artefact

21 March 2024

Rod Garrett
Senior Development Manager
Southern NSW
Homes NSW
Rodney.Garrett@homes.nsw.gov.au

Dear Rod,

Re: Aboriginal Heritage Due Diligence Report – Lot 164 DP 250803, corner Gibson Street and Howard Boulevard, Goulburn

Artefact Heritage and Environment Pty Ltd (Artefact Heritage) have been engaged by the Land and Housing Authority (Homes NSW) to prepare an Aboriginal Due Diligence Report for the proposed reclassification, rezoning, and land exchange at Lot 164 DP 250803 on the corner of Gibson Street and Howard Boulevard, Goulburn NSW.

This report outlines the results of an Aboriginal Heritage Due Diligence which meets the requirements of the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (Department of Environment, Climate Change and Water [DECCW] 2010a), hereafter the Due Diligence Code of Practice, and includes recommendations as to whether further archaeological investigation may be required.

This report has been prepared by Kristen Tola (Heritage Consultant) and Anthony Barham (Principal), with management input provided by Ryan Taddeucci (Aboriginal Heritage Team Leader) and quality assurance/technical review by Josh Symons (Technical Executive), all from Artefact Heritage and Environment.

If you have any queries regarding this due diligence, please do not hesitate to contact me.

Yours Sincerely

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1.0 ABORIGINAL HERITAGE DUE DILIGENCE

1.1 Purpose

The Due Diligence Code of Practice sets out the matters which are to be addressed when assessing whether an activity will harm, or has a likelihood of harming, Aboriginal objects. Activities that would or are likely to harm Aboriginal objects require an Aboriginal Heritage Impact Permit (AHIP), which would need to be supported by additional Aboriginal cultural heritage assessment actions. The Due Diligence Code of Practice sets out reasonable and practicable steps which must be followed in order to:

- Identify whether Aboriginal objects are, or are likely to be, present in an area
- Determine whether proposed activities are likely to harm Aboriginal objects, if they are present
- Determine whether an AHIP must be in place prior to the commencement of activities.

Consultation with the Aboriginal community is not a formal requirement of the Due Diligence process, however, consideration of undertaking some form of consultation should occur, particularly if it will assist in informing any decision-making. If an AHIP will be required, consultation must be undertaken in accordance with the requirements of Section 60 of the *National Parks and Wildlife Regulation 2019*, as described in the *Aboriginal cultural heritage consultation requirements for proponents* (DECCW 2010b).

1.2 What is due diligence

The *National Parks and Wildlife Act 1974* (NPW Act) establishes the strict liability offence of harming Aboriginal objects where they were not known to be present. The Due Diligence process was established to provide a defence to this offence. Therefore, Due Diligence is a legal defence against prosecution where Aboriginal objects are harmed when it was reasonably considered that they would not be present. In effect, following a due diligence process amounts to taking reasonable and practicable steps to protect Aboriginal objects.

The determination of whether Aboriginal objects are present or are likely to be present can be made by following the Due Diligence Code of Practice, in situations where it is appropriate and applicable to do so. Undertaking Due Diligence will allow the identification of where Aboriginal objects are, or are likely to be, whether the proposed activity is likely to harm those objects and determine whether an AHIP is required prior to the commencement of that activity.

Undertaking Due Diligence does not constitute consent to harm Aboriginal objects, nor are they a ‘site clearance’ mechanism to allow activities to occur in an area where Aboriginal objects are likely or known to be present. If it is known or considered likely that Aboriginal objects are present, a full assessment must be undertaken and an AHIP granted prior to the activity taking place.

1.3 Appropriate use of due diligence

It has been determined that it is appropriate to undertake a Due Diligence for these proposed works by following the flowchart on Page 1 of the Due Diligence Code of Practice (DECCW 2010), as shown in Table 1.

Table 1: Determination of the suitability of employing a Due Diligence process for this activity

Question		Answer
1.	Is the activity considered a Major Project under Part 4, Division 4.7 or Part 5, Division 5.2 of the EP&A Act?	No
2.	Is the activity exempt from the National Parks and Wildlife Act 1974 or Regulation 2019?	No
3.	Will the activity involve harm that is trivial or negligible	No
4.	Is the activity in an Aboriginal Place or there are known Aboriginal objects in the project area	No
5.	Is the activity a low impact activity in accordance with the National Parks and Wildlife Regulation 2019?	No
6.	Do you want to follow an industry specific Code of Practice	No
7.	Follow the Due Diligence Code of Practice	Yes

2.0 PROJECT INFORMATION

2.1 Project background

Artefact Heritage understands that on 19 December 2023 Goulburn Mulwaree Council resolved at their Council meeting to reclassify, rezone and exchange land at Lot 164 DP 250803, corner Gibson Street and Howard Boulevard, Goulburn (the study area), to the Land and Housing Authority (LAHC, now a part of Homes NSW). LAHC seeks to be provided with an Aboriginal Heritage review report for Lot 164 DP 250803 on the corner Gibson Street and Howard Boulevard, Goulburn.

2.2 Description of the study area

The study area is within the Goulburn Mulwaree Local Government Area (LGA) and the lands of the Pejar Local Aboriginal Land Council (LALC) (Figure 1). It is located on the corner of Gibson Street and Howard Boulevard, in Goulburn NSW (Lot 164 DP250803). The lot measures 3219 m^2 in area and is zoned RE1 public recreation within a residential area. The property is approximately 350 metres northeast of the Wollondilly River, upstream of the confluence with the Mulwaree River. The study area is approximately 5 kilometres southwest of the base of the Cookbundoon Ranges. The study area is located in the Monastery Hill Soil Landscape formed on teschenite (dolerite) rock intrusions (eSpade NSW DPE, 2024).

2.3 Proposed works

This Due Diligence report has been prepared for use as a part of a Planning Proposal by Goulburn Mulwaree Council to rezone the lot to Residential R1 (as well as for a possible future LAHC lead Part 5 DA application to develop the site with 20 to 30 max residential units).

The details of the proposed rezoning are provided in Figure 2.

Figure 1: Study Area

Figure 2: Proposed rezoning by Goulburn Mulwaree Council. Note: this report excludes assessment of Lot 257/no. 29 Gibson Street (Source: Homes NSW)

3.0 LEGISLATIVE CONTEXT

3.1 National Parks and Wildlife Act 1974

The *National Parks & Wildlife Act 1974* (the NPW Act) provides statutory protection for all Aboriginal 'objects' and 'Aboriginal Places' in NSW. The NPW Act defines an Aboriginal 'object' as:

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

An 'Aboriginal place' is a place gazetted by the Minister, under the Section 84 of the NPW Act:

> *The Minister may, by order published in the Gazette, declare any place specified or described in the order, being a place that, in the opinion of the Minister, is or was of special significance with respect to Aboriginal culture, to be an Aboriginal place for the purposes of this Act.*

Aboriginal objects and places are afforded statutory protection in NSW whereby it is an offence to damage, deface or destroy Aboriginal objects or places without the prior consent of the Director-General of the National Parks and Wildlife Service (now Heritage NSW).

Section 87(1) of the NPW Act provides that it is a defence to these provisions if the harm is authorised by an AHIP. Section 87(2) of the NPW Act provides that

> *It is a defence to a prosecution for an offence under section 86 (2) if the defendant shows that the defendant exercised due diligence to determine whether the act or omission constituting the alleged offence would harm an Aboriginal object and reasonably determined that no Aboriginal object would be harmed.*

Due Diligence does not provide a defence to the offence of knowingly harming an Aboriginal object.

3.2 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) regulates environmental planning and assessment for NSW. Land use planning requires that environmental impacts are considered as part of the environmental approval assessment for any development. This includes impacts or likely impacts to Aboriginal cultural heritage.

There are several development approval mechanisms under the EP&A Act. Major Projects are those that are described as State Significant Development (SSD), considered under Part 4, Division 4.1 of the EP&A Act and State Significant Infrastructure (SSI), considered under Part 5.1 of the EP&A Act. The Department of Planning and Environment (DPE) is the determining authority for these projects. Both SSD and SSI were created as a result of the repeal of Part 3A of the EP&A Act in September 2011, however, many of the same conditions apply to these types of projects as did to Part 3A. In relation to the regulation of Aboriginal cultural heritage, for SSD and SSI projects, there is no requirement to obtain an AHIP for activities that will harm Aboriginal objects. The Due Diligence

Code of Practice also specifies that is it not appropriate to undertake a Due Diligence process for Major Projects.

The other approval mechanisms are considered under Part 4, Division 4.3 and Part 5, Division 5.1 of the EP&A Act. Under these approval pathways, the local authority or a Joint Regional Planning Panel (JRPP) is the determining authority. In addition, certain NSW state agencies are self-determining authorities for their own projects. Under these approval mechanisms, the requirements of AHIP are applicable. It is appropriate to undertake a Due Diligence process for projects that are approved under these provisions.

3.2.1 Local Environmental Plan (LEP)

Local Government Areas (LGA) are required to prepare Local Environment Plans (LEPs) in accordance with the EP&A Act.

LEPs are an environmental planning instrument which controls development and sets out how land is to be used in an LGA. They are a form of delegated legislation. They apply either to all or part of a local government area and guide planning decisions for local government areas. They do this by allocating 'zones' to different parcels of land, such as rural, residential, industrial, public recreational, environmental conservation, and business zones. Each zone has a number of objectives, which indicate the principal purpose of the land, such as agriculture, residential or industry. Each zone also lists which developments are permitted with consent, permitted without consent, or prohibited. All land, whether privately owned, leased or publicly owned, is subject to the controls set out in the LEP. LEPs determine the form and location of new development and provide for the protection of open space and environmentally sensitive areas. LEPs typically have high level controls, like zoning, maximum height and floor space ratios.

The proposed project is within the Goulburn Mulwaree LGA. The LEP for the area is the Goulburn Mulwaree Local Environmental Plan 2009. In this LEP, Aboriginal heritage is protected as follows:

- Part 5, Clause 10

The objectives of this clause are as follows:
(a) to conserve the environmental heritage of Goulburn Mulwaree,
(b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,
(c) to conserve archaeological sites,
(d) to conserve Aboriginal objects and Aboriginal places of heritage significance.

3.2.2 Development Control Plan (DCP)

A DCP is a document that provides detailed planning and design guidance to support the planning controls in an LEP. It is prepared by the relevant local authority and must be consistent with the provisions and objectives of an LEP.

The proposed project must comply with Goulburn Mulwaree DCP 2009. The relevant provisions of the DCP with regard to Aboriginal cultural heritage are provided in Section 3.2.1:

> *A development or project is considered to have the potential to impact upon Aboriginal cultural heritage values if it involves one or more of the following:*

- *disturbance to the ground surface or to sediments below the ground surface, except where disturbance will be strictly limited to:*
    - *man-made manufactured surfaces (such as bitumen and concrete).*
    - *deposits of imported land-fill or waste material.*
    - *extremely disturbed contexts such as quarries or quarried areas (where there is no trace of the original soil and subsoil deposits, or of buried former soils and subsoil deposits).*
- *disturbance to the roots, trunk or branches of old growth trees up to and more than 130 years old, which are native to the Goulburn Mulwaree local government area;*
- *impact or disturbance to the content, or immediate surrounds (up to 100 metres away) of a known or previously recorded Aboriginal site; and*
- *occurs within, or in close proximity to, a place of special or high Aboriginal cultural significance (such as an identified cultural landscape, an existing or former ceremonial ground, a burial ground or cemetery, a story place or mythological site, a former Aboriginal reserve or historic encampment, or an archaeological site of high significance).*

Under Section 3.2.2 of the DCP, an Aboriginal heritage impact assessment is required if one or more of the following factors apply, or are likely to apply, as summarised below:

- the development or works area has not been subject to a comprehensive level of Aboriginal heritage assessment within the last 5 years;
- the development area includes archaeologically sensitive landforms;
- the development area includes previously identified Aboriginal sites or places of Aboriginal cultural heritage value;
- the development or works area includes all or part of an identified Aboriginal cultural landscape; and/or
- the development area is likely to include old-growth native trees up to and more than 130 years old.

3.2.2.1 Aboriginal Heritage Study, Goulburn Mulwaree LALC

The Goulburn Mulwaree DCP outlines Council's Aboriginal heritage impact assessment process. It contains a map defining places of Aboriginal significance within the LGA. The Goulburn Mulwaree Aboriginal community would prefer not to have detailed information about Aboriginal site locations included in a publicly available document. Therefore, not all heritage sites are mapped or identified in detail, but general areas that are important to the community, or where archaeological sites are present, are indicated. There are areas of Aboriginal heritage sensitivity within the LGA that are summarised in the DCP and an Aboriginal archaeology matrix is provided.

The Aboriginal Heritage Study states:

> *In some instances, the Goulburn Mulwaree DCP allows development to proceed using a precautionary approach, without detailed field studies to assess potential impacts to Aboriginal cultural heritage. It is recommended that Council should*

require a due diligence process for assessing potential harm to Aboriginal objects to be undertaken as part of this approach, in accordance with the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (DECCW 2010) or an industry specific code of practice adopted by the NPW Regulation.

4.0 BACKGROUND

4.1 Aboriginal Heritage Information Management System (AHIMS) search

NOTE: The location of Aboriginal sites is considered culturally sensitive information. It is advised that this information, including the AHIMS data appearing on the heritage map for the proposal be removed from this report if it is to enter the public domain.

A search of the Aboriginal Heritage Information Management System (AHIMS) database (Client ID 867632) was completed on 27 February 2024 for a search area measuring approximately 1 km x 1 km surrounding the study area (Figure 5). The parameters of this search were:

GDA 1994 MGA 56	748615.0 – 749613.0 m E 6152620.0 – 6153620.0 m N
Buffer	0 m
Number of sites	1

There is one registered Aboriginal site within the search area. There are no registered Aboriginal sites within the study area. The AHIMS database records sites using a list of twenty standard site features, of which one was found within the extensive search (OEH, 2012) summarised in Table 2. The distribution of recorded sites within the AHIMS extensive search area is shown in Figure 5. The closest AHIMS site identified in the search is located approximately 420m northwest of the study area.

Table 2: Frequency of site features in AHIMS search results

Site Types	Frequency	Percentage
Artefact	1	100
Total	**1**	**100%**

The nature and location of the registered sites is a reflection of the past Aboriginal inhabitation from which they derive, but is also influenced by historical land-use, and the nature and extent of previous archaeological investigations. Certain site types, such as culturally modified trees, are particularly vulnerable to destruction through historical occupation, while others, such as stone artefacts, are more resilient.

AHIMS ID 51-6-0684

AHIMS ID 51-6-0684 is recorded as an isolated quartzite flake artefact located in the southeastern corner of a paddock along a fence line in a property along Mary's Mount Road. The site is situated approximately 700 metres from the Wollondilly River. The landform was disturbed. It was noted that further investigation of the site may be required in consultation with Buru Ngunawal Aboriginal Corporation and Pejar LALC in order to address any further archaeological potential.

4.2 Environmental context

The study area lies in undulating rises with elevations varying from 670 to 700m. Slopes are generally less than 10% and relief is between 10-30 metres. Permanent erosional stream channels, closely to very widely spaced, form a non-directional or convergent integrated tributary pattern.

The soil is described as Monastery Hill Soil Landscape, which covers approximately 25km^2 to the northeast of Goulburn. The underlying geology consists of two teschenite intrusions which have penetrated upper Silurian sediments. Soils have formed in situ and from alluvial-colluvial material derived from the parent rock and are characterised as having duplex orange coloured soils with acid to alkaline reaction on crests and sideslopes, no development of A2 horizons and massive to moderately structured upper B horizons. These are similar to yellowish Chocolate Soils. Below about 1 m an alkaline mottled grey clay occurs. Prairie Soils, Grey Clays and Alluvial Soils occur on footslopes and in drainage lines (eSpade, 2024).

Mapping reliability of Quaternary deposits is of variable quality and resolution in the suburban areas bordering the Wollondilly River in this part of Goulburn. The aspect and slope situation of the study area suggest that remnants of some unmapped superficial soils derived from older alluvial terrace deposits of Quaternary age could occur within 1 km of the study area.

The native vegetation would likely have included savannah woodland including yellow box and red gums (eSpade 2024). During the 1830s the Wollondilly and Cookbundoon rivers supported wildlife including eels, black swans, ducks and other water birds. Aboriginal people caught kangaroos, wallabies, possums and marsupials such as bandicoots, emu, wild turkey, echidna, native ducks, fish and eels, freshwater mussels, snakes, seeds and ants (AMBS 2012:14), and used grass fires to capture kangaroos. Bogong moths (*Agrotis infusa*) migrated into the southern highlands in summer and provided food for feasting until 1878. Bullrushes were harvested for their roots, from streams and riverbanks and tree sap from the “apple-tree, as well as “nectar” from the deposits of ants on various trees (AMBS 2021:14).

The study area, while in a residential suburb, sits within a broader landscape on the outskirts of Goulburn. These areas are currently undergoing changes from rural and pastoral activities to urban subdivision areas and hobby farm developments. The area may have been previously subject to erosional processes, e.g. from initial historic land clearances. Disturbance of the soil surface for urban development will create significant short-tern erosion problems, which will be of particular significance due to the close proximity to the Wollondilly River (eSpade 2024).

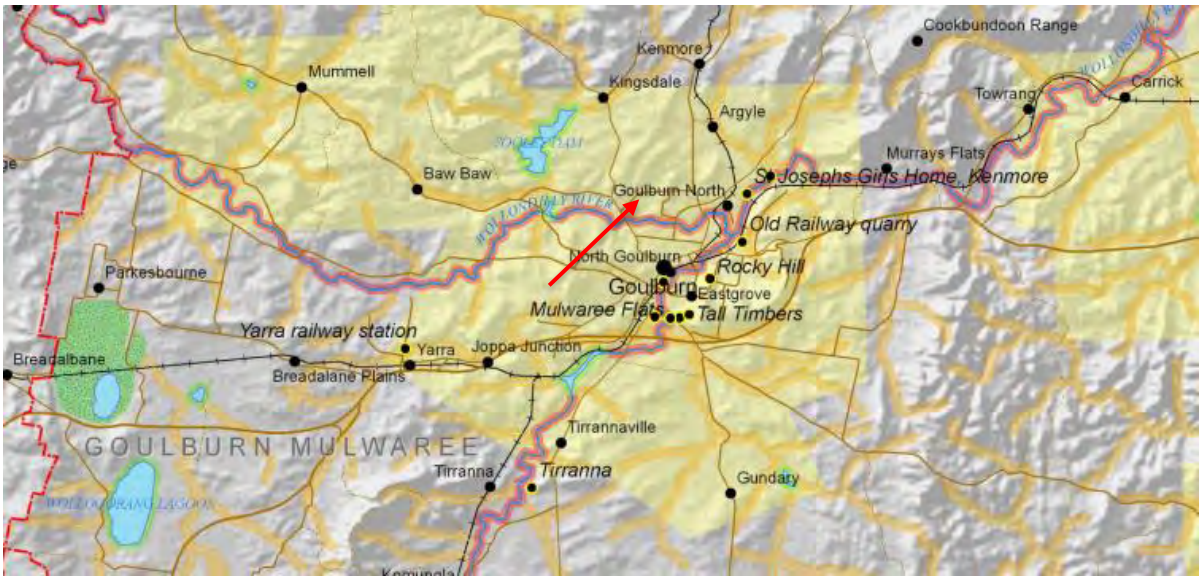
4.3 Archaeological studies in the local area

AMBS (2012) prepared an Aboriginal Heritage Study for Goulburn Mulwaree Council to inform future management of Aboriginal Cultural Heritage within existing state and Commonwealth frameworks. The study identified and recorded places of significance and made recommendations for their management and conservation. Consultation with Aboriginal communities was part of this work. A number of areas of Potential Aboriginal Sensitivity were identified as:

- High sensitivity – Major watercourses
- High sensitivity – Lakes and flats
- Moderate sensitivity – minor watercourses

The study area is not classified within the above areas of Potential Aboriginal Sensitivity however, it is classified as having “Potential Aboriginal Artefacts” within the LGA (see Figure 3).

Figure 3. Map showing the study area (red arrow) within the area for *Potential Aboriginal Artefacts* (in yellow), in proximity to the areas of Potential Archaeological Sensitivity (shown on the map in red, green and orange) (Source: AMBS 2012, p. 33).



4.3.1 Predictive model for Goulburn

As summarized by AMBS (2012) Koettig and Lance (1986) under took archaeological investigations in the Goulburn area and identified areas of known or potential Aboriginal cultural and archaeological significance; and analysed the distribution of sites based on landform, geology and distance from water (AMBS 2012: 26).

They concluded that artefact scatters are common in the region and found in all environmental contexts, and identified the following trends:

- Artefact scatters are likely to occur on gentle, well-drained lower slopes within 100 m of water.
- Artefact scatters occur at the junction of watercourses, and tend to be large, of high densities.
- Underlying geology appears to have no significance.
- Quarries may be present on outcrops of raw materials, these occur as localised, discrete outcrops of siliceous rocks (pebble beds, quartz veins or outcrops). Aboriginal people used chert, silcrete, quartz, quartzite and fine-grained volcanic rocks.
- Burial sites are rare, found on ridges, hill tops, hollow trees and caves
- Modified trees are rare, on trees at least 80 -100 years old.
- Bora grounds are rare, likely to be on hill tops, location poorly predicted.
- Art sites may occur where rock overhangs occur.
- Large granite boulders and limestone rock shelters were used as shelters.
- Grinding grooves most commonly found near creek lines where there are sandstone outcrops.

Fuller (1989 cited in AMBS 2012) tested Koettig and Lance's model in representative environmental zones within Goulburn city. Sites were found in all environmental zones, including those identified by Koettig and Lance has having Low Potential. The site model suggested by Koettig and Lance and refined by Fuller (1989) has informed archaeological assessments in the Goulburn LGA and findings have been consistent with the predictive models with stone artefacts being the most frequently found site type (Figure 4). However, AMBS (2012) noted that most assessments have been generated by proposed development not Aboriginal land use and there is also potential for sites to be discovered outside of the area governed by the LGA (AMBS 2012).

In summary, stone artefacts are likely to occur as surface scatters, in areas of limited vegetation, exposed by erosion, ploughing, and creation of informal roads. Located on dry, relatively flat land, adjacent to rivers, creeks and lakes. Camp sites are likely to occur on gentle, well-drained slopes near reliable fresh water sources and the junction of watercourses. Flat areas would have been ideal.

Local archaeological assessments have been summarized by AMBS (2012:26).

Figure 4. Predictive models for the Goulburn area (AMBS 2012: 25)

Landform		Potential Archaeological Sensitivity (Koettig and Lance 1986:29-32)	Potential Archaeological Sensitivity (Fuller 1989:31-34)
Alluvial flats adjacent to major watercourses		High	High
	Lower slopes adjacent to watercourses	High	High
Undulating hills and plains	Gently undulating land, or plains	Not assessed	Low
	Hills – low (<700 metres above sea level [asl])		Medium
	Hills – moderate (700-750 metres asl)	Low	Low
	Hills – high (>700 metres asl)		Low
Hill tops		Low	Low
Built-up areas (residential areas, Sooley Dam)		Moderate	Moderate

4.4 Previous archaeological investigations

Navin Officer (NOHC 2010). Highlands Source Project, Water Transfer from Wingecarribee Water Supply Reservoir to Goulburn Water Treatment Plant. Cultural Heritage Report to GHD.

In 2009 Navin Officer Heritage Consultants conducted an archaeological investigation approximately 6km from the study area. Archaeological investigations recorded a single stone artefact (AHIMS ID 51-6-0725), eroding out of the margin of an ephemeral second order drainage line. The site was located 300m from the Wollondilly River, on low gradient basal slopes where these met alluvial flats on the south side of the river. The site was within a broader landform context of rolling hills and in area that had been disturbed through the clearance of vegetation, grazing, ploughing, fencing and earthworks associated with the construction of the adjacent railway. Two other sites were recorded, consisting of an artefact scatter of six quartz artefacts, and another artefact scatter containing quartzite flakes and a silcrete core which was subsequently subject to surface collection resulting in 174 artefacts being recovered as part of a testing and salvage program.

NGH (2017). 129 Marys Mount Road, Aboriginal Heritage Due Diligence Assessment.

This site is located approximately 900m north of the study area. During field investigations for a residential development, an isolated find and three areas of PAD were identified. NGH determined that the project area has potential to contain Aboriginal sites, given that stone artefacts have been recorded in close proximity to the assessment area as dispersed surface scatters and isolated finds.

Artefact (2021). 88 Murrays Flat Road, Towrang. Aboriginal Due Diligence report to Towrang Investments Pty Ltd.

An investigation of 88 Murrays Flat Road, located 6 kilometres east of the study area, identified it was not located in a sand dune, or on the top of a ridge line or ridge top, near a cliff face, or near a cave or rock shelter. It did have a water course running through it and was also characterised by land modification through the construction of drainage channels. With reference to the predictive model for Goulburn, Artefact determined that the subject site was located within gently undulating land, or plains, at an elevation of less than 700m, and classified as having Medium archaeological potential however, was not on well drained land. It was assessed as having low archaeological sensitivity and did not require further investigation.

Figure 5: AHIMS extensive search

5.0 VISUAL INSPECTION

The site inspection was conducted on Wednesday 6 March 2024. Weather conditions during the survey were good, with full sun and dry surface conditions.

Gibson Road slopes to the south, terminating in open parkland at a river bluff, overlooking the Wollondilly floodplain, which is narrow and incised. Slope angles are clearly stepped in the southerly direction down to the river along Gibson Road away from the study area, at 3-5 degrees, which may reflect residual higher level river terrace landforms. Cainozoic and Quaternary age river terrace alluvial deposits are mapped over bedrock along the higher marginal areas of the Wollondilly through parts of the north Goulburn area upstream of the junction of the Wollondilly River with the Mulwaree River.

The study area is in a slightly elevated position, forming a mid-slope part of a broader slope which dips south and southeast towards the incised course and river bluffs of the Wollondilly River. Both Gibson Road and Howard Boulevard are constructed as cuts into the landform. Property frontages along Gibson Road slope down to the road.

The study area is entirely under grass mixed with herbaceous weeds. There is one small young tree, probably self-seeded, on the south side of the block (fruit tree). The north and west margins of the block have metal fencing, with ungated access points into the block in the northwest corner (on Howard Boulevard) and southeast corner (from Gibson Street). The south and east sides of the block adjoin single storey residential properties which front onto the grassed area, with the margins of the study area bounded by concrete pavements which provide front access.

Figure 6: View upslope, to the west and northwest, across the study area, Concrete pavements provide front access to residences on the south and side of the study area.

A public telephone and Essential Energy electricity substation (P10445) are located along the northern side of the block along the boundary with Howard Boulevard. Small areas of ground visibility were present beneath the metal fence dripline, around metal support posts and adjacent to the base plinth of the Electricity substation.

The study area slopes down to the south and south east from a high point in the north west corner of the block. The average slope angle and vector is 2.5 to 3.0 degrees to the southeast. Slope and surface of the higher northwest corner of the block is bedrock controlled, by an igneous (dolerite) outcrop of bedrock. This unweathered outcrop is visible in 0.5 to 1.0m diameter patches (see Figure 8) but extends across a larger area of > 15 x 30m running south from the northwest corner of the study area along the west side of the block.

Figure 7: View west and upslope along the northern margin of the land block on Howard Boulevard, with metal fencing, electricity substation and Public Telephone.

Figure 8. Exposure of unweathered igneous bedrock (dolerite) in the northwest part of the block, Scale is 0.5m length.

Across most other parts of the block there is grass turf which in places is patchy. In the southwest quadrant of the block there were patches of tarmac road base materials associated with very thin or no grass cover. The vehicle access areas in the two corners of the block were eroded and scalded with thin red-brown sandy silts visible over subsoil clay-silts. These areas of higher visibility were inspected closely (Figure 11). Minor proportions of fine gravels were present, some natural, including subangular weathered igneous clasts and very occasional well rounded guartz pebbles (possibly decorative garden pebbles). The majority of gravel size materials comprised broken glass, concrete and various form of road base fine gravel sized clasts.

Figure 9. Typical bare ground exposure with small proportions of natural fine gravels.

Figure 10. Bare soil exposure in south eastern quadrant area of the block, showing fine gravel size imported aggregates (road base).

Figure 11. Typical area of higher visibility adjacent to access routes into the area showing sparse natural gravels and possibly imported rounded quartz pebble.

Figure 12. Example of differential patterning in turf cover seen across the block, reflecting past disturbance activities. Scale is 0.5m.

In the south east half of the block various areas showed differential patterning in the grass cover. This varied from irregular patterning in grass type, possibly caused spraying or other chemical effects on the turf, through to deeper seated patterning which was subtle and reflected by both grasses and other weed species. Some patterning was linear. Examination of Google Earth images shows that some patterns in the ground surface turf co-locate with larger geometric (orthogonal and rectilinear) features. Some patterns may be from temporary recent activities and land use (e.g. parking of vehicles), while other patterns may reflect outlines of past historic structures, such as out-buildings, or boundaries pre-dating the present road layout.

The field inspection concluded that the study area has been disturbed on multiple occasions in the past, and soil disturbance continues across the area. The natural soils on the landform are generally thin, prone to surface wash and erosion. In higher parts of the block soil is absent over exposed bedrock.

Surface visibility is estimated at 5-10% across the block and up to 80% in access areas, and small areas under fences and around infrastructure. No artefacts were seen at any point in the inspection. Most areas with visibility are highly disturbed, including addition of aggregates to the soils.

It was concluded that the deposits across the area have very limited integrity. Any isolated finds that might occur across what remains of the natural landform are likely to be reworked or out of stratigraphic context.

6.0 ABORIGINAL ARCHAEOLOGICAL POTENTIAL OF THE STUDY AREA

Archaeological potential is closely related to levels of ground disturbance. However, other factors are also taken into account when assessing archaeological potential, such as whether the area is within a sensitive landform unit.

6.1 Archaeological sensitive landforms

Particular landforms in NSW are known to have been favoured locations for repeated or long-term occupation and, hence, more likely to retain archaeological evidence of past Aboriginal use. The Due Diligence Code of Practice identifies five landscape features that indicate the likely existence of Aboriginal objects these include:

- *Within 200m of water, or*
- *Located within a sand dune system, or*
- *Located on a ridge top, ridge line, or headland, or*
- *Located within 200m below of a cliff face, or*
- *Within 20m of or in a cave, rock shelter, or cave mouth (Environment 2010)*

Based on the environmental background of the study area as well as previous archaeological investigations, the following predictions are made:

- According to the Aboriginal Heritage Study for Goulburn Mulwaree Council (AMBS 2012), the study area is situated within an area classified as 'Potential Aboriginal Artefacts'.
- Evidence of long term and/or repeated occupation is likely to be found within 200m of sensitive landform features.
- The study area is located in an undulating landform environment within 350m of water sources along the Wollondilly River.
- The most likely site types to occur are artefact scatters and isolated finds, and the areas of archaeological sensitivity will occur in association with water courses and along crests, spurs and ridges.

Landscape Feature	Presence in study area
Within 200m of water	**No**. The study area is not located within 200m of water. The study area is located in an undulating landform environment within 350m of water sources along the Wollondilly River.
Located within a sand dune system	**No**. The study area is not located within a sand dune.

Landscape Feature	Presence in study area
Located on a ridge top, ridge line, or headland	**No**. The study area is not located on a ridge top, ridge line, or headland.
Located within 200m below of a cliff face	**No**. The study area is not located within 200m of a cliff face.
Within 20m of or in a cave, rock shelter, or cave mouth (Environment 2010)	**No**. The study area is not located within 20m of or in a cave, rock shelter or cave mouth.

6.2 Ground disturbance

Archaeological potential is closely related to levels of ground disturbance. However, other factors are also taken into account when assessing archaeological potential, such as whether artefacts were located on the surface, and whether the area is within a sensitive landform unit according to the predictive statements. The Due Diligence Code of Practice defines disturbed land:

> *Sec 7.5 (4) For the purposes of this clause, land is disturbed if it has been the subject of human activity that has changed the lands surface, being changes that remain clear and observable.*

This includes disturbed land via:

> *(a) soil ploughing*
>
> *(b) construction of rural infrastructure*
>
> *(c) clearing of vegetation*
>
> *(e) construction of buildings and the erection of other structures*
>
> *(f) construction or installation of utilities and other similar services (such as above or below ground electrical infrastructure, water or sewerage pipelines, stormwater drainage and other similar infrastructure)*

Ground disturbance will have been associated in the past with the construction of the residential properties which adjoin the block, with construction of the road and services infrastructure associated with the creation of the suburb, and with the creation of the recreation area in its present elevated position with respect to Gibson Street and Howard Boulevard.

As noted above the land block is s fenced off as a recreation area on boundaries close to roads. This has served to a) focus access/egress by vehicles into the recreational area to two points in the southwest and northeast corners of the block and b) concentrate vehicle treadage and soil compaction at those points.

The bedrock outcrops create impermeable surfaces in the highest parts of the block. Rainstorm runoff and wash have stripped soil off those bedrock exposures and led to soil transfer downslope.

The soils across the south and eastern half of the block appear to be thin over clay and preserve traces of past recent and possibly historic activities. Linear features and patches of tarmac road-base were noted during the survey, indicating past activities impacting the surface within the study area.

Cross checks, following the field inspection, confirm that traces of unspecified past activities and disturbances can also be seen on Google Earth imagery. Rectangular patterning, possibly from previous building footings, are present near the mid-point of the block at the higher end of the block set back from the present alignment of Gibson Street.

It is concluded that past and present disturbances, combined with the natural slope and thin soils over clay, will have led to dispersal and disturbance of any Aboriginal remains that may have been present on the block. All of the block has been disturbed, probably on multiple occasions. This disturbance continues by processes of natural run-off off bedrock, bioturbation under grass and episodic access and interventions by vehicles.

7.0 THE DUE DILIGENCE PROCESS

The Due Diligence Code of Practice provides a series of questions that must be answered to determine the outcome of the due diligence process. These questions are addressed in Table 3.

Table 3: Due Diligence questions and responses

Question	Answer	Comment
Will the activity disturb the ground surface or any culturally modified trees	No	The proposal is for rezoning of the study area.
Are there any: • Confirmed AHIMS records • Other sources of information • Landscape features	No	No Aboriginal sites or areas of archaeological potential were present within the study area. Due to the high levels of ground disturbance Aboriginal objects are unlikely to be present within the study area.
Can harm to Aboriginal objects be avoided	Yes	No Aboriginal sites nor areas of archaeological potential were present within the study area and no Aboriginal objects will likely be harmed by the property rezoning process.
Does a desktop assessment and visual inspection confirm the presence of Aboriginal objects, or that they are likely to be there	No	No Aboriginal sites or areas of archaeological potential were present or likely to be present within the study area. The visual inspection confirmed that the study area has been disturbed in the past, and soil disturbance continues across the area. The natural soils on the landform are generally thin, prone to surface wash and erosion.
Is further assessment required	No	No Aboriginal objects or areas of potential were identified within the study area and therefore no further assessment is required.

8.0 CONCLUSION

The following conclusions and recommendations regarding Aboriginal heritage are based on consideration of:

- Statutory requirements under the *National Parks and Wildlife Act 1974* as amended
- DECCW Due Diligence Code of Practice
- The results of the AHIMS search and visual inspection
- The likely impacts of the proposed development

It was found that:

- According to the Aboriginal Heritage Study for Goulburn Mulwaree Council (AMBS 2012), the study area is situated within an area classified as 'Potential Aboriginal Artefacts'.
- The study area is not located within 200m of any sensitive landscape features.
- No AHIMS registered sites are located within or proximity to the study area.
- The study area contains high levels of ground disturbance that has likely greatly impacted archaeological evidence of Aboriginal use and occupation.
- No Aboriginal objects or areas of archaeological potential were identified during the visual inspection.

The following recommendations are therefore made:

- The study area does not contain and is not likely to contain any Aboriginal objects. It is recommended that no further Aboriginal heritage assessment or investigation are required, and the proposed works can proceed with caution.
- This Due Diligence assessment does not constitute consent to harm Aboriginal objects, nor it is a 'site clearance' mechanism to allow activities to occur in an area where Aboriginal objects are likely or known to be present.
- If Aboriginal objects are discovered during the proposed works, works must stop immediately and an assessment must be undertaken in accordance with Part 6 of the *National Parks and Wildlife Act 1974*. If the activity cannot avoid harm to Aboriginal objects, works cannot proceed until an Aboriginal Heritage Impact Permit has been issued.

9.0 References

AMBS 2012 Goulburn Mulwaree LGA Aboriginal Heritage Study. Prepared for Goulburn Mulwaree Council.

Artefact Heritage 2021 Aboriginal Heritage Due Diligence Assessment: 88 Murrays Flat Road, Towrang. Report to Towrang Investments Pty Ltd.

NGH Environment 2017 Aboriginal Heritage Due Diligence Assessment: 129 Marys Mount Road.

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

APPENDIX A: AHIMS EXTENSIVE SEARCH

AHIMS Web Services (AWS)

Extensive search - Site list report

APPENDIX 4

Your Ref/PO Number : 240040 Goulburn

Client Service ID : 867632

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
51-6-0684	MG5/IF1	GDA	55	748780	6153506	Open site	Valid	Artefact : 1		102238,103052,103053

Contact **Recorders** Ironbark Heritage & Environment,Mr.Glenn Willcox **Permits** 3662

**** Site Status**

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

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

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

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

Report generated by AHIMS Web Service on 27/02/2024 for Kristen Tola for the following area at Datum :GDA, Zone : 55, Eastings : 748615.0 - 749613.0, Northings : 6152620.0 - 6153620.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 1