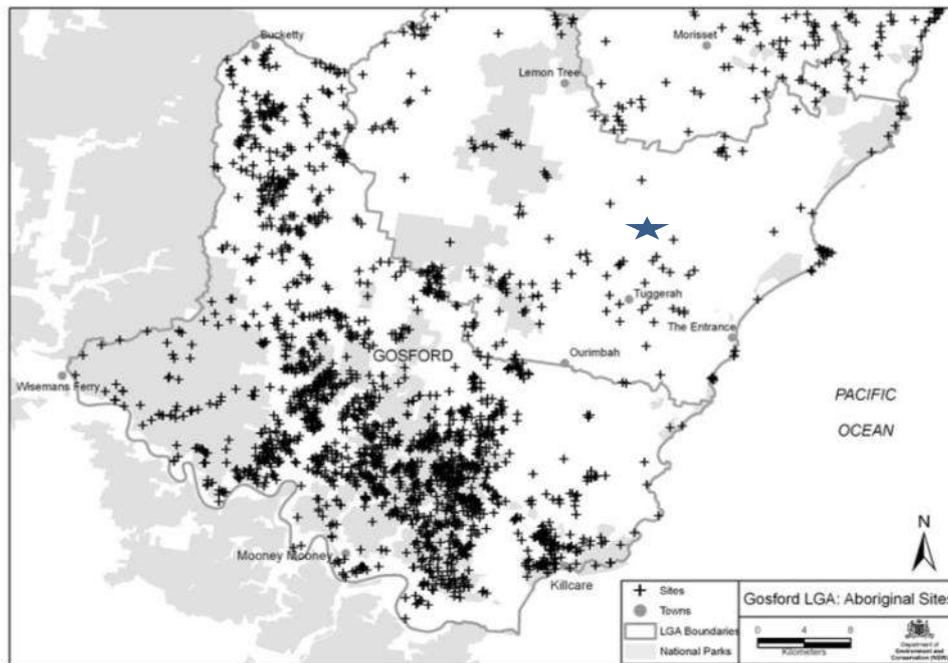


Figure 17. Indicative site distribution in Gosford and Wyong LGAs (source: DEC Comprehensive Coastal Assessment, 2005). The blue star marks the approximate location of the subject area.

A cumulative result of the study was the production of twelve Aboriginal cultural values maps – showing places identified by Aboriginal community members as having specific cultural value. These specific values were grouped into five generic groupings:

- A Spiritual/Ceremonial – includes places and areas of creation and law stories (legends), ceremonial activity areas, gender specific areas, burials, etc;
- B Physical Evidence – includes the diverse array of archaeological sites on record (DEC), and also those additional sites and areas known to the Aboriginal communities;
- C Environmental Knowledge & Resources – includes places and areas known for their cultural resources (foods, medicines, implements, etc), and environmental knowledge areas (increase sites, weather knowledge, etc);
- D Historical – includes post-colonial places and areas of importance such as conflict areas, massacre areas, missions, etc; and
- E Social/Economic – includes traditional travel & trade routes, contemporary social gathering areas, etc. maps do not contain any detailed information as to the actual nature of values mapped (Andrews *et al.* 2006:28)

Within the Warnervale subject area, no cultural values places were highlighted as a result of the Coastal Assessment (**Figure 18**). An area to the northwest was highlighted as an area of spiritual/ceremonial value (A) and areas to the south have social/economic value (E). These are broad areas with no details available on specific values. The western part of the subject area was mapped as the cultural landscape unit Floodplains/Terraces (Alluvial Soils and Freshwater Creeks/Rivers) with the remainder of the subject area encompassing Undulating Low Hillslopes (DEC 2005: Map 5).

Gosford-Wyong Region (Vinnicombe 1980)

This study was prepared for the National Parks and Wildlife Service to investigate the Aboriginal occupation of the Central Coast in terms of environmental, ethnographic and archaeological data. It consisted of a systematic study of areas within the Gosford and Wyong LGAs to obtain data on numbers and types of sites and their distribution, to inform the development of a predictive model as to where sites could be expected to occur. Three eco-systems were selected for intensive survey:

- Open coastline and coastal estuary - fully tidal, high salinity
- Riverine estuary - tidal margins, low salinity
- Inland sclerophyll forest - upper valley catchment, fresh water

Vinnicombe emphasised the seasonal nature of site usage throughout the various environments in the region and presented a model for Aboriginal movement between the coast and hinterland. The Aboriginal site usage was directly linked to available resources in each environment. Coastal shellfish and fish species were heavily utilised during summer, lake and estuary usage would have primarily coincided with spring-summer nesting of water birds and summer-autumn migratory fish, while marginally estuarine waters and swamps would have experienced year-round flora and fauna exploitation. Terrestrial fauna could have been exploited all year, while plant varieties that experienced seasonal change would have likely seen lower usage during winter due to lower nutrition value at this time of year. It is unlikely that these patterns of land use would have required large scale population movements, but rather during winter periods smaller groups would disperse to reduce stress on resources.

Vinnicombe developed the following site type predictions (reproduced in Dallas & Bell 1989: 40-41);

- Open middens are usually in protected positions near water and shellfish resources. They occur on sand, alluvium and sandstone, often at the junction of valley bottom and hillslope.
- Camp sites commonly occur on relatively level dry ground near water. They are often difficult to detect outside eroded or partly destroyed surfaces. They are very difficult to detect in Hawkesbury sandstone formations.
- Sheltered occupation sites are most commonly located in exposed Hawkesbury sandstone above valley floors or below ridgetops. Weathered sandstone may form overhangs or caverns which provide shelter from wind, rain and are easily heated. There is a general preference for north or north west facing shelters.
- Painted or drawn art sites are most common in larger shelters immediately below ridgetops in the Hawkesbury sandstone formation.
- Engraved art sites are more likely to occur on ridgelines and plateau areas of the Hawkesbury sandstone. They are rare on Narrabeen formations. They can occur singly or in group depictions.
- Grinding grooves are commonly found on Hawkesbury sandstone creek beds, at the tops of valleys above or along watercourses and around rock pools on ridgetops near aquifers.

Gosford LGA (Dallas & Bell 1989)

This investigation was undertaken to provide Gosford Council with an overview of the Aboriginal material culture of the Gosford LGA. The LGA was divided into four landform units: lakes and lagoons, coastal plain, coastal hills, and upland plateaus.

The following site types were expected to occur:

- Open middens
- Open occupation sites
- Scarred or carved trees
- Axe grinding grooves
- Shelter sites with occupation deposit
- Engraving, painting and drawing sites
- Burials

The following predictive statements were made for the two landform units of relevance to the present subject area.

Lakes and lagoons. Open middens, campsites and burials can be expected on undisturbed Quaternary deposits adjacent to the lagoons fronting the ocean. Open middens, campsites and burials can also be expected on Quaternary deposits. Where these lakes and lagoons abut Triassic outcrops, rock shelters containing occupation deposit and art can also be expected.

It is likely that a considerable number of sites in this unit have been destroyed or disturbed by urban development along the ocean beaches and lake edges.

Coastal hills. Areas of ridgeline are often capped by sandstone and these areas are likely to contain examples of the following site types:

- Rock engravings particularly on ridge tops and saddles or on exposed rock platforms near water sources.
- Axe grinding grooves particularly on rock platforms adjacent to rock pools or watercourses.
- Rock shelters containing art and/or occupation deposit usually associated with sandstone outcrops along ridgelines.

Though less common, stone arrangements may occur along ridgetops and scarred trees may occur where remnant stands of undisturbed forest occur. Quaternary alluvium occurs in valley bottoms. Occupation deposits may occur in this geomorphic context though extensive use of this alluvium for intensive agriculture suggests that it is unlikely that extensive undisturbed sites will occur.

5.3 Local Information

This section provides a summary of previous studies undertaken in the proximity of the subject area. These are discussed further in **Appendix 3-1** and the locations are shown in **Figure 19**.

There have been a number of archaeological surveys around and including the subject area within Warnervale. These surveys have primarily been done for land rezoning or redevelopment (e.g. AS&R 2004, 2005, 2006, 2009; Dean-Jones 1990; Helen Brayshaw Heritage Consultants (HBHC) 1998a, 1998b, 1999; HLA 2005, 2006; Silcox 1997, 1999; Therin Archaeological Consulting (TAC) 2001). There has been very little excavation within the Warnervale area, with excavations undertaken by AHMS (2009) at Bluetongue Brewery (approximately 3km to the northwest of the subject area) being a rare exception. These excavations revealed a very disturbed soil profile with limited intact topsoils and a low density of artefacts were recovered.

Almost all of the surveys found no Aboriginal objects and no potential for subsurface deposits e.g. AS&R 2004, 2006; HBHC 1998a, 1998b, 1999; HLA 2005; 2006). If Aboriginal sites have been identified these have primarily been isolated finds or low density surface scatters in disturbed contexts (e.g. AS&R 2005, TAC 2001). The subject area is relatively rare within the local region in that a large number of sites were identified during a survey for rezoning of land within Precinct 7A (AS&R 2009).

Two surveys have been carried out that incorporated either part or all of the subject area. The first survey incorporated the north-eastern corner of the subject area as part of an investigation undertaken for sewer infrastructure works for the proposed Warnervale Town Centre (AS&R 2004). This survey did not identify any Aboriginal sites or areas of potential either within the current subject area or the wider subject area of this assessment. The majority of this study area was assessed as having been significantly altered, with low visibility in areas that were not disturbed. Management recommendations were limited to monitoring of earthworks within 30m of a drainage line.

The second survey incorporating the subject area was undertaken by Appleton in 2009, prior to rezoning of land within Precinct 7A (AS&R). The survey located eighteen Aboriginal sites within the overall Precinct. Within the subject area, eleven sites were identified (**Table 4**); five isolated finds and six artefact scatters ranging from two artefacts to in excess of forty artefacts. Raw materials recorded included mudstone/rhyolite, silcrete, metasedimentary, quartzite, petrified wood and chert. These sites were all identified in disturbed contexts where visibility was high; primarily along vehicle access tracks on the slopes and crest of the ridgeline in the southern part of the subject area.

The parts of the subject area below the current 10m contour were identified as previous wetland/swampland that was drained in the historic period. The remainder of the subject area had no artefacts or areas of potential identified. Further investigation was recommended for an area around the higher density sites located on the crest and upper slopes. This area, 150m in diameter, incorporated the following five sites: Bitova ISO3 (45-3-3406), Bitova OS4 (45-3-3407), Bitova ISO 8 (45-3-3411), Bitova OS9 (45-3-3412) and Bitova OS10 (45-3-3413) (**Figure 20**). The predicted thickness of the artefact bearing deposit was 2-5cm.

Areas of archaeological sensitivity have rarely been identified in the locality. A ridgeline to the west of the subject area (~500m west of the subject area) was identified as having moderate to high archaeological potential in a due diligence assessment for a proposed link road (AHMS 2014). The ridgeline was registered as a potential archaeological deposit (PAD). Silcox (1997) identified footslopes and low rises along the margins of wetlands (50-100m from the shoreline) within the Wyong Employment Zone (~900m northwest of the subject area) as areas of archaeological sensitivity. Monitoring of earthworks above the 10m contour was recommended for the initial clearance of these lands within the WEZ (AS&R 2006). Silcox (1999) identified lower slopes adjacent to wetlands as having moderate archaeological potential within an area located ~800m northwest of the subject area.

Table 4. Sites recorded within the subject area (Appleton 2009:35-39). See Figure 22 for location within subject area.

AHIMS ID	Site name	Map Zone	Easting	Northing	Site type	Site Feature	Artefact count	Landform	Approximate area	Artefact details
45-3-3404	Bitova ISO 1	GDA 56	355488	6319239	Open site	Artefact	1	Rolling hills, lower slope (5°) south facing, vehicle track in cattle paddock 40m to floodplain		1) Metasedimentary flaked piece, no cortex, 25x20x7mm
45-3-3405	Bitova OS 2	GDA 56	355482	6319264	Open site	Artefact	4	Rolling hills, lower slope (5°) south facing, vehicle track in cattle paddock 65m to floodplain	8m between artefact pairs	1) Proximal metasedimentary flaked piece with faceted platform (7 x2mm), overhang removal and dorsal ridge, 15x11x3mm 2) Mudstone/rhyolite flaked piece, no cortex, 15x7x3mm 3) Metasedimentary flaked piece with faceted platform (3x1mm) axial termination, dorsal ridge, no cortex, 22x17x7mm 4) Metasedimentary flaked piece, no cortex, 18x12x4mm
45-3-3406	Bitova ISO 3	GDA 56	355830	6319481	Open site	Artefact	1	Rolling hills, mid slope (5°) east facing, vehicle track in cattle paddock 80m to floodplain		1) Chert flaked piece 50% cortex 39x34x21mm
45-3-3407	Bitova OS 4	GDA 56	355761	6319510	Open site	Artefact	40+	Rolling hills, upper slope (5°) south facing, cattle paddock, 200m to ephemeral floodplain		No details given includes a 'knapping floor'
45-3-3408	Bitova ISO 5	GDA 56	355490	6319291	Open site	Artefact	1	Rolling hills, lower slope (<3°) south facing, vehicle track in cattle paddock 200m to ephemeral floodplain		1) Quartzite proximal flake with broad platform (12 x2mm), overhang removal, no cortex, 19x20x3mm
45-3-3409	Bitova OS 6	GDA 56	355489	6319301	Open site	Artefact	2	Rolling hills, mid slope (5°) south facing, cattle paddock, 200m to ephemeral floodplain, patchy visibility 75-95%		1) Mudstone/rhyolite flaked piece, no cortex, 18x13x8mm 2) Proximal flaked piece faceted platform (3x1mm) with overhang removal, dorsal ridge, no cortex, 15x7x3mm
45-3-3410	Bitova OS 7	GDA 56	355509	6319327	Open site	Artefact	11	Rolling hills, upper slope (<3°) east facing, vehicle track in cattle paddock 200m to floodplain	Scatter over 8m ²	No details given
45-3-3411	Bitova ISO 8	GDA 56	355687	6319543	Open site	Artefact	1	Rolling hills, crest (<3°) southeast facing, vehicle track in cattle paddock 150m to ephemeral floodplain		1) Petrified wood flake with broad platform (12x3mm), overhang removal, axial termination, no cortex, 30x15x7mm
45-3-3412	Bitova OS 9	GDA 56	355745	6319429	Open site	Artefact	4	Rolling hills, upper slope (<3°) east facing, slope-wash area on low rise on rim of crown of hill, cattle paddock, 200m to ephemeral floodplain		1) Silcrete flaked piece, no cortex, 12x8x3mm 2) Silcrete flaked piece, no cortex, 11x8x3mm No details provided for the additional two artefacts
45-3-3413	Bitova OS 10	GDA 56	355767	6319460	Open site	Artefact	18	Rolling hills, upper slope (<3°) east facing, slope-wash area to north of OS9 on low rise on rim of crown of hill, cattle paddock, 200m to ephemeral floodplain	17 artefacts of various materials in 6m ² and one additional artefact 10m to the east	1) Large thick flake with conical dorsal ridge and steep retouch to one margin, probable scraper. No details given of additional 17 artefacts
45-3-3414	Bitova ISO 11	GDA 56	355485	6319224	Open site	Artefact	1	Rolling hills, lower slope (5°) south facing, cattle paddock, 100m to ephemeral floodplain.		1) Silcrete flake with broad platform (17x7mm), overhang removal, feather termination, no cortex, 22x35x7 mm.

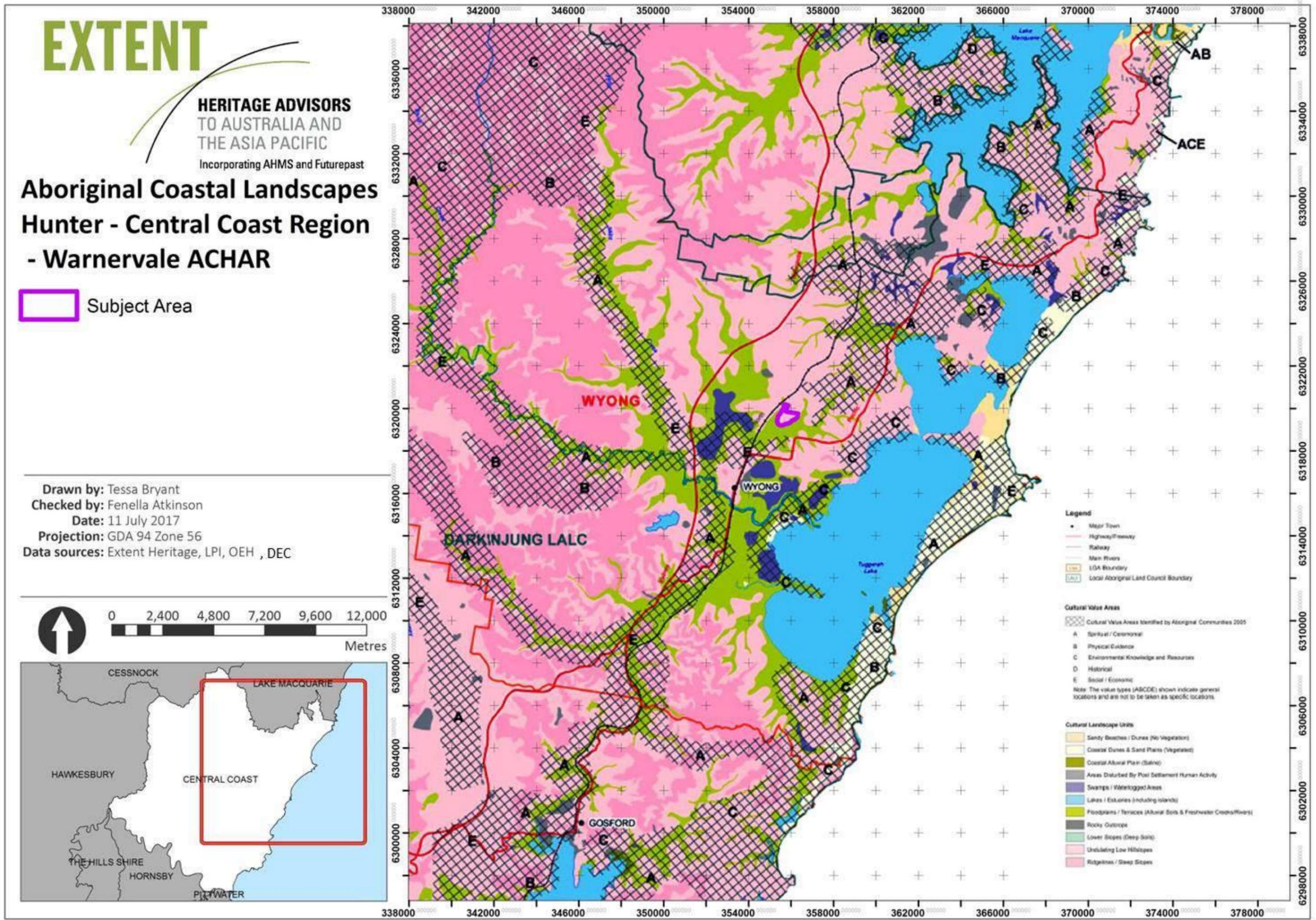


Figure 18. Aboriginal cultural landscapes identified in the vicinity of the subject area (Source: DEC 2005: Map 5).

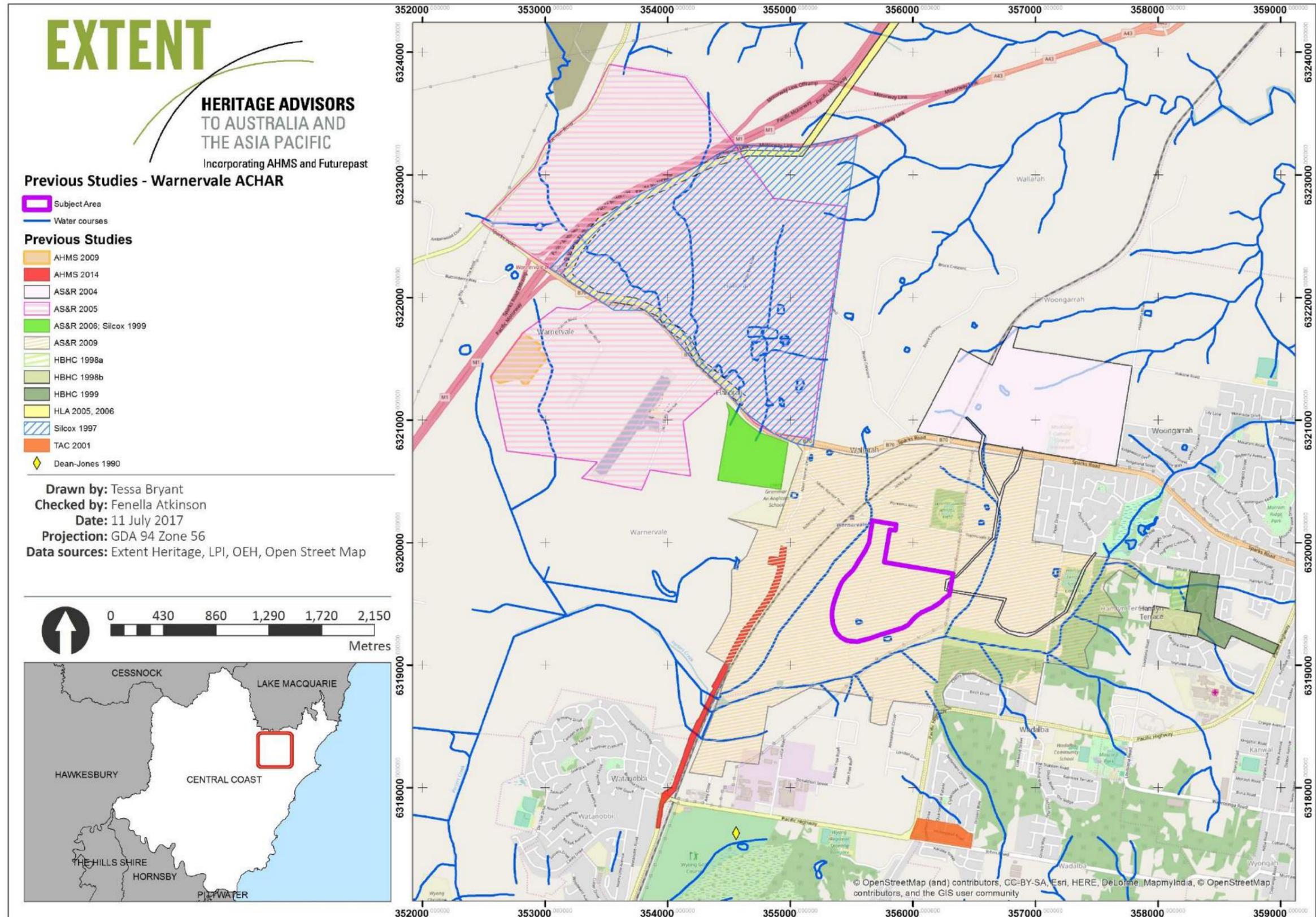


Figure 19. Selected previous Aboriginal archaeological studies near the subject area.

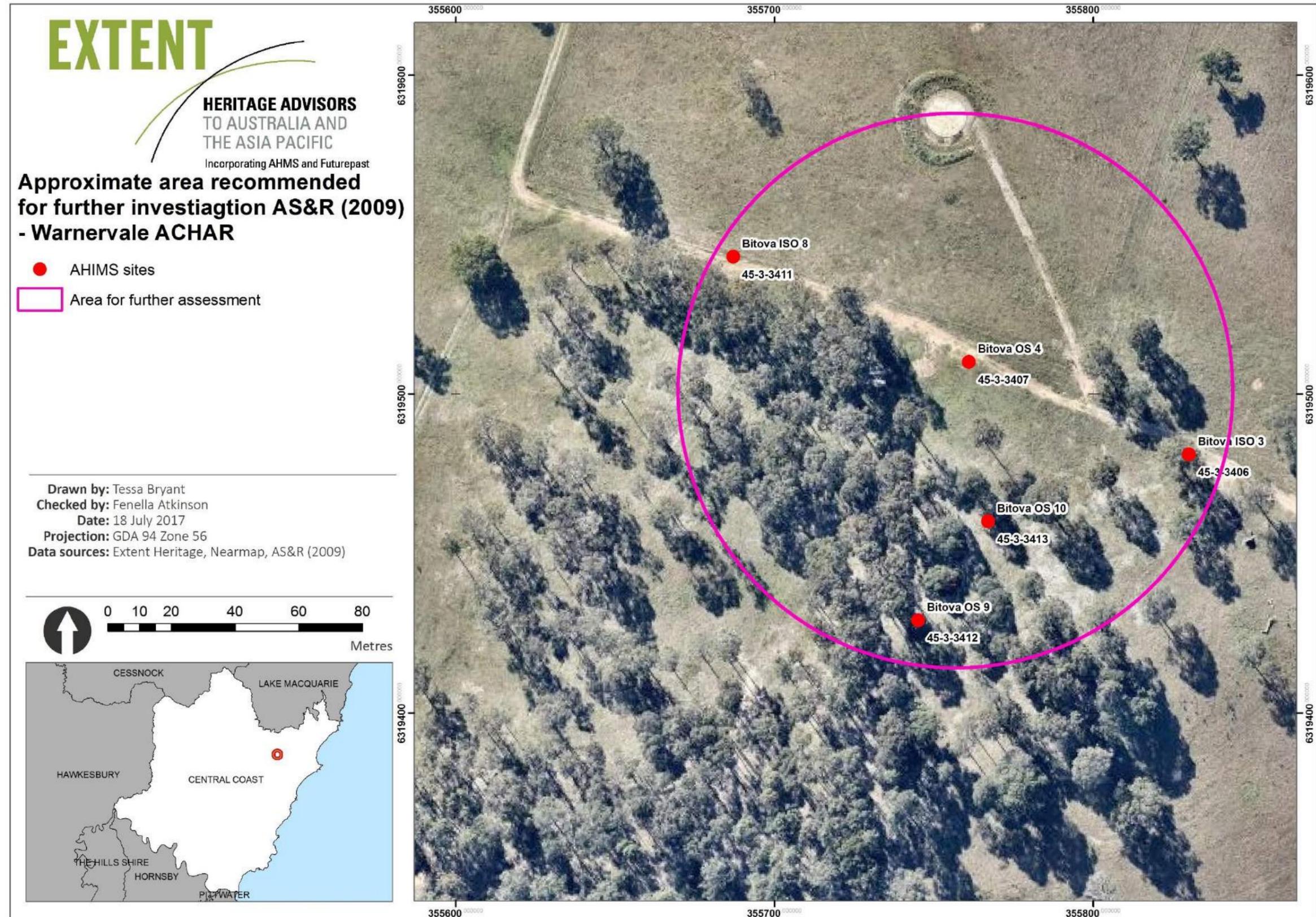


Figure 20. Approximate area (pink circle approx. 150m diameter) recommended for further investigation within the subject area based on Figure 11 AS&R (2009:47).

5.4 AHIMS Data

The Office of Environment & Heritage (OEH) maintains the Aboriginal Heritage Information Management System (AHIMS) database, which includes spatial and compositional information of Aboriginal objects and sites that have been previously recorded through investigations for academic studies and cultural resource management (see **Appendix 4-2** for further explanation of site types).

An extensive search of the AHIMS database was carried out on 09/05/2017 for an approximately 15 x 15 km area centred on the subject area (AHIMS Client Service ID # 280382) (**Appendix 4-3**). A total of 73 sites and one Aboriginal place were located within the search area. The Aboriginal place – ID 73 Tuggerah Lakes Resting Place is a culturally sensitive site and is located entirely within the Tuggerah Nature Reserve located approximately 5km south of the subject area on the western shores of Tuggerah Lake (for more information see:

<http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5062896>).

One of the 73 identified sites, 45-3-3628, has restricted information, but is located outside of the subject area, and is a site containing axe grinding grooves (Sharon Hodgetts, pers. com.). An additional six sites (all artefact sites) have been destroyed and two potential archaeological deposit (PAD) and artefact sites have been partially destroyed leaving a total of 64 sites that are valid within the search area (**Figure 21**). The site features of the remainder of the sites are summarised in **Table 5**.

Table 5. Site features of valid sites. Note three sites have multiple features.

Site Feature	Count	%
Artefact	53	79.10
Art (Pigment or Engraved)	2	2.99
Grinding Groove	5	7.46
Potential Archaeological Deposit (PAD)	1	1.49
Ceremonial Ring (Stone or Earth)	2	2.99
Modified Tree (Carved or Scarred)	3	4.48
Shell	1	1.49
Total	67	100.00

Artefact sites, both isolated finds and surface scatters, are the dominant site feature in the search area (79%). Other site types such as middens (shell) and PADs are relatively rare. The midden site is located in proximity to the Lake foreshore. The sites located within and around the subject area are all artefact sites containing stone artefacts in varying quantities with single artefacts (isolated finds) being the most common. The sites are almost all open sites with only three closed sites (shelters with art or both art and potential deposit) recorded within the search area. Raw materials for stone artefacts recorded in the local area include: mudstone/rhyolite, metasedimentary, igneous, tuff, basalt, cellinite, chert, petrified wood, quartzite and fine grained siltstone. Artefacts are generally flakes or flake fragments with few artefacts exhibiting retouch and few cores. Tools where recorded are utilised or scrapers.

The search identified eleven sites registered within the subject area, listed **Table 4**. These sites were identified as a result of the archaeological investigation of Precinct 7A (AS&R 2009). Five of the eleven sites are isolated finds, with the remainder being artefact scatters. Two sites have a relatively high number of artefacts Bitova OS 4 (#45-3-3407) and Bitova OS 10 (#45-3-3413) both located on the crest of the hill/ridge in the southern part of the subject area (**Figure 22**). Artefacts were manufactured from a range of raw materials within the subject area including silcrete, mudstone/rhyolite, metasedimentary, petrified wood and quartzite. None of these sites were predicted to have any potential for intact subsurface deposits and were recorded to have no research potential.

5.5 Predictive Model

The results of the preceding sections indicate that Aboriginal site distribution within the Wyong area is heavily influenced by the underlying geology and geomorphology. Axe grinding grooves and rock engravings are found in areas where sandstone geology (not present within the subject area) is present. Midden sites occur along the coast or lakeshores. Artefact scatters are generally found on relatively flat elevated ground in proximity to water sources; either creek lines or wetland/swamp areas. Isolated finds have been found across all landforms. Artefact scatters and isolated finds are generally found in disturbed contexts such as eroded areas, due to higher ground surface visibility in these locations.

The survival of archaeological materials depends on past land use and environmental factors. Historical use of the subject area has included drainage of wetland/swampland areas to the west, south and east of the southern part of the subject area including the creation of drainage lines that flow to Porters Creek. During the Holocene, this former wetland area likely covered the low lying areas (less than 10m AHD) around the edges of the subject area. These areas would have been unsuitable for occupation, but would have provided resources for the local Aboriginal people.

Elevated areas near wetlands are predicted to have been suitable locations for past Aboriginal occupation. The subject area is known to contain surface evidence of Aboriginal occupation in disturbed areas along tracks and patches under trees on the crest and southern slopes of the ridgeline.

The majority of the subject area has been cleared of vegetation in the historic period, although regrowth has occurred in the northeast, northwest and southeast. A number of dams (at least seven) have been created and the land has been and is still used for cattle grazing. The A horizon (artefact bearing deposit) soils within the subject area are likely to be relatively shallow (less than 50cm), and are likely to have been impacted and truncated by previous land use.

Past disturbance, landscape features and the known distribution of archaeological materials have been combined to form a predictive model for the subject area (**Figure 23**).

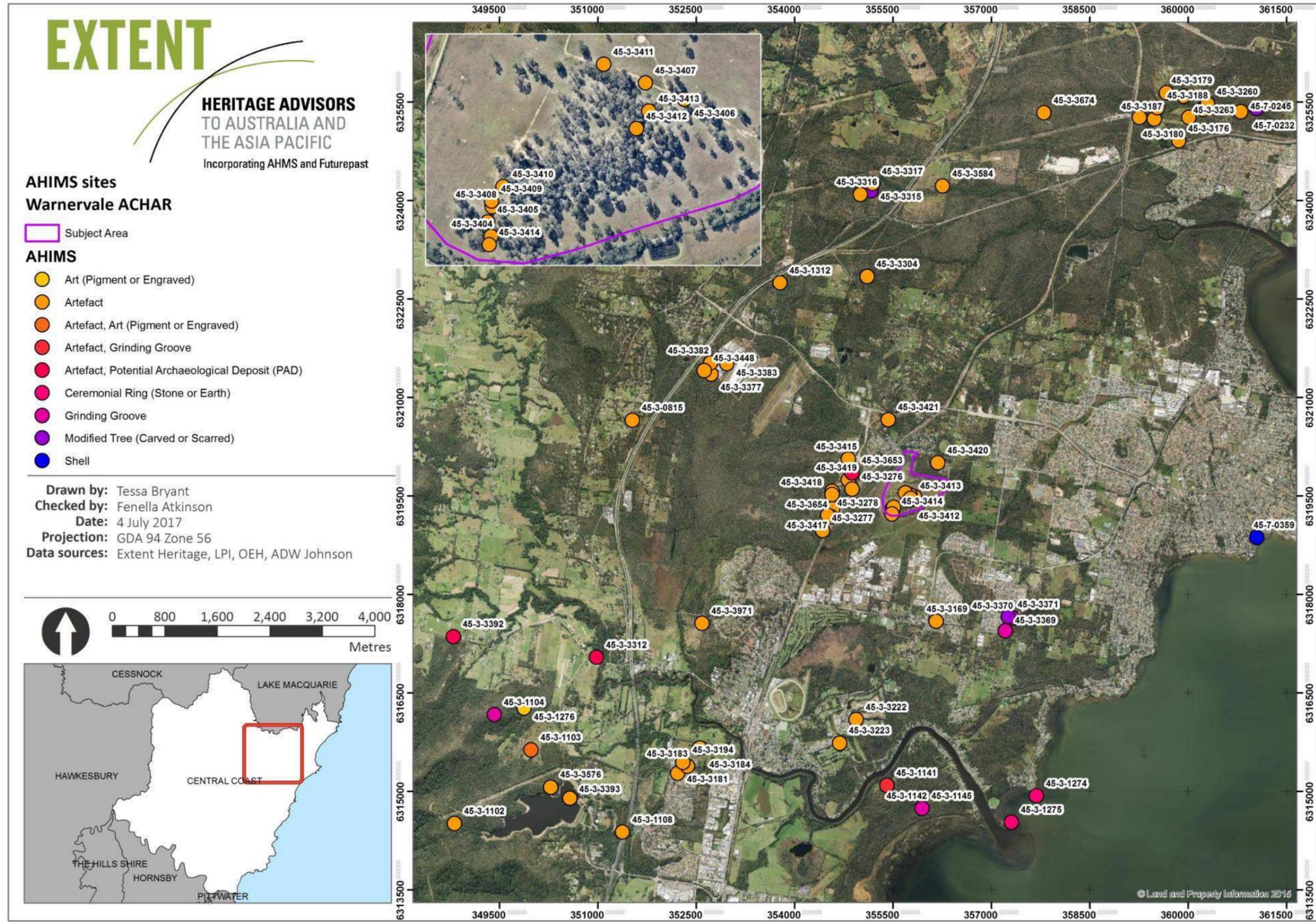


Figure 21. AHIMS sites within an approximately 15 x 15 km search area centred on the subject area.

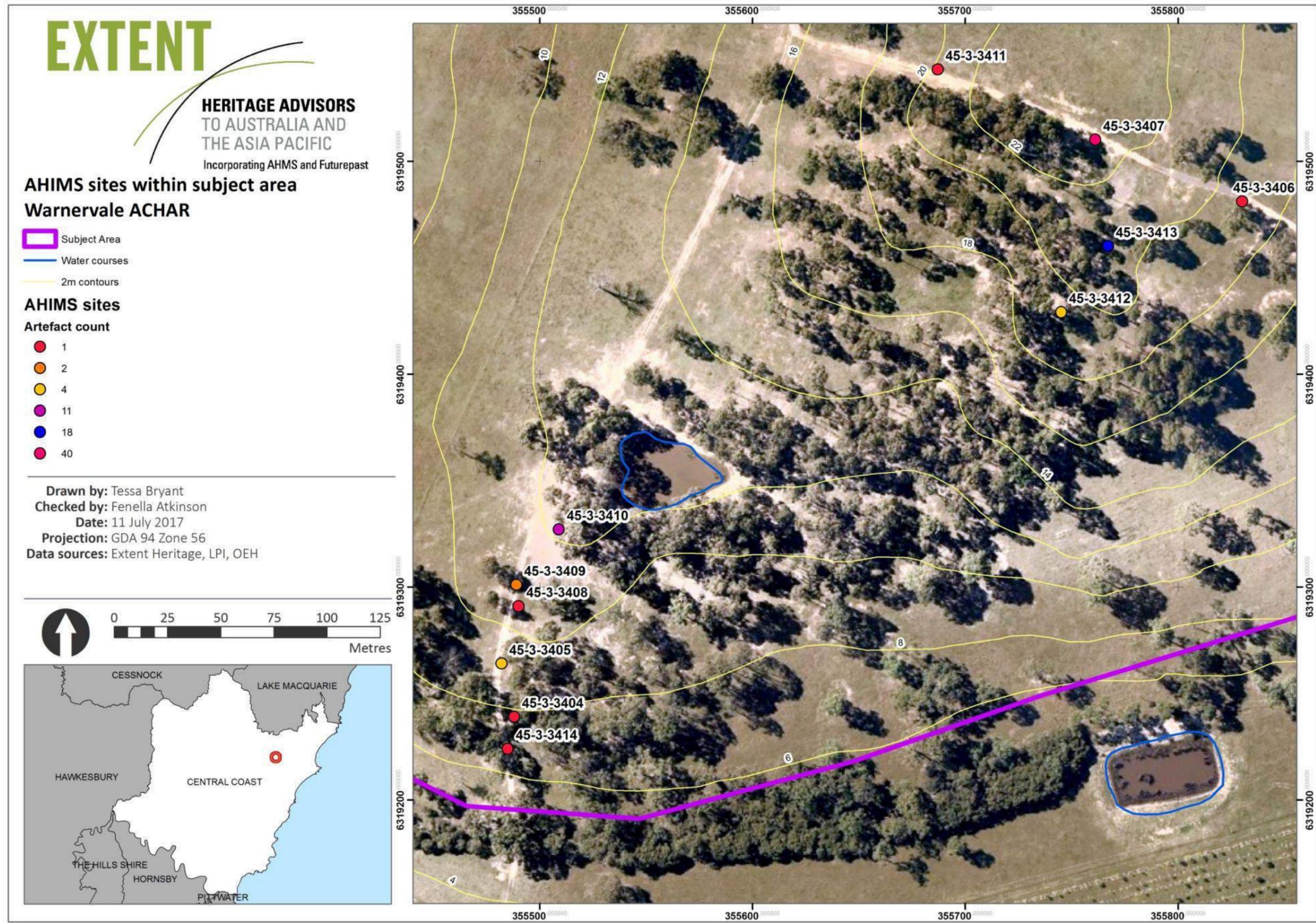


Figure 22. AHIMS sites within the subject area.

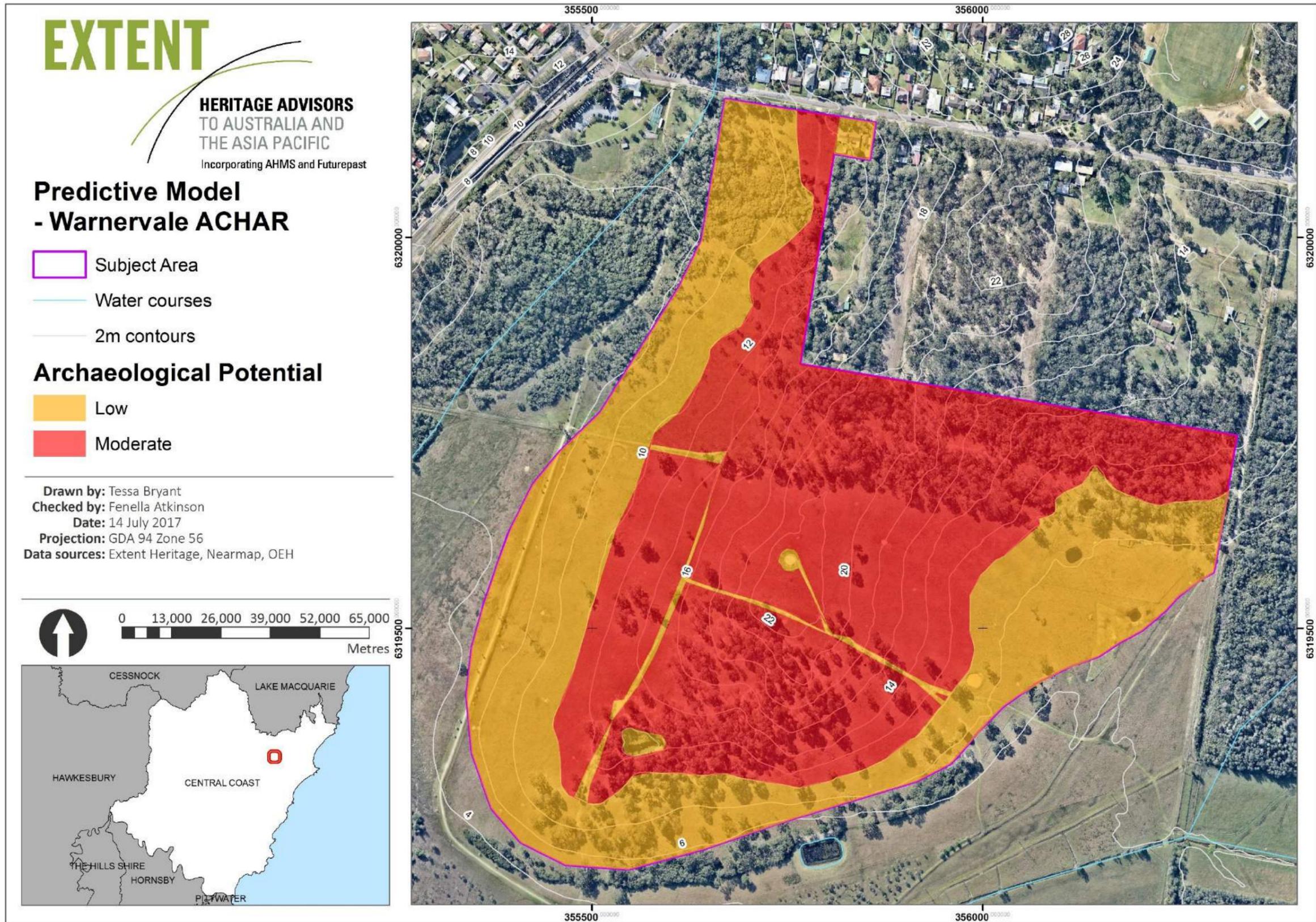


Figure 23. Predictive model for the subject area.

6 FIELD INVESTIGATION

6.1 Key Findings

- For the preliminary ACHAR an archaeological survey of the subject area was carried out, focussing on the southern ridgeline (area identified as having the highest potential) and along vehicle tracks where visibility was higher and ground surface exposures were present. Four of the 11 previously recorded sites were relocated: 45-3-3408, 45-3-3409, 45-3-3410 and 45-3-3407. Seven sites were not relocated: 45-3-3404, 45-3-3405, 45-3-3406, 45-3-3411, 45-3-3412, 45-3-3413 and 45-3-3414.
- Four newly found sites were identified – two artefact scatters (Warnervale AS1 and Warnervale AS2) and two isolated finds (Warnervale IF1 and Warnervale IF2).
- The southern crest and southern slopes were confirmed to be an area of archaeological potential, as they contain surface Aboriginal artefacts and have the potential to contain subsurface deposits.
- The surface artefact scatters and isolated finds were primarily located either on or adjacent to a vehicle track with large areas of erosion down to clay subsoil.
- The lower slopes below the 10m contour were confirmed to be water-logged and flood prone confirming that these areas had low potential to contain intact subsurface deposits.
- Areas of high, moderate and low sensitivity were identified based on landform; the crest of the southern ridgeline was identified as an area of high sensitivity (excluding areas with high previous disturbance), the southern slopes above the 10m -14m AHD contours was an area of moderate sensitivity with the remainder of the subject area identified as having low sensitivity.
- No culturally modified trees were identified within the subject area.
- Test excavation as part of the second stage of the ACHAR confirmed the presence of subsurface Aboriginal objects dispersed across the southern slopes within soils characteristic of the Gorokan Soil Landscape.
- A total of 12 Aboriginal objects were recovered from the test excavation primarily on the southern slopes (TP13, 18, 30, 71, 84, 90, 91 and 96) and one on the western slope in the southern subject area (TP26). The remainder of the test pits identified no cultural material across other parts of the subject area. The overall artefact density for the subject area is 0.34 artefacts per square metre.
- The number of Aboriginal sites within the subject area was reconsidered and two Aboriginal sites were identified – 'Warnervale Residential Isolated Find 1' (WR IF1 – AHIMS # 45-3-4055) comprising test pit 26 and 'Warnervale Residential Artefact Scatter 1' (WR AS1 – AHIMS # 45-3-4054) a low density surface and subsurface artefact scatter encompassing the other artefact containing test pits and all previously recorded surface artefact sites on the southern slopes.
- Areas for the proposed wetlands comprise the Wyong soil landscape. No artefacts were recovered from test excavation within the western area. These areas have low to nil archaeological potential.

6.2 Approach and Methods

This section outlines the physical investigation undertaken as part of this ACHAR. Typically, field investigation will consist of a surface investigation followed, where necessary, by targeted test excavation. The investigation is usually undertaken in conjunction with the Aboriginal stakeholders (see **Section 2**).

The main aims of field investigation are to:

- verify the results of the desktop review outlined in preceding section.

- identify any extant Aboriginal objects or sites present within the subject area through visual observation and subsurface investigation.
- identify any potential deposits or landforms of archaeological interest that may be present within the subject area.
- identify evidence of previous and existing disturbance that may have had a detrimental impact to any Aboriginal objects that may have been present.
- discuss and identify firsthand any cultural values of the subject area with the Aboriginal stakeholders.

Unless otherwise specified, all field investigation was undertaken in accordance with the OEH's *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW, 2010).

6.3 Survey

An archaeological survey of the subject area was undertaken on the 5th of July by Dr Tessa Bryant (archaeologist, Extent Heritage) and Tracey Howie (Guringai Tribal Link Aboriginal Corporation) accompanied by Stephane Van Dissel (Senor Town Planner, ADW Johnson). A second survey was undertaken on the 12th of July by Dr Bryant and Sharon Hodgetts, Anthony Freeman and Ky Knight (Darkinjung Local Aboriginal Land Council). A summary of the results of the field survey is presented below, with detailed descriptions of each transect presented in **Appendix 4-2**.

During the survey, detailed field notes and photographs were taken to document the landform units, soil profiles, ground surface visibility, vegetation types and attributes of stone artefacts present within the subject area. Any areas of ground exposure were examined for stone artefacts as well as evidence of previous disturbance.

6.3.1 Transect Descriptions

The survey focussed on the slopes and crest of the ridgeline in the southern part of the subject area where sites had been previously identified. A total of eleven transects was surveyed in the subject area. Transects 1-8 were surveyed on 5 July. The majority of the area covered by the second survey duplicated the first survey. Transects 9-11 were surveyed on 12 July. The pedestrian surveys primarily traversed vehicle access tracks present within the subject area where visibility and exposure were the greatest (Transect 1, 2, 3, 4, 5, 6, 7, 8 and 11). Off the vehicle tracks there were few ground surface exposures and ground cover was almost complete. Attempts were made to relocate all of the previously identified sites.

A summary of the field survey is presented below; with descriptions of each transect (**Table 6** and **Table A4-1-1**). A map showing the locations of transects within the subject area is presented in **Figure 24**. The sites within the subject area that were relocated, were not relocated and were newly identified are presented in **Table 7** and **Figure 25**. Details of the artefacts recorded during this survey are presented in **Table 8**.

Table 6. Landform summary – sampled areas.

Landform	Landform area (m ²)	Area effectively surveyed (m ²)	Area effectively surveyed (%)	Number of Aboriginal sites	Number of artefacts or features
Lower slope	2736	285.72	10	4	45-3-3404 – 1 45-3-3405 – 4 45-3-3406 – 1 45-3-3414 – 1 Total: 7
Mid Slope	10491	532.62	5	6	45-3-3408 – 4 45-3-3409 - 13 45-3-3410 - 11 AS1 – 5 AS2 – 3 IF2 – 1 Total: 37
Upper Slope	3654	219.24	6	3	45-3-3406 – 1 45-3-3412 – 4 45-3-3413 – 18 Total: 23
Crest	1866	65.7	4	3	45-3-3411 – 1 45-3-3407 – 52+ IF1 – 1 Total: 54
Flat	4041	808.2	20	0	Total: 0

The southern part of the subject area, particularly the crest and upper slopes of the central ridgeline, was confirmed to contain Aboriginal objects in surface exposures, generally eroded areas on clay along the edges of vehicle tracks or patches underneath trees. Ground cover off these areas was very high which limited visibility particularly to the west (Transects 1, 2 and 3). The highest numbers of artefacts recorded were in artefact scatters on the crest or upper slopes (Transects 3 and 4). The crest area has been previously disturbed through the construction of a large circular concrete tank (now demolished) and an access track that has been infilled. This tank was constructed after the previous survey of the subject area (AS&R 2009).

Between the two surveys there was a small amount of rain. The combination of rain and trampling from cattle had moved some of the artefacts, concealing some and exposing others in the vicinity of 45-3-3407 and 45-3-3410. Slope wash was evident in the subject area and this is a likely reason why the nine artefacts previously recorded in sites within Transect 1 were no longer visible. Sand had also been imported to fill in some of the large scour and erosion scars on the vehicle tracks that might have buried some of the previously recorded artefacts and sites from 2009 (Transects 1-3).

The parts of Transects 5 and 6 that covered the eastern paddocks confirmed that ground surface visibility off vehicle tracks was extremely low. Waterlogging was evident along Transect 6 confirming that this area was flood prone and had low potential for intact subsurface deposits. The results of Transect 7 through the open woodland area confirmed that the trees within this area were not old enough to have been culturally modified. Evidence of animal damage to trees was evident in parts of this transect. In the top north-eastern corner of this transect a sewer vent confirmed that impacts had occurred to this area for the installation of the sewer associated with the proposed Warnervale Town Centre (AS&R 2004).

The northern part of the subject area (Transect 8) had some exposures down to clay subsoils with no artefacts visible within these exposures. The houses in the top north-eastern part of the subject area along Warnervale Road (Stage 1b of the development) showed evidence of previous land disturbance through ground clearance, dwelling construction and landscaping leaving this area with low archaeological potential.

Overall, the percentage of the subject area that was effectively surveyed was relatively low (3%), however effective coverage was higher in the area of interest on the southern crest and slopes (**Table A4-1-1**). The southern crest area has the highest potential for subsurface deposits with the upper and mid slope facing south also having moderate to high potential for subsurface deposits. These were also the areas where surface stone artefacts were visible and in densities that are relatively high for the region. Discussion with RAPs during the survey highlighted that these areas required further investigation through test excavation and potentially salvage excavation prior to any impacts.

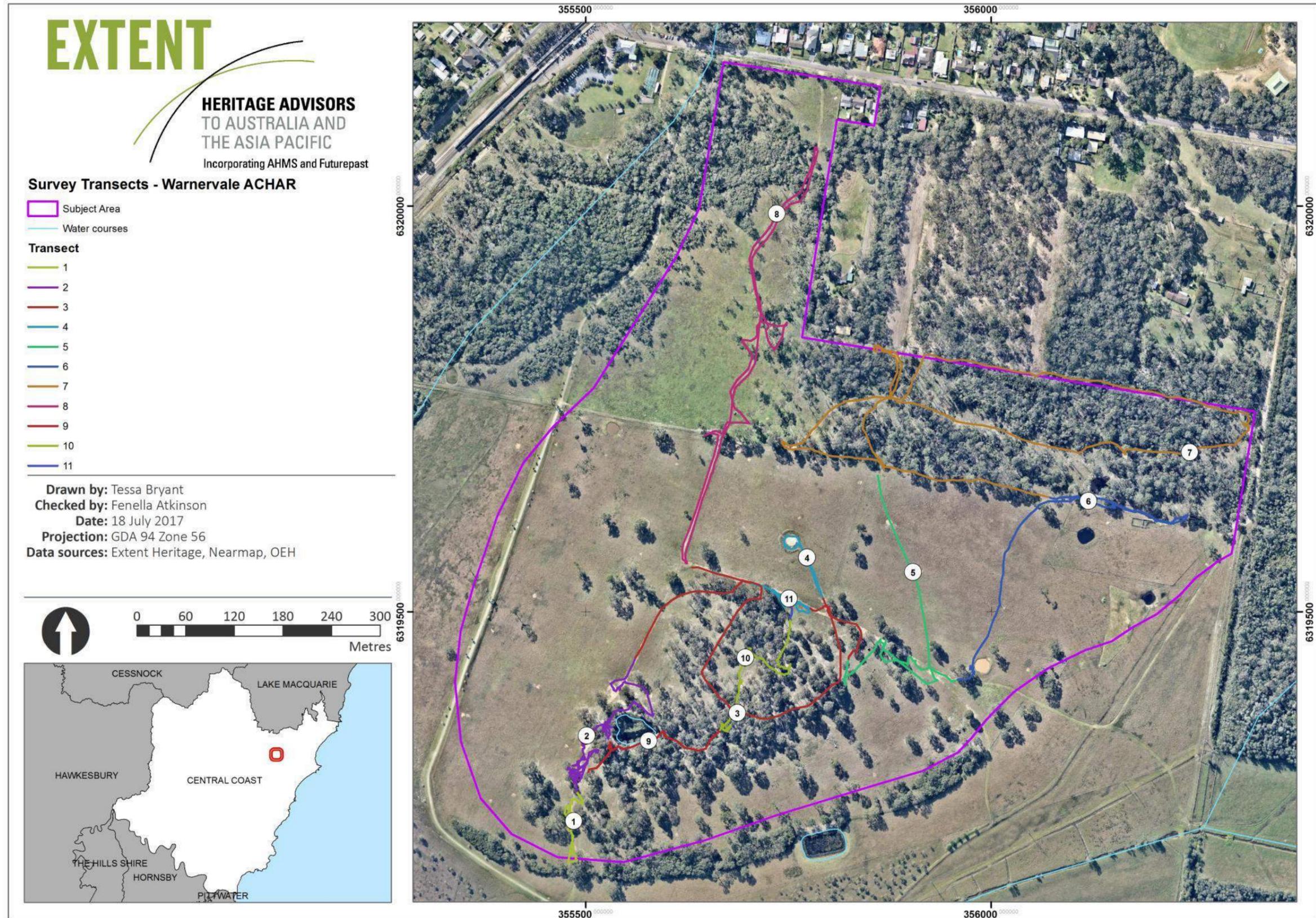


Figure 24. Survey transects within the subject area.

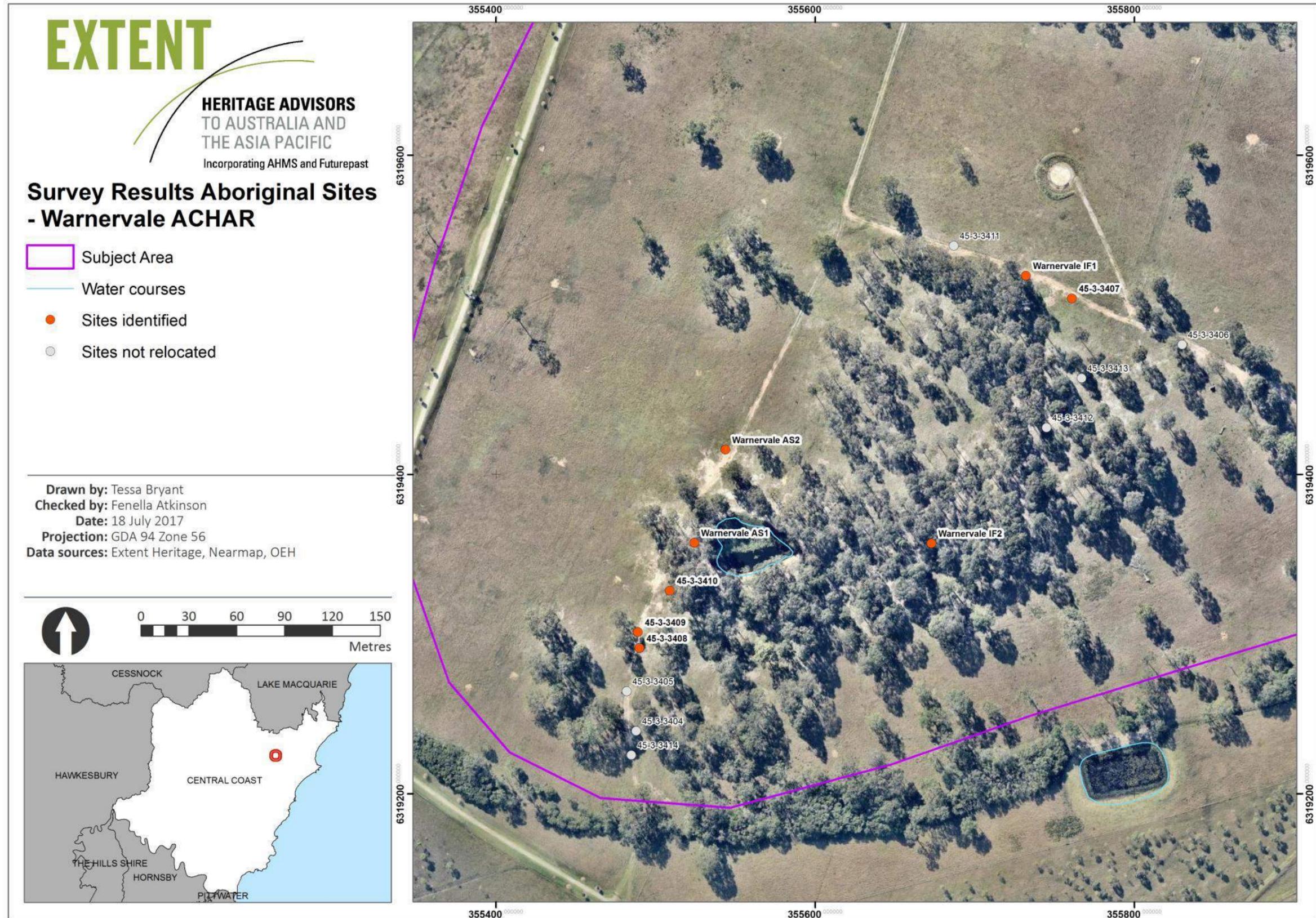


Figure 25. Relocated and newly Identified sites within the subject area.

Table 7. Relocated and new sites within the subject area.

AHIMS ID	Easting	Northing	Artefact count	Approximate area	Artefact details (old)	Relocated	Artefact details (updated)	Image
45-3-3404 Bitova ISO 1	355488	6319239	1		1) Metasedimentary flaked piece 25x20x7mm	No	Not relocated - substantial erosion in area along track	 <p>Plate 1. View north towards location of ISO1, OS2, ISO3 and ISO11 (not relocated).</p>
45-3-3405 Bitova OS 2	355482	6319264	4		1) Proximal metasedimentary flaked piece with faceted platform and overhang removal 15x11x3mm 2) Mudstone/rhyolite flaked piece 16x7x3mm 3) Metasedimentary flaked piece with faceted platform 22x17x7mm platform 3x1mm axial termination 4) Metasedimentary flaked piece 18x12x4mm	No	Not relocated – substantial erosion in area along track	See Plate 1.
45-3-3406 Bitova ISO 3	355830	6319481	1		1) Chert flaked piece 50% cortex 39x34x21mm	No	Not relocated – substantial erosion in area along track	See Plate 1.
45-3-3407 Bitova OS 4	355761	6319510	40+		No details given – includes knapping floor	Yes		 <p>Plate 2. View west, flags show extent of currently visible artefacts.</p>

AHIMS ID	Easting	Northing	Artefact count	Approximate area	Artefact details (old)	Relocated	Artefact details (updated)	Image
45-3-3408 Bitova ISO 5	355490	6319291	1		1) Quartzite flake with broad platform, overhang removal 19x20x3mm platform 12x2mm	Yes	20 artefacts present in 60m x 30m area in vicinity previously registered sites (see below)	 <p><i>Plate 3. View north, flags show extent of visible artefacts.</i></p>
45-3-3409 Bitova OS 6	355489	6319301	2		1) Mudstone/rhyolite flaked piece 18x13x8mm 2) Proximal mudstone flaked piece faceted platform with overhang removal 15x7x3mm platform 3x1mm		Artefacts visible changed between the two surveys with some being concealed and others exposed.	
45-3-3410 Bitova OS 7	355509	6319327	11		No details given			
45-3-3411 Bitova ISO 8	355687	6319543	1		1) Petrified wood flake with broad platform, overhang removal and axial termination 30x15x7mm platform 12x3mm	No	Not relocated	 <p><i>Plate 4. View west along vehicle track in vicinity of IOS 8.</i></p>
45-3-3412 Bitova OS 9	355745	6319429	4		1) Silcrete flaked piece 12x8x3mm 2) Silcrete flaked piece 11x8x3mm No details of other two artefacts	No	Not relocated	 <p><i>Plate 5. View east in proximity of OS10.</i></p>
45-3-3413	355767	6319460	18		No details given	No	Not relocated	See Plate 5.

AHIMS ID	Easting	Northing	Artefact count	Approximate area	Artefact details (old)	Relocated	Artefact details (updated)	Image
Bitova OS 10								
45-3-3414 Bitova ISO 11	355485	6319224	1		1) Silcrete flake with broad platform, overhang removal and feather termination 22x35x7mm platform 17x7mm.	No	Not relocated	See Plate 1 .
Warnervale AS1	355524	6319357	5	10x10m area exposure near western edge of tank, mid slope/flat, south facing.	See Table 8 .			 <p><i>Plate 6. View east towards Warnervale AS1.</i></p>
Warnervale AS2	355544	6319415	3	Artefacts within 1m area, along eroded edge of track, mid slope/flat, south facing.	See Table 8 .			 <p><i>Plate 7. View west over AS2, flags mark position of artefacts.</i></p>

AHIMS ID	Easting	Northing	Artefact count	Approximate area	Artefact details (old)	Relocated	Artefact details (updated)	Image
Warnervale IF1	355732	6319524	1	Artefact in eroded track edge, crest.				 <p><i>Plate 8. Artefact Warnervale IF1.</i></p>
Warnervale IF2	355673	6319357	1	Artefact found in exposure under tree, mid slope/upper slope, east facing.	See Table 8.			 <p><i>Plate 9. View north over Warnervale IF2.</i></p>

Table 8. Artefact details within identified sites in the subject area.

Site number and description	Artefact details
<p>45-3-3408 Eroded area along vehicle track, mid slope, artefacts in approx. 6m long patch of track.</p>	<ol style="list-style-type: none"> 1) Yellow Indurated Mudstone /Tuff (IMT) proximal flake with plain platform, overhang removal 15x11x5 mm, platform 15x5mm 2) Red mudstone angular fragment, heat damage, 12x8x4mm 3) Quartz proximal flake, crushed platform, 25x14x5mm
<p>45-3-3409 Eroded area along vehicle track, mid slope, artefacts in approx. 8m long patch of track.</p>	<ol style="list-style-type: none"> 1) Red silcrete proximal split, overhang removals, 10x8x2mm (refits to 2) 2) Red silcrete complete split flake feather termination, trimmed platform, no cortex, 21x9x4mm, platform 18x4mm (refits to 1) 3) Pink silcrete flake, feather termination contracting form, 3 dorsal flake scars, no cortex, 19x14x4mm, platform 14x4mm 4) Pink silcrete angular fragment, 50-99% cortex, 9x7x9mm 5) Yellow IMT proximal flake, elongated form, no cortex, overhang removal, plain platform, 11x7x3mm, platform 7x2mm 6) Red/Yellow IMT distal flake, feather termination, no cortex, 14x10x4mm 7) Grey IMT angular fragment, 15x10x4mm 8) Yellow mudstone distal flake, feather termination, 10x8x2mm 9) Red silcrete medial flake, 15x10x2mm
<p>45-3-3410 Eroded areas along track and under tree, mid slope, (20 x 20m area) with artefacts clustered together.</p>	<ol style="list-style-type: none"> 1) Yellow silcrete complete flake, abrupt termination, no cortex, overhang removal, missing platform, 31x27x8mm 2) Red silcrete microblade core, no cortex, 24x18x15mm, longest core scar 19x10mm, 7 scars 3) Red IMT medial flake, no cortex, 16x10x6mm (refits to 4) 4) Red IMT distal flake, feather termination, 14x10x4mm (refits to 3) 5) Grey IMT angular fragment, 75-99% cortex, 15x13x5mm 6) Yellow distal flake, feather termination, 10x6x2mm 7) Yellow IMT flake, feather termination, plain platform, expanding form, no cortex, edge damage, 35x50x5mm, platform 19x5mm 8) Pink silcrete proximal flake, plain platform, overhang removal, 14x10x4mm, platform 9x2mm
<p>Warnervale AS1 10x10m area exposure near western edge of tank, mid slope/flat.</p>	<ol style="list-style-type: none"> 1) Cream silcrete complete split, feather termination, elongated form, 19x6x2mm 2) IMT flake, feather termination, no cortex, 25x20x20mm, platform 4x4mm 3) IMT proximal split, 19x14x4mm 4) IMT proximal split, 15x12x4mm 5) Yellow IMT flake, feather termination, no cortex, plain platform, overhang removal, 32x25x10, platform 29x7mm

<p>Warnervale AS2 Artefacts within 1m area, along eroded edge of track, mid slope/flat.</p>	<ol style="list-style-type: none"> 1) IMT angular fragment, 27x24x12mm 2) Yellow IMT complete flake, no cortex, feather termination, elongated, 24x14x4mm, platform 4x4mm 3) Yellow IMT complete flake, 1-25% cortex, feather termination, crushed platform, 34x24x5mm
<p>Warnervale IF1 Artefact in eroded track edge, crest.</p>	<ol style="list-style-type: none"> 1) Red IMT complete flake, 1-25% cortex, feather termination, overhang removal, cortical platform, 14x13x4mm, platform 9x3mm
<p>45-3-3407 Artefacts along eroded edge of track crest/upper slope along approximately 15m x1m.</p>	<ol style="list-style-type: none"> 1) Red silcrete distal flake, feather termination, no cortex, 19x16x5mm 2) Brown IMT flake, feather termination, contracting form, no cortex, overhang removal, plain platform, 2 dorsal flake scars, 23x22x5mm, platform 20x8mm 3) Yellow silcrete medial flake, no cortex, 9x8x4mm 4) Yellow IMT distal flake, feather termination, no cortex, 11x9x4mm 5) Yellow IMT distal flake, 1-25% cortex, feather termination, 11x11x2mm 6) Yellow chert distal flake, feather termination, no cortex, 5x4x2mm 7) Yellow IMT complete tool, endscraper, trimmed platform, 21x17x4mm, platform 12x5mm 8) Pink silcrete proximal flake, plain platform, dorsal trimming, no cortex, 14x11x3mm, platform 9x3mm 9) Yellow chert angular fragment, no cortex, 9x5x2mm 10) Yellow chert flake, feather termination, indeterminate form, no cortex, missing platform, 11x11x3mm 11) Grey quartzite angular fragment, no cortex, 45x32x14mm 12) IMT distal flake, feather termination, 10x5x2mm
<p>Warnervale IF2 Artefact found in exposure under tree, mid slope.</p>	<ol style="list-style-type: none"> 1) Basalt possible edge ground axe, 75x64x37mm

6.4 Test Excavation

Extent Heritage prepared a preliminary ACHAR which identified extant Aboriginal objects and areas of archaeological sensitivity within the subject area. The archaeological resource of the subject area comprises 11 previously identified sites (#45-3-3404 to 45-3-3414) consisting of five isolated finds and six artefact scatters. Of these, four were relocated: one isolated find (45-3-3408 Bitova ISO5) and three artefact scatters (45-3-3409 Bitova OS6, 45-3-3410 Bitova OS7 and 45-3-3407 Bitova OS4). In addition, there are four newly identified sites, two artefact scatters (Warnervale AS1 and Warnervale AS2) and two isolated finds (Warnervale IF1 and IF2), all located on the southern ridgeline and slopes. Additionally, areas of low, moderate and high sensitivity were identified based on landform and contours (**Figure 32**). Test excavation to further investigate the spatial distribution and characteristics of the identified Aboriginal sites, and the areas of low, moderate and high archaeological sensitivity was recommended. Test excavation was carried out following the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010).

An excavation sampling strategy and research design was developed to investigate the nature spatial extent and significance of the Aboriginal heritage resource across the zones of archaeological sensitivity identified within the proposed development footprint including the proposed wetland development areas. The proposed methodology was distributed to the RAPs on 6th September 2017 (**Appendix 2.9**) and a sampling strategy was provided to OEH on the 28th September 2017 (**Appendix 2.10**).

The excavation program consisted of the following:

- Placement of test excavation units on a systematic grid appropriate to the scale of the area being investigated, ensuring that individual units were separated by at least 5 m;
- Manual excavation using hand tools;
- Individual test excavation units of 50 x 50 cm size, with provision to combine test excavation units as necessary to understand the site characteristics.
- Excavation of the first unit in 5 cm spits, with subsequent excavation allowed in 10 cm spits or according to stratigraphy (whichever is smallest) depending on the results of the first unit.
- Excavation to continue to the base of the identified Aboriginal object-bearing soil(s) and below, sufficient to confirm that the underlying soil(s) is/are culturally sterile.
- Sieving of all excavated material through a 5mm sieve.
- Photographic and scale-drawn records of the test excavation.
- Backfilling of excavation units as soon as practicable.

In order to effectively characterise the nature, extent and significance of the subject area, the test excavation program included investigation of 117 0.25 m² test pits in a 25m grid across the areas of high sensitivity, a 50m grid across areas of moderate sensitivity, and in a 75m grid across the remainder of the subject area (**Figure 30**). Following discussion with the Aboriginal stakeholders on site, all test pits that had artefacts present were expanded - test pit 30 was expanded to 0.5m² (**Figure 26**) with a further eight test pits, test pits 13, 18, 26, 71, 84, 90, 91 (**Figure 27**) and 96 (**Figure 28**) expanded to 1m².

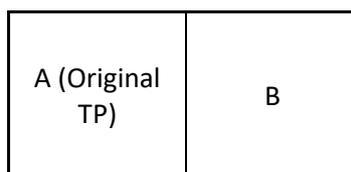


Figure 26. Layout of 0.50m² test pit 30.

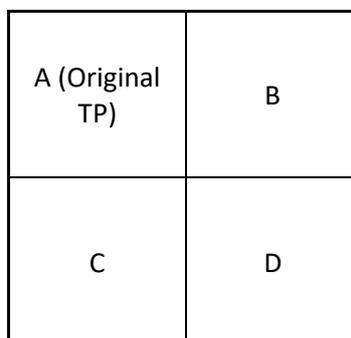


Figure 27. Layout of 0.25m² quads within 1m² test pits 13, 18, 26, 71, 84, 90 and 91.

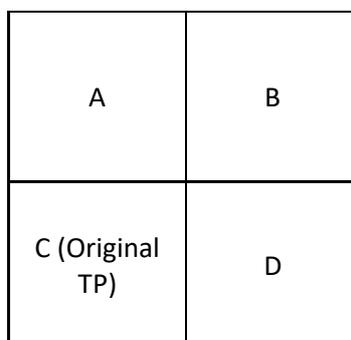


Figure 28. Layout of 0.25m² quads within 1m² of test pit 96.

Overall, a total area of 35.5m² was excavated to characterise the area. Test excavation was directed by Dr Tessa Bryant, with the archaeological team consisting of Dr Alan Williams, Ashley O’Sullivan, Laessa Barry, Matt Byron, Megan Sheppard Brennand, Ryan Johnson, Kyle Freeman and Chad Gowen. A number of stakeholder groups were represented throughout the course of the program (see **Table 9**). The test excavation ran for 13 days from the 16th of October until the 1st of November 2017. Lithic analysis was undertaken by Dr Tessa Bryant. Site Impact Recording Forms are provided in **Appendix 7**.

Table 9. Aboriginal stakeholder groups that participated in the test excavation program.

Aboriginal Stakeholder Group	Dates	Representative
Darkinjung Local Aboriginal Land Council	16-17, 19-20 and 23 October 2017	Anthony Freeman Ky Knight
Guringai Tribal Link Aboriginal Corporation	16 October – 1 November 2017	Tracey Howie Shae Heath Jackson Walker Kyle Howie Yvette Walker Baili Walker
Awabakal Traditional Owners Aboriginal Corporation	16 October – 1 November 2017	Kyle Howie Yvette Walker
A1 Indigenous Services	23-25 October 2017	Steven Hickey
Widescope Indigenous Group	26-27 October 2017	Steven Hickey
Amanda Hickey Cultural Services	30-31 October and 1 November 2017	Steven Hickey

6.4.1 Test Excavation Results

This section provides a summary of the test excavations undertaken within the subject area (**Figure 30**). More detailed information is presented in **Appendix 6**. This includes: sections and other field data (**Appendix 6-1**), photographic log (**Appendix 6-2**), chronological dating (**Appendix 6-3**) and lithic catalogue (**Appendix 6-4**).

Archaeological excavation across the subject area totalled 35.5m² and varied in depth between 5 and 110cm with an average depth of 27cm below ground surface, within compacted sandy clay and silty clay soil profiles. The majority of the test pits comprised soils consistent with the Gorokan soil landscape and generally had a very shallow or absent A1 soil horizon. In the low-lying areas, formerly wetland/swamp, the soils were consistent with the Wyong soil landscape. No artefacts were recovered from these test pits and waterlogging was evident in these areas following rain during the test excavation program.

From a logistical perspective, these excavations consisted of 371 spits, or about 1294 m³ of sediment. The investigation undertook 117 test pits (**Figure 31**), split between the high sensitivity area on a 25m grid (11 0.25m² test pits), the moderate sensitivity area on a 50m grid (40 0.25m² test pits, one 0.50m² test pit and six 1m² test pits), the low sensitivity area on a 75m grid (51 0.25m² test pits and two 1m² test pits) and the potential wetland areas (six 0.25m² test pits). These areas are discussed separately below.

High sensitivity

A total of 12 test pits were proposed within the crest area, identified as having potentially high archaeological sensitivity. These test pits were laid out on a 25m grid (green squares in **Figure 30**). Eleven test pits (TP 65-70, and 78-82), all 0.25m² in size, were excavated to a depth of between 10 and 70cm with an average depth of 20.5cm. No artefacts were recovered within this area, which had a typical soil profile of a variable thin layer (5-25cm) of a brown silty clay loam overlying yellow clay (e.g. TP 81; **Plate 10**). Test pits along the southern edge of the high sensitivity area (TP 65 and 68) both had a very thin layer of topsoil (**Plate 11** and **Plate 12**).

Following discussions with RAPs onsite, test pit 68 was continued through the heavy clay to a depth of 70cm. This test pit was in the area that the most artefacts have been recorded on the surface and the RAPs believed that clay material had been introduced since the original 2009 assessment (Appleton, 2009), most likely in 2011 when the now defunct concrete tank on the crest was installed. The upper 20cm of TP68 showed disturbance with brick and other construction materials mixed in with the heavy clay (**Plate 12** and **Plate 13**), however there was no indication of a topsoil layer underneath a clay cap as the clay was continuous.

Following the excavation this area has been revised to have low subsurface potential, with the area only containing surface artefacts.

Moderate sensitivity

A total of 49 test were proposed laid out on a 50m grid in the area predicted to have moderate sensitivity (yellow squares in **Figure 30**). 47 test pits were excavated, 40 0.25m² test pits (TP 19-25, 31-36, 42-56, 72-74, 77, 89, 92-95, 97-98 and 100), one 0.50m² test pit (TP 30) and six 1m² test pits (TP 18, 26, 71, 90, 91 and 96). The average depth of the test pits was 23.8cm with a range of depths from 5cm to

50cm. The expanded test pits all contained at least one artefact, with TP 90 containing two artefacts and test pit 71 containing three artefacts.

Most of the test pits (TP 21-26, 30, 32-36, 42-49, 53-56, 73, 74, 77, 89, 90, 92-95 and 97) contained a pale brown silty clay loam overlying yellow clay (e.g. TP22 **Plate 14**). The test pits (53, 74 and 92) on the top of slope just of the crest generally had very shallow topsoil (5-10cm depth e.g. TP 53 **Plate 15**). The other test pits (TP 18-20, 31, 50-52, 71-72, 91, 96, 98 and 100) comprised a sandy clay overlying yellow clay or clayey sand (e.g. TP 19 **Plate 16**).

A total of 10 artefacts were recovered from test pits in this area (TP 26 **Plate 17**, TP30 **Plate 18**, TP71 **Plate 19**, TP90 **Plate 20** and TP 96 **Plate 21**). The range of artefact numbers recovered from each test pit was between zero and three and the average artefact density for the test pits within the area of moderate sensitivity was 0.61 artefacts per square metre. The artefacts recovered from this area were a mixture of raw materials - silcrete, fine-grained siliceous (FGS), indurated mudstone/tuff (IMT) and quartzite. The artefact types were split between angular fragments, complete flakes and flake fragments. The artefacts were recovered from test pits on the southern slopes between the 6m and 20m contours. The majority of the artefacts were from a series of test pits located on the south-eastern slopes (TP 90, 91, 96 and 71). This area is considered to retain some archaeological sensitivity with the remainder of the zone having no sensitivity.

Low sensitivity

A total of 63 test pits were proposed laid out across the area of low sensitivity on a 75m grid (**Figure 30**). Of these, 53 test pits were excavated, 51 as 0.25m² (TP 6-44, 14-17, 27-28, 37-41, 57-64, 85-88, 102-107, 109-114, 116-120, 125-126, 128, 131 and 134-135) and an additional two test pits (TP13 and 84) containing artefacts were expanded up to as 1m². Test pits ranged in depth from 10-110cm with an average depth of 37.5cm.

Eighteen test pits (TP 6-7, 10-11, 14, 16-17, 27-28, 37, 58, 62, 105, 109-111, 134-135) all had a brown silty loam layer of variable thickness overlying yellow clay (e.g. TP11 **Plate 22**). Seven test pits (TP9, 15, 39, 57 and 59-61) had a brown sandy clay loam overlying yellow clay (e.g. TP 15 **Plate 23**). Test pits 8 and 84 had a brown silty sand layer overlying yellow clayey sand and orange clay (**Plate 24** and **Plate 25**). Test Pit 128 comprised a compacted sandstone fill and clay (**Plate 26**). The remainder of the test pits (TP 40-41, 63-64, 85-86, 88, 102-104, 106-107, 112-114, 116-120, 125-126 and 131), had a brown loamy sand layer overlying yellow clay (e.g. TP103 **Plate 27**).

Two artefacts were recovered from the test pits within the low sensitivity area. These artefacts were recovered from TP 13 (**Plate 28**), one medial silcrete flake fragment (ID: 9) and TP 84 (**Plate 25**), one IMT core/tool (ID:11), both from 10-20cm below the ground surface. These test pits, were located on the lower southern slopes (**Figure 31**). Test pit 13 was located close to the access track that has had a number of previous artefacts recorded on the surface (AHIMS sites: 45-3-3408, 45-3-3405, 45-3-3404, 45-3-3414). Overall this area is considered to have no sensitivity with two subsurface isolated finds found in disparate locations.

Indicative wetland areas

Test pits were proposed in the indicative locations for wetland areas on the eastern, southern and western edges of the subject area on an approximately 75m grid extended from the areas of low sensitivity. A total of 11 test pits were proposed (**Figure 30**). Of these six test pits (TP1-5 and 12) were excavated on the western edge of the subject area (**Plate 29**). The test pits were all 0.25m² reaching a depth between 20-60cm with an average depth of 40cm. No artefacts were recovered from these test

pits which all comprised a brown silty clay loam overlying yellow clay (e.g. TP2; **Plate 30**). Waterlogging following rain was evident in these test pits (**Plate 31**).

Test pits on the southern and south-eastern edges of the subject area were not excavated. These test pits are within the same soil landscape and Geotech testing (Cardno 2017) indicates a similar soil profile exists in these areas. The proposed location of test pit 83 was in an area of previous disturbance from the creation of the existing dam (**Plate 32**). Both areas were waterlogged following rain.

Chronological Dating

Samples were taken for OSL dating from test pit 71 and test pit 84 that enclose the artefact bearing deposit. **The OSL dating of these samples is TBC.**

Lithic Analysis

A total of 12 Aboriginal objects were recovered from test pits distributed across the southern slopes in the southern part of the subject area. Silcrete is the dominant raw material followed by indurated mudstone/tuff (IMT) and fine-grained siliceous (FGS) with one piece of quartzite (**Table 10**). The artefacts were primarily flakes (broken and complete) followed by angular fragments with one core-tool. Only two of the artefacts recovered from the test excavation retained any cortex.

The minimum number of flakes (MNF) is a measure of flake frequency that considers breakage and reflects the smallest number of complete flakes that could account for the artefacts in a particular assemblage (Holdaway and Stern 2004:115). MNF is calculated by counting the number of platforms present within the assemblages (complete flakes, proximal flakes and half of the longitudinal split flakes (complete split flakes and proximal split flakes). The MNF for the assemblage is five.

Table 10. Artefact types by raw material from the test excavation.

Artefact type	Raw material				Total
	FGS	IMT	Silcrete	Quartzite	
<i>Flakes</i>					7
Complete	2		1		3
Complete split			1		1
Distal			1		1
Medial			1		1
Proximal			1		1
<i>Cores</i>					1
Core-tool		1			1
<i>Other</i>					4
Angular Fragment	1	2		1	4
Total	3	3	5	1	12

Artefacts were recovered from between 0 and 40cm below the ground surface with the majority of artefacts recovered between 10 and 20cm (**Figure 29**). The FGS (**Plate 33**) and IMT artefacts (**Plate 34 to Plate 36**) were recovered from closer to the surface with the silcrete artefacts (**Plate 37**) recovered from the greatest depth below the surface. The single quartzite artefact (**Plate 38**) was recovered from 20-30cm. The IMT core-tool (**Plate 35 and Plate 36**) was recovered from ~20cm, and

is the largest recovered artefact (62mm maximum dimension) with the remainder of the assemblage having an average maximum dimension less than 20mm (17.3mm).

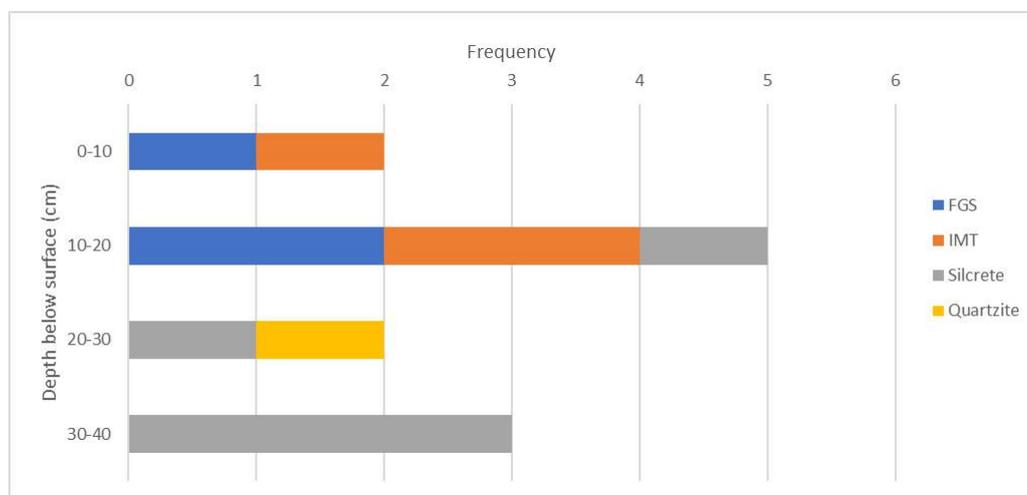


Figure 29. Raw material types by depth.

The excavated assemblage is very small. During the survey for this ACHAR and the initial assessment survey by Appleton (2009) a large number of surface artefacts were recorded (approximately 150 artefacts). Using the minimal details provided for some of these artefacts (55 in total), the stone artefacts from the Warnervale subject area are mostly a FGS material or silcrete with some chert, quartzite, silicified wood and basalt raw materials also represented. Very little cortex was recorded on any of these artefacts (85.5% retained no cortex).

The artefacts are mostly flakes, flake fragments and angular fragments with one silcrete microblade core, one yellow IMT end-scraper and one possible ground-edged axe. These artefacts are likely to reflect relatively recent occupation, based on the presence of the axe and microblade core which is associated with the manufacture of elongated flakes used in the production of backed artefacts (a technology typically <5,000 years in age), although from the details available there are not any backed artefacts recorded. A couple of sets of the surface artefacts can be refitted together – and suggest movement possibly from either post depositional disturbance from trampling, vehicle movement, and/or occurred during the reduction process. The number of tools recorded is low, however from the details available the main types found are a range of scrapers. The artefact assemblage indicates a low level of occupation, with some artefact manufacture likely occurring onsite.

Overall, artefacts were recovered in low densities from test pits on the southern slopes concentrated in the southeast of the subject area. The artefact assemblage, from both the testing and surface evidence indicates that occupation was primarily on the southern slopes of the ridgeline in the south of the subject area, facing towards Tuggerah Lake. The assemblage present within the subject area is over 200m distant to the modified drainage lines to the south and west of the subject area, and these drainage lines are therefore not considered to be the focus of occupation in this area. The slopes, elevated above the swamp/waterlogged areas with views out are instead considered to be the focus of occupation.



Plate 10. TP 81 north section.



Plate 11. TP 65 top down.



Plate 12. TP 68 north section showing thin silty clay topsoil overlying disturbed heavy clays with gravel and other inclusions.



Plate 13. TP 68 pre-ex showing mound of imported materials on southern extent of crest.



Plate 14. TP 22 north section.



Plate 15. TP53 top down.



Plate 16. TP19 north section.



Plate 17. TP26 top down.



Plate 18. TP30 top down.



Plate 19. TP 71 top down.



Plate 20. TP 90 top down.



Plate 21. TP96 top down.



Plate 22. TP11 north section.



Plate 23. TP15 north section.



Plate 24. TP8 north section.



Plate 25. TP84 north section.



Plate 26. TP128 looking north.



Plate 27. TP103 north section.



Plate 28. TP13 landscape looking north.



Plate 29. TP3 looking north pre-excitation.



Plate 30. TP 2 north section.



Plate 31. Test pit 1, water logged following rain. .



Plate 32. TP83 in previously disturbed area adjacent to existing dam.



Plate 33. FGS artefacts, ID:7 TP 71 spit 3, ID: 2 TP 90 spit 1 & ID: 5 TP 26 spit 2.



Plate 34. IMT artefacts, ID: 8, TP 90 spit 1 and ID: 6, TP 96 spit 2.



Plate 35. IMT core-tool, ID:11 TP 84A spit 2.



Plate 36. IMT core-tool, ID:11 TP 84A spit 2.



Plate 37. Silcrete artefacts; ID: 10 TP30 spit 4, ID: 9, TP13 spit 2, ID:3, TP71B spit 4, ID: 1 TP18 spit3 and ID: 4 TP 71B spit 4.



Plate 38. Quartzite artefact: ID: 120 TP91 spit 3.

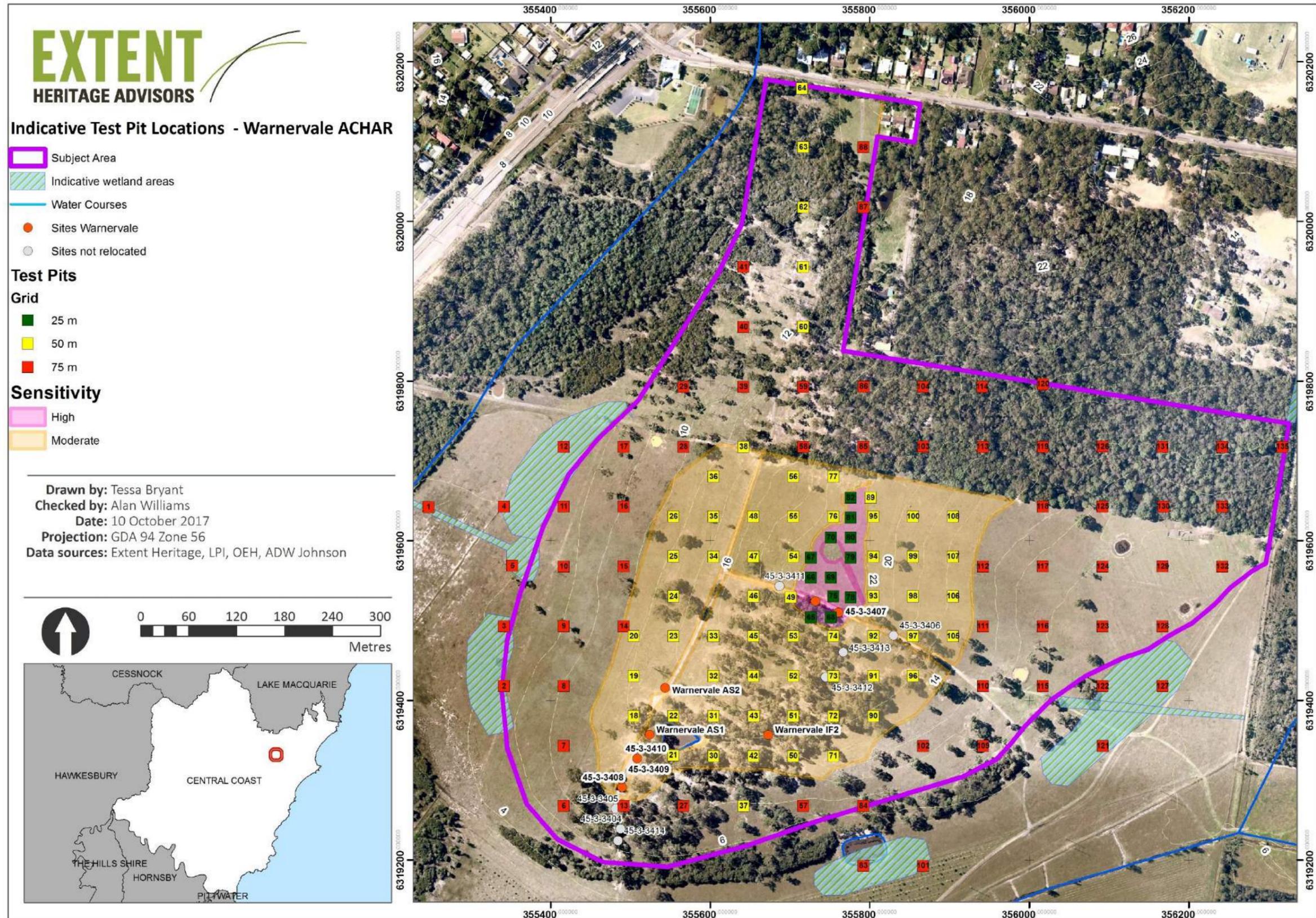


Figure 30. Location of proposed test pits Warnervale test excavation. Areas not shaded are considered to have low archaeological potential.

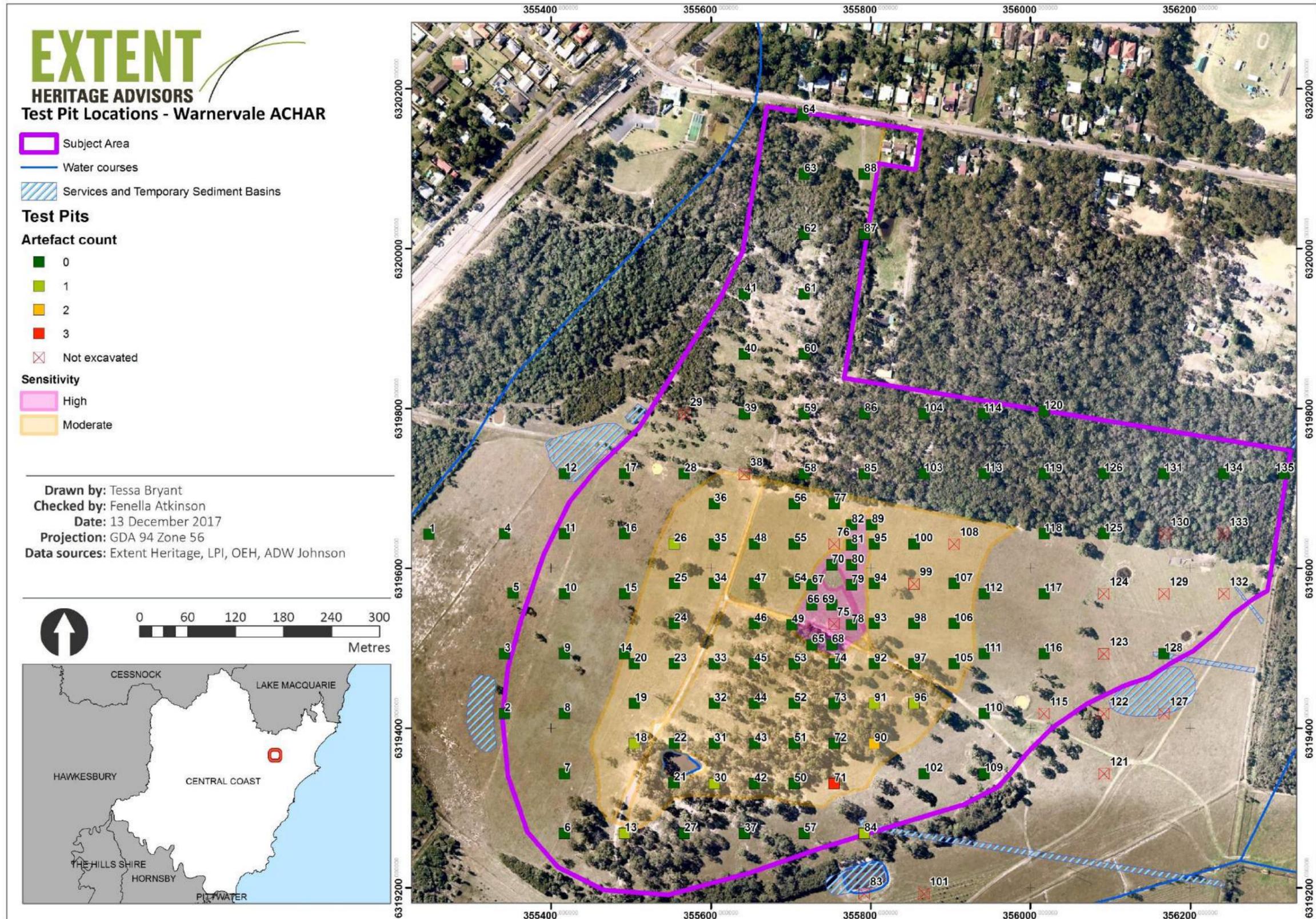


Figure 31. Location of test pits and artefact densities recovered from Warnervale test excavation. Note temporary sediment basin and service locations changed after the test excavation occurred.

7 THE ARCHAEOLOGICAL AND CULTURAL RESOURCE

The Wyong area, and in particular the Warnervale area, has been subject to a number of previous archaeological surveys as part of rezoning and redevelopment studies. These studies have identified that the majority of Aboriginal archaeological materials within the region are stone artefact assemblages. These artefact assemblages are generally in the form of low density scatters or isolated finds from disturbed contexts. The artefact scatters are generally located on relatively flat areas in proximity to water sources, either creek lines or wetland/swamp areas.

Overall, field investigation and archaeological excavation undertaken for the subject area identified that the subject area contains two Aboriginal sites, one isolated find (Warnervale Residential Isolated Find 1 – WRIF1) in the location of test pit 26 and one artefact scatter (**Figure 32**). This artefact scatter (Warnervale Residential Artefact Scatter 1 – WRAS1) incorporates 11 previously recorded surface artefact scatters and isolated finds, two recently identified surface scatters, two recently isolated finds and the test pits that contained artefacts on the southern crest and slopes (**Table 11**). The identified Aboriginal archaeological and cultural resource of the subject area (**Figure 32**), is broadly consistent with the known archaeology of the local area. The large artefact scatter has a low subsurface artefact density (~0.61/m²), but has the highest numbers of surface artefacts (~4 artefacts/m²) currently recorded in the Warnervale area.

Table 11. Aboriginal sites within Warnervale subject area.

Site name	AHIMS ID	Coordinates*	Approximate area	Description
Warnervale Residential Isolated Find 1 (WRIF1)	45-3-3-4054	355554.5/ 6319630.1	0.25m ²	Single FGS artefact recovered from test pit on western gentle slope.
Warnervale Residential Artefact Scatter 1 (WRAS1)	45-3-4055	355695/ 6319423	67823m ²	Low density surface and subsurface artefact scatter on southern slopes, ~6m to 22m contour.
Relocated sites:				
Bitova OS4:	45-3-3407	355761/ 6319510		
Bitova ISO5	45-3-3408	355490/ 6319291		
Bitova OS6	45-3-3409	355489/ 6319301		
Bitova OS7	45-3-3410	355509/ 6319327		
Newly identified sites:				
Warnervale AS1		355524/ 6319357		
Warnervale AS2		355544/ 6319415		
Warnervale IF1		355732/ 6319524		
Warnervale IF2		355673/ 6319357		
Not relocated sites:				
Bitova ISO1	45-3-3404	355488/ 6319239		
Bitova OS2	45-3-3405	355482/ 6319264		
Bitova ISO3	45-3-3406	355830/ 6319481		
Bitova ISO8	45-3-3411	355687/ 6319543		
Bitova OS9	45-3-3412	355745/ 6319429		
Bitova OS10	45-3-3413	355767/ 6319460		
Bitova ISO11	45-3-3414	355485/ 6319224		

* GDA/MGA Zone 56

The identified Aboriginal archaeological and cultural resource of the subject area (**Figure 32**), is broadly consistent with the known archaeology of the local area. The subject area has modified drainage lines to the west and south that have drained what would have formerly been wetland/swamp land. Test excavation within this area recovered no Aboriginal objects and is considered to have low to nil archaeological potential. Within the rest of the subject area, the only area considered to retain some archaeological potential is the area within WR AS1. No Aboriginal objects were recovered from the ridgeline crest area (originally identified as having high archaeological sensitivity in **Figure 30**) and topsoil in the vicinity of the surface artefacts was shallow (<5cm) and/or absent. One artefact was recovered from test pit 26 within the low sensitivity area (WR IF1). The remainder of the subsurface artefacts were recovered from the southern slopes within the area identified as having moderate sensitivity.

Based on the investigations, it is considered that low numbers of isolated Aboriginal objects are also potentially present throughout the subject area.

The significance of the Aboriginal archaeological sites within the subject area is discussed in **Section 8**.

8 SIGNIFICANCE ASSESSMENT

The statement of significance for each site was assessed based on a framework and range of criteria, which are discussed in detail in **Appendix 5**.

While all Aboriginal objects in NSW are protected under NSW legislation, the *National Parks and Wildlife Act 1974* recognises that the destruction of sites may be necessary to allow other activities or developments to proceed. In order for the State regulator to make informed decisions on such matters, a consideration of the significance of cultural heritage places and objects is an important element of the assessment process.

Cultural significance is defined in Article 1.2 of the Burra Charter as 'aesthetic, historic, scientific, social or spiritual value for past, present or future generations' (Australia ICOMOS 2013). The cultural significance of a place can be assessed by identifying the values that are present across the subject area and assessing what is important and why (OEH 2011:7). The criteria against which these values are assessed are defined in **Table 12**.

Table 12. A summary of criteria used to assess the cultural significance of a place (OEH 2011:8-10).

Criterion	Definition
Social value - Does the subject area have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons?	Social or cultural value refers to the spiritual, traditional, historical or contemporary associations and attachments the place or area has for Aboriginal people. Social or cultural value is how people express their connection with a place and the meaning that place has for them. Social or cultural value can only be identified through consultation with Aboriginal people.
Historic value - Is the subject area important to the cultural or natural history of the local area and/or region and/or state?	Historic value refers to the associations of a place with a historically important person, event, phase or activity in an Aboriginal community. Historic places do not always have physical evidence of their historical importance (such as structures, planted vegetation or landscape modifications). They may have 'shared' historic values with other (non-Aboriginal) communities.
Scientific (archaeological) value - Does the subject area have potential to yield information that will contribute to an understanding of the cultural or natural history of the local area and/or region and/or state?	Scientific (archaeological) value refers to the importance of a landscape, area, place or object because of its rarity, representativeness and the extent to which it may contribute to further understanding and information. Information about scientific values is gathered through archaeological investigation undertaken in accordance with the <i>Code of practice for archaeological investigation of Aboriginal objects in NSW</i> (DECCW 2010a).
Aesthetic value - Is the subject area important in demonstrating aesthetic characteristics in the local area and/or region and/or state?	Aesthetic value refers to the sensory, scenic, architectural and creative aspects of the place. It is often closely linked with social value. It may consider form, scale, colour, texture and material of the fabric or landscape, and the smell and sounds associated with the place and its use.

The subject area contains two Aboriginal sites, one isolated find (WR IF1- AHIMS #45-3-4055) and one low density surface and subsurface artefact scatter (WR AS1- AHIMS # 45-3-4054) that comprises the 11 previously identified surface Aboriginal sites - four sites identified during the survey for this ACHAR and test pits containing artefacts on the southern slopes. The significance of the sites present within the subject area is discussed below and summarised in **Table 13**.

8.1 Statement of Significance

The subject area consists of two Aboriginal sites, one isolated find and one artefact scatter that incorporates eleven previously recorded sites, four sites identified during the survey and test pits containing artefacts on the southern crest and slopes. The significance of each site is discussed and presented in **Table 13**. Where previously recorded sites could not be re-located, the relevant information is taken from the original report descriptions. Where aesthetic, historic and social/spiritual values were not outlined by the investigators, a judgement was made based on the information provided in the report.

The isolated find, WR IF1 (45-3-4055), is assessed to have low scientific, aesthetic and historic value with an overall low heritage significance. The previously identified sites, all part of WR AS1 (45-5-3054), a low density artefact scatter are discussed individually and then as one site.

All of the sites that were previously recorded were assessed in the 2009 report as having low scientific significance, since none of them were considered to have any research potential (AS&R 2009:54). With one exception, Bitova OS (45-3-3407), all of these sites were assessed by AS&R (2009) to have low cultural significance. Bitova OS4 (45-3-3407) was assessed as having moderate cultural significance. Conversely, all of these sites were assessed by the Aboriginal stakeholders involved as having cultural significance; and highlighted the importance of Bitova OS4 (45-3-3407) (AS&R 2009:97).

Based on the field investigations undertaken here, the following previously identified sites have been assessed as having low scientific, aesthetic and historic value with an overall low heritage significance, primarily due to their disturbed contexts and low artefact densities: Bitova ISO1 (45-3-3404), Bitova OS2 (45-3-3405), Bitova ISO 11 (45-3-3414), Bitova ISO5 (45-3-3408), Bitova OS6 (45-3-3409) and Bitova OS9 (45-3-3412), Bitova ISO8 (45-3-3411), Bitova ISO3 (45-3-3406) and Bitova OS10 (45-3-3413). Three of the four sites identified during the survey for this ACHAR have also been assessed to have low scientific, aesthetic and historic value with an overall interim low heritage significance. These sites are Warnervale AS1, AS2 and IF1. The eight test pits, TP 13, 18, 30, 71, 84, 90, 91 and 96, all had a low density of Aboriginal objects with only test pits 71 and 90 containing more than one Aboriginal object. The test pits individually except for TP71, have low scientific, aesthetic and historic value with an overall low heritage significance.

Bitova OS7 (45-3-3410) had a relatively high density of artefacts recorded (n=18). Due to the relatively high density of artefacts this site has an assessed moderate scientific value and overall moderate heritage significance. The other site assessed to have an interim overall moderate heritage significance is Warnervale IF2. This site comprises a possible edge-ground axe, a relatively rare artefact type within the region. Due to its rarity the scientific value of this artefact is considered to be moderate and discussions with RAPs onsite also indicate it has social/cultural value.

One previously identified site was considered to have high heritage significance. This site is Bitova OS4 (45-3-3407). This site has a regionally high density of artefacts (>40), and therefore fulfils criteria for increase rarity and low representativeness at a local level. This site has moderate scientific value and was previously assessed as having very high social / cultural value. The assessment of significance is interim only for these sites until feedback is received from RAPs.

All of the sites recorded within the subject area on the southern ridgeline, irrespective of their individual significance form part of a cultural landscape and have been grouped together with the test pits that contained artefacts from the test excavation to form an artefact scatter, with surface and subsurface components. Cumulatively all of these sites and the subsurface test pits, show that this area was a focus of activity, with regionally high numbers of artefacts recorded in surface exposures. Within the region, artefact sites are common however these are generally isolated finds. The location of these sites on an elevated area near former wetland/swamp reinforces regional models that these areas would have been a focal point for past Aboriginal activity within the landscape. Cumulatively this site,

with surface artefacts on the crest and both surface and subsurface artefacts on the southern slopes, is considered to have a moderate heritage significance.

Both sites within the subject area have social/cultural value. The social cultural values in **Table 13** are based on the previous assessment and onsite discussions with RAPs. These values are considered indicative and will be updated after the RAP review of the draft ACHAR.

Table 13. Table of significance of sites located within the subject area.

Site	AHIMS number	Site Type	Scientific Value	Aesthetic Value	Historic Value	Social/Cultural Value*	Overall Heritage Significance*	
Warnervale Residential Isolated Find 1	TP 26	45-3-4055	Isolated Find	Low	Low	Low	High	Low
Warnervale Residential Artefact Scatter 1 (Site complex)		45-3-4054	Artefact Scatter	Moderate	Low	Low	High	Moderate
	Bitova ISO1	45-3-3404	Isolated find	Low	Low	Low	High	Low
	Bitova OS2	45-3-3405	Artefact scatter	Low	Low	Low	High	Low
	Bitova ISO3	45-3-3406	Isolated find	Low	Low	Low	High	Low
	Bitova OS4	45-3-3407	Artefact scatter	Moderate	Low	Low	Very High	Moderate
	Bitova ISO5	45-3-3408	Isolated find	Low	Low	Low	High	Low
	Bitova OS6	45-3-3409	Artefact scatter	Low	Low	Low	High	Low
	Bitova OS7	45-3-3410	Artefact scatter	Moderate	Low	Low	High	Moderate
	Bitova ISO8	45-3-3411	Isolated find	Low	Low	Low	High	Low
	Bitova OS9	45-3-3412	Artefact scatter	Low	Low	Low	High	Low
	Bitova OS10	45-3-3413	Artefact scatter	Low	Low	Low	High	Low
	Bitova ISO11	45-3-3414	Isolated find	Low	Low	Low	High	Low
	Warnervale AS1		Artefact scatter	Low	Low	Low	High	Low
	Warnervale AS2		Artefact scatter	Low	Low	Low	High	Low
	Warnervale IF1		Isolated find	Low	Low	Low	High	Low
	Warnervale IF2		Isolated find	Moderate	Low	Low	High	Moderate
	TP 13		Isolated find	Low	Low	Low	High	Low
	TP 18		Isolated find	Low	Low	Low	High	Low
	TP 30		Isolated find	Low	Low	Low	High	Low
	TP 71		Artefact scatter	Moderate	Low	Low	High	Low
TP 84		Isolated find	Low	Low	Low	High	Low	
TP 90		Artefact scatter	Low	Low	Low	High	Low	
TP 91		Isolated find	Low	Low	Low	High	Low	
TP 96		Isolated find	Low	Low	Low	High	Low	

* Indicative significance based on previous 2009 study. Further feedback is to be sought from RAPs prior to finalisation

9 IMPACT ASSESSMENT

9.1 Key Findings

- The proposed development is part of a proposed 'Smart City' by Wyong Shire Council (WSC, now Central Coast Council) to address predicted shortages in housing, add to the growth of the economy and be a component of a 'integrated education and business precinct' (WSC 2015).
- The proposed development is within the Northern Growth Corridor, which stretches from Tuggerah to Warnervale. The Northern and Southern Growth Corridors are identified as key locations for economic development, economic development, and residential growth within the Central Coast as part of the 2036 Central Coast Regional Plan (NSW Department of Planning 2016).
- Rezoning – will have no impact to the archaeological resource present within the subject area.
- DA1 – the proposed development within this DA will not impact any Aboriginal sites and will impact an area with low to nil archaeological sensitivity.
- The proposed development stages in DA 2 and DA3 will have an impact to site WR AS1. The bulk earthworks as part of initial stage of DA 2 would have a direct impact on the two Aboriginal archaeological sites within the subject area, WR IF1 and the WR AS1 site complex including five of the previously recorded artefact scatters (Warnervale IF2, Warnervale AS2, 45-3-3412, 45-3-3413, and 45-3-3406). The proposed development within DA 3 including the parkland area is likely to have some level of impact on the remainder of the WR AS1 site complex (including ten previously recorded surface artefact scatters present within the residual lot area).
- Impacts to the archaeological resource present within the subject area would result in loss of intergenerational equity. Mitigation measures are proposed to provide additional information about Aboriginal use of the landscape in Warnervale and to attenuate some of the loss of intergenerational equity that would result from the proposed development.

9.2 Proposed Development

Central Coast Council intends to create an integrated education and business precinct, referred to as the Smart City, in the Warnervale area. Council has identified seven projects which will form the foundation of the Smart City; one of these is a residential release area referred to as Precinct 7A. The subject area is located within Precinct 7A. The subject area is also within the Northern Growth Corridor, which stretches from Tuggerah to Warnervale. The Northern and Southern Growth Corridors are identified as key locations for economic development, economic development, and residential growth within the Central Coast as part of the 2036 Central Coast Regional Plan (NSW Department of Planning 2016).

AV Jennings proposes to redevelop the subject area for residential use in stages (**Figure 4**), leaving a residue lot to be developed as parkland (**Figure 6**). In contrast to earlier designs, the proposed rezoning includes minor reduction of the park/parkland area (RE1) in the existing Precinct 7A Zoning plan, and rezoning of areas along the eastern edge (RU6 transition), and along a portion of the Environmental Management Zone along the development perimeter (E3) to expand the residential development in these areas (**Figure 2**).

The staged residential development will be subject to separate development applications (DAs). Proposed activities include the subdivision of the subject area into several hundred lots, establishment of infrastructure (e.g. roads, drainage, etc.), the creation of a park and the construction of four wetlands (**Figure 3**). Earth works including both cutting and filling would occur across the subject area, with changes in depths of up to 5m proposed (**Figure 5**). The majority of the bulk earthworks are proposed as part of DA2.

The DA for Stage 1A and Stage 1B has been submitted to Central Coast Council (DA 561/2017). The Stage 2 DA has recently been submitted (DA1002/2017), with the DAs for the proposed rezoning yet to be submitted (**Figure 4**). The proposed rezoning and redevelopment of the parkland area currently zoned for public recreation incorporates the majority of the previously identified surface Aboriginal sites within the subject area (45-3-3414, 45-3-3404, 4-3-3405, 45-3-3408, 45-3-3409, 45-3-3410, Warnervale AS1, 45-3-3411, Warnervale IF1, 45-3-3407) which form part of the Warnervale Residential Artefact Scatter 1 (45-3-4054). The remainder of the sites within Warnervale Residential Artefact Scatter 1 (TP18, Warnervale AS2, Warnervale 45-3-3406, 45-3-3413, 45-3-3412, Warnervale IF2, TP 71, 84, 90, 91 and 96) and Warnervale Residential IF1 (TP26 AHIMS# 45-3-4055) are located in areas already zoned for residential development. The plans for the proposed development within the parkland area have not been finalised, but may include picnic shelters and areas with amenities, a playground, an amphitheatre with paved performance area, 2.5m shared path, and parking along the edges (**Figure 6**).

9.2.1 Economic and Social Consequence of the Project

The proposed development is part of Precinct 7A, a residential release area within the Wyong Shire Councils (WSC) Smart City Vision 'a new integrated education and business precinct, where lifestyle and technology come together' (Wyong Shire Council 2015). The subject area forms a large portion of Precinct 7A, a large area intended for residential properties (approx. 2,500 lots), neighbourhood shops, open space and significant areas of conservation land including wetlands and ecological communities in the south (WSC 2013:17). The project investment value for this precinct is ~\$1 billion. Precinct 7A is one of the Smart City foundation projects which also include Wyong Education and Business Precinct, Warnervale Town Centre, Wyong Employment Zone, Airport and Warner Business Park. Wyong is predicted to require 20,000+ new dwellings by 2031 (WCC 2015:7) and the proposed development is a step to meet rising demand for housing.

9.3 Potential Aboriginal Heritage Impacts

The proposed rezoning does not involve earthworks, and will not in itself result in Aboriginal heritage impact. The subsequent proposed development would involve both cutting and filling of areas across the subject area (**Figure 5**). An overlay of the archaeological resource present within the subject area upon the cut and fill plans for DA 1 and 2 is shown in **Figure 33**. The bulk earthworks as part of DA 2 (1002/2017) would have a direct impact on the Aboriginal archaeological sites present within the subject area. The impacts from each stage of the proposed development is summarised in **Table 14**. The majority of the impact will be from the bulk earthworks in the Stage 4 area of DA2 and earthworks associated with DA3.

Table 14. Proposed impacts to Aboriginal heritage from the proposed development in DA 1 (561- 17), DA 2 (1002-17) and DA 3.

Development Application	Proposed Impact
DA 1 (561/2017)	Impact to areas of low to nil archaeological sensitivity through bulk earthworks (primarily through excavation of up to up to 5m depth with some introduction of fill) in southern part of Stage 1A area for proposed residential development.
DA 2 (1002/2017)	Impacts are proposed across most of the subject area, incorporating Stage 2, 3 and 4 areas (Figure 33) through bulk earthworks undertaken as part of the first stage of this DA. Bulk excavation within the Stage 2 and Stage 3 areas of up to 5m depth will have an impact on areas of low to nil archaeological sensitivity. Within the Stage 4 area, there is proposed direct impact to the majority of subsurface artefact locations (TP18, 71, 90, 91 and 96) and the surface artefact locations within the WR AS1 complex (Warnervale IF2, Warnervale AS2, 45-3-3412, 45-3-3413, and 45-3-3406) and impact to the WR IF1 site through introduction of fill of up to 5m depth as part of the DA2 bulk earthworks. The will also be impact to areas of low to nil archaeological sensitivity through the installation of water and sewer mains adjacent to the development area (see Figure 7).
DA 3 (remainder of area not developed in DA 1 and DA 2).	Contains the remainder of the area of site WR AS1 including the majority of recorded surface artefacts (45-5-3407, Warnervale IF1, 45-3-3411, Warnervale AS1, 45-3-3410, 45-3-3409, 45-3-3408, 45-3-3405, 45-5-3404 and 45-3-3414) and subsurface artefact locations TP18, TP30 and TP84. The potential impact will depend on the landscaping proposed for this area. It is considered that the landscaping shown in the park masterplan will result in some ground disturbance, particularly in the northern portion of the park and will result in impact to the surface Aboriginal objects and sites.

DA 1 (561/2017) and the Stage 2 and 3 areas in DA 2 (1002/2017) encompass areas that were originally identified as having high archaeological sensitivity. Archaeological test excavation recovered no Aboriginal objects within these areas and the sensitivity was reassessed as low to nil. The Stage 4 area of DA2 (1002/2017) and the residual lot area (DA3) contain the identified archaeological resource present within the subject area. Ten of the 15 recorded surface artefact locations and two subsurface artefact locations are within the residual lot area (DA 3), with the remaining five surface artefact locations and six subsurface artefact locations within the DA 2 area (Stage 4). Proposed works in DA 2 will involve impact to Aboriginal site WR AS1 and WR AS2, including five of the previously recorded Aboriginal sites.

The proposed impacts to the Aboriginal sites within the subject area from the proposed development, based on the current zoning, are summarised in **Table 15**. The residual lot contains the majority of the recorded archaeological sites (n=10) within the WR AS1 site complex (AHIMS # 45-3-4054). The stages of development for DA 2 (1002/17) will have direct impact to the two Aboriginal sites, WR IF1 (45-3-4055), and part of WR AS1 (45-3-4054, including five surface artefact sites and six subsurface artefact locations).

The impact of the proposed development, based on the Master Plan for the park after rezoning, is summarised in **Table 16**. This development (**Figure 34**) will have a much larger impact on the cultural landscape, particularly impacting Bitova OS4 (45-3-3407) - the highest density artefact scatter identified within the subject area, and considered of moderate (archaeological) to high (cultural) significance.

Development of the proposed park, from the detail available in the Master Plan, would involve landscaping across this lot, and would cumulatively lead to an impact across the entire identified area of WR AS1.

It is considered likely that there will be impact to most, if not all, of the archaeological resource present within the subject area based on the proposed development plans. Impacts to Aboriginal sites require an AHIP and it is understood that two AHIPs, one covering the DA2 (1002/2017) area and one covering the area of parkland following rezoning with its associated DA. AHIPs will be required prior to ground disturbance. Mitigation of these proposed impacts will be required and are discussed further in **Section 10**.

Table 15. Summary of the potential impacts to Aboriginal sites based on current zoning and DA 1 and DA 2 plans.

Site name	Site number	Type of harm	Proposed development*	Degree of harm	Consequence of harm
Warnervale Residential Isolated Find 1 (WR IF1)	45-3-4055	Directly harmed	Bulk earthworks - Fill	Whole	Total loss of value
Warnervale Residential Artefact Scatter 1 (WR AS1)	45-3-4054	Directly harmed	Bulk Earthworks – Excavation and Fill	Partial	Partial loss of value
	45-3-3404 (Bitova ISO1)	Will not be harmed	Residual lot	None	No loss of value
	45-3-3405 (Bitova OS2)	Will not be harmed	Residual lot	None	No loss of value
	45-3-3406 (Bitova ISO3)	Directly harmed	Bulk earthworks associated with road construction	Whole	Total loss of value
	45-3-3407 (Bitova OS4)	Will not be harmed	Residual lot	None	No loss of value
	45-3-3408 (Bitova ISO5)	Will not be harmed	Residual lot	None	No loss of value
	45-3-3409 (Bitova OS6)	Will not be harmed	Residual lot	None	No loss of value
	45-3-3410 (Bitova OS7)	Will not be harmed	Residual lot	None	No loss of value
	45-3-3411 (Bitova ISO8)	Will not be harmed	Residual lot	None	No loss of value
	45-3-3412 (Bitova OS9)	Directly harmed	Bulk Earthworks – Excavation	Whole	Total loss of value
	45-3-3413 (Bitova OS10)	Directly harmed	Bulk Earthworks- Fill	Whole	Total loss of value
	45-3-3414 (Bitova ISO11)	Will not be harmed	Residual lot	None	No loss of value
	Warnervale AS1	Will not be harmed	Residual lot	None	No loss of value
	Warnervale AS2	Directly harmed	Bulk Earthworks – Excavation	Whole	Total loss of value
	Warnervale IF1	Will not be harmed	Residual lot	None	No loss of value
Warnervale IF2	Directly harmed	Bulk Earthworks – Fill	Whole	Total loss of value	

* Note no information on the proposed development activities within the residual lot is available at this time. For the purposes of this table, it is considered that no impact would occur, but this may be revised as detailed design plans become available.

Table 16. Summary of the potential impacts to Aboriginal sites based on rezoning of subject area and park master plan.

Site name	Site number	Type of harm	Proposed development	Degree of harm	Consequence of harm
Warnervale Residential Isolated Find 1 (WR IF1)	45-3-4055	Directly harmed	Bulk earthworks – Residential development	Whole	Total loss of value
Warnervale Residential Artefact Scatter 1 (WR AS1)	45-3-4054	Directly harmed	Bulk Earthworks – Associated with creation of the park including installation of picnic areas and shelters, a playground, an amphitheatre with paved performance area, formal lawn areas, parking long western edge and a 2.5m shared path along the boundary.	Partial	Partial loss of value
	45-3-3404 (Bitova ISO1)	Indirectly harmed	Retain existing trees	Partial	Partial loss of value
	45-3-3405 (Bitova OS2)	Directly harmed	Informal lawn and planting within park	Partial	Partial loss of value
	45-3-3406 (Bitova ISO3)	Directly harmed	Bulk earthworks for road construction	Whole	Total loss of value
	45-3-3407 (Bitova OS4)	Directly harmed	Bulk earthworks- residential development	Whole	Total loss of value
	45-3-3408 (Bitova ISO5)	Directly harmed	Informal lawn and planting within park	Partial	Partial loss of value
	45-3-3409 (Bitova OS6)	Directly harmed	Informal lawn and planting within park	Partial	Partial loss of value
	45-3-3410 (Bitova OS7)	Directly harmed	Informal lawn and planting within park	Partial	Partial loss of value
	45-3-3411 (Bitova ISO8)	Directly harmed	Bulk earthworks for road construction/ shared 2.5m path	Whole	Total loss of value
	45-3-3412 (Bitova OS9)	Directly harmed	Bulk Earthworks – residential development	Whole	Total loss of value
	45-3-3413 (Bitova OS10)	Directly harmed	Bulk Earthworks- road construction	Whole	Total loss of value
	45-3-3414 (Bitova ISO11)	Indirectly harmed	Retain existing trees	Partial	Partial loss of value
	Warnervale AS1	Directly harmed	Pond with paved seating area	Whole	Total loss of value
	Warnervale AS2	Directly harmed	Bulk Earthworks – residential development	Whole	Total loss of value
	Warnervale IF1	Directly harmed	Bulk earthworks for road construction	Whole	Total loss of value
	Warnervale IF2	Directly harmed	Bulk Earthworks – residential development	Whole	Total loss of value

9.3.1 Intergenerational Loss/Equity

Intergenerational equity is the principle whereby the present generation should ensure the health, diversity and productivity of the environment for the benefit of future generations (Commonwealth of Australia 2002:5).

In terms of Aboriginal heritage, intergenerational equity can be considered in terms of the cumulative impacts to Aboriginal objects and places in a region. If few Aboriginal objects and places remain in a region (for example, because of impacts under previous AHIPs), fewer opportunities remain for future generations of Aboriginal people to enjoy the cultural benefits of those Aboriginal objects and places.

Information about the integrity, rarity or representativeness of the Aboriginal objects and places proposed to be impacted, and how they illustrate the occupation and use of land by Aboriginal people across the region, will be relevant to the consideration of intergenerational equity and the understanding of the cumulative impacts of a proposal.

The two Aboriginal sites, WR IF1 and WR AS1 (incorporating fifteen surface artefact sites and subsurface Aboriginal sites) present within the subject area have a cumulative moderate (archaeological) to high (cultural) significance. These sites contain a high number of artefacts that is regionally rare, including a possible edge ground axe. The area of WR AS1 has known subsurface deposits. Areas with moderate densities of Aboriginal objects and sub-surface deposits are relatively rare within the Warnervale region. Mitigation measures are proposed to provide additional information about Aboriginal use of the landscape in Warnervale and to attenuate some of the loss of intergenerational equity that would result from the proposed development (see **Section 10** for further discussion).

9.3.2 The Precautionary Principle

The precautionary principle means that 'where there are threats or potential threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation' (Commonwealth of Australia 2002: 5). Serious or irreversible damage to cultural heritage should be avoided where practicable, and measures to prevent or reduce damage to Aboriginal places and objects should be put in place (DECC: 26).



Figure 33. Potential impacts through bulk earthworks to the archaeological resource.



Figure 34. Proposed impacts of based on the park masterplan after rezoning.

10 MANAGEMENT AND MITIGATION STRATEGY

10.1 Avoiding Harm and/or Mitigation Measures

Best practice heritage management dictates that harm to Aboriginal cultural heritage should be avoided if at all possible. The proposed development has the potential to impact and/or destroy the two Aboriginal sites within the subject area, WR IF1 (AHIMS# 45-3-4055) and the site complex WR AS1 (AHIMS# 45-3-4054, that includes 15 documented surface Aboriginal sites). If harm to these areas cannot be entirely avoided, consideration of conservation and/or other mitigation measures should be undertaken of the sites and areas of sensitivity that will be affected. Based on the previous studies of the subject area, and discussions on site with the RAPs, the park area currently zoned as public recreation should form the focus of such conservation where implemented.

The DA 1 area (DA 561/2017) was not identified as an area with high potential for subsurface deposits during the survey and no surface Aboriginal objects were identified within this area. Test excavation within this area recovered no Aboriginal objects and it is considered to have low to nil archaeological sensitivity. The Stage 2 and 3 areas of DA2 (DA 1002/2017) were identified as containing areas of moderate and high sensitivity during the initial assessment. Test excavation within these areas recovered no Aboriginal objects and these areas were reassessed as having low to nil archaeological sensitivity. It is considered that no further archaeological investigation or mitigation of these areas is required, and work may proceed with caution (**Figure 35**). We highlight, however, that isolated Aboriginal objects can occur in any location, and in the event of their discovery all work should cease, and heritage advice should be sought.

Discussion with RAPs during the survey for this ACHAR highlighted that the southern ridgeline area would require further investigation through test excavations, and subsequently may result in salvage excavations to mitigate any impacts to this area. Test excavations confirmed the presence of subsurface deposits containing a low density of Aboriginal objects within the Stage 4 (DA2 1002/2017) and DA3 residual lot areas. Impact to WR IF1 (45-3-4055) is not considered to require further mitigation. However, impact to WR AS1 (45-3-4054) will require further mitigation.

Within the Stage 4 area (DA 2 1002/2017) on the upper slopes near artefact scatter 45-3-3407 and TP 68 has been highlighted as an area of interest due to the presence of large numbers of surface artefacts. In the proposed development there will be impact to this area through excavation and importation of fill. Based on discussions with RAPs onsite during the test excavations mitigation of this area will be required prior to any impacts in this area.

Given the comments provided by the RAPs during the ACHAR process, it is recommended that an Aboriginal Cultural Heritage Management Plan (ACHMP) be developed for the site to explore and address these. An ACHMP for the subject area is also a requirement of the DCP prior to development. Several of the RAPs comments are not directly required by the legislative process, which is very much linked to the material cultural. However, ensuring both the tangible and intangible values and views of the RAPs are addressed is recommended. The ACHMP should be developed prior to the lodgement of any AHIP; and can be used as a form of mitigation where relevant. The results of the ACHAR detailing the archaeological resource present within the subject area should be used to inform refinement of the proposed mitigation measures to attenuate the impacts to the archaeological resource based on the development design if these impacts cannot be avoided.

If impact to Aboriginal objects cannot be avoided in the proposed development plans, it will be necessary to apply to OEI for an AHIP. The ACHAR, ACHMP and AHIP will include a number of conditions requiring mitigation of the identified heritage impact. Development of mitigation options will require consultation with the Aboriginal stakeholders, and may include a combination of the following:

- Creation of conservation areas (no impact) potentially within the southern portion of the park.
- Surface collection of Aboriginal objects.
- Reburial of the assemblage of Aboriginal objects (from archaeological excavation and surface collection) in a location that will be protected in perpetuity.
- Management and storage of certain Aboriginal objects of educational value, such as the ground-edge axe - Warnervale IF2, by RAPs through a Care and Control agreement.
- Interpretation of Aboriginal cultural heritage within the public spaces of the new development.

The recommended investigations and associated DAs are summarised in **Table 17**. Separate AHIPs will be required to cover at least the Stage 4 area (DA2 1002/2017) and the Residual Lot area (park DA3) as the proposed development within these areas will result in harm to identified Aboriginal objects and sites within these areas.

Table 17. Proposed further investigation and possible mitigation measures for the stages of the proposed development.

Development Application	Mitigation/Further Investigation
DA 1 (561/2017)	<ul style="list-style-type: none"> • Development in this area can proceed with caution however, isolated Aboriginal objects can occur in any location, and in the event of their discovery all work should cease, and heritage advice should be sought.
DA 2 (1002/2017)	<ul style="list-style-type: none"> • AHIP application to cover the Stage 4 area (DA 2) prior to the bulk earthworks to allow total impact to the WR IF1 and partial impact to WR AS1 including the five previously recorded surface sites within this area: Bitova ISO3 (45-3-3406); Bitova OS9 (45-3-3412); Bitova OS10 (45-3-3413); Warnervale AS2 and Warnervale IF2. • Impact to be preceded by additional mitigation measures (such as surface collection)
DA 3	<ul style="list-style-type: none"> • Potential for conservation areas to be set aside within the southern portion of the park (no harm area) that have potential for subsurface Aboriginal objects. • AHIP covering the residual lot area (DA 3) to allow impacts within the park area, specifically direct and indirect impacts to parts of WR AS1 (some or all the ten previously registered sites). • Impact to be preceded by additional mitigation measures (such as surface collection and interpretation).

10.2 Mitigation Measures

No mitigation is proposed for impact to WR IF1 (45-3-4055) or areas with low to no archaeological potential (DA1 561/2017 area and sewer/water main works adjacent to the subject area).

Mitigation measures for all other areas, notably associated with DA2 (1002/2017) will be developed in consultation with the RAPs, and will be outlined in detail in the Aboriginal Cultural Heritage Management Plan that will be developed for the subject area, and appended to the ACHAR. An AHIP will be required before mitigation measures can be undertaken. In brief, mitigation measures may include but not limited to, surface collection of artefacts, and/or interpretation (e.g. signage or plaques, a digital forum such as a website, or may relate to more abstract aspects of the site such as naming of the streets or park).

In the event surface collection is included as a measure, these artefacts could then be analysed to add to the understanding of Aboriginal activities within the Warnervale region and stored with the other

Aboriginal objects until a final storage location is determined. This is likely to be reburial within the park area associated with some form of interpretation. If interpretation is included as a measure this could involve signage or plaques, a digital forum such as a website, or may relate to more abstract aspects of the site such as naming of the streets or park. An interpretation plan would need to be developed to explore these options.

10.3 Recommendations

The recommendations below are made to ensure that the proposed development mitigates impacts on significant Aboriginal cultural heritage and complies with all State legislative requirements. We highlight that the preferred heritage outcome is, as always, to redesign the project to avoid impacts on Aboriginal cultural heritage altogether wherever possible, and where this is not possible to minimise impacts. In the event that impacts are required, notably in areas associated with the 'Warnervale Residential Artefact Scatter 1' site (45-3-4054), further investigation and/or archaeological mitigation will likely be required. The specific measures, methods and approaches for such works would be outlined in a proposed Aboriginal Cultural Heritage Management Plan to developed prior to seeking the AHIP.

It is recommended that:

- Site cards for the previously identified 11 sites (45-3-3404 to 45-3-3414) are updated to include additional artefact details and current site condition.
- No further archaeological investigation or assessment is required in advance of the proposed rezoning.
- Following a comprehensive understanding of the archaeological resource being developed as part of the ACHAR, conservation opportunities within the proposed development should be maximised where possible.
- Works within the DA 1 (561/2017) area can proceed with caution. It is considered that there is a low risk of Aboriginal objects being present within these parts of the subject area. However, the nature of disturbance does not preclude the potential for isolated finds, which is a common site type across the region, even in disturbed contexts. In the event that unexpected Aboriginal objects, sites or places (or potential Aboriginal objects, site or places) are discovered during construction, all works in the vicinity should cease and the proponent should determine the subsequent course of action in consultation with a heritage professional and/or the Office of Environment and Heritage (OEH) as appropriate. A process of consultation with Aboriginal community representatives would also be required.
- For areas beyond DA 1, requirements in accordance with **Figure 35** should be adopted. These include:
 - Areas where it is considered that there is a low risk of Aboriginal objects being present. In these areas development works can proceed with caution. However, the nature of disturbance does not preclude the potential for isolated finds, which is a common site type across the region, even in disturbed contexts. In the event that unexpected Aboriginal objects, sites or places (or potential Aboriginal objects, site or places) are discovered during construction, all works in the vicinity should cease and the proponent should determine the subsequent course of action in consultation with a heritage professional and/or the Office of Environment and Heritage (OEH) as appropriate. A process of consultation with Aboriginal community representatives would also be required.
 - Areas where Aboriginal objects, sites and/or deposits have been identified. An Aboriginal Heritage Impact Permit (AHIP) would be required to allow their harm/destruction before any development may proceed. It is understood that two AHIP

applications will be required, one covering the DA2 (1002/2017) areas and one covering the park area following rezoning with an associated DA. This ACHAR, if consultation with the Aboriginal RAPs is maintained, will be used as supporting documentation for both of these AHIP applications.

- Prior to impact to Aboriginal objects, sites and/or deposits of moderate and/or high significance, impact mitigation measures will be required. An appropriate mitigation strategy should be developed, and may include (but not be limited to) conservation, surface collection, and/or interpretation of the cultural heritage. The mitigation strategy is proposed to be developed as part of an Aboriginal Cultural Heritage Management Plan (ACHMP) for the subject area. An AHIP must not be sought until the ACHMP has been developed and finalised. Once the AHIP has been issued, development may commence in accordance with the ACHAR recommendations, the ACHMP mitigation measures, and the AHIP conditions.

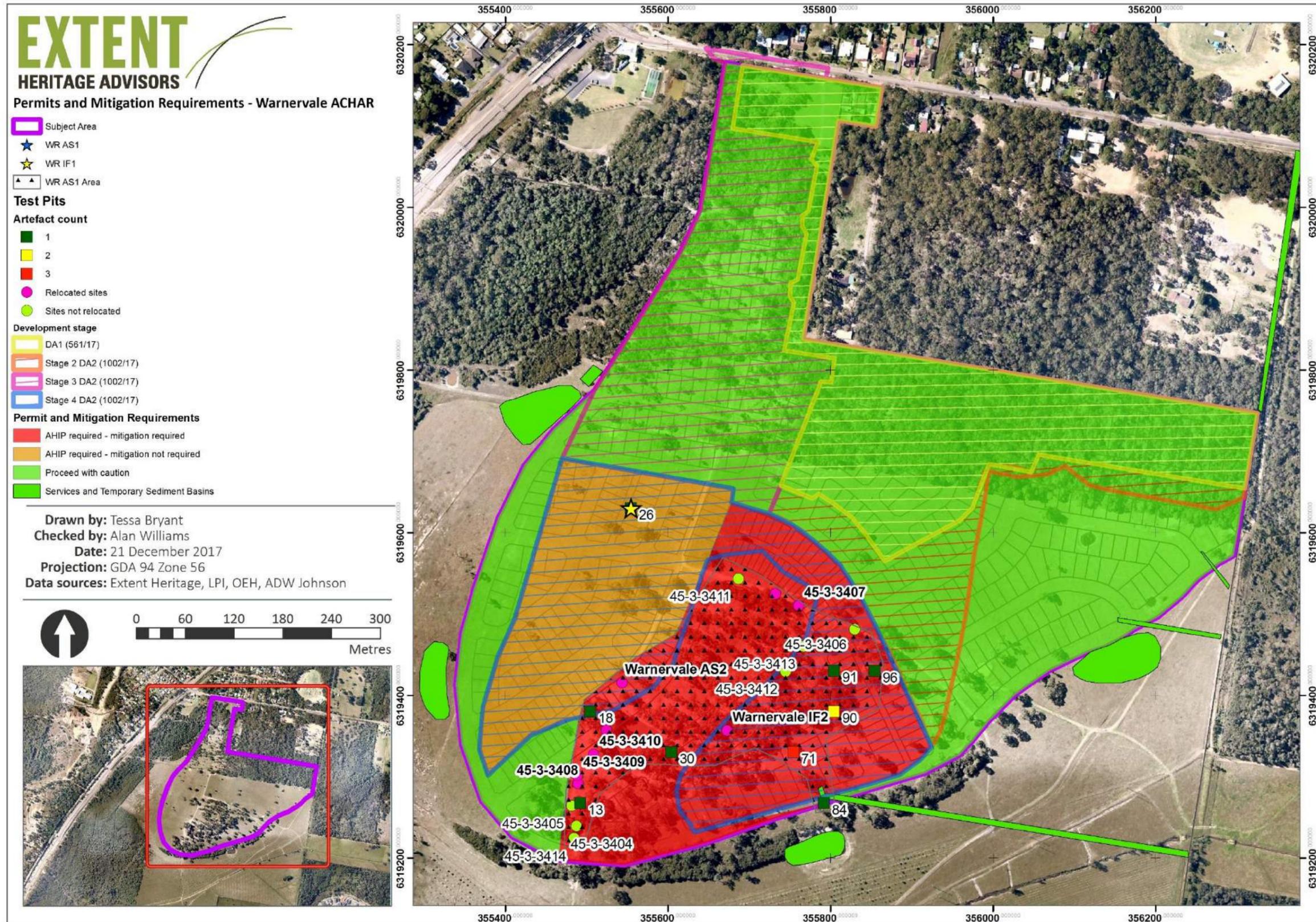


Figure 35. Permit requirements within the Warnervale subject area.

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Abbreviations

ACHAR	Aboriginal Cultural Heritage Assessment Report
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
AHMS	Archaeological and Heritage Management Solutions
BP	Before present (AD 1950)
CHL	Commonwealth Heritage List
CRM	Cultural Resource Management
DCP	Development Control Plan
DECCW	Department of Environment, Climate Change and Water (now OEH)
DP	Deposited Plan
ERS	Eastern Regional Sequence
ka	Abbreviation for thousands of years ago (e.g. 1 ka equals 1,000 years ago)
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
NHL	National Heritage List
NPW Act	National Parks and Wildlife Act 1974
OEH	Office of Environment and Heritage (formerly DECCW)
PAD	Potential Archaeological Deposit
RAP	Registered Aboriginal party
REP	Regional Environmental Plan
SEPP	State Environment Planning Policy
WHL	World Heritage List

Glossary

Aboriginal Cultural Heritage Assessment Report (ACHAR)	A document developed to assess the archaeological and cultural values of an area, generally required as part of an Environmental Assessment (EA).
<i>Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010</i>	Guidelines developed by OEH to guide formal Aboriginal community consultation undertaken as part of an Aboriginal Cultural Heritage Assessment (ACHA).
Aboriginal Heritage Impact Permit (AHIP)	The statutory instrument that the Director General of the Office of Environment and Heritage (OEH) issues under Section 90 of the <i>National Parks and Wildlife Act 1974</i> to allow the investigation (when not in accordance with certain guidelines), impact and/or destruction of Aboriginal objects. AHIPs are not required where project approval under the state-significant provisions of Part 4 (Division 4.1) of the <i>Environmental Planning and Assessment Act 1979</i> .
Aboriginal object	A statutory term defined under the <i>National Parks and Wildlife Act 1974</i> as ‘any deposit, object or material evidence (not being a handcraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains’.
<i>Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales</i>	Guidelines developed by OEH to inform the structure, practice and content of any archaeological investigations undertaken as part of an Aboriginal Cultural Heritage Assessment (ACHA).
Department of Environment, Climate Change and Water (DECCW)	Now known as the Office of Environment and Heritage (OEH), Department of Premier and Cabinet.
<i>Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales</i>	Guidelines developed by OEH, outlining the first stage of a two stage process in determining whether Aboriginal objects and/or areas of archaeological interest are present within a subject area. The findings of a due diligence assessment may lead to the development of an Aboriginal Cultural Heritage Assessment.
<i>Environmental Planning and Assessment Act 1979</i>	Statutory instrument that provides planning controls and requirements for environmental assessment in the development approval process. The Act is administered by the Department of Planning and Environment.
Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW	Guidelines developed by OEH to inform the structure and content of an Aboriginal Cultural Heritage Assessment (ACHA).
Isolated Find	An isolated find is usually considered a single artefact or stone tool, but can relate to any product of prehistoric Aboriginal societies. The term “object” is used in the ACHA, to reflect the definitions of Aboriginal stone tools or other products in the <i>National Parks and Wildlife Act 1974</i> .
<i>National Parks and Wildlife Act 1974</i>	The primary piece of legislation for the protection of Aboriginal cultural heritage in NSW. Part 6 of this Act outlines the protection afforded to and offences relating to disturbance of Aboriginal objects. The Act is administered by OEH.

Office of Environment and Heritage (OEH)	The OEH is responsible for managing the Aboriginal Heritage (and other) provisions of the <i>National Parks and Wildlife Act 1974</i> .
Potential Archaeological Deposit (PAD)	An area assessed as having the potential to contain Aboriginal objects. PADs are commonly identified on the basis of landform types, surface expressions of Aboriginal objects, surrounding archaeological material, disturbance, and a range of other factors. While not defined in the <i>National Parks and Wildlife Act 1974</i> , PADs are generally considered to retain Aboriginal objects and are therefore protected and managed in accordance with that Act.
Proponent	A corporate entity, Government agency or an individual in the private sector which proposes to undertake a development project.

Appendix 1: Legislation

A1.1. Commonwealth Legislation

Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* was enacted at a Federal level to preserve and protect areas (particularly sacred sites) and objects of particular significance to Aboriginal Australians from damage or desecration. Steps necessary for the protection of a threatened place are outlined in a gazetted Ministerial Declaration (Sections 9 and 10). This can include the preclusion of development.

As well as providing protection to areas, it can also protect objects by Declaration, in particular Aboriginal skeletal remains (Section 12). Although this is a Federal Act, it can be invoked on a State level if the State is unwilling or unable to provide protection for such sites or objects.

Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* provides for the protection of natural and cultural heritage places. The Act establishes (amongst other things) a National Heritage List (NHL) and a Commonwealth Heritage List (CHL). Places on the NHL are of natural or cultural significance at a national level and can be in public or private ownership. The CHL is limited to places owned or occupied by the Commonwealth which are of heritage significance for certain specified reasons.

Places listed on the NHL are considered to be of State and local heritage value, even if State or local various heritage lists do not specifically include them.

The heritage values of places on the NHL or the CHL are protected under the terms of the EPBC Act. The Act requires that the Minister administering the EPBC Act assess any action which has, will have, or is likely to have, a significant impact on the heritage values of a listed place. The approval (or rejection) follows the referral of the matter by the relevant agency's Minister.

Native Title Act 1993

The *Native Title Act 1993* provides recognition and protection for native title. The Act established the National Native Title Tribunal to administer native title claims to rights and interests over lands and waters by Aboriginal people. The Tribunal also administers the future act processes that attract the right to negotiate under the *Native Title Act 1993*.

The Act also provides for Indigenous Land Use Agreements (ILUA). An ILUA is an agreement between a native title group and others about the use and management of land and waters. ILUAs were introduced as a result of amendments to the *Native Title Act* in 1998. They allow people to negotiate flexible, pragmatic agreements to suit their particular circumstances.

An ILUA can be negotiated over areas where native title has, or has not yet, been determined. They can be part of a native title determination, or settled separately from a native title claim. An ILUA can be negotiated and registered whether there is a native title claim over the area or not.

A1.2. NSW State Legislation

Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) requires that environmental and heritage impacts are considered by consent authorities prior to granting development approvals. The relevant sections of the EP&A Act are:

Part 4: Development that requires consent under consideration of environmental planning instruments.

Part 4 (Division 4.1): A single assessment and approval system for major development and infrastructure projects

Part 5: An assessment process for activities undertaken by Public Authorities and for developments that do not require development consent but an approval under another mechanism.

Where Project Approval is to be determined under Part 4 (Division 4.1) of the Act, further approvals under the *National Parks and Wildlife Act 1974*, are not required. In those instances, management of Aboriginal heritage follows the applicable Aboriginal assessment guidelines (the *Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation*, July 2005) and any relevant statement of commitments included in the Development Approval.

National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act) provides blanket protection for Aboriginal objects (material evidence of Indigenous occupation) and Aboriginal places (areas of cultural significance to the Aboriginal community) across NSW. An Aboriginal object is defined as:

... any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.

An Aboriginal place is any place declared to be an Aboriginal place by the Minister for the Environment, under Section 84 of the Act.

It is an offence to disturb Aboriginal objects or places without a permit authorised by the Director-General of the Office of Environment and Heritage. In addition, anyone who discovers an Aboriginal object is obliged to report the discovery to OEH.

The operation of the NPW Act is administered by OEH. With regard to the assessment of Aboriginal cultural heritage, OEH has endorsed the following guidelines:

Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (2010).

Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (2010).

Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010).

Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (2011).

Aboriginal Land Rights Act 1983

The *Aboriginal Land Rights Act 1983* allows for the transfer of ownership to a Local Aboriginal Land Council of vacant Crown land not required for an essential purpose or for residential land. These lands are then managed and maintained by the Local Aboriginal Land Council.

Appendix 2: Aboriginal Consultation

Appendix 2-1. Aboriginal consultation log

Organisation/Group	Representative	Date	Comments	Extent Heritage Contact
Pre-Notification Stage				
National Native Title Tribunal; Office of the Registrar, <i>Aboriginal Land Rights Act 1983</i> ; Office of Environment and Heritage Regional Operations Group; NTS Corp; Darkinjung LALC; Central Coast Council; Greater Sydney Local Land Services	-	05/05/2017	Request for details of Aboriginal individuals or groups who may have an interest in the study area. Request for search of Registered Land Claims. Request for search of Tribunal Registers.	Tessa Bryant
National Native Title Tribunal	-	05/05/2017	Automated response indicating receipt of enquiry and statement that the enquiry would be attended to in due course.	Tessa Bryant
GSLLS	Margaret Bottrell	08/05/2017	Email response that GSLLS do not maintain a register of potential Aboriginal stakeholders and recommends contacting OEH.	Tessa Bryant
NNTT		08/05/2017	Email response for Central Coast Council. Two claimant groups -	Tessa Bryant
OEH	Natalie Golightly	08/05/2017	Email response with stakeholder list for Cessnock city council. Second email with Central Coast Council	Tessa Bryant
ORALA	Bianca Ceissman	08/05/2017	Email response that there are no known land claims over the study area.	Tessa Bryant
Darkinjung LALC	Amanda Shields	08/05/2017	Email response that Darkinjung do not know of any Aboriginal individuals or communities with cultural knowledge for the area but would like to register an interest for participation in the project.	Tessa Bryant
Central Coast Council	Mairin Ireland	07/06/2017	Emil response with a list of the four key Aboriginal groups the council works with: Darkinjung LALC, Guringai Tribal Link Aboriginal Corporation, Mingaletta Aboriginal and Torres Strait Island Corporation, Bara Barang Corporation Ltd	Tessa Bryant
Project Notification				
Awabakal Traditional Owners	Various	17.5.17	Distributed letter of notification to listed Aboriginal	Alan Williams

Organisation/Group	Representative	Date	Comments	Extent Heritage Contact
Aboriginal Corporation Guringai Tribal Link Aboriginal Organisation Lower Hunter Aboriginal Incorporated Wattaka Wonnarua CC Service Widescope Indigenous Group Kawul Pty Ltd trading as Wonn1 Sites Roger Matthews Consultancy Yinarr Cultural Services Kevin Duncan			organisations	
Central Coast Advocate Express	-	17.5.17	Advertised the project	Tessa Bryant
Project Registration				
Darkinjung LALC	Amanda Shields	08/05/2017	Registration of interest in project as part of initial request for a list of potential stakeholders	Tessa Bryant
Darkinjung LALC	Amanda Shields	19/05/2017	Email registration of interest in the project	Tessa Bryant
Widescope	Steven Hickey	22/05/2017	Email registration of interest in the project	Tessa Bryant
A1 Indigenous Services	Carolyn Hickey	22/05/2017	Email registration of interest in the project	Tessa Bryant
Amanda Hickey Cultural Services	Amanda DeZwart	22/05/2017	Email registration of interest in the project	Tessa Bryant
Hunter Valley Cultural Surveying	Luke Hickey	26/05/2017	Email registration of interest in the project with request for contact details not to be passed to the LALC but ok to send to OEH.	Tessa Bryant
Guringai Tribal Link Aboriginal	Tracey Howie	26/05/2017	Email registration of interest in the project.	Tessa Bryant and Alan Williams
Valley ELM Corp	Des Hickey	26/05/2017	Email registration of interest in the project with request for contact details not to be passed to the LALC but ok to send to OEH.	Tessa Bryant and Alan Williams
Awabakal Traditional Owners Aboriginal Corporation	Kerrie Brauer	29/05/2017	Email registration of interest in the project with request for contact details not to be passed to Darkinjung LALC.	Alan Williams and Tessa Bryant
Lower Hunter Aboriginal Incorporated	Les Ahoy	29/05/2017	Email registration of interest in the project with request for a stakeholder meeting contact person David Ahoy	Tessa Bryant
Wattaka Wonnarua CC Service	Des Hickey	29/05/2017	Email registration of interest in the project with request for contact details only to be passed to OEH not to the LALC.	Tessa Bryant
Darkinjung LALC	Sharon Hodgetts	29/05/2017	Email registration of interest in project if not already	Alan Williams and

Organisation/Group	Representative	Date	Comments	Extent Heritage Contact
			registered.	Tessa Bryant
Yinarr Cultural Services	Kathie Steward Kinchela	18/09/17	Email registration of interest in the project.	Alan Williams
Project Methodology				
Awabakal Traditional Owners Aboriginal Corporation Guringai Tribal Link Aboriginal Organisation Lower Hunter Aboriginal Incorporated Wattaka Wonnarua CC Service Widescope Indigenous Group A1 Indigenous Services Amanda Hickey Cultural Services Darkinjung LALC Valley ELM Corp Hunter Valley Cultural Surveying	Various	05/06/2017	Distributed proposed assessment methodology letter to the listed registered Aboriginal organisations	Tessa Bryant
Widescope	Steven Hickey	05/06/2017	Email response in support of proposed assessment methodology	Tessa Bryant
Darkinjung Local Aboriginal Land Council	Amanda Shields	03/07/2017	Letter supporting the proposed assessment methodology	Tessa Bryant
Distribution of RAP list to OEH and LALC				
Darkinjung LALC	Sharon Hodgetts	14/06/2017	Email response to the list of RAP, sent as requirement of the consultation process. Email queried the inclusion of many unfamiliar groups. The groups other than GTLAC were unfamiliar and DLALC believed that there were only four stakeholders on OEHS list for the Central Coast.	Tessa Bryant
Office of Environment and Heritage Hunter and Central Coast Regional Operations	Naomi Golightly	15/06/2017	Email to pass on concerns raised by Sharon Hodgetts DLALC about the number of stakeholders on the OEH register for the Central Coast LGA.	Tessa Bryant
Darkinjung LALC	Sharon Hodgetts	15/06/2017	Response to email about Aboriginal stakeholders. The list received from OEH had nine stakeholders, five of which registered for consultation. The additional five RAPS were not identified through the OEH list including the LALC.	Tessa Bryant
Office of Environment and	Naomi Golightly	19/06/2017	Response from email raising concern from Darkinjung.	Tessa Bryant

Organisation/Group	Representative	Date	Comments	Extent Heritage Contact
Heritage Hunter and Central Coast Regional Operations			Email states that OEH Hunter Central Coast Aboriginal stakeholder lists are made up of self-nominated individuals and OEH has no influence over who is included. List has been updated this year, a possible reason that stakeholders are not aware of the inclusion of others on this list.	
Site Inspection				
GTLAC	Tracey Howie	05/07/2017	Would like to resurvey Stage 1 once the ground surface has been cleared but agreed is an area of lower potential. Artefacts relocated on southern ridgeline and agreed that this was an area of sensitivity that would require further assessment, likely test excavations potential salvage and or conservation areas.	Tessa Bryant
Darkinjung LALC	Sharon Hodgetts, Anthony Freeman, Ky Knight	12/07/2017	Confirmed the sensitivity of the southern ridgeline crest and slopes and that this area would require further assessment, likely test excavations potential salvage and or conservation areas. Agreed that the lower slope areas that were former swampland were areas of low potential as were most of the stage one and northern subject area.	Tessa Bryant
Draft ACHAR review				
All RAPs	Various	04/08/2017	Draft ACHAR distributed for review	Tessa Bryant
All RAPs	-	6.9.17	Distributed proposed test excavation methodology	Alan Williams
Awabakal Traditional Owners Aboriginal Corporation	Kerrie Brauer	6.9.17	Called to discuss the project, and indicated that comments on the report would be forthcoming.	Alan Williams
Awabakal Traditional Owners Aboriginal Corporation	Kerrie Brauer	15.09.17	Comments received on ACHAR pre-testing draft, agrees with the proposed recommendations. The Warnervale area is stated to not be part of Darkinjung country and ask for this to be clarified in the local Aboriginal history section of the report. They recommend the formation of a Aboriginal Consultative Committee to manage appropriate outcomes and recommend that the traditional language be used for naming streets, parks and conservation areas. They also note there was no recommendation for a care and control recommendation for Aboriginal objects. ATOAC do not	Tessa Bryant

Organisation/Group	Representative	Date	Comments	Extent Heritage Contact
			support any removal of topsoil and believe all topsoil should remain within the proposed development area.	
Test Excavation Methodology				
All RAPs	Various	6.9.17	Proposed test excavation methodology distributed for review.	Alan Willaims
A1 Indigenous Services and Amanda Hickey Cultural Services	-	11.9.17	Supported the proposed methodology	Alan Williams
Darkinjung Local Aboriginal Land Council	Sharon Hodgetts	14.9.17	Supported the proposed methodology and recommended that the area of existing artefacts be excluded from future development with the preferred option for excavated artefacts to be reburied on site in a protected area, with any artefacts of cultural significance/educational value to be held under a care and control agreement.	Alan Williams
Guringai Tribal Link Aboriginal Corporation	Tracey Howie	21.09.17	Supported the proposed methodology with additional comments. GTLAC agreed with ATOAC that the historical content requires amending to reflect the correct traditional owners, the Guringai mob. GTLAC also believe that such a large-scale development within a cultural landscape, requires an Aboriginal Cultural Heritage Management Plan to be constructed in consultation with GTLAC and remain effective throughout the staggered stages of this proposed development. GTLAC request assistance with an opportunity to engage the proponent and begin discussions for the proposed street names, park areas & community facilities within the development. These issues and that of the permanent location of any artefact materials unearthed during the proposed AHIP activities can be formally addressed within an ACHMP.	Tessa Bryant and Alan Williams
A1 Indigenous Services and Amanda Hickey Cultural Services	Carolyn Hickey and Amanda Hickey	24.09.17	Email in support of the test excavation methodology.	Tessa Bryant
Yinarr Cultural Services	Kathie Steward Kinchela	24.09.17	Email asking where the project was up to response sent on the 25/09/17 with the proposed test excavation methodology provided.	Tessa Bryant
Awabakal Traditional Owners Aboriginal Corporation	Kerrie Brauer	5.10.17	Email in support of the test excavation methodology. In terms of artefact management, they would prefer for all Aboriginal objects to remain on country in a protected	Alan Williams

Organisation/Group	Representative	Date	Comments	Extent Heritage Contact
			conservation area to avoid further and/or future impacts.	
Test Excavation Notification				
Awabakal Traditional Owners Aboriginal Corporation Guringai Tribal Link Aboriginal Corporation A1 Indigenous Services Amanda Hickey Cultural Services Widescope Indigenous Group	Various	3/10/17- 13/10/17	Email correspondence organising logistics relating to participation in the test excavation.	Tessa Bryant
Yinarr Cultural Services Valley ELM Corp Hunter Valley Cultural Surveying Lower Hunter Aboriginal Incorporated Wattaka Wonnarua CC Service	Various	9/10/17	Email notification of test excavation occurring 16 October - 1 st November with invitation to participate on a voluntary basis.	Tessa Bryant
Comments received during test excavations				
Darwinjung Local Aboriginal Land Council Guringai Link Aboriginal Corporation	Lynne Hamilton Tracey Howie	19/10/2017	Email correspondence regarding concerns that out of country RAPs had registered involvement in the project and were involved in the test excavations. Extent response with the Aboriginal stakeholder list from OEH and clarified that the fieldwork roster was based a preference for involvement of local groups while also involving a representative sample of the registered organisations.	Alan Williams
Draft ACHAR including test excavation review				
All RAPs	Various	7/03/2018	Draft ACHAR including test excavation distributed for review by email. Response asked for by the 18 th April 2018.	Tessa Bryant
All RAPs	Various	11/04/2018	Reminder email sent one week prior to end of review period with link to download draft ACHAR.	Tessa Bryant
Hunter Valley Cultural Surveying	Luke Hickey	13/04/2018	Phone call to say that the report couldn't be opened and asking where the project was up to. Explanation given that the project was up to the end of the review period for the draft ACHAR including test excavation. The subject area had two sites and will require two AHIPs for the different	Tessa Bryant

Organisation/Group	Representative	Date	Comments	Extent Heritage Contact
			DA's associated with the development. Report and Appendices resent by email separately.	

Appendix 2-2. List of identified Aboriginal stakeholders.

List of Identified Aboriginal Stakeholders

- 1) Kevin Duncan
- 2) Awabakal Traditional Owners Aboriginal Corporation
- 3) Guringai Tribal Link Aboriginal Organisation
- 4) Lower Hunter Aboriginal Incorporated
- 5) Wattaka Wonnarua Cultural Consultancy Services
- 6) Widescope Indigenous Group
- 7) Kawul Pty Ltd trading as Wonn1 Sites
- 8) Roger Matthews Consultancy
- 9) Yinarr Cultural Services
- 10) Darkinjung Local Aboriginal Land Council

Appendix 2-3. List of registered Aboriginal parties for the project

List of Registered Aboriginal Stakeholders

- 1) Darkinjung Local Aboriginal Land Council
- 2) Guringai Tribal Link Aboriginal Organisation
- 3) Awabakal Traditional Owners Aboriginal Corporation
- 4) Lower Hunter Aboriginal Incorporated
- 5) A1 Indigenous Services
- 6) Amanda Hickey Cultural Services
- 7) Valley ELM Corp
- 8) Hunter Valley Cultural Surveying
- 9) Wattaka Wonnarua Cultural Consultancy Services
- 10) Widescope Indigenous Group
- 11) Yinarr Cultural Services

Appendix 2-4. Pre-Notification Documentation Sent and Received

EXTENT



HERITAGE ADVISORS
TO AUSTRALIA AND
THE ASIA PACIFIC

Incorporating AHMS and Futurepast

5 May 2017

Central Coast Council

General Manager

PO Box 20

Wyong NSW 2259

wsc@wyong.nsw.gov.au

Cc: Central Coast Council, Office of Environment and Heritage, Darkinjung Local Aboriginal Land Council, Greater Sydney Local Land Services, NTS Corp, National Native Title Tribunal, and Office of the Registrar, *Aboriginal Land Rights Act 1983*.

Re: Request for Information on Aboriginal Stakeholders for an Aboriginal Cultural Heritage Assessment for part of Precinct 7A Warnervale Road, Warnervale – Lots and Part Lots 1, 2 and 3 DP247082, Lot 1 DP385242, Lot 73, 74, 75 & 76 DP7091, and Lots 1, 2 and 3 DP1101086.

Dear Sir/Madam,

Extent Heritage Pty Ltd has been commissioned by ADW Johnson, on behalf of AV Jennings (the proponent), to prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR) for a proposed rezoning and residential redevelopment within Lots and Part Lots 1, 2 and 3 DP247082, Lot 1 DP385242, Lot 73, 74, 75 DP7091, and Lots 1 and 2 DP1101086 Precinct 7a, Warnervale Road, Warnervale, NSW (see attached map). The land in question is within the Central Coast Local Government Area.

The proponent's contact details are: AV Jennings C/- Stephanie Van Dissel, Senior Town Planner, ADW Johnson, PO Box 3717, Tuggerah NSW 2259.

In accordance with the NSW Office of Environment and Heritage's (OEH) *Aboriginal cultural heritage consultation requirements for proponents 2010*, I am writing to you to seek information on relevant Aboriginal individuals and/or communities that you are aware of, who may hold cultural knowledge for the area relevant to determining the significance of Aboriginal objects and/or places. It would be appreciated if you could provide this information to me at the Sydney address below or by email to tbryant@extent.com.au.

Extent Heritage Pty Ltd

ABN 24 608 666 306

ACN 608 666 306

www.extent.com.au

info@extent.com.au

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13/240 Sydney Rd

Coburg VIC 3058

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PERTH

25/108 St Georges Tce

Perth WA 6000

P 08 9381 5206

SYDNEY

3/73 Union St

Pymont NSW 2009

P 02 9555 4000

F 02 9555 7005

Please don't hesitate to contact me on (02) 9555 4000 if you have any queries or concerns.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Tessa Bryant', with a horizontal line above the name.

Dr Tessa Bryant • Heritage Advisor

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Part Precinct 7A study area, Warnervale Road, Warnervale

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HERITAGE ADVISORS
TO AUSTRALIA AND
THE ASIA PACIFIC

Incorporating AHMS and Futurepast

5 May 2017

Darkinjung Local Aboriginal Land Council

PO Box 401

Wyong NSW 2259

darkinjung@dlalc.org.au

Cc: Central Coast Council, Office of Environment and Heritage, Darkinjung Local Aboriginal Land Council, Greater Sydney Local Land Services, NTS Corp, National Native Title Tribunal, and Office of the Registrar, *Aboriginal Land Rights Act 1983*.

Re: Request for Information on Aboriginal Stakeholders for an Aboriginal Cultural Heritage Assessment for part of Precinct 7A Warnervale Road, Warnervale – Lots and Part Lots 1, 2 and 3 DP247082, Lot 1 DP385242, Lot 73, 74, 75 & 76 DP7091, and Lots 1, 2 and 3 DP1101086.

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Part Precinct 7A study area, Warnervale Road, Warnervale

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HERITAGE ADVISORS
TO AUSTRALIA AND
THE ASIA PACIFIC

Incorporating AHMS and Futurepast

5 May 2017

Greater Sydney Local Land Services
Attn: Margaret Bottrell

margaret.bottrell@lls.nsw.gov.au

Cc: Central Coast Council, Office of Environment and Heritage, Darkinjung Local Aboriginal Land Council, Greater Sydney Local Land Services, NTS Corp, National Native Title Tribunal, and Office of the Registrar, *Aboriginal Land Rights Act 1983*.

Re: Request for Information on Aboriginal Stakeholders for an Aboriginal Cultural Heritage Assessment for part of Precinct 7A Warnervale Road, Warnervale – Lots and Part Lots 1, 2 and 3 DP247082, Lot 1 DP385242, Lot 73, 74, 75 & 76 DP7091, and Lots 1, 2 and 3 DP1101086.

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HERITAGE ADVISORS
TO AUSTRALIA AND
THE ASIA PACIFIC

Incorporating AHMS and Futurepast

5 May 2017

NTS Corp

General Manager

PO Box 2105

Strawberry Hills NSW 2012

information@ntscorp.com.au

Cc: Central Coast Council, Office of Environment and Heritage, Darkinjung Local Aboriginal Land Council, Greater Sydney Local Land Services, NTS Corp, National Native Title Tribunal, and Office of the Registrar, *Aboriginal Land Rights Act 1983*.

Re: Request for Information on Aboriginal Stakeholders for an Aboriginal Cultural Heritage Assessment for part of Precinct 7A Warnervale Road, Warnervale – Lots and Part Lots 1, 2 and 3 DP247082, Lot 1 DP385242, Lot 73, 74, 75 & 76 DP7091, and Lots 1, 2 and 3 DP1101086.

Dear Sir/Madam,

Extent Heritage Pty Ltd has been commissioned by ADW Johnson, on behalf of AV Jennings (the proponent), to prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR) for a proposed rezoning and residential redevelopment within Lots and Part Lots 1, 2 and 3 DP247082, Lot 1 DP385242, Lot 73, 74, 75 DP7091, and Lots 1 and 2 DP1101086 Precinct 7a, Warnervale Road, Warnervale, NSW (see attached map). The land in question is within the Central Coast Local Government Area.

The proponent's contact details are: AV Jennings C/- Stephanie Van Dissel, Senior Town Planner, ADW Johnson, PO Box 3717, Tuggerah NSW 2259.

In accordance with the NSW Office of Environment and Heritage's (OEH) *Aboriginal cultural heritage consultation requirements for proponents 2010*, I am writing to you to seek information on relevant Aboriginal individuals and/or communities that you are aware of, who may hold cultural knowledge for the area relevant to determining the significance of Aboriginal objects and/or places. It would be appreciated if you could provide this information to me at the Sydney address below or by email to tbryant@extent.com.au.

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ACN 608 666 306

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info@extent.com.au

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PERTH

25/108 St Georges Tce

Perth WA 6000

P 08 9381 5206

SYDNEY

3/73 Union St

Pymont NSW 2009

P 02 9555 4000

F 02 9555 7005

Please don't hesitate to contact me on (02) 9555 4000 if you have any queries or concerns.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Tessa Bryant', with a stylized flourish at the end.

Dr Tessa Bryant • Heritage Advisor

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Part Precinct 7A study area, Warnervale Road, Warnervale

Request for Search of Tribunal Registers

Search for overlapping interests

DO NOT use for searches over freehold land.

1. Your details

NAME: Tessa Bryant
POSITION: Archaeologist
COMPANY/ORGANISATION: Extent Heritage
POSTAL ADDRESS: 3/73 Union Street, Pyrmont, NSW 2009
TELEPHONE: 02 9555 4000
EMAIL: tbryant@extent.com.au
YOUR REFERENCE: SYD15242
DATE OF REQUEST: 5 May 2017

2. Reason for your request

Are you a party to a native title proceeding? Yes No

Please provide Federal Court/Tribunal file number/or application name:

OR

Do you need to identify existing native title interests to comply with the *Native Title Act 1993* (Cth) or other State/Territory legislation?

Yes No

Please provide brief details of these obligations here:

NSW National Parks and Wildlife Act 1974 Aboriginal community consultation

3. Identify the area to be searched

Mining tenure

If there is insufficient room please attach a clearly typed list of tenement references.

State/Territory: _____
Tenement ref/s: _____

OR

Crown land / non freehold tenure

Tenure type: New South Wales
State/Territory: _____
Lot and plan details: Lots 1, 2 and 3 DP247082, Lot 1 DP385242, Lot 73, 74, 75 & 76 DP7091, and Lots 1, 2 and 3 DP1101086.
Pastoral Lease number or name: Warnervale, County of Northumberland, Parish of
Other details: (Town/County/Parish/ Section/Hundred/Portion): Munmorah

Lease Reserve or other Crown land

Email completed form to : enquiries@nntt.gov.au

Please refer to the link to our website for further information:

<http://www.nntt.gov.au/nativetitleclaims/Pages/Native-title-claims-and-freehold-land.aspx>

EXTENT



HERITAGE ADVISORS
TO AUSTRALIA AND
THE ASIA PACIFIC

Incorporating AHMS and Futurepast

5 May 2017

Office of Environment and Heritage Regional Operations Group Hunter Central Coast Region

Nicole Davis

Locked Bag 1002

Dangar NSW2309

Nicole.Davis@environment.nsw.gov.au

Cc: Central Coast Council, Office of Environment and Heritage, Darkinjung Local Aboriginal Land Council, Greater Sydney Local Land Services, NTS Corp, National Native Title Tribunal, and Office of the Registrar, *Aboriginal Land Rights Act 1983*.

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Part Precinct 7A study area, Warnervale Road, Warnervale

REQUEST FOR SEARCH OF LAND CLAIM REGISTER



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

Please print all details clearly using block letters

Full name of person requesting search: (name for correspondence)

Tessa Bryant

Name of company:

Extent Heritage

Postal address:

3173 Union Street
Pyrmont
NSW 2009

Telephone number:

02 9555 4000

Fax number:

02 9555 7005

Land identifiers:

(lot, dp, reserve number –
not crown plan number or vol id)

Lots 1, 2 and 3 DP247083, Lot 1 DP385242
Lot 73, 74, 75, DP7091, Lot 1, 2 and 3 DP1101086

Parish name:

Munmorah

County name:

Northumberland

To assist the office in assigning priorities, please answer the following:

1) Purpose for which information is required:

To identify whether there are any registered land claims for the above area, so as to identify any Aboriginal community members who may wish to be consulted as part of OEH's Aboriginal community consultation requirements.

2) If urgent consideration is required, reason for urgency:

Signature, position and date:

Tessa Bryant, Archaeologist
5/05/2017

Please note:

1. Searches are completed within 5 working days and returned by ordinary mail.
2. The register covers only crown land.
3. All information is required including a name for correspondence before the search will be completed.
4. The person to whom correspondence is addressed must sign the form.

Tessa Bryant

From: Alan Williams
Sent: Wednesday, 17 May 2017 11:05 AM
To: 'kevin.duncan@bigpond.com'
Subject: 15-41 Warnervale Road, Warnervale - Project Notification
Attachments: SYD15242_Notification_Duncan_17May17.pdf

Dear Kevin,

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

Best wishes
AI

Dr. Alan Williams FSA MAACAI | Aboriginal Heritage Team Leader
EXTENT Heritage Pty Ltd
www.extent.com.au | awilliams@extent.com.au
M: 0428 810 150



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Climate Change Research Centre, School of Biological, Earth and Environmental Sciences
University of New South Wales,
Sydney, NSW 2052

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<http://rspb.royalsocietypublishing.org/content/280/1761/20130486.short?rss=1>

See my latest research article on human refuges during the Last Glacial Maximum at:
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See my latest research article on the identification of one of the earliest sites in Australia as part of compliance-based excavations in northwest Sydney at: <http://onlinelibrary.wiley.com/doi/10.1002/jqs.2742/abstract>

See my latest research article on correlations between Aboriginal populations and landscape burning across Australia:

<http://www.sciencedirect.com/science/article/pii/S0031018215002400>

See my latest research article on the emergence of complex societies in Aboriginal Australia over the last 10,000 years:

<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0128661>

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17 May 2017

Kevin Duncan
95 Moala Parade
Charmhaven NSW 2263

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Notification of Project Proposal.

Dear Kevin,

In accordance with the NSW Office of Environment and Heritage's (OEH) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, I am writing to notify you that Extent Heritage has been engaged by ADW Johnson, on behalf of AV Jennings (the proponent), to prepare an Aboriginal Cultural Heritage Assessment report (ACHAR) for proposed rezoning and residential redevelopment at Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale (see attached map). The land in question is within the Central Coast Local Government Area.

The proponent contact details are: AV Jennings C/- Stephanie Van Dissel, Senior Town Planner, ADW Johnson, PO Box 3717, Tuggerah NSW 2259.

Extent Heritage will be undertaking the assessment in accordance with the relevant OEH guidelines. An important part of the assessment will be Aboriginal community consultation that aims to identify cultural values and places of importance within the study area. The purpose of the consultation is to assist the proponent in preparing the ACHAR for the study area, and if necessary to assist OEH in considering the assessment and any Aboriginal Heritage Impact Permit (AHIP) application.

We are inviting registrations from Aboriginal individuals and/or organisations, who may hold relevant cultural knowledge for determining the Aboriginal cultural heritage of the area, and who wish to be involved in the community consultation process. If you or your organisation is interested in being part of the consultation process, please provide a registration of interest to Tessa Bryant at the Sydney address below or by email to tbryant@extent.com.au.

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P 02 9555 4000
F 02 9555 7005

Registrations are requested by **31 May2017**.

To assist us with communicating project information effectively, it would be appreciated if you could include the following information in your registration of interest:

1. A clear identification of the organisation registering an interest in the project.
2. Your preferred method of communication with Extent Heritage and the proponent during consultation for this project, including a nominated contact person and contact details.
3. Comment on the level of consultation/project involvement you wish to have. Do you wish to be actively involved in heritage identification, assessment and management, or do you only want to be kept informed about the assessment process and outcomes?
4. If you wish to be involved in any meetings or fieldwork, please ensure we have current copies of your public liability, workers compensation and professional indemnity insurances (if available) as soon as possible.

As part of the consultation process we are obliged to provide the contact details of registered parties to OEH and Darkinjung Local Aboriginal Land Council, unless instructed otherwise. Please advise us if you do not wish this to occur.

Please also consider the following, but note that these issues can also be discussed over the course of the project:

1. Guidance on the protocols, sensitivity, use and/or distribution of any cultural information that you provide to Extent Heritage and the proponent as part of this project;
2. Identification of any Aboriginal objects or places of cultural significance that you are aware of within or in the vicinity of the proposed activity area.

Please don't hesitate to contact me on (02) 9555 4000 if you have any queries or concerns.

Yours sincerely,



Dr Tessa Bryant • Heritage Advisor
Extent Heritage

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Part Precinct 7A study area, 15-41 Warnervale Road, Warnervale

From: Alan Williams
Sent: Wednesday, 17 May 2017 11:06 AM
To: kerrie@awabakal.com.au
Subject: 15-41 Warnervale Road, Warnervale - Project Notification
Attachments: SYD15242_Notification_ATOAC_17May17.pdf

Dear Kerrie

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

Best wishes
Al

Dr. Alan Williams FSA MAACAI | Aboriginal Heritage Team Leader
EXTENT Heritage Pty Ltd
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M: 0428 810 150



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Climate Change Research Centre, School of Biological, Earth and Environmental Sciences
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<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0128661>

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17 May 2017

Kerrie Brauer
Awabakal Traditional Owners Corporation
PO Box 253
Jesmond NSW 2299

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Notification of Project Proposal.

Dear Kerrie,

In accordance with the NSW Office of Environment and Heritage's (OEH) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, I am writing to notify you that Extent Heritage has been engaged by ADW Johnson, on behalf of AV Jennings (the proponent), to prepare an Aboriginal Cultural Heritage Assessment report (ACHAR) for proposed rezoning and residential redevelopment at Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale (see attached map). The land in question is within the Central Coast Local Government Area.

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Registrations are requested by **31 May2017**.

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Yours sincerely,



Dr Tessa Bryant • Heritage Advisor
Extent Heritage

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Part Precinct 7A study area, 15-41 Warnervale Road, Warnervale

From: Alan Williams
Sent: Wednesday, 17 May 2017 11:09 AM
To: Sharon Hodgetts (SHodgetts@dlalc.org.au)
Cc: Amanda Shields
Subject: 15-41 Warnervale Road, Warnervale - Project Notification
Attachments: SYD15242_Notification_DLALC_17May17.pdf

Dear Sharon,

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

Best wishes
AI

Dr. Alan Williams FSA MAACAI | Aboriginal Heritage Team Leader
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17 May 2017

Sharon Hodgetts
Darkinjung LALC
PO Box 401
Wyong NSW 2259

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Notification of Project Proposal.

Dear Sharon,

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Part Precinct 7A study area, 15-41 Warnervale Road, Warnervale

From: Alan Williams
Sent: Wednesday, 17 May 2017 11:06 AM
To: 'Tracey Howie'
Subject: 15-41 Warnervale Road, Warnervale - Project Notification
Attachments: SYD15242_Notification_GTLAC_17May17.pdf

Dear Tracey,

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

Best wishes
AI

Dr. Alan Williams FSA MAACA | Aboriginal Heritage Team Leader
EXTENT Heritage Pty Ltd
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Honorary Associate Lecturer
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University of New South Wales,
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17 May 2017

Tracey Howie
Guringai Tribal Link Aboriginal Corporation
PO Box 4061
Wyongah NSW 2259

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Notification of Project Proposal.

Dear Tracey,

In accordance with the NSW Office of Environment and Heritage's (OEH) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, I am writing to notify you that Extent Heritage has been engaged by ADW Johnson, on behalf of AV Jennings (the proponent), to prepare an Aboriginal Cultural Heritage Assessment report (ACHAR) for proposed rezoning and residential redevelopment at Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale (see attached map). The land in question is within the Central Coast Local Government Area.

The proponent contact details are: AV Jennings C/- Stephanie Van Dissel, Senior Town Planner, ADW Johnson, PO Box 3717, Tuggerah NSW 2259.

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We are inviting registrations from Aboriginal individuals and/or organisations, who may hold relevant cultural knowledge for determining the Aboriginal cultural heritage of the area, and who wish to be involved in the community consultation process. If you or your organisation is interested in being part of the consultation process, please provide a registration of interest to Tessa Bryant at the Sydney address below or by email to tbryant@extent.com.au.

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Please don't hesitate to contact me on (02) 9555 4000 if you have any queries or concerns.

Yours sincerely,



Dr Tessa Bryant • Heritage Advisor
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Part Precinct 7A study area, 15-41 Warnervale Road, Warnervale

From: Alan Williams
Sent: Wednesday, 17 May 2017 11:10 AM
To: 'lowerhunterai@gmail.com'
Subject: 15-41 Warnervale Road, Warnervale - Project Notification
Attachments: SYD15242_Notification_LHAI_17May17.pdf

Dear David,

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

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17 May 2017

David Ahoy
Lower Hunter Aboriginal Incorporated
5 Killara Drive
Cardiff South NSW 2285

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Notification of Project Proposal.

Dear David,

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working beyond expectations

Part Precinct 7A study area, 15-41 Warnervale Road, Warnervale



17 May 2017

Roger Matthews
Roger Matthews Consultancy
15 Parkingson Avenue
Muswellbrook NSW 2333

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Notification of Project Proposal.

Dear Roger,

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Part Precinct 7A study area, 15-41 Warnervale Road, Warnervale

From: Alan Williams
Sent: Wednesday, 17 May 2017 11:07 AM
To: 'Des Hickey (deshickey@bigpond.com)'
Subject: 15-41 Warnervale Road, Warnervale - Project Notification
Attachments: SYD15242_Notification_Wattaka_17May17.pdf

Dear Des,

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

Best wishes
AI

Dr. Alan Williams FSA MAACAI | Aboriginal Heritage Team Leader
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17 May 2017

Des Hickey
Wattaka Wonnarua CC Service
4 Kennedy Street
Singleton NSW 2330

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Notification of Project Proposal.

Dear Des,

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Part Precinct 7A study area, 15-41 Warnervale Road, Warnervale

From: Alan Williams
Sent: Wednesday, 17 May 2017 11:08 AM
To: Steven Hickey (Widescope.group@live.com)
Subject: 15-41 Warnervale Road, Warnervale - Project Notification
Attachments: SYD15242_Notification_Widescope_17May17.pdf

Dear Steve

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Best wishes
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17 May 2017

Steve Hickey
Widescope Indigenous Group Pty Ltd
73 Russell St
Emu Plains NSW 2750

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Notification of Project Proposal.

Dear Steve,

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3. Comment on the level of consultation/project involvement you wish to have. Do you wish to be actively involved in heritage identification, assessment and management, or do you only want to be kept informed about the assessment process and outcomes?
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As part of the consultation process we are obliged to provide the contact details of registered parties to OEH and Darkinjung Local Aboriginal Land Council, unless instructed otherwise. Please advise us if you do not wish this to occur.

Please also consider the following, but note that these issues can also be discussed over the course of the project:

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Please don't hesitate to contact me on (02) 9555 4000 if you have any queries or concerns.

Yours sincerely,



Dr Tessa Bryant • Heritage Advisor
Extent Heritage

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Tessa Bryant

From: Alan Williams
Sent: Wednesday, 17 May 2017 11:10 AM
To: 'Wonn1sites@gmail.com'
Subject: 15-41 Warnervale Road, Warnervale - Project Notification
Attachments: SYD15242_Notification_Wonn1_17May17.pdf

Dear Arthur

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

Best wishes
AI

Dr. Alan Williams FSA MAACAI | Aboriginal Heritage Team Leader
EXTENT Heritage Pty Ltd
www.extent.com.au | awilliams@extent.com.au
M: 0428 810 150



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17 May 2017

Arthur Fletcher
Wonn1 Contracting
619 Main Road
Glendale NSW 2285

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Notification of Project Proposal.

Dear Arthur,

In accordance with the NSW Office of Environment and Heritage's (OEH) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, I am writing to notify you that Extent Heritage has been engaged by ADW Johnson, on behalf of AV Jennings (the proponent), to prepare an Aboriginal Cultural Heritage Assessment report (ACHAR) for proposed rezoning and residential redevelopment at Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale (see attached map). The land in question is within the Central Coast Local Government Area.

The proponent contact details are: AV Jennings C/- Stephanie Van Dissel, Senior Town Planner, ADW Johnson, PO Box 3717, Tuggerah NSW 2259.

Extent Heritage will be undertaking the assessment in accordance with the relevant OEH guidelines. An important part of the assessment will be Aboriginal community consultation that aims to identify cultural values and places of importance within the study area. The purpose of the consultation is to assist the proponent in preparing the ACHAR for the study area, and if necessary to assist OEH in considering the assessment and any Aboriginal Heritage Impact Permit (AHIP) application.

We are inviting registrations from Aboriginal individuals and/or organisations, who may hold relevant cultural knowledge for determining the Aboriginal cultural heritage of the area, and who wish to be involved in the community consultation process. If you or your organisation is interested in being part of the consultation process, please provide a registration of interest to Tessa Bryant at the Sydney address below or by email to tbryant@extent.com.au.

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Part Precinct 7A study area, 15-41 Warnervale Road, Warnervale

From: Alan Williams
Sent: Wednesday, 17 May 2017 11:08 AM
To: Kathie Kinchela (yinarrculturalservices@gmail.com)
Subject: 15-41 Warnervale Road, Warnervale - Project Notification
Attachments: SYD15242_Notification_Yinarr_17May17.pdf

Dear Kathleen,

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

Best wishes
Al

Dr. Alan Williams FSA MAACA | Aboriginal Heritage Team Leader
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www.extent.com.au | awilliams@extent.com.au
M: 0428 810 150



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17 May 2017

Kathleen Steward
Yinarr Cultural Services
111 Westwood Road
Gungahlin NSW 2333

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Notification of Project Proposal.

Dear Kathleen,

In accordance with the NSW Office of Environment and Heritage's (OEH) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, I am writing to notify you that Extent Heritage has been engaged by ADW Johnson, on behalf of AV Jennings (the proponent), to prepare an Aboriginal Cultural Heritage Assessment report (ACHAR) for proposed rezoning and residential redevelopment at Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale (see attached map). The land in question is within the Central Coast Local Government Area.

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working beyond expectations

Part Precinct 7A study area, 15-41 Warnervale Road, Warnervale

Appendix 2-5. Notification Documentation Sent and Registrations Received

Tessa Bryant

From: Alan Williams
Sent: Wednesday, 17 May 2017 11:05 AM
To: 'kevin.duncan@bigpond.com'
Subject: 15-41 Warnervale Road, Warnervale - Project Notification
Attachments: SYD15242_Notification_Duncan_17May17.pdf

Dear Kevin,

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

Best wishes
AI

Dr. Alan Williams FSA MAACAI | Aboriginal Heritage Team Leader
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17 May 2017

Kevin Duncan
95 Moala Parade
Charmhaven NSW 2263

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Notification of Project Proposal.

Dear Kevin,

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Part Precinct 7A study area, 15-41 Warnervale Road, Warnervale

From: Alan Williams
Sent: Wednesday, 17 May 2017 11:06 AM
To: kerrie@awabakal.com.au
Subject: 15-41 Warnervale Road, Warnervale - Project Notification
Attachments: SYD15242_Notification_ATOAC_17May17.pdf

Dear Kerrie

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

Best wishes
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Dr. Alan Williams FSA MAACAI | Aboriginal Heritage Team Leader
EXTENT Heritage Pty Ltd
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17 May 2017

Kerrie Brauer
Awabakal Traditional Owners Corporation
PO Box 253
Jesmond NSW 2299

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Notification of Project Proposal.

Dear Kerrie,

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From: Alan Williams
Sent: Wednesday, 17 May 2017 11:09 AM
To: Sharon Hodgetts (SHodgetts@dlalc.org.au)
Cc: Amanda Shields
Subject: 15-41 Warnervale Road, Warnervale - Project Notification
Attachments: SYD15242_Notification_DLALC_17May17.pdf

Dear Sharon,

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

Best wishes
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Dr. Alan Williams FSA MAACAI | Aboriginal Heritage Team Leader
EXTENT Heritage Pty Ltd
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Honorary Associate Lecturer
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University of New South Wales,
Sydney, NSW 2052

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17 May 2017

Sharon Hodgetts
Darkinjung LALC
PO Box 401
Wyong NSW 2259

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Notification of Project Proposal.

Dear Sharon,

In accordance with the NSW Office of Environment and Heritage's (OEH) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, I am writing to notify you that Extent Heritage has been engaged by ADW Johnson, on behalf of AV Jennings (the proponent), to prepare an Aboriginal Cultural Heritage Assessment report (ACHAR) for proposed rezoning and residential redevelopment at Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale (see attached map). The land in question is within the Central Coast Local Government Area.

The proponent contact details are: AV Jennings C/- Stephanie Van Dissel, Senior Town Planner, ADW Johnson, PO Box 3717, Tuggerah NSW 2259.

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As part of the consultation process we are obliged to provide the contact details of registered parties to OEH and Darkinjung Local Aboriginal Land Council, unless instructed otherwise. Please advise us if you do not wish this to occur.

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Please don't hesitate to contact me on (02) 9555 4000 if you have any queries or concerns.

Yours sincerely,



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Part Precinct 7A study area, 15-41 Warnervale Road, Warnervale

From: Alan Williams
Sent: Wednesday, 17 May 2017 11:06 AM
To: 'Tracey Howie'
Subject: 15-41 Warnervale Road, Warnervale - Project Notification
Attachments: SYD15242_Notification_GTLAC_17May17.pdf

Dear Tracey,

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

Best wishes
AI

Dr. Alan Williams FSA MAACA | Aboriginal Heritage Team Leader

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17 May 2017

Tracey Howie
Guringai Tribal Link Aboriginal Corporation
PO Box 4061
Wyongah NSW 2259

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Notification of Project Proposal.

Dear Tracey,

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Yours sincerely,



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working beyond expectations

Part Precinct 7A study area, 15-41 Warnervale Road, Warnervale

From: Alan Williams
Sent: Wednesday, 17 May 2017 11:10 AM
To: 'lowerhunterai@gmail.com'
Subject: 15-41 Warnervale Road, Warnervale - Project Notification
Attachments: SYD15242_Notification_LHAI_17May17.pdf

Dear David,

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

Best wishes
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17 May 2017

David Ahoy
Lower Hunter Aboriginal Incorporated
5 Killara Drive
Cardiff South NSW 2285

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Notification of Project Proposal.

Dear David,

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A	21.04.11	FINAL ISSUE	MT	JV		DATE: N/A CONTOUR INTERVAL: 0.5m	scale (A1 original size)	

drawing title:
CATCHMENT PLAN & STORMWATER LAYOUT

location: 15-41 WARNERVALE RD, WARNERVALE

client: CENTRAL COAST COUNCIL

dwg ref: 190251-EX-004

client:
AVJennings **adw johnson**

central coast office: ph: 071 435 4300
humber office: ph: 081 482 5200
www.adwjohnson.com.au

Part Precinct 7A study area, 15-41 Warnervale Road, Warnervale



17 May 2017

Roger Matthews
Roger Matthews Consultancy
15 Parkingson Avenue
Muswellbrook NSW 2333

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Notification of Project Proposal.

Dear Roger,

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Part Precinct 7A study area, 15-41 Warnervale Road, Warnervale

From: Alan Williams
Sent: Wednesday, 17 May 2017 11:07 AM
To: 'Des Hickey (deshickey@bigpond.com)'
Subject: 15-41 Warnervale Road, Warnervale - Project Notification
Attachments: SYD15242_Notification_Wattaka_17May17.pdf

Dear Des,

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

Best wishes
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17 May 2017

Des Hickey
Wattaka Wonnarua CC Service
4 Kennedy Street
Singleton NSW 2330

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Registrations are requested by **31 May2017**.

To assist us with communicating project information effectively, it would be appreciated if you could include the following information in your registration of interest:

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2. Identification of any Aboriginal objects or places of cultural significance that you are aware of within or in the vicinity of the proposed activity area.

Please don't hesitate to contact me on (02) 9555 4000 if you have any queries or concerns.

Yours sincerely,



Dr Tessa Bryant • Heritage Advisor
Extent Heritage

Extent Heritage Pty Ltd

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ACN 608 666 306
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working beyond expectations

Part Precinct 7A study area, 15-41 Warnervale Road, Warnervale

From: Alan Williams
Sent: Wednesday, 17 May 2017 11:08 AM
To: Steven Hickey (Widescope.group@live.com)
Subject: 15-41 Warnervale Road, Warnervale - Project Notification
Attachments: SYD15242_Notification_Widescope_17May17.pdf

Dear Steve

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

Best wishes
AI

Dr. Alan Williams FSA MAACA | Aboriginal Heritage Team Leader
EXTENT Heritage Pty Ltd
www.extent.com.au | awilliams@extent.com.au
M: 0428 810 150



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Honorary Associate Lecturer
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17 May 2017

Steve Hickey
Widescope Indigenous Group Pty Ltd
73 Russell St
Emu Plains NSW 2750

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Notification of Project Proposal.

Dear Steve,

In accordance with the NSW Office of Environment and Heritage's (OEH) *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, I am writing to notify you that Extent Heritage has been engaged by ADW Johnson, on behalf of AV Jennings (the proponent), to prepare an Aboriginal Cultural Heritage Assessment report (ACHAR) for proposed rezoning and residential redevelopment at Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale (see attached map). The land in question is within the Central Coast Local Government Area.

The proponent contact details are: AV Jennings C/- Stephanie Van Dissel, Senior Town Planner, ADW Johnson, PO Box 3717, Tuggerah NSW 2259.

Extent Heritage will be undertaking the assessment in accordance with the relevant OEH guidelines. An important part of the assessment will be Aboriginal community consultation that aims to identify cultural values and places of importance within the study area. The purpose of the consultation is to assist the proponent in preparing the ACHAR for the study area, and if necessary to assist OEH in considering the assessment and any Aboriginal Heritage Impact Permit (AHIP) application.

We are inviting registrations from Aboriginal individuals and/or organisations, who may hold relevant cultural knowledge for determining the Aboriginal cultural heritage of the area, and who wish to be involved in the community consultation process. If you or your organisation is interested in being part of the consultation process, please provide a registration of interest to Tessa Bryant at the Sydney address below or by email to tbryant@extent.com.au.

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Yours sincerely,



Dr Tessa Bryant • Heritage Advisor
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Part Precinct 7A study area, 15-41 Warnervale Road, Warnervale

Tessa Bryant

From: Alan Williams
Sent: Wednesday, 17 May 2017 11:10 AM
To: 'Wonn1sites@gmail.com'
Subject: 15-41 Warnervale Road, Warnervale - Project Notification
Attachments: SYD15242_Notification_Wonn1_17May17.pdf

Dear Arthur

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

Best wishes
AI

Dr. Alan Williams FSA MAACAI | Aboriginal Heritage Team Leader
EXTENT Heritage Pty Ltd
www.extent.com.au | awilliams@extent.com.au
M: 0428 810 150



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17 May 2017

Arthur Fletcher
Wonn1 Contracting
619 Main Road
Glendale NSW 2285

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Notification of Project Proposal.

Dear Arthur,

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Yours sincerely,



Dr Tessa Bryant • Heritage Advisor
Extent Heritage

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Part Precinct 7A study area, 15-41 Warnervale Road, Warnervale

From: Alan Williams
Sent: Wednesday, 17 May 2017 11:08 AM
To: Kathie Kinchela (yinarrculturalservices@gmail.com)
Subject: 15-41 Warnervale Road, Warnervale - Project Notification
Attachments: SYD15242_Notification_Yinarr_17May17.pdf

Dear Kathleen,

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

Best wishes
Al

Dr. Alan Williams FSA MAACA | Aboriginal Heritage Team Leader
EXTENT Heritage Pty Ltd
www.extent.com.au | awilliams@extent.com.au
M: 0428 810 150



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17 May 2017

Kathleen Steward
Yinarr Cultural Services
111 Westwood Road
Gungah NSW 2333

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Notification of Project Proposal.

Dear Kathleen,

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Please don't hesitate to contact me on (02) 9555 4000 if you have any queries or concerns.

Yours sincerely,



Dr Tessa Bryant • Heritage Advisor
Extent Heritage

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Part Precinct 7A study area, 15-41 Warnervale Road, Warnervale

From: Carolyn .H <cazadirect@live.com>
Sent: Monday, 22 May 2017 12:58 PM
To: Tessa Bryant
Subject: Registration / Warnervale Road, Warnervale
Attachments: A1PLInsurance2018.pdf; AHCS.PLInsurance2018.pdf

A1 Indigenous Services

Contact: Carolyn
M: 0411650057
E: Cazadirect@live.com
A: 73 Russell St, Emu Plains NSW 2750
ABN: 20 616 970 327

Amanda Hickey Cultural Services

Contact : Amanda Hickey
Address : 73 Russell Street, Emu Plains
Email ; amandahickey@live.com.au
Mobile : 0434 480 558
ABN : 498 242 132 40

Hi Tessa,

A1 Indigenous Services and **Amanda Hickey Cultural Services** would like to register for consultation and an field work for this project, We hold cultural knowledge of this area.

Insurances Attached.

Thank you

Carolyn Hickey

Amanda Hickey DeZwart

From: kerrie@awabakal.com.au
Sent: Monday, 29 May 2017 3:40 PM
To: Alan Williams
Cc: peterleven@y7mail.com; tracey@guringai.com.au
Subject: RE: Registration of Interest for the Warnervale Road, Warnervale Project

Hi Alan,

Just wanted to let you know that ATOAC would like to register our Interest regarding the Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Notification of Project Proposal.

We wish to be consulted with regard to the Aboriginal Cultural Heritage being undertaken as participants in the consultation process for the proposed project.

Our representatives are experienced in providing information regarding our Cultural Heritage and also have the training and experience to identify cultural material. Our Certificates of Currency and Terms of Engagement details, while readily available, will be forwarded separately as we consider this information to be personal and confidential information which should not be included within the correspondence for the draft report.

Our preferred method of communication is by email or by mobile phone, and we prefer that our details are not given to the Darkinjung Local Aboriginal Land Council.

We would appreciate confirmation regarding our involvement in the proposed project at your earliest convenience, and If you require any further information please do not hesitate in contacting me.

Kind regards,
Kerrie Brauer
Director | Administration
Applicant
Awabakal & Guringai Registered Native
Title Claimant Group



Kerrie Brauer | Director | Administration | Awabakal Traditional Owners Aboriginal Corporation
M: 04 12 86 63 57 | E: kerrie@awabakal.com.au | www.awabakal.com.au
PO Box 122 Rutherford NSW 2320 Australia

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From: Alan Williams [mailto:awilliams@extent.com.au]
Sent: Wednesday, 17 May 2017 11:06 AM
To: kerrie@awabakal.com.au
Subject: 15-41 Warnervale Road, Warnervale - Project Notification

Dear Kerrie

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

Best wishes
Al

Dr. Alan Williams FSA MAACA | Aboriginal Heritage Team Leader
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From: deshickey@bigpond.com
Sent: Friday, 26 May 2017 8:36 PM
To: Tessa Bryant
Subject: Letter of Interest
Attachments: HVCS Letter.pdf; HVCS Insurance 1.pdf; HVCS Insurance 2.pdf

Hi Tessa Luke asked me to send you his letter of interest, please find attachment letter of interest and insurances if you require any further information please let me know.

Thanks"

Luke



Hunter Valley Cultural Surveying
165 Susan St Scone NSW 2337 Luke Hickey manager
Ph: 0435911820 email: microlith99@gmail.com
ABN: 9631450760

Date: 26th May 2017

To: EXTENT Heritage Advisors
Ph: 02 9555 4000
Email: tbryant@extent.com.au

Attn: Tessa Bryant Heritage Advisor

Re: Aboriginal Cultural Heritage Assessment Report for Lot 1-3 DP247082. Lot 1 DP 385242, Lot 73-76 DP 7091 and Lots 1-3 DP1101086, Warnervale Road, Warnervale-Notification of Project Proposal.

Dear Tessa

Please register my group in this cultural & heritage project we wish to have an active involvement in the works and consultation.

Our preferred method of communication: Email or Phone.
I would prefer our information go to OEH not the LALC.
Please find attachment my groups insurances.
Let me know if you need more information.

Regards

Luke Hickey
Manager

From: Lower Hunter Aboriginal Incorporated <lowerhunterai@gmail.com>
Sent: Monday, 29 May 2017 2:05 PM
To: Tessa Bryant
Cc: Alan Williams
Subject: Re: 15-41 Warnervale Road, Warnervale - Project Notification
Attachments: LHAI Public Liability.pdf; LHAI Workers Comp.pdf

Hi Tessa

On behalf LHAI we would like to register an interest in the project for proposed development on Warnervale Road, Warnervale.
We would like to have a stakeholder meeting take place with Extent and Proponent and also be contacted by email, contact person will be David Ahoy with sites officer Todd Maley.
We request LHAI to be involved in all aspect of project including field work with insurances attached.

Thank You Les Ahoy
Director
LHAI

Lower Hunter Aboriginal Incorporated

5 Killara Drive
Cardiff South NSW 2285
ABN: 8192 4628 138
Email: lowerhunterai@gmail.com



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From: Amanda Shields <amanda.shields@dlalc.org.au>
Sent: Friday, 19 May 2017 10:20 AM
To: Tessa Bryant
Subject: 15-41 Warnervale Road, Warnervale - Registration

Hi Tessa,

Darkinjung would like to register our interest and participation in the project mentioned above.

Thank you,

Kind Regards,

Amanda Shields
Project Officer



Darkinjung Local Aboriginal Land Council

P 02 4351 2930

A 168 Pacific Highway Watanobbi NSW 2259

F 02 4351 2946

M PO Box 401 Wyong NSW 2259

📍 darkinjung.com.au

f [darkinjung](https://www.facebook.com/darkinjung)

*I acknowledge that the land on which I work is the traditional land of the Darkinyung people.
I pay my respects to the Elders, both past and present.*

From: Sharon Hodgetts <SHodgetts@dlaic.org.au>
Sent: Monday, 29 May 2017 5:01 PM
To: Alan Williams
Cc: Amanda Shields
Subject: RE: 15-41 Warnervale Road, Warnervale - Project Notification

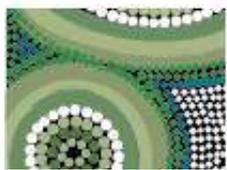
Hi Al

Not sure if we replied to this, yes we would like to be involved in the project.

Regards

Sharon Hodgetts

Senior Culture and Heritage Officer
M- 0467 805 240



Darkinjung Local Aboriginal Land Council

P 02 4351 2930

A 168 Pacific Highway Watanobbi NSW 2259

F 02 4351 2946

M PO Box 401 Wyong NSW 2259

darkinjung.com.au  darkinjung

*I acknowledge that the land on which I work is the traditional land of the Darkinjung people.
I pay my respects to the Elders, both past and present.*



From: Alan Williams [<mailto:awilliams@extent.com.au>]
Sent: Wednesday, 17 May 2017 11:09 AM
To: Sharon Hodgetts
Cc: Amanda Shields
Subject: 15-41 Warnervale Road, Warnervale - Project Notification

Dear Sharon,

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

Best wishes
Al

Dr. Alan Williams FSA MAACAI | Aboriginal Heritage Team Leader

EXTENT Heritage Pty Ltd

www.extent.com.au | awilliams@extent.com.au

M: 0428 810 150



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Climate Change Research Centre, School of Biological, Earth and Environmental Sciences

University of New South Wales,

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See my latest research article on the identification of one of the earliest sites in Australia as part of compliance-based excavations in northwest Sydney at:

<http://onlinelibrary.wiley.com/doi/10.1002/jqs.2742/abstract>

See my latest research article on correlations between Aboriginal populations and landscape burning across Australia:

<http://www.sciencedirect.com/science/article/pii/S0031018215002400>

See my latest research article on the emergence of complex societies in Aboriginal Australia over the last 10,000 years:

<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0128661>

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From: Tracey Howie <tracey@guringai.com.au>
Sent: Monday, 22 May 2017 5:55 PM
To: Alan Williams
Subject: Re: 15-41 Warnervale Road, Warnervale - Project Notification

Dear Alan,

Please register Guringai Tribal Link Aboriginal Corporation as an interested Aboriginal party for the proposed re-development of 15-41 Warnervale Rd, Warnervale project. We wish to participate in all issues/activities relating to our cultural heritage.

Kind regards
Tracey Howie
Director
Guringai Tribal Link Aboriginal Corporation

On 17 May 2017, at 11:06 AM, Alan Williams <awilliams@extent.com.au> wrote:

Dear Tracey,

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

Best wishes
Al

Dr. Alan Williams FSA MAACAI | Aboriginal Heritage Team Leader
EXTENT Heritage Pty Ltd
www.extent.com.au | awilliams@extent.com.au
M: 0428 810 150

<image001.jpg>

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<SYD15242_Notification_GTLAC_17May17.pdf>

From: WIDESCOPE . <widescope.group@live.com>
Sent: Monday, 22 May 2017 12:01 PM
To: Tessa Bryant
Subject: EOI community consultation process. Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale

Hi Tessa

I would like to register my interest in the community consultation process, for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale –

Thank you

Steven Hickey

From: deshickey@bigpond.com
Sent: Monday, 29 May 2017 6:49 PM
To: Tessa Bryant
Attachments: W. letter 1.pdf

Hi Tessa please find attachment letter of interest for my group
Thanks"
Des



Wattaka Wonnarua Cultural Consultancy Services
Des Hickey manager 4 Kennedy St Singleton NSW 2330
Email: deshickey@bigpond.com Ph: 0432977178
ABN: 57914734912.

Date: 26th May 2017

To: EXTENT Heritage Advisors
Ph: 02 9555 4000
Email: tbryant@extent.com.au

Attn: Tessa Bryant heritage Advisor

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1-3 DP247082. Lot 1 DP385242, Lot 73-76 DP7091 and Lots 1-3 DP1101086, Warnervale Road, Warnervale-Notification of Project Proposal.

Dear Tessa

Thank you for your email dated the 17th May 2017 concerning the above said project
Please register my groups interest in consultation and active involvement in any cultural & heritage work that may come from this project.

Our preferred method of communication: Email or Phone
We would prefer our information only go to OEHL and not the LALC
Also please find attachment insurances.
If you require any further information please call or email.

Regards
Des Hickey

From: deshickey@bigpond.com
Sent: Friday, 26 May 2017 7:51 PM
To: Alan Williams; Tessa Bryant
Subject: Re: 15-41 Warnervale Road, Warnervale - Project Notification
Attachments: Valley ELM Corp letter.pdf; Valley ELM Corp Insurance 1.pdf; Valley ELM Corp Insurance 2.pdf

Hi Tessa please find attachment letter of interest and insurances, please let me know that you have received and can open Thanks"

Des

-----Original Message-----

From: Alan Williams
Sent: Wednesday, May 17, 2017 3:03 PM
To: deshickey@bigpond.com
Subject: RE: 15-41 Warnervale Road, Warnervale - Project Notification

Hi Des,

Sorry re-attached

A

Dr. Alan Williams FSA MAACAI | Aboriginal Heritage Team Leader EXTENT Heritage Pty Ltd
T: 02 9555 4000 | M: 0428 810 150

-----Original Message-----

From: deshickey@bigpond.com [<mailto:deshickey@bigpond.com>]
Sent: Wednesday, May 17, 2017 14:13
To: Alan Williams <awilliams@extent.com.au>
Subject: Re: 15-41 Warnervale Road, Warnervale - Project Notification

G'day Al' there were no attached letter

Des

-----Original Message-----

From: Alan Williams
Sent: Wednesday, May 17, 2017 11:06 AM
To: 'Des Hickey (deshickey@bigpond.com)'
Subject: 15-41 Warnervale Road, Warnervale - Project Notification

Dear Des,

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

Best wishes

Al

Dr. Alan Williams FSA MAACAI | Aboriginal Heritage Team Leader EXTENT Heritage Pty Ltd
www.extent.com.au<<http://www.extent.com.au>> |
awilliams@extent.com.au<<mailto:awilliams@extent.com.au>>
M: 0428 810 150

[[cid:image001.jpg@01D2CEFD.67E34100](#)]

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Honorary Associate Lecturer
Climate Change Research Centre, School of Biological, Earth and Environmental Sciences University of New
South Wales, Sydney, NSW 2052

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**Aboriginal Corporation: Email: valleyelmcorp@bigpond.com Ph: 0432977178
4 Kennedy St Singleton 2330 ABN: 42289115689 Des Hickey contact person.**

To: EXTENT Heritage Advisors
Ph: 02 9555 4000
Email: tbryant@extent.com.au

Attn: Tessa Bryant heritage Advisor

**Re: Aboriginal Cultural Heritage Assessment Report for Lots 1-3 DP247082. Lot 1
DP385242, Lot 73-76 DP7091 and Lots 1-3 DP1101086, Warnervale Road,
Warnervale-Notification of Project Proposal.**

Dear Tessa

Thank you for your email dated the 17th May 2017 concerning the above said project
Please register my Corporation interest in consultation and active involvement in any cultural &
heritage work that may come from this project.

Our preferred method of communication: Email or Phone
We would prefer our information only go to OEH and not the LALC
Also please find attachment insurances.
If you require any further information please call or email.

Regards

Des Hickey
Director

Tessa Bryant

From: Alan Williams
Sent: Monday, 18 September 2017 1:09 PM
To: Wolf; dontminemeay@gmail.com
Cc: Tessa Bryant
Subject: RE: 15-41 Warnervale Road, Warnervale - Project Notification

Thanks Kathie,

Received
AI

Dr. Alan Williams FSA MAACAI | Aboriginal Heritage Team Leader
EXTENT Heritage Pty Ltd
T: 02 9555 4000 | M: 0428 810 150

From: Wolf [mailto:yinarrculturalservices@gmail.com]
Sent: Monday, September 18, 2017 12:21
To: Alan Williams <awilliams@extent.com.au>; Mum <yinarrculturalservices@gmail.com>; dontminemeay@gmail.com
Subject: Re: 15-41 Warnervale Road, Warnervale - Project Notification

Dear Alan,

Please find enclosed Yinarr Cultural Services expression of interest for the above project together with current insurances attached with documents needed for your records.

In regards to the above project we ask if there is any paperwork that needs to be viewed would you be able to mail and email them to Yinarr Cultural Services so we can have time to comment on them please.

If there are any questions or information you may have please do not hesitate in contacting us either by Mobile 0475 436 589 (Leave message if needed), or Email: yinarrculturalservices@gmail.com or dontminemeay@gmail.com.

Would you be able to confirm receipt of this email please. Thank you.

Kind Regards,

Kathie Steward Kinchela
Yinarr Cultural Services
Discover, Preserve, Protect
Encl.

On Wed, May 17, 2017 at 11:08 AM, Alan Williams <awilliams@extent.com.au> wrote:

Dear Kathleen,

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

Best wishes

Al

Dr. Alan Williams FSA MAACA | Aboriginal Heritage Team Leader

EXTENT Heritage Pty Ltd

www.extent.com.au | awilliams@extent.com.au

M: 0428 810 150



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See my latest research article on correlations between Aboriginal populations and landscape burning across Australia:

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See my latest research article on the emergence of complex societies in Aboriginal Australia over the last 10,000 years:

<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0128661>

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Appendix 2-6. Notification Documentation – Newspaper Advert

Appendix 2-7. Presentation of Information/Assessment Methodology Sent and Any Feedback Received

Proposed Survey Methodology

From: Tessa Bryant
Sent: Monday, 5 June 2017 11:31 AM
To: 'Cazadirect@live.com'
Subject: 15-41 Warnervale Road, Warnervale ACHA - Proposed methodology
Attachments: 15242 Warnervale Methodology Letter_A1.pdf

Good morning Caroyln,

Thanks for your registration of interest in the Aboriginal Cultural Heritage Assessment for 15-41 Warnervale Road, Warnervale. The proposed methodology for this assessment includes an archaeological survey. Please find attached a letter which details the proposed methodology for your review. Any comments on the methodology are requested by the 3rd of July. Thanks for your assistance.

Regards
Tessa

Dr. Tessa Bryant | Heritage Advisor
EXTENT Heritage Pty Ltd - Sydney
www.extent.com.au | tbryant@extent.com.au
P: 02 9555 4000 | M: 0406259026



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5 June 2017

A1 Indigenous Services

Carolyn Hickey

73 Russell Street

Emu Plains NSW 2750

Cazadirect@live.com

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Proposed Methodology.

Dear Carolyn,

Thank you for your registration of interest in the Aboriginal Cultural Heritage Assessment Report (ACHAR) for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale (**Figure 1**). Your interest in the project has been formally registered in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*.

Enclosed is the proposed methodology for the project, which includes an archaeological survey. I would like to invite you to review the methodology and provide any comments you may have by **03 July 2017**.

If you have any questions, please do not hesitate to contact me on (02) 9555 4000 or email tbryant@extent.com.au.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Tessa Bryant", is written over a light grey rectangular background.

Dr Tessa Bryant • Heritage Advisor
Extent Heritage

Extent Heritage Pty Ltd

ABN 24 608 666 306

ACN 608 666 306

www.extent.com.au

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F 02 9555 7005

Background

The study area comprises Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale, NSW. The study area is within the Central Coast Local Government Area, and is part of the wider Precinct 7A outlined in the Central Coast Council's Warnervale Planning Strategy. AV Jennings is proposing to undertake staged residential development of the lots listed above in the coming years. Activities include subdivision of the study area into several hundred lots, and establishment of infrastructure (e.g. roads, drainage, etc), a park and the construction of four wetlands (**Figure 2**).

A previous archaeological investigation was undertaken on the site in 2008 entitled, "The archaeological investigation for sites of Indigenous cultural significance in Precinct 7A, Warnervale, Central Coast, NSW" by Archaeological Surveys and Reports Pty Ltd. This report identified 18 Aboriginal objects/sites within the precinct, primarily in association with a broad ridgeline in the southwest of the study area. These sites were characterised as containing isolated or very low densities of Aboriginal objects (stone artefacts) situated on tracks or exposures, and were generally considered of low archaeological significance. Only one site, 'Bitova OS 4', contained a higher density of artefacts (~40), near a water tower on the highest point of the ridge, but this similarly retained little research potential being on a disturbed and truncated soil profile. The report recommended that further investigation was required and appropriate permits from the NSW State government obtained should development in these areas be proposed. Comments from the Aboriginal stakeholders were broadly in agreement, although Guringai Tribal Link Aboriginal Corporation (GTLAC) and Darkinjung Local Aboriginal Land Council (LALC) considered Bitova OS 4 of greater cultural significance, and GTLAC also disagreed with the investigative methods proposed.

While the report provided a good baseline assessment for the Aboriginal objects/sites and deposits within the precinct, it no longer fulfils current Aboriginal heritage guidelines or requirements (which were modified in 2010). It further lacked any further investigation and characterisation of the sites, most notably Bitova OS 4, which is now desirable as part of the latest proposed development.

ADW Johnson (on behalf of AV Jennings) has engaged Extent Heritage to prepare an Aboriginal Cultural Heritage Assessment (ACHAR) in accordance with Office of Environment and Heritage (OEH) guidelines. The ACHAR is initially proposed to investigate the entire residential development area (as shown in **Figure 2**) to provide a holistic overview of cultural heritage, and allowing any key locales and areas to be managed appropriately across the entire project, rather than piecemeal over several years. Subsequent investigation and documentation stemming from the ACHAR will then be developed (as necessary) for each of the individual Development Applications (DA) that will be developed for the site. It is considered that these subsequent investigations will undertake more extensive investigation (such as test excavations) for any sites or potential deposits identified through the ACHAR.

Proposed Assessment Methodology

Extent Heritage proposes to develop an ACHAR in accordance with the following guidelines:

- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (Office of Environment and Heritage [OEH] 2011);
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (Department of Environment, Climate Change and Water [DECCW] 2010);
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010).

Development of the ACHAR will include the following tasks:

- Aboriginal community consultation;
- Archaeological survey (further detail is provided below). This component would be undertaken in conjunction with representatives of the Registered Aboriginal Parties (RAPs) based on selective engagements determined by the client;
- Preparation of the ACHAR, which incorporates Aboriginal consultation and any cultural information provided, outlines the findings of the archaeological survey, assesses potential impacts to Aboriginal heritage, and makes recommendations on any Aboriginal heritage sites and/or objects that may be present within the proposed study area; and
- If additional sites are identified, submissions of site recordings for registration on OEH's Aboriginal Heritage Information Management System (AHIMS) database.

Archaeological Survey Methodology

We propose to undertake an archaeological survey in accordance with the requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010). The survey will aim to identify any visible Aboriginal objects (material traces and evidence of Aboriginal land); as well as identify those areas where it can be inferred that, although not visible, material traces or evidence of Aboriginal land use have a likelihood of being present under the ground surface (potential archaeological deposits).

The survey strategy will incorporate the survey requirements of the Code and will include:

1. Inspection of a sample of the landforms that will potentially be impacted;
2. Place a proportional emphasis on those landforms deemed to have archaeological potential;
3. Pedestrian survey of pre-determined transects;
4. Taking representative photographs of survey units and landforms where informative;
5. Recording landform and general soil information for each survey unit;
6. Recording the land surface and vegetation conditions encountered during the survey, accounting as appropriate for things like vegetation, rock outcrops etc.) and how these impact on the visibility of objects;
7. Recording any Aboriginal objects observed during the survey; and
8. Recording of spatial information suitable for mapping according to Code requirements and the calculation of survey coverage.

The archaeological survey is designed to sample the study area in a systematic manner by targeting areas of ground surface visibility and including a representative sample of all landforms. Any areas of ground exposure will be examined for archaeological evidence such as stone artefacts, charcoal and shell. Ground surfaces and cut and fill features will also be examined to determine the degree of soil disturbance, erosion and potential for subsurface archaeological deposits.

The archaeological survey will involve a five-stage approach:

Stage 1 – In conjunction with the proponent, Extent Heritage will arrange a date for the archaeological survey of the study area to be conducted. Extent will also seek advice on access issues and discuss any other requirements.

Stage 2 - An analysis of topographic maps and aerial photographs will be undertaken prior to the survey to identify landforms across the study area and to identify areas of ground surface exposure in the form of tracks, cuttings and areas of ground exposure. These areas will be targeted during the survey because they provide an opportunity to identify surface artefact scatters and to investigate exposed soil profiles. Areas that have been subject to extensive ground disturbance will be neglected in favour of undisturbed areas with high ground surface visibility in order to maximise the chance of identifying surface sites and potential archaeological deposits.

Stage 3 - The first step when entering the property will be to familiarise ourselves with the landscape and target areas of ground surface visibility.

Stage 4 - Site inspection will be conducted on foot in survey transects. Areas of ground surface visibility will be surveyed in their entirety.

Stage 5 – Any sites found during the survey will be recorded in detail, including relocating the previously identified sites within the subject area. The location and extent of each site would be recorded with a GPS. Field notes will be made and photographs taken to document landscape configuration, soil profiles, soil disturbance, ground visibility and vegetation types.

Timeframe

Extent Heritage proposes the following indicative timeframe for the project:

- Distribution of this document to Registered Aboriginal Parties: Early June 2017.
- End of review period for the proposed methodology: Early July 2017.
- Archaeological survey: Early July 2017.
- Distribution of the draft report: Mid July 2017.
- End of review period for the draft report: Mid August 2017.

Information Sought

Extent Heritage would appreciate your feedback on the above methodology proposed for the investigation and assessment of the study area.

In returning your answers, please include the following where appropriate:

- Any protocols that you would like adopted during the project;
- Identification of any Aboriginal objects of cultural significance and/or importance that you are aware of within the activity area, and how you wish them to be dealt with during the project;
- Identification of any places of cultural significance and/or importance that you are aware of within the activity area, and how you wish them to be dealt with during the project;
- Guidance on the protocols, sensitivity, use and/or distribution of any cultural information that you provide Extent Heritage;
- Whether you require any further information prior to Extent Heritage proceeding with the project.

If you would like to arrange for any elders or other community members to be able to visit the site during the work, please let us know.



Figure 2. Warnervale stormwater and catchment plan showing stages of development (April 2017).

From: Tessa Bryant
Sent: Monday, 5 June 2017 12:01 PM
To: 'amandahickey@live.com.au'
Subject: 15-41 Warnervale Road, Warnervale ACHA - Proposed methodology
Attachments: 15242 Warnervale Methodology Letter_AHCS.pdf

Good morning Amanda,

Thanks for your registration of interest in the Aboriginal Cultural Heritage Assessment for 15-41 Warnervale Road, Warnervale. The proposed methodology for this assessment includes an archaeological survey. Please find attached a letter which details the proposed methodology for your review. Any comments on the methodology are requested by the 3rd of July. Thanks for your assistance.

Regards
Tessa

Dr. Tessa Bryant | Heritage Advisor
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5 June 2017

Amanda Hickey Cultural Services
Amanda Hickey DeZwart
73 Russell Street
Emu Plains NSW 2750
amandahickey@live.com.au

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Proposed Methodology.

Dear Amanda,

Thank you for your registration of interest in the Aboriginal Cultural Heritage Assessment Report (ACHAR) for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale (**Figure 1**). Your interest in the project has been formally registered in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*.

Enclosed is the proposed methodology for the project, which includes an archaeological survey. I would like to invite you to review the methodology and provide any comments you may have by **03 July 2017**.

If you have any questions, please do not hesitate to contact me on (02) 9555 4000 or email tbryant@extent.com.au.

Yours sincerely,

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Dr Tessa Bryant • Heritage Advisor
Extent Heritage

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Background

The study area comprises Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale, NSW. The study area is within the Central Coast Local Government Area, and is part of the wider Precinct 7A outlined in the Central Coast Council's Warnervale Planning Strategy. AV Jennings is proposing to undertake staged residential development of the lots listed above in the coming years. Activities include subdivision of the study area into several hundred lots, and establishment of infrastructure (e.g. roads, drainage, etc), a park and the construction of four wetlands (**Figure 2**).

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Information Sought

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In returning your answers, please include the following where appropriate:

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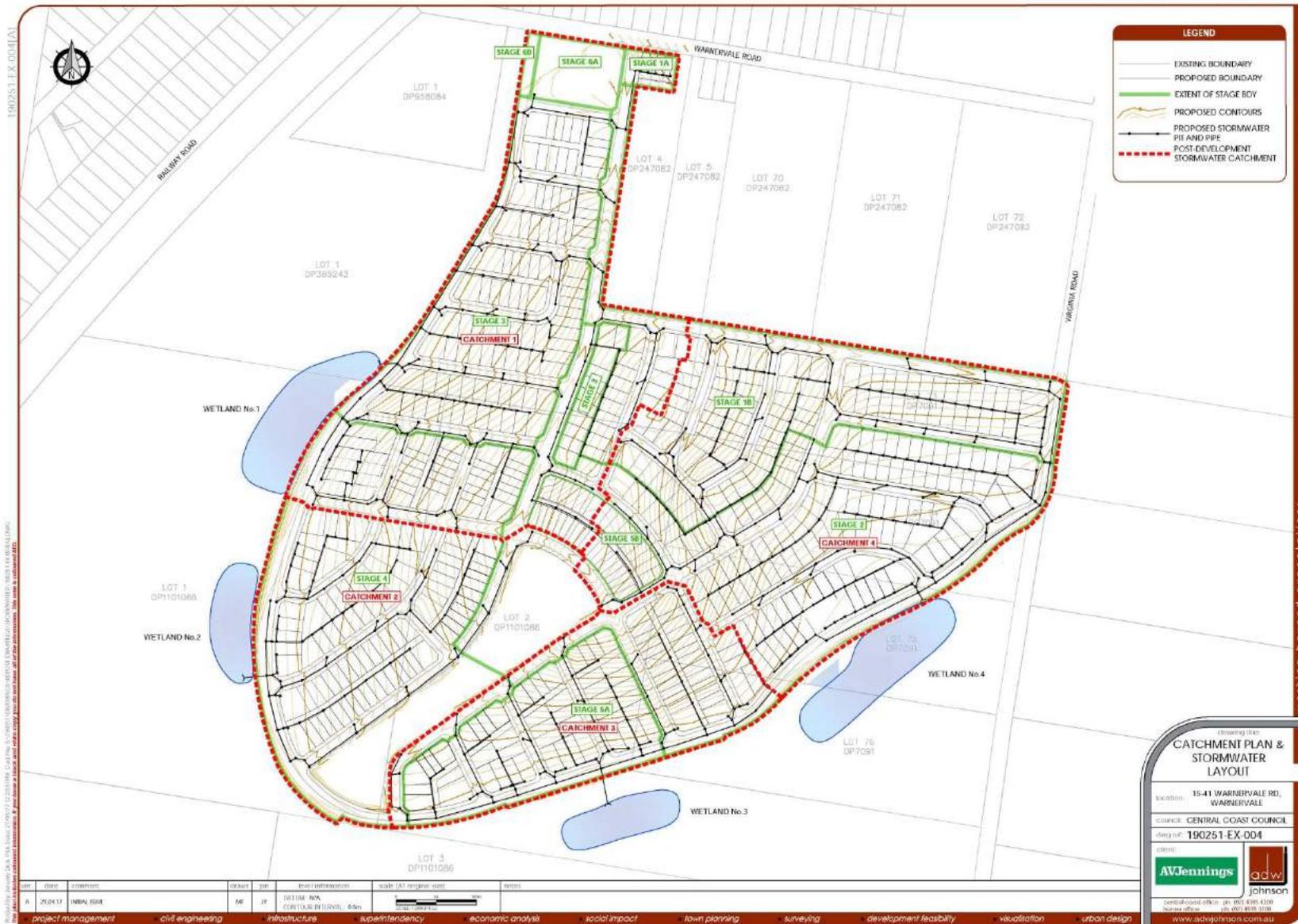


Figure 2. Warnervale stormwater and catchment plan showing stages of development (April 2017).

From: Tessa Bryant
Sent: Monday, 5 June 2017 12:07 PM
To: 'Kerrie@awabakal.com.au'
Subject: 15-41 Warnervale Road, Warnervale ACHA - Proposed methodology
Attachments: 15242 Warnervale Methodology Letter_ATOAC.pdf

Good morning Kerrie,

Thanks for your registration of interest in the Aboriginal Cultural Heritage Assessment for 15-41 Warnervale Road, Warnervale. The proposed methodology for this assessment includes an archaeological survey. Please find attached a letter which details the proposed methodology for your review. Any comments on the methodology are requested by the 3rd of July. Thanks for your assistance.

Regards
Tessa

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5 June 2017

Awabakal Traditional Owners Aboriginal Corporation

Kerrie Brauer

PO Box 122

Rutherford NSW 2320

Kerrie@awabakal.com.au

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Proposed Methodology.

Dear Kerrie Brauer,

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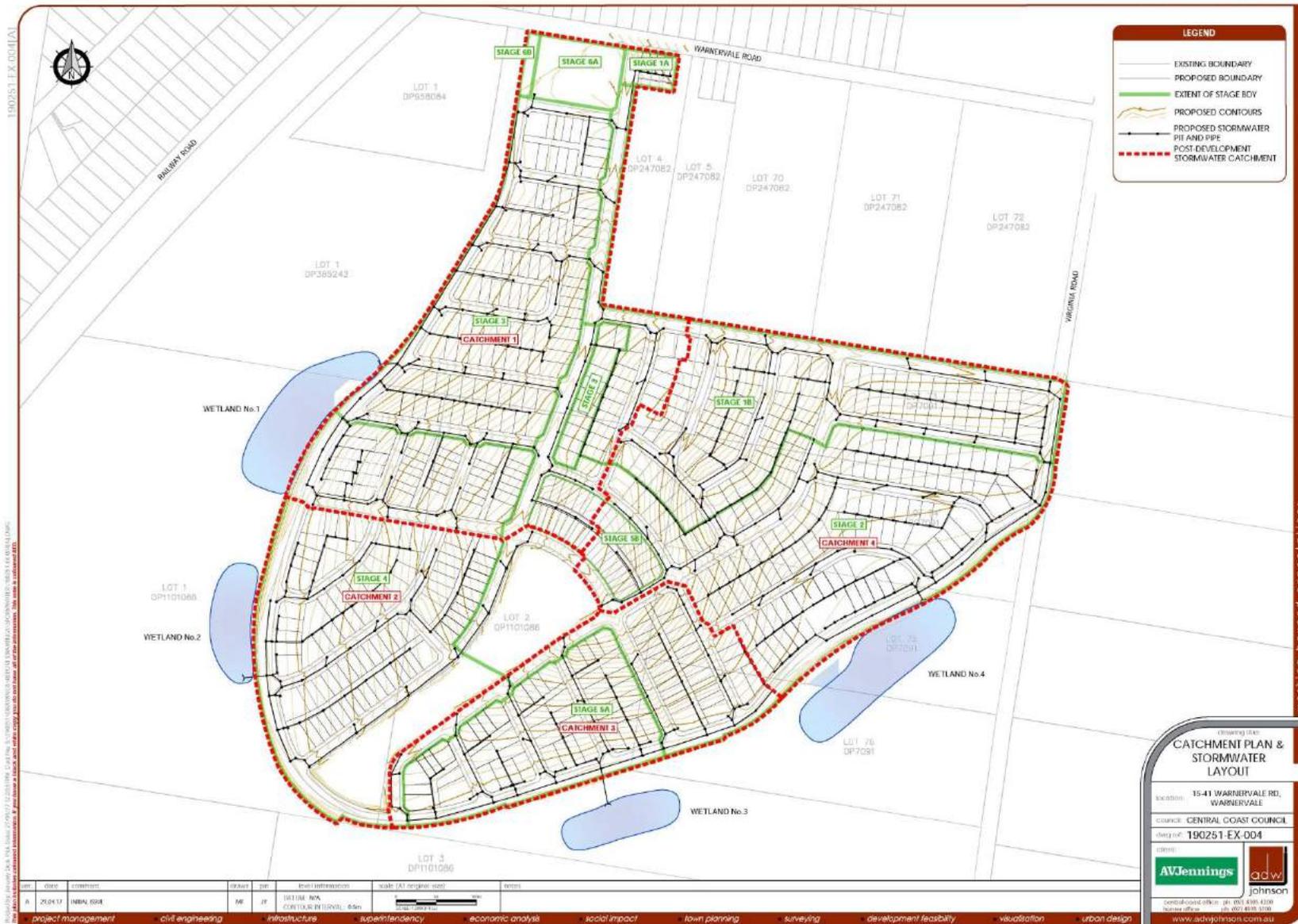


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From: Tessa Bryant
Sent: Monday, 5 June 2017 11:58 AM
To: 'amanda.shields@dlalc.org.au'
Cc: 'SHodgetts@dlalc.org.au'
Subject: 15-41 Warnervale Road, Warnervale ACHA - Proposed methodology
Attachments: 15242 Warnervale Methodology Letter_DLALC.pdf

Good morning Amanda and Sharon,

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Tessa

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5 June 2017

Darlingjung Local Aboriginal Land Council
Amanda Shields
PO Box 401
Wyong NSW 2259

amanda.shields@dlalc.org.au

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Proposed Methodology.

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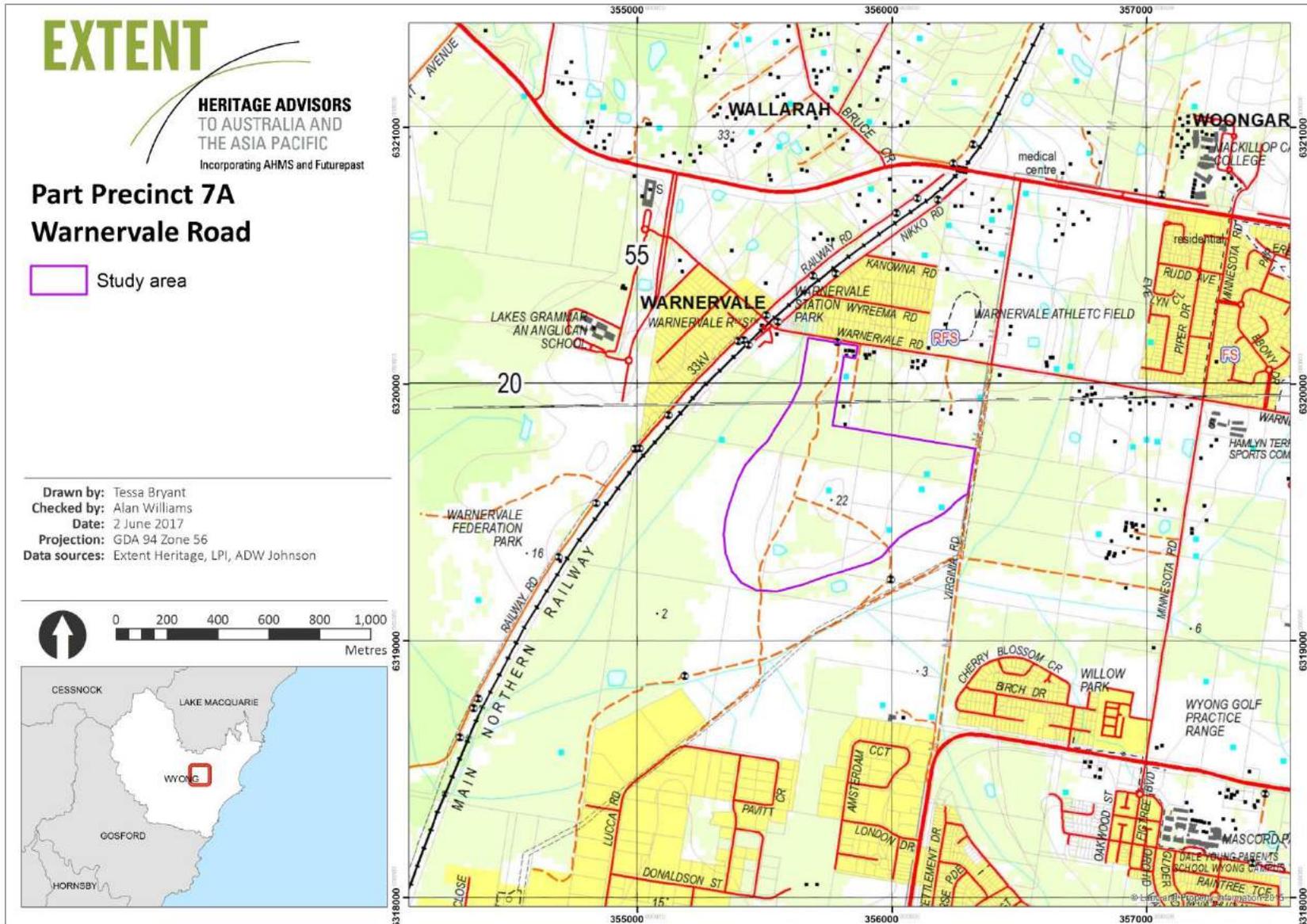


Figure 1. Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale study area map.



Figure 2. Warnervale stormwater and catchment plan showing stages of development (April 2017).

From: Tessa Bryant
Sent: Monday, 5 June 2017 12:03 PM
To: 'tracey@guringai.com.au'
Subject: 15-41 Warnervale Road, Warnervale ACHA - Proposed methodology
Attachments: 15242 Warnervale Methodology Letter_GTLAC.pdf

Good morning Tracey,

Thanks for your registration of interest in the Aboriginal Cultural Heritage Assessment for 15-41 Warnervale Road, Warnervale. The proposed methodology for this assessment includes an archaeological survey. Please find attached a letter which details the proposed methodology for your review. Any comments on the methodology are requested by the 3rd of July. Thanks for your assistance.

Regards
Tessa

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5 June 2017

**Guringai Tribal Link Aboriginal Corporation
Tracey Howie**

tracey@guringai.com.au

**Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082,
Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale
Road, Warnervale – Proposed Methodology.**

Dear Tracey,

Thank you for your registration of interest in the Aboriginal Cultural Heritage Assessment Report (ACHAR) for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale (**Figure 1**). Your interest in the project has been formally registered in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*.

Enclosed is the proposed methodology for the project, which includes an archaeological survey. I would like to invite you to review the methodology and provide any comments you may have by **03 July 2017**.

If you have any questions, please do not hesitate to contact me on (02) 9555 4000 or email tbryant@extent.com.au.

Yours sincerely,

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Dr Tessa Bryant • Heritage Advisor
Extent Heritage

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Background

The study area comprises Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale, NSW. The study area is within the Central Coast Local Government Area, and is part of the wider Precinct 7A outlined in the Central Coast Council's Warnervale Planning Strategy. AV Jennings is proposing to undertake staged residential development of the lots listed above in the coming years. Activities include subdivision of the study area into several hundred lots, and establishment of infrastructure (e.g. roads, drainage, etc), a park and the construction of four wetlands (**Figure 2**).

A previous archaeological investigation was undertaken on the site in 2008 entitled, "The archaeological investigation for sites of Indigenous cultural significance in Precinct 7A, Warnervale, Central Coast, NSW" by Archaeological Surveys and Reports Pty Ltd. This report identified 18 Aboriginal objects/sites within the precinct, primarily in association with a broad ridgeline in the southwest of the study area. These sites were characterised as containing isolated or very low densities of Aboriginal objects (stone artefacts) situated on tracks or exposures, and were generally considered of low archaeological significance. Only one site, 'Bitova OS 4', contained a higher density of artefacts (~40), near a water tower on the highest point of the ridge, but this similarly retained little research potential being on a disturbed and truncated soil profile. The report recommended that further investigation was required and appropriate permits from the NSW State government obtained should development in these areas be proposed. Comments from the Aboriginal stakeholders were broadly in agreement, although Guringai Tribal Link Aboriginal Corporation (GTLAC) and Darkinjung Local Aboriginal Land Council (LALC) considered Bitova OS 4 of greater cultural significance, and GTLAC also disagreed with the investigative methods proposed.

While the report provided a good baseline assessment for the Aboriginal objects/sites and deposits within the precinct, it no longer fulfils current Aboriginal heritage guidelines or requirements (which were modified in 2010). It further lacked any further investigation and characterisation of the sites, most notably Bitova OS 4, which is now desirable as part of the latest proposed development.

ADW Johnson (on behalf of AV Jennings) has engaged Extent Heritage to prepare an Aboriginal Cultural Heritage Assessment (ACHAR) in accordance with Office of Environment and Heritage (OEH) guidelines. The ACHAR is initially proposed to investigate the entire residential development area (as shown in **Figure 2**) to provide a holistic overview of cultural heritage, and allowing any key locales and areas to be managed appropriately across the entire project, rather than piecemeal over several years. Subsequent investigation and documentation stemming from the ACHAR will then be developed (as necessary) for each of the individual Development Applications (DA) that will be developed for the site. It is considered that these subsequent investigations will undertake more extensive investigation (such as test excavations) for any sites or potential deposits identified through the ACHAR.

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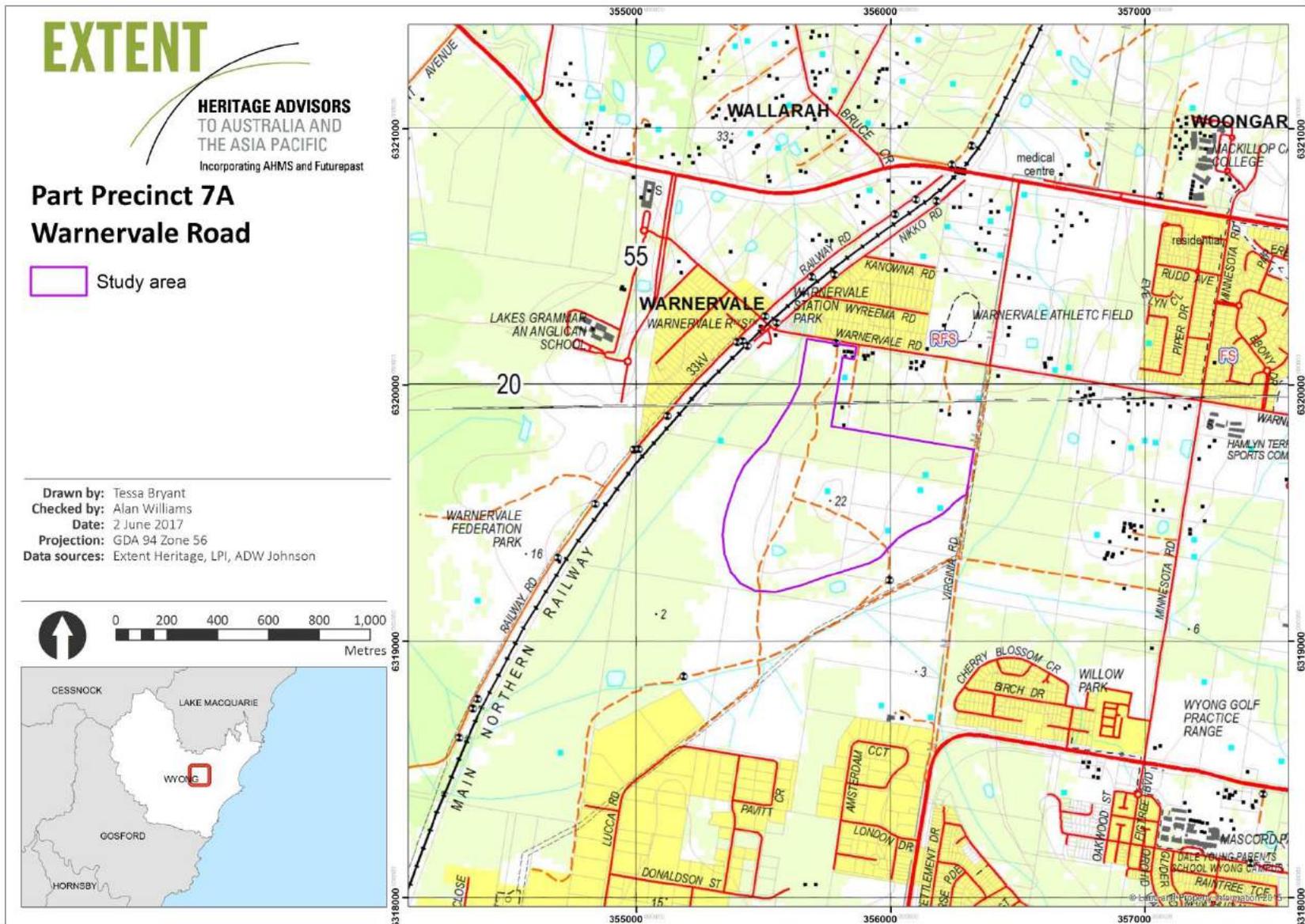


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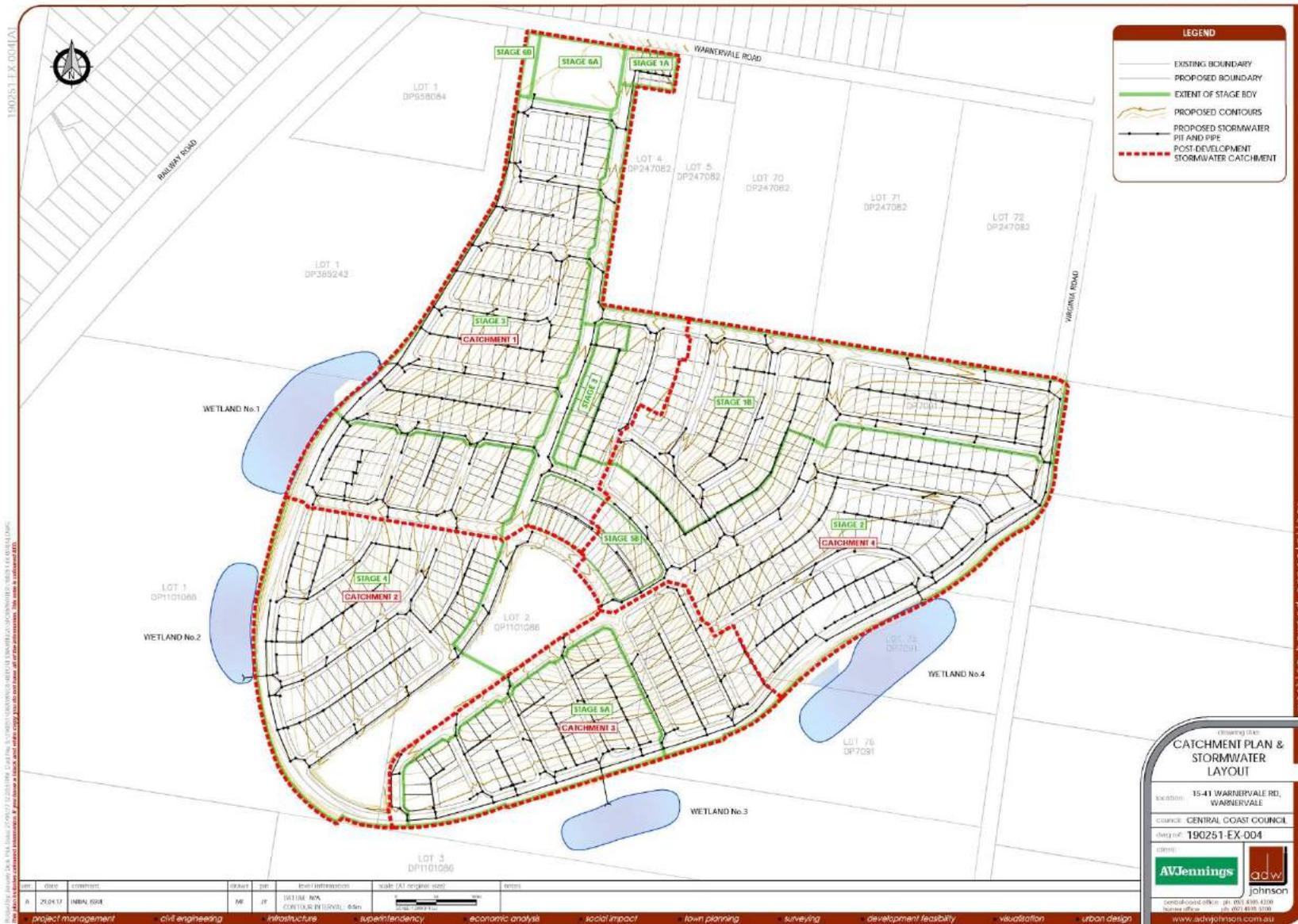


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From: Tessa Bryant
Sent: Monday, 5 June 2017 12:05 PM
To: 'microlith99@gmail.com'
Subject: 15-41 Warnervale Road, Warnervale ACHA - Proposed methodology
Attachments: 15242 Warnervale Methodology Letter_HVCS.pdf

Good morning Luke,

Thanks for your registration of interest in the Aboriginal Cultural Heritage Assessment for 15-41 Warnervale Road, Warnervale. The proposed methodology for this assessment includes an archaeological survey. Please find attached a letter which details the proposed methodology for your review. Any comments on the methodology are requested by the 3rd of July. Thanks for your assistance.

Regards
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5 June 2017

Hunter Valley Cultural Surveying

Luke Hickey

165 Susan Street

Scone NSW 2337

microlith99@gmail.com

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Proposed Methodology.

Dear Luke Hickey,

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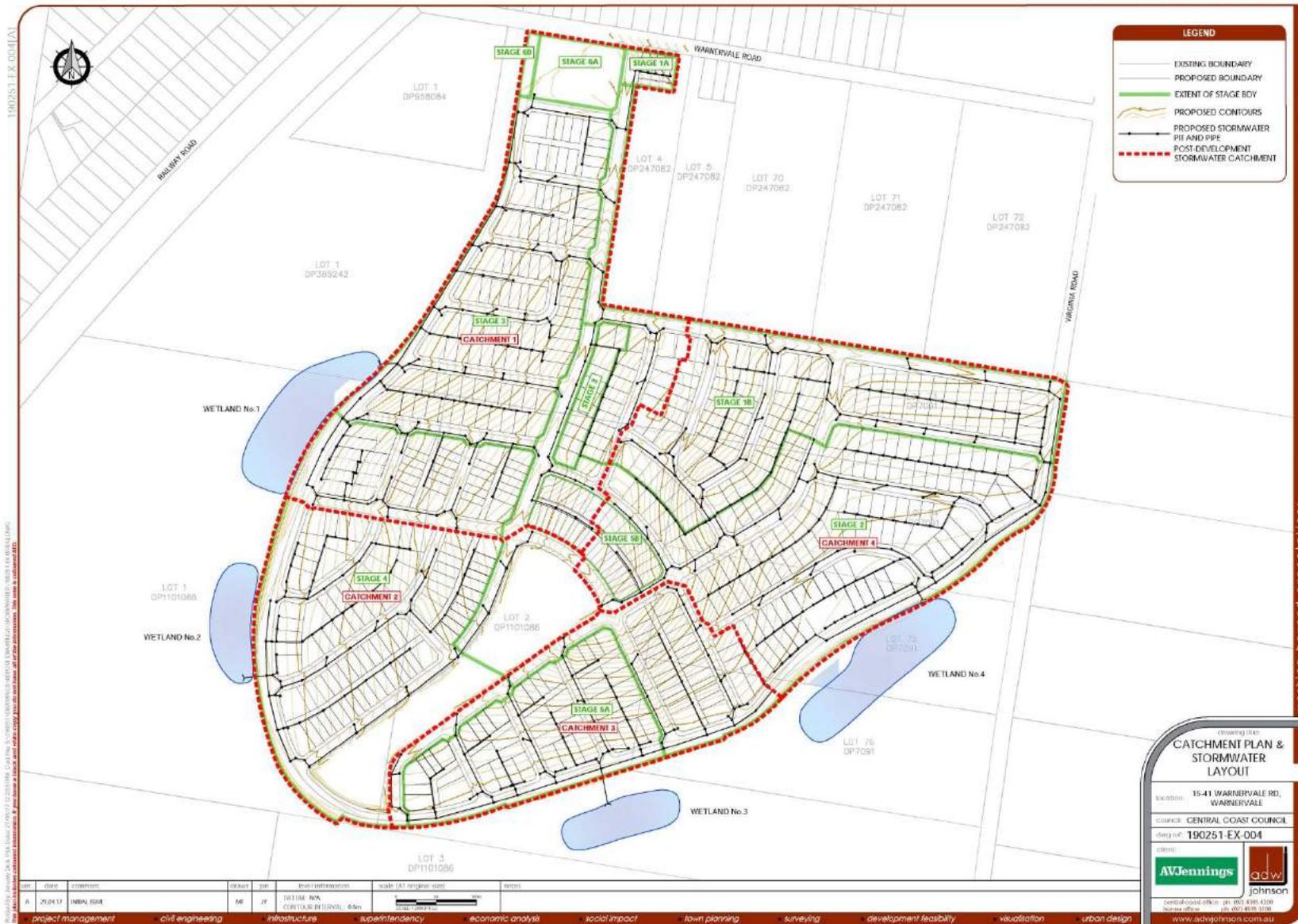


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From: Tessa Bryant
Sent: Monday, 5 June 2017 12:06 PM
To: 'lowerhunterai@gmail.com'
Subject: 15-41 Warnervale Road, Warnervale ACHA - Proposed methodology
Attachments: 15242 Warnervale Methodology Letter_LHAI.pdf

Good morning David,

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5 June 2017

Lower Hunter Aboriginal Incorporated

David Ahoy

5 Killara Drive

Cardiff South NSW 2285

lowerhunterai@gmail.com

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Proposed Methodology.

Dear David Ahoy,

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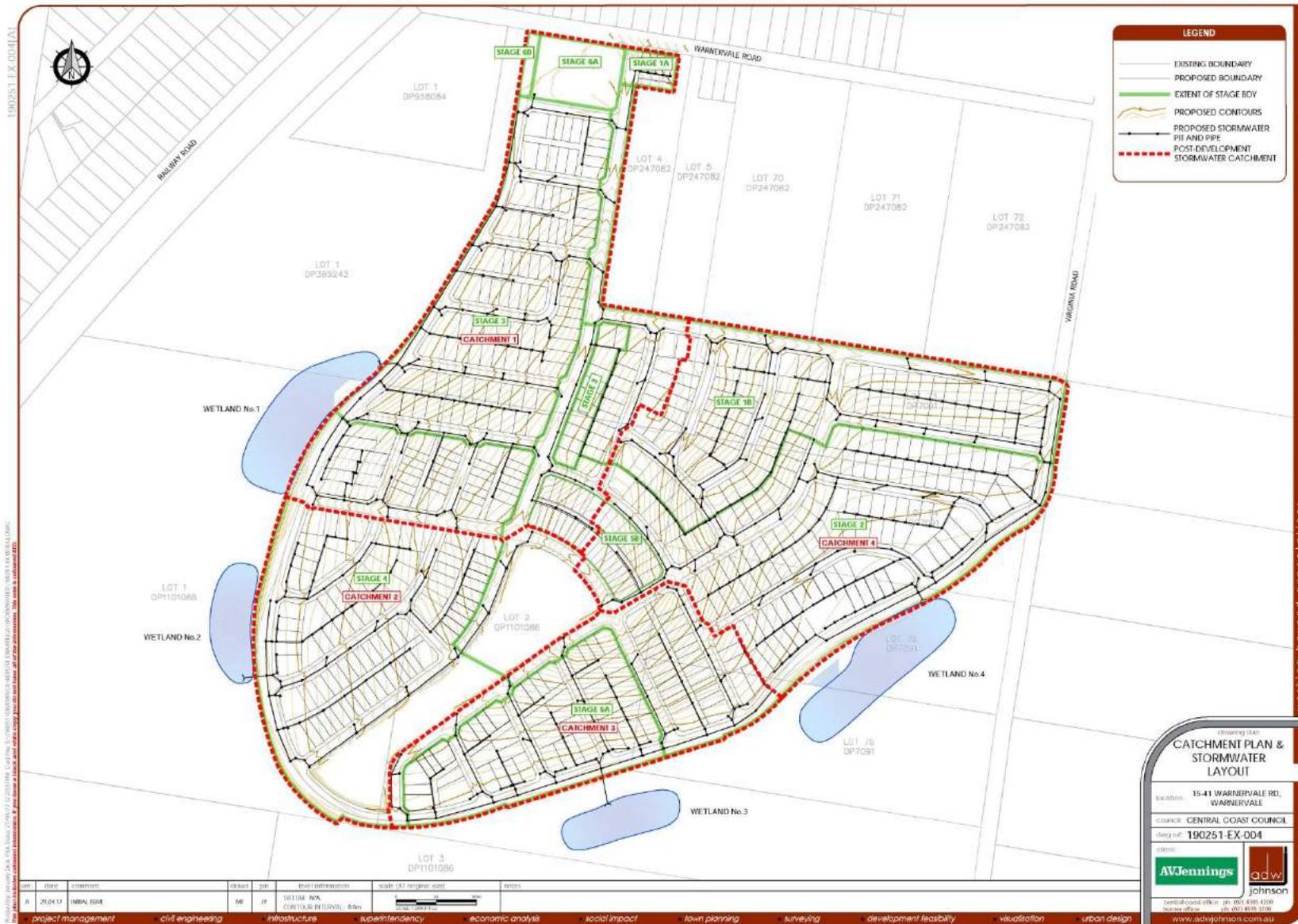


Figure 2. Warnervale stormwater and catchment plan showing stages of development (April 2017).

From: Tessa Bryant
Sent: Monday, 5 June 2017 12:04 PM
To: 'valleyelmcorp@bigpond.com'
Subject: 15-41 Warnervale Road, Warnervale ACHA - Proposed methodology
Attachments: 15242 Warnervale Methodology Letter_ValleyELM.pdf

Good morning Des,

Thanks for your registration of interest in the Aboriginal Cultural Heritage Assessment for 15-41 Warnervale Road, Warnervale. The proposed methodology for this assessment includes an archaeological survey. Please find attached a letter which details the proposed methodology for your review. Any comments on the methodology are requested by the 3rd of July. Thanks for your assistance.

Regards
Tessa

Dr. Tessa Bryant | Heritage Advisor
EXTENT Heritage Pty Ltd - Sydney
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P: 02 9555 4000 | M: 0406259026



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5 June 2017

Valley ELM Corp
Des Hickey
4 Kennedy Street
Singelton NSW 2330
valleyelmcorp@bigpond.com

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Proposed Methodology.

Dear Des,

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Yours sincerely,

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Dr Tessa Bryant • Heritage Advisor
Extent Heritage

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Sent: Monday, 5 June 2017 12:00 PM
To: 'widescope.group@live.com'
Subject: 15-41 Warnervale Road, Warnervale ACHA - Proposed methodology
Attachments: 15242 Warnervale Methodology Letter_Widescope.pdf

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5 June 2017

Widescope Indigenous Group
Steven Hickey
widescope.group@live.com

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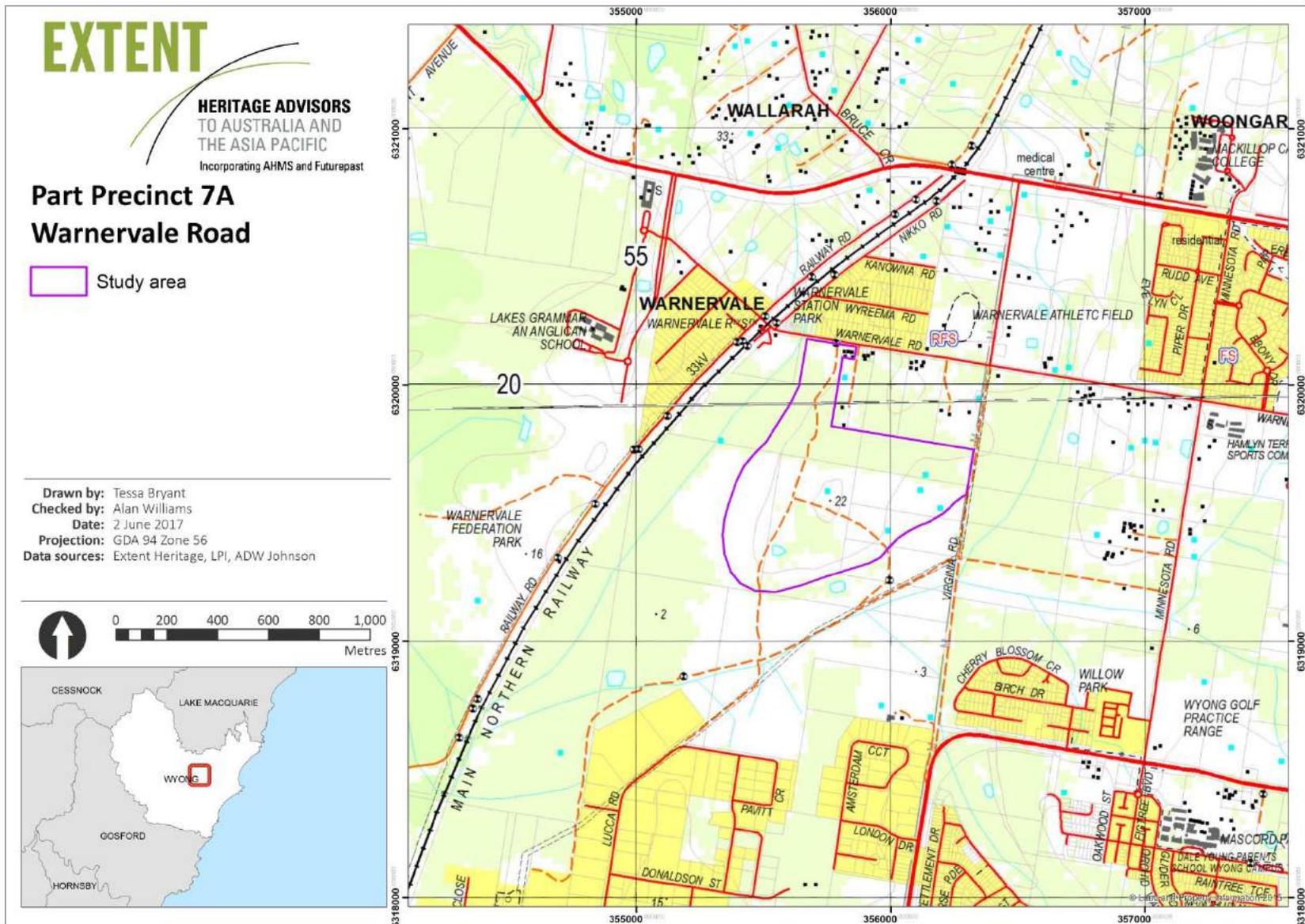


Figure 1. Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale study area map.

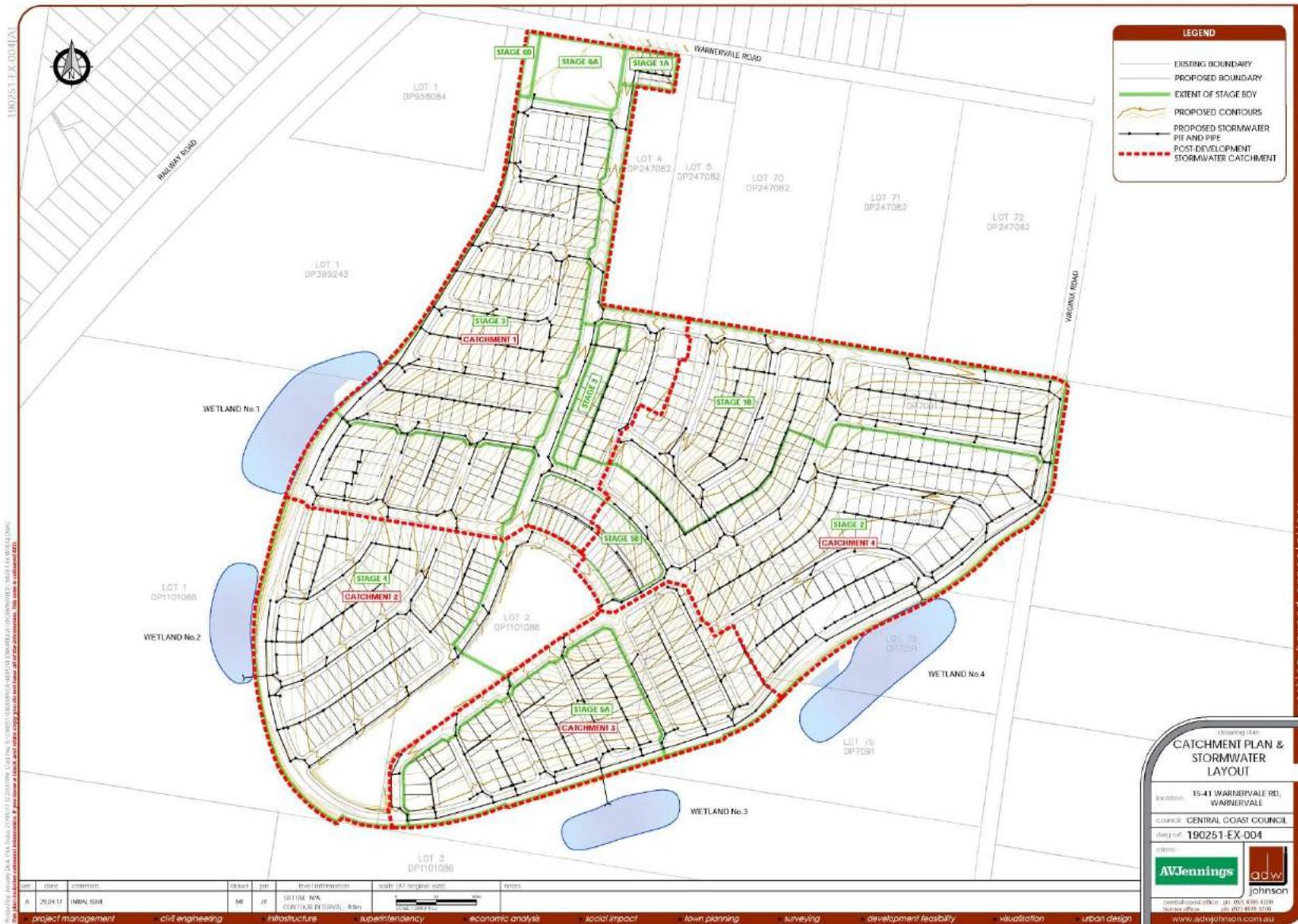


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Sent: Monday, 5 June 2017 12:08 PM
To: 'deshickey@bigpond.com'
Subject: 15-41 Warnervale Road, Warnervale ACHA - Proposed methodology
Attachments: 15242 Warnervale Methodology Letter_WWCCS.pdf

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5 June 2017

Wattaka Wonnarua Cultural Consultancy Services

Des Hickey

4 Kennedy Street
Singelton NSW 2330
deshickey@bigpond.com

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2. Place a proportional emphasis on those landforms deemed to have archaeological potential;
3. Pedestrian survey of pre-determined transects;
4. Taking representative photographs of survey units and landforms where informative;
5. Recording landform and general soil information for each survey unit;
6. Recording the land surface and vegetation conditions encountered during the survey, accounting as appropriate for things like vegetation, rock outcrops etc.) and how these impact on the visibility of objects;
7. Recording any Aboriginal objects observed during the survey; and
8. Recording of spatial information suitable for mapping according to Code requirements and the calculation of survey coverage.

The archaeological survey is designed to sample the study area in a systematic manner by targeting areas of ground surface visibility and including a representative sample of all landforms. Any areas of ground exposure will be examined for archaeological evidence such as stone artefacts, charcoal and shell. Ground surfaces and cut and fill features will also be examined to determine the degree of soil disturbance, erosion and potential for subsurface archaeological deposits.

The archaeological survey will involve a five-stage approach:

Stage 1 – In conjunction with the proponent, Extent Heritage will arrange a date for the archaeological survey of the study area to be conducted. Extent will also seek advice on access issues and discuss any other requirements.

Stage 2 - An analysis of topographic maps and aerial photographs will be undertaken prior to the survey to identify landforms across the study area and to identify areas of ground surface exposure in the form of tracks, cuttings and areas of ground exposure. These areas will be targeted during the survey because they provide an opportunity to identify surface artefact scatters and to investigate exposed soil profiles. Areas that have been subject to extensive ground disturbance will be neglected in favour of undisturbed areas with high ground surface visibility in order to maximise the chance of identifying surface sites and potential archaeological deposits.

Stage 3 - The first step when entering the property will be to familiarise ourselves with the landscape and target areas of ground surface visibility.

Stage 4 - Site inspection will be conducted on foot in survey transects. Areas of ground surface visibility will be surveyed in their entirety.

Stage 5 – Any sites found during the survey will be recorded in detail, including relocating the previously identified sites within the subject area. The location and extent of each site would be recorded with a GPS. Field notes will be made and photographs taken to document landscape configuration, soil profiles, soil disturbance, ground visibility and vegetation types.

Timeframe

Extent Heritage proposes the following indicative timeframe for the project:

- Distribution of this document to Registered Aboriginal Parties: Early June 2017.
- End of review period for the proposed methodology: Early July 2017.
- Archaeological survey: Early July 2017.
- Distribution of the draft report: Mid July 2017.
- End of review period for the draft report: Mid August 2017.

Information Sought

Extent Heritage would appreciate your feedback on the above methodology proposed for the investigation and assessment of the study area.

In returning your answers, please include the following where appropriate:

- Any protocols that you would like adopted during the project;
- Identification of any Aboriginal objects of cultural significance and/or importance that you are aware of within the activity area, and how you wish them to be dealt with during the project;
- Identification of any places of cultural significance and/or importance that you are aware of within the activity area, and how you wish them to be dealt with during the project;
- Guidance on the protocols, sensitivity, use and/or distribution of any cultural information that you provide Extent Heritage;
- Whether you require any further information prior to Extent Heritage proceeding with the project.

If you would like to arrange for any elders or other community members to be able to visit the site during the work, please let us know.

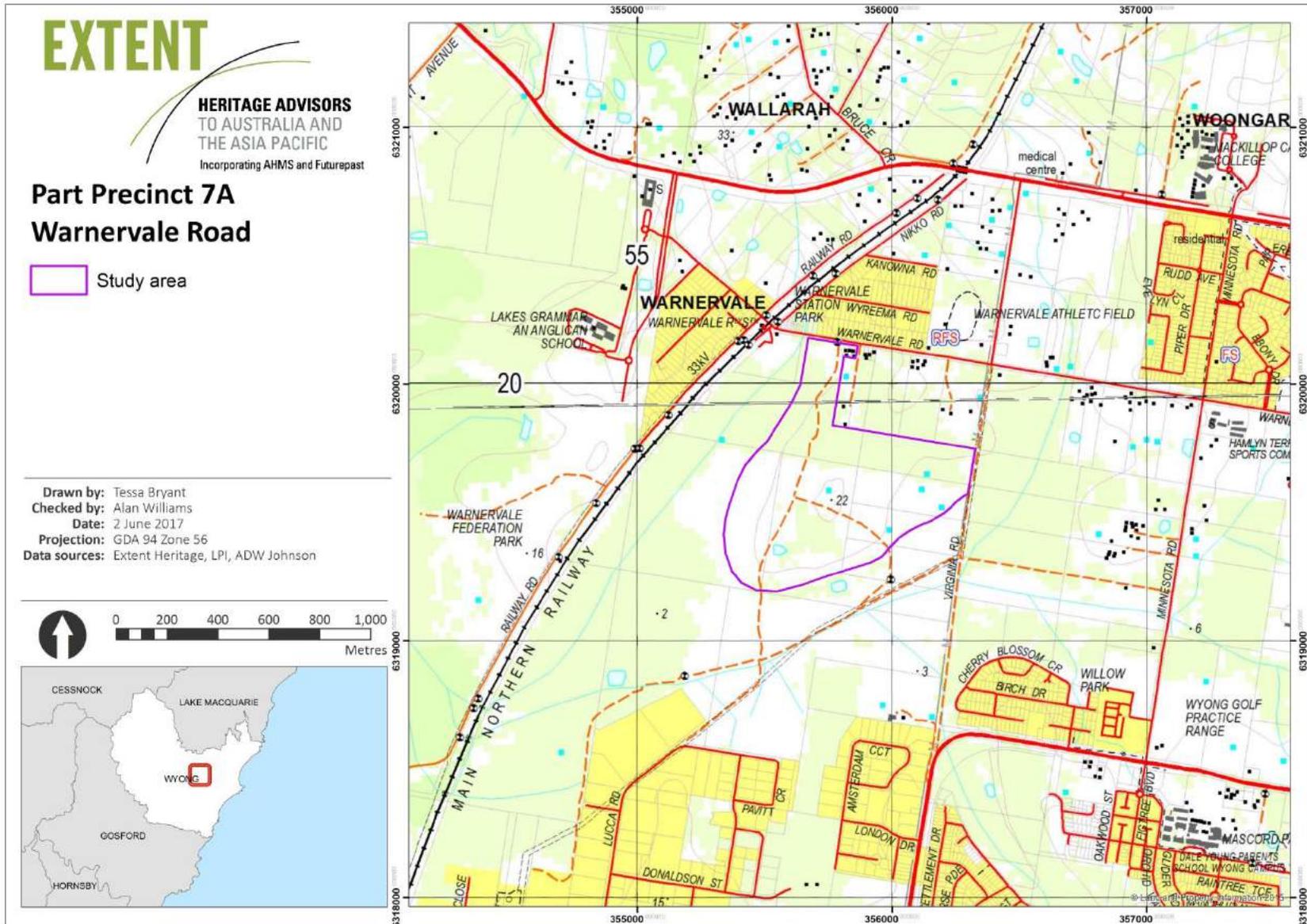


Figure 1. Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale study area map.

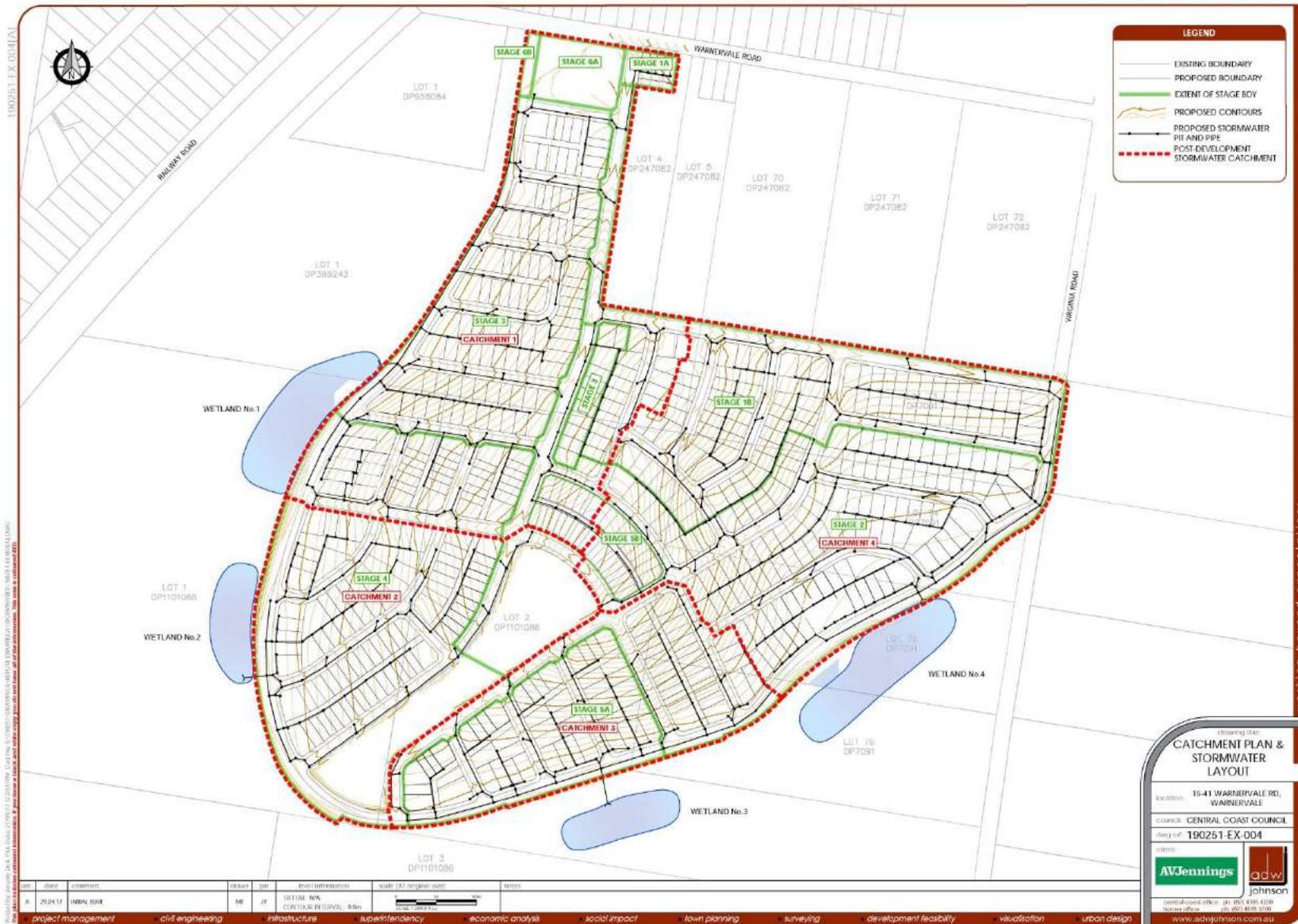
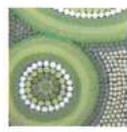


Figure 2. Warnervale stormwater and catchment plan showing stages of development (April 2017).

Responses to Proposed Survey Methodology



Tessa Bryant
Extent Heritage
3/73 Union Street
Pymont NSW 2009

3 July 2017

RE: Aboriginal Cultural Heritage Assessment Report for Lots 1-3 DP247082. Lot 1DP385242, Lots 73-76 DP7091 and Lots 1-3 DP1101086 Warnervale Road Warnervale- Proposed Methodology.

Dear Tessa,

Thank you for the opportunity to formally respond to the Methodology as noted above.

Darkinjung LALC has now reviewed the document and is satisfied with the methodology for the Aboriginal Cultural Heritage Assessment Report.

Please do not hesitate to contact me on the number listed above should you require any further information in regards to the project.

Thanking you

A handwritten signature in black ink, appearing to read 'S. Hodgetts'.

Sharon Hodgetts
Senior Project Officer - Culture and Heritage

From: WIDESCOPE . <widescope.group@live.com>
Sent: Monday, 5 June 2017 4:51 PM
To: Tessa Bryant
Subject: RE: 15-41 Warnervale Road, Warnervale ACHA - Proposed methodology

Aboriginal Feedback

15-41 Warnervale Road, Warnervale ACHA - Proposed methodology

I have been sent information regarding the proposed heritage assessment methodology, I seek to endorse the proposed methodology

Regards

Steven Hickey RAP

From: [Tessa Bryant](#)
Sent: Monday, 5 June 2017 12:00 PM
To: widescope.group@live.com
Subject: 15-41 Warnervale Road, Warnervale ACHA - Proposed methodology

Good morning Steven,

Thanks for your registration of interest in the Aboriginal Cultural Heritage Assessment for 15-41 Warnervale Road, Warnervale. The proposed methodology for this assessment includes an archaeological survey. Please find attached a letter which details the proposed methodology for your review. Any comments on the methodology are requested by the 3rd of July. Thanks for your assistance.

Regards

Tessa

Dr. Tessa Bryant | Heritage Advisor
EXTENT Heritage Pty Ltd - Sydney
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Proposed Test Excavation Methodology

Tessa Bryant

From: Alan Williams
Sent: Wednesday, 6 September 2017 1:44 PM
To: 'Amanda Shields'; Sharon Hodgetts (SHodgetts@dlalc.org.au); Steven Hickey (Widescope.group@live.com); Carolyn Hickey A1 Indigenous Heritage; Amanda Hickey (AHCS); Tracey Howie; 'valleyelmcorp@bigpond.com'; 'microlith99@gmail.com'; 'lowerhunterai@gmail.com'; kerrie@awabakal.com.au; 'Des Hickey (deshickey@bigpond.com)'
Cc: Anthony Freeman; Tessa Bryant
Subject: Precinct 7A, Warnervale ACHAR - Proposed Test Excavations
Attachments: SYD15252_TestExcavationMethodology_6Sept17.pdf

Dear All,

Thank you for your participation in the Aboriginal heritage assessment process for Precinct 7a, Warnervale. The Aboriginal Cultural Heritage Assessment report (ACHAR) is now due to be finalised following the comment period over August (if anyone does have any comments, please can you get them to Tess as soon as possible).

Following on from the ACHAR, the proponent has agreed to undertake Aboriginal archaeological excavations of the site to further refine the model and characterise the cultural materials outlined in the ACHAR, and assist in the development design, approvals, etc, proposed in the near future. Please find attached a proposed test excavation methodology to investigate the site. The findings of these works will be integrated into the ACHAR once complete, and a further comment period provided for the revised document.

The methodology includes information on the project, the proposed excavation approach, and a series of questions for the registered Aboriginal parties. Can I please ask you to review it, and if you have any comments/modifications/responses/etc, please provide them to me (or Tess) by 3 October 2017.

Thanks
Al

Dr. Alan Williams FSA MAACAI | Aboriginal Heritage Team Leader
EXTENT Heritage Pty Ltd
www.extent.com.au | awilliams@extent.com.au
M: 0428 810 150



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Honorary Associate Lecturer

Climate Change Research Centre, School of Biological, Earth and Environmental Sciences
University of New South Wales,
Sydney, NSW 2052

See my latest research article on the population history of Australia at:
<http://rspb.royalsocietypublishing.org/content/280/1761/20130486.short?rss=1>

See my latest research article on human refuges during the Last Glacial Maximum at:
<http://www.sciencedirect.com/science/article/pii/S0305440313002215>

See my latest research article on the identification of one of the earliest sites in Australia as part of compliance-based excavations in northwest Sydney at: <http://onlinelibrary.wiley.com/doi/10.1002/jqs.2742/abstract>

See my latest research article on correlations between Aboriginal populations and landscape burning across Australia:
<http://www.sciencedirect.com/science/article/pii/S0031018215002400>

See my latest research article on the emergence of complex societies in Aboriginal Australia over the last 10,000 years:
<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0128661>

See my latest research article on a continental understanding of past Aboriginal populations and their response to climate change over the last 35,000 years: <http://www.sciencedirect.com/science/article/pii/S0277379115300275>

See my latest research as part of a team investigating the past Aboriginal colonisation of Australia using DNA:
<http://www.nature.com/nature/journal/v544/n7649/full/nature21416.html>

See my latest research revisiting Puntutjarpa rockshelter, one of the iconic Australian arid zone sites:
<http://www.tandfonline.com/doi/abs/10.1080/03122417.2017.1351673?journalCode=raaa20>

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From: Tessa Bryant
Sent: Monday, 25 September 2017 5:27 PM
To: Wolf
Subject: RE: 15-41 Warnervale Road, Warnervale - Project Notification
Attachments: SYD15252_TestExcavationMethodology_6Sept17.pdf

Dear Kathie,

Alan has passed your email on regarding the 15-41 Warnervale Road, Warnervale ACHAR. Currently the proposed methodology for the assessment including test excavation is out for review with responses requested by the 3rd of October . I have attached a copy of the methodology to this email.

Regards
Tessa

Dr. Tessa Bryant | Heritage Advisor
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From: Wolf [<mailto:yinarrculturalservices@gmail.com>]
Sent: Sunday, 24 September 2017 6:21 PM
To: Alan Williams; Mum; dontminemeay@gmail.com
Subject: Re: 15-41 Warnervale Road, Warnervale - Project Notification

Dear Alan,

How are you going?

Just touching base in regards to the Aboriginal Cultural Heritage Assessment Report Lot 1, Lot 1-3, Lots 73-76 and Lots 1-3 Notification of Project Proposal.

Would you be able to update me on the progress of the project if you could. I also ask if there has been any new projects so we can be part of as I haven't received any correspondence or communication on your side and confirming that if any or new projects do come available could you let us know please.

If there are any questions or information you may have please do not hesitate in contacting us either by Mobile 0475 436 589 {Leave message if needed}, Email: yinarrculturalservices@gmail.com or dontminemeay@gmail.com.

Would you be able to confirm receipt of this email please. Thank you.

Kind Regards,

Kathie Steward Kinchela
Yinarr Cultural Services
Discover, Preserve, Protect

On Wed, May 17, 2017 at 11:08 AM, Alan Williams <awilliams@extent.com.au> wrote:
Dear Kathleen,

On behalf of AV Jennings, Extent Heritage is undertaking an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed re-development of 15-41 Warnervale Road, Warnervale, NSW. As part of the ACHA process, we are undertaking Aboriginal consultation, and are seeking your interest in being consulted with on this project. I provide further details of the project, and consultation process in the attached letter.

Best wishes
Al

Dr. Alan Williams FSA MAACAI | Aboriginal Heritage Team Leader
EXTENT Heritage Pty Ltd
www.extent.com.au | awilliams@extent.com.au
M: 0428 810 150



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<http://rspb.royalsocietypublishing.org/content/280/1761/20130486.short?rss=1>

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See my latest research article on correlations between Aboriginal populations and landscape burning across Australia:

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See my latest research article on the emergence of complex societies in Aboriginal Australia over the last 10,000 years:

<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0128661>

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30 August 2017

Re: Aboriginal Cultural Heritage Assessment Report for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale – Proposed Methodology Test Excavation.

Thank you for your registration of interest in the Aboriginal Cultural Heritage Assessment Report (ACHAR) for Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale (**Figure 1**).

Enclosed is a brief background to the project and the proposed methodology for the project, which now includes test excavation and additional archaeological survey. The overall ACHAR developed for the subject area identified that the subject area contains areas with low, moderate and high archaeological potential and these areas would be impacted through the proposed development.

I would like to invite you to review the methodology and provide any comments you may have by **3 October 2017**. If you have any questions, please do not hesitate to contact me on (02) 9555 4000 or email tbryant@extent.com.au.

Yours sincerely,



Dr Tessa Bryant • Heritage Advisor
Extent Heritage

Background

The subject area comprises Lots 1 - 3 DP247082, Lot 1 DP385242, Lots 73 - 76 DP7091 and Lots 1 - 3 DP1101086, Warnervale Road, Warnervale, NSW. The subject area is within the Central Coast Local Government Area, and is part of the wider Precinct 7A outlined in the Central Coast Council's Warnervale Planning Strategy. The proposed development involves rezoning and redevelopment of the subject area in stages.

The rezoning is proposed for the southern part of the subject area, including reduction of the park/parkland area (RE1) in the existing Precinct 7A Zoning plan, rezoning of parts of the RU6 (Transition) zone along the south-eastern edge of the subject area, and rezoning of a portion of the E3 Environmental Management Zone along the development perimeter. Activities within the rezoned subject area include the subdivision of the subject area into several hundred lots, and establishment of infrastructure (e.g. roads, drainage, etc.), a park, the construction of four wetlands and associated sewer/water lead-ins adjacent to the subject area (**Figure 2**). Bulk earthworks are required across the residential development footprint as part of this redevelopment.

ADW Johnson (on behalf of AV Jennings) has engaged Extent Heritage to prepare an Aboriginal Cultural Heritage Assessment (ACHAR) in accordance with Office of Environment and Heritage (OEH) guidelines. The ACHAR was initially proposed to investigate the entire residential development area (as shown in **Figure 2**) to provide a holistic overview of cultural heritage, and allowing any key locales and areas to be managed appropriately across the entire project, rather than piecemeal over several years. The draft ACHAR has been provided to your organisation for comment in early August 2017, with finalisation imminent.

This ACHAR identified 15 Aboriginal archaeological sites within the subject area; and areas of high and moderate archaeological sensitivity, on the crest and slopes of the southern ridgeline. Archaeological surveys undertaken confirmed the potential of the southern crest and southern slopes, which contain surface Aboriginal artefacts and have the potential to contain subsurface deposits. Four of the 11 previously recorded sites were relocated: 45-3-3408, 45-3-3409, 45-3-3410 and 45-3-3407. Seven sites, 45-3-3404, 45-3-3405, 45-3-3406, 45-3-3411, 45-3-3412, 45-3-3413 and 45-3-3414 were not relocated. Four additional sites were identified – two artefact scatters (Warnervale AS1 and Warnervale AS2) and two isolated finds (Warnervale IF1 and Warnervale IF2). It is considered likely that there will be an impact to most if not all of the archaeological resource present within the subject area, based on the development plans as presently proposed.

Given the potential impacts to the archaeological resource of the subject area, AV Jennings have agreed to additional investigation in the form of archaeological test excavation. These excavations propose to further characterise the archaeological resource and to more accurately assess the impacts of the proposed development. This letter includes details on the location and methods of the proposed excavations. Further assessment will also include archaeological survey of the areas of the wetland redevelopment adjacent to the subject area, with the possibility of test excavation extending into these areas.

Proposed Assessment Methodology

An ACHAR has already been developed for the proposed development. This was undertaken in accordance with OEH guidelines, and has been provided to your organisation for comment in early August 2017.

Following the findings of the ACHAR, additional test excavations across the site are proposed in subsequent sections. Once complete, these would be integrated into the ACHAR to provide a more robust understanding of the Aboriginal heritage within the subject area. An additional archaeological survey will also be undertaken to encompass the area of the proposed wetland redevelopment adjacent to the residential development area with potential activities (pipes, etc) being better defined. The modified ACHAR would be provided to the RAPs for review and comment prior to finalisation.

Archaeological Survey Methodology

We propose to undertake an archaeological survey for the wetland redevelopment areas with in accordance with the requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010). The survey will aim to identify any visible Aboriginal objects (material traces and evidence of Aboriginal land); as well as identify those areas where it can be inferred that, although not visible, material traces or evidence of Aboriginal land use have a likelihood of being present under the ground surface (potential archaeological deposits).

The survey strategy will incorporate the survey requirements of the Code and will include:

1. Inspection of a sample of the landforms that will potentially be impacted;
2. Place a proportional emphasis on those landforms deemed to have archaeological potential;
3. Pedestrian survey of pre-determined transects;
4. Taking representative photographs of survey units and landforms where informative;
5. Recording landform and general soil information for each survey unit;
6. Recording the land surface and vegetation conditions encountered during the survey, accounting as appropriate for things like vegetation, rock outcrops etc.) and how these impact on the visibility of objects;
7. Recording any Aboriginal objects observed during the survey; and
8. Recording of spatial information suitable for mapping according to Code requirements and the calculation of survey coverage.

The survey is likely to be undertaken during the archaeological test excavation within the subject area.

Archaeological Test Excavation Methodology

We propose undertaking a testing program that investigates the zones of archaeological sensitivity identified within the proposed development footprint. The

aim of the test excavations will be to determine the nature, spatial extent and significance of the Aboriginal heritage resource across the subject area, incorporating the stages of residential development from DA1, DA2 and the residual lot (parkland area) that will be subject to a future DA application.

Archaeological test excavations would be implemented according to Requirements 16 and 17 of OEH's *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW*. In summary, the Code of Practice requires the following general methodology:

-) Placement of test excavation units on a systematic grid across areas of archaeological interest (in this case 50m-75m intervals), ensuring that individual units are separated by at least 5 m.
-) Manual excavation using hand tools.
-) Individual test excavation units of 50 x 50 cm size. Test excavation units may be combined and excavated as necessary to understand the site characteristics.
-) Maximum area of excavation to comprise no more than 0.5% of the area being investigated.
-) Excavation of the first unit in 5 cm spits, with subsequent excavation allowed in 10 cm spits or according to stratigraphy (whichever is smallest) depending on the results of the first unit.
-) Excavation to continue to the base of the identified Aboriginal object-bearing soil(s) and below, sufficient to confirm that the underlying soil(s) is/are culturally sterile.
-) Sieving of all excavated material through a 5 mm sieve.
-) Photographic and scale-drawn records of each single excavation unit.
-) Backfilling of excavation units as soon as practicable.

The subject area is ~50.2 hectares in size. In line with the requirements of the Code, a maximum of 0.5% of the subject area can be excavated, therefore allowing up to ~2,500 m² of excavation – a value exceeding that proposed here.

Extent proposes to excavate a grid of test pits across the subject area (**Figure 3**). Initially, we propose to undertake test pits at 75 m intervals within the areas of low sensitivity and test pits at 50m intervals within the areas identified of moderate and high sensitivity. All test pits would be undertaken as 50 x50cm units. This would give a total of approximately 160 test pits (totalling ~40m²) (**Figure 3**). All excavations would continue until basal clays are exposed, which is considered <50cm based on field observations. Should significant cultural materials be identified and time permits, additional excavation may be undertaken. This may consist of excavating additional test pits to increase the resolution of the testing grid, and/or expanding the test pit found to contain the highest artefact density up to 3m² - the maximum permitted under OEH guidelines – to further characterise the deposit.

All material would be sieved through a 5mm mesh. All excavations would be recorded in accordance with the Code, including scale drawings, photographs, written descriptions, etc. Due to the large number of test pits within similar landscape units recording of the individual test pits would involve section photography with section drawings for a representative sample of test pits. At a minimum, section drawings would be completed for all artefact bearing test pits, with sections drawn for at least half of the remaining test pits and section photographs taken for all test pits. Various chronological and soil samples are also proposed for collection and analysis following the field program (see below).

The above methodology may be modified at the discretion of the Excavation Director based on the conditions in the field and the findings of the investigations. Modifications would be undertaken in discussion with the Aboriginal stakeholders, client and where substantial with OEH.

Upon completion of the excavation program, all test pits would be backfilled.

Post Excavation Analysis and Reporting

The post-excavation analysis would be designed to address the research objectives, along with other relevant questions that may arise based on the results of the excavation. Results of analysis would be presented in relation to comparative site data where possible and where useful in addressing the research questions. Post-excavation analysis would involve the following components:

Stone Artefact Analysis

A qualified lithics specialist would undertake descriptive and functional recording of recovered artefacts. The analysis would be consistent with that undertaken during the test excavation post-excavation analysis in order to facilitate data comparison. Specifically, the analysis would aim to determine the following:

-) Source information. What raw material resources were used; where did they come from; and what does this tell us about Aboriginal use of the region in the past?
-) Stone reduction technology. How was the stone worked and used? Does this change over time? Can the function of the site be inferred from the artefact assemblage? What does this tell us about Aboriginal occupation, use, settlement and activities undertaken through time in this region?
-) Post-depositional influences. What post-depositional influences have impacted on the assemblage, and what does this tell us about the integrity and significance of the site?
-) Site chronology. When was the site occupied? Was the assemblage the product of repeated occupations or a single event? Is there spatial patterning in the assemblage, and what does this tell us about repeated use, activities and/or occupation of the region through time?

A programme of conjoin analysis (re-fitting) on a sample of artefacts may be undertaken if higher density concentrations (greater than 30 artefacts per square metre) are found during the excavation. As described above, scope has been provided for 3D recording of individual artefacts within discrete artefact concentrations or other cultural features.

Analysis of the vertical and horizontal patterning of artefact distribution will be undertaken using the data derived from excavation. This would attempt to provide information about the stone reduction strategies used at the site, temporal change, and the extent and nature of post-depositional influences.

Geomorphology

Should significant variations in geomorphology be discovered to those predicted within the ACHAR, a specialist will be engaged to inspect and report upon these.

Dating

If suitable features and/or deposits are discovered, samples would be taken for dating, by radiocarbon or OSL analysis, depending on the nature of the sample.

Reporting

The results of the test excavation would be analysed, and integrated into the existing ACHAR for the project. The report would be provided to the RAPs as a draft for review, and as a final version, incorporating any RAP comments received on the draft. The final version would be lodged with OEH. Aboriginal Site Impact Recording Forms would also be completed and lodged with OEH as required.

Artefact Management

Once the excavations are completed, all Aboriginal objects recovered will be securely stored at the archaeologists' office for analysis. At completion of the analysis and reporting, the assemblage would be transferred to the proponent. Arrangements will be discussed with the Registered Aboriginal Parties (RAPs) regarding the long-term management of the objects following analysis.

The long term curation of Aboriginal objects would depend on the nature and significance of the assemblage recovered. Based on the findings of previous local Aboriginal heritage investigations, it is considered that, if present, there is potential for the artefact assemblage to be of high significance, which may meet the thresholds for lodgement with the Australian Museum. There are three possible options for disposition and long-term management of artefacts:

Option 1: Deposition with the Australian Museum

Depending on the nature and significance of the assemblage recovered, it may be possible to deposit the objects with the Australian Museum. The assemblage would be assessed for accession according to the Archaeological Collection Deposition Policy (Australian Museum, January 2012) and the Protocols for the Deposition of Archaeological Material (Australian Museum, January 2012). It is important to note that while the assemblage may be assessed as significant under several criteria, the Museum will further assess the assemblage in line with their capacity to house the collection, and there is no legislative requirement for the Museum to accept the assemblage.

Acceptance of the assemblage by the Museum will depend upon the significance of the material and the Museum's capacity to accept it. The assemblage must have an appropriate level of significance against at least one of the following criteria:

1. Social or cultural value to the Aboriginal community.
2. Research potential.
3. Capacity to enhance the geographic, temporal and/or thematic coverage of the Australian Museum archaeology collections.
4. Public program and educational value to the Australian Museum.

The significance thresholds are not specified. It is not possible to assess the significance of an assemblage, or apply to the Museum for deposition, until after the excavation and analysis has been completed.

Option 2: Reburial on site

Reburial of the assemblage is an option where the property owner agrees, and can ensure the care of the Aboriginal objects in perpetuity at the reburial location. In effect, it creates a new Aboriginal site at this location. This option requires that a Management Plan be prepared in consultation with the RAPs. This Plan outlines how the reburial site will be protected.

Option 3: Care and Control Agreement

The third option is for one of the RAPs to accept the assemblage, in accordance with section 85A (1) (c) of the *NPW Act*. This would be done in accordance with a Care and Control Agreement developed in consultation with all of the RAPs and submitted for approval to OEH. If deposition of the assemblage in a Keeping Place is required, a written commitment would be produced by the proponent in conjunction with the RAPs addressing the nature of the Keeping Place, and how it would be funded, maintained and administered. Should there be disagreement regarding the proposed custodian of the assemblage, this would be determined and/or arbitrated by OEH. Based on current feedback this is the preferred option for artefact management.

Timeframes

Extent Heritage proposes the following indicative timeframe for the project:

-) Distribution of this document to Registered Aboriginal Parties: Early September 2017.
-) End of review period for the proposed methodology: Early October 2017.
-) Archaeological test excavations: Early October 2017.
-) Distribution of the draft report to Registered Aboriginal Parties for review: Mid December 2017.

Information Sought

Extent Heritage would appreciate your feedback on the above methodology proposed for the investigation and assessment of the study area.

In returning your answers, please include the following where appropriate:

-) Any protocols that you would like adopted during the project;
-) Identification of any Aboriginal objects of cultural significance and/or importance that you are aware of within the activity area, and how you wish them to be dealt with during the project;
-) Identification of any places of cultural significance and/or importance that you are aware of within the activity area, and how you wish them to be dealt with during the project;
-) Guidance on the protocols, sensitivity, use and/or distribution of any cultural information that you provide Extent Heritage;
-) Whether you require any further information prior to Extent Heritage proceeding with the project.

We also direct you to Extent's policy and procedures on Aboriginal engagement, which will be provided with this document.

It is important that you understand that Extent Heritage will compile and forward information for review by the proponent, but we do not decide who will be involved in field work in any paid capacity.

If you would like to arrange for any elders or other community members to be able to visit the site during the work, please let us know.



Figure 2. Warnervale indicative layout showing stages of residential development and wetland redevelopment areas (August 2017).

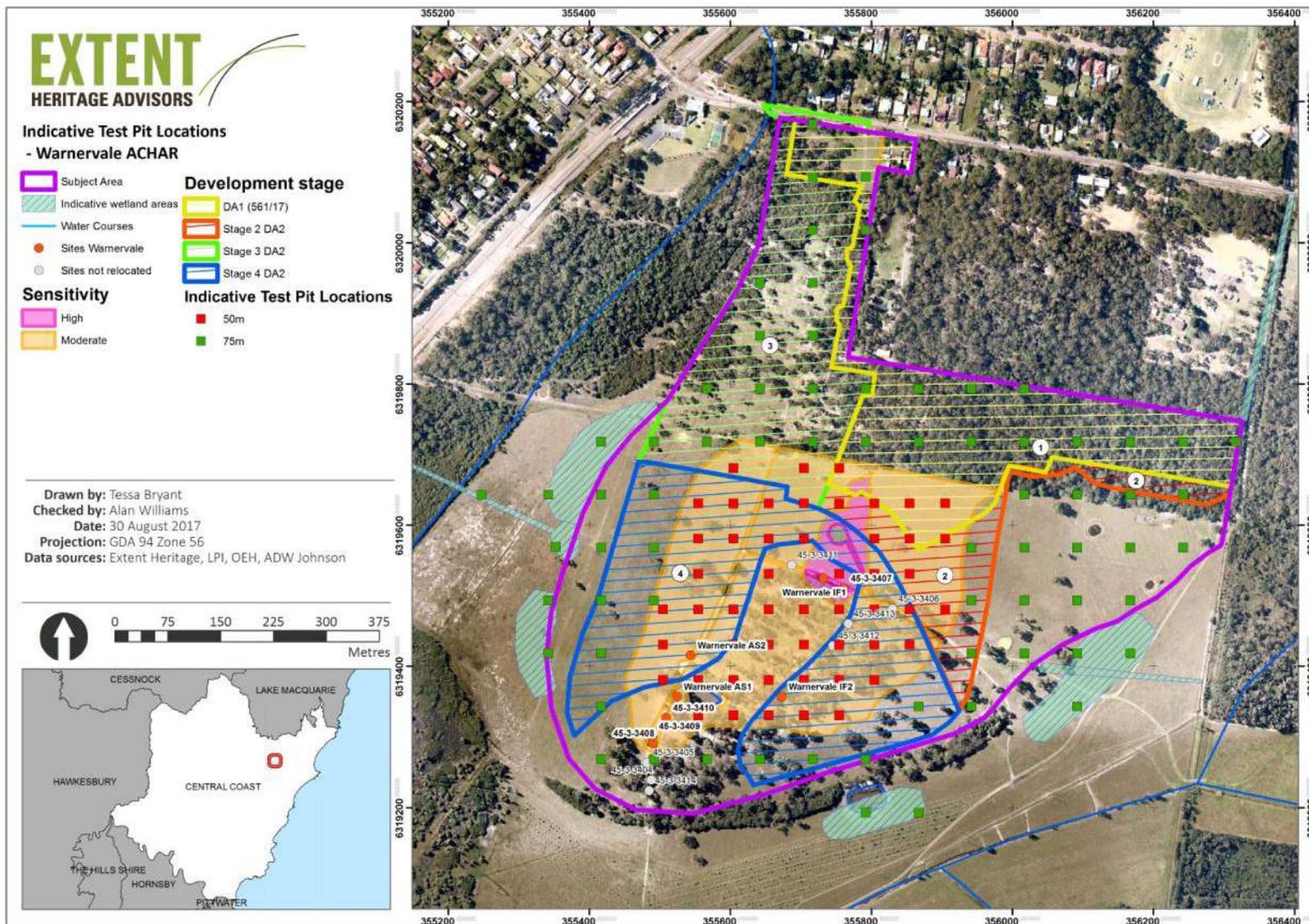


Figure 3. Indicative locations of test pits within the Warnervale subject area.

Responses to Proposed Test Excavation Methodology

Tessa Bryant

From: Alan Williams
Sent: Thursday, 14 September 2017 9:30 AM
To: Sharon Hodgetts; Amanda Shields; Tracey Howie
Cc: Anthony Freeman; Tessa Bryant; Lynne Hamilton
Subject: RE: Precinct 7A, Warnervale ACHAR - Proposed Test Excavations

Thanks Sharon,

Will incorporate feedback into the documentation.

A

Dr. Alan Williams FSA MAACAI | Aboriginal Heritage Team Leader
EXTENT Heritage Pty Ltd
T: 02 9555 4000 | M: 0428 810 150

From: Sharon Hodgetts [mailto:SHodgetts@dlalc.org.au]
Sent: Thursday, September 14, 2017 9:27
To: Alan Williams <awilliams@extent.com.au>; Amanda Shields <amanda.shields@dlalc.org.au>; Tracey Howie <tracey@guringai.com.au>
Cc: Anthony Freeman <Anthony.Freeman@dlalc.org.au>; Tessa Bryant <tbryant@extent.com.au>; Lynne Hamilton <L.Hamilton@dlalc.org.au>
Subject: RE: Precinct 7A, Warnervale ACHAR - Proposed Test Excavations

Hi Al

I have had a quick look at the methodology and look acceptable.

I would like to highlight that the area of the existing artefacts should be excluded from future development as discussed in our report and that the first option would be to rebury any excavated artefact back on site in a protected area.

If any excavated objects are deemed of cultural significance or educational value then these should be held under a care agreement.

Regards

Sharon Hodgetts
Senior Culture and Heritage Officer
M- 0467 805 240



Darkinjung Local Aboriginal Land Council

P 02 4351 2930

A 168 Pacific Highway Watanobbi NSW 2259

F 02 4351 2946

M PO Box 401 Wyong NSW 2259

darkinjung.com.au  darkinjung

*I acknowledge that the land on which I work is the traditional land of the Darkinyung people.
I pay my respects to the Elders, both past and present.*

Tessa Bryant

From: kerrie@awabakal.com.au
Sent: Thursday, 5 October 2017 10:40 PM
To: Alan Williams
Cc: tracey@guringai.com.au
Subject: RE: Precinct 7A, Warnervale ACHAR - Proposed Test Excavations

Hi Alan,

Please accept my apologies for the delayed response.

i have read through the proposed text excavation and agree with the proposed Methodology.

With regards to the artefact management, our people would prefer option 2, that all Aboriginal objects recovered remain on country in a protected conservation area to avoid further and/or future impacts.

We will also support any recommendations by Tracey Howie.

Kind regards,
Kerrie Brauer



Kerrie Brauer | Director | Administration | Awabakal Traditional Owners Aboriginal Corporation
M: 04 12 86 63 57 | E: kerrie@awabakal.com.au | www.awabakal.com.au
PO Box 122 Rutherford NSW 2320 Australia

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From: Alan Williams [mailto:awilliams@extent.com.au]
Sent: Wednesday, 6 September 2017 1:44 PM
To: Amanda Shields; Sharon Hodgetts (SHodgetts@dlalc.org.au); Steven Hickey (Widescope.group@live.com); Carolyn Hickey A1 Indigenous Heritage; Amanda Hickey (AHCS); Tracey Howie; valleylmc@bigpond.com; microlith99@gmail.com; lowerhunterai@gmail.com; kerrie@awabakal.com.au; 'Des Hickey (deshickey@bigpond.com)'
Cc: Anthony Freeman; Tessa Bryant
Subject: Precinct 7A, Warnervale ACHAR - Proposed Test Excavations

Dear All,

Thank you for your participation in the Aboriginal heritage assessment process for Precinct 7a, Warnervale. The Aboriginal Cultural Heritage Assessment report (ACHAR) is now due to be finalised following the comment period over August (if anyone does have any comments, please can you get them to Tess as soon as possible).

Following on from the ACHAR, the proponent has agreed to undertake Aboriginal archaeological excavations of the site to further refine the model and characterise the cultural materials outlined in the ACHAR, and assist in the development design, approvals, etc, proposed in the near future. Please find attached a proposed test excavation methodology to investigate the site. The findings of these works will be integrated into the ACHAR once complete, and a further comment period provided for the revised document.

Tessa Bryant

From: Alan Williams
Sent: Friday, 22 September 2017 7:47 AM
To: Tracey Howie
Cc: Tessa Bryant
Subject: RE: Warnervale AHIP response

Likewise!

A

Dr. Alan Williams FSA MAACAI | Aboriginal Heritage Team Leader
EXTENT Heritage Pty Ltd
T: 02 9555 4000 | M: 0428 810 150

From: Tracey Howie [mailto:traceyhowie71@icloud.com]
Sent: Friday, September 22, 2017 7:17
To: Alan Williams <awilliams@extent.com.au>
Cc: Tessa Bryant <tbryant@extent.com.au>
Subject: Re: Warnervale AHIP response

Thanks Alan. Yes, totally agree with you. Just making sure it's documented early.
Have a wonderful weekend. Looking forward to working with you guys again:)
Tracey

Sent from my Tracey's iPhone

On 22 Sep 2017, at 7:11 am, Alan Williams <awilliams@extent.com.au> wrote:

Thanks Trace,

Will integrate into the ACHAR, and pass onto the client. Typically a Management Plan would come after the testing when we have a good handle on what the tangible (and intangible) values of the site are through the upcoming proposed works. So we'll certainly pass this onto the client, and include in the recommendations, but its unlikely to actually be developed until the end of the ACHAR I would think. It would potentially either be just before, or as a condition of the AHIP I would think (based on others we have done).

Good to raise it now though. Tess, can you please pass Tracey's comments onto the client, and suggest this would form a recommendation of the ACHAR.

Thanks
Al

Dr. Alan Williams FSA MAACAI | Aboriginal Heritage Team Leader
EXTENT Heritage Pty Ltd
T: 02 9555 4000 | M: 0428 810 150

From: Tracey Howie [mailto:traceyhowie71@icloud.com]
Sent: Thursday, September 21, 2017 18:08

To: Alan Williams <awilliams@extent.com.au>; Tessa Bryant <tbryant@extent.com.au>

Subject: Warnervale AHIP response

Hello Alan & Tessa

Guringai TLAC have read and discussed the methodology for the proposed AVJennings Housing Development, Warnervale NSW and agree with the methodology as set out by Extent Heritage, however we agree that the historical content requires amending to reflect the correct traditional owners, the Guringai mob.

We also believe that such a large scale development within a cultural landscape, requires an Aboriginal Cultural Heritage Management Plan to be constructed in consultation with GTLAC and remain effective throughout the staggered stages of this proposed development.

GTLAC request assistance with an opportunity to engage the proponent and begin discussions for the proposed street names, park areas & community facilities within the development.

These issues and that of the permanent location of any artefact materials unearthed during the proposed AHIP activities can be formally addressed within an ACHMP.

I look forward to your response in regards to these matters.

Kind regards

Tracey Howie

Guringai TLAC

M: 0404 182049

Sent from my Tracey's iPhone

From: Tessa Bryant
Sent: Monday, 25 September 2017 5:17 PM
To: Carolyn .H
Subject: RE: Precinct 7A, Warnervale ACHAR - Proposed Test Excavations

Hi Carolyn and Amanda,

Thank you for your review of the proposed test excavation methodology for Warnervale Road, Warnervale ACHAR.

Regards
Tessa

Dr. Tessa Bryant | Heritage Advisor
EXTENT Heritage Pty Ltd
www.extent.com.au | tbryant@extent.com.au
P: 02 9555 4000 | M: 0406 259 026



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From: Carolyn .H [mailto:cazadirect@live.com]
Sent: Sunday, 24 September 2017 4:58 PM
To: Tessa Bryant
Subject: Re: Precinct 7A, Warnervale ACHAR - Proposed Test Excavations

((AHCS)) Amanda Hickey Cultural Services

Contact : Amanda Hickey
Address : 73 Russell St , Emu Plains
Mobile : 0434 480 558
ABN : 498 242 132 40

A1 Indigenous Services

Contact: Carolyn
M: 0411650057
E: Cazadirect@live.com
A: 73 Russell St, Emu Plains NSW 2750
ABN: 20 616 970 327

Hi Tessa,
A1 and AHCS support the Methodology created by EXTENT Heritage for the Test Excavation at Warnervale.

Please note this response is for 2 stakeholders

Thank you

Carolyn Hickey

Amanda Hickey

Information Sought

- Any protocols that you would like adopted during the project; **No**

- Identification of any Aboriginal objects of cultural significance and/or importance that you are aware of within the activity area, and how you wish them to be dealt with during the project; **No / We are happy with Extents chosen procedures**

- Identification of any places of cultural significance and/or importance that you are aware of within the activity area, and how you wish them to be dealt with during the project; **No / We are happy with Extents chosen procedures**

- Guidance on the protocols, sensitivity, use and/or distribution of any cultural information that you provide Extent Heritage; **No**

- Whether you require any further information prior to Extent Heritage proceeding with the project. **No**

From: Alan Williams <awilliams@extent.com.au>

Sent: Wednesday, 6 September 2017 1:43 PM

To: Amanda Shields; Sharon Hodgetts (SHodgetts@dlalc.org.au); Steven Hickey (Widescope.group@live.com); Carolyn Hickey A1 Indigenous Heritage; Amanda Hickey (AHCS); Tracey Howie; valleylmcorp@bigpond.com; microlith99@gmail.com; lowerhunterai@gmail.com; kerrie@awabakal.com.au; 'Des Hickey (deshickey@bigpond.com)'

Cc: Anthony Freeman; Tessa Bryant

Subject: Precinct 7A, Warnervale ACHAR - Proposed Test Excavations

Dear All,

Thank you for your participation in the Aboriginal heritage assessment process for Precinct 7a, Warnervale. The Aboriginal Cultural Heritage Assessment report (ACHAR) is now due to be finalised following the comment period over August (if anyone does have any comments, please can you get them to Tess as soon as possible).

Following on from the ACHAR, the proponent has agreed to undertake Aboriginal archaeological excavations of the site to further refine the model and characterise the cultural materials outlined in the ACHAR, and assist in the development design, approvals, etc, proposed in the near future. Please find attached a proposed test excavation methodology to investigate the site. The findings of these works will be integrated into the ACHAR once complete, and a further comment period provided for the revised document.

The methodology includes information on the project, the proposed excavation approach, and a series of questions for the registered Aboriginal parties. Can I please ask you to review it, and if you have any comments/modifications/responses/etc, please provide them to me (or Tess) by 3 October 2017.

Thanks

Al

Dr. Alan Williams FSA MAACA | Aboriginal Heritage Team Leader
EXTENT Heritage Pty Ltd
www.extent.com.au | awilliams@extent.com.au

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Honorary Associate Lecturer

Climate Change Research Centre, School of Biological, Earth and Environmental Sciences

University of New South Wales,

Sydney, NSW 2052

See my latest research article on the population history of Australia at:

<http://rspb.royalsocietypublishing.org/content/280/1761/20130486.short?rss=1>

See my latest research article on human refuges during the Last Glacial Maximum at:

<http://www.sciencedirect.com/science/article/pii/S0305440313002215>

See my latest research article on the identification of one of the earliest sites in Australia as part of compliance-based excavations in northwest Sydney at:

<http://onlinelibrary.wiley.com/doi/10.1002/jqs.2742/abstract>

See my latest research article on correlations between Aboriginal populations and landscape burning

Appendix 2-8. Report Review – Feedback Received

From: Tessa Bryant
Sent: Monday, 21 August 2017 4:33 PM
To: 'Carolyn .H'
Subject: RE: 15-41 Warnervale Road, Warnervale ACHA - methodology and ACHAR

Hi Carolyn and Amanda,

Thank you for your review of the draft ACHAR for Warnervale.

Regards
Tessa

Dr. Tessa Bryant | Heritage Advisor
EXTENT Heritage Pty Ltd - Sydney
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From: Carolyn .H [mailto:cazadirect@live.com]
Sent: Monday, 21 August 2017 12:21 PM
To: Tessa Bryant
Subject: 15-41 Warnervale Road, Warnervale ACHA - methodology and ACHAR

A1 Indigenous Services

Contact: Carolyn
M: 0411650057
E: Cazadirect@live.com
A: 73 Russell St, Emu Plains NSW 2750
ABN: 20 616 970 327

((AHCS)) Amanda Hickey Cultural Services

Contact : Amanda Hickey
Address : 73 Russell St , Emu Plains
Mobile : 0434 480 558
ABN : 498 242 132 40

Hi Tessa,

Sorry for the late response, Widescope has passed on the link for the ACHAR, hope this is still helpful.

Re ; 15-41 Warnervale Road, Warnervale

A1 and AHCS support the Methodology and Aboriginal Cultural Heritage Assessment Report created by Extent .

Thank you

Carolyn Hickey

Amanda Hickey

From: Tessa Bryant <tbryant@extent.com.au>

Sent: Monday, 5 June 2017 11:31 AM

To: Czadirect@live.com

Subject: 15-41 Warnervale Road, Warnervale ACHA - Proposed methodology

Good morning Caroyln,

Thanks for your registration of interest in the Aboriginal Cultural Heritage Assessment for 15-41 Warnervale Road, Warnervale. The proposed methodology for this assessment includes an archaeological survey. Please find attached a letter which details the proposed methodology for your review. Any comments on the methodology are requested by the 3rd of July. Thanks for your assistance.

Regards

Tessa

Dr. Tessa Bryant | Heritage Advisor

EXTENT Heritage Pty Ltd - Sydney

www.extent.com.au | tbryant@extent.com.au

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From: Tessa Bryant
Sent: Friday, 15 September 2017 1:53 PM
To: kerrie@awabakal.com.au
Subject: RE: Warnervale ACHAR for review

Hi Kerrie,

Thank you for your detailed response to the draft ACHAR. Your feedback will be incorporated into the ACHAR. Once the test excavation is finished the ACHAR will be updated again and then sent out for comment.

Regards
Tessa

Dr. Tessa Bryant | Heritage Advisor
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From: kerrie@awabakal.com.au [mailto:kerrie@awabakal.com.au]
Sent: Friday, 15 September 2017 1:09 PM
To: Tessa Bryant
Cc: Alan Williams; tracey@guringai.com.au; 'PeterLeven'
Subject: RE: Warnervale ACHAR for review

Hi Tessa,

Apologies for the delayed response as we have had a bout of sickness in the family home and are now just getting on top of it.

I have read through the document and agree with the proposed recommendations.

P33, last paragraph, with regards to this section, the reference that the Darkinjung LALC have been identified as Traditional Owners of the area has been disputed by our Elders. I'm sure that Tracey Howie, who is a direct descendant of Bungaree, would be happy to chat with reference to appropriate oral and/or historical information so that the correct details are included within the Local Aboriginal History section.

Our Elders are concerned that the references regarding the Darkinjung LALC is being confused, as the Warnervale area is not within the Darkinjung Country, and believe that the relevant information needs further clarification.

Considering the extent of the proposed residential project, we highly recommend the development of an Aboriginal Consultative Committee, to manage the appropriate outcomes.

We also recommend that traditional language be used for the naming of streets, parks and any conservation areas, this aspect would be in consultation with Tracey Howie being a direct descendant of the area.

We have also noticed that the document does not contain any Care and Control recommendations, and believe that this needs to be clarified.

We do not support any removal of any topsoil, and believe that all topsoil to remain within the proposed development area, as there is potential for additional cultural material to be concealed below the ground surface as a result of the general use of the area.

We also have been informed that the document will include additional information due to the proposed test excavation, and would like to make further comment on the second Draft.

Kind regards,
Kerrie Brauer



Kerrie Brauer | Director | Administration | Awabakal Traditional Owners Aboriginal Corporation
M: 04 12 86 63 57 | E: kerrie@awabakal.com.au | www.awabakal.com.au
PO Box 122 Rutherford NSW 2320 Australia

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From: Tessa Bryant [<mailto:tbryant@extent.com.au>]
Sent: Friday, 4 August 2017 5:36 PM
To: kerrie@awabakal.com.au
Subject: Warnervale ACHAR for review

Good Afternoon Kerrie,

Please find below a link to download a copy of the draft ACHAR for 15-41 Warnervale Road, Warnervale for your review. Due to the file size it wasn't possible to directly attach the PDF to this email.

The link is :

<https://ahms.digitalpigeon.com/shr/8Bs70HjlEeeOqgbtG5M1VQ/WY4SkFapqdYVxRp0mO6osw>

This is the overarching ACHAR and there is a recommendation for further investigation across the subject area.

If you wish, can you please review this report and provide comments by no later than Friday 1st September 2016. Ideally, we'd like comments via e-mail for easy integration into the report, but are happy to receive them via post or phone if required (my details are in the signature block below).

Thank you

Regards
Tessa

Dr. Tessa Bryant | Heritage Advisor
EXTENT Heritage Pty Ltd - Sydney
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From: Tessa Bryant
Sent: Monday, 21 August 2017 4:32 PM
To: 'WIDESCOPE.'
Subject: RE: Warnervale ACHAR for review

Dear Steven,

Thanks for your review of the draft ACHAR for Warnervale.

Regards
Tessa

Dr. Tessa Bryant | Heritage Advisor
EXTENT Heritage Pty Ltd - Sydney
www.extent.com.au | bryant@extent.com.au
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From: WIDESCOPE . [<mailto:widescope.group@live.com>]
Sent: Sunday, 20 August 2017 7:33 PM
To: Tessa Bryant
Subject: RE: Warnervale ACHAR for review

Hi Tessa

I have received the Draft ACHAR 15-41 Warnervale Road Warnervale
I have reviewed Draft I support and seek to endorse the proposed methodology

Kind regards
Steven Hickey

From: [Tessa Bryant](#)
Sent: Friday, 4 August 2017 5:31 PM
To: widescope.group@live.com
Subject: Warnervale ACHAR for review

Good Afternoon [Steven](#),

Please find below a link to download a copy of the draft ACHAR for 15-41 Warnervale Road, Warnervale for your review. Due to the file size it wasn't possible to directly attach the PDF to this email. Please disregard my previous email which had the incorrect draft attached.

The link is :

<https://ahms.digitalpigeon.com/shr/8Bs70HjIEeeOqgbtG5M1VQ/WY4SkFapqdYVxRp0mO6osw>

This is the overarching ACHAR and there is a recommendation for further investigation across the subject area.

If you wish, can you please review this report and provide comments by no later than Friday 1st September 2016. Ideally, we'd like comments via e-mail for easy integration into the report, but are happy to receive them via post or phone if required (my details are in the signature block below).

Thank you

Regards

Tessa

Dr. Tessa Bryant | Heritage Advisor
EXTENT Heritage Pty Ltd - Sydney
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P: 02 9555 4000 | M: 0406259026



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Appendix 3: Archaeological Background

A3.1. Local Archaeological Information

The selected local studies mentioned in the text are summarised in more detail in the following table.

Table A3-1-1. Summary of local Aboriginal Studies.

Author	Purpose of Investigation	Findings	Approximate Distance from Study Area (km)
Appleton, J (Archaeological Surveys and Reports (AS&R) (2004)	Archaeological investigation in area of proposed Warnervale Town Centre and proposed sewer infrastructure.	No Aboriginal archaeological sites or areas of potential were identified during this assessment. Majority of the study area had been significantly altered and areas that were not disturbed had low visibility. Recommendations of different areas of monitoring by a representative of the Darkinjung LALC for the earthworks associated with the sewer infrastructure. Darkinjung recommended a representative be present for any earthworks whereas Appleton recommended that it was only necessary when earthworks were within 30m of drainage lines.	1km north, sewer in top north east corner of subject area (western edge of sewer).
AS&R (2005)	Archaeological investigation for proposed rezoning of land within three precincts of the Wyong Employment Zone.	One silcrete flaked piece was identified within a disturbed context. The three previously identified isolated finds recorded by Silcox (1997) were not relocated (also not registered on AHIMS). Report concluded that there were no archaeological constraints to the proposed development.	1.6 km northwest.
AS&R (2006)	Archaeological investigation for proposed rezoning for Conservation with a small industrial zone along Sparks Road.	No archaeological sites or areas of potential were identified during this assessment. The study area primarily comprised swamp and floodplain muds with low surface visibility.	800m northwest.
AS&R (2009)	Archaeological investigation for rezoning of land within Precinct 7A.	Eighteen sites were identified during the investigation, eleven of which are located within the current subject area. Three previously recorded sites within the precinct area were not relocated. The recorded sites were all either isolated finds or artefact scatters identified within disturbed contexts, generally on erosional scars along vehicle tracks. These sites were all identified on the crest/spur in the southern part of the subject area. The five sites (nine artefacts) recorded below the 10m contour were argued to have been the result of downslope movement as a consequence of a combination of	Includes the subject area.

Author	Purpose of Investigation	Findings	Approximate Distance from Study Area (km)
		<p>vehicle movement and slope-wash. Appleton estimated that the A horizon was 2-5cm deep on the hill/ridge within the subject area and the sites worth further investigation: Bitova ISO3, Bitova OS4, Bitova ISO 8, Bitova OS 9 and Bitova OS 10 we constrained within a 150m diameter circular area.</p> <p>The survey primarily covered the areas along tracks covering approximately 50m. Visibility across the surveyed areas was very low (0-5%).</p>	
Archaeological Heritage and Management Solutions (AHMS) (2009)	Archaeological excavation of proposed Bluetongue Brewery site.	Investigation of an area 17 m ² was undertaken using 1 m x 1 m test pits. It was determined that the area had low archaeological potential, due to the extensive modifications as part of the nearby Warnervale Business Park. A total of 16 artefacts were recovered in total from the Bluetongue Brewery site, mostly comprising broken flakes and angular fragments. Eight artefacts were from surface collections and the remainder recovered in stockpiled top soil (AHMS 2009:3). These sites were recorded and removed from the study area (Site #45-3-3377 and #45-3-3448). Site #45-3-3377 is listed on the AHIMS database as destroyed.	3 km northwest.
AHMS (2014)	Aboriginal heritage due diligence assessment for proposed link road.	Three Aboriginal sites, including one previously registered site (IF #45-3-3276) and two identified sites (one artefact scatter – 45-6-3653 and one isolated find – 45-3-3654) were present within the study area. The northern part of the subject area contained a ridgeline with moderate to high archaeological potential. The southern part of the study area comprised swamp/wetlands with low archaeological potential.	500m west.
Dean-Jones, P, (1990)	Investigation for proposed extension to Wyong golf course.	No Aboriginal sites were identified during the investigation. This investigation concluded that while the extensive freshwater and estuarine wetlands on the floodplain and delta of the Wyong River would have provided an abundant source of food and raw material for Aboriginal occupants during the last 2-3000 years, these wetland areas are not conducive for the preservation of surface evidence of occupation.	2km south.
Helen Brayshaw Heritage Consultants (HBHC) 1998a	Archaeological survey for rezoning of land for residential development.	Study area consisted of low lying land with a gentle slope up to Warnervale Road. Two broad drainage depressions merge in the central part of the study area and approximately half of the area is flood prone. No Aboriginal sites or potential sites were identified within the study area.	1.7km east.

Author	Purpose of Investigation	Findings	Approximate Distance from Study Area (km)
HBHC 1998b	Archaeological survey for rezoning of land for residential development.	The eastern part of the study area covered a broad crest rising to 23.3 metres AHD with land sloping gently away to the northeast towards a shallow drainage depression. No Aboriginal sites or potential sites were identified within the study area.	1.8km east.
HBHC (1999)	Archaeological survey for proposed residential subdivision.	Study area consists of gently sloping land with two broad drainage depressions. Vegetation comprised mostly swamp forest. No Aboriginal sites or potential sites were identified within the study area.	1.9km east.
HLA (2005c)	Archaeological survey for water pipeline corridor from Morisset to Sparks Rd	Identified substantial ground disturbance caused as result of proximity to F3 Freeway. The entire 22 km by 10 m wide route was identified as of low sensitivity, retaining little potential to contain archaeological material or deposits.	3km north.
HLA (2006)	Archaeological survey for revised water pipeline corridor from Morisset to Sparks Rd	No Aboriginal sites were located during the survey, and it was considered that the level of human impact along the proposed pipeline route variation was extensive (through roads, residential suburbs, and service trenches). Concluded that the entire revised proposed pipeline route was considered to have low archaeological potential.	3 km north.
Silcox, R. (1997)	Archaeological assessment of Precincts 10, 11 and 13 for rezoning of land within the Wyong Employment Zone	The majority of the study area comprised partially drained wetlands bordered by low rises and slopes that has been cleared of original vegetation with some regrowth. Five isolated artefacts were located at three locations but not registered on AHIMS. The footslopes and low rises along the margins of the wetlands (50-100m from the shoreline) were identified as an archaeologically sensitive zone with potential for subsurface deposits in areas not already disturbed. Further investigation recommended if these areas were to be developed.	900m northwest.
Silcox, R. (1999)	Archaeological assessment for proposed educational facility	Three Aboriginal sites were identified, one artefact scatter of five artefacts and two isolated finds within disturbed contexts – adjacent to vehicle tracks isolated finds) or an equestrian area (scatter). The artefacts were all small, less than 3cm in size and a range of raw materials – indurated mudstone, silcrete, and 'fine-grained basic' (Silcox 1999:11). Archaeological significance for these sites was assessed as low. Report concluded that the low density of archaeological materials found on more elevated landforms surrounding the wetlands is indicative of limited Aboriginal occupation in this section of the landscape, with the archaeological record indicative of movement throughout the area with only temporary occupation. Visibility was limited and recommended a program of systematic	800m northwest.

Author	Purpose of Investigation	Findings	Approximate Distance from Study Area (km)
		excavation on lower slopes adjacent to wetlands to determine whether occupation was concentrated on this landform. The lower footslopes adjacent to wetlands were assessed as having moderate archaeological potential and would require further assessment. The other areas had a lower potential and required no further assessment.	
Therin Archaeological Consulting (TAC) 2001	Archaeological survey as part of EIA for proposed residential development.	One site was identified containing two artefacts (one mudstone and one acid volcanic flake) in a surface exposure close to southern boundary. The significance of this site was slightly increased due to proximity to ceremonial sites. The study area consisted on lower hillslopes with one drainage depression. The report recommended that the identified site was conserved and that the rest of the area had low potential to contain Aboriginal objects.	1.5km southeast.

A3.2. Site Type Information

Aboriginal Sites

Aboriginal sites are classified in a number of ways. At the most basic level, sites are recorded as 'closed sites' or 'open sites'. Closed sites are associated with rock shelters, and include other evidence of Aboriginal occupation that may be present, such as accumulated cultural deposit within the shelter ('potential archaeological deposit' or PAD), faunal remains (animal bone or shell), and rock art on the shelter walls (paintings or engravings). Open sites are broadly defined, and encompass all other types of Aboriginal sites identified where there is no rock shelter. The most common types of open sites found in NSW include artefacts, which can occur almost anywhere in the landscape, grinding grooves, rock art across formations, culturally modified trees, and shell deposits (middens) (OEH 2012:7). The presence or absence of stone artefacts is often a defining factor, although it is worth pointing out that almost any site is likely to have at least some associated artefacts, as discard or loss of this most ubiquitous and practically indestructible marker of Aboriginal archaeology is likely to have occurred anywhere that Aboriginal people stopped or gathered for any length of time.

Any one site (or close group of linked sites described as a 'site complex') can contain several different site features. For example, a shelter may have art on the walls, artefacts on the floor surface or outside the shelter, and be predicted to contain faunal remains and further artefacts in the accumulated deposit inside.

A description of terms used to describe different site features recorded in the Warnervale area and within the AHIMS search area is provided in **Table A3-2-1**. Other features or types of Aboriginal cultural sites that do not necessarily leave physical evidence may exist or have once existed in the region however such sites have not previously been recorded reflecting the archaeological focus of the past studies and the loss of traditional knowledge of such places in this area. Similarly there may be places of contemporary significance to Aboriginal people in the region and this will require consultation with the Aboriginal community to identify such places.

Table A3-2-1 Aboriginal site feature definitions (OEH 2012:4-5)

Site Feature	Definition
Art	Art is found in shelters, overhangs and across rock formations. Techniques include painting, drawing, scratching, carving, engraving, pitting, conjoining, abrading and the use of a range of binding agents and the use of natural pigments obtained from clays, charcoal and plants
Artefact	Objects such as stone tools, and associated flaked material, spears, manuports, grindstones, discarded stone flakes, modified glass or shell demonstrating evidence of use of the area by Aboriginal people.
Burial	A traditional or contemporary (post-contact) burial of an Aboriginal person, which may occur outside designated cemeteries and may not be marked, e.g. in caves, marked by stone cairns, in sand areas, along creek banks etc.
Ceremonial Ring	Raised earth ring(s) associated with ceremony
Grinding Grooves	A groove in a rock surface resulting from manufacture of stone tools such as ground edge hatchets and spears, may also include rounded depressions resulting from grinding of seeds and grains
Potential Archaeological Deposit (PAD)	An area where Aboriginal objects may occur below the ground surface. The term 'potential archaeological deposit' was first applied in Sydney regional archaeology in the 1980s, and referred to rock shelters that were large enough and with enough accumulated deposit to allow archaeologists to presume that subsurface cultural material was highly likely to be present. Since then it has come to include open sites where the same prediction can be made.

Site Feature		Definition
Modified Tree (Carved or Scarred)	or	Trees which show the marks of modification as a result of cutting of bark from the trunk for use in the production of shields, canoes, boomerangs, burials shrouds, for medicinal purposes, foot holds etc., or alternately intentional carving of the heartwood of the tree to form a permanent marker to indicate ceremonial use/significance of a nearby area, again these carvings may also act as territorial or burial markers.
Shell		An accumulation or deposit of shellfish from beach, estuarine, lacustrine or riverine species resulting from Aboriginal gathering and consumption. Usually found in deposits previously referred to as shell middens. Must be found in association with other objects like stone tools, fish bones, charcoal, fireplaces/hearths, and burials. Will vary greatly in size and components.
Stone Arrangement		Human produced arrangements of stone usually associated with ceremonial activities, or used as markers for territorial limits or to mark/protect burials.
Stone Quarry		Usually a source of good quality stone which is quarried and used for the production of stone tools

Stone Artefacts

Aboriginal stone artefacts are an important source of archaeological information because stone is preserved for long periods of time whereas organic materials such as bone, shell, wood and plant fibres often decay. Stone artefacts provide valuable information about technology, economy, cultural change through time and settlement patterning. Stone has also been used for 'relative' dating of sites where direct methods such as radiocarbon dating cannot be applied. A technological sequence for stone artefacts for the region was first described in the late 1940s by Fred McCarthy and has since been refined over time by Hiscock and Attenbrow (Hiscock and Attenbrow 1998, 2005) into the 'Eastern Regional Sequence':

- Capertian – is distinguished by large uniface pebble tools, core tools, horse-hoof cores, scrapers and hammerstones. Backed artefacts occasionally present. Generally dates to before 5,000 years BP.
- Early Bondaian – Aspects of the Capertian assemblage continue, but backed artefacts and ground-edged artefacts increase. Artefacts during this period were predominantly made from fine-grained siliceous stone such as silcrete and tuff. Generally dated from 5,000 BP to 2,800 BP.
- Middle Bondaian – Characterised by backed artefacts, particularly Bondi Points and ground-edged artefacts. Artefacts made from siliceous materials, however quartz becomes more frequent. Generally dated from 2,800 BP to 1,600 BP.
- Late Bondaian – characterised by bipolar technology, eloueras, ground-edged artefacts, and bone and shell artefacts. Bondi points are virtually absent and artefacts are predominantly made from Quartz. Generally dated from 1,600 BP to European contact.

Survivability of the Archaeological Record

The following observations can be made about the nature and survivability of the archaeological record across the Central Coast:

- Archaeological material is often found in areas of sub-surface exposure, such as those caused by erosion.
- Due to the limitations of surface surveys, test excavation is often required to establish the nature and density of archaeological material.
- Aboriginal cultural material is more likely to survive in areas that contain remnant portions of the pre-European soil profile, in contrast to landforms that have been impacted by historical or recent disturbances.
- The potential for survival of any archaeological sites will largely depend on the degree of past disturbance.
- Past disturbance to the soil profile can be due to European activity such as clearing, ploughing, grazing, and urban development and/or due to environmental factors such as flooding events, erosion and colluvial movement. These activities may disturb, erode or remove the natural soil profile completely.

- Aboriginal stone artefacts are more likely to survive because stone is preserved for long periods of time whereas organic materials such as bone, shell, wood and plant fibres decay.
- A major impact of more than 200 years of post-contact settlement on Aboriginal sites would have been the destruction of carved and scarred trees, which would have been removed as part of clearing for agricultural activities and the construction of infrastructure such as buildings and roads. However, there is some potential for culturally modified trees to survive in areas where there are stands of remnant native vegetation.

A4.3. AHIMS Site Search

A copy of the AHIMS search is provided in the subsequent pages.

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-3-1312	Hue Hue Road;	AGD	56	353671	6322552	Open site	Valid	Artefact :-	Open Camp Site	101093,102647
	<u>Contact</u>									
	<u>Recorders</u>			Unknown Author						
	<u>Permits</u>									
45-3-1141	Tacoma South;Tacoma;	AGD	56	355300	6314900	Open site	Valid	Artefact :-, Grinding Groove :-	Axe Grinding Groove,Open Camp Site	308,98461
	<u>Contact</u>									
	<u>Recorders</u>			Len Dyaill						
	<u>Permits</u>									
45-3-1142	Tacoma South;Tacoma;	AGD	56	355836	6314547	Open site	Valid	Artefact :-	Open Camp Site	308,98461
	<u>Contact</u>									
	<u>Recorders</u>			Len Dyaill						
	<u>Permits</u>									
45-3-1145	Rocky Knob;Tacoma South;	AGD	56	355836	6314547	Open site	Valid	Grinding Groove :-	Axe Grinding Groove	308,98461
	<u>Contact</u>									
	<u>Recorders</u>			Len Dyaill						
	<u>Permits</u>									
45-3-1274	Rocky Point;Tacoma;	AGD	56	357580	6314740	Open site	Valid	Ceremonial Ring (Stone or Earth) :-	Bora/Ceremonial	98461
	<u>Contact</u>									
	<u>Recorders</u>			Len Dyaill						
	<u>Permits</u>									
45-3-1275	Tacoma;	AGD	56	357200	6314340	Open site	Valid	Ceremonial Ring (Stone or Earth) :-	Bora/Ceremonial	98461
	<u>Contact</u>									
	<u>Recorders</u>			Len Dyaill						
	<u>Permits</u>									
45-3-1276	Wyang Creek Wen Mar	AGD	56	349771	6316077	Closed site	Valid	Art (Pigment or Engraved) :-	Shelter with Art	101093
	<u>Contact</u>									
	<u>Recorders</u>			ASRSYS						
	<u>Permits</u>									
45-3-1102	Main Range;	AGD	56	348788	6314319	Closed site	Valid	Artefact :-	Shelter with Deposit	98168
	<u>Contact</u>									
	<u>Recorders</u>			ASRSYS						
	<u>Permits</u>									
45-3-1103	Wyang Creek;	AGD	56	349875	6315439	Closed site	Valid	Artefact :-, Art (Pigment or Engraved) :-	Shelter with Art,Shelter with Deposit	98168
	<u>Contact</u>									
	<u>Recorders</u>			ASRSYS						
	<u>Permits</u>									
45-3-1104	Wyang Creek;	AGD	56	349316	6315976	Open site	Valid	Grinding Groove :-	Axe Grinding Groove	308,98168,101093
	<u>Contact</u>									
	<u>Recorders</u>			ASRSYS						
	<u>Permits</u>									
45-3-1108	Tuggerah;	AGD	56	351271	6314185	Open site	Valid	Artefact :-	Open Camp Site	308,98461
	<u>Contact</u>									
	<u>Recorders</u>			ASRSYS						
	<u>Permits</u>									
45-3-0815	Hue Hue Road Surface Scatter;Wyang;	AGD	56	351420	6320460	Open site	Valid	Artefact :-	Open Camp Site	910,101093,102647
	<u>Contact</u>									
	<u>Recorders</u>			Mary Dallas Consulting Archaeologists					789,1084	
	<u>Permits</u>									
45-3-3180	B14	AGD	56	359150	6325075	Open site	Valid	Artefact :-		100541,100863,101093
	<u>Contact</u>									
	<u>Recorders</u>			Michael Therin						
	<u>Permits</u>									

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SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-3-3169	J 1	AGD	56	356049	6317397	Open site	Valid	Artefact :-		97583,100541, 100863,10109 3,102647
	<u>Contact</u>			<u>Recorders</u>	Michael Therin			<u>Permits</u>		
45-3-3176	B;1	AGD	56	359750	6324715	Open site	Valid	Artefact :-		100541,10086 3,101093
	<u>Contact</u>			<u>Recorders</u>	Michael Therin			<u>Permits</u>		
45-7-0232	b2	AGD	56	360937	6325205	Open site	Valid	Modified Tree (Carved or Scarred) :-		100541,10086 3,101093
	<u>Contact</u>			<u>Recorders</u>	Michael Therin			<u>Permits</u>		
45-3-3179	B11	AGD	56	359563	6325450	Open site	Valid	Artefact :-		100541,10086 3,101093
	<u>Contact</u>			<u>Recorders</u>	Therin Archaeological Consulting			<u>Permits</u>		
45-3-3181	WP1	AGD	56	352110	6315080	Open site	Valid	Artefact :-		100054,10109 3
	<u>Contact</u>			<u>Recorders</u>	Michael Therin			<u>Permits</u>	2451,2516	
45-3-3183	WP3	AGD	56	352260	6315190	Open site	Valid	Artefact :-		100054,10109 3
	<u>Contact</u>			<u>Recorders</u>	Michael Therin			<u>Permits</u>	2451,2516	
45-3-3184	WP2	AGD	56	352450	6315470	Open site	Valid	Artefact :-		100054,10109 3
	<u>Contact</u>			<u>Recorders</u>	Michael Therin			<u>Permits</u>	2451,2516	
45-3-3194	WP-4	AGD	56	352190	6315250	Open site	Valid	Artefact :-		100054,10109 3
	<u>Contact</u>			<u>Recorders</u>	Michael Therin			<u>Permits</u>	2451,2516	
45-3-3187	BR13	AGD	56	359375	6325050	Open site	Valid	Artefact :-		100541,10086 3,101093
	<u>Contact</u>			<u>Recorders</u>	Michael Therin			<u>Permits</u>		
45-3-3188	BR12	AGD	56	359427	6325219	Open site	Valid	Artefact :-		100541,10086 3,101093
	<u>Contact</u>			<u>Recorders</u>	Michael Therin			<u>Permits</u>		
45-3-3276	IF 1, Wyong	AGD	56	354770	6319410	Open site	Valid	Artefact : 1		
	<u>Contact</u>			<u>Recorders</u>	Rex Silcox			<u>Permits</u>		
45-3-3222	Koondah Resort 1	AGD	56	354832	6315900	Open site	Destroyed	Artefact :-		100541,10086 3
	<u>Contact</u>			<u>Recorders</u>	Doctor Julie Dibden			<u>Permits</u>	1742	
45-3-3223	Koondah Resort 2	AGD	56	354579	6315544	Open site	Destroyed	Artefact :-		100541,10086 3
	<u>Contact</u>			<u>Recorders</u>	Doctor Julie Dibden			<u>Permits</u>	1742	

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SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-3-3312	WRMD1	AGD	56	350875	6316849	Open site	Partially Destroyed	Artefact : 3, Potential Archaeological Deposit (PAD) :-		100351,102389
	<u>Contact</u> Searle							<u>Permits</u>	2615,3257,3423	
45-3-3259	B7	GDA	56	360227	6325388	Open site	Valid	Artefact : 1		
	<u>Contact</u> T Russell							<u>Permits</u>		
45-3-3260	B3, Bushells Ridge	AGD	56	360187	6325275	Open site	Valid	Artefact : 1		
	<u>Contact</u> T Russell							<u>Permits</u>		
45-3-3262	B4, Bushells Ridge	GDA	56	360008	6325262	Open site	Valid	Artefact : 1		
	<u>Contact</u> T Russell							<u>Permits</u>		
45-3-3263	B8, Bushells Ridge	GDA	56	359931	6325584	Open site	Valid	Artefact : 1		
	<u>Contact</u> T Russell							<u>Permits</u>		
45-7-0245	B5, Bushells Ridge	GDA	56	360800	6325350	Open site	Valid	Artefact : 2		
	<u>Contact</u> T Russell							<u>Permits</u>		
45-3-3277	WS20/A	AGD	56	354320	6318780	Open site	Valid	Artefact : 2		102647
	<u>Contact</u> T Russell							<u>Permits</u>		
45-3-3278	WS20/B	AGD	56	354400	6319010	Open site	Valid	Artefact : 1		102647
	<u>Contact</u> T Russell							<u>Permits</u>		
45-3-3304	Halloran ISO 1	AGD	56	355000	6322650	Open site	Valid	Artefact :-		102647
	<u>Contact</u> T Russell							<u>Permits</u>		
45-3-3315	WC-ST1	GDA	56	355162	6324145	Open site	Valid	Modified Tree (Carved or Scarred) :-		
	<u>Contact</u> Searle							<u>Permits</u>		
45-3-3316	WC-IF1	GDA	56	355002	6324087	Open site	Valid	Artefact :-		
	<u>Contact</u> Searle							<u>Permits</u>		
45-3-3317	WC-OS1	GDA	56	355185	6324252	Open site	Valid	Artefact :-		
	<u>Contact</u> Doctor,Jodie Benton,Mr.Philip Cameron							<u>Permits</u>		
45-3-3377	Bluetongue IF1 (Dooralong)	GDA	56	352727	6321351	Open site	Destroyed	Artefact : 1		101321,102647
	<u>Contact</u>							<u>Permits</u>	3104	
45-3-3369	Wadalba Hill Grooves 1	AGD	56	357107	6317252	Open site	Valid	Grinding Groove : 50		101367,102647
	<u>Contact</u>							<u>Permits</u>		
45-3-3370	Wadalba Hill Grooves 2	AGD	56	357225	6317446	Open site	Valid	Grinding Groove : 2		101367,102647
	<u>Contact</u>							<u>Permits</u>		
	<u>Contact</u> Mr.Roger Mehr							<u>Permits</u>		

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SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-3-3371	Wadalba Hill Scar 1	AGD	56	357150	6317468	Open site	Valid	Modified Tree (Carved or Scarred) : 1		101367,10264 7
	<u>Contact</u>							<u>Permits</u>		
45-3-3392	Mardi to Mangrove 2	GDA	56	348794	6317353	Open site	Partially Destroyed	Artefact : 26, Potential Archaeological Deposit (PAD) :-		101521,10238 9
	<u>Contact</u>							<u>Permits</u>	3257,3423	
45-3-3393	Mardi to Mangrove 3	GDA	56	350570	6314890	Open site	Destroyed	Artefact : 2		101521
	<u>Contact</u>							<u>Permits</u>	3549	
45-3-3393	Bluetongue IF3 (Dooralong)	GDA	56	352964	6321510	Open site	Destroyed	Artefact : 1		101321,10264 7
	<u>Contact</u> Guringai Tribal Link Aborigina							<u>Permits</u>	3104	
45-3-3392	Bluetongue IF2 (Dooralong)	GDA	56	352719	6321522	Open site	Destroyed	Artefact : 1		101321,10264 7
	<u>Contact</u>							<u>Permits</u>	3104	
45-3-3404	Bitova ISO 1	GDA	56	355488	6319239	Open site	Valid	Artefact : 1		101823
	<u>Contact</u>							<u>Permits</u>		
45-3-3405	Bitova OS 2	GDA	56	355482	6319204	Open site	Valid	Artefact : 4		101823
	<u>Contact</u>							<u>Permits</u>		
45-3-3406	Bitova ISO 3	GDA	56	355830	6319481	Open site	Valid	Artefact : 1		101823
	<u>Contact</u>							<u>Permits</u>		
45-3-3407	Bitova OS 4	GDA	56	355761	6319510	Open site	Valid	Artefact : 40		101823
	<u>Contact</u>							<u>Permits</u>		
45-3-3408	Bitova ISO 5	GDA	56	355490	6319291	Open site	Valid	Artefact : 1		101823
	<u>Contact</u>							<u>Permits</u>		
45-3-3409	Bitova OS 6	GDA	56	355489	6319301	Open site	Valid	Artefact : 2		101823
	<u>Contact</u>							<u>Permits</u>		
45-3-3410	Bitova OS 7	GDA	56	355509	6319327	Open site	Valid	Artefact : 11		101823
	<u>Contact</u>							<u>Permits</u>		
45-3-3411	Bitova ISO 8	GDA	56	355687	6319543	Open site	Valid	Artefact : 1		101823
	<u>Contact</u>							<u>Permits</u>		
45-3-3412	Bitova OS 9	GDA	56	355745	6319429	Open site	Valid	Artefact : 4		101823
	<u>Contact</u>							<u>Permits</u>		
45-3-3413	Bitova OS 10	GDA	56	355767	6319460	Open site	Valid	Artefact : 18		101823
	<u>Contact</u>							<u>Permits</u>		

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SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-3-3414	Bitova ISO 11	GDA	56	355485	6319224	Open site	Valid	Artefact : 1		101823
	<u>Contact</u>									
	<u>Recorders</u>			Mr. John Appleton				<u>Permits</u>		
45-3-3415	Lakes G ISO 12	GDA	56	354815	6320059	Open site	Valid	Artefact : 1		101823
	<u>Contact</u>									
	<u>Recorders</u>			Mr. John Appleton				<u>Permits</u>		
45-3-3416	Lakes G OS 13	GDA	56	354570	6319567	Open site	Valid	Artefact : 14		101823
	<u>Contact</u>									
	<u>Recorders</u>			Mr. John Appleton				<u>Permits</u>		
45-3-3417	Lakes G ISO 14	GDA	56	354578	6319306	Open site	Valid	Artefact : 1		101823
	<u>Contact</u>									
	<u>Recorders</u>			Mr. John Appleton				<u>Permits</u>		
45-3-3418	Lakes G OS 15	GDA	56	354568	6319518	Open site	Valid	Artefact : 12		101823
	<u>Contact</u>									
	<u>Recorders</u>			Mr. John Appleton				<u>Permits</u>		
45-3-3419	Lakes G ISO 16	GDA	56	354817	6319736	Open site	Valid	Artefact : 1		101823
	<u>Contact</u>									
	<u>Recorders</u>			Mr. John Appleton				<u>Permits</u>		
45-3-3420	OWP ISO 17	GDA	56	356182	6320002	Open site	Valid	Artefact : 1		101823
	<u>Contact</u>									
	<u>Recorders</u>			Mr. John Appleton				<u>Permits</u>		
45-3-3421	OWP ISO 18	GDA	56	355427	6320650	Open site	Valid	Artefact : 1		101823
	<u>Contact</u>									
	<u>Recorders</u>			Mr. John Appleton				<u>Permits</u>		
45-3-3576	MARDI TO MANGROVE	GDA	56	350291	6315062	Open site	Valid	Artefact : 1		
	<u>Contact</u>									
	<u>Recorders</u>			John Holland Pty Ltd		Open site	Valid	<u>Permits</u>		
45-3-3628	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			
	<u>Contact</u>									
	<u>Recorders</u>			Ms. Sharon Hodgetts				<u>Permits</u>		
45-3-3448	Bluetongue Brewery Re-deposit	GDA	56	352618	6321404	Open site	Valid	Artefact : 24		
	<u>Contact</u>									
	<u>Recorders</u>			Extent Heritage Pty Ltd ,Doctor. Alan Williams				<u>Permits</u>		
45-3-3584	Wallah Creek Open Site 2	GDA	56	356256	6324218	Open site	Valid	Artefact : 1		
	<u>Contact</u>									
	<u>Recorders</u>			OzArk Environmental and Heritage Management				<u>Permits</u>		
45-3-3653	WLR Artefact Scatter	GDA	56	354875	6319848	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) :-		
	<u>Contact</u>									
	<u>Recorders</u>			Mr. Ashley O'Sullivan				<u>Permits</u>		
45-3-3654	WRL Isolated Find	GDA	56	354558	6319178	Open site	Valid	Artefact :-		
	<u>Contact</u>									
	<u>Recorders</u>			Mr. Ashley O'Sullivan				<u>Permits</u>		
45-3-3674	CASAR Park 1F 1	GDA	56	357801	6325333	Open site	Valid	Artefact :-		
	<u>Contact</u>									
	<u>Recorders</u>			Extent Heritage Pty Ltd ,Miss Laressa Berehowy				<u>Permits</u>		
45-7-0359	Lett Street Midden	GDA	56	361044	6318864	Open site	Valid	Shell : 100		
	<u>Contact</u>									
	<u>Recorders</u>			Mr. Lee Davison				<u>Permits</u>		

Report generated by AHIMS Web Service on 09/05/2017 for Tessa Bryant for the following area at Lat, Long From : -33.3007, 151.3641 - Lat, Long To : -33.199, 151.5253 with a Buffer of 0 meters. Additional Info : Aboriginal Cultural Heritage Assessment. Number of Aboriginal sites and Aboriginal objects found is 73

This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

<u>SiteID</u>	<u>SiteName</u>	<u>Datum</u>	<u>Zone</u>	<u>Easting</u>	<u>Northing</u>	<u>Context</u>	<u>Site Status</u>	<u>SiteFeatures</u>	<u>SiteTypes</u>	<u>Reports</u>
45-3-3971	Porters Creek-051	GDA	56	352585	6317557	Open site	Valid	Artefact :-		
	<u>Contact</u>			<u>Recorders</u>		OzArk Environmental and Heritage Management,Mr.Ben Churcher		<u>Permits</u>		

Report generated by AHIMS Web Service on 09/05/2017 for Tessa Bryant for the following area at Lat, Long From : -33.3007, 151.3641 - Lat, Long To : -33.199, 151.5253 with a Buffer of 0 meters. Additional Info : Aboriginal Cultural Heritage Assessment. Number of Aboriginal sites and Aboriginal objects found is 73

This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

Appendix 4: Field Investigation Data

A4.1. Survey Transect Descriptions

Table A4-4-1. Summary of transects investigated as part of the field investigation.

Transect	Landform	Survey unit area (m ²)	Visibility (%)	Exposure (%)	Effective coverage area (m ²)	Effective coverage (%)	Description
1	Lower slope	660	10	30	19.8	3	<p>Lower slope along unsealed vehicle track from southern subject area boundary with wooded area to east and pasture to the west. Artefact sites within this transect not relocated:</p> <ul style="list-style-type: none"> Patches of gravel in vehicle track (Plate 1) Eroded areas in track have been filled with sand (Plate 2) Low ground surface visibility off vehicle track (Plate 3)
2	Mid slope	2442	20	50	244.2	10	<p>Mid slope along vehicle track with trees and exposures to eastern side with artefact sites relocated and additional artefact sites recorded:</p> <ul style="list-style-type: none"> Artefacts visible along track edges (Plate 4 and Plate 6) including a silcrete refit set (Plate 5) Visibility poor due to ground cover off vehicle tracks particularly to the west (Plate 11) Artefacts (Plate 7) also present in exposures underneath trees further north in transect (Plate 8) and in exposure west of the dam (Plate 9 and Plate 10)

Transect	Landform	Survey unit area (m ²)	Visibility (%)	Exposure (%)	Effective coverage area (m ²)	Effective coverage (%)	Description
3	Upper slope	2601	20	30	156.1	6	Upper slope vehicle track along western edge of spur cleared area with exposures along vehicle track with limited visibility off track due to vegetation cover: Large sandy areas in patches along vehicle track running north filling in eroded parts of track (Plate 12). Exposures along vehicle track next to east-west running fence (Plate 13).
4	Crest	1542	10	30	46.3	3	Vehicle track running east-west along fence on crest and vehicle track to circular tank in adjacent field to the north: Patches of gravel with low visibility off track (Plate 14) Cleared area with debris to south of track on crest (Plate 15) Isolated artefact (IF1) located on edge of vehicle track (Plate 16) Exposure containing artefact east of rubbish mound (Plate 17) Highest density of artefacts recorded including a scraper (Plate 18) Remains of circular concrete tank (Plate 19) with sediment mounds from construction (Plate 20) visibility outside of the gravel track (Plate 22) and tank surrounds was low (Plate 21)
5	Mid slope	1905	10	10	38.1	2	Mid slope in eastern part of subject area sloping towards Virginia Road with almost complete vegetation cover:

Transect	Landform	Survey unit area (m ²)	Visibility (%)	Exposure (%)	Effective coverage area (m ²)	Effective coverage (%)	Description
							Patches of erosion in old vehicle track (Plate 23) with erosion scars to approx. 20cm depth (Plate 24) Off the vehicle track in the fields there is low surface visibility (Plate 25) with small eroded patches showing no stone material (Plate 26).
6	Lower slope	2076	10	10	41.5	2	Lower slope in east of subject area heading towards eastern subject area boundary: Large dam to north of vehicle track with limited visibility around the edges(Plate 27) Ground surface visibility low with tall grasses (Plate 28) and waterlogged underfoot (Plate 29) in flood prone lower area
7	Mid slope	5436	10	20	108.7	2	Open woodland are in northeast of subject area along vehicle tracks: Exposures along vehicle tracks with limited visibility off the tracks (Plate 30) Trees are not old enough to have cultural scars but there is evidence of animal damage to trees: Areas that are poorly drained with standing water in depressions and Paperbarks (Plate 31) Sewer present in top northeast corner (Plate 32)

Transect	Landform	Survey unit area (m ²)	Visibility (%)	Exposure (%)	Effective coverage area (m ²)	Effective coverage (%)	Description
8	Flat	4041	50	50	808.2	20	<p>Vehicle tracks running north through centre of subject area along ridge flat some trees to east with cleared pasture to the west:</p> <p>Exposures in eroded areas along vehicle tracks with limited ground surface visibility off tracks (Plate 33)</p> <p>North running vehicle track through woodland area has large bluestone tracks (Plate 34)</p> <p>Grassed area in northern portion of subject area has low visibility off gravel track (Plate 35)</p> <p>Houses in top northeast corner have landscaped backyards and low potential.</p>
9	Mid slope	708	40	50	141.6	20	<p>Mid slope open woodland clearing to pasture, south sloping with general low ground surface visibility due to complete ground cover – grasses:</p> <p>Dam at southern end of transect has large ground exposure along the edge with no visible stone (Plate 40).</p>
10	Upper slope	1053	20	30	63.2	6	<p>Upper slope open woodland area sloping to the south:</p> <p>Patches of exposure (Plate 37)</p> <p>Artefact (possible axe?) located at southern end of transect in exposure underneath tree (Plate 38 and Plate 39)</p>

Transect	Landform	Survey unit area (m ²)	Visibility (%)	Exposure (%)	Effective coverage area (m ²)	Effective coverage (%)	Description
							Artefact sites 45-3-3412 and 45-3-3413 not relocated
11	Crest	324	20	30	19.4	6	Crest to upper slope through woodland in area of potential on southern ridgeline in subject area: Low surface visibility due to grass ground cover and leaf litter (Plate 36)
TOTAL		16662			420.1	3	

A4.2. Survey Photos



Plate 1. View north along gravel vehicle track with open woodland to the east – Transect 1.



Plate 2. Imported sand filling eroded area of vehicle track – Transect 1.



Plate 3. View south along Transect 1. Car marks southern boundary.



Plate 4. View south (downslope) - Transect 2. Flag marks location of 45-3-3408.



Plate 5. Red silcrete refit artefacts site 45-3-3409 – Transect 2.



Plate 6. Artefacts along edge of vehicle access track – Transect 2.



Plate 7. Red silcrete microblade core on sandy exposure adjacent to vehicle track – Transect 2.



Plate 8. View north along Transect 2 – Flags mark artefact locations. Low visibility off the vehicle/animal track.



Plate 9. Patches of exposed ground surface adjacent to mid slope dam – Transect 2.



Plate 10. Warnervale AS1 – artefacts located in 10x10m exposure – Transect 2.



Plate 11. View north west – Transect 2. Low ground surface visibility off vehicle track.



Plate 12. View south towards transect 2 from start of transect 3. Large exposures with imported sandy fill along vehicle track.



Plate 13. View west along vehicle track with patchy exposures, upper slope – Transect 3.



Plate 14. View east along vehicle track – Transect 4.



Plate 15. Pile of rubbish including broken sandstone along Transect 4.



Plate 16. Warnervale IF1 – Crest, Transect 4.



Plate 17. Exposure containing artefacts facing west (pink flags) site 45-3-3407 – Transect 4.



Plate 18. Artefacts in exposure 45-3-3407. Mudstone scraper above scale.



Plate 19. Remains of circular concrete tank infilled with sand on the crest Transect 4.



Plate 20. Sediment mound from tank construction, no stone material visible Transect 4.



Plate 21. View north west across ridgetop Transect 4.



Plate 22. Gravel vehicle access track to tank, crest, Transect 4.



Plate 23. Transect 5 area of exposure in vehicle track looking west.



Plate 24. 15cm depth erosion scar, vehicle track, western mid slope Transect 5.



Plate 25. View west over heavily vegetated slopes – Transect 5.



Plate 26. Eroded area, no artefacts or stone material present, mid slope, Transect 5.



Plate 27. Dam, lower slope facing west – Transect 6.



Plate 28. Lower slope – Transect 6, very low visibility, waterlogged ground.



Plate 29. Water logged vehicle track – Transect 6.



Plate 30. Exposure on vehicle track, open woodland, relatively recent regrowth, Transect 7.



Plate 31. Standing water in vehicle track, north-eastern end - Transect 7.



Plate 32. Sewer vent in north-eastern corner of subject area - Transect 7.



Plate 33. Area of erosion, vehicle track looking west, Transect 8.



Plate 34. Gravel vehicle track in open woodland northern end, Transect 8.



Plate 35. Vehicle track, looking north at northern end, Transect 8. Note almost complete ground cover.



Plate 36. Transect 11, crest looking west in open woodland area with almost complete ground cover – grasses and leaf litter.



**Plate 37. Area of exposure, upper slope
Transect 10.**



**Plate 38. Warnervale IF2 – Axe, southern end
Transect 10.**



Plate 39. Axe, Warnervale IF2.



**Plate 40. Eastern edge of dam with large ground
surface exposure, no artefacts
visible, Transect 9.**

Appendix 5: How Significance was Assessed

General

While all Aboriginal objects in NSW are protected under NSW legislation, the NPW Act, 1974 recognises that the destruction of sites may be necessary to allow other activities or developments to proceed. In order for the State regulator to make informed decisions on such matters, a consideration of the significance of cultural heritage places and objects is an important element of the cultural heritage assessment process. The heritage significance of Aboriginal archaeological sites can be assessed using the four criteria outlined in the Burra Charter; aesthetic, historic, scientific, and social or spiritual (Australia ICOMOS, 2013).

Significance Levels and Thresholds

Most cultural places and objects are of cultural value to at least some individuals or community groups. The assessment process requires the analysis and ranking of significance. Australia has a four-tiered system of heritage protection that has been implemented across all levels of government i.e. Commonwealth, State and Local governments (see **Appendix 1** for details on legislation). While heritage in NSW is managed under NSW legislation it is compliant with this four-tiered system. Under this system, cultural heritage places and objects once identified are assessed according to their significance at World, National, State and Local levels and whether they are above or below threshold for listing or protection. For ease of discussion here we can set aside discussion of world heritage places as such places must meet a threshold of 'Outstanding Universal Value' (OUV) and such places are unlikely to occur in the study area. It is a requirement of this process that the higher levels will meet and exceed the thresholds for the level below. In other words, a place or object of World Heritage Significance will also be of National significance and so on. This process can be visualised as shown in **Figure A6-1** where each of the protected categories of Local, State and National are subset of each other and indeed a broader inventory of places that have been assessed and considered. It can be seen that places that meet the threshold for a particular level of significance will have met the thresholds for the levels below: e.g. nationally significant places will as a pre-requisite have satisfied the thresholds for State significance and Local significance.

In NSW 'State heritage significance', in relation to a place, building, work, relic, moveable object or precinct, means significance to the State in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item, and 'Local heritage significance', in relation to a place, building, work, relic, moveable object or precinct, means significance to an area in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item (S 4A, NSW Heritage Act 1977).

In assessing the significance of sites aspects such as rarity and representativeness and the integrity (sometimes referred to as the intactness of the site) must be considered. Generally speaking a site or object that is rare will have a heightened significance although a site that is suitable of conservation as 'representative' of its type will also be significant. Conversely an extremely rare site may no longer be significant if its integrity has been sufficiently compromised. For example, a rare Pleistocene era site that would normally be considered of high scientific significance may be below threshold if the site has suffered substantial subsurface damage.

A summary of these values is presented in **Table A6-1**.

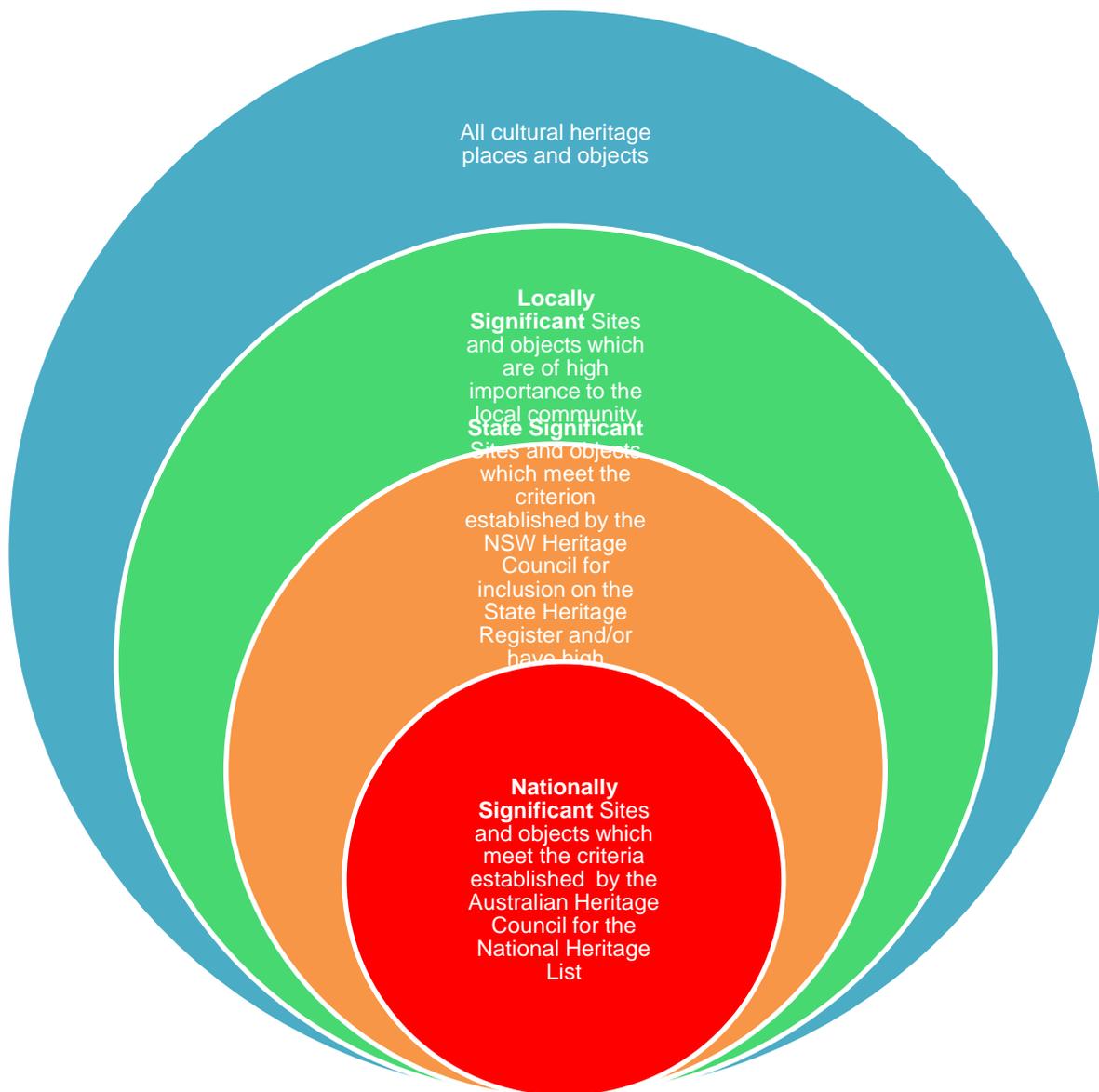


Figure A6-1. The tiered heritage system operating in Australia.

Aesthetic Significance

This criterion refers to aspects of sensory perception and the ability of the site to elicit emotional responses referred to as sensory or sensori-emotional values. The guidelines to the Burra Charter note that assessment may include consideration of the form, scale, colour, texture and material of the item or place, as well as sounds and smells. With regard to pre-contact Aboriginal cultural heritage sites, the placement within the landscape would be considered under this criterion as would memoryscapes and the ability of the site to transmit such memories. It is important to consider that sensori-emotional values are not always equated with “beauty”; for example, massacre sites or sites of incarceration may have value under this criterion. Individual artefacts, sites and site features may also have aesthetic significance.

Table A6-1. A summary of criteria and rankings used to determine a site's significance

Criterion	Threshold indicators State	Threshold indicator local	Below threshold for significance
Aesthetic	<p>The site or object elicits a strong emotional response and is part of a state or national narrative.</p> <p>Is set within a landscape that inspires awe.</p>	<p>The site is known or suspected of eliciting strong responses from the local community.</p> <p>While similar sites may exist elsewhere they are rare in the local area.</p>	<p>The site or object does not elicit a relevant sensori-emotional response; or</p> <p>The site has been disturbed to the extent that it can no longer elicit a relevant sensori-emotional response.</p>
Historic	<p>The site or object is important in representing an aspect of history important to the State or National as reflected in the Australian (and State) Historical Thematic Framework</p>	<p>The site or object is rare in the local area; and</p> <p>Would provide strong opportunities for interpretation to the public.</p> <p>The site illustrates elements of the history of the local area</p>	<p>The site is common in the local area, does not provide opportunities for interpretation to the public and does not contribute substantially to an understanding the historic themes relevant to the local area and/or the State.</p> <p>(Note – individuals may still feel attachment for sites below threshold)</p>
Cultural and or spiritual	<p>The site or object is important to an understanding of pre or post contact Aboriginal cultural life in NSW.</p> <p>The site or object is part of a Dreaming story or track.</p> <p>The site or object is part of ongoing ceremony or ritual.</p> <p>Substantial cultural knowledge about this site exists within the relevant Aboriginal community or custodians for this site or has been previously documented.</p>	<p>The site is important to local Aboriginal community, or subset of the community, and this importance can be articulated.</p>	<p>There is little or no knowledge in the Aboriginal community about this site or object.</p> <p>The knowledge that does exist falls into the category of family history and is not generally relevant to the broader Aboriginal community, and/or Aboriginal historical narrative.</p> <p>(Note – individuals may still feel attachment for sites below threshold)</p>
Scientific (archaeological)	<p>The site or object has potential to answer key questions about Aboriginal culture and society in NSW or Australia as a whole pre or post contact.</p> <p>The site or object is unique and/or rare and intact; or</p> <p>The site is the best representative (and intact) example of a type of site that may be common, but not conserved elsewhere.</p>	<p>The site or object is rare in the local area; and</p> <p>It provides potential to learn more about a little understood aspect of Aboriginal cultural or society in the local area.</p> <p>The site has a high artefact density, and is large enough in size to be used to interpret larger scale questions about technology and occupation in the local area.</p>	<p>The site or object is common in the local area and/or the state.</p> <p>The site does not have excavation /research potential or the site is common but has some potential information to be salvaged.</p>

Historic Significance

The guidelines to the Burra Charter include the following discussion of historic significance:

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.

In relation to Aboriginal cultural heritage, many post-contact places and sites would have historic value. Pre-contact places and items may also be significant according to this criterion, although the association with historic figures, events, phases or activities may be more difficult to establish. Places of historic significance may include sacred or ceremonial sites, sites of resistance battles and massacres, and archaeological sites with evidence of technological developments.

Social and Spiritual Significance

In Aboriginal heritage this criterion concerns the relationship and importance of sites to the contemporary Aboriginal community. Aspects of social and spiritual significance include people's traditional and contemporary links with a place or object as well as an overall concern by Aboriginal people for sites and their continued protection. Aboriginal cultural values may partially reflect or follow on from archaeological values, historic values, aesthetic values or be tied to values associated with the natural environment. This criterion requires the active participation of Aboriginal people in the assessment process as it is their knowledge and values that must be articulated.

Scientific Significance

Scientific value is associated with the research potential of a site. Rarity and representativeness are also related concepts that are taken into account. Research potential or demonstrated research importance, is considered according to the contribution that a heritage site can make to present understanding of human society and the human past. Heritage sites, objects or places of high scientific significance are those which provide an uncommon opportunity to provide information about the specific antiquity of people in an area, or a rare glimpse of artistic endeavour or a chronological record of cultural change of continuity through deep archaeological stratigraphy.

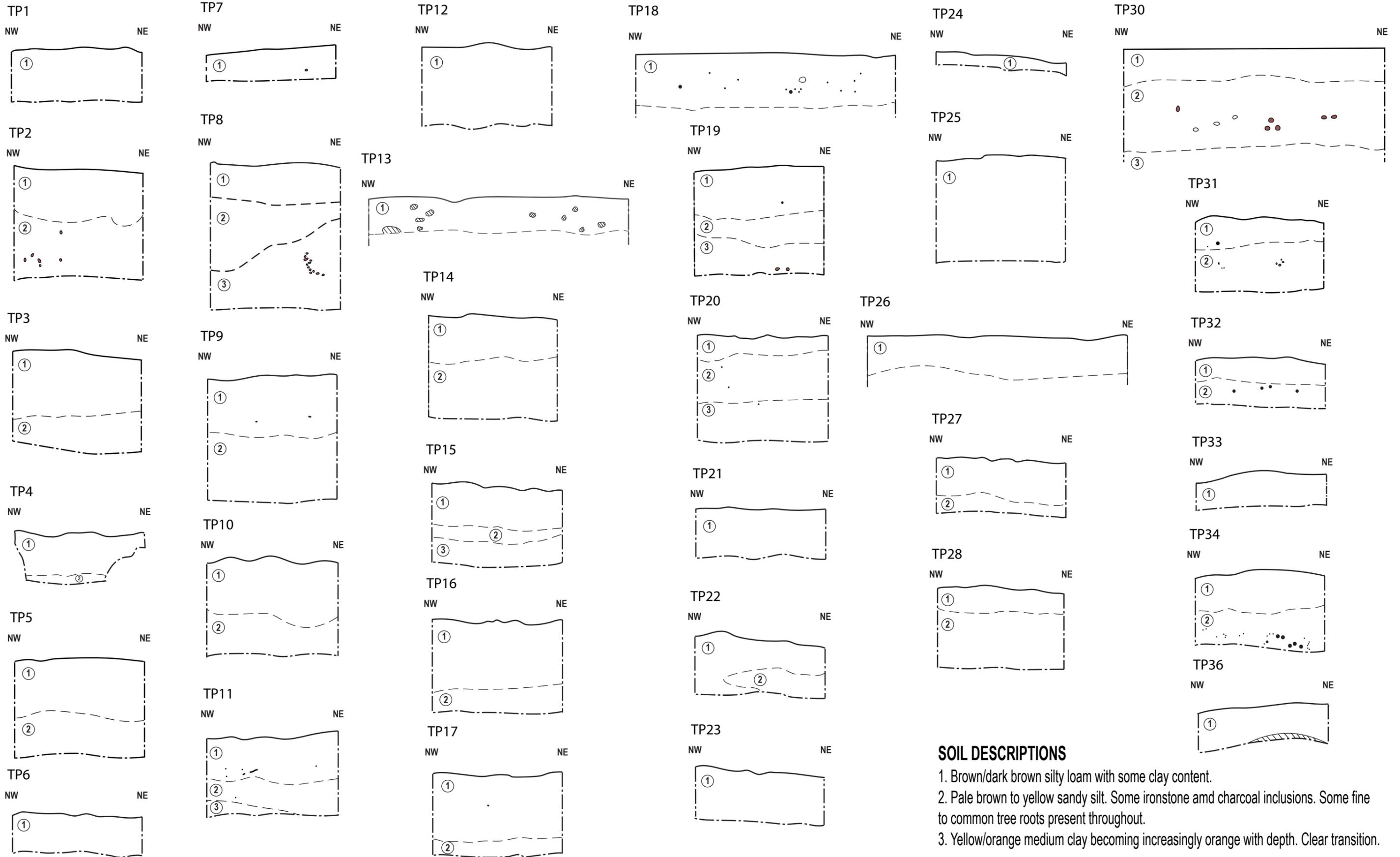
The comparative rarity of a site is a consideration in assessing scientific significance. A certain site type may be "one of a kind" in one region, but very common in another. Artefacts of a particular type may be common in one region, but outside the known distribution in another.

The integrity of a site is also a consideration in determining scientific significance. While disturbance of a topsoil deposit with artefacts does not entirely diminish research value, it may limit the types of questions that may be addressed. A heavily cultivated paddock may be unsuited to addressing research questions of small-scale site structure, but it may still be suitable for answering more general questions of implement distribution in a region and raw material logistics.

The capacity of a site to address research questions is predicated on a definition of what the key research issues are for a region. In the region including the subject area, the key research issues revolve around the chronology of Aboriginal occupation and variability in stone artefact manufacturing technology. Sites with certain backed implements from the Holocene are very common, but sites with Pleistocene evidence are extremely rare, and hence of extremely high significance if found.

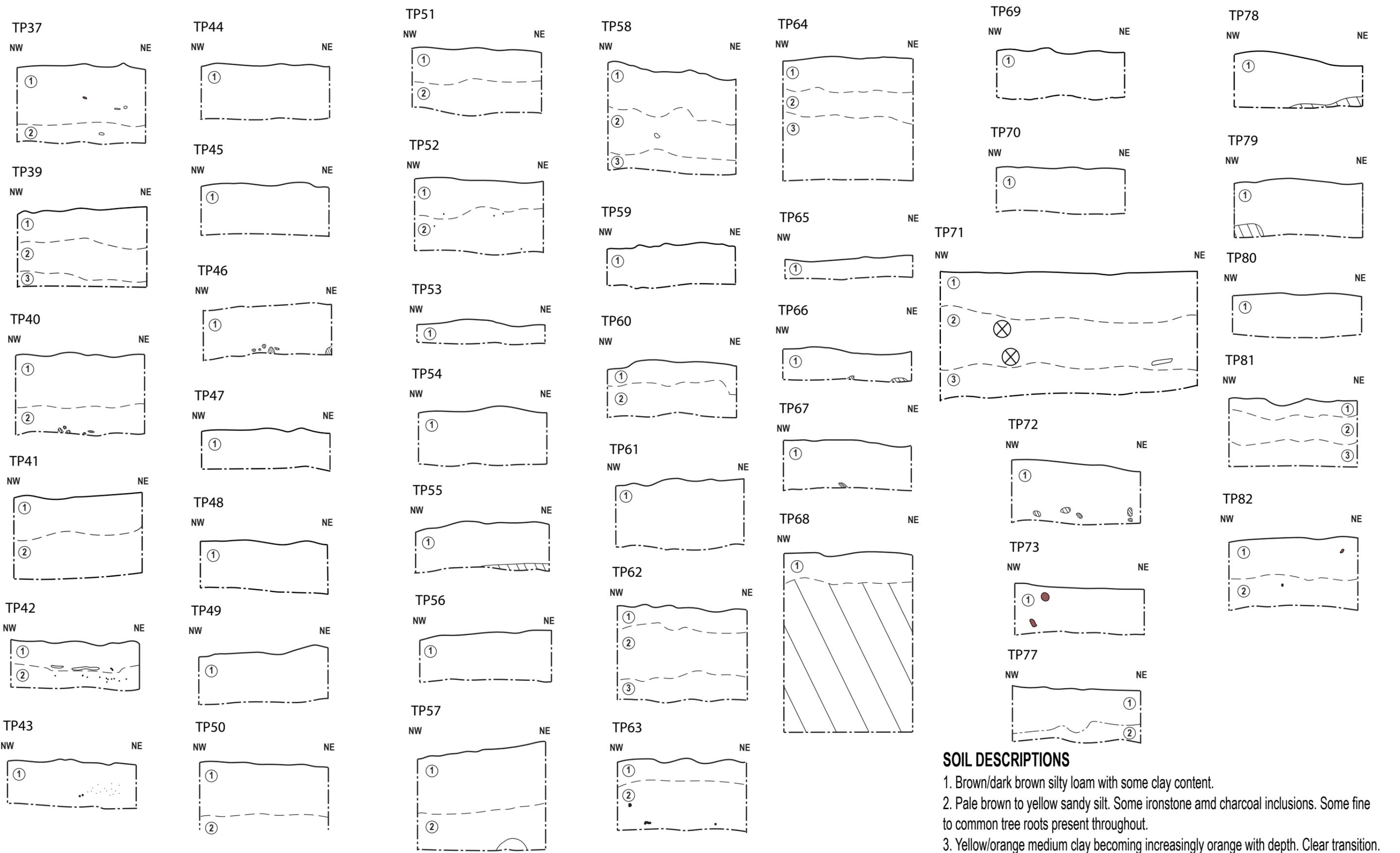
Appendix 6: Excavation Records

A6.1 Section Drawings



SOIL DESCRIPTIONS

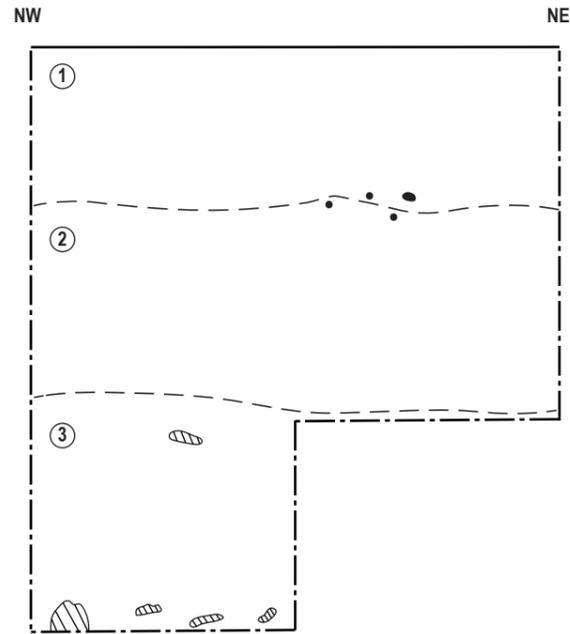
1. Brown/dark brown silty loam with some clay content.
2. Pale brown to yellow sandy silt. Some ironstone and charcoal inclusions. Some fine to common tree roots present throughout.
3. Yellow/orange medium clay becoming increasingly orange with depth. Clear transition.



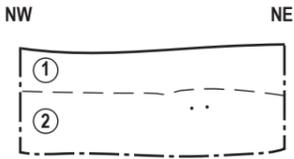
SOIL DESCRIPTIONS

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2. Pale brown to yellow sandy silt. Some ironstone and charcoal inclusions. Some fine to common tree roots present throughout.
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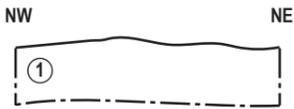
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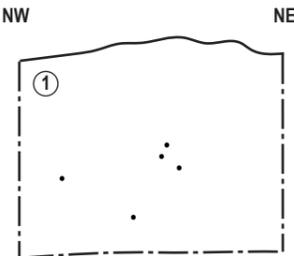
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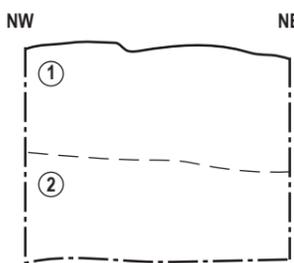
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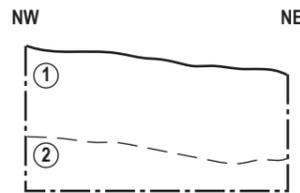
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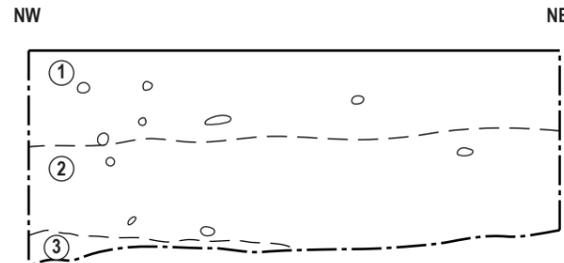
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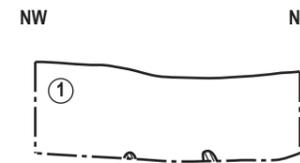
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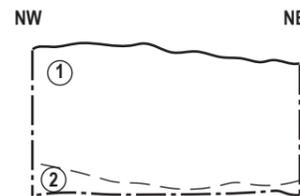
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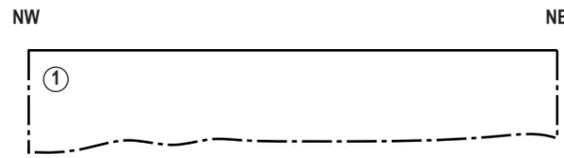
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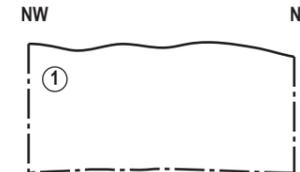
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TP98



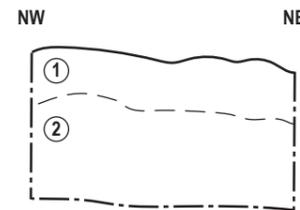
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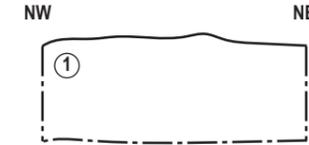
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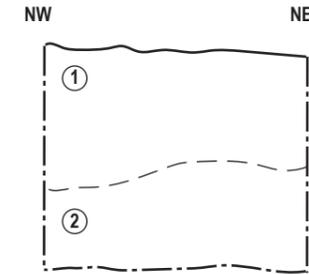
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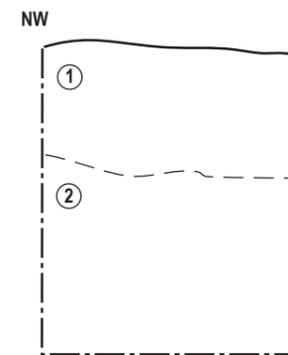
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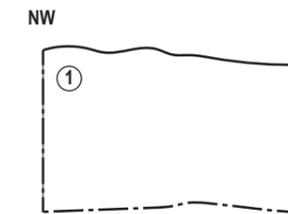
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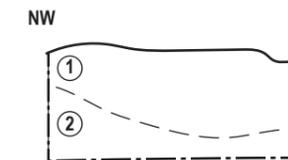
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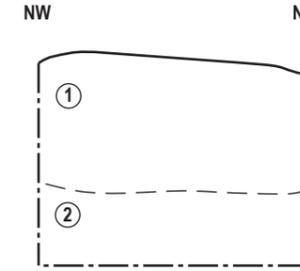
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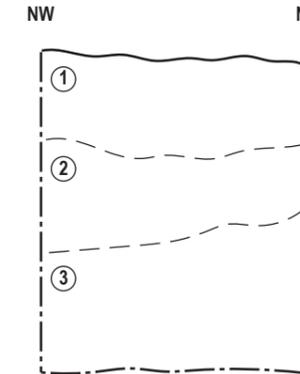
TP110



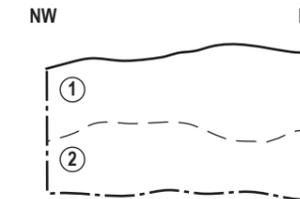
TP111



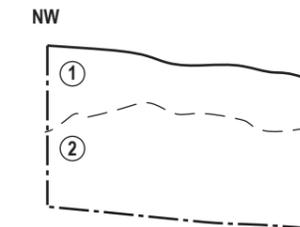
TP112



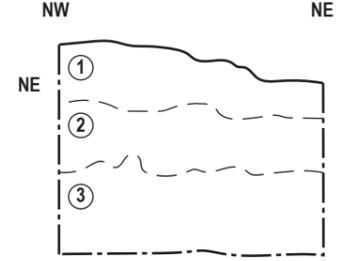
TP113



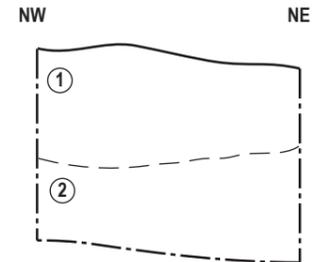
TP114



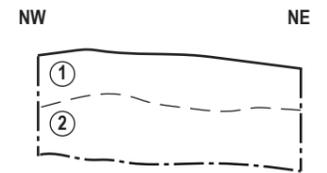
TP116



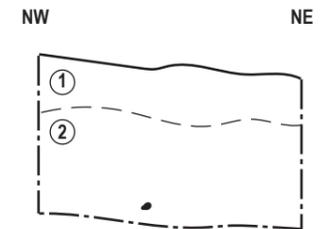
TP117



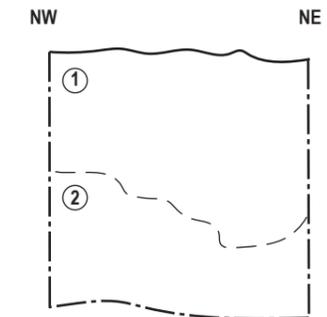
TP118



TP119



TP120



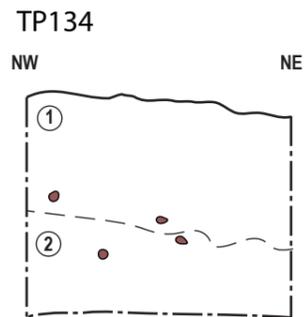
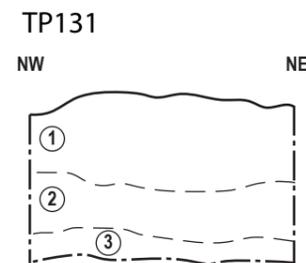
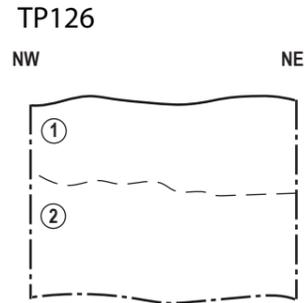
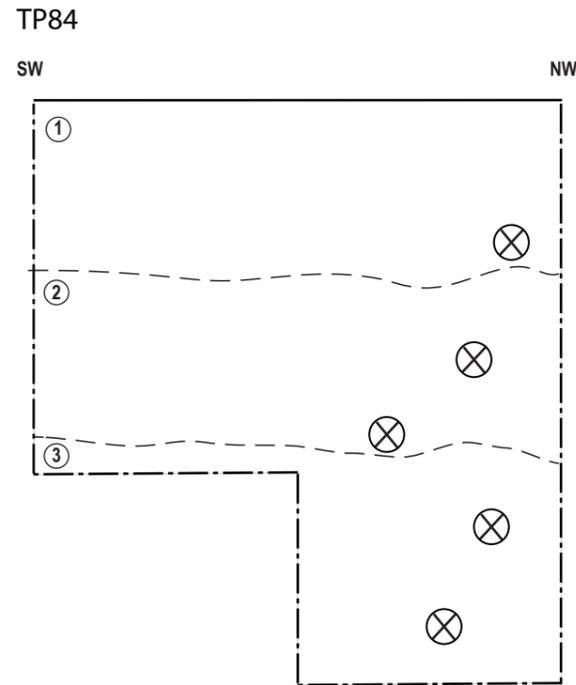
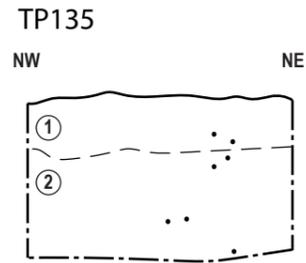
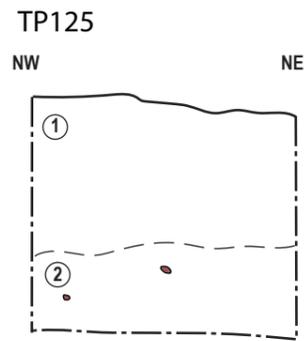
SOIL DESCRIPTIONS

- 1. Brown/dark brown silty loam with some clay content.
- 2. Pale brown to yellow sandy silt. Some ironstone and charcoal inclusions. Some fine to common tree roots present throughout.
- 3. Yellow/orange medium clay becoming increasingly orange with depth. Clear transition.

Legend

- Clay
- Iron stone
- OSL Sample
- Charcoal
- Tree Root





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A6.2 Photographic log

**Warnervale Rezoning Aboriginal Heritage Assessment-
Precinct 7A Warnervale Aboriginal Test Excavation**

PHOTOGRAPHY DIGITAL IMAGE CATALOGUE SHEET

PROJECT NAME	Warnervale Rezoning Aboriginal Heritage Assessment- Warnervale Rezoning Aboriginal Test Excavation		
CAMERA	Canon/ Olympus Stylus TG-870 Tough	LENS	21mm
SENSOR SIZE	-	35 MM LENS EQUIVALENT	-
PROOF #	-	PHOTOGRAPHER	Tessa Bryant, Ashley O'Sullivan

IMAGE FILE NO.	DATE	DESCRIPTION	ORIENTATION
WTP17_0001	18.10.2017	TP23 Landscape overview, pre-excavation	North
WTP17_0002		TP23 Overhead, pre-excavation	North
WTP17_0003		TP13 Overhead, pre-excavation	Overview
WTP17_0004		TP13 Landscape overview, pre-excavation	North
WTP17_0005		TP27 Overview, pre-excavation	Overview
WTP17_0006		TP37 Overview, pre-excavation	Overview
WTP17_0007		TP30 Landscape overview, pre-excavation	North
WTP17_0008		TP30 Overview, pre-excavation	Overview
WTP17_0009		TP42 Landscape overview, pre-excavation	North
WTP17_0010		TP42 Overview, pre-excavation	Overview
WTP17_0011		TP50 Overview, pre-excavation	Overview
WCT17_0012		TP50 Landscape overview, pre-excavation	North
WTP17_0013		TP43 Overview, pre-excavation	Overview
WTP17_0014		TP43 Landscape overview, pre-excavation	North
WTP17_0015		TP51 Overview, pre-excavation	Overview
WTP17_0016		TP51 Landscape overview, pre-excavation	North
WTP17_0017		TP90 Overview, pre-excavation	Overview
WTP17_0018		TP90 Landscape overview, pre-excavation	North
WTP17_0019		TP90 Landscape overview, pre-excavation	South
WTP17_0020		TP102 Overview, pre-excavation	Overview
WTP17_0021		TP102 Landscape overview, pre-excavation	North
WTP17_0022		TP102 Landscape overview, pre-excavation	East
WTP17_0023		TP102 Landscape overview, pre-excavation	West
WTP17_0024		TP109 Overview, pre-excavation	Overview
WTP17_0025		TP109 Landscape overview, pre-excavation	North
WTP17_0026		TP110 Overview, pre-excavation	Overview
WTP17_0027		TP110 Landscape overview, pre-excavation	North
WTP17_0028		TP110 Landscape overview, pre-excavation	Northeast
WTP17_0029		TP97 Overview, pre-excavation	Overview

PROJECT NAME	Warnervale Rezoning Aboriginal Heritage Assessment- Warnervale Rezoning Aboriginal Test Excavation		
CAMERA	Canon/ Olympus Stylus TG-870 Tough	LENS	21mm
SENSOR SIZE	-	35 MM LENS EQUIVALENT	-
PROOF #	-	PHOTOGRAPHER	Tessa Bryant, Ashley O'Sullivan

IMAGE FILE NO.	DATE	DESCRIPTION	ORIENTATION
WTP17_0030	18.10.2017	TP97 Landscape overview, pre-excavation	North
WTP17_0031		TP97 Landscape overview, pre-excavation	West
WTP17_0032		TP105 Overview, pre-excavation	Overview
WTP17_0033		TP105 Landscape overview, pre-excavation	North
WTP17_0034		TP105 Landscape overview, pre-excavation	Northeast
WTPP17_0035		TP111, Overview, pre-excavation	Overview
WTP17_0036		TP111, Landscape overview, Pre-excavation	North
WTP17_0037		TP96, Overview, pre-excavation	Overview
WTP17_0038		TP96, Landscape overview, pre-excavation	East
WTP17_0039		TP91, Overview, pre-excavation	Overview
WTP17_0040		TP91, Landscape overview, pre-excavation	North
WTP17_0041		TP92, Overview, pre-excavation	Overview
WTP17_0042		TP92, Landscape overview, pre-excavation	North
WTP17_0043		TP52, Overview, pre-excavation	Overview
WTP17_0044		TP52, Landscape overview, pre-excavation	North
WTP17_0045		TP44, Overview, pre-excavation	Overview
WTP17_0046	TP44, Landscape overview, pre-excavation	North	
WTP17_0047	TP53, Overview, pre-excavation	Overview	
WTP17_0048	TP53, Landscape overview, pre-excavation	North	
WTP17_0049	TP65, Overview, pre-excavation	Overview	
WTP17_0050	TP65, Landscape overview, pre-excavation	North	
WTP17_0051	TP49, Overview, pre-excavation	Overview	
WTP17_0052	TP49, Landscape overview, pre-excavation	North	
WTP17_0053	18.10.2017	TP45, Overview, pre-excavation	Overview
WTP17_0054		TP45, Landscape overview, pre-excavation	North
WTP17_0055		TP46, Overview, pre-excavation	Overview
WTP17_0056		TP46, Landscape Overview, pre-excavation	North
WTP17_0057	16.10.2017	TP34, Overview, pre-excavation	Overview
WTP17_0058		TP34, Landscape overview, pre-excavation	North
WTP17_0059		TP34, Landscape overview, pre-excavation	West
WTP17_0060		TP35, Overview, pre-excavation	Overview
WTP17_0061		TP35, Landscape overview, pre-excavation	North
WTP17_0062		TP35, Landscape overview, pre-excavation	West
WTP17_0063		TP36, Overview, pre-excavation	Overview
WTP17_0064		TP36, Landscape overview, pre-excavation	North

PROJECT NAME	Warnervale Rezoning Aboriginal Heritage Assessment- Warnervale Rezoning Aboriginal Test Excavation		
CAMERA	Canon/ Olympus Stylus TG-870 Tough	LENS	21mm
SENSOR SIZE	-	35 MM LENS EQUIVALENT	-
PROOF #	-	PHOTOGRAPHER	Tessa Bryant, Ashley O'Sullivan

IMAGE FILE NO.	DATE	DESCRIPTION	ORIENTATION
WTP17_0065	16.10.2017	TP36, Landscape overview, pre-excavation	West
WTP17_0066		TP28, Overview, pre-excavation	Overview
WTP17_0067		TP28, Landscape overview, pre-excavation	North
WTP17_0068		TP28, Landscape overview, pre-excavation	North
WTP17_0069		TP28, Landscape overview, pre-excavation	South
WTP17_0070		TP16, Overview, pre-excavation	Overview
WTP17_0071		TP16, Landscape overview, pre-excavation	North
WTP17_0072		TP16, Landscape overview, pre-excavation	West
WTP17_0073		TP25, Overview, pre-excavation	Overview
WTP17_0074		TP25, Landscape overview, pre-excavation	North
WTP17_0075		TP25, Landscape overview, pre-excavation	West
WTP17_0076		TP15, Overview, pre-excavation	Overview
WTP17_0076		TP15, Landscape overview, pre-excavation	North
WTP17_0078		TP15, Landscape overview, pre-excavation	West
WTP17_0079		TP14, Overview, pre-excavation	Overview
WTP17_0080		TP14 Landscape overview, pre-excavation	North
WTP17_0081		TP14 Landscape overview, pre-excavation	West
WTP17_0082		TP20, Overview, pre-excavation	Overview
WTP17_0083		TP20 Landscape overview, pre-excavation	North
WTP17_0084		TP20 Landscape overview, pre-excavation	South
WTP17_0085		TP19, Overview, pre-excavation	Overview
WTP17_0086		TP19 Landscape overview, pre-excavation	West
WTP17_0087		TP19 Landscape overview, pre-excavation	North
WTP17_0088		TP18 Overview, pre-excavation	Overview
WTP17_0089		TP18 Landscape overview, pre-excavation	North
WTP17_0090		TP22, Overview, pre-excavation	Overview
WTP17_0091		TP22 Landscape overview, pre-excavation	North
WTP17_0092		TP22 Landscape overview, pre-excavation	South
WTP17_0093		TP33, Overview, pre-excavation	Overview
WTP17_0094		TP33, Landscape overview, pre-excavation	North
WTP17_0095	TP32 Overview, pre-excavation	Overview	
WTP17_0096	TP32 Landscape overview, pre-excavation	North	
WTP17_0097	TP32 Landscape overview, pre-excavation	West	
WTP17_0098	TP31 Overview, pre-excavation	Overview	
WTP17_0099	TP31 Landscape overview, pre-excavation	North	

PROJECT NAME	Warnervale Rezoning Aboriginal Heritage Assessment- Warnervale Rezoning Aboriginal Test Excavation		
CAMERA	Canon/ Olympus Stylus TG-870 Tough	LENS	21mm
SENSOR SIZE	-	35 MM LENS EQUIVALENT	-
PROOF #	-	PHOTOGRAPHER	Tessa Bryant, Ashley O'Sullivan

IMAGE FILE NO.	DATE	DESCRIPTION	ORIENTATION
WTP17_0100	16.10.2017	TP31 Landscape overview, pre-excavation	West
WTP17_0101		TP6, Overview, pre-excavation	Overview
WTP17_0102		TP6 Landscape overview, pre-excavation	North
WTP17_0103		TP6 Landscape overview, pre-excavation	West
WTP17_0104		TP7 Overview, pre-excavation	Overview
WTP17_0105		TP7 Landscape overview, pre-excavation	West
WTP17_0106		TP8 Overview, pre-excavation	Overview
WTP17_0107		TP8 Landscape overview, pre-excavation	North
WTP17_0108		TP8 Landscape overview, pre-excavation	West
WTP17_0109		TP9 Overview, pre-excavation	Overview
WTP17_0110		TP9 Landscape overview, pre-excavation	North
WTP17_0111		TP9 Landscape overview, pre-excavation	West
WTP17_0112		TP10, Overview, pre-excavation	Overview
WTP17_0113		TP10 Landscape overview, pre-excavation	North
WTP17_0114		TP10 Landscape overview, pre-excavation	West
WTP17_0115		TP17, Overhead, pre-excavation	Overview
WTP17_0116		TP17 Landscape overview, pre-excavation	North
WTP17_0117		TP17 Landscape overview, pre-excavation	West
WTP17_0118		TP39, Overview, pre-excavation	Overview
WTP17_0119		TP39 Landscape overview, pre-excavation	North
WTP17_0120		TP39 Landscape overview, pre-excavation	West
WTP17_0121		TP68, Overview, pre-excavation	Overview
WTP17_0122		TP68, Landscape overview, pre-excavation	North
WTP17_0123		TP68, Landscape overview, pre-excavation	West
WTP17_0124		TP74, Overview, pre-excavation	Overview
WTP17_0125		TP74, Landscape overview, pre-excavation	North
WTP17_0126		TP74 Landscape overview, pre-excavation	West
WTP17_0127		TP73, Overview, pre-excavation	Overview
WTP17_0128		TP73 Landscape overview, pre-excavation	North
WTP17_0129		TP73 Landscape overview, pre-excavation	West
WTP17_0130		TP72, Overview, pre-excavation	Overview
WTP17_0131		TP72 Landscape overview, pre-excavation	North
WTP17_0132		TP72 Landscape overview, pre-excavation	West
WTP17_0133		TP71, Overview, pre-excavation	Overview
WTP17_0134	TP71, Landscape overview, pre-excavation	North	

PROJECT NAME	Warnervale Rezoning Aboriginal Heritage Assessment- Warnervale Rezoning Aboriginal Test Excavation		
CAMERA	Canon/ Olympus Stylus TG-870 Tough	LENS	21mm
SENSOR SIZE	-	35 MM LENS EQUIVALENT	-
PROOF #	-	PHOTOGRAPHER	Tessa Bryant, Ashley O'Sullivan

IMAGE FILE NO.	DATE	DESCRIPTION	ORIENTATION
WTP17_0135	16.10.2017	TP71 Landscape overview, pre-excavation	West
WTP17_0136		TP57 Overhead, pre-excavation	Overview
WTP17_0137		TP57 Landscape overview, pre-excavation	North
WTP17_0138		TP57 Landscape overview, pre-excavation	West
WTP17_0139		TP84, Overview, pre-excavation	Overview
WTP17_0140		TP84 Landscape overview, pre-excavation	North
WTP17_0141		TP84 Landscape overview, pre-excavation	West
WTP17_0142		TP83, Overview, pre-excavation	Overview
WTP17_0143		TP83 Landscape overview, pre-excavation	North
WTP17_0144		TP83 Landscape overview, pre-excavation	West
WTP17_0145		TP24, Overview, pre-excavation	Overview
WTP17_0146		TP24 Landscape overview, pre-excavation	North
WTP17_0147		TP24 Landscape overview, pre-excavation	West
WTP17_0148	17.10.2017	TP26, Overview, pre-excavation	Overview
WTP17_0149		TP26, Landscape overview, pre-excavation	North
WTP17_0150		TP26, Landscape overview, pre-excavation	West
WTP17_0151	19.10.2017	TP5, Overview, pre-excavation	Overview
WTP17_0152		TP5, Landscape overview, pre-excavation	North
WTP17_0153		TP5, Landscape overview, pre-excavation	West
WTP17_0154		TP3, Overview, pre-excavation	Overview
WTP17_0155		TP3, Landscape overview, pre-excavation	North
WTP17_0156		TP3, Landscape overview, pre-excavation	West
WTP17_0157		TP59, Overview, pre-excavation	Overview
WTP17_0158		TP59, Landscape overview, pre-excavation	North
WTP17_0159		TP59, Landscape overview, pre-excavation	West
WTP17_0160		TP40, Overview, pre-excavation	Overview
WTP17_0161		TP40, Landscape overview, pre-excavation	North
WTP17_0162		TP40, Landscape overview, pre-excavation	West
WTP17_0163		TP58, Overview, pre-excavation	Overview
WTP17_0164		TP58, Landscape overview, pre-excavation	North
WTP17_0165		TP58, Landscape overview, pre-excavation	West
WTP17_0166		TP60, Overview, pre-excavation	Overview
WTP17_0167	TP60, Landscape overview, pre-excavation	North	
WTP17_0168	TP60, Landscape overview, pre-excavation	West	
WTP17_0169	TP41, Overview, pre-excavation	Overview	

PROJECT NAME	Warnervale Rezoning Aboriginal Heritage Assessment- Warnervale Rezoning Aboriginal Test Excavation		
CAMERA	Canon/ Olympus Stylus TG-870 Tough	LENS	21mm
SENSOR SIZE	-	35 MM LENS EQUIVALENT	-
PROOF #	-	PHOTOGRAPHER	Tessa Bryant, Ashley O'Sullivan

IMAGE FILE NO.	DATE	DESCRIPTION	ORIENTATION
WTP17_0170	19.10.2017	TP41, Landscape overview, pre-excavation	North
WTP17_0171		TP41, Landscape overview, pre-excavation	West
WTP17_0172		TP61, Overhead, pre-excavation	Overview
WTP17_0173		TP61, Landscape overview, pre-excavation	North
WTP17_0174		TP61, Landscape overview, pre-excavation	West
WTP17_0175		TP62, Overhead, pre-excavation	Overview
WTP17_0176		TP62, Landscape overview, pre-excavation	North
WTP17_0177		TP62, Landscape overview, pre-excavation	West
WTP17_0178		TP63, Overhead, pre-excavation	Overview
WTP17_0179		TP63, Landscape overview, pre-excavation	North
WTP17_0180		TP63, Landscape overview, pre-excavation	West
WTP17_0181		TP64, Overhead, pre-excavation	Overview
WTP17_0182		TP64, Landscape overview, pre-excavation	North
WTP17_0183		TP64, Landscape overview, pre-excavation	West
WTP17_0184		TP88, Overhead, pre-excavation	Overview
WTP17_0185		TP88, Landscape overview, pre-excavation	North
WTP17_0186		TP88, Landscape overview, pre-excavation	West
WTP17_0187		TP87, Overhead, pre-excavation	Overview
WTP17_0188		TP87, Landscape overview, pre-excavation	North
WTP17_0189		TP87, Landscape overview, pre-excavation	West
WTP17_0190	TP66, Overhead, pre-excavation	Overview	
WTP17_0191	TP66, Landscape overview, pre-excavation	North	
WTP17_0192	20.10.2017	TP84 with buckets	North
WTP17_0193		TP66, Overhead, pre-excavation	Overview
WTP17_0194		TP 66, Landscape overview, pre-excavation	North
WTP17_0195		TP 66, Landscape overview, pre-excavation	West
WTP17_0196	24.10.2017	TP 47, Overhead, pre-excavation	Overview
WTP17_0197		TP 47, Landscape overview, pre-excavation	North
WTP17_0198		TP 47, Landscape overview, pre-excavation	West
WTP17_0199		TP 48, Overhead, pre-excavation	Overview
WTP17_0200		TP 48, Landscape overview, pre-excavation	North
WTP17_0201		TP 48, Landscape overview, pre-excavation	West
WTP17_0202		TP 55, Overhead, pre-excavation	Overview
WTP17_0203		TP 55, Landscape overview, pre-excavation	North
WTP17_0204	TP 55, Landscape overview, pre-excavation	West	

PROJECT NAME	Warnervale Rezoning Aboriginal Heritage Assessment- Warnervale Rezoning Aboriginal Test Excavation		
CAMERA	Canon/ Olympus Stylus TG-870 Tough	LENS	21mm
SENSOR SIZE	-	35 MM LENS EQUIVALENT	-
PROOF #	-	PHOTOGRAPHER	Tessa Bryant, Ashley O'Sullivan

IMAGE FILE NO.	DATE	DESCRIPTION	ORIENTATION
WTP17_0205	24.10.2017	TP 56, Overhead, pre-excavation	Overview
WTP17_0206		TP 56, Landscape overview, pre-excavation	North
WTP17_0207		TP 56, Landscape overview, pre-excavation	West
WTP17_0208	25.10.2017	TP 78, Landscape overview, pre-excavation	North
WTP17_0209		TP 78, Overhead, pre-excavation	Overview
WTP17_0210		TP 78, Landscape overview, pre-excavation	West
WTP17_0211		TP 81, Landscape overview, pre-excavation	North
WTP17_0212		TP 81, Overhead, pre-excavation	Overview
WTP17_0213		TP 81, Landscape overview, pre-excavation	West
WTP17_0214		TP 82, Overhead, pre-excavation	Overview
WTP17_0215		TP 82, Landscape overview, pre-excavation	North
WTP17_0216		TP 82, Landscape overview, pre-excavation	West
WTP17_0217		TP 95, Overhead, pre-excavation	Overview
WTP17_0218		TP 95, Landscape overview, pre-excavation	North
WTP17_0219		TP 95, Landscape overview, pre-excavation	West
WTP17_0220		TP 89, Overhead, pre-excavation	Overview
WTP17_0221		TP 89, Landscape overview, pre-excavation I	North
WTP17_0222		TP 89, Landscape overview, pre-excavation	West
WTP17_0223		TP 93, Overhead, pre-excavation	Overview
WTP17_0224	TP 93, Landscape overview, pre-excavation	North	
WTP17_0225	TP 93, Landscape overview, pre-excavation I	West	
WTP17_0226	TP 98, Overhead, pre-excavation	Overview	
WTP17_0227	TP 98, Landscape overview, pre-excavation	North	
WTP17_0228	TP 98, Landscape overview, pre-excavation	North	
WTP17_0229	TP 98, Landscape overview, pre-excavation	West	
WTP17_0230	TP 100, Overhead, pre-excavation	Overview	
WTP17_0231	TP 100, Landscape overview, pre-excavation	North	
WTP17_0232	TP 106, Overhead, pre-excavation	Overview	
WTP17_0233	TP 106, Landscape overview, pre-excavation	North	
WTP17_0234	TP 106, Landscape overview, pre-excavation	West	
WTP17_0235	26.10.2017	TP 107, Overhead, pre-excavation	Overview
WTP17_0236		TP 107, Landscape overview, pre-excavation	North
WTP17_0237		TP 112, Overhead, pre-excavation	Overview
WTP17_0238		TP, 112, Landscape overview, pre-excavation	North
WTP17_0239		TP 128, Overhead, pre-excavation	Overview

PROJECT NAME	Warnervale Rezoning Aboriginal Heritage Assessment- Warnervale Rezoning Aboriginal Test Excavation		
CAMERA	Canon/ Olympus Stylus TG-870 Tough	LENS	21mm
SENSOR SIZE	-	35 MM LENS EQUIVALENT	-
PROOF #	-	PHOTOGRAPHER	Tessa Bryant, Ashley O'Sullivan

IMAGE FILE NO.	DATE	DESCRIPTION	ORIENTATION
WTP17_0240	26.10.2017	TP 128, Landscape overview, pre-excavation	North
WTP17_0241		TP 128, Landscape overview, pre-excavation	
WTP17_0242		TP 128, Landscape overview, pre-excavation	East
WTP17_0243		Cattle	
WTP17_0244		Cattle	
WTP17_0245		TP 117, Overhead, pre-excavation	Overview
WTP17_0246		TP 117, Landscape overview, pre-excavation	North
WTP17_0247		TP 118, Overhead, pre-excavation	Overview
WTP17_0248		TP 118, Landscape overview, pre-excavation	North
WTP17_0249		TP 125, Overhead, pre-excavation	Overview
WTP17_0250		TP 125, Landscape overview, pre-excavation	North
WTP17_0251		27.10.2017	TP 58, Overhead, pre-excavation
WTP17_0252	TP 58, Landscape overview, pre-excavation		North
WTP17_0253	TP 58, Landscape overview, pre-excavation L		West
WTP17_0254	TP 86, Overhead, pre-excavation		Overview
WTP17_0255	TP 86, Landscape overview, pre-excavation		North
WTP17_0256	TP 86, Landscape overview, pre-excavation		West
WTP17_0257	TP 104, Overhead, pre-excavation		Overview
WTP17_0258	TP 104, Landscape overview, pre-excavation		North
WTP17_0259	TP 104, Landscape overview, pre-excavation		West
WTP17_0260	TP 103, Overhead, pre-excavation		Overview
WTP17_0261	TP 103, Landscape overview, pre-excavation		North
WTP17_0262	TP 103, Landscape overview, pre-excavation		West
WTP17_0263	TP 113, Overhead, pre-excavation		Overview
WTP17_0264	TP 113, Landscape overview, pre-excavation		North
WTP17_0265	TP 113, Landscape overview, pre-excavation		West
WTP17_0266	TP 114, Overhead, pre-excavation		Overview
WTP17_0267	TP 114, Landscape overview, pre-excavation		North
WTP17_0268	TP 114, Landscape overview, pre-excavation		West
WTP17_0269	TP 119, Overhead, pre-excavation		Overview
WTP17_0270	TP 119, Landscape overview, pre-excavation		North
WTP17_0271	TP 119, Landscape overview, pre-excavation	West	
WTP17_0272	30.10.2017	TP 120, Overhead, pre-excavation	Overview
WTP17_0273		TP 120, Landscape overview, pre-excavation	North
WTP17_0274		TP 120, Landscape overview, pre-excavation	West

PROJECT NAME	Warnervale Rezoning Aboriginal Heritage Assessment- Warnervale Rezoning Aboriginal Test Excavation		
CAMERA	Canon/ Olympus Stylus TG-870 Tough	LENS	21mm
SENSOR SIZE	-	35 MM LENS EQUIVALENT	-
PROOF #	-	PHOTOGRAPHER	Tessa Bryant, Ashley O'Sullivan

IMAGE FILE NO.	DATE	DESCRIPTION	ORIENTATION
WTP17_0275	30.10.2017	TP 126, Landscape overview, pre-excavation	North
WTP17_0276		TP 126, Overhead, pre-excavation	Overview
WTP17_0277		TP 126, Landscape overview, pre-excavation	West
WTP17_0278		TP 135, Overhead, pre-excavation	Overview
WTP17_0279		TP 135, Landscape overview, pre-excavation	North
WTP17_0280		TP 135, Landscape overview, pre-excavation	West
WTP17_0281		TP 134, Overhead, pre-excavation	Overview
WTP17_0282		TP 134, Landscape overview, pre-excavation	North
WTP17_0283		TP 134, Landscape overview, pre-excavation	West
WTP17_0284		TP 131, Overhead, pre-excavation	Overview
WTP17_0285		TP 131, Landscape overview, pre-excavation	North
WTP17_0286		TP 131, Landscape overview, pre-excavation	West
WTP17_0287		TP 91, Overhead, pre-excavation	Overview
WTP17_0288		TP 91, Landscape overview, pre-excavation	North
WTP17_0289		TP 91, Landscape overview, pre-excavation	West
WTP17_0290	16.10.2017	TP 33, Landscape overview, post excavation	North
WTP17_0291		TP 33 Overhead, post excavation	Overview
WTP17_0292		TP 33 North section, post excavation	North
WTP17_0293		TP 32, Landscape overview, post excavation	North
WTP17_0294		TP 32 Overhead, post excavation	Overview
WTP17_0295		TP 32 North section, post excavation	North
WTP17_0296		TP 31, Landscape overview, post excavation	North
WTP17_0297		TP 31 Overhead, post excavation	Overview
WTP17_0298		TP 31 North section, post excavation	North
WTP17_0299		TP 22, Landscape overview, post excavation	North
WTP17_0300		TP 22 Overhead, post excavation	Overview
WTP17_0301		TP 22 North section, post excavation	North
WTP17_0302		TP 18, Landscape overview, post excavation	North
WTP17_0303		TP 18 Overhead, post excavation	Overview
WTP17_0304		TP 18 North section, post excavation	North
WTP17_0305	17.10.2017	TP 24, Landscape overview, post excavation	North
WTP17_0306		TP 24 Overhead, post excavation	Overview
WTP17_0307		TP 24 North section, post excavation	North
WTP17_0308		TP 25 North section, post excavation	North
WTP17_0309		TP 26, Landscape overview, post excavation	North

PROJECT NAME	Warnervale Rezoning Aboriginal Heritage Assessment- Warnervale Rezoning Aboriginal Test Excavation		
CAMERA	Canon/ Olympus Stylus TG-870 Tough	LENS	21mm
SENSOR SIZE	-	35 MM LENS EQUIVALENT	-
PROOF #	-	PHOTOGRAPHER	Tessa Bryant, Ashley O'Sullivan

IMAGE FILE NO.	DATE	DESCRIPTION	ORIENTATION
WTP17_0310	17.10.2017	TP 26 Overhead, post excavation	Overview
WTP17_0311		TP 26 North section, post excavation	North
WTP17_0312		TP 15, Landscape overview, post excavation	North
WTP17_0313		TP 15 Overhead, post excavation	Overview
WTP17_0314		TP 15 North section, post excavation	North
WTP17_0315		TP 19, Landscape overview, post excavation	North
WTP17_0316		TP 19 Overhead, post excavation	Overview
WTP17_0317		TP 19 North section, post excavation	North
WTP17_0318		TP 20, Landscape overview, post excavation	North
WTP17_0319		TP 20 Overhead, post excavation	Overview
WTP17_0320		TP 20 North section, post excavation	North
WTP17_0321		TP 14, Landscape overview, post excavation	North
WTP17_0322		TP 14 Overhead, post excavation	Overview
WTP17_0323		TP 14 North section, post excavation	North
WTP17_0324		TP 16, Landscape overview, post excavation	North
WTP17_0325		TP 16 Overhead, post excavation	Overview
WTP17_0326		TP 16 North section, post excavation	North
WTP17_0327		TP 10, Landscape overview, post excavation	North
WTP17_0328		TP 10 Overhead, post excavation	Overview
WTP17_0329		TP 10 North section, post excavation	North
WTP17_0330		TP 17, Landscape overview, post excavation	North
WTP17_0331		TP 17 Overhead, post excavation	Overview
WTP17_0332		TP 17 North section, post excavation	North
WTP17_0333		TP 9, Landscape overview, post excavation	North
WTP17_0334	TP 9 Overhead, post excavation	Overview	
WTP17_0335	TP 9 North section, post excavation	North	
WTP17_0336	18.10.2017	TP 7, Landscape overview, post excavation	North
WTP17_0337		TP 7 Overhead, post excavation	Overview
WTP17_0338		TP 7 North section, post excavation	North
WTP17_0339		TP 6 Overhead, post excavation	Overview
WTP17_0340		TP 6, Landscape overview, post excavation	North
WTP17_0341		TP 6 North section, post excavation	North
WTP17_0342		TP 6 North section, post excavation	North
WTP17_0343		TP 8, Landscape overview, post excavation	North
WTP17_0344	TP 8 Overhead, post excavation	Overview	

PROJECT NAME	Warnervale Rezoning Aboriginal Heritage Assessment- Warnervale Rezoning Aboriginal Test Excavation		
CAMERA	Canon/ Olympus Stylus TG-870 Tough	LENS	21mm
SENSOR SIZE	-	35 MM LENS EQUIVALENT	-
PROOF #	-	PHOTOGRAPHER	Tessa Bryant, Ashley O'Sullivan

IMAGE FILE NO.	DATE	DESCRIPTION	ORIENTATION
WTP17_0345	18.10.2017	TP 8 North section, post excavation	North
WTP17_0346		TP 23 Overhead, post excavation	Overview
WTP17_0347		TP 23, Landscape overview, post excavation	North
WTP17_0348		TP 23 North section, post excavation	North
WTP17_0349		TP 21, Landscape overview, post excavation	North
WTP17_0350		TP 21 Overhead, post excavation	Overview
WTP17_0351		TP 21 North section, post excavation	North
WTP17_0352		TP 21 North section, post excavation	North
WTP17_0353		TP 13, Landscape overview, post excavation	North
WTP17_0354		TP 13 Overhead, post excavation	Overview
WTP17_0355		TP 13 North section, post excavation	North
WTP17_0356		19.10.2017	TP 2 Overhead, post excavation
WTP17_0357	TP 2, Landscape overview, post excavation		North
WTP17_0358	TP 2 North section, post excavation		North
WTP17_0359	TP 3 Overhead, post excavation		Overview
WTP17_0360	TP 3, Landscape overview, post excavation		North
WTP17_0361	TP 3 North section, post excavation		North
WTP17_0362	TP 73 Overhead, post excavation		Overview
WTP17_0363	TP 73, Landscape overview, post excavation		North
WTP17_0364	TP 73 North section, post excavation		North
WTP17_0365	TP 72 Overhead, post excavation		Overview
WTP17_0366	TP 72, Landscape overview, post excavation		North
WTP17_0367	TP 72 North section, post excavation		North
WTP17_0368	TP 51 Overhead, post excavation		Overview
WTP17_0369	TP 51, Landscape overview, post excavation		North
WTP17_0370	TP 51 North section, post excavation	North	
WTP17_0371	23.10.2017	TP 11, Landscape overview, post excavation	North
WTP17_0372		TP 11 Overhead, post excavation	Overview
WTP17_0373		TP 11 North section, post excavation	North
WTP17_0374		TP 11 North section, post excavation	North
WTP17_0375		TP 57, Landscape overview, post excavation	North
WTP17_0376		TP 57 Overhead, post excavation	Overview
WTP17_0377		TP 57 North section, post excavation	North
WTP17_0378		TP 66, Landscape overview, post excavation	North
WTP17_0379		TP 66 Overhead, post excavation	Overview

PROJECT NAME	Warnervale Rezoning Aboriginal Heritage Assessment- Warnervale Rezoning Aboriginal Test Excavation		
CAMERA	Canon/ Olympus Stylus TG-870 Tough	LENS	21mm
SENSOR SIZE	-	35 MM LENS EQUIVALENT	-
PROOF #	-	PHOTOGRAPHER	Tessa Bryant, Ashley O'Sullivan

IMAGE FILE NO.	DATE	DESCRIPTION	ORIENTATION
WTP17_0380	23.10.2017	TP 66 North section, post excavation	North
WTP17_0381		TP 69, Landscape overview, post excavation	North
WTP17_0382		TP 69 Overhead, post excavation	Overview
WTP17_0383		TP 69 North section, post excavation	North
WTP17_0384		TP 79, Landscape overview, post excavation	North
WTP17_0385		TP 79 Overhead, post excavation	Overview
WTP17_0386		TP 79 North section, post excavation	North
WTP17_0387		TP 80, Landscape overview, post excavation	North
WTP17_0388		TP 80 Overhead, post excavation	Overview
WTP17_0389		TP 80 North section, post excavation	North
WTP17_0390		TP 67, Overhead, pre-excavation	Overview
WTP17_0391		TP 67, Landscape overview, pre-excavation	North
WTP17_0392		TP 67, Overhead, pre-excavation	Overview
WTP17_0393		TP 67, Landscape overview, pre-excavation	North
WTP17_0394	24.10.2017	TP 43 Overhead, post excavation	Overview
WTP17_0395		TP 43, Landscape overview, post excavation	North
WTP17_0396		TP 43 North section, post excavation	North
WTP17_0397		TP 42 Overhead, post excavation	Overview
WTP17_0398		TP 42, Landscape overview, post excavation	North
WTP17_0399		TP 42 North section, post excavation	North
WTP17_0400		TP 37 Overhead, post excavation	Overview
WTP17_0401		TP 37, Landscape overview, post excavation	North
WTP17_0402		TP 37 North section, post excavation	North
WTP17_0403		TP 27 Overhead, post excavation	Overview
WTP17_0404		TP 27, Landscape overview, post excavation	North
WTP17_0405		TP 27 North section, post excavation	North
WTP17_0406		TP 30 Overhead, post excavation	Overview
WTP17_0407		TP 30, Landscape overview, post excavation	North
WTP17_0408		TP 30 North section, post excavation	North
WTP17_0409		TP 44 Overhead, post excavation	Overview
WTP17_0410	TP 44, Landscape overview, post excavation	North	
WTP17_0411	TP 44 North section, post excavation	North	
WTP17_0412	TP 50 Overhead, post excavation	Overview	
WTP17_0413	TP 50, Landscape overview, post excavation	North	
WTP17_0414	TP 50 North section, post excavation	North	

PROJECT NAME	Warnervale Rezoning Aboriginal Heritage Assessment- Warnervale Rezoning Aboriginal Test Excavation		
CAMERA	Canon/ Olympus Stylus TG-870 Tough	LENS	21mm
SENSOR SIZE	-	35 MM LENS EQUIVALENT	-
PROOF #	-	PHOTOGRAPHER	Tessa Bryant, Ashley O'Sullivan

IMAGE FILE NO.	DATE	DESCRIPTION	ORIENTATION
WTP17_0415	24.10.2017	TP 52 Overhead, post excavation	Overview
WTP17_0416		TP 52, Landscape overview, post excavation	North
WTP17_0417		TP 52 North section, post excavation	North
WTP17_0418		TP 78, Landscape overview, post excavation	North
WTP17_0419	25.10.2017	TP 78 Overhead, post excavation	Overview
WTP17_0420		TP 78 North section, post excavation	North
WTP17_0421		TP 82 Overhead, post excavation	Overview
WTP17_0422		TP 82, Landscape overview, post excavation	North
WTP17_0423		TP 82 North section, post excavation	North
WTP17_0424		TP 89 Overhead, post excavation	Overview
WTP17_0425		TP 89 North section, post excavation	North
WTP17_0426		TP 81, Landscape overview, post excavation	North
WTP17_0427		TP 81 Overhead, post excavation	Overview
WTP17_0428		TP 81 North section, post excavation	North
WTP17_0429		TP 70 Overhead, post excavation	Overview
WTP17_0430		TP 70, Landscape overview, post excavation	North
WTP17_0431		TP 70 North section, post excavation	North
WTP17_0432		TP 95 Overhead, post excavation	Overview
WTP17_0433		TP 95, Landscape overview, post excavation	North
WTP17_0434		TP 95 North section, post excavation	North
WTP17_0435		TP 48 Overhead, post excavation	Overview
WTP17_0436		TP 48, Landscape overview, post excavation	North
WTP17_0437		TP 48 North section, post excavation	North
WTP17_0438		TP 54 Overhead, post excavation	Overview
WTP17_0439		TP 54, Landscape overview, post excavation	North
WTP17_0440		TP 54 North section, post excavation	North
WTP17_0441		TP 67 Overhead, post excavation	Overview
WTP17_0442		TP 67, Landscape overview, post excavation	North
WTP17_0443		TP 67 North section, post excavation	North
WTP17_0444		TP 55 Overhead, post excavation	Overview
WTP17_0445	TP 55, Landscape overview, post excavation	North	
WTP17_0446	TP 55 North section, post excavation	North	
WTP17_0447	TP 56 Overhead, post excavation	Overview	
WTP17_0448	TP 56, Landscape overview, post excavation	North	
WTP17_0449	TP 56 North section, post excavation	North	

PROJECT NAME	Warnervale Rezoning Aboriginal Heritage Assessment- Warnervale Rezoning Aboriginal Test Excavation		
CAMERA	Canon/ Olympus Stylus TG-870 Tough	LENS	21mm
SENSOR SIZE	-	35 MM LENS EQUIVALENT	-
PROOF #	-	PHOTOGRAPHER	Tessa Bryant, Ashley O'Sullivan

IMAGE FILE NO.	DATE	DESCRIPTION	ORIENTATION
WTP17_0450	25.10.2017	TP 77 Overhead, post excavation	Overview
WTP17_0451		TP 77, Landscape overview, post excavation	North
WTP17_0452		TP 77 North section, post excavation	North
WTP17_0453		TP 94 Overhead, post excavation	Overview
WTP17_0454		TP 94, Landscape overview, post excavation	North
WTP17_0455		TP 94 North section, post excavation	North
WTP17_0456	26.10.2017	TP 98 Overhead, post excavation	Overview
WTP17_0457		TP 98 North section, post excavation	North
WTP17_0458		TP 98, Landscape overview, post excavation	North
WTP17_0459		TP 93 Overhead, post excavation	Overview
WTP17_0460		TP 93 North section, post excavation	North
WTP17_0461		TP 93, Landscape overview, post excavation	North
WTP17_0462		TP 106 Overhead, post excavation	Overview
WTP17_0463		TP 106 North section, post excavation	North
WTP17_0464		TP 106 Landscape overview, post excavation	North
WTP17_0465		TP 106 Landscape overview, post excavation	West
WTP17_0466		TP 107 Overhead, post excavation	Overview
WTP17_0467		TP 107 North section, post excavation	North
WTP17_0468	TP 107 Landscape overview, post excavation	North	
WTP17_0469	27.10.2017	TP 90 Overhead, pre-expansion	Overview
WTP17_0470		TP 90 Landscape overview, pre-expansion	North
WTP17_0471		TP 90 Landscape overview pre-expansion	West
WTP17_0472		TP 62 Overhead, post excavation	Overview
WTP17_0473		TP 62 Landscape overview, post excavation	North
WTP17_0474		TP 62 North section, post excavation	North
WTP17_0475		TP 88 Overhead, post excavation	Overview
WTP17_0476		TP 88 Landscape overview, post excavation	North
WTP17_0477		TP 88 North section, post excavation	North
WTP17_0478		TP 58 Overhead, post excavation	Overview
WTP17_0479		TP 58 Landscape overview, post excavation	North
WTP17_0480		TP 58 North section, post excavation	North
WTP17_0481	30.10.2017	TP 64 Landscape overview, post excavation	North
WTP17_0482		TP 64 Overhead, post excavation	Overview
WTP17_0483		TP 64 North section, post excavation	North
WTP17_0484		TP 63 Landscape overview, post excavation	North

PROJECT NAME	Warnervale Rezoning Aboriginal Heritage Assessment- Warnervale Rezoning Aboriginal Test Excavation		
CAMERA	Canon/ Olympus Stylus TG-870 Tough	LENS	21mm
SENSOR SIZE	-	35 MM LENS EQUIVALENT	-
PROOF #	-	PHOTOGRAPHER	Tessa Bryant, Ashley O'Sullivan

IMAGE FILE NO.	DATE	DESCRIPTION	ORIENTATION
WTP17_0485	30.10.2017	TP 63 Overhead, post excavation	Overview
WTP17_0486		TP 63 North section, post excavation	North
WTP17_0487		TP 85 Landscape overview, post excavation	North
WTP17_0488		TP 85 North section, post excavation	North
WTP17_0489		TP 85 Overhead, post excavation	Overview
WTP17_0490		TP 103 Landscape overview, post excavation	North
WTP17_0491		TP 103 Overhead, post excavation	Overview
WTP17_0492		TP 103 Overhead, post excavation	Overview
WTP17_0493		TP 103 North section, post excavation	North
WTP17_0494		TP 104 Landscape overview, post excavation	North
WTP17_0495		TP 104 Overhead, post excavation	Overview
WTP17_0496		TP 104 North section, post excavation	North
WTP17_0497		TP 113 Landscape overview, post excavation	North
WTP17_0498		TP 113 Overhead, post excavation	Overview
WTP17_0499		TP 113 North section, post excavation	North
WTP17_0500		TP 90 Overhead, post excavation	Overview
WTP17_0501		TP 90 Landscape overview, post excavation	North
WTP17_0502	TP 90 North section, post excavation	North	
WTP17_0503	31.10.2017	TP 87 Overhead, post excavation	Overview
WTP17_0504		TP 87 Landscape overview, post excavation	North
WTP17_0505		TP 87 North section, post excavation	North
WTP17_0506		TP 86 Overhead, post excavation	Overview
WTP17_0507		TP 86 Landscape overview, post excavation	North
WTP17_0508		TP 86 North section, post excavation	North
WTP17_0509		TP 114 Overhead, post excavation	Overview
WTP17_0510		TP 114 Landscape overview, post excavation	North
WTP17_0511		TP 114 North section, post excavation	North
WTP17_0512		TP 119 Overhead, post excavation	Overview
WTP17_0513		TP 119 Landscape overview, post excavation	North
WTP17_0514		TP 119 North section, post excavation	North
WTP17_0515		TP 120 Overhead, post excavation	Overview
WTP17_0516		TP 120 North section, post excavation	North
WTP17_0517		TP 110 Overhead, post excavation	Overview
WTP17_0518		TP 110 Landscape overview, post excavation	North
WTP17_0519		TP 110 North section, post excavation	North

PROJECT NAME	Warnervale Rezoning Aboriginal Heritage Assessment- Warnervale Rezoning Aboriginal Test Excavation		
CAMERA	Canon/ Olympus Stylus TG-870 Tough	LENS	21mm
SENSOR SIZE	-	35 MM LENS EQUIVALENT	-
PROOF #	-	PHOTOGRAPHER	Tessa Bryant, Ashley O'Sullivan

IMAGE FILE NO.	DATE	DESCRIPTION	ORIENTATION
WTP17_0520	31.10.2017	TP 102 Overhead, post excavation	Overview
WTP17_0521		TP 102 Landscape overview, post excavation	North
WTP17_0522		TP 102 North section, post excavation	North
WTP17_0523		TP 102 North section, post excavation	North
WTP17_0524		TP 71 Overhead, post excavation	Overview
WTP17_0525		TP 71 Landscape overview, post excavation	North
WTP17_0526		TP 71 North section, post excavation	North
WTP17_0527		TP 92 Overhead, post excavation	Overview
WTP17_0528		TP 92 Landscape overview, post excavation	North
WTP17_0529		TP 92 North section, post excavation	North
WTP17_0530		TP 14 Overhead, post excavation	Overview
WTP17_0531		TP 14 Landscape overview, post excavation	North
WTP17_0532		TP 14 North section, post excavation	North
WTP17_0533		TP 117 Overhead, post excavation	Overview
WTP17_0534		TP 117 Landscape overview, post excavation	North
WTP17_0535		TP 117 North section, post excavation	North
WTP17_0536		TP 118 Overhead, post excavation	Overview
WTP17_0537		TP 118 Landscape overview, post excavation	North
WTP17_0538		TP 118 North section, post excavation	North
WTP17_0539		TP 100 Overhead, post excavation	Overview
WTP17_0540		TP 100 Landscape overview, post excavation	North
WTP17_0541		TP 100 North section, post excavation	North
WTP17_0542		TP 1 Overhead, post excavation	Overview
WTP17_0543		TP 1 Overhead, post excavation	Overview
WTP17_0544		TP 1 Landscape overview, post excavation	North
WTP17_0545		TP 1 North section, post excavation	North
WTP17_0546		TP 4 Overhead, post excavation	Overview
WTP17_0547		TP 4 Landscape overview, post excavation	North
WTP17_0548		TP 4 North section, post excavation	North
WTP17_0549		TP 5 Overhead, post excavation	Overview
WTP17_0550		TP 5 Landscape overview, post excavation	North
WTP17_0551	TP 5 North section, post excavation	North	
WTP17_0552	TP 12 Overhead, post excavation	Overview	
WTP17_0553	TP 12 Landscape overview, post excavation	North	
WTP17_0554	TP 12 North section, post excavation	North	

PROJECT NAME	Warnervale Rezoning Aboriginal Heritage Assessment- Warnervale Rezoning Aboriginal Test Excavation		
CAMERA	Canon/ Olympus Stylus TG-870 Tough	LENS	21mm
SENSOR SIZE	-	35 MM LENS EQUIVALENT	-
PROOF #	-	PHOTOGRAPHER	Tessa Bryant, Ashley O'Sullivan

IMAGE FILE NO.	DATE	DESCRIPTION	ORIENTATION
WTP17_0555	31.10.2017	TP 125 Overhead, post excavation	Overview
WTP17_0556		TP 125 Landscape overview, post excavation	North
WTP17_0557		TP 125 North section, post excavation	North
WTP17_0558		TP 135 Overhead, post excavation	Overview
WTP17_0559		TP 135 Landscape overview, post excavation	North
WTP17_0560		TP 135 Landscape overview, post excavation	West
WTP17_0561		TP 135 North section, post excavation	North
WTP17_0562		TP 134 Overhead, post excavation	Overview
WTP17_0563		TP 134 Landscape overview, post excavation	North
WTP17_0564		TP 134 North section, post excavation	North
WTP17_0565		TP 131 Overhead, post excavation	Overview
WTP17_0566		TP 131 North section, post excavation	North
WTP17_0567		TP 131 Landscape overview, post excavation	North
WTP17_0568		TP 112 Overhead, post excavation	Overview
WTP17_0569		TP 112 Landscape overview, post excavation	North
WTP17_0570		TP 112 North section, post excavation	North
WTP17_0571		TP 126 Overhead, post excavation	Overview
WTP17_0572		TP 126 Landscape overview, post excavation	North
WTP17_0573		TP 126 North section, post excavation	North
WTP17_0574		16.10.2017	TP 34 Overhead, post excavation
WTP17_0575	TP 34 North section, post excavation		North
WTP17_0576	TP 34 Overhead, post excavation		Overview
WTP17_0577	TP 34 West section, post excavation		West
WTP17_0578	TP 35 Tracey excavating		Overview
WTP17_0579	TP 35 Overhead, post excavation		Overview
WTP17_0580	TP 34 North section, post excavation		North
WTP17_0581	TP 34 West section, post excavation		West
WTP17_0582	TP 34 South section, post excavation		South
WTP17_0583	TP 34 East section, post excavation		East
WTP17_0584	TP 36 Overhead, post excavation		Overview
WTP17_0585	TP 36 Overhead, post excavation		Overview
WTP17_0586	TP 36 North section, post excavation		North
WTP17_0587	TP 36 West section, post excavation		West
WTP17_0588	TP 36 South section, post excavation		South
WTP17_0589	TP 36 East section, post excavation		East

PROJECT NAME	Warnervale Rezoning Aboriginal Heritage Assessment- Warnervale Rezoning Aboriginal Test Excavation		
CAMERA	Canon/ Olympus Stylus TG-870 Tough	LENS	21mm
SENSOR SIZE	-	35 MM LENS EQUIVALENT	-
PROOF #	-	PHOTOGRAPHER	Tessa Bryant, Ashley O'Sullivan

IMAGE FILE NO.	DATE	DESCRIPTION	ORIENTATION
WTP17_0590	16.10.2017	TP 36 view South	South
WTP17_0591		TP 36 view North West	West
WTP17_0592	17.10.2017	TP 28 Overhead, post excavation	Overview
WTP17_0593		TP 28 Landscape overview, post excavation	North
WTP17_0594		TP 28 North section, post excavation	North
WTP17_0595		TP 28 West section, post excavation	West
WTP17_0596		TP 28 South section, post excavation	South
WTP17_0597		TP 28 East section, post excavation	East
WTP17_0598		TP 28 view South	South
WTP17_0599		TP 28 view South East	East
WTP17_0600		TP 28 view West	West
WTP17_0601		TP 17 Overhead, post excavation	Overview
WTP17_0602		TP 17 Landscape overview, post excavation	North
WTP17_0603		TP 17 North section, post excavation	North
WTP17_0604		TP 17 West section, post excavation	West
WTP17_0605		TP 17 South section, post excavation	South
WTP17_0606	TP 17 East section, post excavation	East	
WTP17_0607	19.10.2017	TP 12 Overhead, post excavation	Overview
WTP17_0608		TP 12 Landscape overview, post excavation	North
WTP17_0609		TP 12 North section, post excavation	North
WTP17_0610		TP 12 West section, post excavation	West
WTP17_0611		TP 45 Overhead, post excavation	Overview
WTP17_0612		TP 45 Landscape overview, post excavation	North
WTP17_0613		TP 45 North section, post excavation	North
WTP17_0614		TP 46 Overhead, post excavation	Overview
WTP17_0615		TP 46 Landscape overview, post excavation	North
WTP17_0616		TP 46 North section, post excavation	North
WTP17_0617		TP 49 Overhead, post excavation	Overview
WTP17_0618		TP 49 Landscape overview, post excavation	North
WTP17_0619		TP 49 North section, post excavation	North
WTP17_0620		TP 97 Overhead, post excavation	Overview
WTP17_0621	TP 97 Landscape overview, post excavation	North	
WTP17_0622	TP 97 North section, post excavation	North	
WTP17_0623	TP 111 Overhead, post excavation	Overview	
WTP17_0624	TP 111 North section, post excavation	North	

PROJECT NAME	Warnervale Rezoning Aboriginal Heritage Assessment- Warnervale Rezoning Aboriginal Test Excavation		
CAMERA	Canon/ Olympus Stylus TG-870 Tough	LENS	21mm
SENSOR SIZE	-	35 MM LENS EQUIVALENT	-
PROOF #	-	PHOTOGRAPHER	Tessa Bryant, Ashley O'Sullivan

IMAGE FILE NO.	DATE	DESCRIPTION	ORIENTATION
WTP17_0625	19.10.2017	TP 111 Landscape overview, post excavation	North
WTP17_0626		TP 105 Overhead, post excavation	Overview
WTP17_0627		TP 105 North section, post excavation	North
WTP17_0628		TP 105 Landscape overview, post excavation	North
WTP17_0629	26.10.2017	TP 39 Landscape overview, post excavation	North
WTP17_0630		TP 39 Overhead, post excavation	Overview
WTP17_0631		TP 39 North section, post excavation	North
WTP17_0632		TP 40 Landscape overview, post excavation	North
WTP17_0633		TP 40 Overhead, post excavation	Overview
WTP17_0634		TP 40 North section, post excavation	North
WTP17_0635		TP 41 Landscape overview, post excavation	North
WTP17_0636		TP 41 Overhead, post excavation	Overview
WTP17_0637		TP 41 North section, post excavation	North
WTP17_0638		TP 59 Overhead, post excavation	Overview
WTP17_0639		TP 59 Overhead, post excavation	Overview
WTP17_0640		TP 59 North section, post excavation	North
WTP17_0641		TP 60 Overhead, post excavation	Overview
WTP17_0642		TP 60 Overhead, post excavation	Overview
WTP17_0643		TP 60 North section, post excavation	North
WTP17_0644		TP 61 Landscape overview, post excavation	North
WTP17_0645	TP 61 Overhead, post excavation	Overview	
WTP17_0646	TP 61 North section, post excavation	North	
WTP17_0647	10.11.2017	TP 84 OSL samples	West
WTP17_0648		TP 84 OSL samples	West
WTP17_0649	31.10.2017	TP 91 Landscape overview, post excavation	North
WTP17_0650		TP 91 Overhead, post excavation	Overview
WTP17_0651		TP 91 North section, post excavation	North
WTP17_0652		TP 91 East section, post excavation	East
WTP17_0653		TP 91 South section, post excavation	South
WTP17_0654		TP 91 West section, post excavation	West
WTP17_0655		TP 96 Landscape, pre-excavation expansion	North
WTP17_0656		TP 96 Overhead, pre-excavation expansion	Overview
WTP17_0657		TP 96 Landscape overview, post excavation	North
WTP17_0658		TP 96 Overhead, post excavation	Overview
WTP17_0659		TP 96 North section, post excavation	North

PROJECT NAME	Warnervale Rezoning Aboriginal Heritage Assessment- Warnervale Rezoning Aboriginal Test Excavation		
CAMERA	Canon/ Olympus Stylus TG-870 Tough	LENS	21mm
SENSOR SIZE	-	35 MM LENS EQUIVALENT	-
PROOF #	-	PHOTOGRAPHER	Tessa Bryant, Ashley O'Sullivan

IMAGE FILE NO.	DATE	DESCRIPTION	ORIENTATION
WTP17_0660	31.10.2017	TP 96 East section, post excavation	East
WTP17_0661		TP 96 South section, post excavation	South
WTP17_0662		TP 96 West section, post excavation	West
WTP17_0663		TP 71 Landscape, pre-excavation expansion	North
WTP17_0664		TP 71 Overhead, pre-excavation expansion	Overview
WTP17_0665		TP 71 Landscape overview, post excavation	North
WTP17_0666		TP 71 Overhead, post excavation	Overview
WTP17_0667		TP 71 North section, post excavation	North
WTP17_0668		TP 71 East section, post excavation	East
WTP17_0669		TP 71 South section, post excavation	South
WTP17_0670		TP 71 West section, post excavation	West
WTP17_0671		TP 13 Landscape, pre-excavation expansion	North
WTP17_0672		TP 13 Overhead, pre-excavation expansion	Overview
WTP17_0673		TP 13 Landscape overview, post excavation	North
WTP17_0674		TP 13 Overhead, post excavation	Overview
WTP17_0675		TP 13 North section, post excavation	North
WTP17_0676		TP 13 East section, post excavation	East
WTP17_0677		TP 13 South section, post excavation	South
WTP17_0678		TP 13 West section, post excavation	West
WTP17_0679		TP 18 Landscape, pre-excavation expansion	North
WTP17_0680		TP 18 Overhead, pre-excavation expansion	Overview
WTP17_0681		TP 18 Landscape overview, post excavation	North
WTP17_0682		TP 18 Overhead, post excavation	Overview
WTP17_0683		TP 18 North section, post excavation	North
WTP17_0684		TP 18 East section, post excavation	East
WTP17_0685		TP 18 South section, post excavation	South
WTP17_0686		TP 18 West section, post excavation	West
WTP17_0687		01.11.2017	TP 68 Landscape overview, post excavation
WTP17_0688	TP 68 Overhead, post excavation		Overview
WTP17_0689	TP 68 North section, post excavation		North
WTP17_0690	TP 71 Overhead, expanded post excavation		Overview
WTP17_0691	TP 71 North section, expanded post excavation		North
WTP17_0692	TP 30 Overhead, pre-excavation expansion		Overview
WTP17_0693	TP 30 Landscape overview, post excavation		North
WTP17_0694	TP 30 Overhead, post excavation		Overview

PROJECT NAME	Warnervale Rezoning Aboriginal Heritage Assessment- Warnervale Rezoning Aboriginal Test Excavation		
CAMERA	Canon/ Olympus Stylus TG-870 Tough	LENS	21mm
SENSOR SIZE	-	35 MM LENS EQUIVALENT	-
PROOF #	-	PHOTOGRAPHER	Tessa Bryant, Ashley O'Sullivan

IMAGE FILE NO.	DATE	DESCRIPTION	ORIENTATION
WTP17_0695	01.11.2017	TP 30 North section, expanded post excavation	North
WTP17_0696		TP 26 Landscape overview, post excavation	North
WTP17_0697		TP 26 Overhead, post excavation	Overview
WTP17_0698		TP 26 North section, expanded post excavation	North
WTP17_0699	02.11.2017	TP 71 OSL samples	North
WTP17_0700		TP 116 Overhead, post excavation	Overview
WTP17_0701		TP 116 Landscape overview, post excavation	North
WTP17_0702		TP 116 North section, post excavation	North
WTP17_0703		TP 128 Overhead, post excavation	Overview
WTP17_0704		TP 128 Landscape overview, post excavation	North
WTP17_0705		TP 128 North section, post excavation	North
WTP17_0706		23.10.2017	TP 84A Overhead, frogs
WTP17_0707	TP 84A, 84C spit 1 Overhead, post excavation		Overview
WTP17_0708	TP 84 Landscape overview, pre-excavation 84 B+D		North
WTP17_0709	24.10.2017	TP 109 Overhead, post excavation	Overview
WTP17_0710		TP 109 North section, post excavation	North
WTP17_0711		TP 109 Landscape overview, post excavation	West
WTP17_0712		TP 70 Overhead, post excavation	Overview
WTP17_0713		TP 70 North section, post excavation	North
WTP17_0714		25.10.2017	TP 67 Overhead, post excavation
WTP17_0715	TP 67 North section, post excavation		North
WTP17_0716	TP 67 North section, post excavation		North
WTP17_0717	TP 54 Overhead, post excavation		Overview
WTP17_0718	TP 54 North section, post excavation		North
WTP17_0719	TP 54 Landscape overview, post excavation		North
WTP17_0720	TP 55 North section, post excavation		North
WTP17_0721	TP 55 Overhead, post excavation		Overview
WTP17_0722	TP 55 Landscape overview, post excavation		North
WTP17_0723	TP 56 Overhead, post excavation		Overview
WTP17_0724	TP 56 North section, post excavation		North
WTP17_0725	TP 56 Landscape overview, post excavation		North
WTP17_0726	TP 48 Overhead, post excavation		Overview
WTP17_0727	TP 48 North section, post excavation		North
WTP17_0728	TP 47 Overhead, post excavation		Overview
WTP17_0729	TP 47 Landscape overview, post excavation	North	

PROJECT NAME	Warnervale Rezoning Aboriginal Heritage Assessment- Warnervale Rezoning Aboriginal Test Excavation		
CAMERA	Canon/ Olympus Stylus TG-870 Tough	LENS	21mm
SENSOR SIZE	-	35 MM LENS EQUIVALENT	-
PROOF #	-	PHOTOGRAPHER	Tessa Bryant, Ashley O'Sullivan

IMAGE FILE NO.	DATE	DESCRIPTION	ORIENTATION
WTP17_0730	25.10.2017	TP 47 North section, post excavation	North
WTP17_0731		TP 53 Overhead, post excavation	Overview
WTP17_0732		TP 53 Landscape overview, post excavation	North
WTP17_0733		TP 53 North section, post excavation	North
WTP17_0734		TP 65 Overhead, post excavation	Overview
WTP17_0735		TP 65 North section, post excavation	North

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A6.1 OSL dating

TBC

A6.4 Lithic catalogue

Area	TestPit	Spit	Depth	ID #	Artefact Type	Raw Material	Colour	HEAT DAMAGE	Termination	% Cortex	Cortex type
WRT17	18	3	20-30	1	Complete flake	CoarseSilcrete	Y/R	N	PLUNGE	0%	
WRT17	71	3	10-20	2	Complete flake	FGS	Orange	N	ABRUPT	0%	
WRT17	71B	4	30-40	3	Proximal flake	CoarseSilcrete	R/Y	N		0%	
WRT17	71B	4	30-40	4	Distal flake	FineSilcrete	Red	Y	FEATHER	0%	
WRT17	26	2	10-20	5	Angular fragment	FGS	Other	Y		0%	
WRT17	96	2	10-20	6	Angular fragment	IMT	Yellow	N		0%	
WRT17	90	1	0-10	7	Complete flake	FGS	Other	N	FEATHER	0%	
WRT17	90	1	0-10	8	Angular fragment	IMT	R/Y	Y		0%	
WRT17	13	2	10-20	9	Medial flake	MediumSilcrete	Other	N		0%	
WRT17	30	4	30-40	10	Complete split	CoarseSilcrete	Y/R	N	ABRUPT	1-25%	Smooth
WRT17	84A	2	10-20	11	Core	IMT	Yellow	N		26-50%	Smooth
WRT17	91	3	20-30	12	Angular fragment	Quartzite	Other	N		0%	

ID #	Quads with cortex	Flake form	Platform preparation	Platform type	# dorsal flake scars	Location dorsal scars	Core type	Core body	Core scar form	Core platform #	# step terminations
1	0	Expanding	TRIMMING	Crush	3	14				0	
2	0	Indeterminate	TRIMMING	Uni	1	1				0	
3	0	Indeterminate	TRIMMING	Uni		0				0	
4	0	Elongated				0				0	
5	0					0				0	
6	0					0				0	
7	0	Blade	SCAR	Facetted	2	1				0	
8	0					0				0	
9	0	Indeterminate				0				0	
10	0	Indeterminate	SCAR	Cortical		0				0	
11	0					0	Multiple	Nodule	Mixed	4	<5
12	0					0				0	

ID #	# hinge terminations	Maximum length (mm)	Maximum width (mm)	Maximum thickness (mm)	Flake length (mm)	Platform width (mm)	Platform thickness (mm)	Length longest core scar (mm)	Width longest core scar (mm)	# Core scars	Weight (g)	Modification
1		26	19.8	4.9	23.5	0	0	0	0		2.4	N/A
2		15	7.5	3.2	11.7	9.2	3.1	0	0		0.4	N/A
3		15.5	11	3.2	0	8.5	4.1	0	0		0.7	N/A
4		13.8	8.9	4.2	0	0	0	0	0		0.5	N/A
5		11.3	6.7	2.9	0	0	0	0	0		0.2	heat
6		17.9	8.3	4.1	0	0	0	0	0		0.9	N/A
7		19.3	9.7	4.3	14	9.3	3.5	0	0		0.5	N/A
8		14.7	9	2.4	0	0	0	0	0		0.3	N/A
9		18.6	13.2	3.2	0	0	0	0	0		1	N/A
10		16.3	11.9	4.9	16	0	0	0	0		1.6	N/A
11	<5	62	60	22.1	0	0	0	17.6	15.4	6-10	57.1	weathered
12		22.4	16.4	10.1	0	0	0	0	0		2.9	N/A

ID #	Comments
1	
2	ferrogenous quartz?
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

Appendix 7: AHIMS Site Cards and Aboriginal Site Impact Recording Forms

AHIMS site ID:

Date recorded:

Site Location Information

Site name:

Easting: Northing: Coordinates must be in GDA (MGA)

Horizontal Accuracy (m):

Zone: Location method:

Recorder Information

(The person responsible for the completion and submission of this form)

Title	Surname	First name
<input type="text" value="Dr."/>	<input type="text" value="Bryant"/>	<input type="text" value="Tessa"/>

Organisation:

Address:

Phone: E-mail:

Site Context Information

Land Form Pattern: Land Use:

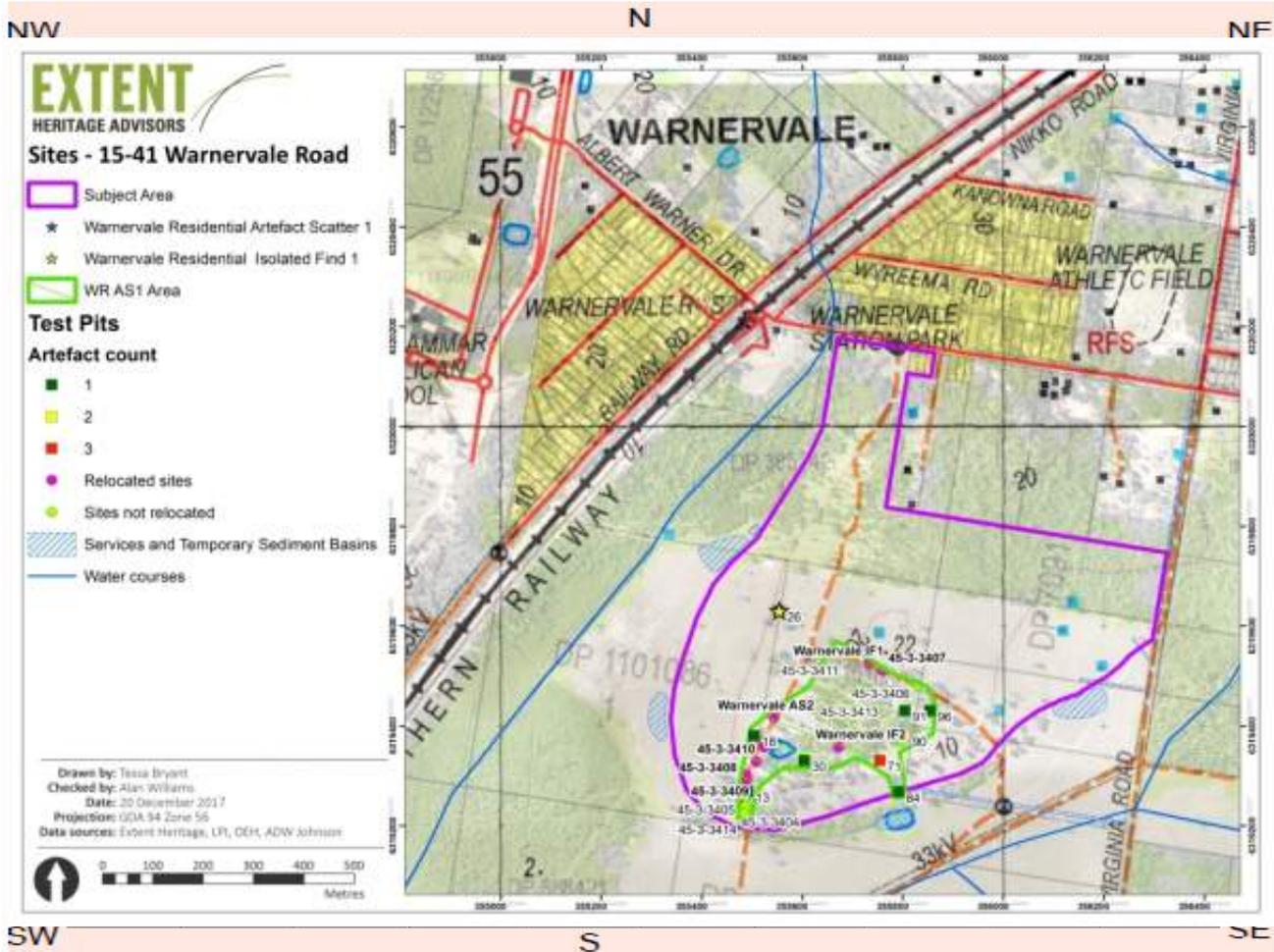
Land Form Unit: Vegetation:

Distance to Water (m): Primary Report:

How to get to the site:

Other site information:

Site location map



Site contents information

open/closed site:

Site condition:

Features:

Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)
1. <input type="text" value="Artefact"/>	<input type="text" value="100"/>	<input type="text" value="360"/>
	<input type="text" value="250"/>	

Scarred Trees			
Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Description:

Low density surface and subsurface artefact scatter on southern slopes between 6m and 22m contours. Includes previously identified surface artefact scatters and isolated finds in eroded areas and subsurface deposits. Test excavation recovered 11 artefacts from 8 (1 x 1m) test pits.

Features:

Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)
2. <input type="text"/>	<input type="text"/>	<input type="text"/>
	<input type="text"/>	

Scarred Trees			
Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Description:

Features:

	Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)
3.	<input type="text"/>	<input type="text"/>	<input type="text"/>

Scarred Trees			
Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Description:

Features:

	Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)
4.	<input type="text"/>	<input type="text"/>	<input type="text"/>

Scarred Trees			
Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Description:

Features:

	Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)
5.	<input type="text"/>	<input type="text"/>	<input type="text"/>

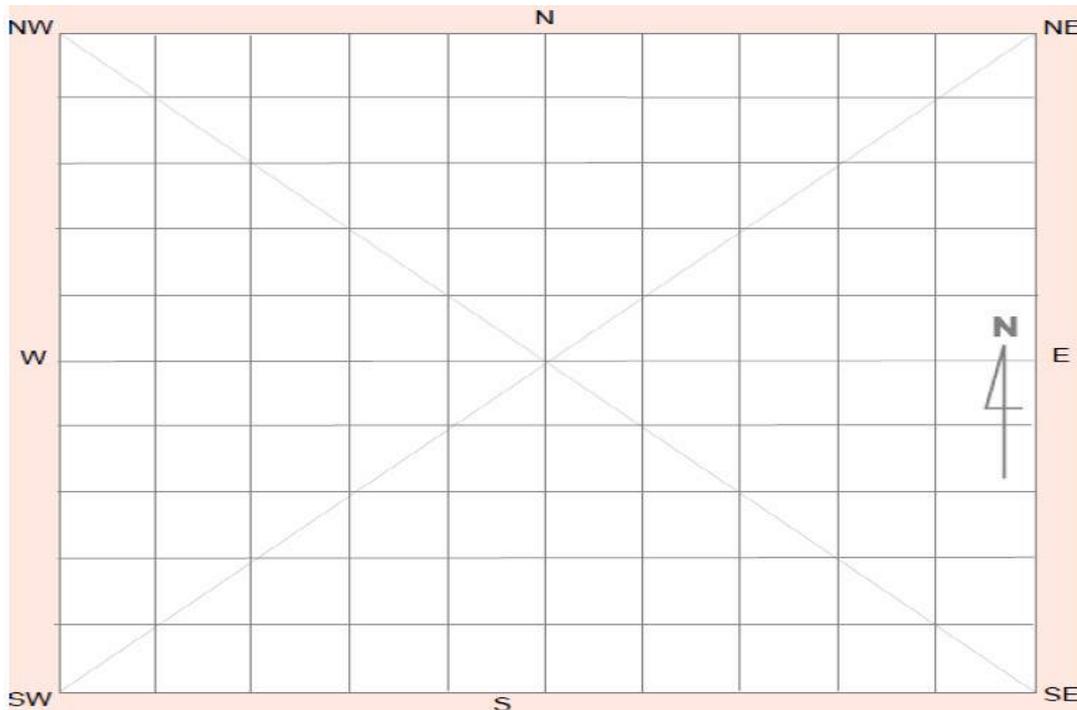
Scarred Trees			
Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Description:

Other Site Info:

Includes previously identified sites: 45-3-3404 to 45-3-3414 (6 surface artefact scatters and 5 isolated finds). Also includes two additional artefact scatters and two isolated finds recorded during the survey for the ACHAR. Raw material types include silcrete, IMT, FGS and quartzite. 100+ artefacts

Site plan



Site photographs



Description: Surface artefacts (marked by flags on western edge of the site).



Description: Silcrete artefacts from TP 30 spit 4, TP 13 spit 2, TP 18 spit 3 and TP 71B spit 4.



Description: IMT core tool recovered from TP 84A spit 2.



Description: Possible edge ground axe (isolated find) within the central part of the site.

Site restrictions

Do you want to Restrict this site?:

Restriction type: Gender General Location

Why is this site restricted?:

Further information contact

Title Surname First name

Organisation:

Address:

Phone: E-mail:



Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville 2220 NSW

AHIMS site ID:

Date recorded:

Site Location Information

Site name:

Easting: Northing: Coordinates must be in GDA (MGA)

Horizontal Accuracy (m):

Zone: Location method:

Recorder Information

(The person responsible for the completion and submission of this form)

Title	Surname	First name
<input type="text" value="Dr."/>	<input type="text" value="Bryant"/>	<input type="text" value="Tessa"/>

Organisation:

Address:

Phone: E-mail:

Site Context Information

Land Form Pattern: Land Use:

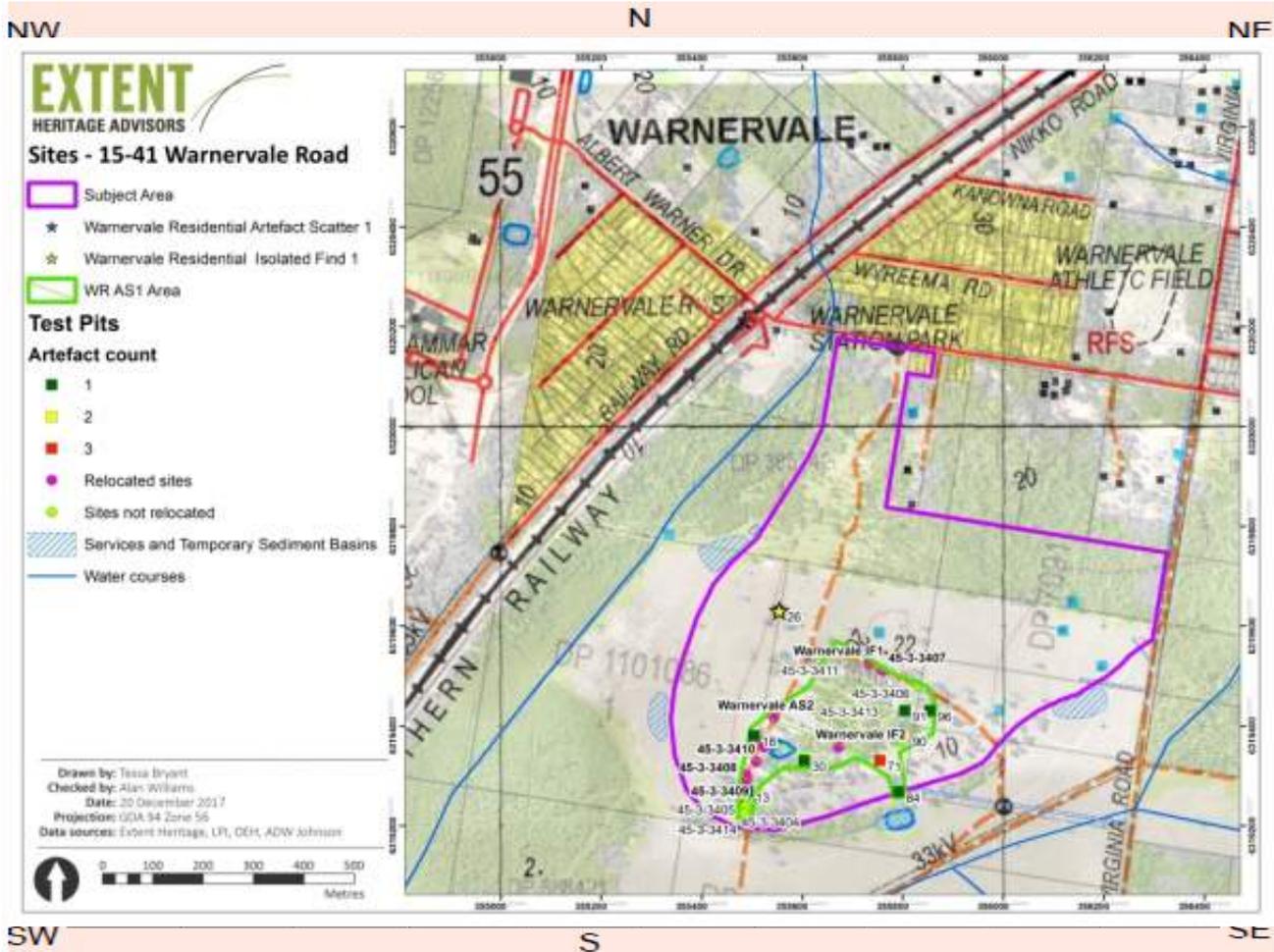
Land Form Unit: Vegetation:

Distance to Water (m): Primary Report:

How to get to the site:

Other site information:

Site location map



Site contents information

open/closed site: Site condition:

Features:

Features:	Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)	Scarred Trees			
				Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species
1. <input type="text" value="Artefact"/>	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Description:

Single fine grained siliceous flaked piece (dimensions: 11.3 x 6.7 x 2.9 mm, weight: 0.2 g) recovered from test pit 26 (1 by 1 m test pit) at a depth of 10-20 cm during test excavations.

Features:

Features:	Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)	Scarred Trees			
				Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species
2. <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Description:

Features:

3.

Number of features Length of feature(s) extent (m) Width of feature (s) extent (m)

Scarred Trees			
Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Description:

Features:

4.

Number of features Length of feature(s) extent (m) Width of feature (s) extent (m)

Scarred Trees			
Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Description:

Features:

5.

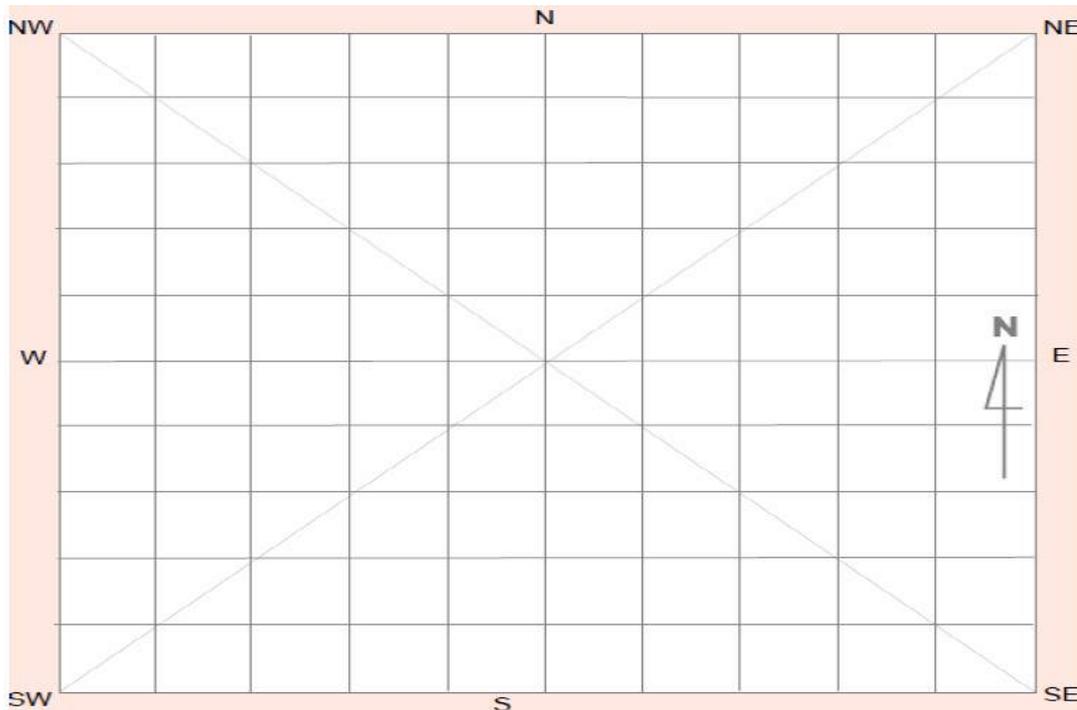
Number of features Length of feature(s) extent (m) Width of feature (s) extent (m)

Scarred Trees			
Scar Depth (cm)	Regrowth (cm)	Scar shape	Tree Species
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Description:

Other Site Info:

Site plan



Site photographs



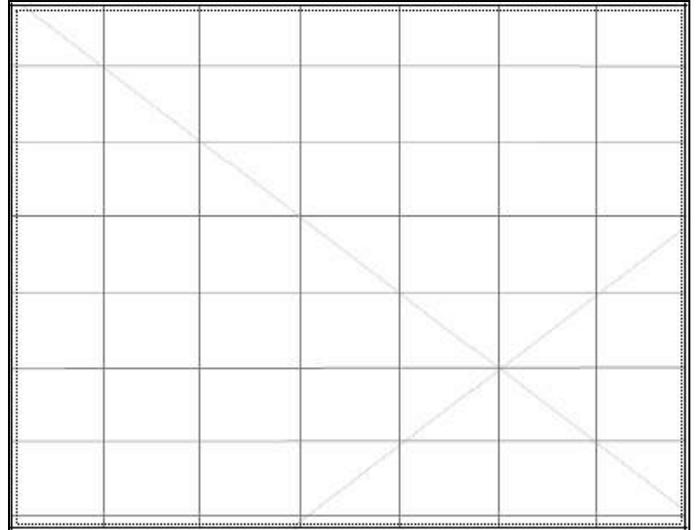
Description: Test pit 26 post excavation



Description: Location of test pit 26 prior to excavation



Description: Artefact on the right is the isolated find recovered from test pit 26 spit 2.



Description:

Site restrictions

Do you want to Restrict this site?:

Restriction type: Gender General Location

Why is this site restricted?:

Further information contact

Title Surname First name

Organisation:

Address:

Phone: E-mail: