Hastings Secondary College

Aboriginal Cultural Heritage Assessment

Prepared for School Infrastructure NSW
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Hastings Secondary College

Aboriginal Cultural Heritage Assessment

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23 March 2021

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23 March 2021

Executive Summary

EMM Consulting Pty Limited (EMM) and Indigeco has been commissioned by the School Infrastructure NSW (SINSW) to undertake an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed upgrade and associated works within the building and grounds of the Hastings Secondary College (Port Macquarie Campus), 16 Owen Street, Port Macquarie, NSW 2444. The aim of the study is to inform the cultural heritage of the impact footprint, and to develop an Aboriginal Heritage Impact Permit (AHIP) to allow the works to proceed (where required).

The assessment adopted the processes and methods outlined in DECCW's *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010). The consultation process initially identified nine Aboriginal stakeholder organisations who may have had an interest in the project. Following notification of these organisations, two responded as wishing to be registered for subsequent consultation through the project. The field investigation included the participation of these organisations, including representatives from Birpai LALC and Birpai Traditional Owners Indigenous Corporation.

Previous studies of the region are extremely sparse, and primarily constrained to cultural resource management studies for various residential and/or industrial activities. Where available, these studies suggest ephemeral past use of the tributaries, a prevalence for the use of local lithic material for tool production (such as chert, etc), and activities focussed on areas of elevation (particularly highlighting lower slopes) with a low gradient, near creeks (generally <200 m); and along the coastal fringe. The identification of a potential massacre site at Blackman's Point (northwest of the project area) indicates the potential for post-contact Aboriginal sites to be present within the region. A review of Heritage NSW's AHIMS database identified 71 previously documented sites in the region. No sites were identified within the project area. The nearest documented site is >500 m from the project area.

An archaeological field survey was undertaken by EMM archaeologists and representatives of the registered Aboriginal parties. The field survey encompassed some 40,385 m^2 (or some 4.39 hectares) of transects within the project area. Land use within the project area was dominated by past and more recent school activities, including substantial earthworks. The field investigation identified no observable cultural material. Given the level of disturbance, the potential for buried cultural materials was also considered unlikely.

The ACHA concludes that while the general locale of the project area is highly likely to have been used by Aboriginal people in the past, the extensive earthworks from the current school has reduced the likelihood of cultural materials having survived if ever present. Earthworks across the site suggest that the upper soil profile within which cultural materials would be expected has been significantly modified across the site where works are proposed.

The upgrades will support high-quality educational outcomes to meet the needs of students within the local community and deliver innovative learning and teaching spaces as follows:

- demolition works to accommodate new works;
- upgrade to school entry;
- construction of new two (2) storey Creative and Performing Arts (CAPA) building;
- construction of new Police Citizens Youth Club (PCYC);
- partial refurbishment of Building L;
- refurbishment and alteration to Building B;
- removal of Building S and demountable buildings;

- new lift connections, covered outdoor learning area (COLA) and covered walkways;
- associated earthworks, landscaping, stormwater works, service upgrades; and
- tree removal/ tree safety works.

It is considered that these activities would cause localised impact to the under-lying soil profile where undertaken. No cultural material was observed, with low risk of buried deposits, and as such it is considered that harm to Aboriginal objects would be unlikely.

Recommendations are proposed to address the relevant SEARs to guide post-approval requirements for Aboriginal heritage. These include (further discussion is presented in Section 10.2):

- Previous disturbance validated by site inspection indicates a low risk of further Aboriginal objects being present within the project area. Works may proceed with caution, and without further assessment and/or heritage approvals. 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 of 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 relevant State government agency as appropriate; and
- If human skeletal material less than 100 years old is discovered, the *Coroners Act 2009* requires that all works should cease, and the NSW Police and the NSW Coroner's Office should be contacted. Traditional Aboriginal burials (older than 100 years) are protected under the *National Parks and Wildlife Act 1974* and should not be disturbed. Interpreting the age and nature of skeletal remains is a specialist field and an appropriately skilled archaeologist or physical anthropologist should therefore be contacted to inspect the find and recommend an appropriate course of action. Should the skeletal material prove to be archaeological Aboriginal remains, notification of Heritage NSW and the Local Aboriginal Land Council will be required. Notification should also be made to the Commonwealth Minister for the Environment, under the provisions of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984.*
- To avoid inadvertent impact, the proponent should advise all relevant personnel and contractors involved in the project of the relevant heritage considerations, legislative requirements, and recommendations identified in this assessment.
- Consultation should be maintained with the registered Aboriginal parties during the finalisation of the assessment process and throughout the proposed activity.
- A copy of the finalised ACHA should be lodged with AHIMS and provided to each of the RAPs.
- If any part of the project footprint is relocated outside the areas identified in this ACHA, or if any alteration is proposed that could result in additional impact to material culture, further assessment of these area(s) should be undertaken to identify and appropriately manage Aboriginal objects and/or sites that may be present.

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1 Introduction

1.1 Overview

EMM Consulting Pty Limited (EMM) and Indigeco has been commissioned by the School Infrastructure NSW (SINSW) to undertake an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed upgrade and associated works within the building and grounds of the Hastings Secondary College (Port Macquarie Campus), 16 Owen Street, Port Macquarie, NSW 2444. The aim of the study is to inform the cultural heritage of the impact footprint, and to develop an Aboriginal Heritage Impact Permit (AHIP) to allow the works to proceed (where required).

An initial due diligence of the project identified that a more detailed consideration of Aboriginal objects/sites/places was required. Given the approval pathway being implemented for the project and/or the potential for Aboriginal objects to be harmed through the development, an ACHA was conducted to present the findings of the Aboriginal community consultation, previous investigations regarding Aboriginal cultural and archaeological heritage values, and physical investigation and ground-truthing of the project area. It provides information on the location, distribution, and significance of Aboriginal objects within the project area; and the likely harm to objects by proposed development; and recommendations for the management of such harm.

The objectives of the ACHA were to:

- identify Aboriginal cultural heritage values relevant to the project area which include:
    - Aboriginal objects and sites;
    - Aboriginal socio-cultural and/or historic values which might not be related to Aboriginal objects; and
    - areas of archaeological sensitivity;
- assess the significance of Aboriginal objects, sites and locations identified in the course of the archaeological investigations and through Aboriginal community consultation;
- assess the impact of the project on identified Aboriginal cultural heritage values; and
- propose appropriate management measures for potentially impacted Aboriginal cultural heritage values in response to their assessed significance.

1.2 Assessment requirements

The project will be assessed under Part 4.7 of the *Environmental Planning and Assessment Act 1979*. Under this legislation, the heritage provisions of the *National Parks and Wildlife Act 1979* do not apply, and instead the project is subject to project-specific Secretary's environmental assessment and reporting (SEARs) requirements (School Infrastructure to provide details of SEARs for insertion). The ACHA will conform to the following guidelines:

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

1.3 Project area and proposed activity

SINSW is proposing upgrades and associated works in the grounds and within the building of Hastings Secondary School - Port Macquarie Campus (Lot 111 DP 1270315) (Figure 1.1). This ~3 hectare (ha) site is located at 16 Owen Street, Port Macquarie, NSW. Currently, the site encompasses an active school campus, including buildings, playing fields and playgrounds.

The upgrades (Plate 1.1) will support high-quality educational outcomes to meet the needs of students within the local community and deliver innovative learning and teaching spaces as follows:

- demolition works to accommodate new works;
- upgrade to school entry;
- construction of new two (2) storey Creative and Performing Arts (CAPA) building;
- construction of new Police Citizens Youth Club (PCYC);
- partial refurbishment of Building L;
- refurbishment and alteration to Building B;
- removal of Building S and demountable buildings;
- new lift connections, covered outdoor learning area (COLA) and covered walkways;
- associated earthworks, landscaping, stormwater works, service upgrades; and
- tree removal/ tree safety works.

The majority of these works are new works and not within the existing footprint. It is, however, likely that some of these works would require ground disturbance that may adversely affect cultural materials if present.

Throughout the assessment both 'study area' and 'project area' will be used. The 'project area' includes the school grounds at 16 Owen Street, Port Macquarie, while the 'study area' refers to the broader regional area within which the project area is situated.

1.4 Legislative context

There are several Commonwealth and state Acts (and associated regulations) that manage and protect Aboriginal cultural heritage (Appendix A). These are summarised in Table 1.1.

Table 1.1 Commonwealth and State legislation relevant to the project.

Legislation	Description	Relevant to the project?	Details
Commonwealth			
Environment Protection and Biodiversity Conservation Act 1999	Recognises sites with universal value on the World Heritage List (WHL). Protects Indigenous heritage places with outstanding heritage value to the nation on the National Heritage List (NHL), and significant heritage value on the Commonwealth Heritage List (CHL).	No	There are no Indigenous heritage places within the study area that are listed on the WHL, NHL, or the CHL.
Native Title Act 1993	Administers rights and interests over lands and waters by Aboriginal people. Provides for negotiation and registration of Indigenous Land Use Agreements (ILUAs). Often used in NSW to identify relevant stakeholders for consultation.	No	There are no active or finalised claims, nor ILUAs or determinations encompassing the project area.
Aboriginal and Torres Strait Islander Heritage Protection Act 1984	Preserves and protects areas and objects of particular significance to Aboriginal people that are under threat from injury or desecration.	No	There are no areas or objects within the project area subject to a Declaration under the Act.
State			
Environmental Planning and Assessment Act 1979	Requires environmental impacts, including to Aboriginal heritage, to be considered in land use planning. Provides for the development of environmental planning instruments, including State Environmental Planning Policies and Local Environmental Plans.	Yes	The project will be assessed under Part 4.7 of the *Environmental Planning and Assessment Act 1979*. Under Part 4.7, the heritage provisions of the National Parks and Wildlife Act 1979 do not apply, and instead the project is subject to project-specific Secretary's environmental assessment and reporting (SEARs) requirements. Under this process individual permits are switched off and the project is approved as a whole with conditions.
National Parks and Wildlife Act 1974	Provides blanket protection for all Aboriginal objects and declared Aboriginal places. Includes processes and mechanisms for development where Aboriginal objects are present, or where Aboriginal Places are proposed for harm.	Yes	While elements of this Act do not apply to SSD projects, the potential impact on Aboriginal objects generally still requires consideration as a part of the assessment needs of such projects.

Table 1.1 Commonwealth and State legislation relevant to the project.

Legislation	Description	Relevant to the project?	Details
Aboriginal Land Rights Act 1983	Establishes Local Aboriginal Land Councils (LALCs). Allows transfer of ownership of vacant crown land to a Local Aboriginal Land Council. The Office of the Registrar, *Aboriginal Land Rights Act 1983 (ORALRA)*, registers Aboriginal land claims and maintains the Register of Aboriginal Owners. Often used in NSW to identify relevant stakeholders for consultation.	No	A request to search the Register of Aboriginal Owners was made to the ORALRA on 31 March 2020. To date, no response was received. Details of the request can be found in Appendix B.2

1.5 Limitations

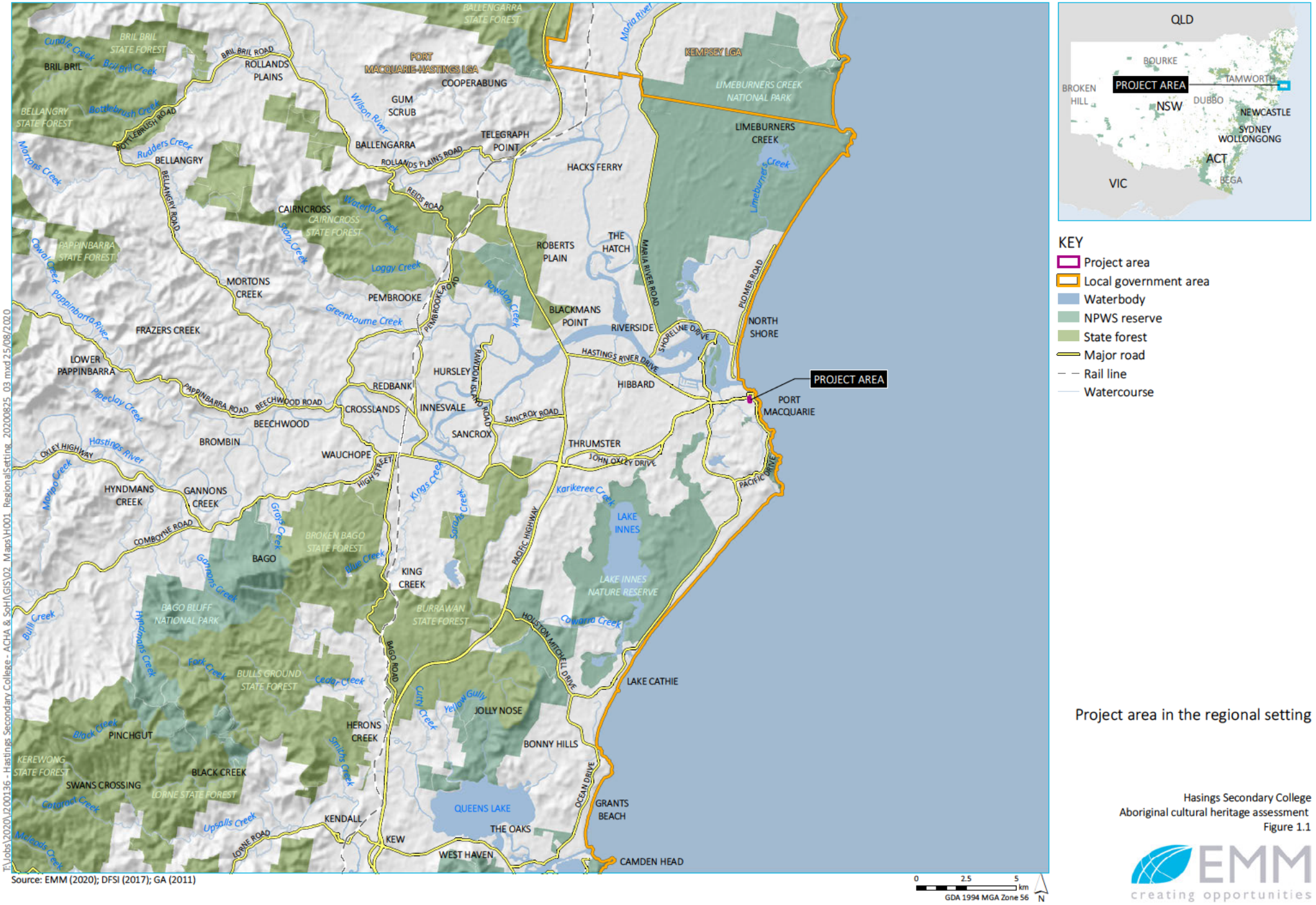
This report is based on existing and publicly available environmental and archaeological information (including AHIMS data) and reports about the project area. The background research did not include any independent verification of the results and interpretations of externally sourced existing reports (except where the ground-truthing was undertaken). The report further makes archaeological predictions based on these existing data and targeted ground-truthing, and which may contain errors depending on the accuracy of these third-party studies and the extent of ground-truthing (constrained to surface) investigations.

This report does not consider historical and/or built heritage unless specifically related to Aboriginal heritage values.

1.6 Authorship and acknowledgements

This report was prepared by archaeologists Kerryn Armstrong (BA – Archaeology and Anthropology) and reviewed by Dr Alan Williams FSA MAACAI, Associate Director/National Technical Leader, Aboriginal Heritage.

EMM would like to thank registered Aboriginal parties (RAPs) for their involvement in ongoing consultation and knowledge sharing.



Source: EMM (2020); DFSI (2017); GA (2011)

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Project area in the regional setting

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Figure 1.1

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KEY

- Project area
- NPWS reserve
- Watercourse/drainage line

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Source: EMM (2020); DFSI (2017); GA (2011)

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Project areas in the local setting

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Figure 1.2

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Source: fjmt studio

Plate 1.1 The schematic design for the school.

2 Aboriginal consultation

2.1 Key findings

- The assessment adopted the processes and methods outlined in DECCW's Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW, 2010).
- The consultation process initially identified nine Aboriginal stakeholder organisations who may have had an interest in the project. Following notification of these organisations, two responded as wishing to be registered for subsequent consultation through the project.
- The one-day field program included the participation of these organisations, including representatives from Birpai Traditional Owners Indigenous Corporation and Birpai Local Aboriginal Land Council.

2.2 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:

1. Pre-notification – identification of the Aboriginal individuals and/or communities relevant to the project area by contacting several state government agencies;
2. Notification – contacting all Aboriginal individuals and/or communities identified in (1) to determine their interest in being consulted during the project. This includes direct communication and the placement of advertisements in local media seeking further expressions of interest from Aboriginal individuals and/or communities that may have been missed through (1). Those Aboriginal individuals and/or communities that wish to be consulted become a 'registered' Aboriginal party (RAP);
3. Presentation of project information/assessment methodology – briefing RAPs about the project and scope of any Aboriginal heritage assessment and investigations. This is usually undertaken through written correspondence, but can include meetings, and may undergo several iterations through the project as the nature of the assessment changes (eg surface ground-truthing may lead to a requirement for test excavations);
4. Impacts and mitigation strategies – discussion of potential impacts to cultural materials and mitigation options with the RAPs prior to developing the ACHA. This is often undertaken either onsite at the end of any field program and/or as part of (5); and
5. Report review – the RAPs are provided an opportunity to review and comment upon the draft ACHA, to contribute input into the overall findings, significance and management of cultural heritage.

The consultation process for this project had two aims: i) To comply with the Heritage NSW consultation procedures to obtain input on the ACHA process; and ii) To identify cultural places and intangible values that may be affected by the proposed activity.

2.3 This project

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 which is summarised for the project in Table 2.1, and further details in Appendix B.

Overall, the consultation process identified nine Aboriginal stakeholders in the region (Appendix B1). Of these, two registered an interest in the project (Table 2.2). Three of these organisations participated in the field investigation of the proposed activity.

Table 2.1 Summary of Aboriginal consultation undertaken for the project

Consultation Stage	Description	Date Initiated	Date Completed	Notes
1	Government Agency Pre-Notification	1 April 2020	-	Additional details provided in Appendix B.2.
	Advertisement in the *Port Macquarie News*	8 April 2020	22 April 2020	A tearsheet is provided in Appendix B.2.
	Notification and registration of potential Aboriginal stakeholders	16 April 2020	1 May 2020	Additional details are provided in Appendix B.2.
2/3	Presentation of information about the proposed project; and gathering information about cultural significance	18 May 2020	15 June 2020	Additional details are provided in Appendix B.3.
	Field Investigation	1 July 2020	1 July 2020	Additional details are provided in Section 6.
4	Review of draft report	6 October 2020	4 November 2020	Additional details are provided in Section 2.4.

Table 2.2 List of RAPs

Organisation	Date of registration
Birpai Local Aboriginal Lands Council	21 April 2020
Birpai Traditional Owners Indigenous Corporation	21 April 2020

2.4 Aboriginal stakeholder feedback

During the initial consultation and field program, the following key issues were raised:

- On 1 July 2020 Kerryn Armstrong (EMM archaeologist) met with Jason Holt, representing both RAPs, at the project area, it was during the project and site was discussed. Jason Holt expressed his belief that the project area was highly disturbed and that although he believes works could proceed without test excavation, he recommends strong stop work protocols to be in place before works begin.

A draft version of this report, which included the background information, results, significance assessment and management measures was issued to all RAPs on 6 October 2020. An email indicating a 28-day timeframe for review was issued with the draft ACHA, no responses were received during the 28-day timeframe. In January 2021, the project approval pathway, as well as minor development design refinement, was updated. In response, EMM contacted and issued all RAPs an updated ACHA incorporating these changes for review. A further 28 days was provided for this review between 21 January and 18 February 2021. No further comments were received during this review period. All documentation pertaining to the Aboriginal consultation can be found in Appendix B.

3 Existing environment

3.1 Key findings

- The project area is characterised by gentle west facing slopes behind the main beach complexes of Hastings. These conditions are conducive to the creation of some archaeological site types, such as surface and sub-surface stone artefact and shell deposits, but unlikely for sites such as rockshelters (and associated features and deposits), rock engravings, and grinding grooves to be present.

- The project area is situated in the vicinity of saltwater resources that were likely utilised by Aboriginal people in the past, including the Pacific Ocean and associated coastal wetlands.

- Much of the project area is characterised by duplex soils, with only the upper portion (generally ~50 cm) likely to contain cultural material. Since much of the project area has been subject to intense agricultural activities, flooding, and/or is within areas of road or road verge, it is likely that this upper portion has been disturbed and/or removed entirely across parts of the project area.

3.2 Rationale

Understanding environmental context assists with predictions of archaeological potential, such as the likelihood of archaeological material being present in the landscape, its spatial distribution and its preservation. Landscape features were an important factor for the choice of camping and transitory and ceremonial areas used by Aboriginal people. Similarly, these landscape features and historical land-use plays a role in the level of preservation and the integrity of archaeological sites.

A landscape consisting of suitable topography, hydrology, geology and soils has strong links with natural resources that would have been available to, and sought after, by Aboriginal people. Flora and fauna would have provided food, tools and ceremony (culturally modified trees); proximity to fresh water was necessary for life and growing crops, as well as gathering fish and eels. Landscape features, such as sandstone overhangs, were useful for shelter; stone artefacts were manufactured from raw stone material that was collected from quarry sites; and stone arrangements relied on the landscape.

3.3 Landscape overview

The study area is located on low to extremely low relief (<10 m) behind Oxley and Town beaches. The major topographical features of the region is the coastal headlands of Flagstaff Lookout (20 m ASL) and Windmill Hill (40 m ASL), with the project area sitting to the west of these a gentle slope. The site slopes down to Wrights Creek (3rd order), some 450 m away, and the mouth of the Hastings River (6th order), some 900 m away. These flat areas behind beaches would have been an ideal location for past Aboriginal visitation and occupation.

The project area itself slopes to the north with a relief of ~10 m, with the landform's highest portion (southern) situated at 20 m ASL. The natural topography of the project area has been altered through the use of cutting and filling to accommodate the school buildings and sporting areas. Although the project area is still sloping, it has not retained the natural relief that is still evident along Port Macquarie Park, which abuts the eastern edge of the project area.

The existing environment heavily influences the potential types of cultural material that may be present and survive in the project area. The absence of significant relief or geological outcropping limits the potential for rockshelters and associated features (such as art), or grinding grooves. Conversely, surface artefact scatters and buried cultural material are likely to be more prevalent within the project area (Geological Sites of NSW 2020).

3.4 Geology and geomorphology

The project area lies upon Myra beds geology, which is part of the Woolomin Group. The Myra bed is some of the oldest sedimentary rocks from Silurian period (443 mya), part of the Paleozoic era. The stratigraphic unit of Myra bed comprises of sedimentary rocks chert, jasper, minor lithic wacke and metamorphic rocks, phyllite, slate and metabasalt (Resource and Geoscience 2020).

As sedimentary rocks tend to form near the earth's surface these tend to be more available for use, fine-grained sedimentary rocks such as chert and jasper, which are commonly used in artefact production. Metamorphic rocks which are of the fine-grained quartz variety are also often used for knapping; phyllite and metabasalt are habitually used however slate with its regular fracture style is impractical in most circumstances. In summary this information indicates that outcrops within the vicinity would provide the appropriate materials for stone tools (Earth Science 2012).

The coastline to the east of the project area is known as the Port Macquarie block, an igneous bedrock of early Cambrian serpentinite, chert and ocean ridge basalts. These are exposed in weathered rock formations by wind and wave action along the coast in outcroppings and cliffs where not covered by dunes, alluvial deposits or soil profiles (DPIE 2018). Further inland intermittently along the local beaches is the Watonga formation of undifferentiated Ordovician- carboniferous slates, mudstones, chert and sandstones is present, this formation is largely covered and is rarely exposed (Buckman et al. 2015) (DPIE 2018).

3.5 Soil landscapes

Soil landscape classifications and their boundaries provide pre-defined areas that are classified by several geographic features, and which are informative for the archaeological investigation. They provide localised information including landform patterns, soils, geology, rock outcrop percentage, land use and vegetation. This information provides another layer to categorise the landscape for the predictive model, additional to what a topographic description can provide. Soil landscape information builds on underlying geology and describes the depths of residual soils and colluvial soils and identifies areas that are characterised by erosion or skeletal soils and exposed bedrock versus those that may contain a deeper profile where cultural material may be buried.

The soil of the region is dominated by alluvial deposits from estuarine processes and aeolian dune systems associated with the nearby coast. The project area is encompassed within the Thrumster (th) soil landscape, which is composed of a reddish-brown pedal clays overlying bedrock. These soils are generally a shallow duplex or fabric contrast soil characterised by a shallow topsoil (A1 horizon) – and within which cultural material may occur – overlying a heavy clay B2 horizon, commonly dating to a period before Aboriginal people are considered to have peopled Australia. The shallow nature of these A1 deposits has implications for the potential for and survivability of Aboriginal objects, as even minor disturbance and/or de-vegetation will often result in the complete removal of the upper parts of the soil profile in which objects may occur

3.6 Hydrology

The project area lies 280 m west of the coast and 850 m south east of the river mouth of the Hastings River. These river systems would likely have encompassed significant resources for past Aboriginal visitation and occupation. This would have included freshwater, mangrove and lagoon ecosystems. Due to the extensive rainfall in the area small creeks, such as Wrights Creek and Kooloonbung Creek, would also likely to have flowed intermittently and have been used in the past.

3.7 Flora and fauna

Pre-European vegetation in the North Coast bioregion includes sub-tropical and temperate rainforests. The biodiversity included many plants which could be utilised for resources (Table 3.1). There was an abundance of fauna in the North Coast bioregion, many of which would have made up the strong coastal economy of the Birapai peoples. Coastal resources included both fresh and saltwater animals such as sharks, freshwater bass, stingray, crabs and an abundance of shellfish. Land based resources would have been relatively consistent all year round, as the fluctuation in climate is minimal. The eastern grey kangaroos and emu were hunted in the woodlands and grasslands (which would have occupied the current project area Plate 3.1) while the forested areas would have been home to possums, wallabies and birds (NSW Dept of Planning 1989).

However, the project area has been subject to extensive development as a result of the established school over the last 50 or so years. As such, there is little evidence of remnant vegetation remaining across the site.

Table 3.1 Pre-colonial vegetation*

Common name	Scientific name	Use
Hoop Pine	*Araucaria cunninghamii*	The sap was often used as a resin
Climbing palm	*Calamus muelleri*	Climbing palms were used for woven goods
Teak	*Flindersia australis*	Teak was used to produce didgeridoos
Rough Tree Fern	*Cyathea australis*	The stalks of these were prepared for food
Lilly Pilly	*Syzygium olesum*	Eaten as a fruit
Rainforest Long Yam	*Dioscorea transversa*	Long yams were classed as a staple for coastal Aboriginals
Water Ribbons	*Triglochin* sp.	Used as transitional baby food, the water ribbons were roasted and crushed

* Source: Low, T 1988 'Wild Food Plants of Australia'

Source: Lycett, J (1825)

Plate 3.1 View of Port Macquarie in 1825

KEY

- Project area
- Major road
- Contour (5m)
- NPWS reserve

Strahler stream order

- 2nd order
- 3rd order
- 4th order
- 9th order

Source: EMM (2020); DFSI (2017); GA (2011)

0 200 400 m

GDA 1994 MGA Zone 56

N

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Topography of the study area

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Aboriginal cultural heritage assessment
Figure 3.1

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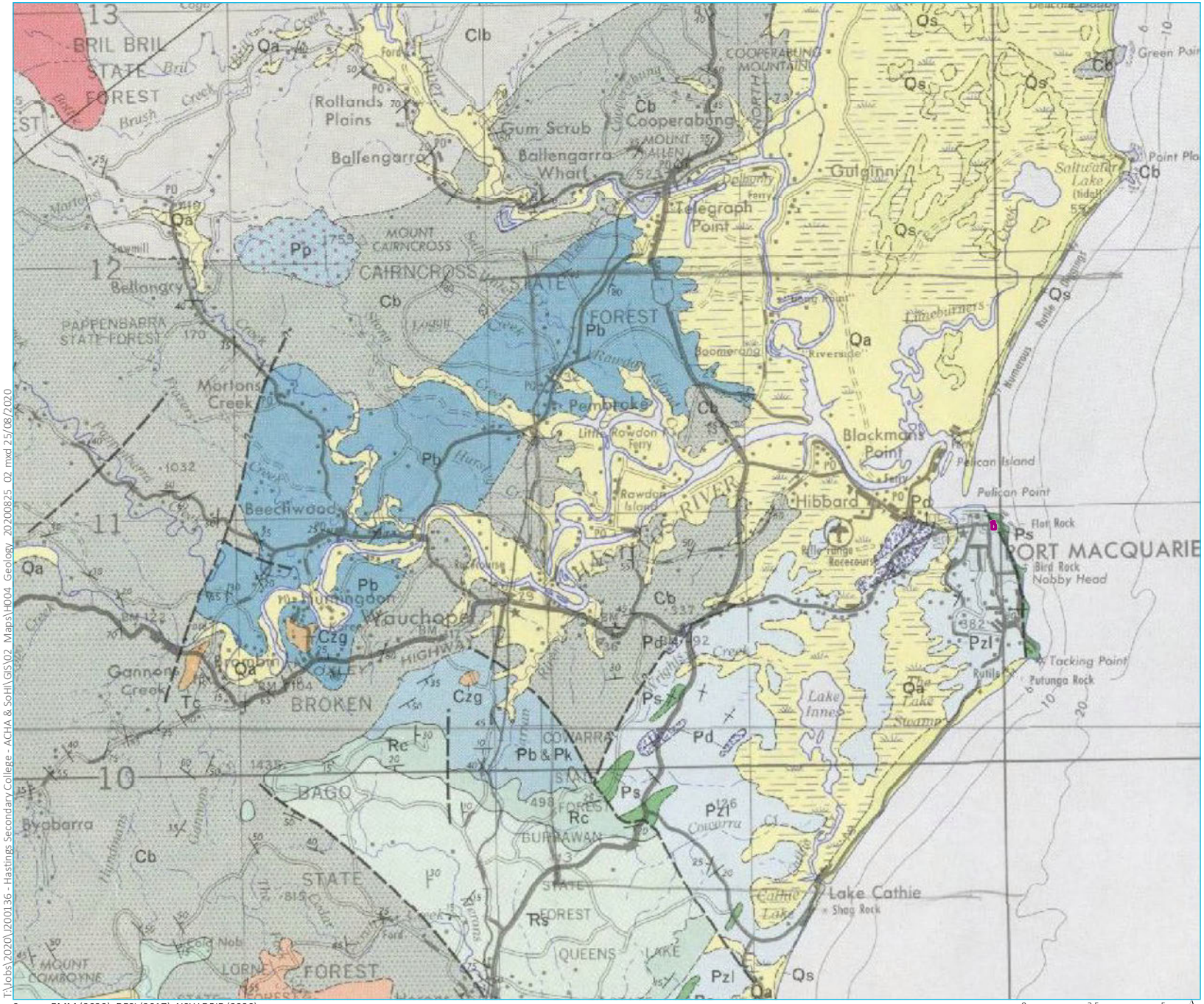

KEY

Project area

Hasting geological series

- Qa — Quaternary (Sand, silt, mud, gravel)
- Qs — Quaternary (Quartzrose sand, silt)
- Tg — Tertiary (Microgranite)
- Tc — Tertiary (Basalt, trachyte, tuff, sandstone, shale)
- Czg — Tertiary (Gravel)
- Rs — Triassic (Camden Haven Beds - Tuff, shale, tuffaceous sandstone)
- Rc — Triassic (Camden Haven Beds - Conglomerate, sandstone, shale)
- Pgg — Upper Permian (Gundle Granite - Granite, microgranite, apilte)
- Pp — Upper Permian (Gundle Granite - Porphyry, adamellite, rhyolite)
- Ps — Lower Permian (Barrington Tops Granite - Serpentinite, ultrabasic intrusives)
- Pg — Lower Permian (Barrington Tops Granite - Dolerite)
- Pb — Lower Permian (Beechwood beds - mudstone, siltstone, limestone)
- Cb — Carboniferous (Byabbara beds - lithic sandstone, siltstone, tuff, shale, limestone)
- Pb — Lower ? (Myra beds - schist, phyllite, greywacke, slate)

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Source: EMM (2020); DFSI (2017); NSW DPIE (2020)

0 2.5 5 km

GDA 1994 MGA Zone 56

N

Geology of the study area

Hasings Secondary College
Aboriginal cultural heritage assessment
Figure 3.2

EMM creating opportunities

KEY

- Project area
- Major road
- Minor road
- Vehicular track
- Watercourse/drainage line

Soil landscape

- Blackmans Point
- Blackmans Point Variant M
- Cairncross
- Disturbed Terrain
- Goolawah
- Korogoro
- Limeburners
- Thrumster
- Thrumster Variant S

T:\Jobs\2020\J200136 - Hastings Secondary College - ACHA & SoHI\GIS\02 Maps\H005 Soil 20200825 02 mxd 25/08/2020

Source: EMM (2020); DFSI (2017); GA (2011)

0 250 500 m

GDA 1994 MGA Zone 56

N

Soil landscapes

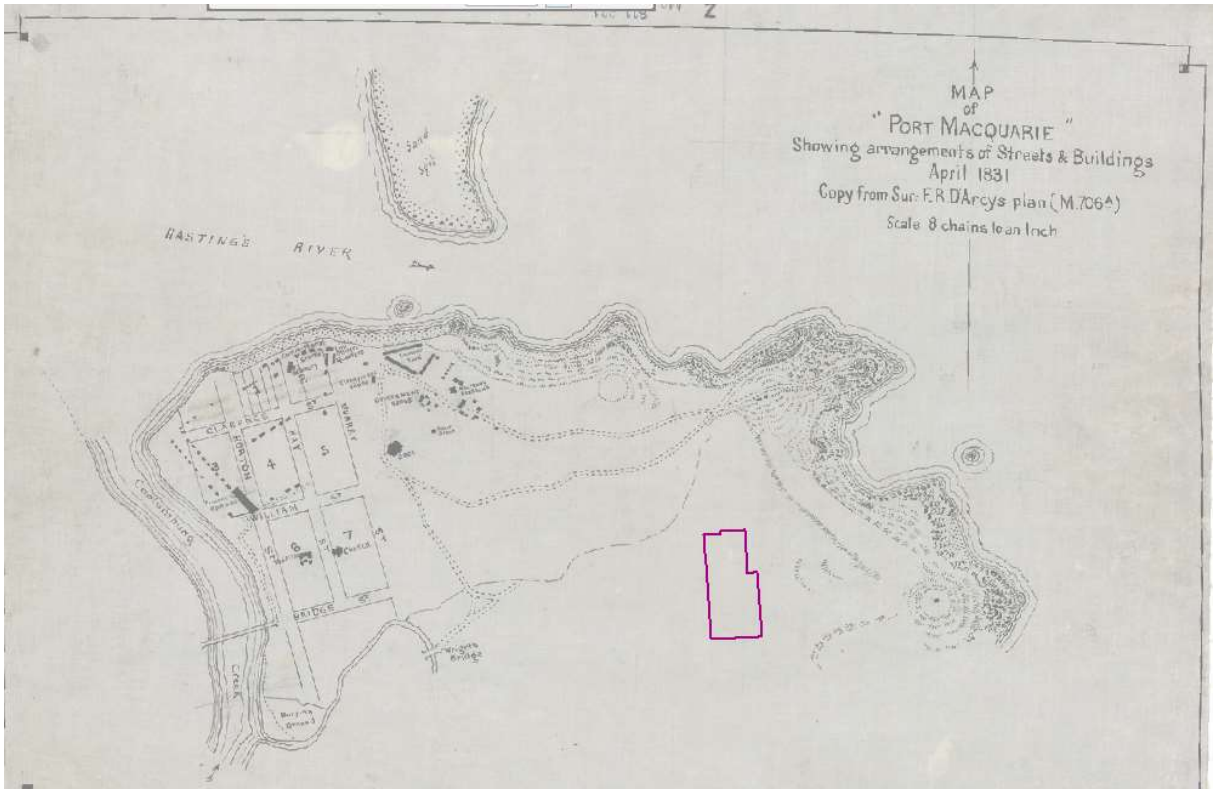
Hasings Secondary College
Aboriginal cultural heritage assessment
Figure 3.3

EMM
creating opportunities

3.8 Previous land use and modern disturbance

The project area is situated within the Municipality of Port Macquarie East. Originally it was not part of the penal settlement, lying just outside the settlement area (Plate 3.2). After 1831, the town of Port Macquarie East was surveyed by Frederick Robert D'Arcy (Annable et al, 2003 p.29) and allotments were available for sale (Plate 3.3). The current project area is located at the base of Windmill Hill and was first identified in 1888 as Port Macquarie Park, which was then leased from 1927 as a golf course (latter moved to Tacking Point in 1953) (Plate 3.4). In 1962 a section of the Port Macquarie park was gazetted for Hastings Secondary School, Port Macquarie campus (Plate 3.5), and which approximately follows the current project area.

Aerial photographs from the 1956 onward show the significant changes have occurred to the site (Appendix C). In 1956, the project area is shown without any structures in place. By 1965, three years after it was gazetted, many of the buildings are already established; and the northern and southern oval has been cut and levelled. By 1979, the school infrastructure includes additional buildings, basketball courts and a cricket oval. These are all areas that were less effected by the initial site establishment in 1965. Although there has not been a considerable visible change in the project area since 1979, the high level of use over for the last 55 years has resulted in considerable disturbance. It is considered unlikely that an upper natural soil profile within which cultural materials would be found, would survive the level of works documented over the last 50 years.

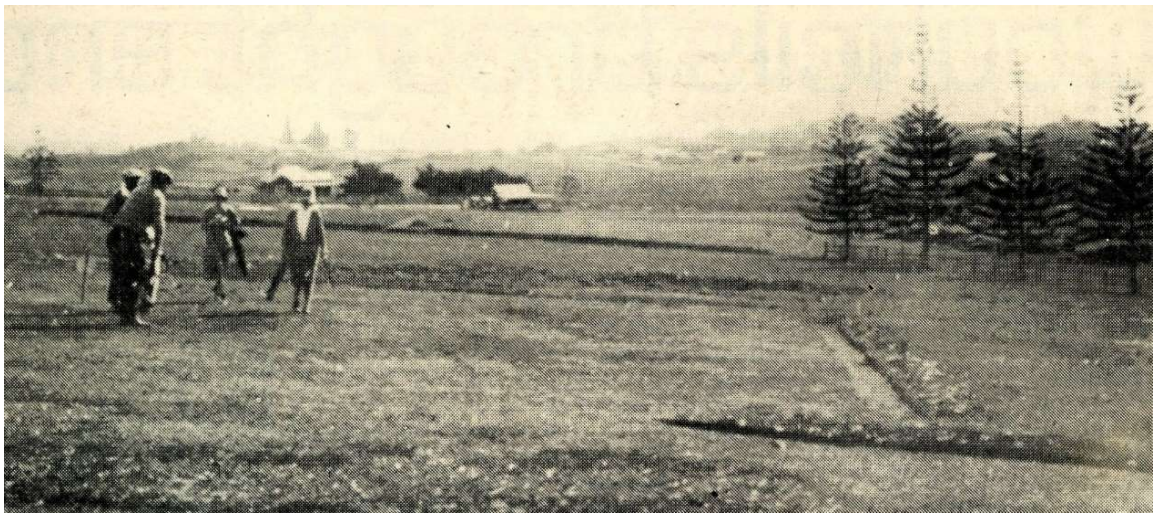


Source: State Library of NSW

Plate 3.2 1831 map of Port Macquarie showing the approximate area of the Port Macquarie campus project area

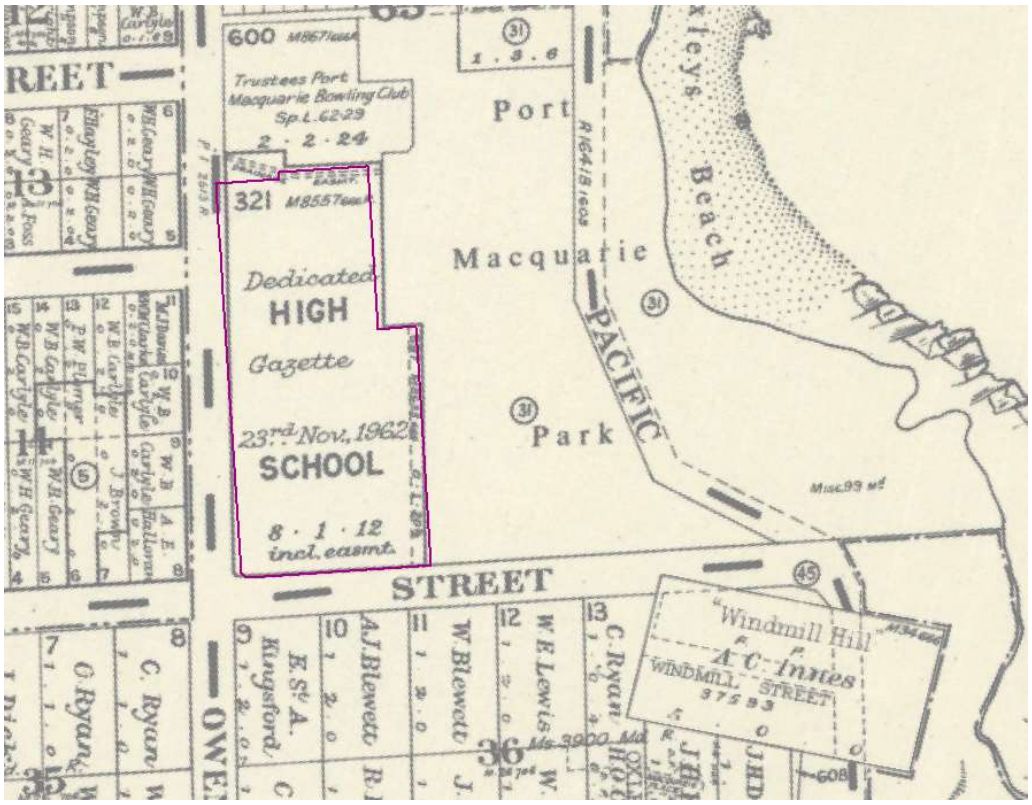
Source: State Library of NSW

Plate 3.3 **183? Map of allotments within Port Macquarie for sale after additionally survey was undertaken. The 'x' indicates approximate location of the Port Macquarie project area**



Source: Mid North Coast Co-Op Library

Plate 3.4 **Port Macquarie golf course located on the current site of Port Macquarie Campus**



Source: Dept of Lands Sydney

Plate 3.5 1968 map showing the area dedicated to the Port Macquarie campus

4 Ethnographic context

4.1 Key findings

- The Birpai peoples of the project area occupy territory which extends across a vast area from the Taree to Port Macquarie and stretching inland to Gloucester. Their language was that of Gadjang or Worimi which is related to Awabakal from lower in the mid-coast of NSW.

- Tindale notes that the original custodians of the project area were from Manning River to Port Macquarie with uncertainty of far inland their country stretched. These were known traditionally as Ngamba (Ngambar or Ngeunbah) and although it is likely they travelled inland, the climate on the coast facilitated year round resources.

- Many cultural sites have been identified in the larger study area including fish traps, bora and ceremonial sites, carved trees and burials. A massacre site has also been described by the local Aboriginal Peoples at Blackmans Point. This site has never been verified.

- No sites of cultural value within the project area were identified by the RAPs in the field.

4.2 Regional information

The evidence for coastal occupation during the Holocene is often well documented and better preserved then the Pleistocene, partially due to the fact that as time passes the risk increases for the potential loss of evidence; in addition to the knowledge that the sea levels shifted up to 123 m and much of the evidence would now be underwater (Ulm 2011, p. 443). Aboriginal occupation at this time is demonstrated throughout the entire east coast of Australia. It has been noted by Beaton (1995) that the east coast of Australia consists of procumbent shorelines through out the north coast, which are gentle slopes with less aggressive shorelines and precipitous coasts throughout the south which are steep and high-energy shorelines. The project area lies within the procumbent shorelines, with a gentle sloping down toward the beach. This is relevant because as Ulm points out (2011, p.444) procumbent shorelines are associated with low site preservation due to high levels of horizontal redistribution affecting the landscape. The shifting shoreline has resulted in some areas boasting combination sites, sites which show inland economic evidence prior to the Holocene and then shifting to coastal economies with the rising sea levels. Although combination sites are rare, it is important when assessing a coastal project area that this is kept in mind.

Coastal economic resources during the Holocene were intensified, which is likely linked to population growth. Debate is ongoing about the cause of increase of resource utilisation, however regardless of the cause the evidence does show an economic upturn during beginning in the early Holocene (10,000–6,000 bp) (Hiscock 2008, p. 162).

Information about the socio-cultural structure of Aboriginal society prior to European contact largely comes from ethno-historical accounts made by colonial settlers. These accounts and observations were often made after significant social disruption due to disease and displacement. As a result, this information is often contentious, particularly in relation to language group boundaries. Therefore, it is likely that language group boundaries were far more diffuse and complex than the arbitrary demarcations drawn by colonial observers.

Tindale notes the original custodians of the study area as Ngamba peoples (1940), covering an area of approximately 2,300 km^2. It is widely accepted now as Birpai land. The Ngamba groups share the language of Gumbaynggir, their land includes Taree to Port Macquarie and then inland to Gloucester which is shared with the Birpai. The language widely reported to be spoken by the Birpai however is Gadjang or Worimi, this is more closely related to their anncetors on the southern side of the mid-coast of NSW.

The Birpai are the traditional peoples of Manning River Valley, which was known as a prosperous area for resources. In the Summer the saltwater estuaries and ocean offered rock and mud oysters, pippies, cockles, crayfish and crab while the fresh water held herring, perch, catfish and mullet. During the winter the Birpai peoples trekked to higher grounds and hunted koala, possum, emu, kangaroo, pademelons and sourced wild vegetables and tubers (Ramsland p4). An account of how possums were prepared by Ramsland (p5) is quoted below:

> Possums and roots undergo a curious culinary process. An ant-hill is scooped cut, in which a fire is lit and left burning until the place is almost red-hot. The fire is then pulled out and a few stones are laid on the bottom of the 'fireplace'. The possum or bear. Unskinned (just, in fact, as it was killed) is wrapped in some large leaves, or ti-tree bark, and placed in the hollow. The hole is then closed up. In a very short time the 'tasty morsel' is thoroughly cooked, without loss of gravy – the secrete of cooking being a condensation of steam.

Bark huts were built in the winter and canoes were constructed for traveling and fishing. Swamp mahogany, river gum and stringy bark were used to build the canoes. The canoes were constructed from a single piece of 20 ft bark which was heated and then bound with vine. The canoes were completed by strengthening the frame the branches from eucalyptus or acacia trees and inserting a thick layer of mud or stone in the canoe so a fire could be lit to reinforce the bark (Ramsland p7).

Ramsland (p4) observes that little cultural evidence remains in the area since European occupation, although acknowledges middens and bora rings are still evident in the area. Other evidence that has survived include fish traps north of Port Macquarie and north of Coffs Harbour (Campbell 1972, p123). There are many reported ways of trapping and hunting fish including spearing and using native plants to 'stun' the fish before simply gathering them; however stone fish traps ensures a constant supply of the resource (Plate 4.1). A massacre site has also been identified by the local Aboriginal community at Blackmans Point, however this has not been registered; massacre sites are uniquely challenging to prove the existence of due the fact massacres were often carried out in secrete. However, it is believed that 300 ancestors were killed in 1841 (O'Callaghan 2006).

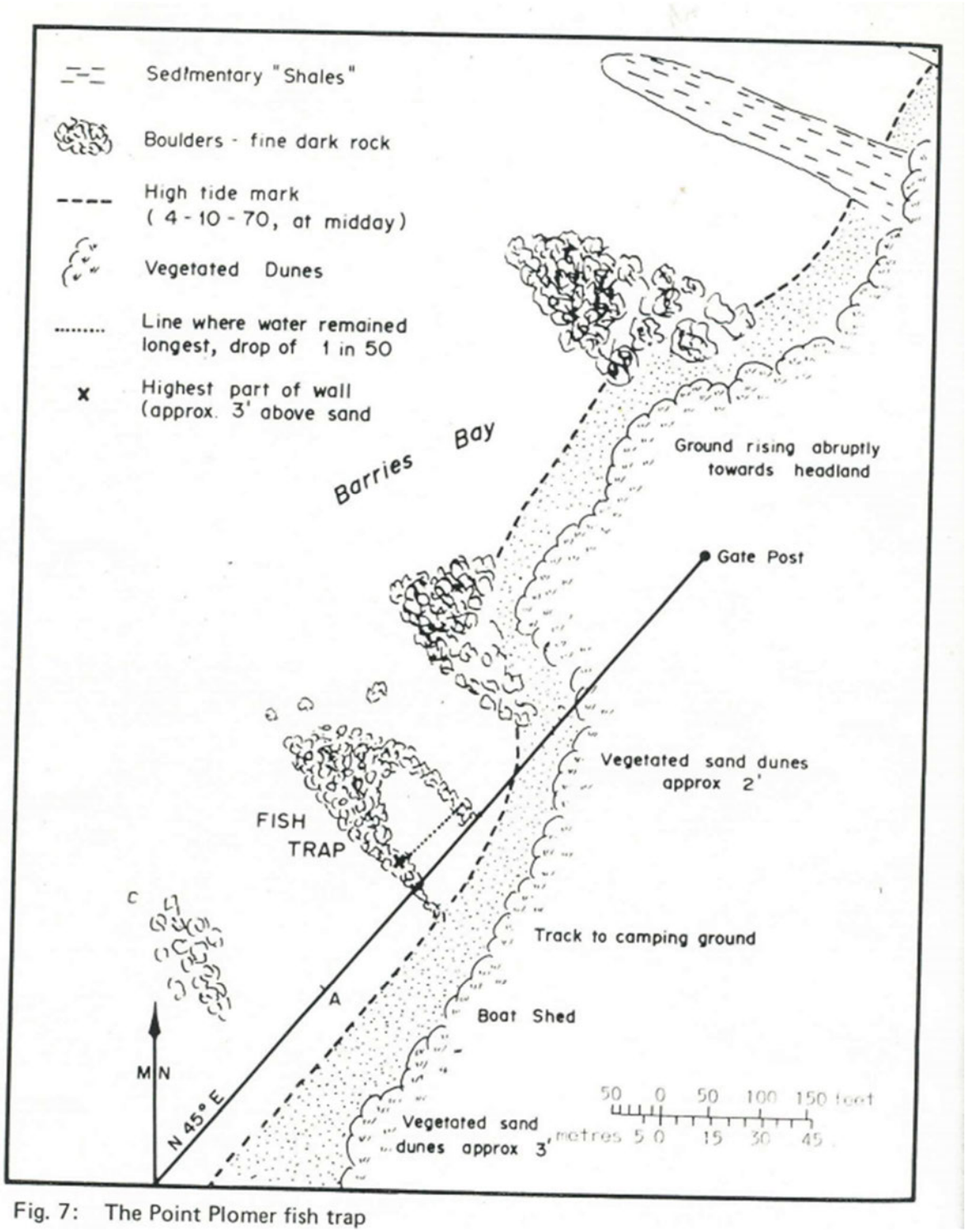


Fig. 7: The Point Plomer fish trap

Source: Campbell (1972) p126

Plate 4.1 Sketch of the Point Plomer fish trap

4.3 Information provided by RAPs

No additional information was provided by the RAPs.

5 Archaeological context

5.1 Key findings

- Previous studies of the region are extremely sparse, and primarily constrained to cultural resource management studies for various residential and/or industrial activities. Where available, these studies suggest ephemeral past use of the tributaries, a prevalence for the use of local lithic material for tool production (such as chert, etc), and activities focussed on areas of elevation (particularly highlighting lower slopes) with a low gradient, near creeks (generally <200 m); and along the coastal fringe. The identification of a potential massacre site at Blackman's Point (northwest of the project area) indicates the potential for post-contact Aboriginal sites to be present within the region.

- A review of Heritage NSW's AHIMS database identified 71 previously documented sites in the region. No sites were identified within the project area. The nearest documented site is >500 m from the project area.

- Since 2010, no Aboriginal Heritage Impact Permits (AHIPs) have been issued within the project area.

5.2 Regional background

The first peopling of Australia occurred ~50,000 years ago (50 ka), and likely consisted of reasonably large groups of technologically advanced hunter-gatherers (Bradshaw et al. 2019; O'Connell et al. 2018). The peopling of the continent was rapid, with sites such as Devil's Lair (WA), Warratyi (SA), and Lake Mungo (NSW) all occupied within a few thousand years of arrival (Bowler et al. 2003; Hamm et al. 2016; Turney et al. 2001). Genomic research has shown that following these initial explorations of the continent, regional populations or nomadic sedentism, was established by ~40 ka (Tobler et al., 2017). These small populations were highly mobile, but remained within a broad spatial geographic area, dictated in general by the nature of resources and water availability. In the case of some of the arid parts of the continent, mobility encompassed thousands of square kilometres (Gould 1970), while major riverine corridors such as the Murray River had near permanent settlements (Pardoe 1995).

In NSW, the earliest evidence of Aboriginal people are human remains recovered from the lunette in Lake Mungo and dating to ~42 ka (Bowler et al. 2003; O'Connell et al., 2018). The presence of red ochre covering the remains representing a society with significant cultural and symbolic complexity (Langley et al 2011). Near the coastal edge, the earliest populations were found at Cranebrook Terrace, near Penrith (western Sydney). Here a handful of rudimentary stone tools were found in an alluvial unit, some 8m below the current surface, and which were dated to ~40-45 ka (Williams et al. 2017). However, it is not until ~35 ka, that regional populations appear to have become established in the Sydney Basin, and which appeared to consist of small bands of people focussed mainly along major river systems, including the Hawkesbury-Nepean River, Georges River, and Hunter River (AAJV 2016; Hughes et al. 2014; Williams et al. 2012, 2014). These rivers formed key ecological refuges that hunter-gatherer groups used to survive major climatic events such as the Last Glacial Maximum (21±3 ka) – a cool and arid climatic period. Well-established archaeological models suggest populations experienced a major reduction in size (by as much as 60%), and settlement contraction and abandonment across much of the continent during this time (Veth, 1993; Williams et al., 2013), although recent research suggests that the story may be more complex than this (eg Tobler et al., 2017).

The terminal Pleistocene and early Holocene (~18-8 ka) was characterized by significant environmental change, notably the rapid inundation of much of the coastal shelf, resulting in the reduction of the continent by ~21% (~2 million km^2) (Williams et al. 2018), in tandem with improving climatic conditions – the Holocene climatic optimum (Williams et al. 2015a, 2015b). More broadly, these conditions resulted in increasing population growth, expansion of ranging territories, increasing sedentism (longer patch residence time) and the beginnings of low-level food production (eg aquaculture), and ultimately the initiation of social and cultural groupings observed in the late Holocene (Williams et al., 2015b). Within the Sydney Basin, a large number of sites are first initiated during this time, including Burrill Lake (~20 ka), Bass Point (~17 ka), and Loggers Shelter in Mangrove Creek (~11 ka) (Bowdler 1970; Lampert 1971; Attenbrow 2004; AMBS 2006, 87). More broadly, we see a much broader range of archaeological site types occurring, such as the Roonka Flat burial ground on the banks of the Murray River within which some 147 individuals were interred through the Holocene (Pate et al., 1998), and the increasing use of marine resources. Many of the previous refuges were subject to abandonment or a re-structuring of land use (Dortch, 1979; Fitzsimmons et al., 2019). These activities suggest the ability to undertake large-scale movements to mitigate environmental distress was becoming increasingly difficult and was addressed through diversification of hunter-gathering behaviours and, at least in part, technological advances and investment (Williams et al. 2015b).

The late Holocene saw significant population increase, with hunter-gatherers reaching their zenith of ~1.2million at 0.5 ka, a tenfold increase on Pleistocene levels (Williams, 2013). Data suggests that the highest populations during this time were in the southeast of Australia. Williams et al. (2015b) suggest that this increase was likely a result of intensification of earlier technological advancements, including hafting-technology, plant and seed processing, and localized landscape management (using fire), allowing climatic downturns to be successfully weathered. These included strong arid El Nino Southern Oscillation (ENSO) conditions between 4-2 ka, and increasingly turbulent climatic conditions during the Medieval Climatic Anomaly (1.3-1 ka) (generally wetter) and Little Ice Age (0.3-0.5 ka) (generally drier) (Williams et al., 2010, 2015b). A result of these denser populations was decreasing freedom of movement and the formation of strong classificatory kinship systems, complex cultural and symbolic landscapes based on geographic totemism (the 'Dreaming'), distinctive graphic art systems, land rights in the form of ritual property, and formalized exchange networks (Williams et al., 2015b). For the North Coast Bioregion, these conditions resulted in a significant increase in the archaeological visibility of past Aboriginal populations, with sites occurring in a much wider range of locations; and generally indicative of a more intensive use of the landscape.

5.3 Previous archaeological studies

Relatively few studies have been undertaken in the general vicinity of the study area (Figure 5.1). This is in contrast to the large number of sites documented within the AHIMS database for the locale, and likely reflects either extensive recent works, where the reports have yet to be completed and/or the documentation of sites indirectly as part of other activities (eg bushwalking or volunteer groups coming across cultural materials).

5.3.1 Oxley Highway (Collins and Sullivan 1993)

In 1993, Collins and Sullivan surveyed the Oxley Highway some 1.8 km south-west of the project area. The survey investigated the proposed road corridor that traversed different disturbed and undisturbed landforms, including crests, hillslopes and a ridgeline. The following observations were made:

- two isolated stone artefacts were identified in the western portion of the survey, these were located on a highly disturbed ridgeline crest. The first artefact was identified as mudstone core, and located within cleared grassland, some 200 m west of a minor tributary. The second artefact was a quartzite flake located on a moderately inclined hillslope 400 m west of the same tributary outlined above; and

- a campsite was identified outside of the impact footprint, and included three quartzite stone artefacts on a lower slope of a ridgeline. A swamp was located 150 m north-east of the site. Other small dispersed low-density scatters were also identified near the site.

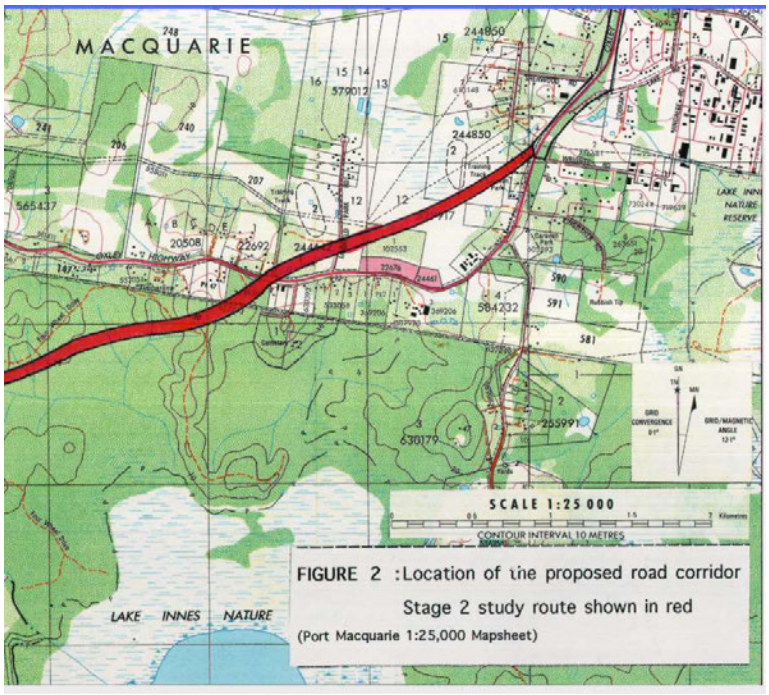


Plate 5.1 The study area investigated by Collins and Sullivan (1993)

5.3.2 Area 13 (Thrumster) Port Macquarie (Collins 1995)

Collins undertook an archaeological investigation in Short Street, Port Macquarie, some 1.2 km north-west of the project area (Collins 1997). The investigation was undertaken on behalf of Hastings Council in response to a previous investigation that had reportedly uncovered Aboriginal human remains along with animal bones, shell and stone artefacts within the locale. The report included a monitoring program approved under an Aboriginal Heritage Impact Permit (#831). Four previously documented sites were documented, including two restricted sites (further details in Section5.2):

- #30-6-0214, an open camp site, which included six artefacts unearthed at a depth of 65 cm below surface. These were found beneath ~50 cm of modern overburden overlaying the natural sandy soil profile. The artefacts included one sandstone ground edge axe, one mudstone flake, a siltstone platform core, a siltstone flake, a siltstone core piece and a one yellow chert flake, and suggested a late Holocene (5,000 years ago – present) period of deposition;

- #30-3-0091 and #30-3-0104, were shell middens dominated by oyster species. They were located at the mouth of Limeburners Creek, with #30-3-0214 identified as a 12 m long site near a drainage service trench beneath modern overburden. Test pits were subsequently dug and ~1 kg of midden shell was recovered, as well as other faunal remains, red ochre, charcoal and 172 stone artefacts. The highest density of stone artefacts was recovered from ~10−30 cm below the natural surface. Midden shell uncovered during the excavation included 66.6 % oyster shell, 21.4 % mud whelk, 6.5 % cockle shell 3.1% pipi and 2% cartrut. While, stone material included siltstone, greywacke and coarse-grain mudstone, chert, serpentinite, quartzite, quartz and jasper. The faunal remains were dominated by European species (~97%) and may indicate a post-contact period of use, although other species were also documented including kangaroo, pademelon, bandicoot, bony fish and bream;

- two further sites were noted but not presented in detail due to restrictions. These included a burial site on pelican island and a ceremonial site in Findlay Park; and

- the monitoring program identified a further 42 locations where cultural material was recovered. This included some 134 stone artefacts, ~200 grams of faunal bone, ~21 grams of red ochre, and ~2.2 kg of shell midden material. Over half of this material was recovered from within 200 m of Kooloonbung Creek, with the remainder found near a minor freshwater tributary. Since it was recovered as part of the monitoring program, stratigraphic information for the material was limited.

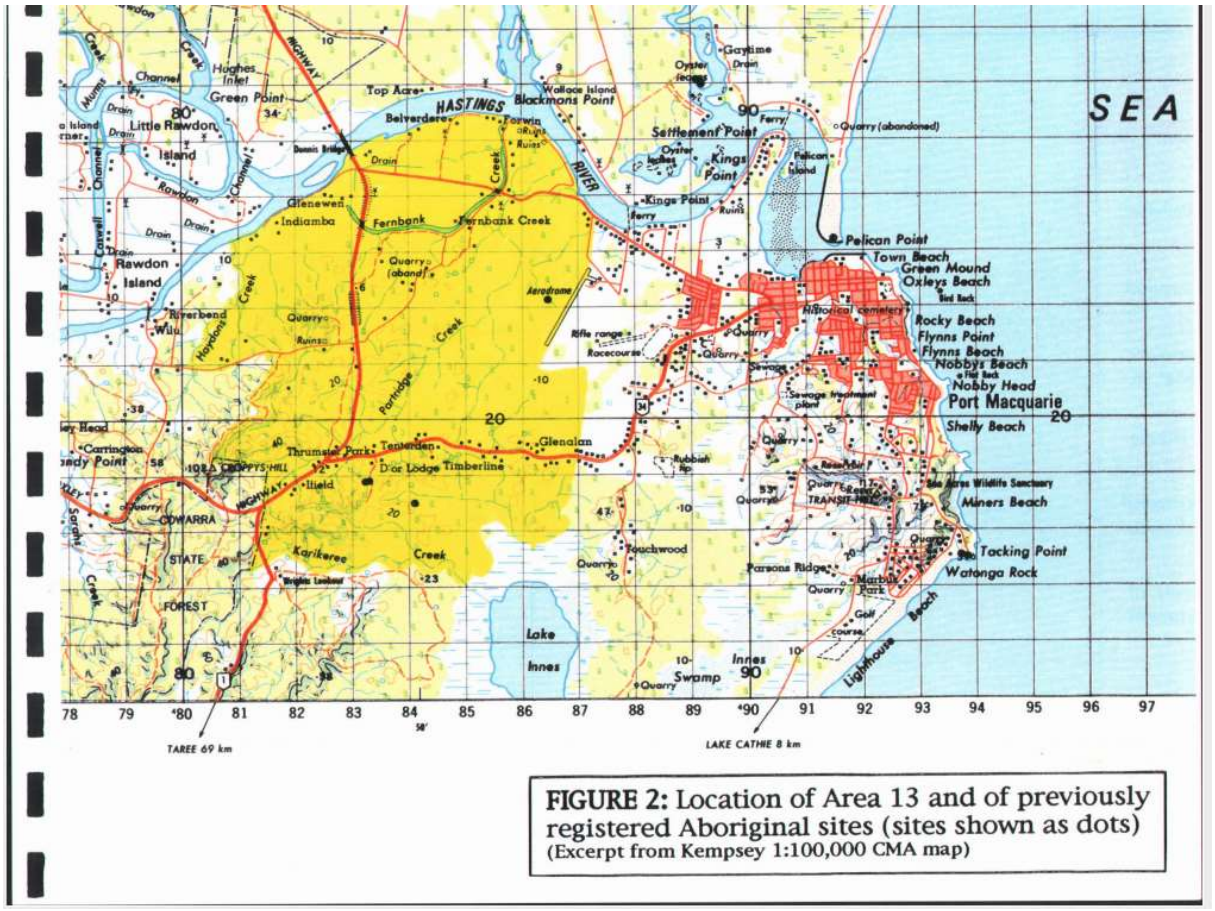


FIGURE 2: Location of Area 13 and of previously registered Aboriginal sites (sites shown as dots)
(Excerpt from Kempsey 1:100,000 CMA map)

Plate 5.2 The study area (yellow) investigated by Collins (1995)

5.3.3 Short Street, Port Macquarie (Collins 1997)

Collins prepared a report on behalf of Hastings Council to investigate AHIMS site #30-3-214. The site was located in Short Street, Port Macquarie (Plate 5.3). A salvage excavation was undertaken as part of proposed development works in the town centre. The investigation was carried out under an Aboriginal heritage impact permit (#831). Key findings of the works include:

- prior to investigate and monitoring of the site only six artefacts were present. The investigations primary aim was to gather further understanding of the cultural history of the site. Only one other subsurface investigation had been undertaken in the Hastings region prior to this;

- the location of the investigation was located in the Port Macquarie CBD approximately 1 km inland of Town Beach. The site is encompassed between the Hastings River estuary and Kooloonbung Creek, and would have been primarily mangroves and/or flood zone;

- the works recovered 951.8 g of midden shell, 173 stone artefacts, 726.4 g of animal bone and fragments from two Aboriginal human remains. In addition, 308.2 g of charcoal and 4.5 g of red ochre was also recovered. The densest occurrence of cultural material was along the bank of Kooloonbung Creek;

    - the assemblage included four pebble manuports. While artefacts were found throughout the 40 cm deep soil profile, they mostly occurred between 20-30 cm below the surface. The lowest spit (30-40 cm) produced only 55 g of artefacts, much of that being debitage. The material included jasper, chert, quartz, greywacke and coarse mudstone. Few of these materials can be found in the local area, and would have required transport to the site. (The ochre recovered similarly is not known locally). Unmodified flakes and flaked pieces made up 70.5 % of the recovered weight, however the remaining 29.5 % consisted of a range of formalised tool types, including multi-platform cores, nuclear tools, and complete flakes;

    - the midden shell consisted of oyster, mud whelk, cockle, pipi, periwinkle and sand-plough snail. It was noted that the pipi shell would have been brought to site from at least 1 km away (Town Beach being the closest availability). Almost all shell material was located in the upper 30 cm of the trenches, and the imported shell only occupying the upper 20 cm; and

    - the faunal remains included European bone (cattle, pig and dog) totalling about 3%, with the remainder encompassing macropods, red-legged pademelon, long-nose bandicoot, bony fish and brim. In contrast to the artefacts, the largest proportion of bone was recovered from spit one (0-10 cm), with very little recovered from the remainder of the soil profile.

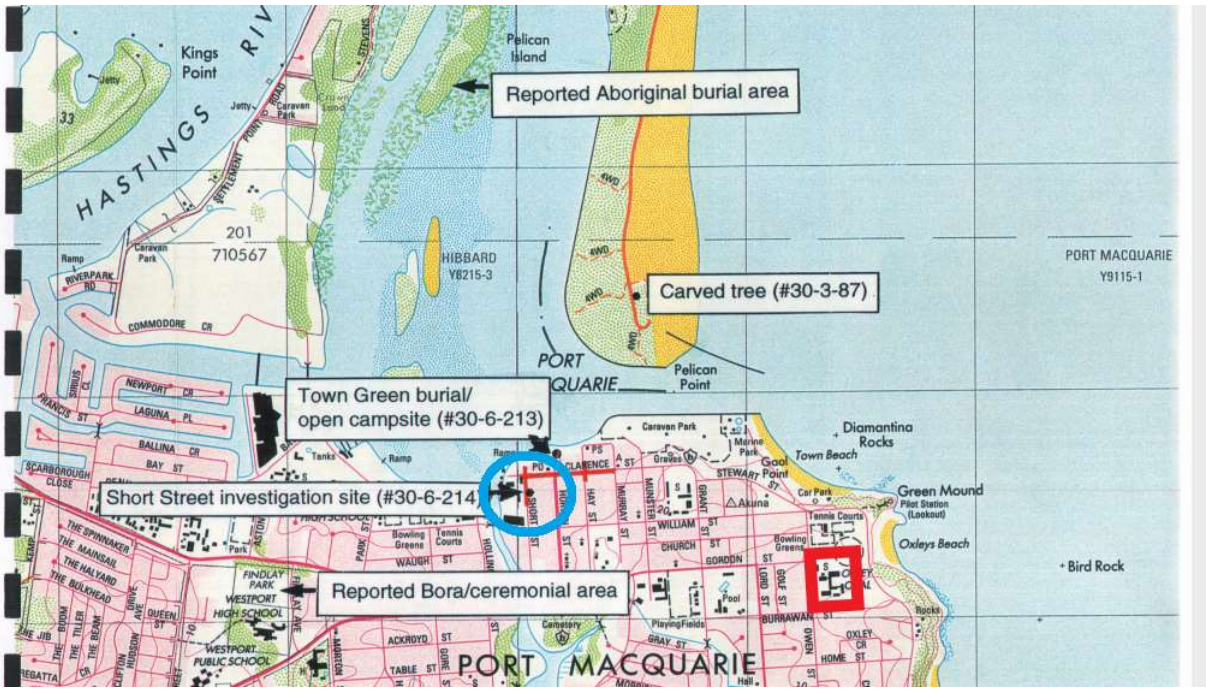


Plate 5.3 **The study area investigated by Collins (1997). Note a number of other documented significant sites presented in this map. The current project area is indicated in red**

5.3.4 Lake Cathie-Bonny Hills (Collins, 2003)

An environmental study with a cultural heritage component was undertaken approximately 17 km south-west of the project area (Plate 5.4). Hastings Council undertook the study of the ~32 ha site for the purpose of a proposed rezoning. The project area is located 120 m west of Rainbow Beach and approximately 500 m south-east of the Lake Innes Nature Reserve (dominated by mangroves) and Lake Cathie. The landscape was formed of hillslopes, crests and lowlands near the mangroves. A freshwater creek (Duchess Creek) lie on the south-west boundary. Pebble beds occurred along the beach, and would have been suitable knapping material, however no outcrops were noted nearby. Key findings of the study include:

- a pedestrian survey was undertaken of the project area in conjunction with the Birpai LALC. The survey covered approximately 18.7 % of the study area, but visibility was low due to vegetation cover;
- one scarred tree was recorded, a 10 m high Brush Box with a girth of ~235 cm, and with a scar length of 120 cm x width of 40 cm. The scar was thought to be that of a shield. The scar was located approximately 120 m from a known midden site (Middle Rock Point midden) and was hypothesised as being related; and
- although no other sites were recorded, sub-surface artefacts were deemed likely along the creek beds and it was recommended this area should not be developed.

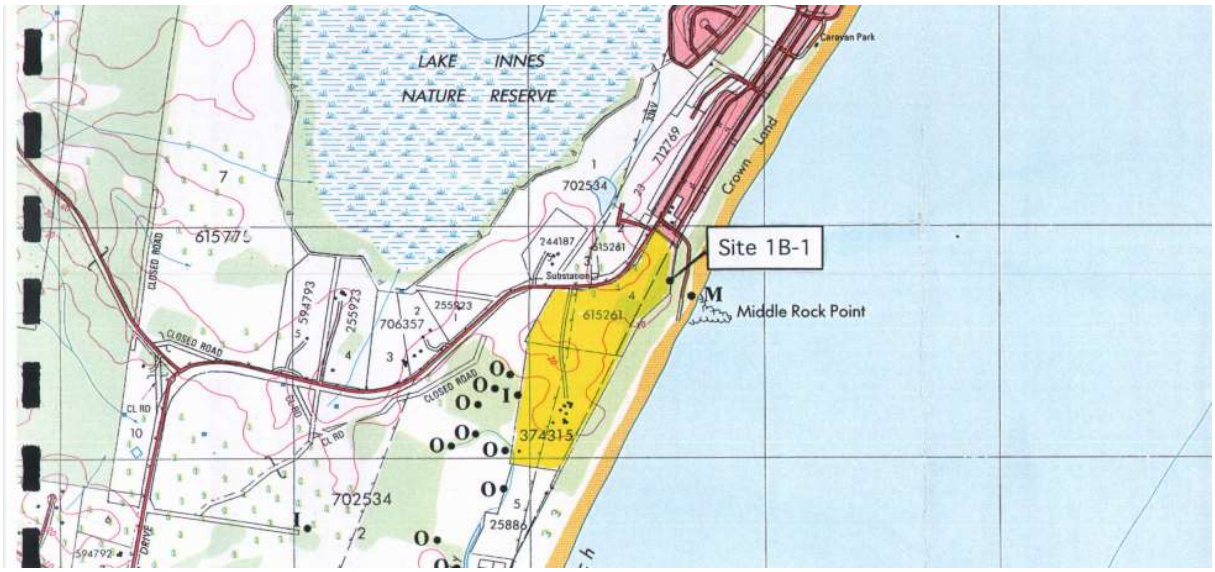


Plate 5.4 The study area investigated by Collins (2003)

KEY

- Project area
- Major road

Previous archaeological studies (by year)

- 1977
- 1981
- 1982
- 1983
- 1986
- 1988
- 1990
- 1991
- 1993
- 1995
- 1996
- 1997
- 1998
- 2000
- 2001
- 2003
- 2004
- 2005
- 2007
- 2008
- 2009
- 2010
- 2011

Source: EMM (2020); DFSI (2017); GA (2011); DPC (2020)

0 1 2 km

GDA 1994 MGA Zone 56

N

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Previous studies in the local area

Hasings Secondary College
Aboriginal cultural heritage assessment
Figure 5.1

EMM
creating opportunities

5.4 AHIMS data

The Aboriginal Heritage Information Management System (AHIMS) database is managed by Heritage NSW and includes a location and description of Aboriginal objects and sites recorded through academic research and cultural resource management (see Appendix D for further explanation of Aboriginal site features). EMM conducted two searches of the study area, the first was a local search on 17 January 2020 (Figure 5.2), as this failed to identify significant information to inform the ACHA, a second search was conducted across a larger region focusing on similar landforms north and south along the coastline (Figure 5.2). The second search of the AHIMS register was undertaken on 6 April 2020. The search identifies any Aboriginal sites or places registered within the project area; and aids predictions for the project area showing the frequency and distribution of Aboriginal site types in the broader landscape. A copy of the AHIMS search is provided in Appendix D.2.

The AHIMS search identified 71 registered Aboriginal sites in the search area (Table 5.1; Plate 5.1). These are consistent with the regional and local investigations (sections 5.2 and 5.3) that demonstrate the dominant sites types are artefact scatters of various densities and shell middens. Spatially, while limited by where previous studies have occurred, they are predominantly located on, or very close, to tributaries and coastlines. The vast majority of the sites are located southwest of the project area within Thrumster and Sancrox, reflecting ongoing development of these areas.

There are no AHIMS sites within the project area. The nearest sites are ~1 km north-west of the project area, and reflect the earlier findings of Collins 1997 (Section 5.3.3). No other sites are nearby, including nothing previously documented along the estuary or coastline, both subject to heavy foot traffic.

Two restricted sites were noted during the search. Discussions with Heritage NSW confirmed that neither are within the project area. A search was also undertaken of the Register of National Estate where a restricted site was identified. After a discussion with the Heritage branch of the Department of Agriculture, Water and the Environment, the site was understood to be located north of the project area and is documented as a fish trap site. No further details are publicly available.

Table 5.1 Previously documented Aboriginal sites within the AHIMS database

Site type	Number (n)	Percentage (%)
Undefined artefactual site	30	43.5
Moderate density artefact scatter (10-50)	2	2.9
Low density artefact scatter (<10)	5	7.2
Isolated Aboriginal object	8	11.6
Midden	14	20.3
Massacre	1	1.4
Quarry	2	2.9
Stone Arrangement	2	2.9
Culturally modified tree	4	5.8
Bora/Ceremonial	1	1.4
Total	69	

Notes: Values exclude two restricted sites also noted in the AHIMS search.

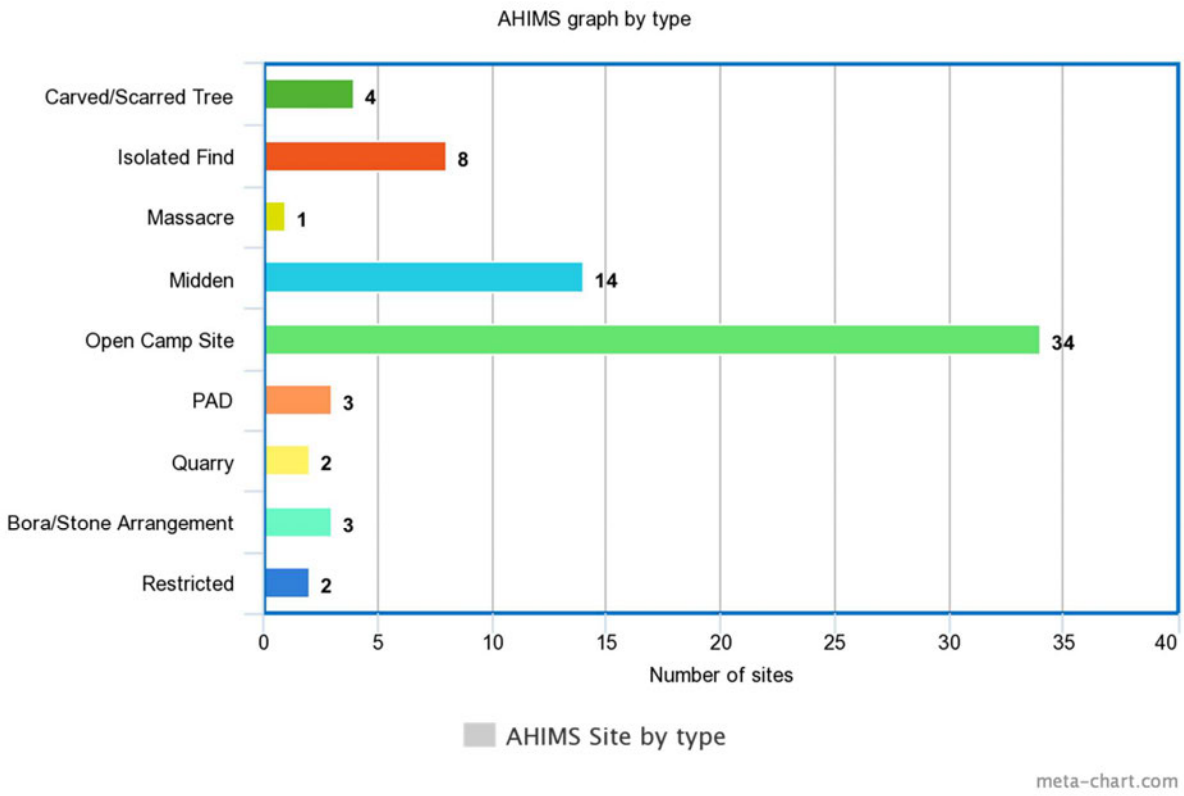
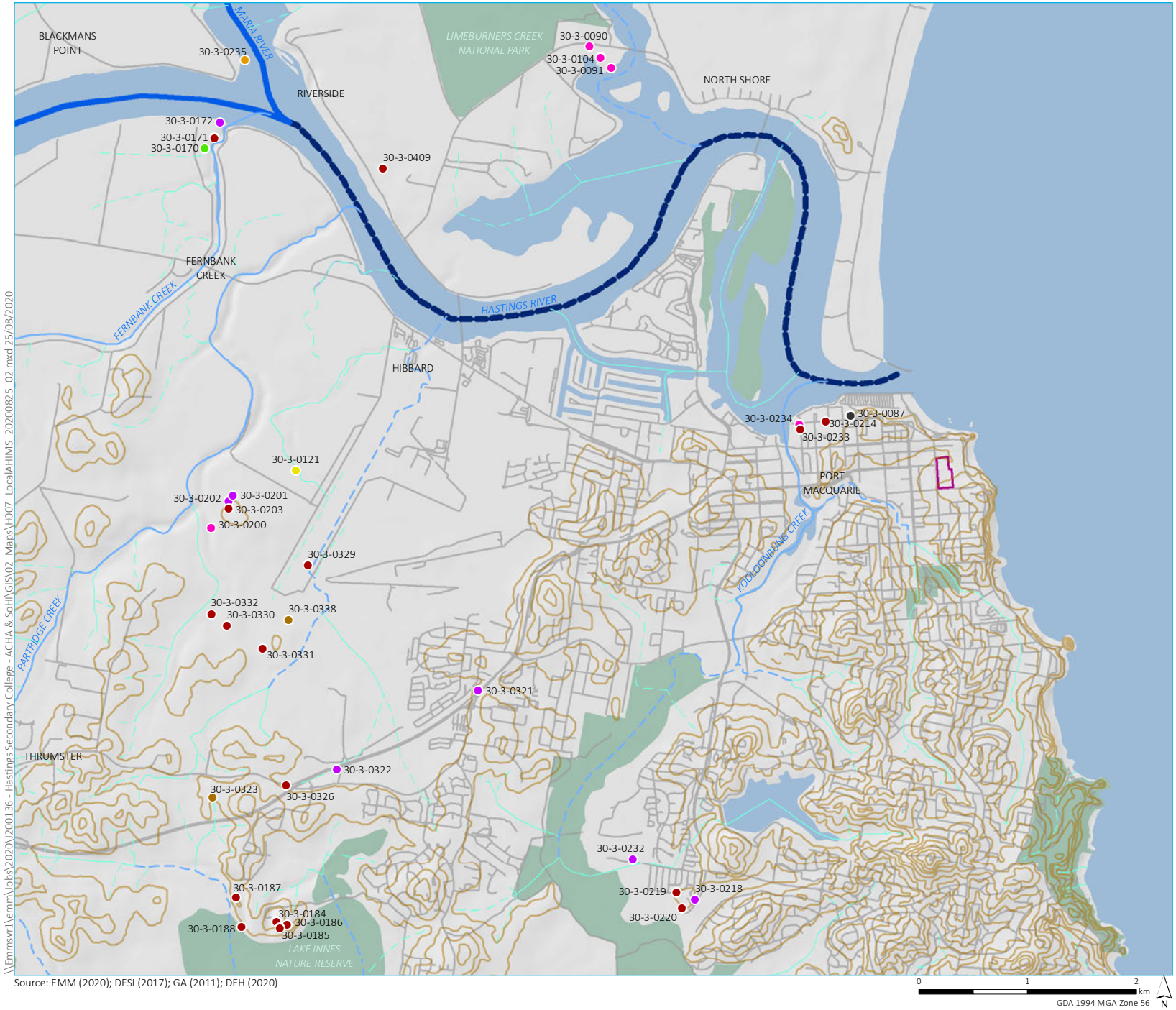


Plate 5.5 AHIMS site by type



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Source: EMM (2020); DFSI (2017); GA (2011); DEH (2020)

Previously documented Aboriginal objects and sites within the AHIMS database

Hastings Secondary College
Aboriginal cultural heritage assessment
Figure 5.2

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5.5 Predictive model

Aboriginal objects and/or sites are frequently found on terraces and/or elevations in close proximity to creek lines, often on flat or near flat surfaces; and along the coastal fringe. The most common site type is likely to be surface and/or subsurface stone artefactual and/or shell material reflective of past visitation and/or occupation. Available data suggests that such sites frequently contain few Aboriginal objects (<20) and are reflective of an ephemeral use of the region. With the possible exception of investigations at Short Street investigation, no high-density artefact scatters are documented in the available data, so it remains unclear the threshold at which transient use shifts to occupation foci, although more regionally 20-30/m^2 are often adopted. Investigations to date would suggest that such cultural materials if present would be found in the upper 50cm of so of the soil profile, although deeper deposits may be evident in some environments, such as the coastal dune areas.

A range of other site types are known in lesser abundance, and arguably of higher significance, including culturally modified trees, ceremonial sites, quarries, stone arrangements, and a previously documented massacre (although its likely in a different location to that recorded). Several of these sites are considered unlikely to be present due to the environmental context – a lack of geological exposures or vertical escarpments limiting the likelihood of quarries, rockshelters, etc, for example; and of course current site modifications limits the survivability of above ground features. However, a number of these sites – notably ceremonial sites and stone arrangements – are not related to resource exploitation and as such may not follow the environmental site predictions outlined above.

The proposed activity is largely constrained to gentle slopes some distance from surrounding water resources, and not an area where extensive cultural material would be expected. While the relative proximity of the site to the coastline does indicate the locale may have been visited in the past - albeit unlikely to have formed an area for intense occupation – the site has been subject to substantial modifications and earthworks from the establishment of the school. It cannot be validated that such work resulted in complete soil profile replacement, such activities are likely to have resulted in disturbance and/or movement of cultural materials from their primary context (if present). These works have, however, reduced the likelihood of many sites types having survived if ever present. Notably, these would include culturally modified trees – not a common site type in any case – that are unlikely, since there is limited evidence of remnant vegetation on the site.

On the basis of the archaeological sites registered in the region, a review of previous archaeological studies and the environmental context, the following conclusions can be drawn regarding the potential presence and location of Aboriginal sites within the project area:

- Isolated finds, artefact scatter sites and middens are the most common sites within the region and can occur across most landforms, even in disturbed contexts. Such sites are usually found close to streams but above flood level, on elevated, level to gently inclined landforms, such as hill crests and hill spur crests, alluvial terraces, and along the coastal fringe. The most common site type is likely to be surface and/or subsurface stone and/or shell artefactual material reflective of past visitation and/or occupation. Available data suggests that such sites frequently contain few Aboriginal objects (<20) and are reflective of an ephemeral use of the region. No high-density artefact scatters are documented in the available data, so it remains unclear the threshold at which transient use shifts to occupation foci.

- Grinding grooves, engravings, rock shelters and/or rock art and engravings are very rare in the regional context, likely due to the lack of suitable topography in settled areas; where they do occur, they are in areas with sandstone outcropping or near vertical escarpments. There is a very low likelihood that these sites are present within the project area.

- Culturally modified trees have not been recorded within the project area previously; given the urbanisation of the site, they are considered unlikely to be present. They may exist where native vegetation has been retained, or can remain present in the landscape for a considerable time where dead or felled trees have been left.

- Stone arrangements are documented in the region. They generally occur on elevated and relatively flat landforms (eg crests, terraces, ridges) near sources of outcropping cobbles or small boulders capable of being moved manually. Within the context of the project area, this site type is considered unlikely given the extensive urbanisation.

- Burials can occur anywhere in the landscape, but are notably more likely on watercourses or under rock ledges; their identification in the landscape is rare. Generally, they would be identified by mounds of earth, carved trees or stone markers. Evidence of burials is generally rare because human bodies are susceptible to the generally acidic Australian environments and other taphonomic processes. Where sub-surface burial is not performed, human bodies can have limited preservation in the archaeological record. Such sites and their component parts are also more susceptible to the impacts of low-level development (such as farming) than other sites.

6 Field investigation

6.1 Key findings

- An archaeological field survey was undertaken by EMM archaeologists and representatives of the RAP organisations. The field survey targeted locations in the project area that would be subject to subsurface impacts that were outside areas of known disturbance (ie roads and road verges).
- The field survey encompassed some 40,385 m^2 (or some 4.39 ha) of transects within the project area. Land use within the project area was dominated by past and more recent school activities, including substantial earthworks.
- The field investigation identified no observable cultural material. Given the level of disturbance, the potential for buried cultural materials was also considered unlikely.

6.2 General

EMM conducted an archaeological field survey of the project area with the assistance of the Birpai LALC and Birpai Traditional Owners Indigenous Corporation (Jason Holt representing both organisations) on 1 July 2020. The primary aims of the survey were to:

- identify Aboriginal archaeological sites and/or Aboriginal places with the assistance of Aboriginal knowledge holders;
- characterise the landscape to aid predictions of archaeological potential and sensitivity;
- identify sites or areas that would require further investigation if planned for development as part of the project;
- identify sites or areas to be avoided by development, where possible; and
- identify areas with minor or negligible Aboriginal cultural heritage values that are most suitable for development.

The field investigation targeted locations in the project area that would be subject to subsurface impacts that were outside areas of known disturbance (ie the school ovals).

6.3 Approach and methods

The archaeological survey and data collection methods followed Section 2.2 of the *Code of Practise for the Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010a). The survey involved linear transects along the project area targeting areas of proposed development, and where disturbance was considered less likely to be present. The transects undertaken are presented in Table 6.1.

Each survey participant was spaced approximately 5 m apart during the investigations. Due to poor visibility within the project area, the assessment calculations assume that each participant could identify and inspect exposures within 10 m either side of them. Notwithstanding, this calculation does not account for more obtrusive site types such as grinding grooves and scar trees which are observable from a much greater distance.

The survey team targeted ground exposures along transects, outcropping bedrock (if present), and creek lines as the most likely places for cultural materials to be present. It must, however, be noted that archaeological surveys are inherently limited by ground surface visibility conditions and therefore any survey, despite the intensity of survey effort and spacing of survey transects, is considered to only *sample* the archaeological landscape. The archaeological survey did not aim to cover the entire ground surface within the development footprint, but rather to characterise the archaeological landscape.

The effectiveness of the survey is determined through recording and analysing survey coverage data. It is evaluated for its effectiveness in identifying the distribution of Aboriginal objects across the landscape, taking into account the potential for archaeological deposits. The percentage of the ground surface exposed in each landform and the visible ground surface within exposures (as ground exposures are often obscured by vegetation, gravels, etc) influences the survey results. For example, an archaeologically sensitive landform surface that is highly exposed by erosion is likely to reveal Aboriginal objects, whereas a similar landform that is thickly grassed will obscure surface artefacts if they are present. Overall, calculation of effective survey coverage is used to estimate not only how much area was physically surveyed, but also how favourable the survey conditions were for the identification of Aboriginal sites.

Site recording was completed in accordance with the *Code of Practise for the Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010a). Site locations and their details were recorded with digital tablets using site recording forms created by EMM on the Survey123 application for ArcGIS (Esri© software). The digital tablets had a location accuracy of up to ±3 m which is similar to hand-held non-differential GPS units (~5m). The Survey123 forms allowed for a site's location, details and representative photographs to be linked together, which avoided potential post-fieldwork issues around data integrity.

Survey transects were recorded as tracks on GPS units and detailed information about each transect recorded on a separate Survey123 form created by EMM. The Survey123 form allowed for survey transects starting points, details and representative photographs to be recorded. The course of survey transects were recorded as tracks on hand-held non-differential GPS units which were linked to the Survey123 forms.

6.4 Results

The pedestrian survey consisted of three transects, the northern oval (transect 1), the school infrastructure and buildings (transect 2), and the southern oval (transect 3). These transects are presented in Table 6.1, Table 6.2, and Figure 6.1.

The project area was characterised as a simple slope extending south-east to north-west. The site appeared to have been subject to extensive cutting and filling, during the establishment of the school itself. This has meant the natural soil profile has been reduced by ~1-2 m in several locations (Plate 6.3). These earthworks appear to have extended to the areas which were devoid of structures, such as the northern and southern sports areas. Vegetation present consisted of mainly cultural plantings associated with the school, and no remnant vegetation was observed (Plate 6.2). Those trees considered to be of significant age were inspected, but no cultural modifications observed.

The soil profiles observed within the project area was found to be highly disturbed, with modern overburden and/or top-dressing evident across most areas inspected. There was some evidence of the natural red soil units characteristic of the Thrumster soil landscape in the southern section of the project area, however these were extremely shallow due to the previous earthworks outlined above; and considered likely truncated by these past activities, with only the subsoil (B2 horizon) remaining.

No Aboriginal objects or sites were identified during the site inspection. No evidence of cultural modifications was observed on any of the trees. Discussions with the Aboriginal site representative agreed with these findings.

6.5 Aboriginal sites identified

No Aboriginal sites, objects or deposits were identified as part of the field investigation.

Table 6.1 Survey coverage results

Transect name	Landform element	Length (m)	Width (m)	Area (m²)	Exposure (%)	Visibility (%)	Effective coverage (m²)	Effective coverage %	Ground cover types	Sites	Disturbance
1	Hillslope/modified	103	120	12,360	70	65	5,624	45.5	Grass, buildings, sporting courts	N/A	Moderate to high
2	Hillslope/modified	150	131	19,650	20	45	1,769	9	Buildings, sparse gardens	N/A	High – modified landscape
3	Hillslope/modified	125	67	8,375	85	70	4,983	59.5	Grass	N/A	Moderate to high
Average		*126*	*106*	*13,461.67*	*58.3*	*60*	*4,125*	*38*			
Total		**378**	**318**	**40,385**			**12,375**				

Notes: Effective coverage is defined in the *Code of Practise for the Archaeological Investigation of Aboriginal Objects in NSW*, and is the visible areas within observed exposures.

Table 6.2 Landform summary.

Landform	Landform area (sq. m)	Area effectively surveyed (sq. m)	Area effectively surveyed (%)	Number of Aboriginal sites	Number of artefacts or features
Hillslope/modified terrain	40,385	12,375	31	0	0

Plate 6.1 **Transect 1, view south-east**

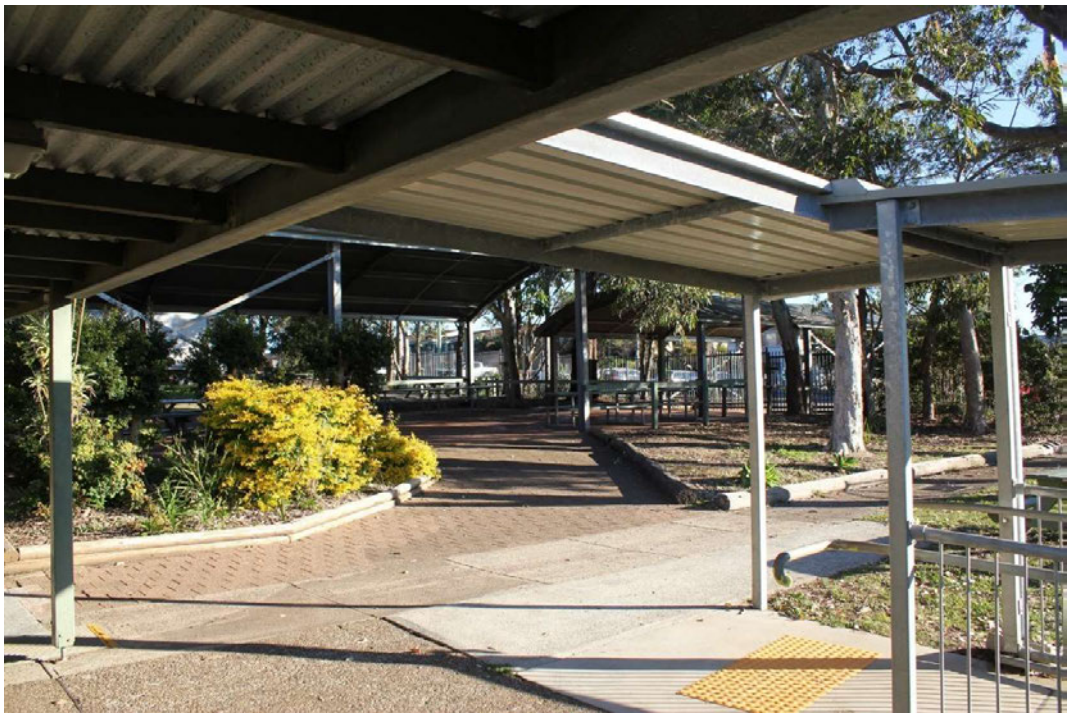

Plate 6.2 **Transect 2, view north-west**

Plate 6.3 Transect 3, view south-west

KEY

- Project area
- Watercourse/drainage line

Survey effort

- T1
- T2
- T3

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Source: EMM (2020); DFSI (2017); GA (2011)

0 100 200 m

GDA 1994 MGA Zone 56

N

Field investigation

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Figure 6.1

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7 The archaeological resource

Past studies and previously documented Aboriginal heritage show that material cultural within the regional context is generally dominated by artefactual and midden sites, most frequently as isolated objects or low density (<20) occurrences. With the possible exception of the findings at Short Street to the northwest of the project area, from which some 173 stone artefacts, several kilograms of faunal/shell material, and human remains were recovered, no other site in the region has reported close to these numbers, generally reflecting only ephemeral use of the landscape. The available evidence suggests that the majority of the archaeological sites documented, and their cultural materials, almost exclusively exhibit late Holocene characteristics (<5,000 years ago), and have been shown to extend into the contact period. Although the potential for sites of great antiquity are known in the broader region.

These Aboriginal sites – notably artefactual and midden sites – are observed in all contexts, disturbed and undisturbed in the region, but are usually focussed on areas of elevation (particularly highlighting lower slopes) with a low gradient, near creeks (<200 m) but above inundation, and occasionally on hilly relief. The coastal fringe is also increasingly important in this region. Much of the project area is situated on a gentle slope situated behind the main coastal fringe. This locale would have been close to a number of valuable resources for past Aboriginal activity and occupation, and the presence of stone and/or shell cultural material would be expected. In contrast the lack of geological outcroppings or vertical escarpments along the project area means that sites such as rockshelters (or associated features are unlikely to occur), engravings, etc.

Both desktop analysis and ground-truthing did, however, indicate that past disturbance can have a significant impact to cultural materials. Both natural processes, such as dunefield changes, and/or flooding, and human activities including the establishment of the current school, are likely to see the loss or movement of cultural materials. This is aggravated by the relatively shallow soil profiles present across much of the project area, where even minor excavation is likely to remove the topsoil unit that usually retains cultural materials. Observations along the project area indicate that the school has resulted in extensive levelling earthworks within much of its curtilage, and the potential for natural intact soil profiles is considered unlikely. As such, much of the works is within areas where cultural material is considered unlikely to have survived if ever present.

In conclusion, no areas of the project area are considered to contain significant or intact cultural materials. While visibility was poor, exposures of the soil profile were observed across the project area, and no cultural materials were observed. Disturbance within the site has generally been high, and likely adversely affected and/or destroyed cultural materials if present. The potential for disturbed isolated stone artefacts cannot be dismissed given the regional record, but they would be of low scientific significance if present.

8 Significance assessment

Since no tangible or intangible Aboriginal objects, sites and/or values were identified within the project area, consideration of significance cannot be undertaken. Further recommendations in Section 10.3 explore the significance during post-approval interpretation for the local area.

9 Impact assessment

9.1 Key findings

- The proposed activity as listed in Section 1.3 will include upgrades that support high-quality educational outcomes to meet the needs of students within the local community and deliver innovative learning and teaching spaces. It is considered that these activities would cause localised impact to the under-lying soil profile where undertaken.
- No cultural material was observed, with low risk of buried deposits, and as such it is considered that harm to Aboriginal objects would be unlikely.
- It is considered that the works would result in negligible to nil intergenerational equity and cumulative loss of Aboriginal heritage.

9.2 Project impacts

As outlined in Section 1.3, the proposed activity is currently at a concept stage and construction details are unavailable. Based on our experience of construction, it is considered likely that 100% of the upper soil profile - within which cultural materials would occur if present – would be removed by the proposed activity. This would be the result primarily of site preparation, such as installation of piles, establishment of a concrete slab foundation, etc, and/or indirectly from the use of heavy machinery across the area as part of the construction. Further, in general construction activities extend well beyond the development's footprint due to site compounds, installation of services, and a range of other ancillary requirements. As such, it is considered that much of the project, with the possible exception of the southern and northeast playing fields would be subject to some form of impacts.

9.3 Aboriginal heritage impact

No cultural materials, or potential for them to occur, were identified within the project area. As such, it is considered that the project would have negligible to nil impacts to Aboriginal heritage.

9.4 Intergenerational loss/equity

Intergenerational equity is the principle whereby the current generation should ensure the health, diversity and longevity of the environment for the benefit of future society. For Aboriginal heritage management, intergenerational equity can be considered primarily in terms of the cumulative impacts to Aboriginal objects, sites and/or places in a region. If few Aboriginal objects and places remain in a region (eg due to development impacts), there are fewer opportunities for future generations of Aboriginal people and the broader community to enjoy the cultural benefits. Information about the integrity, rarity and representativeness of the Aboriginal objects, sites and places that may be impacted, and how they inform the past visitation and occupation of land by Aboriginal people, are relevant to the consideration of intergenerational equity and the understanding of the cumulative impacts of a project.

Given the lack of cultural materials within the project area, it is considered that the proposed activity would have negligible to nil impacts to Aboriginal heritage.

10 Management strategy and recommendations

10.1 Key findings

- The ACHA concludes that while the general locale of the project area is highly likely to have been used by Aboriginal people in the past, the extensive earthworks from the current school has reduced the likelihood of cultural materials having survived if ever present. Earthworks across the site suggest that the upper soil profile within which cultural materials would be expected has been significantly modified across the site where works are proposed.

- Recommendations are proposed for inclusion in the DA/REF documentation to guide post-approval requirements for Aboriginal heritage (Section 10.3).

10.2 Management strategy

The assessment outlined in the preceding sections, and including Aboriginal consultation with two organisations, identified no observable cultural materials within the project area. The locale is considered likely to have been used by Aboriginal people in the past, being in close proximity to the coastal edge – an environment well known to have been exploited in the last 5,000 years. However, the extensive disturbance from levelling the school site on what was originally a gentle west facing slope is considered to have reduced the potential for buried cultural deposits to have survived if ever present. As such, while the specific details of the proposed activity remain conceptual, it is considered that their likely construction footprints would result in negligible to nil impacts to cultural materials. No site-specific ethnographic information was provided during the assessment, although general concerns toward the coastal fringe and surrounding tributaries was frequently referenced during the field program - none of these areas are within the project area.

In NSW, Aboriginal objects are provided with statutory protection by the *National Parks and Wildlife Act 1974*. In general, where a proposed activity will result in harm to an Aboriginal object, an Aboriginal Heritage Impact Permit (AHIP) is required. The AHIP contains conditions intended to manage and mitigate the identified impact, and allowing harm to proceed. As the proposed development is a SSD project, an AHIP is not required. The identified harm and any mitigation measures will instead be managed through the project's conditions of approval. The conditions of approval generally incorporate Aboriginal heritage management requirements based on advice from Heritage NSW, and the recommendations of this assessment (Section 10.3). For the purposes of this project, recommendations below include the development of an Aboriginal Heritage Management Plan (HMP) to provide the post-approval management framework for all future Aboriginal heritage requirements for the project. They further outline the specific mitigation measures that should be implemented prior to, during and after the development. The recommendations include measures to ensure the appropriate documentation of the works to date, including registering the cultural deposits on AHIMS, unexpected finds protocols, and lodging the ACHA with appropriate public repositories.

10.3 Recommendations

- Prior to ground disturbance, an Aboriginal heritage management plan (AHMP) must be developed by a heritage specialist in consultation with the Aboriginal stakeholders and consent authority to provide the post-approval framework for managing Aboriginal heritage within the study area. The AHMP should include the following issues:

- processes, timing, and communication methods for maintaining Aboriginal community consultation and participation through the remainder of the Project;

- descriptions and methods of any additional investigative and/or mitigative archaeological actions that may be required prior to works commencing or during the Project. These may include cultural inductions for all personnel and subcontractors outlining the past history and sensitivity of the region, archival recording, archaeological excavation and/or cultural monitoring for any areas where the surface impacts of the Project intersect the identified Aboriginal objects and/or sites, and/or areas of archaeological sensitivity, and any additional requirements identified by the Aboriginal community.;

- description and methods of post-excavation analysis and reporting of any archaeological investigations and activities implemented as part of the AHMP. For excavations, these should include suitable collection and processing of stone artefacts, and chronological, soil, and environmental samples;

- description and methods for undertaking further Aboriginal heritage assessment, investigation and mitigation of any areas of the project footprint that have changed following completion of the ACHA and/or during the final design and construction phases of the project;

- procedures for managing the unexpected discovery of Aboriginal objects, sites and/or human remains during the Project;

- procedures for the curation and long-term management of cultural materials recovered as part of the works outlined in the AHMP and any preceding stages associated with the Project; and

- processes for reviewing, monitoring, and updating the AHMP as the Project progresses.

- Consultation should be maintained with the RAPs during the finalisation of the assessment process and throughout the Project.

- A heritage-interpretation strategy must be developed by a heritage specialist to identify the interpretive values of the study area, and specifically Aboriginal heritage values across the study area, and to provide direction for potential interpretive installations and/or devices. This strategy should be made available for consultation and feedback with the RAPs. Following consultation and feedback on the strategy, a heritage interpretation plan would refine the strategy with content (visual and textual) and design details in order to allow the implementation stage. The interpretation strategy and interpretation plan must include consideration of three main components identified though the ACHA process:

  - input and feedback from the RAPs;

  - the historical record of the study and its immediate environs in relation to past Aboriginal and contemporary societies; and

  - the past cultural and environmental landscape informed by current archaeological assessment and analysis within the ACHA, and any future activities that may result from the project.

- A copy of the ACHAR should be lodged with AHIMS and provided to each of the RAPs.

- Where the heritage consultant changes through the project, suitable hand over should be undertaken to ensure no loss or mistranslation of the intent of the information, findings and future steps in heritage management occur.

References

Beaton, J. 1995. The transition on the coastal fringe of Greater Australia. Antiquity 69: 798–806

Bowler, J.M. et al. 2003, New ages for human occupation and climatic change at Lake Mungo, Australia. *Nature* 441:837-840

Bradshaw, C.J.A., Ulm, S., Williams, A.N., Bird, M.I., Roberts, R.G., Jacobs, Z., Laviano, F., Weyrich, L., Friedrich, T., Norman, K., Saltre, F. 2019, Minimum founding populations of the first people to colonise Australia. *Nature Ecology and Evolution,* doi.org/10.1038/s41559-019-0902-6

Buckman, S, Nutman, A, Aitchison, J, Parker, J, Bembrick, S, Line, T, Hidaka, H & Kamiichi, T 2015, 'The Watonga Formation and Tacking Point Gabbro, Port Macquarie, Australia: Insights into crustal growth mechanisms on the eastern margin of Gondwana' *Gondawan Research*, Vol 28(1), pp. 133-151

Campbell, V 1972, Two fish traps located on the mid-north coast of New South Wales, *Records of Times Past*, pp 122-134, Canberra: Australian Institute of Aboriginal Studies, Canberra

Collins, D. (1798) An Account of the English Colony in New South Wales Vol 1. London: T. Cadell Jun. and W. Davies, 1798

Dortch, C. 1979, Devil's Lair, an example of prolonged cave use in southwestern Australia. *World Archaeology* 10:258–279

Fitzsimmons, K.E., Spry, C., Stern, N. 2019, Holocene and recent aeolian reactivation of the Willandra Lakes lunettes, semi-arid southeastern Australia. *Holocene* 29:606-621

Geoscience Australia 2020, '*Australian Stratigraphic Unit: Myra Bed'* Australian Government, viewed 15 April 2020 < https://asud.ga.gov.au/search-stratigraphic-units/results/26792>

Geological Sites of NSW 2020, '*Port Macquarie Geological Block*' Cartoscope Pty Ltd, viewed 15 April 2020 < http://www.geomaps.com.au/scripts/portmacquarie.php>

Hamm, G., Mitchell, P., Arnold, L.J., Prideaux, G.J., Questiaux, D., Spooner, N.A., Levchenko, V.A., Foley, E.C., Worthy, T.H., Stephenson, B., Coulthard, V., Coulthard, C., Wilton, S., Johnston, D. 2016, Cultural innovation and megafauna interaction in the early settlement of arid Australia. *Nature* 539: 280–283

Hughes, P., Lampert, R. 1982, Prehistoric population changes in southern coastal New South Wales in s. Bowdler (ed) *Coastal Archaeology in Eastern Australia: Proceedings of the 1980 Valla Conference on Australian Prehistory,* pp.16-28

Lampert, R.J 1971 *Burrill Lake and Currarong: Coastal Sites in Southern New South Wales.* Terra Australia I Department of Prehistory, Research School of Pacific Studies, ANU

Low, T 1988 '*Wild Food Plants of Australia'* NSW, Harper Collins Australia

Lycett J,1825. *View of Port Macquarie, at the entrance of the River Hastings, New South Wales*.

Langley M, Clarkson C, Ulm S (2011) From small holes to grand narratives: the impact of taphonomy and sample size on the modernity debate in Australia and New Guinea. *Journal of Human Evolution* 61:197-208

NSW Department of Planning 1989, '*Aboriginal heritage of the North Coast – a discussion paper'* viewed 05 August 2020 < https://mnclibrary.org.au/research/birpai-studies/>

O'Callaghan L, 2003, '*Death threats over massacre monument'*, Port News, viewed 12 August 2020 <https://www.portnews.com.au/story/1002825/death-threats-over-massacre-monument/>

O'Connell, J.F., Allen, J., Williams, M.A.J., Cooper, A., Williams, A.N., Turney, C.S.M., Spooner, N.A., Kamminga, J., Brown, G. 2018, When did Homo Sapiens first reach Southeast Asia and Sahul? *Proceedings of the National Academy of Sciences of the United States (Perspectives)*, www.pnas.org/cgi/doi/10.1073/pnas.1808385115

(Pardoe 1995)

Pate, F.D., Pretty, G.L., Hunter, R., Tuniz, C., Lawson, E.M. 1998, New radiocarbon dates for the Roonka Flat Aboriginal burial ground, South Australia. *Australian Archaeology*, 46: 36-37

Tarbuck, E & Lutgens, F 2012, '*Earth Science'* Pearsons, New Jersey USA

Troy, Jakelin. 1994. The Sydney language. Canberra: Australian Dictionaries Projects, AIATSIS

Thackway R, Cresswell, I.D. 1995, *An Interim Biogeographic Regionalisation for Australia: A framework for setting priorities in the national reserves system cooperative program.* Reserve Systems University, Australian Nature Conservation Agency, Canberra

Tobler, R., Rohrlach, A., Soubrier, J., Bover, P., Llamas, B Tuke, J., Bean, N., Abdullah-Highfold, A., Agius, S., O'Donoghue, A., O'Loughlin, I., Sutton, P., Zilio, F., Walshe, K., Williams, A.N., Turney, C.S.M., Williams, M., Richards, S.M., Mitchell, R.J., Kowal, E., Stephen, J.R., Williams, L., Haak, W., Cooper, A. 2017, Aboriginal mitogenomes reveal 50,000 years of regionalism in Australia. *Nature,* 544*:* 180–184

Turney C.S.M. et al. 2001, Early human occupation at Devil's Lair, southwestern Australia 50,000 years ago. Quaternary Research, 55:3-13

Veth, P.M. 1993, *Islands in the Interior: The Dynamics of Prehistoric Adaptations Within the Arid Zone of Australia* (International Monographs in Prehistory)

Webb, J.A, & Golding, S.D., 1998, Geochemical mass-balance and oxygen-isotope constraints on silcrete formation and its paleoclimatic implications in Southern Australia, Journal of Sedimentary Research 68(5)

Williams, A.N. 2013, A new population curve for prehistoric Australia. *Proceedings of the Royal Society B,* 280: 20130486

Williams, A.N., Burrow, A., Toms, P., Brown, O., Richards, M., Bryant, T. 2017, The Cranebrook Terrace Revisited: Recent Excavations of an Early Holocene Alluvial Deposit on the banks of the Nepean River, NSW, and their Implications for Future Work in the Region. *Australian Archaeology,* **87(3)**, 100-109

Williams, A.N., Mitchell, P., Wright, R.V.S., Toms, P. 2012, A Terminal Pleistocene Open Site on the Hawkesbury River, Pitt Town, NSW. *Australian Archaeology,* 74: 85-97

Williams, A.N., Ulm, S., Cook, A.R., Langley, M., Collard, M. 2013, Human refugia in Australia during the Last Glacial Maximum and Terminal Pleistocene: A geo-spatial analysis of the 25-12ka Australian archaeological record. *Journal of Archaeological Science,* 40: 4612-4625

Williams, A.N., Ulm, S., Turney, C.S.M., Rodhe, D., White, G. 2015b, The Establishment of Complex Society in Prehistoric Australia: Demographic and Mobility Changes in the Late Holocene. *Plos One,* 10(6): e0128661

Williams, A.N., Veth, P.M., Steffen, W., Ulm, S., Turney, C.S.M., Reeves, J. Phipps, S, Smith, M. 2015a, A Continental Narrative: Human Settlement Patterns and Australian Climate Change over the last 35,000 Years. *Quaternary Science Reviews* 123, 91-112

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Abbreviations

Abbreviations

AHD	Australian Height Datum
ACHA/ACHAR	Aboriginal cultural heritage assessment report
AHIMS	Aboriginal Heritage Information Management System
ACHMP	Aboriginal Cultural Heritage Management Plan
BP	Years before present
c.	circa
cm	centimetres
DEC	Department of Environment and Conservation, now Heritage NSW
DECCW	Department of Environment Climate Change and Water, now Heritage NSW
DPC	Department of Premier and Cabinet
DPE	Department of Planning and Environment, now DPIE
DPIE	Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
EMM	EMM Consulting Pty Ltd
EP&A Act	*Environmental Planning and Assessment Act 1979*
ESD	Ecologically sustainable development
FGS	Fine grained siliceous
g	grams
GIS	geographical information system
GPS	global positioning system
ha	hectare
ICOMOS	International Council on Monuments and Sites
IMTC	Indurated mudstone/tuff/chert
km	kilometres
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
m	metres
m^2	square metres
mm	millimetres
n	Number
NSW	New South Wales
OEH	Office of Environment and Heritage, now DPIE
PAD	Potential archaeological deposit
RAP	Registered Aboriginal Party
SEARs	Secretary's Environmental Assessment Requirements
t	Tonne
TP	Test pit

Glossary

Many of these definitions have been taken from the *Code of Practice for archaeological investigation of Aboriginal objects in NSW* (DECCW 2010).

Aboriginal object: A physical manifestation of past Aboriginal activity. The legal term is defined in the *National Parks and Wildlife Act 1974* section 5 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.

Typical examples include stone artefacts, grinding grooves, Aboriginal rock shelters which by definition include physical evidence of occupation, midden shell, hearths, stone arrangements and other landscape features which derive from past Aboriginal activity.

Archaeological survey: A method of data collection for Aboriginal heritage assessment. It involved a survey team walking over the land in a systematic way, recording information. Activities are not invasive or destructive.

Aboriginal culturally modified tree: A tree of sufficient age to have been mature at the time of traditional Aboriginal hunter-gatherer life and therefore generally of more than 220 years ago with evidence of bark or cambium wood removal for the purpose of implement manufacture, footholds, bark sheet removal for shelter, or extraction of animals or other food. Care must be taken to distinguish Aboriginal scars from the much more common natural causes of branch tear, insect attack, animal impact, lightning strike and dieback. Culturally modified tree recognition guidelines exist to distinguish these features. Naturally scarred trees are often misidentified as Aboriginal culturally modified trees.

Aboriginal site: The location where a person in the present day can observe one or more Aboriginal objects. The boundaries of a site are limited to the extent of the observed evidence. In the context of this report a 'site' does not include the assumed extent of unobserved Aboriginal objects (such as archaeological deposit). Different archaeologists can have varying definitions of a 'site' and may use the term to reflect the assumed extent of past Aboriginal activity beyond visible Aboriginal objects. Such use of the term risks defining all of Australia as a single 'site'.

Aboriginal stone artefact: A stone object with morphological features derived from past Aboriginal activity such as intentional fracture, abrasion or impact. Artefacts are distinguished by morphology and context. Typically flaked stone artefacts are distinguished from naturally broken stone by recognition of clear marginal fracture initiation (typically herzian/conchoidal or wedging initiation) on highly siliceous stone types which can often be exotic to the area. Care must be taken to distinguish modern broken stone in machine impacted contexts and therefore context must be carefully considered as well as morphology.

Aggradation: a term used in geology for the increase in land elevation, typically in a river system, due to the deposition of sediment.

AHIMS: Aboriginal Heritage Information Management System — a computer software system employed by the Office of Environment and Heritage to manage many aspects of Aboriginal site recording and permitting. AHIMS includes an Aboriginal sites database which can be accessed via an internet portal.

Archaeological deposit: Aboriginal objects occurring in one or more soil strata. The most common form of archaeological deposit relates to the presence of a single conflated layer of Aboriginal stone artefacts worked into the topsoil through **bioturbation**.

Backed artefact: A thin flake or blade-flake that has been shaped by secondary flaking (**retouch**) along one lateral margin. The retouched margin is typically steep and bipolar to form a blunt 'back' in the manner of a modern scalpel blade. Distinctive symmetrical and asymmetrical forms are typically found called geometric **microliths** and Bondi points respectively. A thick symmetrical form, called an Elouera, is typically the size of a mandarin segment.

Bioturbation: is the reworking of soils and sediments by animals or plants. Its effects include changing texture of sediments (diagenetic), bioirrigation and displacement of microorganisms and non-living particles.

Bipolar flaking: Where the stone to be worked is rested on an anvil or other stone before being hit by the hammerstone. This results in the presence of negative flake scars on both ends of the core.

Bondi point: See backed artefact definition.

Brown podosols: Topsoils have loamy textures. A2 horizons are common, there is a clear boundary onto the B horizon. They have a sandy clay to heavy clay texture (typically occur on upper and mid-slopes).

Chocolate Soils: Soils that are typically formed in a basaltic parent material where slope or bedrock strata influence drainage. Surface horizons comprise loam, clay loam or silty clay loam. There is a gradual boundary to a brown or brownish black B horizon. There is no A2 horizons.

Conchoidal: A term used in relation to fracture surfaces on Aboriginal stone artefacts - bulb-like in the manner of a bulbous protrusion on a bivalve shell.

Elouera: See backed artefact definition.

Eraillure scar: The small flake scar on the dorsal side of a flake next to the platform. It is the result of rebounding force during percussion flaking.

Exposure: estimates the area with a likelihood of revealing buried artefacts or deposits, not just an observation of the amount of bare ground.

Geometric microlith: See backed artefact definition.

Grinding grooves: Grinding grooves typically derive from the sharpening of stone hatchet heads on sandstone rock. Grooves appear as elliptical depressions of around 25 cm length with smooth bases. Although mostly occurring in association with water to wash the abraded stone dust away from the groove, such sites have been recorded away from water. Narrow grooves or broad abraded areas may occur less commonly and may be derived from spear sharpening or other grinding activities.

Haematite: a pigment featured in ochre used for tinting with a permanent colour.

Holocene: A period of time generally 10,000 years, which marks the end of the last ice age, to the present.

Igneous: relating to or involving volcanic or plutonic processes.

Indurated mudstone/tuff (IMT): the fine textured, very hard, yellowish, orange, reddish-brown or grey rocks from which stone artefacts are made.

Isotropic: Having a physical property that has the same value when measured in different directions. In relation to stone used for stone tools a fracture path is not hindered by layer boundaries or other favoured plane of cleavage.

Microlith: Very small fragments of flakes retouched into geometric shapes and usually present on tools like barbed spears, arrows and sickles.

Midden: A collection of shells and associated economic remains resulting from Aboriginal food gathering and processing activity. Middens comprise shellfish remains of consistent size in a rich dark earth matrix commonly associated with stone artefacts, fish bone and animal bone although shells are commonly the most obtrusive element.

Keeping place: A room or facility with the express and exclusive purpose of storing Aboriginal cultural heritage materials with accompanying documentation in a secure and accessible manner which protects their cultural heritage values.

Krasnozems: Mainly loams, clay loams and silty clay loams with a clear or gradual boundary to a dark reddish brown B horizon. Clays are typically light to medium and occasionally heavy.

Lithosols: Soils that have little or no profile development. They occur on steep slopes and are usually shallow and are left mainly as uncleared native bushland.

Open stone artefact site/stone artefact site: An unenclosed area where Aboriginal stone artefacts occur – typically exposed from a topsoil archaeological deposit by erosion. Typically, the term is used to refer to two or more artefacts although this is an arbitrary distinction. A general 'rule of thumb' boundary definition employed by archaeologists is that artefacts or features more than 50 m apart are regarded as separate sites, however there is no theoretical imperative dictating such as rule. (The 50 m separation rule is used for the most part in EMM's work).

Pirri point: A leaf-shaped stone implement with unifacial retouch extending from the lateral margins to a central keel running the length of the dorsal surface.

Pleistocene: A period of time 2.6 million years ago to 10,000 years ago. Reference to 'Pleistocene sites' generally means reference to sites older than 10,000 years.

Podosols: Soils with accumulations of organic matter, iron and aluminium. They are usually sand textured to depth. Yellow and red podosols are generally acid neutral. Yellow podosols have coarse to medium textured A horizons.

Point cluster: A group of GPS points used to identify the locations of individual artefacts in the field.

Potential Archaeological Deposit (PAD): An area where there is an inferred presence of Aboriginal objects in the soil based on the environmental context which is typically associated with discovery of Aboriginal objects in analogous areas. This is not strictly a 'site' type, although AHIMS records it as such for the purpose of associating Aboriginal heritage Impact Permits with geographical areas.

Red podosols: Podsols with a pronounced texture contrast and clear to abrupt boundaries between A and B horizons. A2 is often massive and gravelly.

Retouch: The modification of the edges of a flake or tool by the removal of a series of small flakes.

Siliceous Sands: Sands that are usually found on coarse-grained sandstones and in sandstone colluvium. They are often sandstone outcrops present in the landscape. The topsoil has a loamy sand to light sandy clay.

Scarp: a steep slope characterised by outcropping bedrock. In this report, scarp refers to a combination of landform elements including scarp foot slopes, scarps, and cliff lines where outcropping sandstone is present in the landscape 10% and above.

Spur: the lateral crests of land that descend from the summit of hills or ridges. Spurs typically extend, with decreasing elevation, closer to streams and valley floors than the main crest of a hill.

Taphonomic: the events and processes, such as burial in sediment, leading to the degradation, decomposition or preservation of objects.

Thumbnail scraper: A thumbnail sized thin flake with steep unidirectional retouch or use-wear around a convex working edge.

Transect: A sample unit which is walking line or corridor across the study area.

Upsidence: phenomena that occurs when mining approaches and undermines river valleys. It can result in cracking and buckling of river beds and rock bars and localised loss of water flow.

Visibility: The amount of bare ground on exposures which might reveal artefacts or other archaeological materials.

Yellow earths: predominantly sandy-textured soils with earthy porous fabric, weak profile differentiation and gradual or diffuse boundaries except for the darker A1 horizon.

Yellow podosols: Podsols which typically occur on the upper slopes of steep landscapes and on the mid to lower slopes of others. The A2 soil horizon is present in most profiles and the boundary change to the B horizon is generally clear. The B horizon is typically sandy clay to heavy clay.

Appendix A

Legislative context

A.1 Commonwealth

Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* preserves and protect areas (especially sacred or intangible sites) and places of particular significance to Aboriginal people from damage or destruction. Steps necessary for the protection of a threatened place are outlined in a gazetted Ministerial Declaration (Sections 9 and 10); and which can result in a cessation of any development activity.

In addition, the Act also protects objects by Declaration, notably Aboriginal skeletal remains (Section 12). This can be applied at a State level where a State is unwilling or unable to provide such protection.

Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* provides for protection of natural and cultural heritage places. The Act establishes a National Heritage List (NHL) and a Commonwealth Heritage List (CHL) upon which places of natural or cultural significance can be listed. Sites at a national level and can be in public or private ownership. The CHL is limited to places owned by the Commonwealth, and most frequently encompass Department of Defence sites. Sites and places listed on the NHL are considered to be of State and local heritage value, even if they are not listed or documented as such at a State level.

The values of sites and places on the NHL/ CHL are protected under the EPBC Act. The Act requires that the Minister administering the Act assess any action which has, will have, or is likely to have, a significant impact on the heritage values. Where relevant, a referral is made to the relevant Commonwealth Department, and either approval, approval with controls, or rejection of the proposed action is determined.

Native Title Act 1993

The *Native Title Act 1993* provides recognition and protection for native title. The Act establishes the managing body, National Native Title Tribunal, who administers native title claims to rights and interests over lands and waters by Aboriginal people. It also administers the future act processes that allow proponents to identify and manage potential native title issues for a given activity on a site where a claim has yet to be made or finalised.

In addition, the Act provides for Indigenous Land Use Agreements (ILUA), which 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 Act in 1998. They allow people to negotiate flexible and bipartisan agreements to suit their particular circumstances often circumventing lengthy timeframes associated with the native title process. An ILUA can be negotiated over areas where native title has, or has not yet, been determined. They can be part of a broader determination or settled separately.

A.2 State

Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) is the over-arching Act that dictates the nature of assessment and management of the environment during a development project, and within which heritage forms a component. requires that environmental and heritage impacts are considered by consent authorities prior to granting development approvals.

The Act has two main approval pathways within which heritage needs to be considered. Generally for smaller scale (either financially or spatially), Parts 4 (Division 4.1) and 5 (Division 5.1) of the Act are implemented. Part 4 requires that a proponent submits a Development Application (DA) to local council for a given development, and within this document a consideration of Aboriginal and historical heritage is required. The specific nature of the assessment is usually determined at a pre-DA meeting with the council, and in relation to the relevant heritage Acts. Where

Aboriginal heritage is identified as an issue, the DA may become Integrated Development, whereby the State government is also required to review and provide comments on the DA prior to its issue. Part 5 of the Act is a similar process, but only relates to approvals developed and issued by State government departments. Each State government department has their own internal approach to considering environmental issues, but ultimately must develop a Review of Environmental Factors (REF), which is comparable to a DA, and which requires consideration and management of heritage. Similarly where heritage is identified as an issue, liaison with relevant State consent authorities and approvals under other Acts may still be required.

The other approval pathway relates to State Significant Development and/or Infrastructure (Parts 4.7 and 5.2, respectively). These processes require an Environmental Impact Statement (EIS) to be developed for a project and assessed currently by the Heritage NSW (formerly the Department of Planning, Industry and Environment). Importantly, the SSD and SSI processes turns off a number of pieces of other legislation, including parts of the *National Parks and Wildlife Act 1974*. In the case of Aboriginal heritage, both the assessment and approval for harm are dictated by the Secretary's Environmental Assessment Requirements (SEARs) outlining the contents and scope of the EIS, and the Project Approval that dictates controls on how a development should proceed.

National Parks and Wildlife Act 1974

The National Parks and Wildlife Act 1974 (NPW Act) provides protection for Aboriginal objects and places 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 under section 84. This is a very specific piece of legislation that provides process and management of Aboriginal sites of cultural, but not necessarily scientific, values. They are commonly, but not always associated with intangible values.

- 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 an Aboriginal Heritage Impact Permit (AHIP), which is outlined in Section 90 of the Act. Currently, such permits can be sought from Heritage NSW.

To obtain an AHIP, certain assessment and documentation (outlined in this report) must be provided to DPC for their consideration. Once satisfied, they may endorse an AHIP to harm cultural heritage either conditionally or unconditionally. They can also refuse an application as outlined in Section 90C of the Act, and which can be appealed in accordance with Section 90L.

Aboriginal Land Rights Act 1983

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

For the purposes of this report, the Act is primarily important to inform relevant Aboriginal communities for consultation; and where Crown land forms part of the development area may require additional liaison with the LALC as a potential, or existing, landowner.

Appendix B

Aboriginal community consultation

B.1 Consultation log and communications record

ation Requirements for Proponents* (DECCW 2010)							Response received
SULTATION RECORD							No response received.
tings ACHA			**Project #: J200136**				Other
ORGANISATION	**CONTACT TYPE**	**TRACKING # *(if applicable)***	**SUBJECT**	**SENT DATE**	**RESPONSE DUE**	**RESPONSE DATE**	**COMMENT/S**
Stage 1: Notification of project proposal and registration of interest							
DPIE (Port Macquaire Branch)	Email	T:\Jobs\2020\J200136 - Hastings Secondary College - ACHA & SoHI\Consultation\01. Stage 1_Registrations\01. Agency Requests\02. Sent\Email	Identification of Aboriginal parties	1/Apr/20	15/Apr/20	1/Apr/20	Response received
DPIE (Port Macquaire Branch)	Post		Identification of Aboriginal parties	31/Mar/20	14/Apr/20		
Birpai Local Aboriginal Lands Council	Email	T:\Jobs\2020\J200136 - Hastings Secondary College - ACHA & SoHI\Consultation\01. Stage 1_Registrations\01. Agency Requests\02. Sent\Email	Identification of Aboriginal parties	31/Mar/20	14/Apr/20		
Birpai Local Aboriginal Lands Council	Post		Identification of Aboriginal parties	31/Mar/20	14/Apr/20		
The Office of the Registrar, Aboriginal Land Rights Act 1983	Email	T:\Jobs\2020\J200136 - Hastings Secondary College - ACHA & SoHI\Consultation\01. Stage 1_Registrations\01. Agency Requests\02. Sent\Email	Identification of Aboriginal parties	31/Mar/20	14/Apr/20		
The Office of the Registrar, Aboriginal Land Rights Act 1983	Post		Identification of Aboriginal parties	31/Mar/20	14/Apr/20		
National Native Title Tribunal	Email	T:\Jobs\2020\J200136 - Hastings Secondary College - ACHA & SoHI\Consultation\01. Stage 1_Registrations\01. Agency Requests\02. Sent\Email	Identification of Aboriginal parties	31/Mar/20	14/Apr/20	2/Apr/20	Response received
National Native Title Tribunal	Post		Identification of Aboriginal parties	31/Mar/20	14/Apr/20		
Native Title Services NTSCORP	Email	T:\Jobs\2020\J200136 - Hastings Secondary College - ACHA & SoHI\Consultation\01. Stage 1_Registrations\01. Agency Requests\02. Sent\Email	Identification of Aboriginal parties	31/Mar/20	14/Apr/20		
Native Title Services NTSCORP	Post		Identification of Aboriginal parties	31/Mar/20	14/Apr/20		
Hastings - Port Macquarie City Council	Email	T:\Jobs\2020\J200136 - Hastings Secondary College - ACHA & SoHI\Consultation\01. Stage 1_Registrations\01. Agency Requests\02. Sent\Email	Identification of Aboriginal parties	31/Mar/20	14/Apr/20		
Hastings - Port Macquarie City Council	Post		Identification of Aboriginal parties	31/Mar/20	14/Apr/20		

ation Requirements for Proponents* (DECCW 2010)							Response received
SULTATION RECORD							No response received.
tings ACHA			**Project #: J200136**				Other
ORGANISATION	**CONTACT TYPE**	**TRACKING # *(if applicable)***	**SUBJECT**	**SENT DATE**	**RESPONSE DUE**	**RESPONSE DATE**	**COMMENT/S**
North Coast Local Land Service (former CMA)	Email	T:\Jobs\2020\J200136 - Hastings Secondary College - ACHA & SoHI\Consultation\01. Stage 1_Registrations\01. Agency Requests\02. Sent\Email	Identification of Aboriginal parties	31/Mar/20	14/Apr/20	1/Apr/20	Response received
North Coast Local Land Service (former CMA)	Post		Identification of Aboriginal parties	31/Mar/20	14/Apr/20		
Newspaper Notice - Request for registrations							
Port News Local Newspaper	Advertisement		Identification of Aboriginal parties	8/Apr/20	22/Apr/20		Advertisement appeared on 8 April 2020
Aboriginal Group Notifications							
Birpai Local Aboriginal Lands Council	Registered Post		Request for registrations	16/Apr/20	1/May/20		Registered
Birpai Local Aboriginal Lands Council	Email	& SoHI\Consultation\01. Sta	Request for registrations	16/Apr/20	1/May/20		Registered
Saltwater Tribal Council	Registered Post		Request for registrations	16/Apr/20	1/May/20		No response
Saltwater Tribal Council	Email	& SoHI\Consultation\01. Sta	Request for registrations	16/Apr/20	1/May/20		No response
Ghinni Ghinni Youth and Culture Aboriginal Corporation	Registered Post		Request for registrations	16/Apr/20	1/May/20		No response
Ghinni Ghinni Youth and Culture Aboriginal Corporation	Email	& SoHI\Consultation\01. Sta	Request for registrations	16/Apr/20	1/May/20		No response
Birpai Traditional Owners Indigenous Corporation	Registered Post		Request for registrations	16/Apr/20	1/May/20		Registered via phone (Jason Holt represents for the LALC and Indigenous elders)
Birpai Traditional Owners Indigenous Corporation	Email	& SoHI\Consultation\01. Sta	Request for registrations	16/Apr/20	1/May/20		Registered via phone (Jason Holt represents for the LALC and Indigenous elders)
Lakkari NTCG	Registered Post		Request for registrations	16/Apr/20	1/May/20		No response
Lakkari NTCG	Email	& SoHI\Consultation\01. Sta	Request for registrations	16/Apr/20	1/May/20		No response
Norm Archibald	Registered Post		Request for registrations	16/Apr/20	1/May/20		No response
Norm Archibald	Email	& SoHI\Consultation\01. Sta	Request for registrations	16/Apr/20	1/May/20		Email bounce back - No phone number to contact Norm for a better email
Yanggaay	Registered Post		Request for registrations	16/Apr/20	1/May/20		No response
Yanggaay	Email	& SoHI\Consultation\01. Sta	Request for registrations	16/Apr/20	1/May/20		No response
Marcus Ferguson	Registered Post		Request for registrations	16/Apr/20	1/May/20		Choose not to register
Marcus Ferguson	Email	& SoHI\Consultation\01. Sta	Request for registrations	16/Apr/20	1/May/20		Choose not to register
Ash Morgan	Registered Post		Request for registrations	16/Apr/20	1/May/20		No response
Ash Morgan	Email	T:\Jobs\2020\J200136 - Ha	Request for registrations	16/Apr/20	1/May/20		No response
Notification of registered parties							
DPIE	Email	T:\Jobs\2020\J200136 - Hastings Secondary College - ACHA & SoHI\Consultation\01. Stage 1_Registrations\04. Notification to BCD and LALC of Project RAPs\DPIE	Submit record of registrations	18/May/20	N/A	N/A	
Birpai Local Aboriginal Lands Council	Email	T:\Jobs\2020\J200136 - Hastings Secondary College - ACHA & SoHI\Consultation\01. Stage 1_Registrations\04. Notification to BCD and LALC of Project RAPs\Birpai LALC	Submit record of registrations	18/May/20	N/A	N/A	

Aboriginal Consultation Requirements for Proponents* (DECCW 2010)

ABORIGINAL COMMUNICATIONS LOG

Project Name: Hastings ACHA **Project #:** J200136

DATE	OUTGOING / INCOMING	ORGANISATION	CONTACT MADE BY	CONTACT TO	CONTACT TYPE	COMMENTS
1-Apr-20	Incoming	North Coast Local Land Services	Louise Orr	Kerryn Armstrong	Email	Louise suggested that we contact The Biodiversity and Conservation Division (BCD) of the NSW Department of Planning, Industry and Environment (DPIE) is the primary source of this information. Accordingly, it is recommended that you contact the regional BCD office in Coffs Harbour on 02 6651 5946 to obtain detailed contact information. I contacted the BCD and they were included in the correspondance to DPIE
1-Apr-20	Outgoing	Saltwater Tribal Council	Kerryn Armstrong		Phone	No answer
1-Apr-20	Outgoing	Ghinni Ghinni Youth and Culture Aboriginal Corporation	Kerryn Armstrong	Amelia	Phone	Contact made to ensure that address and email are correct during the COVID-19 lockdown. It is correct
1-Apr-20	Outgoing	Birpai Traditional Owners Indigenous Corportation	Kerryn Armstrong	Jason Holten	Text	Contact made to ensure that address and email are correct during the COVID-19 lockdown. It is correct
1-Apr-20	Outgoing	Lakkari NTCG	Kerryn Armstrong		Phone	Cell is disconnected
1-Apr-20	Outgoing	Lakkari NTCG	Kerryn Armstrong		Email	Contact made to ensure that address and email are correct during the COVID-19 lockdown.
1-Apr-20	Outgoing	Yanggaay	Kerryn Armstrong		Text	Contact made to ensure that address and email are correct during the COVID-19 lockdown.
1-Apr-20	Outgoing	Marcus Ferguson	Kerryn Armstrong		Text	Contact made to ensure that address and email are correct during the COVID-19 lockdown. It is correct
1-Apr-20	Outgoing	Ash Morgan	Kerryn Armstrong		Email	Contact made to ensure that address and email are correct during the COVID-19 lockdown.
17-Apr-20	Outgoing	Marcus Ferguson	Kerryn Armstrong	Marcus	Text	Explaining that his email bounced and asking for another - He sent me a corrected email address
21-Apr-20	Incoming	Birpai Traditional Owners Indigenous Corportation and Birpai LALC	Jason Holt	Kerryn Armstrong		Jason represents the Birpai Traditional Owners Indigenous Corportation and Birpai LALC and registered for both
30-Apr-20	outgoing	Saltwater Tribal Council		Kerryn Armstrong	Phone	Choose not to register, Port Macquarie is out of their area
30-Apr-20	outgoing	Ghinni Ghinni Youth and Culture Aboriginal Corporation	Ameila	Kerryn Armstrong	phone	Ameila informed me she is no longer part of ghinni ghinni and didn't have contact details for the those now involved
30-Apr-20	outgoing	Lakkari NTCG		Kerryn Armstrong	Email	Cell is disconnected, so I sent an email following up invite to register
30-Apr-20	outgoing	Norm Archibald		Kerryn Armstrong	Email	No cell, sent an email; the email bounced
30-Apr-20	outgoing	Yanggaay	Daniel	Kerryn Armstrong	Phone	Left a voice mail
30-Apr-20	outgoing	Ash Morgan	Ash	Kerryn Armstrong	Phone	Left message
18-May-20	Outgoing	Birpai Local Aboriginal Lands Council	Jason Holt	Kerryn Armstrong	Email	Stage 2 methodology
18-May-20	Outgoing	Birpai Traditional Owners Indigenous Corportation	Jason Holt	Kerryn Armstrong	Email	Stage 2 methodology
18-May-20	Outgoing	Birpai Local Aboriginal Lands Council	Jason Holt	Kerryn Armstrong	Email	Check in about the methodology
18-May-20	Outgoing	Birpai Traditional Owners Indigenous Corportation	Jason Holt	Kerryn Armstrong	Email	Check in about the methodology
15-Jun-20	Outgoing	Birpai Traditional Owners Indigenous Corportation	Jason Holt	Kerryn Armstrong	Phone Call	Trying to arrange a site visit - No response
17-Jun-20	Outgoing	Birpai Traditional Owners Indigenous Corportation	Jason Holt	Kerryn Armstrong	Phone Call	Trying to arrange a site visit - No response
19-Jun-20	Outgoing	Birpai Traditional Owners Indigenous Corportation	Jason Holt	Kerryn Armstrong	Phone Call	Trying to arrange a site visit - No response
24-Jun-20	Outgoing	Birpai Traditional Owners Indigenous Corportation	Jason Holt	Kerryn Armstrong	Phone Call	Trying to arrange a site visit - No response
28-Jun-20	Outgoing	Birpai Traditional Owners Indigenous Corportation	Jason Holt	Kerryn Armstrong	Phone Call	Site visit arranged
6-Oct-20	Outgoing	Birpai Local Aboriginal Lands Council	Jason Holt	Kerryn Armstrong	Email	Sent the draft ACHA out
6-Oct-20	Outgoing	Birpai Traditional Owners Indigenous Corportation	Jason Holt	Kerryn Armstrong	Email	Sent the draft ACHA out
6-Nov-20	outgoing	Birpai Local Aboriginal Lands Council	Jason Holt	Kerryn Armstrong	Phone Call	Checking if there are any last comments; no comments received
6-Nov-20	outgoing	Birpai Traditional Owners Indigenous Corportation	Jason Holt	Kerryn Armstrong	Phone Call	Checking if there are any last comments; no comments received