

Project Number: HN000341-A



ABORIGINAL DUE DILIGENCE ASSESSMENT REPORT - 512 RAYMOND TERRACE ROAD, THORNTON

FINAL 4/11/2021

REPORT TO: TERRY AND SUE BUNT 1 Hartley Drive, Thornton NSW 2322

REPORT BY HERITAGE NOW PTY LTD

projects@heritagenow.com.au (02) 8318 9770 www.heritagenow.com.au



Executive Summary

Heritage Now has been engaged by Charsam Pty Ltd to undertake an Aboriginal Due Diligence Assessment for a proposed subdivision. The Project Area consists of Lot 191 DP827070 at 512 Raymond Terrace Road, Thornton. The proposed works involve the subdivision of the Project Area into 25 residential lots and one drainage reserve.

The background research and site inspection identified no Aboriginal objects, places or areas of potential archaeological deposit in the Project Area. A review of contextual information indicated that a low-density of stone artefacts, both surface and sub-surface, would likely be the most common site type in the Project Area, *if* the Project Area has not already been disturbed. As the site inspection identified the Project Area *had* been disturbed, mostly due to vegetation clearance stripping shallow topsoils to B horizon clay, no Aboriginal cultural material was observed and the ground surface conditions suggest it is unlikely to be present.

There is no identified risk of harm to Aboriginal objects as a result of the proposed works, and thus an AHIP application is not required. However, general mitigation measures are to be followed which include protocols for the unexpected discovery of Aboriginal objects or archaeological material. The below recommendations are to be followed.

Recommendation 1

All on-site personnel are to be made aware of their obligations under the National Parks and Wildlife Act. This includes protection of Aboriginal sites and the reporting of any new Aboriginal, or suspected Aboriginal heritage sites. This may be done through an on-site induction or other suitable format.

Recommendation 2

In the unlikely event that Aboriginal, or suspected Aboriginal archaeological material is uncovered during the development, then works in that area are to stop and the area is to be cordoned off. The project manager is to contact the heritage consultant to make an assessment as to whether the material is classed as Aboriginal object/s under the National Parks and Wildlife Act 1974 and advise on the required management and mitigation measures. Works are not to recommence in the cordoned off area until heritage clearance has been given and/or the required management and mitigation measures have been implemented.

Recommendation 3

In the very unlikely event that human remains, or suspected human remains are uncovered during the development, then works in that area are to stop and the area is to be cordoned off. The project manager is to contact the NSW Police to establish whether the area is a crime scene. If it is not a crime scene, then Heritage NSW is to be notified via the Environment Line on 131 555 and management measures are to be devised in consultation with the local Aboriginal community. Works are not to recommence in the area until the management measures have been implemented.



Acronyms and Definitions

Acronym/Term	Definition
Aboriginal object	Aboriginal object means 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 (as per <i>NPW Act 1974</i>).
AHIMS	Aboriginal Heritage Information Management System (register for Aboriginal sites in NSW)
AHD	Australian Height Datum
A Horizon	The top layer of mineral soil in a soil profile. It is usually broken into A1 and A2 soils, with the former tending to have a relatively high dark organic content, while the latter is paler.
B Horizon	The B horizon often underlies the A horizon of a soil profile, and is generally a high-clay content soil.
AHIP	Aboriginal Heritage Impact Permit
DECCW	Department of Environment, Climate Change and Water, NSW (became the Office of Environment and Heritage in 2011)
DP	Deposited Plan
DTDB	Digital Topographic Database (NSW)
EP&A Act	Environmental Planning and Assessment Act 1979
Holocene	Geological epoch (period) typically defined as the time period that commenced approximately 11,700 years ago and is the current period of geological time. This period is generally warmer and wetter than the preceding Pleistocene period.
GDA	Geocentric Datum Australia
LALC	Local Aboriginal Land Council (Land Council under the Aboriginal Land Rights Act 1983)
LEP	Local Environmental Plan
PAD	Potential Archaeological Deposit
Pleistocene	Geological epoch (period) is typically defined as the time period that commenced approximately 2.6 million years ago and lasted until approximately 11,700 years ago. This period spans the world's recent period of repeated glaciations. The late Pleistocene, in which humans began occupying Australia, is generally colder and dryer than the Holocene.
SIX Maps	Spatial Information Exchange (NSW government portal holding a range of spatial and property data)



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1 Introduction

Heritage Now has been engaged by Charsam Pty Ltd to provide an Aboriginal Heritage Due Diligence Assessment for proposed subdivision at 512 Raymond Terrace Road, Thornton.

The aim of the Due Diligence Assessment is to assess the likelihood of Aboriginal objects being harmed by the proposed activity, whether further investigation is warranted, and whether the activity requires an Aboriginal Heritage Impact Permit (AHIP) application (DECCW 2010, 2).

1.1 Project Area

The Project Area is located at 512 Raymond Terrace Road, Thornton (Lot 191 DP827070) (Figure 1), approximately 9 km southwest of Maitland (Figure 2). The 1.9 ha area measures approximately 75 m east-west and 260 m north-south. It is within Maitland City Council Local Government Area and Mindaribba Local Aboriginal Land Council (LALC) boundaries.



Figure 1. The Project Area. (Source: SIX Maps aerial with DCDB cadastral boundaries and Heritage Now additions)



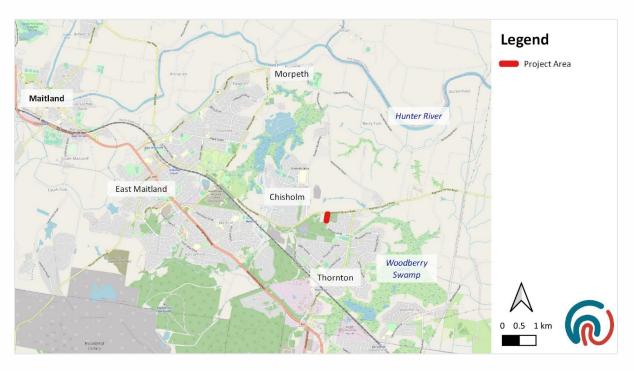


Figure 2. The Project Area within a regional context. (Source: SIX Maps base plan with Heritage Now additions)

1.2 Project Proposal

The proponent is submitting a Development Application to subdivide 512 Raymond Terrace Road, Thornton, into 26 lots: 25 residential lots and one drainage reserve (Figure 3) (Attachment A).



Figure 3. Proposed activity. (Source: SIX Maps base plan with Heritage Now and client additions)



1.3 Methodology

This assessment has been written in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (DECCW 2010). This guideline outlines steps required to:

- 1. Identify whether or not Aboriginal objects are, or are likely to be, present in an area;
- 2. Determine whether or not the activities they propose are likely to harm Aboriginal objects (if present); and
- 3. Determine whether an Aboriginal Heritage Impact Permit (AHIP) application is required.

The five steps of the due diligence process, and where they are outlined within this report, are shown in Table 1.

Table 1. Steps in the DECCW 2010 Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales, *and corresponding report section*.

Aboriginal Due Diligence Requirements	Report Section
Step 1— Project Proposal. Assess whether the activity will disturb the	Section 1.2 and 6.1
ground surface.	
Step 2a—Heritage Context. Search the Aboriginal Heritage	Section 4
Information Management System (AHIMS) database (and other	
relevant sources of information) to check whether any Aboriginal	
sites have been recorded in the area, or whether or not Aboriginal	
objects are likely to be in the present area.	
Step 2b—Environmental Context. Consider whether Aboriginal	Section 3
objects are likely to be in the area of the proposed activity based on	
landscape features, and whether the land is disturbed.	
Step 3—Impact Assessment. Assess whether you can avoid harm to	Section 6.2
the object or disturbance of the landscape feature.	
Step 4—Visual Inspection. Undertake desktop assessment and visual	Section 5 (and
inspection.	throughout report)
Step 5—Conclusions and Recommendations. Specify whether	Section 6.3 and 7
further investigations and a formal impact assessment (AHIP) is	
required.	

1.4 Authorship and Acknowledgements

This report was written by Lara Tooby, Heritage Consultant at Heritage Now. Technical and quality review was undertaken by Tessa Boer-Mah, Principal Heritage Consultant at Heritage Now.

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2 Legislative Context

This section provides an outline of the Acts, Regulations and guidelines under which this assessment has been undertaken. It is for information purposes only and should not be taken as legal advice.

2.1 National Parks and Wildlife Act 1974

This Act contains the provisions for protecting Aboriginal objects in NSW. Aboriginal objects are protected regardless of whether they are in their original context (location) or not, and it is an offence to harm an Aboriginal object regardless of whether you know it is an Aboriginal object or not. Protection under Section 86 of the Act is as follows:

- s86(1) A person must not harm or desecrate an object that the person knows is an Aboriginal object.
- s86(2) A person must not harm an Aboriginal object.
- s86(3) A person must not harm or desecrate an Aboriginal place.

Penalties for harming Aboriginal objects or places range from \$80,000–\$800,000 for individuals and \$330,000–\$1,650,000 for corporations, and may also include imprisonment. Under Section 87, there are certain defences from prosecution. These include that harm was authorised under an Aboriginal Heritage Impact Permit (AHIP) and actions were in accordance with the AHIP; that due diligence was exercised in relation to Aboriginal object/s; and/or that the activity was classified as low impact.

Under Section 89A, an Aboriginal object must be reported to Heritage NSW within a reasonable timeframe unless they have previously been recorded and submitted to the Aboriginal Heritage Information Management System (AHIMS). Penalties for failure to report an Aboriginal object start from \$16,500 for individuals and \$33,000 for corporations.

2.2 National Parks and Wildlife Regulations 2009

This Regulation provides a framework for exercising due diligence and outlines codes of practice in respect to Aboriginal objects (Section 80A), as well as defences for carrying out certain low-impact activities (Section 80B). The Regulation also outlines requirements for Aboriginal consultation (Section 80C), particularly in relation to an Aboriginal Heritage Impact Permit. Under the Regulation, the following codes of practice are recognised, amongst others:

- Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (DECCW 2010)
- NSW Minerals Industry Due Diligence Code of Practice for the Protection of Aboriginal Objects (NSW Minerals Council 2010)

2.3 Aboriginal Land Rights Act 1983

This Act provides land rights to Aboriginal people through the Local Aboriginal Land Councils. It details a process for claiming unused Crown Land in NSW and for enabling land use. It also allows for agreements to permit traditional hunting, fishing and gathering.



2.4 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) provides triggers for undertaking environmental and heritage assessments as part of the wider land use planning framework. Part 4 details how authorities are to determine development applications, as well as identifying whether projects require an Environmental Impact Statement. Part 9 outlines the implementation and enforcement of the EP&A Act.

2.1 Maitland Local Environmental Plan (LEP) 2011

The Maitland LEP outlines triggers for heritage assessments as part of the Development Application process. It also protects heritage as listed in Schedule 5 of the LEP.

No Aboriginal heritage sites within the Lot boundaries are listed in the LEP.



3 Environmental Context

This section provides the environmental context for the assessment of past Aboriginal occupation in the Project Area.

The likelihood of Aboriginal objects surviving in the landscape depend upon the following: the characteristics of occupation by Aboriginal people, environmental factors which provide distinctive sets of constraints that influences land use patterns (Kuskie 2015, 8), land use patterns post 1788 and the soil conditions and environmental factors which would influence the preservation of archaeological material. .

This section considers the environment as it was during the Holocene, as Pleistocene sites are not predicted to occur in the Project Area.

3.1 Soils and Geology

Soil characteristics provide information on potential archaeological deposits. The underlying geology can provide information on stone resources available to Aboriginal people.

The Project Area is made up of the Beresfield Soil Landscape (Figure 4) (Matthei 1995). Artefact bearing soils are generally restricted to A horizon soils as the underlying compact B horizon soils, which form a barrier through which artefacts usually do not penetrate.

The Beresfield soil landscape comprises 5–10 cm of friable brownish black loam (A1 horizon), overlying 10–30 cm of hard setting, dull, yellowish brown, sandy loam (A2 horizon), followed by a pedal, brown, plastic, mottled B horizon clay. On the basis of this soil landscape if the soils have not been disturbed and are located on archaeologically sensitive landforms they may consist of approximately 30 cm of potentially artefact bearing deposit.

Geology is important, as certain rock types are known to be used by Aboriginal people as raw material for artefacts. Underlying geology in the Beresfield soil landscape (excluding Tomago Coal Measures) include siltstone claystone, thin sandstone and limestone (Matthei 1995). The most common stone artefact materials known to be used by Aboriginal people in the past include silcrete, indurated mudstone/ tuff (IMT), fine grained silicious (FGS), chert and quartz, none of which (except perhaps small portions of quartz from within the sandstone) are known to occur naturally in Project Area. Therefore, any artefacts found within the Project Area are likely to be brought to the Project Area from other locations, as opposed to be manufactured onsite.



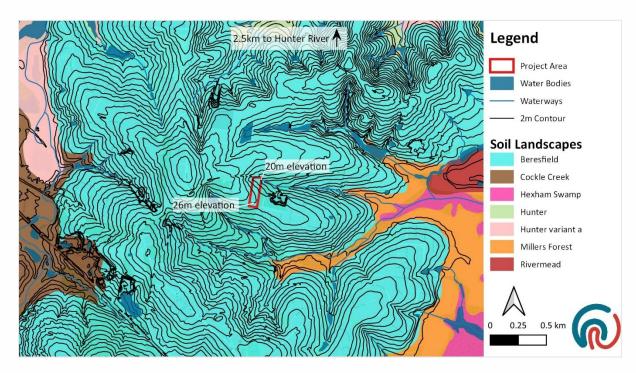


Figure 4. Soil landscapes in and around the Project Area. (Source: Matthei 1995 Soil Landscapes, DTDB topography, and SIX Maps aerial with Heritage Now additions)

3.2 Topography and Hydrology

The hydrology and topographic characteristics of the Project Area are not likely to be conducive of intensive or long-term Aboriginal occupation in the past. Situated within a landscape of undulating low hills and rises, the Project area is on the edge of an east facing crest at 26m AHD, sloping gently into an open depression, where a non-perennial, 1st order stream commences at 20m AHD (Figure 4). The area is unlikely to have been preferred as a habitation location given the ephemeral nature of the unnamed streamline. Habitation would be more likely near permanent water sources in perennial streams or freshwater pockets of the surrounding swampland.

3.3 Flora and Fauna

This section is intended to give a general overview of the flora and fauna that may have been used by Aboriginal people in the past. The information has been supplied for understanding the past Aboriginal use of the landscape and is not intended for ecological assessment purposes.

It is probable that the Project Area would have hosted Hunter-Macleay Dry Sclerophyll Forests (Keith 2004), which would have provided a variety of foods and raw materials for Aboriginal occupation in the area. The Hunter-Macleay Dry Scherophyll Forests would have comprised open eucalypt forest to 30 m tall, with a mixed sclerophyll and mesophyll shrub stratum and semi-continuous grassy groundcover. Many of the plant species of the forest would have been used by Aboriginal people. For example, the fruits of plants such as the geebung and coffee bush are edible, and the timbers of eucalypts could be used to create tools, vessels and canoes (Brayshaw 1987). The forest would provide the habitat for wallabies, kangaroos, potoroos, possums, bats, and quoll species. These faunae could have provided a source of food and their hides could have been used as a resource to make clothing. The plentiful flora and fauna that would have occurred within the Project Area and surrounds would have made it a favourable location for collecting resources during the Holocene.



3.4 Land Use Disturbance

Land is disturbed if it has been the subject to modern human activity that has changed the land's surface. Examples include ploughing, construction of rural infrastructure, roads, trails and tracks, vegetation clearance, construction of buildings, structures, and utilities and other impacts involving earthworks (DECCW 2010, 18).

There is evidence that extensive vegetation clearance has occurred in the Project Area. In 1966 (Figure 5), it appears that much of the Project Area was covered in forest, most of which was subsequently cleared. Based on the characteristics of the Beresfield Soil Landscape, which undergoes considerable erosion in disturbed areas (Matthei 1995), it is likely that the vegetation clearance would have removed many of the artefact bearing topsoils in the Project Area. In addition, localised disturbance has occurred in areas around the extant dwellings, further examined during the visual inspection (Section 5).

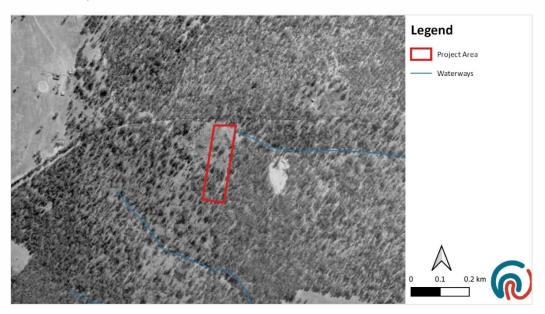


Figure 5. The Project Area in 1966. (Source: NSW Government Historical Imagery 1966)

3.5 Synthesis

There is no permanent or reliable freshwater supplies and geological raw materials in the Project Area, which means other locales in the region may have been preferred by past Aboriginal people for long-term or intensive occupation. Instead, the plentiful flora and fauna that would have occurred within the Project Area and surrounds may have made the location favourable for short-term collection of resource during the Holocene. Despite this, is likely that the vegetation clearance and localised disturbance has impacted the potentially artefact bearing topsoils of the Project Area.



4 Heritage Context

This section outlines the Aboriginal heritage context of the Project Area. It includes a general outline of Aboriginal occupation in Australia and the region, an analysis of search results from the Aboriginal Heritage Information Management System (AHIMS), as well as relevant heritage studies.

4.1 Historic Records

Early colonial records do not describe a distinct Aboriginal population around the vicinity of Morpeth; instead, the area appeared to be part of a boundary zone between multiple Aboriginal groups. As seen in Figure 6, groups in the region included Awabakal, Darkinjung (alternative spelling Darkinyung), Wanarruwa (alternative spelling Wonnarua) and Worimi (alternative spelling Warrimay) people. There were likely a variety of groups around the Project Area, as languages, boundaries, and people in many of these groups overlapped. This is supported by the ethnohistorical records, which demonstrate that there were intertribal relationships, with the Aboriginal people of the Hunter Region connected in a 'kind of circle' extending to the Hawkesbury and Port Stephens (Threlkeld 1974, 186).

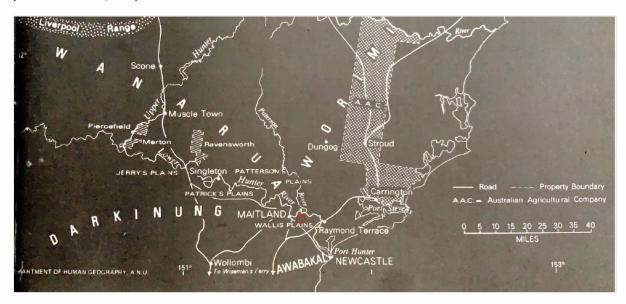


Figure 6. Project Area (circled red) indicated on a map of Aboriginal groups the Hunter Region, drawn by H.E. Gunther. (Source: Threkheld (Gunson) 1974 with Heritage Now additions)

4.2 Archaeological Background

While the Aboriginal occupation of Australia is currently accepted as 65,000 years old (Clarkson et al. 2017), the Aboriginal occupation of the area known as the Hunter Valley in NSW has been dated to approximately 20,000 years (Brayshaw 1987, 100). Radiocarbon dates obtained from charcoal at a site in Glennies Creek, north of Singleton, found that artefacts within the deposit dated to the Pleistocene, approximately 20,200 years before present (BP), however, most of the archaeology in the Hunter region is younger and has been dated to the Holocene, that is, in the last 10,000 years.

Most details of known Aboriginal archaeology in the region are contained in the Aboriginal Heritage Information Management System (AHIMS), which is discussed below.



4.2.1 Aboriginal Heritage Information Management System (AHIMS)

An AHIMS extensive search was undertaken on the 13 October 2021 from Latitude -32.773947 to -32.755392 and Longitude 151.630199 to 151.653589 (Attachment B). The search produced a result of 63 sites (Figure 3), none of which were in the Project Area. Almost all the sites comprised of stone artefacts (Table 1). A primary reason for the relative prevalence of stone artefacts is their high degree of preservation in comparison with other materials used by past Aboriginal people, such as bone implements, clothing, ornamentation, medicinal supplies, woven goods, and wooden weapons.

Table 2. Affilias Site types, organisea by percentage, with sites associated with stone arteracts nighilanted	HIMS Site types, organised by percentage, with sites associated with s	stone artefacts highlighted blu
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Site Types	Count	Per cent
Artefact/s	41	65%
Isolated Find	10	16%
Artefact Scatter	8	13%
Artefact/s + PAD	3	5%
PAD	1	2%
Total	63	100%

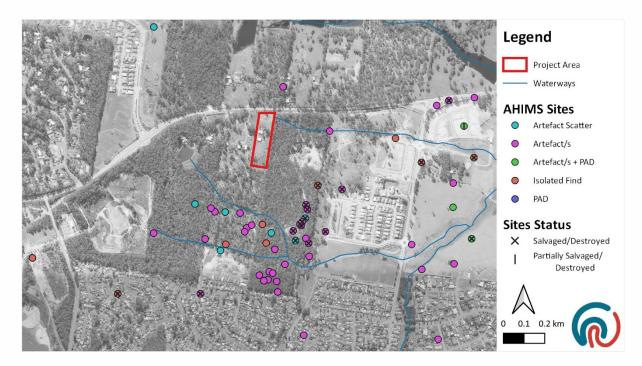


Figure 7. Project Area and AHIMS Sites. (Source: SIX Maps aerial with Heritage Now and AHIMS additions)

The majority of the sites identified in the search are valid, usually meaning they have not been subject to an AHIP. The AHIMS search indicated that 20 sites have been completely salvaged and one site has been partially salvaged (Table 2).



Table 3. AHIMS status of sites.

Site Types	Salvaged/ Destroyed	Partially Salvaged/ Destroyed	Valid
Artefact/s	12		29
Isolated Find	5		5
Artefact Scatter	2		6
Artefact/s + PAD	1	1	1
PAD			1
Total	20	1	42
Percent	32%	2%	66%

4.3 Heritage Report Summaries

Heritage reports relevant to the Project Area have been summarised in this section to provide an understanding of the previous assessments that have been undertaken and their implications for Aboriginal site patterning.

Kuskie and Clarke (2006)—Somerset Park, Thornton

Archaeological test excavations were completed within the area of a proposed extension to the Somerset Park residential development in Thornton, around 1.5km west of the current Project Area (Figure 8). Excavation focused on the undulating Beresfield Soil Landscape—also present in the current Project Area—overlooking Woodberry Swamp. Sixty-six test pits were excavated, and 263 artefacts retrieved across 16.5 m² with a total soil volume of 6.4 m³ being excavated. Artefact density for the study area was of 15.9 artefacts per m², and 14.07 artefacts per m³. Silcrete was the most common material accounting for 85.5% of all artefacts, followed by tuff (12.55%) and quartz (1.9%) (Kuskie and Clarke 2006, 67).

It was noted that the Aboriginal heritage in the study area had been disturbed by various post depositional processes such as bioturbation, ground disturbances, and erosion. Occupation of the site was deemed to have primarily involved transitory movement and/or hunting and/or gathering without camping by small groups of people for short periods of time. The study area was assessed as having low to moderate significance in terms of scientific, aesthetic and historical values (Kuskie and Clarke 2006).

Kuskie (2015) — Waterford County Eastern Sector, Chisholm

Archaeological test excavations were undertaken in preparation for the development of Waterford County Estate, around 2 km west of the current Project Area (Figure 8). The investigation identified 12 Aboriginal sites, comprising of eight surface artefacts and 242 sub-surface artefacts retrieved during excavations. A total of 220 test pits were excavated across 55 m², with a total soil volume of 27.68 m³ being excavated. Therefore, artefact density for the excavation area was 4.4 artefacts per m², and 8.7 artefacts per m³.

The assemblage was dominated by silcrete (80.6%), but also included tuff, quartz, chert and acidic volcanic. Artefact types included flakes, flake portions, cores, backed artefacts, and retouched artefacts. The highest concentrations of artefacts were found within 300 m of the wetlands, suggesting that the proximity to wetlands was a primary factor in the nature and extent of human



occupation in the area (Kuskie, 2015, p. 173). Three sites were considered of low to moderate significance and nine of low significance across 12 areas for the development of the Waterford County Estate (Kuskie, 2015, pp. 184-185).

Biosis (2018) — Raymond Terrace Road, Thornton

Biosis conducted a field survey and test excavation for a proposed subdivision on Lot 20 DP10419, 530 Raymond Terrace Road, Thornton, directly adjacent the Project Area (Figure 8). A total of 10 AHIMS sites were recorded in the study area, however not all could be located during the survey. The survey identified 11 previously unrecorded sites including one PAD, five isolated finds and five artefact scatters, containing a total of 61 surface artefacts. An additional 22 subsurface artefacts were found during excavations of 37 test pits totalling 20.5 m² with an overall subsurface artefact density of 1.1 artefacts per m². The test pits covered various landforms.

Only four test pits contained artefacts, however these identified the extent of three low density artefact sites. Artefact materials included silcrete (68%), mudstone (19%), and chert (13%), with evidence that some pieces of mudstone and silcrete had been heat treated. It was recommended that surface artefacts be salvaged and that further archaeological work was required for where sites could not be avoided (Biosis 2018).

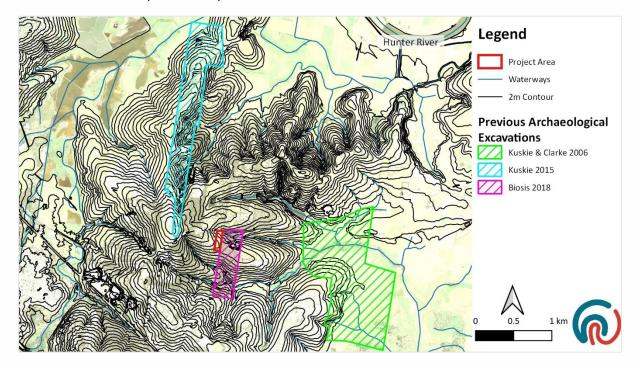


Figure 8. Nearby excavations discussed in Section 4. (Source: DTDB topography and SIX Maps aerial with Heritage Now additions)

Models of Occupation

Predictive models are based on upon the assumption that environmental factors provide distinctive sets of constraints that influence land use patterns (Kuskie 2015, p. 8). In the Hunter Valley, for instance, J.W. Fawcett in 1898 said of the Wonnarua, that when choosing the sites for their camps, access to fresh water was one essential and a food resource of secondary importance, whilst a vantage point in case of attack by an enemy was third (Brayshaw 1987, 42).



Artefact density is linked to different types of activities falling on a scale from long-term occupation to short-term transitory movement. Attenbrow (2006) built on earlier archaeological models to develop a model of occupation within the Australian context, identifying base camps, activity camps and transit camps. Base camps are similar to residential bases in that they were occupied for a longer period of time (several days or longer). Activity camps, conversely, are characterised by short periods of use, and are usually functionally specific. Activities that may take place at activity camps in Australia include hunting, artefact preparation, gathering of raw materials, and ceremonial activities (Attenbrow 2006, 220–21). 'Transit camp' refers to places that were used to camp for short periods, usually overnight, often when travelling between base camps or resource areas. Archaeologically, base camps are characterised by a larger archaeological context (in square metres), higher concentrations of stone artefacts, and a more diverse assemblage than transit and activity locations. Stone artefacts in these assemblages may show signs of tool manufacture and maintenance, skin working and food preparation (Attenbrow 2006, 221).

A clear trend has been identified in the Hunter Region in which higher artefact densities occur closer to wetlands, indicating that wetlands were a major focus of activity in the area (Kuskie 1994). Specifically, areas within 300 m of wetlands and freshwater are considered to have been camping and focused occupation (i.e., repeated visits, visits of longer duration), whereas areas further than 300 m from wetlands and/or water sources were outside the primary or secondary resource zones, and would only have had low to very low intensity use for hunting/gathering during the course of the normal daily round, or for transitory movement (Kuskie 2015). The results of all the reports reviewed in Section 4.3 supports this occupation model.

These predictive models would suggest that because there is no permanent freshwater in the Project Areas, with the nearest wetland over 300 m away the Project Area would likely have been used for low to very low intensity activities (hunting, moving between basecamps), resulting in a low density of artefactual materials.

Synthesis

The heritage contexts suggest that a low-density stone artefact, both surface and sub-surface, were likely to be the most common site type in the locality. If artefacts are present, it is likely they would be made primarily from silcrete, with IMT (Indurated Mudstone/Tuff) and making up smaller components of the assemblage. The predictive model suggests the Project Area would likely have been used for low to very low intensity activities (hunting, moving between basecamps), resulting in a low density of artefactual materials, that have since been disturbed by vegetation clearance.



5 Visual Inspection

The Project Area was surveyed by Lara Tooby of Heritage Now, and accompanied by Michael O'Sullivan (on behalf of the client), on Tuesday 26 October 2021. Mindaribba LALC were also invited to send out a representative, but did not have anyone available on the day. The properties to the east, west and south of the Project Area are now construction sites undergoing intensive earthworks for future subdivisions, and were stripped of vegetation down to clay.

The visual inspection and discussions with the current property holders confirmed that the original, shallow topsoils across the entire Project Area had mostly been removed, and the entire landscape had been disturbed. The northern half of the Project Area had been modified to create a driveway across the ephemeral streamline, which had also been modified into a contained marsh area (Plate 1). The central portion of the Project Area has been disturbed with the constructions of buildings, sheds, fences and gardens (Plate 2). The southern portion of the Project Area had evidently been cleared in the past, and in many areas in the southeast of the Project Area there was no visible topsoil, with moss growing directly onto B horizon clay (Plate 3). There was some evidence of thin topsoils in the very south east of the Project Areal a view on the boundary line between the 508 and 512 Raymond Terrace Road (West of the Project Area), showed approximately 5cm remained in the soil profile (Plate 4); however, the majority of A horizon soils had been eroded away these remaining appeared mixed and disturbed. Discussions with the current property holders, Terry and Sue Bunt, indicated that before the previous owner sold the property in the 1990s, he slashed the vegetation across the Project Area, enhancing the erosion of the already shallow topsoils.

No potential archaeological deposits or Aboriginal objects were identified during the visual inspection. Two mature-aged Eucalyptus trees were examined that may have been part of the original forest, but no cultural markings were evident. The site inspection confirmed that the shallow soils had mostly been stripped across the Project Area during previous land clearing activities and construction of residential houses, making it very unlikely any Aboriginal objects remained.

5.1 Summary

No potential archaeological deposits of Aboriginal objects were identified during the visual inspection. The lack of cultural materials was due to the land being heavily disturbed and stripped of intact topsoils.



6 Impact Assessment

This section assesses the potential impact of the proposed works in relation to Aboriginal heritage values in the Project Area.

6.1 Proposed Works

The proponent is submitting a Development Application to subdivide 512 Raymond Terrace Road, Thornton, into 26 lots: 25 residential lots and one drainage reserve (Attachment A).

The development will involve vegetation clearance as well as cut and fill to prepare the Project Area. It will require the installation of below and above ground services including water and sewer, telecommunications and electricity. It will also require the formation of roads and access ways to the residential lots and the construction of individual residences.

6.2 Impact Assessment

The Project Area has been completely disturbed and no Aboriginal objects or areas of potential archaeological deposit were observed.

As a result, there is no identified risk of harm to Aboriginal objects as a result of the proposed works and thus an AHIP application is not required.

However, in the case of the unexpected discovery of Aboriginal objects the below mitigation measures are to be implemented.

6.3 Mitigation

The following general mitigation measures are to be followed for the works.

All on-site personnel are to be made aware of their obligations under the National Parks and Wildlife Act 1974. This includes protection of Aboriginal sites and the reporting of any new Aboriginal, or suspected Aboriginal, heritage sites. This may be done through an on-site induction or other suitable format.

In the unlikely event that Aboriginal or suspected Aboriginal archaeological material is uncovered during the development, then works in that area are to stop and the area is to be cordoned off. The project manager is to contact the heritage consultant to make an assessment as to whether the material is classed as Aboriginal object/s under the National Parks and Wildlife Act and advise on the required management and mitigation measures. Works are not to re-commence in the cordoned off area until heritage clearance has been given and/or the required management and mitigation measures have been implemented.

In the very unlikely event that human remains, or suspected human remains are uncovered during the development, then works in that area are to stop and the area is to be cordoned off. The project manager is to contact the NSW Police to establish whether the area is a crime scene. If it is not a crime scene, then Heritage NSW is to be notified via the Environment Line on 131 555 and

The works are to be carried out as per the design/Proposal assessed in this report. Should there be modifications to the design/Proposal then this document is to be updated to assess these changes.



7 Conclusions and Recommendations

The background research and site inspection identified no Aboriginal objects, places or areas of potential archaeological deposit in the Project Area. There is no identified risk of harm to Aboriginal objects as a result of the proposed works and thus an AHIP application is not required.

However, general mitigation measures are to be followed which include protocols for the unexpected discovery of Aboriginal objects or archaeological material. The below recommendations are to be followed.

Recommendation 1

All on-site personnel are to be made aware of their obligations under the National Parks and Wildlife Act. This includes protection of Aboriginal sites and the reporting of any new Aboriginal, or suspected Aboriginal heritage sites. This may be done through an on-site induction or other suitable format.

Recommendation 2

In the unlikely event that Aboriginal, or suspected Aboriginal archaeological material is uncovered during the development, then works in that area are to stop and the area is to be cordoned off. The project manager is to contact the heritage consultant to make an assessment as to whether the material is classed as Aboriginal object/s under the National Parks and Wildlife Act 1974 and advise on the required management and mitigation measures. Works are not to recommence in the cordoned off area until heritage clearance has been given and/or the required management and mitigation measures have been implemented.

Recommendation 3

In the very unlikely event that human remains, or suspected human remains are uncovered during the development, then works in that area are to stop and the area is to be cordoned off. The project manager is to contact the NSW Police to establish whether the area is a crime scene. If it is not a crime scene, then Heritage NSW is to be notified via the Environment Line on 131 555 and management measures are to be devised in consultation with the local Aboriginal community. Works are not to recommence in the area until the management measures have been implemented.



8 References

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9 Plates



Plate 1. View to the entrace of the Project Area, facing south. (Source: Heritage Now 2021)



 ${\it Plate 2. View northeast of the buildings and houses in the central portion of the Project Area.}$





Plate 3. View south, of the southern edge of the Project Area, and earthworks in the surrounding allotments. (Source: Heritage Now 2021)



Plate 4. View of moss growing on clay and no visible topsoils, occursacross the southeastern portion of the Project Area. (Source: Heritage Now 2021)

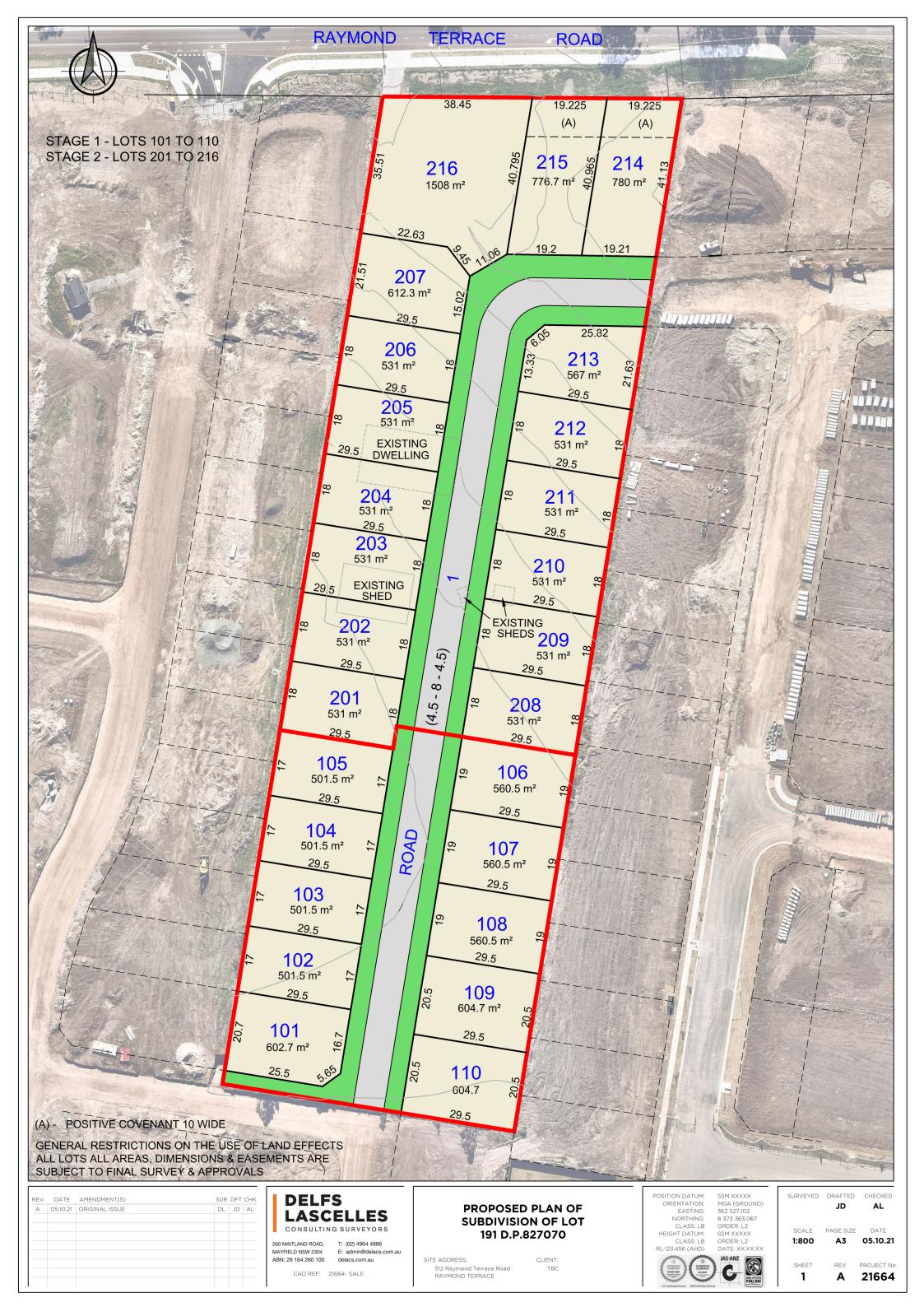




Plate 5. Trench along the in 5018 Raymond Terrace Road, with the only approximately 5cm of loam topsoils visible. (Source: Heritage Now 2021)



Attachment A Design Plans





Attachment B AHIMS Search



Extensive search - Site list report

Your Ref/PO Number: HN341-A Thornton

Client Service ID: 629776

<u>SiteID</u>	<u>SiteName</u>	<u>Datum</u>	Zone	Easting	Northing	Context	Site Status **	SiteFeature	<u>·s</u>	<u>SiteTypes</u>	<u>Reports</u>
38-4-1982	RTRD12	GDA	56	372827	6373268	Open site	Valid	Artefact : -			104167
	Contact	Recorders	Biosis	s Pty Ltd - W	ollongong,Mrs	s.Samantha Keats			Permits		
38-4-1978	RTRD01	GDA	56	372949	6373504	Open site	Destroyed	Artefact : -			104167
	Contact	Recorders	Biosis	s Pty Ltd - W	ollongong,Mrs	S.Samantha Keats			Permits	4359	
38-4-0929	Thornton North Site 3 - Lot 20	AGD	56	373007	6373565	Open site	Destroyed	Artefact : 2			104167
	<u>Contact</u> T Russell	Recorders	Mr.Gi	iles (dup ID#	‡12832) Hamn	n			<u>Permits</u>	3745,4359	
38-4-0928	Thornton North Site 2 - Lot 20	AGD	56	373068	6373723	Open site	Destroyed	Artefact : 1			
	<u>Contact</u> T Russell	Recorders	Mr.Gi	les (dup ID#	‡12832) Hamn	n			Permits Permits	3745,4359	
38-4-0890	Thornton North 1	AGD	56	373125	6373986	Open site	Valid	Artefact : -			
	<u>Contact</u> T Russell	Recorders	Mr.Gi	les (dup ID#	‡12832) Hamn	1			<u>Permits</u>	2592,2819	
38-4-1758	VALAIRE LAND 5/A	GDA	56	373571	6373318	Open site	Valid	Artefact : -			
	Contact	Recorders	Mr.Pe	eter Kuskie					<u>Permits</u>	3899	
38-4-2003	Lot 131 Site 8 Thornton	GDA	56	372523	6373465	Open site	Valid	Artefact : -			
	Contact	Recorders		les Hamm					<u>Permits</u>	4531	
38-4-2009	Lot 131 Site 9 Thornton	GDA	56	372692	6373590	Open site	Valid	Artefact : -			
	Contact	Recorders	Mr.Gi	les Hamm					<u>Permits</u>	4531	
38-4-0933	Thornton North Site 3 Lot 1	AGD	56	372620	6373595	Open site	Valid	Artefact : 2			
	<u>Contact</u> T Russell	Recorders		_ ` .	‡12832) Hamn				<u>Permits</u>	4531	
38-4-1977	RTRD14	GDA	56	372807	6373263	Open site	Valid	Artefact : -			
	<u>Contact</u>	Recorders			0 0	s.Samantha Keats			<u>Permits</u>		
38-4-1981	RTRD13	GDA	56	372869	6373260	Open site	Valid	Artefact : -			
	Contact	Recorders		-		s.Samantha Keats			<u>Permits</u>		
38-4-1983	RTRD11	GDA	56	372874	6373209	Open site	Valid	Artefact : -			104167
	Contact	Recorders			0 0	S.Samantha Keats			<u>Permits</u>		
38-4-1987	RTRD07	GDA	56	373011	6373630	Open site	Destroyed	Artefact : -			104167
	Contact	Recorders		-		s.Samantha Keats			<u>Permits</u>	4359	
38-4-1984	RTRD10	GDA	56	373023	6373444	Open site	Destroyed	Artefact : -			
	Contact	Recorders				s.Samantha Keats			<u>Permits</u>	4359	
38-4-1759	RPS Thornton AS1	GDA	56	373569	6373835	Open site	Destroyed	Artefact : 1			
	Contact	Recorders			t Pty Ltd - Han				Permits .		
38-4-1643	Lot 2 Govt Road Thornton	GDA	56	373775	6374010	Open site	Partially Destroyed	Artefact : -, I Archaeologi Deposit (PA	cal		
	Contact	Recorders	Mr.Gi	les (dup ID#	‡12832) Hamn	n			Permits Permits	3725	
38-4-0399	T1;.	AGD	56	372100	6373200	Open site	Destroyed	Artefact : -		Isolated Find	2880,103954
	Contact	Recorders	Mary	Dallas Cons	ulting Archaed	ologists (MDCA),Noe	leen Curran,Ms.Lu	cinda O'Conn	<u>Permits</u>		
38-4-0932	Thornton North Site 2 Lot 1	AGD	56	372474	6373634	Open site	Valid	Artefact: 2			



Extensive search - Site list report

Your Ref/PO Number: HN341-A Thornton

Client Service ID: 629776

<u>SiteID</u>	<u>SiteName</u>	<u>Datum</u>	Zone	Easting	Northing	<u>Context</u>	Site Status **	SiteFeature	<u>es</u>	<u>SiteTypes</u>	<u>Reports</u>
	<u>Contact</u> T Russell	Recorders	Mr.Gi	les (dup ID#	12832) Hamr	n			Permits	4531	
38-4-0930	Thornton North Site 4- Lot 1	AGD	56	372623	6373439	Open site	Valid	Artefact : 1			
	<u>Contact</u> T Russell	Recorders	Mr.Gi	les (dup ID#	12832) Hamr	n			Permits	4531	
38-4-2070	RTRD16	GDA	56	372833	6373307	Open site	Valid	Artefact : -			
	Contact	Recorders	Biosis	s Pty Ltd - W	ollongong,Mr:	s.Samantha Keats			<u>Permits</u>		
38-4-1980	RTRD05	GDA	56	372993	6373548	Open site	Destroyed	Artefact : -			104167
	Contact	Recorders	Biosi	s Pty Ltd - W	ollongong,Mr	s.Samantha Keats			Permits	4359	
38-4-0121	None Specified	AGD	56	373000	6373000	Open site	Valid	Artefact : -		Open Camp Site	
	Contact	Recorders	P Jon	es					<u>Permits</u>		
38-4-0353	Thornton 9;	AGD	56	373650	6372980	Open site	Valid	Artefact : -		Open Camp Site	100924
	<u>Contact</u>	Recorders	Mr.Pe	eter Kuskie					Permits	718	
38-4-1966	Valaire Land 6/A	GDA	56	373812	6373466	Open site	Destroyed	Artefact : 1,			
								Archaeologi Deposit (PA			
	Contact	Recorders	Mr.Pe	eter Kuskie,S	outh East Arc	haeology			Permits		
38-4-0355	T 1; (Duplicate of 38-4-0399)	AGD			6373200	Open site	Destroyed	Artefact : -		Isolated Find	103954
	Contact	Recorders	Mary	Dallas Consu	ılting Archaeo	ologists (MDCA),Noe	leen Curran,Ms.Lu	cinda O'Conn	Permits		
38-4-0888	Thornton Beechwood 6	AGD	56	372275	6374489	Open site	Valid	Artefact : 2			103380
	Contact T Russell	Recorders	Mr.Pe	eter Kuskie,M	Ir.Peter Kuski	le			Permits	2816,2817,3875	
38-4-0356	T 2 Beresfield	AGD	56	372500	6373200	Open site	Destroyed	Artefact : -		Open Camp Site	
	Contact	Recorders	Noele	een Curran,M	s.Penny Mcca	ırdle			Permits		
38-4-0124	Parkwood;	AGD	56	372850	6373300	Open site	Valid	Artefact : -		Open Camp Site	
	Contact	Recorders	P Jon	es					Permits		
38-4-2069	RTRD15	GDA	56	373010	6373468	Open site	Valid	Artefact : -			
	Contact	Recorders	Biosi	s Pty Ltd - W	ollongong,Mr:	s.Samantha Keats			Permits		
38-4-0892	Thornton North Site 2	AGD	56	373444	6373951	Open site	Valid	Artefact : 1			
	Contact T Russell	Recorders	Mr.Gi	les (dup ID#	12832) Hamr	n			Permits	2592,2819	
38-4-1757	VALAIRE LAND 4/A	GDA	56	373727	6373345	Open site	Valid	Artefact : -			
	Contact	Recorders	Mr.Pe	eter Kuskie					Permits	3899	
38-4-0626	Thornton Substation PAD1	AGD	56	371688	6373373	Open site	Valid	Potential			
								Archaeolog			
	Combant	Danaudana	MCII	M.C. II. C	h 111 %	Dr. L. l		Deposit (PA	-	1200	
88-4-1996	Contact Lot 131 Site 3 Thornton	Recorders GDA		- McCardie C	ultural Herita 6373596	Open site	Valid	Artefact : -	<u>Permits</u>	1389	
30-4-1770					03/3370	open site	vallu		Dannika	4504	
38-4-0395	Contact T2; Beresfield	Recorders AGD		lles Hamm 372500	6373200	Open site	Destroyed	Artefact : -	<u>Permits</u>	4531 Open Camp Site	2880
30-4-0373						•	Destroyeu		Dannika	Open Camp site	2000
	<u>Contact</u>	Recorders	Noele	een Curran,M	s.Penny Mcca	iraie			<u>Permits</u>		



Extensive search - Site list report

Your Ref/PO Number: HN341-A Thornton

Client Service ID: 629776

<u>SiteID</u>	<u>SiteName</u>	<u>Datum</u>	Zone	Easting	Northing		Site Status **	<u>SiteFeatur</u>		<u>SiteTypes</u>	<u>Reports</u>
38-4-1999	Lot 131 Site 4 Thornton	GDA	56	372724	6373519	Open site	Valid	Artefact : -			
	Contact	Recorders		les Hamm					<u>Permits</u>	4531	
38-4-1979	RTRD04	GDA	56	372988	6373530	Open site	Destroyed	Artefact : -			104167
	Contact	Recorders			0 0	S.Samantha Keats			<u>Permits</u>	4359	
38-4-0893	Thornton North 4	AGD	56	373105	6373500	Open site	Destroyed	Artefact : -			
	<u>Contact</u> T Russell	Recorders			‡12832) Hamn	1			<u>Permits</u>	2592,2819,3189	
38-4-1755	VALAIRE LAND 2/A	GDA	56	373522	6373438	Open site	Valid	Artefact : -			
	<u>Contact</u>	Recorders		eter Kuskie					<u>Permits</u>	3899	
38-4-1754	VALAIRE LAND 1/A	GDA	56	373723	6373735	Open site	Valid	Artefact : -			
	Contact	Recorders	Mr.P	eter Kuskie					<u>Permits</u>	3899	
38-4-2001	Lot 131 Site 6 Thornton	GDA	56	372274	6373493	Open site	Valid	Artefact : -			
	Contact	Recorders	Mr.G	les Hamm					Permits	4531	
38-4-2002	Lot 131 Site 7 Thornton	GDA	56	372714	6373500	Open site	Valid	Artefact : -			
	Contact	Recorders	Mr.G	les Hamm					Permits	4531	
38-4-2071	RTRD17	GDA	56	372785	6373290	Open site	Valid	Artefact : -			
	Contact	Recorders	Biosi	s Pty Ltd - W	ollongong,Mrs	S.Samantha Keats			<u>Permits</u>		
38-4-1989	RTRD02	GDA	56	372909	6373342	Open site	Valid	Artefact : -			104167
	Contact	Recorders	Biosi	s Pty Ltd - W	ollongong,Mrs	s.Samantha Keats			Permits	4359	
38-4-0125	None Specified	AGD	56	372900	6374200	Open site	Valid	Artefact : -		Open Camp Site	
	Contact	Recorders	P Jon	es					Permits		
38-4-1988	RTRD06	GDA	56	373018	6373607	Open site	Destroyed	Artefact : -			104167
	Contact	Recorders	Biosi	s Pty Ltd - W	ollongong,Mrs	s.Samantha Keats			Permits	4359	
38-4-1756	VALAIRE LAND 2/B	GDA	56	373722	6373618	Open site	Valid	Artefact : -,	, Potential		
								Archaeolog	•		
	Contact	Dogordore	Court	Foot Anaba	a alagu			Deposit (P.		3899	
38-4-1995	Contact Lot 131 Site 1 Thornton	Recorders GDA		i East Archa 372551	6373614	Open site	Valid	Artefact : -	<u>Permits</u>	3099	
30 1 1773	Contact	Recorders		les Hamm	0373011	open site	vana	m telact.	<u>Permits</u>	4531	
38-4-0934	Thornton North Site 4 - Lot 20	AGD		372620	6373595	Open site	Valid	Artefact : 3		4331	104167
30 1 0731						•	vana	Til telact . 5	<u>Permits</u>	4250	101107
38-4-1976	Contact T Russell RTRD03	Recorders GDA		372860	‡12832) Hamn 6373415	Open site	Valid	Artefact : -		4359	
30- 1 -1770						-	y allu	mittiact.			
38-4-1986	Contact RTRD08	Recorders GDA		s Pty Lta - w 372982	6373537	S.Samantha Keats Open site	Destroyed	Artefact : -	<u>Permits</u>		104167
30- 1 -1900						-	Destroyeu	Ai telact : •		4250	104107
38-4-1985	Contact RTRD09	Recorders GDA		s Pty Ltd - W 373026	ollongong,Mrs	S.Samantha Keats Open site	Valid	Artefact : -	<u>Permits</u>	4359	104167
30-4-1703						•	v allu	AI ICIALL : -			104107
38-4-2033	Contact Paymond Tayraga Road IF	Recorders GDA		-		S.Samantha Keats	Valid	Artofact	<u>Permits</u>		
36-4-2033	Raymond Terrace Road IF	GDA	56	373643	6374110	Open site	vallu	Artefact : -			



Extensive search - Site list report

Your Ref/PO Number: HN341-A Thornton

Client Service ID: 629776

<u>SiteID</u>	<u>SiteName</u>	<u>Datum</u>	Zone	Easting	Northing	<u>Context</u>	Site Status **	<u>SiteFeatur</u>	<u>es</u>	<u>SiteTypes</u>	Reports
	Contact	Recorders	RPS A	Australia Eas	t Pty Ltd - Yor	k Street Sydney ,Mrs	s.Amanda Crick		<u>Permits</u>		
38-4-2032	Raymond Terrace Road IF1	GDA	56	373702	6374134	Open site	Destroyed	Artefact : -			
	Contact	Recorders	RPS A	Australia Eas	t Pty Ltd - Yor	k Street Sydney ,RPS	S Australia East Pty	Ltd - Newca	Permits		
38-4-2031	Raymond Terrace Road IF2	GDA	56	373825	6374148	Open site	Valid	Artefact : -			
	<u>Contact</u>	Recorders	RPS A	Australia Eas	t Pty Ltd - Yor	k Street Sydney ,Mrs	s.Amanda Crick		<u>Permits</u>		
38-4-0625	Thornton 3 (T3)	AGD	56	371688	6373373	Open site	Valid	Artefact : 1			
	Contact	Recorders	MCH	- McCardle (Cultural Herita	ge Pty Ltd			Permits	2141	
38-4-0931	Thornton North Site 1 Lot 1	AGD	56	372597	6373409	Open site	Valid	Artefact: 3			
	<u>Contact</u> T Russell	Recorders	Mr.G	iles (dup ID#	‡12832) Hamr	n			Permits	4531	
38-4-2000	Lot 131 Site 5	GDA	56	372748	6373532	Open site	Valid	Artefact : -			
	Contact	Recorders	Mr.G	iles Hamm					Permits	4531	
38-4-0939	Thornton North Site 9 - Lot 20	AGD	56	372800	6373535	Open site	Valid	Artefact : 1			104167
	<u>Contact</u> T Russell	Recorders	Mr.G	iles (dup ID#	‡12832) Hamr	n			Permits		
38-4-0937	Thornton North Site 7 - Lot 20	AGD	56	372818	6373445	Open site	Valid	Artefact : 1			104167
	<u>Contact</u> T Russell	Recorders	Mr.G	iles (dup ID#	‡12832) Hamr	n			<u>Permits</u>		
38-4-0938	Thornton North Site 8 - Lot 20	AGD	56	372843	6373494	Open site	Valid	Artefact : 2			104167
	<u>Contact</u> T Russell	Recorders	Mr.G	iles (dup ID#	‡12832) Hamr	n			Permits		
38-4-0935	Thornton North Site 5 - Lot 20	AGD	56	372960	6373457	Open site	Destroyed	Artefact : 2			104167
	<u>Contact</u> T Russell	Recorders	Mr.G	iles (dup ID#	‡12832) Hamr	n			<u>Permits</u>	4359	
38-4-0891	Thornton North 3	AGD	56	373185	6373705	Open site	Destroyed	Artefact : -			
	<u>Contact</u> T Russell	Recorders	Navii	n Officer Her	itage Consulta	nts Pty Ltd			Permits	2592,2819,3189,3745	
38-4-1760	RPS Thornton AS2	GDA	56	373823	6373858	Open site	Destroyed	Artefact : 1			
	Contact	Recorders	RPS A	Australia Eas	t Pty Ltd - Har	nilton			<u>Permits</u>		

** Site Status

Valid - The site has been recorded and accepted onto the system as valid

Destroyed - The site has been completely impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There is nothing left of the site on the ground but proponents should proceed with caution.

Partially Destroyed - The site has been only partially impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There might be parts or sections of the original site still present on the ground

Not a site - The site has been originally entered and accepted onto AHIMS as a valid site but after further investigations it was decided it is NOT an aboriginal site. Impact of this type of site does not require permit but Heritage NSW should be notified

Report generated by AHIMS Web Service on 13/10/2021 for Trishia Palconit for the following area at Lat, Long From : -32.773947, 151.630199 - Lat, Long To : -32.755392, 151.653589. Number of Aboriginal sites and Aboriginal objects found is 63