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EXECUTIVE SUMMARY

Brickworks Land & Development (Austral Bricks Co Pty Ltd) are proposing to develop a portion of 224-398 Burley Road, Horsley Park. The proposal is to construct a masonry plant and five warehouses for generic and distribution uses. The proposal is both Designated Development and Integrated Development under Part 4, of the *Environmental Planning and Assessment Act 1979* and an Environmental Impact Statement (EIS) is required to be prepared for the development application (DA).

The requirements in the SEARs are to identify Aboriginal and non-Aboriginal heritage values within the proposal area, to assess potential impacts of the proposed development and develop appropriate measures to avoid, minimise, mitigate and or manage the potential impacts, if required.

Artefact Heritage Services Pty Ltd (Artefact Heritage) have been engaged by Goodman Property Services (Australia) Pty Limited (Goodman), c/o Brickworks Land & development, to undertake a Heritage Impact Statement (HIS) for the proposed development. This report will identify any likely impacts to potential non-Aboriginal (historic) heritage and proposed management and mitigation measures. An Archaeological Survey Report (ASR) will be provided separately to meet the remaining heritage requirements for Aboriginal heritage.

Overview of findings

- Historically the area is associated with large land grant associated with John Thomas Campbell
 (Mount Philo Estate) and his cattle and horse breeding venture and later in the nineteenth century
 with the Shepherd family (Chatsworth Estate) and their agricultural pursuits in a plant nursery.
- Most recently the study area has been associated with its existing operations as Austral
 Brickworks quarrying, brick manufacture and distribution. Subsequently this has resulted in a high
 level of landform modification in the study area from late twentieth century mining operations by
 Austral Bricks.
- There are no listed or unlisted heritage items located within the study area.
- The study area has nil-low potential for significant archaeological remains

Recommendations

- The current proposed works are not expected to impact archaeological relics and therefore no further archaeological investigation, or mitigation is required.
- An Unexpected Finds Procedure would be implemented throughout the duration of the proposed development. If potential archaeological relics are unexpectedly discovered during excavation, work must cease in the affected area and an archaeologist engaged to assess the find. Depending on the nature of the discovery, additional assessment and possibly an excavation permit may be required prior to the recommencement of excavation in the affected area. The Heritage Council would be notified in writing in accordance with Section 146 of the NSW Heritage Act 1977 if it was confirmed that relics had been identified

 If human remains, or suspected human remains, are found during the works, all work in the vicinity must cease, the site should be secured, and the NSW Police and Heritage Council must be notified.

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1.0 INTRODUCTION

1.1 Background

Brickworks Land & Development (Austral Bricks Co Pty Ltd) are proposing to develop a portion of 224-398 Burley Road, Horsley Park. The proposal is to construct a masonry plant and five warehouses for generic and distribution uses. The proposal is both Designated Development and Integrated Development under Part 4, of the *Environmental Planning and Assessment Act 1979* and an Environmental Impact Statement (EIS) is required to be prepared for the development application (DA).

Secretary's Environmental Assessment Requirements (SEARs) (1255) have been issued for the preparation of the EIS and stipulate that it must include:

an assessment of the potential impacts of the proposed development on the existing environment and develop appropriate measures to avoid, minimise, mitigate and or manage these potential impacts.

The existing environment includes Aboriginal and non-Aboriginal heritage. This Heritage Impact Statement (HIS) has been prepared to support the EIS for the proposed development at 224-398 Burley Road, Horsley Park (the study area). The Aboriginal archaeological survey report (ASR) will be provided in separate reports to meet the remaining heritage requirements of SEAR 1255.

Goodman Group (Goodman) (the proponent) has been engaged by Brickworks Land & Development to prepare the EIS for the DA. Goodman engaged Artefact Heritage to prepare an assessment of the potential Aboriginal and non-Aboriginal cultural heritage values for the proposal to meet the requirements of the SEARs.

1.2 Overview of the proposal

The proposal is for the construction and operation of a masonry plant (concrete works) and five warehouses for generic and distribution uses at its existing facility. The development has production capacity of 220,000 tonnes per annum.

The proposal involves the development of a portion of 224-398 Burley Road, Horsley Park. The concept design (Figure 1.2) includes the following:

- Initial bulk earthworks: to create broad, flat, developable hardstand areas.
- Civil works: including internal access roads, parking areas, basins, retaining walls and services.
- Building Works: Construction of five warehouses within new subdivision area.

The proposed development design is shown in Figure 1.2.

1.3 The study area

The Oakdale East study area is approximately 33 hectares, consisting of land contained within Lot 1 DP843901 within the Fairfield Local Government Area (LGA). The study area is located within the suburb of Horsley Park, in the Parish of Melville and County of Cumberland. The study area is bound by Old Wallgrove Road to the west, Burley Road to the south, Reedy Creek to the east and the remainder of Lot 1 DP 843901 to the north (Figure 1.1).

1.4 Report methodology

This report investigates the known and potential non-Aboriginal heritage of the study area. It provides an assessment of archaeological potential and outlines any management and mitigation measures that may be required to protect and preserve potential archaeological resources. This assessment is being conducted to satisfy requirements outlined in the SEARs for the proposal under the *Environment Planning and Assessment Act 1979* (EP&A Act) and prepared in accordance with the NSW Heritage Division's guidelines of *Assessing Significance for Historical Archaeological Sites and Relics* (2009) and *Statements of Heritage Impact* (2002).

Consultation was conducted during preparation of the SEARs, with the identified relevant government agencies to seek specific requirements. The Office of Environment and Heritage (OEH) and the Environmental Protection Authority (EPA) were consulted. A record of consultation is summarised in Table 1.1:

Table 1.1 Consultation requirements for EIS

| Agency | Consultation |
|--|--|
| Environment | The Environment Protection Authority was contacted on the 16 August 2018 by the Department of Planning and Environment. The purpose was to request requirements for the Environmental assessment (EA) regarding the proposal for the study area. |
| Protection Authority | A response was sent by the EPA on the 30 August 2018: |
| (EPA) | "this response does not cover biodiversity or Aboriginal cultural heritage issues, which are the responsibility of the Office of Environment and Heritage." |
| | The Office of Environment and Heritage, Greater Sydney Region Planning Unit was contacted on the 16 August 2018 by the Department of Planning and Environment. The purpose was to request requirements for the Environmental Impact Statement (EIS) regarding the proposal for the study area. |
| | A response was sent by the OEH on the 31 August 2018: |
| Office of Environment and Heritage (OEH) | "Please be advised that the Greater Sydney Planning Team, OEH has no comments at this stage." |
| | Following the completion of the survey the OEH was contacted by Artefact Heritage on the 31 October 2018. Information was provided to them of the findings of the assessment and provided them the opportunity to comment on the assessment's findings. |
| | No response has been received. |

1.5 Limitations

This report provides an assessment of built heritage and historical archaeological resources only. An Aboriginal cultural heritage assessment has been provided in separate report.

1.6 Authorship

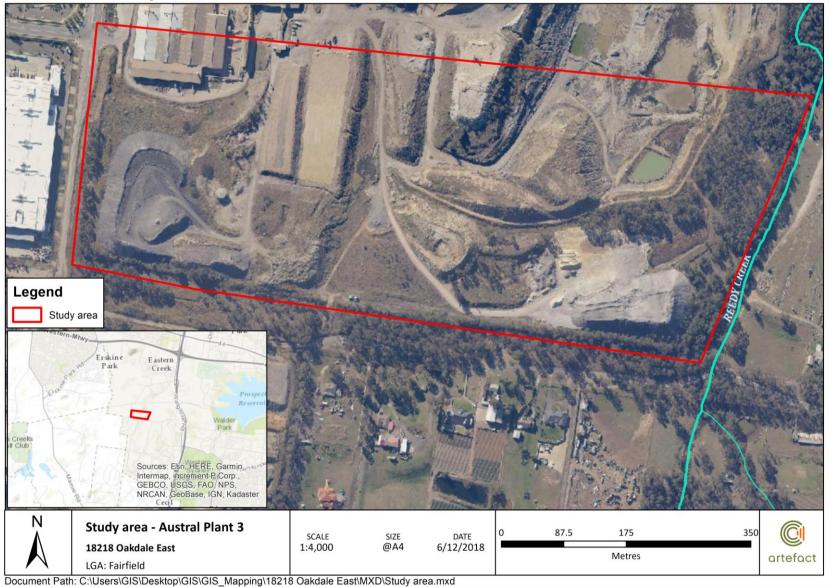
This report has been authored by Jennifer Norfolk (Heritage Consultant, Artefact Heritage). Sandra Wallace (Managing Director, Artefact Heritage) provided management input and review.

1.7 Report Structure

The remainder of this report is structured as follows:

- Section 2 reviews the legislative and regulatory regime under which this investigation was carried out;
- Section 3 presents the results of heritage database investigations for the study area;
- Section 4 presents the historical background pertinent to understanding the significance of the study area;
- Section 5 the results of the visual inspection, including a description of the study area;
- Section 6 contains the archaeological assessment of the study area, discussing relevant studies, potential for archaeology and archaeological significance;
- Section 7 investigates the potential heritage impacts from the proposed works, presents design and construction considerations and discusses potential impacts and mitigation measures;
- Section 8 draws conclusions, provides recommendations for the study area; and
- Section 9 lists references.

Figure 1.1: Location of the study area.



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Figure 1.2: Proposed plans (Source: Goodman March 2019)

2.0 STATUTORY CONTEXT

2.1 Environmental Planning and Assessment Act 1979

The Environment Planning and Assessment Act 1979 (EP&A Act) provides planning controls and requirements for environmental assessment in the development approval process. This Act has three main parts of direct relevance to Aboriginal cultural heritage. Namely, Part 3 which governs the preparation of planning instruments, Part 4 which relates to development assessment process for local government (consent) authorities and Part 5 which relates to activity approvals by governing (determining) authorities.

The proposal will be assessed as Designated Development under Part 6, Division 4 and Integrated Development under Part 6 Division 3 of the EP&A Act. Part 4, Division 4.3, Section 4.12 (8) requires an application for Designated Development to be accompanied by an EIS. The EIS must address the impact of the project on heritage items, through the framework of existing heritage legislation including the *Heritage Act 1977* and the National Parks and Wildlife Act (NPW Act), and the Local Environmental Plans and Development Control Plans. An EIS for Designated Development must be prepared in accordance with SEARs.

Integrated Development approval will need to be obtained from other public authorities (e.g. the EPA) before consent can be granted. Integrated Development applications require a permit under the Heritage Act if heritage items listed on the state heritage register are to be impacted by the proposed works.

Fairfield Local Environmental Plan 2013

The study area falls within the Fairfield LEP 2013. The Fairfield LEP aims to conserve the heritage significance of heritage items and conservation areas, including associated fabric, setting and views; and to protect archaeological sites. The LEP stipulates development controls in relation to developments proposed on or near heritage listed properties, archaeological sites, or Aboriginal places of heritage significance.

2.2 Heritage Act 1977

The NSW *Heritage Act* 1977 (Heritage Act) provides protection for items of 'environmental heritage' in NSW. 'Environmental heritage' includes places, buildings, works, relics, movable objects or precincts considered significant based on historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic values. Items considered to be significant to the State are listed on the State Heritage Register (SHR) and cannot be demolished, altered, moved or damaged, or their significance altered without approval from the Heritage Council of NSW.

2.2.1 The 2009 'Relics provisions'

The Heritage Act also provides protection for 'relics', which includes archaeological material or deposits. According to Section 139 (Division 9: Section 139, 140-146):

- (1) A person must not disturb or excavate any land knowingly or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, damaged or destroyed unless the disturbance is carried out in accordance with an excavation permit.
- (2) A person must not disturb or excavate any land on which the person has discovered or exposed a relic except in accordance with an excavation permit.

- (3) This section does not apply to a relic that is subject to an interim heritage order made by the Minister or a listing on the State Heritage Register.
- (4) The Heritage Council may by order published in the Gazette create exceptions to this section, either unconditionally or subject to conditions, in respect of any of the following:
 - a. Any relic of a specified kind or description,
 - b. Any disturbance of excavation of a specified kind or description,
 - c. Any disturbance or excavation of land in a specified location or having specified features or attributes,
 - d. Any disturbance or excavation of land in respect of which an archaeological assessment approved by the Heritage Council indicates that there is little likelihood of there being any relics in the land.

Section 4 (1) of the Heritage Act (as amended in 2009) defines a relic as:

...any deposit, artefact, object or material evidence that:

relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and is of State or local heritage significance

A relic has been further defined as:

Relevant case law and the general principles of statutory interpretation strongly indicate that a 'relic' is properly regarded as an object or chattel. A relic can, in some circumstances, become part of the land be regarded as a fixture (a chattel that becomes permanently affixed to land).¹

Excavation permits are issued by the Heritage Council of NSW, or its Delegate, under Section 140 of the Heritage Act for relics not within the curtilage of SHR items or under Section 60 SHR items. An application for an excavation permit must be supported by an Archaeological Research Design and Archaeological Assessment prepared in accordance with the NSW Heritage Division archaeological guidelines. Minor works that will have a minimal impact on archaeological relics may be granted an exception under Section 139 (4) or an exemption under Section 57 (2) of the Heritage Act.

2.2.2 The State Heritage Register (SHR)

The SHR was established under Section 22 of the Heritage Act and is a list of places and objects of particular importance to the people of NSW, including archaeological sites. The SHR is administered by the New South Wales (NSW) Heritage Division of the Office of Environment and Heritage (OEH) and includes a diverse range of over 1,500 items, in both private and public ownership. To be listed, an item must be deemed to be of heritage significance for the whole of NSW.

To carry out activities within the curtilage of an item listed on the SHR, approval must be gained from the Heritage Council by securing a Section 60 permit. In some circumstances, under Section 57(2) of the Heritage Act, a Section 60 permit may not be required if works are undertaken in accordance with the NSW Heritage branch document *Standard Exemptions for Works Requiring Heritage Council*

¹ Assessing Significance for Archaeological Sites and 'Relics', Heritage Branch, Department of Planning, 2009:7.



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Approval ² or in accordance with agency specific exemptions. This includes works that are only minor in nature and will have minimal impact on the heritage significance of the place.

2.2.3 Section 170 registers

Under the Heritage Act 1977 all government agencies are required to identify, conserve and manage heritage items in their ownership or control. Section 170 of the Heritage Act requires all government agencies to maintain a Heritage and Conservation Register that lists all heritage assets and an assessment of the significance of each asset. They must also ensure that all items inscribed on its list is maintained with due diligence in accordance with State Owned Heritage Management

Principles (contained within the State Agency Heritage Guide) approved by the Government on advice of the NSW Heritage Council. These principles serve to protect and conserve the heritage significance of items and are based on NSW heritage legislation and guidelines.

² Heritage Council of New South Wales 2009



3.0 HERITAGE REGISTERS

3.1 Australian heritage database

Archaeological sites and heritage items in Australia may be registered as significant at the National or international level and appear in the National Heritage List, a searchable heritage list of all heritage items within Australia. The National Heritage List (and the Register of the National Estate before it), is the lead statutory document for the protection of heritage places considered to be of national significance. Although the Register of the National Estate (RNE) no longer has statutory status, the Australian Minister for the Environment is still required to consider this Register when making decisions about significance, so it is prudent to conduct searches of this register.

Like the State s170 Register, the Commonwealth Heritage list contains all the Australian Government assets considered to be of heritage significance. Searches of the Australian Heritage Database with reference to the World Heritage List, National Heritage List, Commonwealth Heritage List and RNE archive were made on 31 August 2018.

The searches confirmed that there are <u>no heritage items on the WHL, NHL, CHL and RNE located in the study area or within the vicinity (500m).</u>

3.2 State heritage inventory

The State Heritage Inventory (SHI) is the complete inventory of heritage items in NSW. It contains items of State heritage significance listed on the SHR, items of State heritage significance not listed on the SHR together with heritage places that may be of local heritage significance (NSW Heritage Office 2001). Local heritage items contained within the SHI may also be listed on and afforded statutory protection under the Fairfield LEP or the s170 Registers.

A search of the SHI on 31 August 2018 revealed that there are no Aboriginal places, SHR items, LEP items located within the study area or within the vicinity (500m) and no heritage items located within the study area subject to an Interim, or Authorised Interim Heritage Order and no heritage items within the study area listed on the s170 Register or subject to an s136 'Stop Work' Order.

3.3 Fairfield LEP

Although items of local heritage items are contained within the SHI, for prudence, a separate search was conducted of Schedule 5 of the Fairfield LEP on 31August 2018.

The search revealed that there are <u>no items listed on Schedule 5 of the Fairfield LEP located</u> <u>within the study area (Table 5.2).</u>

4.0 HISTORICAL BACKGROUND

4.1 Pre contact/ Aboriginal history

Prior to the appropriation of their land by Europeans, Aboriginal people lived in small family or clan groups that were associated with particular territories or places. It seems that territorial boundaries were fairly fluid, although details are not known. The language group spoken on the Cumberland Plain is known as Darug (Dharruk – alternative spelling).

This term was used for the first time in 1900 (Matthews and Everitt) as before the late 1800s language groups or dialects were not discussed in the literature (Attenbrow 2010: 31). The Darug language group is thought to have extended from Appin in the south to the Hawkesbury River, west of the Georges River, Parramatta, the Lane Cove River and to Berowra Creek (Attenbrow 2010: 34). This area was home to a number of different clan groups throughout the Cumberland Plain.

British colonisation had a profound and devastating effect on the Aboriginal population of the Sydney region, including Darug speakers. In the early days of the colony Aboriginal people were disenfranchised from their land as the British claimed areas for settlement and agriculture. The colonists, often at the expense of the local Aboriginal groups, also claimed resources such as pasture, timber, fishing grounds and water sources. Overall the devastation of the Aboriginal culture did not come about through war with the British, but instead through disease and forced removal from traditional lands. It is thought that during the 1789 smallpox epidemic over half of the Aboriginal people of the Sydney region died. The disease spread west to the Darug of the Cumberland Plain and north to the Hawkesbury. It may have in fact have spread much further afield, over the Blue Mountains (Butlin 1983). This loss of life meant that some of the Aboriginal groups who lived away from the coastal settlement of Sydney may have disappeared entirely before Europeans could observe them or record their clan names (Karskens 2010: 425).

The British initially thought that Aboriginal people were confined to the coast taking advantage of the abundant marine resources available. The first major recorded expeditions into the interior did not witness any Aboriginal people, but evidence of their existence was noted. In April 1788, Governor Philip led an expedition west to Prospect Hill. It was noted,

...that these parts are frequented by the natives was undeniably proved by the temporary huts which were seen in several places. Near one of these huts, the bones of kangaroo were found, and several trees where seen on fire (Phillip 1789).

It wasn't until rural settlement began in the western Cumberland Plain, during the 1790s, that Aboriginal groups in this region came into regular and permanent contact with British colonists. Relations quickly disintegrated, and tensions over land and resources spilled over. Governor King sanctioned the shooting of Aboriginal peoples in a General Order made in 1801 (Kohen 1986: 24). Intermittent killings on both sides continued for over 15 years, including the Appin massacre and attacks at South Creek in 1816 (Kohen 1986: 23; Karskens 2010: 225).

4.2 Early Land Grants

The study area is located in the small suburb of Horsley Park, Fairfield, on land granted to John Thomas Campbell after 1811 (Figure 4.1). Campbell was secretary to Governor Lachlan Macquarie, and he owned several properties in the Sydney region. Campbell was granted the 1,100 acre property near Rooty Hill, by Macquarie, which he named 'Mount Philo' (Holder 1966). Historically, Horsley Park was associated with another property, a larger settlement to the south owned by George Johnston Senior's daughter Blanche Weston (Yarwood 1967). The property was called 'Kings Gift', an Indian

colonial style bungalow was erected on the property by Blanche known as Horsley Park (complete with Indian servants, brought to Australia from her husband's time spent as a judge in India.

The earliest European land use of the study area and the surrounding vicinity was likely to have been associated with timber getting, grazing and pastoralism from the early 19th century onwards (AMBS 2007). John Thomas Campbell was known as a most efficient farmer and breeder of cattle and horses.

Early residential settlement in the broader Fairfield/ Penrith area was driven by the availability of fertile soil and easily accessible water sources such as creeks and river beds. For example, the Nepean River (to the west of the study area) provided the most fertile soil in the region and occupation and farming took place along its banks and alluvial from 1789 onwards (Thorpe 1986). Over the following decade, frequent flooding forced settlement to spread inland, to the east of the river. At this time, Eastern Creek (east of the study area) became associated with smaller allotments, often given to emancipated convicts while land surrounding the study area-further inland and less fertile was issued to free settlers in the form of large acreages (AMBS 2007).

A number of the larger grants that surrounded the study area became well known estates such as Bayly Park (Nicholas Bayly); King's Gift or Horsley Park (George Johnston Snr); Lochwood (George Johnston Jnr); Exeter Farm (James Badgery); Mt. Vernon (Anthony Fenn Kemp); Erskine Park (James Erskine); Minchinbury (William Minchin) and Regentville (James Jamison). Many of these estates were occupied by grand manors such as Bayly's single storey home in Bayly Park.

The majority of these larger grants were given by Governor Macquarie (Governor from 1810-1821) in 1810 for grazing and pastoral purposes. Generally, forms of farming depended on the experience and resources of their landholders and orcharding (mostly stone fruit), dairying, horse breeding and quarrying were common in the area (Yarwood 1967).

4.3 Campbell Estate

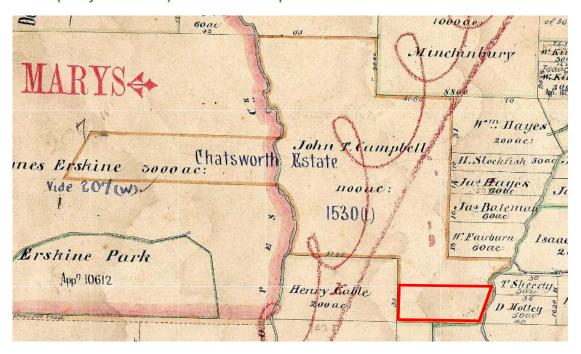
The entirety of the study area is located within John Thomas Campbell's Rooty Hill land grant known as 'Mount Philo'. The property comprised 1,100 acres of land, was granted to Campbell in 1819, in the Parish of Melville, County of Cumberland (Figure 4.1) (Yarwood 1967). The property was then inherited by Reverend Charles Campbell in 1830 following the death of John Thomas Campbell. The land was sold by Campbell to Charles Roberts in 1832. Roberts was acquiring several properties in the surrounding area (Nicolaidis 2000).

The property was sold to three brothers, Thomas William Shepherd, Patrick Lindsay Shepherd and David Shepherd, in 1856. They combined the land with the neighbouring property of Erskine Parks Estate to the west and formed a nursery and renamed the newly formed property as Chatsworth Estate (Figure 4.2). The homestead for the property was located nears Ropes Creek bordering the north west of the previous Campbell estate. The portion of the estate containing the study area belonged to a Frederick Thomas Bigg (Nicolaidis 2000).



Figure 4.1: Pre 1930 parish map of Melville, study area outlined in red. John Thomas Campbell 'Mount Philo'. Source - Six Maps Historical Viewer

Figure 4.2: Pre 1890 Parish Map showing the amalgamation of properties to form Chatsworth Estate (study area in red). Source - Six Maps Historical Viewer



4.4 Land use within the study area

During the early settlement years there are no records of any kind of development within the study area or within the Campbell estate. It was most likely cleared for timber and used for pastural, grazing

purposes as John Thomas Campbell was well known as an efficient farmer and breeder of horses and cattle (Holder 1966).

When the Campbell Estate was sold to the Shepherd brothers in the late nineteenth century and it was renamed Chatsworth Estate more extensive agricultural practise may have occurred. The brothers used the land as part of their Chatsworth nursery, the Chatsworth Estate came with a farm and outbuildings to the north west of the current study area, along the banks of Ropes Creek (Nicolaidis 2000). On a reconnaissance map of the area there is a cart track that passes through the western end of the study area. This track possibly connected the farms and the surrounding estates to Wallgrove Road to the north. There appears to be an unnamed built structure to the east of the marked cart track (Figure 4.3).

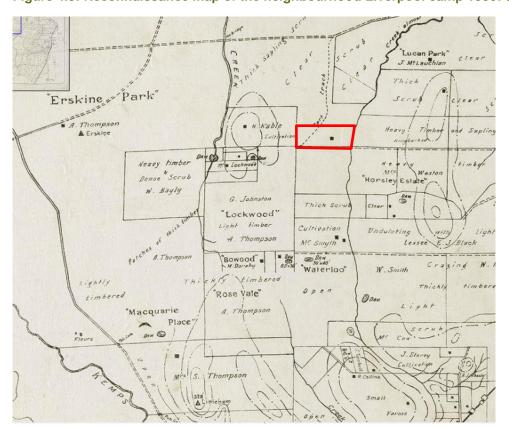


Figure 4.3: Reconnaissance map of the neighbourhood Liverpool camp 1906. Source - Trove

By the mid twentieth century the study area and surrounding property was affected by several easements of transmission lines to the Sydney West substation to the north. Wallgrove Road (also known as Old Wallgrove Road) formed the western boundary of the study area. To the south a reserved strip of land was assigned for the now Burley Road that forms the southern boundary (Historical Records viewer).

Most recent land use within the study area has been quarrying activities for brick making. Brickworks Limited around this time period was acquiring substantial landholdings to ensure constant supply of shale reserves for the brickmaking industry around 1959 to 1960. Construction of tunnel kilns for extruded texture brick commenced at Wallgrove in 1960. The current use of the study area is for Austral Plant no.3 which opened in 1972. In 1982, the plant closed down for upgrades and reopened in 1984 with a fully automated production line (Brickworks Limited History).

Figure 4.4: Aerial imagery from 1994 of the active Austral brickworks. Source: Goodman



Figure 4.5: Landscape of the study area pre quarrying/ mining works 1947. Source: Goodman



5.0 SITE ANALYSIS

5.1 Introduction

A site inspection of the study area was carried out on 18 October 2018 by Ryan Taddeucci (Senior Heritage Consultant, Artefact Heritage) and Jennifer Norfolk (Heritage Consultant, Artefact Heritage). The aim of the inspection was to locate any visible archaeological remains, assess the natural landform of the area and identify areas of previous disturbance. The site inspection was conducted on foot and a photographic record was made.

5.2 Site description

The study area is comprised of modified slopes, spoil mounds, deep excavated pits, quarry infrastructure and vehicle access tracks. The site is dissected by a transmission line that runs north south through the centre (Figure 5.5). The southern and western boundary of the study area has been built up to form a levee adjacent to Burley Road and Old Wallgrove Road (Figure 5.4).

The visibility was restricted as the survey unit was well grassed, obscured by spoil mounds and buildings (Figure 5.3, Figure 5.5 and Figure 5.6). There is immature tree growth around the perimeter to the west and south and along the remnant creek line in the eastern boundary. The northern boundary of the study area is adjacent to the current existing Austral brickworks. Subsurface soil profiles were visible in the exposed excavation pit walls, no intact soil profiles above clay were visible (Figure 5.3).

Western Central portion – this portion of the study area is highly disturbed from the mining activities and other various infrastructure. This area covers approximately 324,000 square metres of the study area. The northern area has been utilised by various buildings and structures/ warehouses associated with Austral bricks manufacturing and distribution. The western and southern boundary has been modified with a large earth levee. The remainder of this portion has been heavily modified with mass excavation and earth moving. There is a power easement that runs north south through the centre of the site. There appears to be no intact deposits or original vegetation. There is no other visible evidence of potential archaeological remains or unlisted heritage items.

Eastern portion – This area of the site appears to have had minimal disturbance in the form of vegetation clearance, revegetation, drainage line cuts, a built dam in the south east corner and various unformed access tracks. The area covers about 30,450 square metre area along the eastern boundary. There is evidence of a previous fence line in the eastern edge of the study area. The area has a gentle slope adjacent Reedy Creek, which appears to have dissected the original landform.

Figure 5.1: View north of the levee around the artificial dam (J Norfolk, 18 October 2018)



Figure 5.3: View west showing quarrying of pits and soil profiles (J Norfolk, 18 October 2018)



Figure 5.5: View north from the southern boundary showing undulating modified landform (J Norfolk, 18 October 2018)

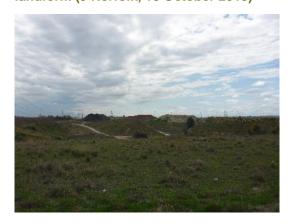


Figure 5.2: Remnant fence posts (J Norfolk, 18 October 2018)



Figure 5.4: View west at the southern border of the study area, showing levee boundary and vehicle access tracks (J Norfolk, 18 October 2018)



Figure 5.6: View north of the building structures in the north west of the study area (J Norfolk, 18 October 2018)



5.3 Previous impacts

Based on previous studies in the locality, historical records and survey observations, the study area has been subject to major subsurface disturbance, a small portion, approximately 30,000 square metres, of the site along the eastern boundary adjacent to Reedy Creek appears to have had minimal disturbance. The majority of the study area has been impacted by extensive landform modification in

the form of bulk earth works from the mining activities. The small portion of intact land on the eastern boundary appears to have been impacted from land clearance and minor farming practices.

6.0 ARCHAEOLOGICAL ASSESSMENT

Historical archaeological potential is assessed by identifying former land uses and associated features through historical research and evaluating whether subsequent actions (either natural or human) may have impacted on evidence for these former land uses. This chapter will assess these factors to determine the potential for intact archaeological remains to be located in the study area.

6.1 Land use summary

There are two major phases of land use associated with the study area:

- Phase 1 (1788 1960): Vegetation clearance for European farming, pastoral and grazing as well as timber getting.
- Phase 2 (1960 present): The area was purchased during the mid-twentieth century for quarrying and brickmaking activities.

6.2 Relevant archaeological studies

There have been previous archaeological studies in the vicinity of Oakdale East, and Horsley Park, but none have been conducted specifically of the study area.

Artefact Heritage 2015 Oakdale South Estate: Non-Aboriginal (historical) Heritage and Archaeological Impact Assessment

Artefact Heritage were engaged by Goodman to conduct an assessment of the Oakdale South Estate. The assessment identified the potential for archaeological remains of an outbuilding complex associated with the Lockwood Estate (1815-1919). Test excavation was conducted in 2015 and confirmed the presence of archaeological remains of a former dairy or similar. This assessment area is located south west adjacent to the current study area.

Artefact Heritage 2016 Oakdale West: Non-Aboriginal (historical) Heritage Assessment and Historical Archaeological Research Design 2016

In addition to Oakdale South Estate, Artefact Heritage was also engaged by Goodman Group to conduct a non-Aboriginal Heritage Assessment and prepare a Historical Archaeological Research Design (ARD) for Oakdale West Estate as part of similar developments. The area investigated was within the Razeville Estate, which like the current study area was later used as part of the Lenore Estate Closer Settlement Scheme.

At the date of the production of this report, the Oakdale West investigation had identified the remains of a collapsed cottage and associated outbuildings. Pending further archaeological investigation the study suggested that the collapsed cottage is of potential local significance, with the potential for archaeological materials. This assessment area is located adjacent to the Oakdale South Estate on the western side of Ropes Creek.

AMBS 2007 Historical Archaeological Assessment and Heritage Management Strategy; Oakdale Concept Plan, Kemps Creek, NSW.

The 'AMBS (2007) report included an assessment of the study area. The report concluded that the Lochwood outbuildings, within the Oakdale South Estate had moderate to low archaeological research potential and moderate significance. The report recommended that archaeological

excavation options be designed to mitigate the destruction of the archaeological resources. Archaeological excavations would be designed in accordance with research questions outlined.

Cultural Resources Management 2005 Archaeological Investigation: Lucan Park Homestead Site, M17 Motorway, Eastern Creek

In 2005, an archaeological excavation was undertaken in order to investigate the European occupation of Lucan Park, 1 km to the north east of the study area. The purpose of the work was to record and interpret the evidence prior to the site being disturbed as part of the development of the M17 West link Motorway.

Earlier assessments of the site had suggested that it might be associated with an early nineteenth century homestead known as Lucan Park. The investigation however suggested that the site more likely dated from 1895 to circa 1920. The excavation uncovered remains of three sheds and a yard which were interpreted as an occasionally or seasonally occupied group of buildings devoted to the managing of grazing animals. However, the remnant evidence recovered from the site could not identify the specific function of each of the buildings.

6.3 Potential archaeology

Analysis of parish maps, aerial photographs, archival documents, and photographs suggests that the study area has low potential to contain archaeological deposits and features associated with the early habitation and subsequent development of the area. Generally, the study area has been subject to low intensity agricultural uses with potential associated tracks, unformed roads, outbuildings or other structures associated with the farming practises. In the mid-twentieth century mining/ quarrying resulted in large-scale earthworks, landscape alteration and removal of the subsurface deposits.

The archaeological potential of the study area will be presented using the following grades:

Nil-Low Potential: land use history suggests limited development or use, or there is likely to be quite high impacts in these areas and deposits are unlikely to survive, alternatively it may be that former structures or land uses were limited therefore archaeological remains were never present.

Moderate Potential: land use history suggests limited phases of low-moderate development intensity, or that there are impacts in this area. A range of archaeological remains are likely to survive, including building footings and shallower remains as well as deeper sub-surface features.

High Potential: substantially intact archaeological remains could survive in these areas.

Phase 1 (1788 – 1960): Early Land Grants and Subdivision

The study area was located within a substantial portion of land granted to John Thomas Campbell in the early nineteenth century. Land-use during this phase is characterised by land clearance and cattle grazing, activities which are not likely to leave an archaeological signature. The latter end of this phase focused on farming and agriculture associated with a plant nursery. There is one map available from 1906 that depicts a cart track and potential structure within the central section of the study area, although substantial structures associated with the nursery were not identified in documentary evidence. The location of the structure in the 1906 map has since been heavily disturbed to depth so any traces of this structure and cart track would have been removed (Figure 6.1).

There is nil potential for archaeological remains associated with the early phase of settlement to be present within the study area that is to be impacted by the proposed works due to the high level of disturbance (Figure 6.1).

Phase 2: Twentieth Century Industries (1960 – present)

This phase is associated with the current brickworks making facility. During this phase there has been major earthworks and landform modification. This phase of land use saw the development of the Brick Works in the area and associated infrastructure. The 1947 aerial photograph (Figure 4.5) identified the study area as being mostly cleared of natural vegetation, a drainage line running through the centre, and no evidence of previous structures or development. However, impacts from phase 2 which has resulted in bulk excavation/ earth moving and extensive landform modification will have resulted any potential remains of historical land use being removed (Figure 4.4).

There is nil-low potential for archaeological remains associated with the Twentieth Century Industries phase to be present within the study area.

6.4 Archaeological significance

The Heritage Division of the Office of Environment and Heritage (OEH) issued a new set of guidelines in 2009: Assessing Significance for Historical Archaeological Sites and 'Relics'. In accordance with the 2009 guidelines, the following section presents a discussion of the potential archaeological resource's research potential and an assessment against the NSW heritage significance criteria.

The Heritage Council of NSW has adopted specific criteria for significance assessment, which have been gazette pertinent to the Heritage Act If an item meets one of the seven heritage criteria, and retains the integrity of its key attributes, it can be considered to have significance. The significance of an item or potential archaeological site can then be assessed as being of local or state significance, based on a series of criteria that have been developed for assessing significance relating to archaeological sites and their associated 'relics'. The criteria identify a series of questions that could be asked in relation to the item to assist in the identification of the appropriate level of significance to be applied.

- **'State heritage significance'**, in relation to a place, building, work, relic, moveable object or precinct, means significance to the state in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item.
- 'Local heritage significance', in relation to a place, building, work, relic, moveable object or
 precinct, means significance to an area in relation to the historical, scientific, cultural, social,
 archaeological, architectural, natural or aesthetic value of the item.

The overall aim of assessing archaeological significance is to identify whether an archaeological resource, deposit, site or feature is of cultural value. The assessment will result in a statement of heritage significance that summarises the values of the place, site, resource, deposit or feature. It is important to note that the significance of an archaeological deposit cannot necessarily be assessed from desktop analysis alone. The heritage/archaeological significance assessment criteria are outlined in Table 6.1 below.

Table 6.1: Significance Assessment Criteria

| Criterion ID | Criterion Name | Description |
|--------------|-------------------------|---|
| Criterion A | Historical significance | An item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area) |

| Criterion ID | Criterion Name | Description | |
|--------------------------------|--------------------------|--|--|
| Criterion B | Associative significance | An item has a strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area) | |
| Criterion C | Aesthetic significance | An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or in the local area) | |
| Criterion D | Social significance | An item has a strong or special association with a particular community or cultural group in NSW (or the local area), for social, cultural or spiritual reasons | |
| Criterion E Research Potential | | An item has the potential to yield information that will contribute an understanding of NSW's cultural or natural history (or cultural natural history of the local area) | |
| Criterion F | Rarity | An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area) | |

Archaeological Research Potential

Consideration of archaeological research potential is required when undertaking a significance assessment of an historical archaeological site. Bickford and Sullivan espoused the principles and developed a framework in order to assess archaeological research potential. These principles have been incorporated into three questions and should be used as a guide for assessing the significance of an archaeological site.³

- Can the site contribute knowledge that no other site can?
- Can the site contribute knowledge that no other resource can?
- Is this knowledge relevant to general questions about human history or other substantive questions relating to Australian history, or does it contribute to other major research questions?

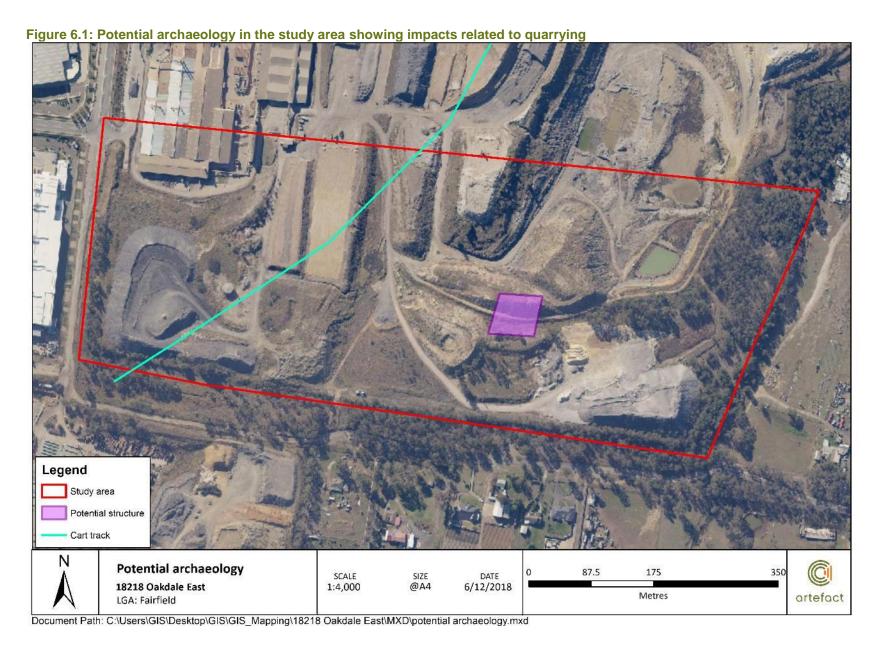
The study area has nil potential to contain an archaeological resource that may be able to support and enhance the current state of knowledge about its phases of occupation. Any archaeological remains are likely to have been removed when the quarrying operations heavily modified the landscape. No previous structures were identified in the less disturbed eastern portion of the study area therefore the presence of archaeological remains is unlikely. Any Phase 2 remains are modern and associated with ongoing activities and would not have research potential. The potential archaeological resource is therefore unlikely to contribute to current archaeological research agendas and would not reach the threshold of local significance.

6.5 Statement of historical archaeological significance

Owing to the land-use history and the high level of previous impacts, there is nil potential for significant archaeological remains within the study area. As such, the potential archaeological resource is unlikely to contribute to our understanding or appreciation of the past and does not meet any of the significance assessment criteria.

³ Bickford, A and S Sullivan, pp. 23-24





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7.0 IMPACT ASSESSMENT

7.1 Proposed development

The proposal is for designated development for the construction and operation of a masonry plant (Concrete Works) and five warehouses for generic and distribution uses at its existing facility. The development has production capacity of 220,000 tonnes per annum.

The proposal involves the development of a portion of 224-398 Burley Road, Horsley Park site. The concept design (Figure 1.2) includes the following:

- Initial bulk earthworks: to create broad, flat, developable hardstand areas.
- Civil works: including internal access roads, parking areas, basins, retaining walls and services.
- Building Works: Construction of five warehouses within new subdivision area.

7.2 Impacts to potential archaeological resources

As the study area has nil-low potential to contain significant archaeological remains, and any remains are unlikely to meet the threshold of local significance it is unlikely archaeological relics would be impacted by the proposal.

7.3 Impacts to heritage items

There are no listed heritage items located within the study area therefore there are no potential impacts.

8.0 CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

- Historically the area is associated with large land grant associated with John Thomas Campbell (Mount Philo estate) and his cattle and horse breeding venture and later in the nineteenth century with the Shepherd family (Chatsworth Estate) and their agricultural pursuits in a plant nursery.
- Most recently the study area has been associated with its existing operations as Austral
 Brickworks quarrying, brick manufacture and distribution. Subsequently this has resulted in a high
 level of landform modification in the study area from late twentieth century mining operations by
 Austral Bricks.
- There are no listed or unlisted heritage items located within the study area
- The majority of the study area has nil-low potential for archaeological remains
- Bulk excavation and landform medication would have resulted in the loss of Archaeological remains. The proposed works would therefore not impact any 'relics' and does not require mitigation.
- There is low potential for archaeological remains to be located in the eastern section of the study area, along Reedy Creek. This area is not to be impacted by the proposed works.

8.2 Recommendations

- The current proposed works are not expected to impact archaeological relics and therefore no further archaeological investigation, or mitigation is required.
- If the proposed works are amended and are to impact the intact eastern portion of the study area, then archaeological test excavation should be undertaken within areas assessed as having potential for archaeological 'relics. The testing program would aim to confirm the presence and extent of archaeological 'relics' within the study area and determine whether archaeological salvage excavation or archaeological monitoring and recording is necessary.
- An Unexpected Finds Procedure would be implemented throughout the duration of the proposed development. If potential archaeological relics are unexpectedly discovered during excavation, work must cease in the affected area and an archaeologist engaged to assess the find. Depending on the nature of the discovery, additional assessment and possibly an excavation permit may be required prior to the recommencement of excavation in the affected area. The Heritage Council would be notified in writing in accordance with Section 146 of the NSW Heritage Act 1977 if it was confirmed that relics had been identified
- If human remains, or suspected human remains, are found during the works, all work in the vicinity must cease, the site should be secured, and the NSW Police and Heritage Council must be notified.

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