Aboriginal and non-Aboriginal Archaeological Heritage Impact Assessment

2A Gregory Place, Harris Park, NSW
(Lot 2 in DP 807801)

Report to

2A Gregory Place Pty Ltd

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20 September 2021

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Document control

Project name	Aboriginal and non-Aboriginal Archaeological Heritage impact Assessment. 2A Gregory Place, Harris Park, NSW
Report for	2A Gregory Place Pty Ltd
Final Draft	20 September 2021
Final Issue	
Cover image	http://onthehooftour.blogspot.com/2006/06/neales-cottage-1854.html

Report contents

1.0 Introduction

1.1 Background

2A Gregory Place Pty Ltd are proposing to redevelop the property shown below that is located at 2A Gregory Place in Harris Park and is presently occupied by a 1950s factory building. The site is situated within one the City of Parramatta's more significant Aboriginal and non-Aboriginal cultural heritage landscapes, and the Proponent is currently developing a Concept Design for the proposed redevelopment that acknowledges and responds to the heritage sensitivity of the site and its landscape setting.

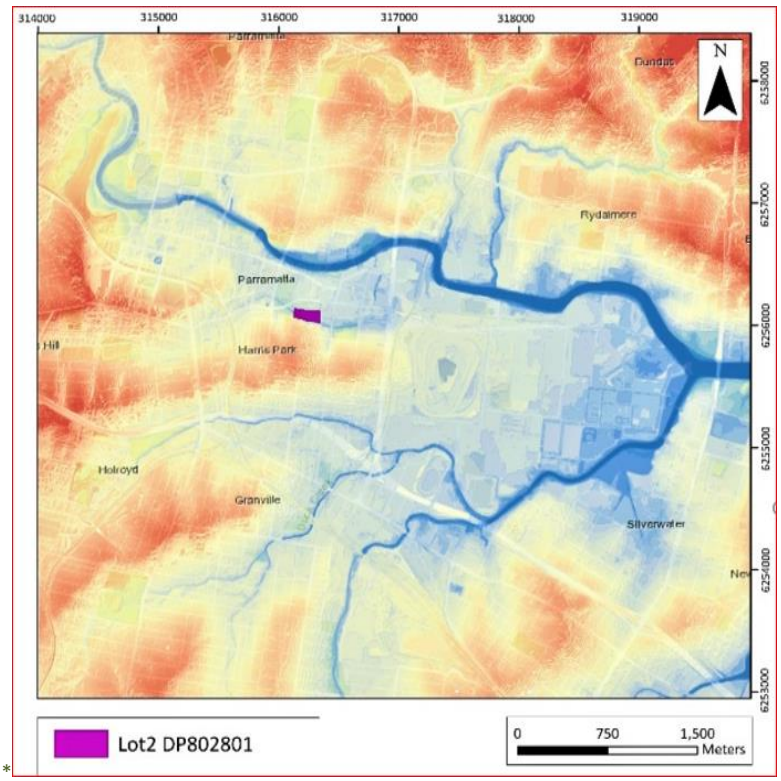
Figure 1.1: The 2A Gregory Place property (comprising Lot 2 in DP 807801) is approximately 19,500 sqm in size and comprises a former light industrial pharmaceuticals assembly complex that has been adapted for office use and storage (Six Maps 2021)

The 2A Gregory Place property forms a small part of a very old and evolved natural and cultural landscape and is located within close proximity to several items and places of recognised heritage significance that are listed on the State Heritage Register (SHR) and which are protected by the relics provisions of the *Heritage Act 1977* (as amended) and the statutory protection provided for Aboriginal objects under the *National Parks and Wildlife Act 1974* (as amended). The closest of these SHR-listed items are Hambledon Cottage and grounds that are located to the immediate north of the Gregory Place site and Experiment Farm that is located to the immediate southwest. The Gregory Place site is also situated on the SHR-listed Parramatta Sand Body (PSB) that contains a significant Aboriginal and early colonial archaeological record and is State-heritage listed for its combined archaeological, historical and environmental values.

This Aboriginal and non-Aboriginal archaeological heritage impact assessment for the proposed development of the Gregory Place site has been prepared within this context, and with two primary objectives. The first goal has been to identify the potential risk that future redevelopment of the 2A Gregory Place site may result in impacts to Aboriginal objects that are protected under the NPW Act and impacts to relics protected by the Heritage Act, and based on that understanding, to recommend and guide how potential archaeological impact risks that may be identified can be managed.

The second objective of this report has been to inform the Concept Design that is being developed for the site about the archaeological, environmental history, and historical heritage values of the land. by taking a landscape-based approach to viewing how the cultural and natural evolution of the place and its uses by people unfolded over time. This is presented within a long-chronology framework to bring depth and balance to our understanding of the cultural and natural heritage values of the place.

Figure 1.2: Landscape context of the 2A Gregory Place site (Sherborn-Higgins 2021)



1.2 SHR-listed heritage items within proximity

The significance statements below for the three nearest SHR-listed items to the Gregory Place site (comprising Experiment Farm Cottage, Hambledon Cottage and the Parramatta Sand Body) are abridged from their respective heritage listings to highlight key points.

1.2.1 Experiment Farm Cottage

Experiment Farm Cottage has a strong association with the earliest free settlement of land in Australia and with the first land grant given to a freed convict (James Ruse). The house is a rare example of an early farmhouse in intact condition and the site possesses archaeological potential to contribute to an understanding of the early development of Parramatta. Experiment Farm Cottage and the site of Experiment Farm is of exceptional cultural significance to Australia, NSW, and Parramatta because:

- It forms part of the first European land grant in Australia and is associated with Governor Phillip's 'experiment' to determine how long it would take for a settler to become self-supporting.
- It's role as forming part of "Harris' Farm Estate", one of several large properties established by the "Parramatta Gentry" from the late early 19th century.
- The visual prominence of Experiment Farm Cottage (built on a rise) in the surrounding landscape and its relationship to other elements in the landscape including Parramatta River and Clay Cliff Creek.

1.2.2 Hambledon Cottage, Grounds and Archaeology

Hambledon Cottage and grounds and associated archaeology have State significance for their associations with one of the influential families in Australian history (Macarthur's) and as representing an important element of an estate (Elizabeth Farm) that became a prototype of Australian land management.

1.2.3 Parramatta Sand Body

Archaeological investigations of the PSB have uncovered an archaeological record that has contributed to our understanding of pre-colonial Aboriginal occupation of Parramatta and the natural environment of prehistoric Parramatta. The age and context of some PSB Aboriginal archaeological materials is scientifically significant and the cultural materials present within the PSB as a whole are highly significant to the contemporary Aboriginal community. The SHR listing for the PSB recognises the sand body has potential to provide insight into patterns of river flow and flood events and may be able to provide information about changing sea levels in the Pleistocene with implications for possible future sea levels and coastal geography under a warming climate. The site of Military Barracks and Soldiers Garden is also on the PSB and is of State significance for its association with the establishment of the town of Parramatta and with the works of Governor Arthur Phillip. Importantly, the current study area is located on the same Quaternary geological formation as the PSB that comprise Pleistocene alluvial terraces that are identified as Qpat by current Quaternary mapping.

1.3 *Statutory heritage context and approval pathways*

1.3.1 NSW Heritage Act 1977

The *NSW Heritage Act 1977* (as amended) is the principal legislation that provides statutory protection for (primarily) non-Indigenous heritage and the requirements for its management in NSW. Aboriginal values that are identified on the SHR are also under the remit of this Act whose purpose is to protect, conserve and manage the environmental heritage of the State that is broadly defined as '*those places, buildings, works, relics, moveable objects, and precincts, of State or Local heritage significance*'. Historical-archaeological remains are additionally protected via the operation of the 'relics' provisions of the Act (Division 9, Part 6, Sections 138-146). Amendments to the Act made in 2009 have changed the definition of an archaeological 'relic' whereby a relic is now referred as an archaeological deposit, artefact, object, or material evidence that:

a) *Relates to the settlement of the area that comprises NSW, not being Aboriginal settlement; and*

b) *Is of State or Local heritage significance.*

This significance-based approach to identifying 'relics' is consistent with the way other heritage items such as buildings, works, precincts and landscapes are identified and are statutorily managed in NSW. Although several of the archaeological provisions of the Act have been streamlined, the Act nevertheless retains the core principals and objectives that require anyone proposing to disturb land to obtain a permit from the *Heritage Council of NSW* (under s.140 or Section 60 of the Act) if it is known or suspected that 'relics' of significance may be disturbed, moved, or destroyed by future land alterations and/or use. Section 139 of the Act stipulates that:

a) *'A person must not disturb or excavate any land knowing or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed unless the disturbance or excavation is carried out in accordance with an excavation permit.*

b) *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'.*

If the site is listed on the State Heritage Register (SHR), approval for an Excavation Permit is required under Section 60 of the Act. Exceptions under Section 139(4) of the Act include that an archaeological assessment has been prepared which indicates that any relics on the land are unlikely to have State or Local heritage significance (1A), the excavation or disturbance of land will have a minor impact on archaeological relics (1B), and where the proposed excavation demonstrates that evidence relating to the history or nature of the site, such as its level of disturbance, indicates that the site has little or no archaeological research potential (1C).

1.3.2 *NPW Act 1974 and NPW Regulation 2009*

Two primary pieces of legislation provide statutory protection for Aboriginal heritage and the requirements for its management in NSW. These are the *National Parks and Wildlife Act 1974* (as amended) and the *National Parks and Wildlife Regulation 2009*. The NPW Act protects Aboriginal heritage (places, sites, and objects) and the Regulation provides a framework for undertaking activities and exercising due diligence. The protection of Aboriginal sites, objects, places, and cultural heritage values in NSW that are managed through the provisions of the NPW Act which was amended through the *NPW Act Amendment Act 2010*. Key points are as follows:

- Part 6 of the NPW Act provides protection for Aboriginal objects and places by establishing offences of harm which is defined to mean destroying, defacing, damaging, or moving an Aboriginal object. Aboriginal objects are defined by the NPW Act 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 (or both) the occupation of that area by persons of non-Aboriginal extraction and includes Aboriginal remains*'.

- A declared Aboriginal Place this is of special significance to Aboriginal people and culture is a statutory concept (and may or may not contain Aboriginal objects as physical/tangible evidence) and protection provided to Aboriginal objects and places applies irrespective of the level of their significance or issues of land tenure.
- It is an offence (under s.86) of the NPW Act to knowingly, or cause or permit harm to an Aboriginal object (or place) without prior written consent from the DG of the OEH. Defences against offence of harm under the NPW Act include that harm is carried out under the terms and conditions of an approved Aboriginal Heritage Impact Permit (AHIP) or that the proponent has exercised due diligence in respect to Aboriginal heritage. The 'due diligence' defence (s.87[2]), states that if due diligence has been exercised to ascertain that no Aboriginal object are likely to be harmed because of the activities proposed, then liability from prosecution under the NPW Act will be removed or mitigated if it later transpires that an Aboriginal object was harmed.

1.4 Heritage assessment methodology

This assessment has followed precautionary due diligence approaches to the assessment of impacts to Aboriginal objects and 'relics' and archaeological deposits that are protected under the *National Parks & Wildlife Act 1974* and *Heritage Act 1977* respectively. This report has also been prepared with reference to the following heritage assessment and reporting standards and guidelines:

- Australia ICOMOS. 1999. The Burra Charter. Australia ICOMOS Charter for Places of Cultural Significance. Australia ICOMOS Inc.
- NSW Heritage Office. 1996. NSW Heritage Manual. NSW Heritage Office and the Department of Urban Affairs and Planning. Sydney (revised 2002 – SoHI).
- NSW Heritage Office. 2006. Historical Archaeology Code of Practice. NSW Heritage Office, NSW Department of Planning.
- NSW Heritage Office. 2008. Levels of Heritage Significance. NSW Heritage Office, Sydney.
- NSW Heritage Branch. 2009. Assessing Significance for Historical Archaeological Sites and 'Relics'. NSW Heritage Branch, NSW Department of Planning.
- NSW Department of Environment, Climate Change & Water. (DECCW) 2010a (September). Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales. DECCW.

1.5 Authorship

This report has been written by Dominic Steele. The Quaternary maps used in this report have been prepared by Bryce Sherborne-Higgins. Jakub Czstaka has provided geoarchaeological interpretation for a nearby property geotechnical bore-log referred to in this document. Graham Brooks and Raymond Raad have provided valuable comments on previous drafts of this document.

2.0 Landscape evolution and change

2.1 Preamble

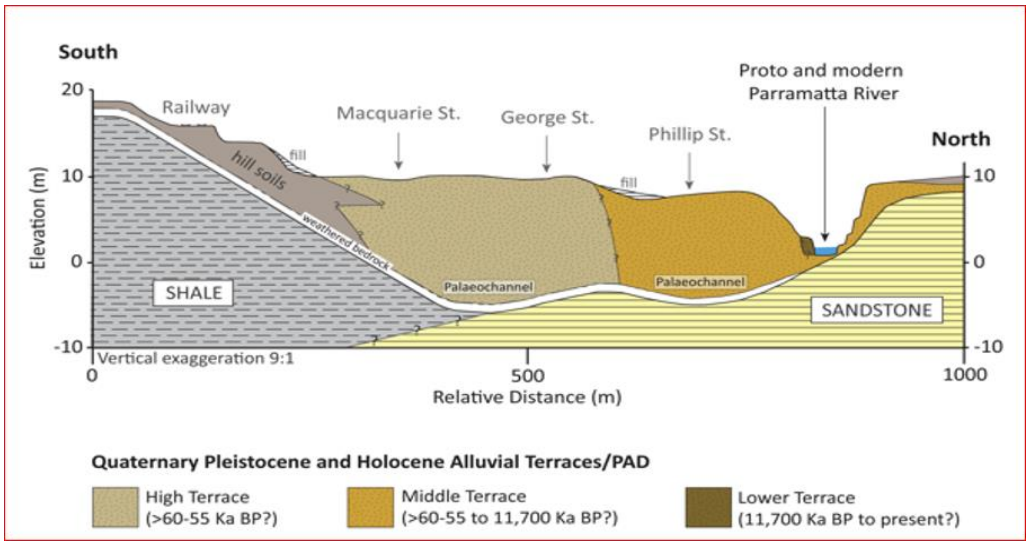
2.1.1 Quaternary landscape setting

The City of Parramatta is built on an ancient alluvial plain and over a deep subsurface sequence of Quaternary fluvial sediments that infill the lower part of a valley formed on Middle Triassic Ashfield Shale over Hawkesbury Sandstone bedrock. The Quaternary is the most recent period of the geologic timescale and is subdivided into the Pleistocene (2.5 million years ago to 11 700 years ago) and the Holocene (11 700 years ago to the present).

The ages and the origins of the valley infill sediments are linked to the rise and fall of relative sea-level that resulted from the expansion and melt of global ice sheets that occurred frequently during this period. Most surficial Quaternary deposits are inferred to date from the Late Pleistocene period (last c.120 000 years) and to be associated with particular periods of fluctuating sea-levels that are recorded to have occurred during this period and Late Pleistocene and the mid-Holocene to the present (Troedson et al 2015).

Higher than present sea-levels that reached about +4-6m are reported to have occurred around 125,000 years ago and higher levels also during the mid-Holocene to the present when sea-levels exceeded present levels by 1-1.5m (Sloss et al 2007, Lewis et al 2013). Remains of Holocene river terraces that formed after about 6,500 years ago occur up to 2m in elevation on both sides of the modern Parramatta River and higher terraces above 5-6m sea-level are believed to have formed during the Last Interglacial (Casey & Macphail 2008).

Figure 2.1: Surface elevation of Quaternary alluvial terraces and underlying bedrock along a N-S cross-section between Lennox Bridge and Parramatta Railway Station. Note the sloping surface of the shale bedrock in the south and two depressions in the bedrock below the alluvium that relate to early phases of the Parramatta River (adapted from R. Lawrie [1982] Soils -Archaeological Studies at Parramatta. Soil Science Conference, Canberra, May 1982)



The geological landscape cross-section above shows the surface elevation of the alluvial terraces and depth to the underlying bedrock below the City of Parramatta. Towards the 'bottom' of the Quaternary sequence and above the weathered shale to the south are layers of dense sandy and clayey alluvial sediments that represent a much earlier phase in the evolution of the Parramatta River. Lawrie (1982) reports bedrock beneath the basal alluvial sediments has been gouged out in two places to below current sea levels creating depressions that reflect older alignments of the river (palaeochanels). The downcutting of the bedrock occurred during the Pleistocene because sea-levels fluctuated and were often lower than they are at present (and because hydrological budgets were variable over time - wetter verses drier periods). This fluctuating 'sea-saw' effect created episodic phases of deposition, stability, and erosion in the 'sedimentary archive' as rivers either backed up (sedimentation and rising sea levels) or were eroded (increased river downcutting to reach a lower base sea level). The stratigraphic relationship between the alluvial clays and residual shale subsoil's below them is however unclear.

The Quaternary alluvium represents several episodes of deposition and reflects alluvial, fluvial and estuarine depositional environments that are each separated by phases of erosion and/or non-deposition. Evidence for this comes from the geomorphology of the valley where at least two river terraces are recognised above the modern Parramatta River floodplain (**Figure 2.1**). A sand deposit known as the Parramatta Sand Body (PSB) that forms part of the Quaternary alluvial sediment sequence is currently mapped to extend between Parramatta Park in the west to about James Ruse Drive in the east and contains a significant Aboriginal archaeological record.

Aboriginal cultural materials within the PSB at Parramatta have been dated to over 35,000 BP, where dates for the alluvial sediments directly below the level of Aboriginal occupation at the western end of the PSB indicate they are about 64,000 years old (GML 2018), and comparable dates to the eastern end of the PSB (140 Macquarie Street) of approximately 50-58,000 years old.

2.1.2 Quaternary mapping and the Parramatta Sand Body

Prior to the early 2000's, the PSB was a previously unrecognised soil landscape unit incorrectly mapped as disturbed terrain on the Birrong Soil Landscape (Michell 2008). The sand body was archaeologically identified and found to contain Aboriginal objects during historical archaeological investigations (corner of George and Charles Streets) in 2002 where a very large number of stone artefacts and other cultural materials were found. It was subsequently proposed (McDonald 2005a:7) that the sand body on the southern bank of the Parramatta River probably extended west from beyond The Crescent in Parramatta Park, south to Clay Cliff Creek, and east to the confluence of Clay Cliff Creek and the Parramatta River near James Ruse Drive.

In recognition of the archaeological and cultural sensitivity of the PSB Parramatta City Council subsequently commissioned a study to define the extent of the sand body within the CBD, but only as far east as Clay Cliff

Creek, and the results were used to create the types of PSB distribution maps shown below (**Figure 2.2**) that have been used for the SHR listing of the PSB and to guide archaeological investigations in the City since 2008. We now know the PSB forms part of the much larger Quaternary geological formation mapped as Qpat on the updated mapping (Troedson et al 2015) as shown in **Figure 2.3**.

Figure 2.2: Mapping of the PSB using older generation soil and sediment mapping data. This locates the 2A Gregory Place site at the southern edge of the PSB and on disturbed terrain

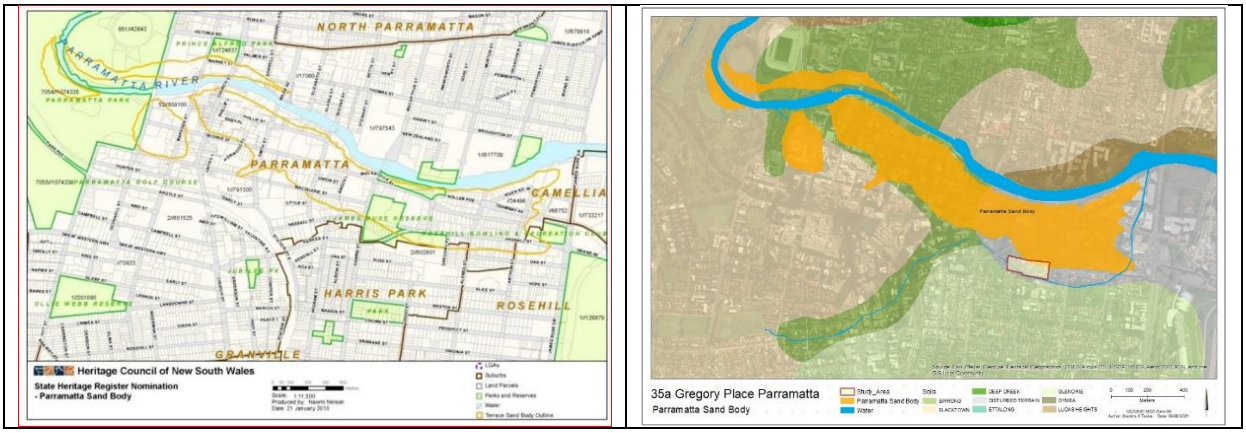
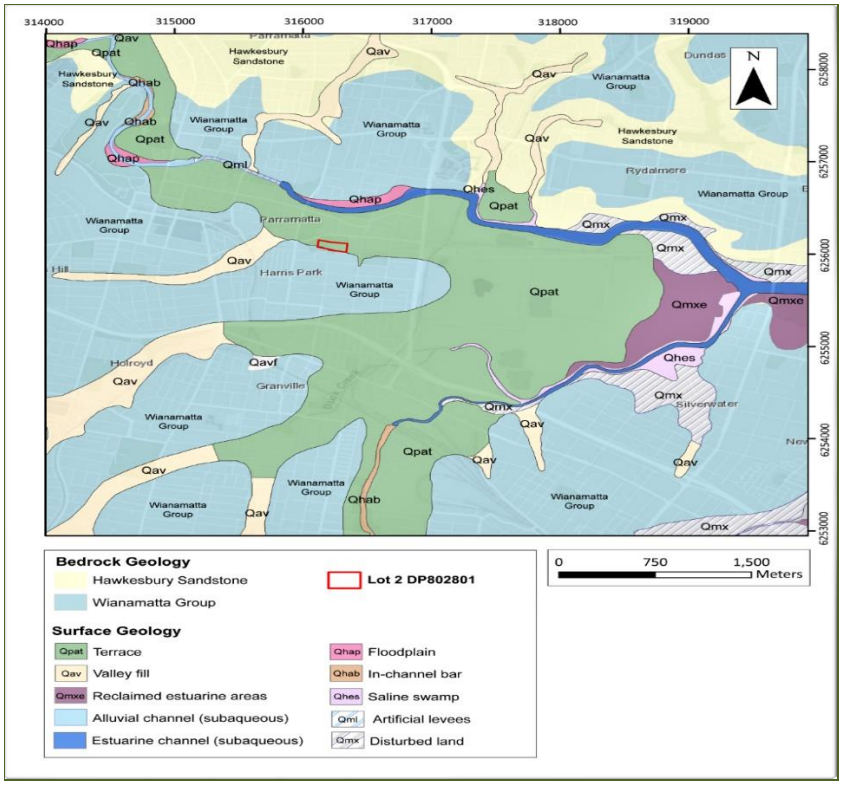


Figure 2.3: Quaternary mapping of Pleistocene Terrace deposits (Qpat) that include the PSB (Troedson et al 2015)



2.2 Changes to country brought about by sea-level changes

As discussed in the following report sections, archaeological evidence shows Aboriginal people were living in Parramatta during the Last Glacial Maximum (27-17,000 years ago) and the landscape and setting of Aboriginal Parramatta had continuously changed through time prior to the arrival of the British at the end of the eighteenth century. Changes to the country included dramatic landscape transformations that resulted from long-term processes of climate change and sea-level rise and drops. The period from the LGM through to the Holocene (last 11,700 years) saw frequent and often rapid changes in sea-level that were caused by melting and freezing of global ice sheets where cool and dry glacial periods with lower sea-levels alternated with warmer interglacial periods with higher sea-levels.

At the LGM, about 20,000 years ago, sea-level was about -120m lower than it is at present. As a result, the now submerged offshore coastal shelf was above sea-level and the Sydney coastline was located about 25km further to the east than it is today (Albani et al 2015). Parramatta was therefore more distant from the coast that today and was situated within an inland valley drained by a freshwater stream, the Proto-Parramatta River (**Figure 2.1**). This watercourse ran down through the valley to the east and crossed the 'bottom' of the future Sydney Harbour and continued out through the rocky headlands before snaking across the now submerged coastal shelf to reach the LGM shoreline.

As global climate conditions changed from the LGM, rising sea-levels that resulted from the melting ice sheets flooded across the terrain of the continental shelf and eventually the sea reached and inundated Port Jackson and the rising water-level progressively moved up and 'drowned' the Proto-Parramatta River valley. Sea-levels reached their present elevations around 7,000 years ago but this was not before sea-levels had first exceeded modern levels by between +1-2m. The higher than modern sea-levels also appear to have remained in place for a long period of time before they oscillated, with often rapid 'meltwater pulses', and fell back to present positions about c.2,000 BP. During the intervening 5,000 years there were shorter-lived oscillations that created higher sea levels than experienced today and two are recorded during two intervals beginning around 4,800 BP and 3,000 BP respectively (Lewis et al 2012).

Post-glacial sea-level rise will have had a massive impact on the lives of Aboriginal people living in both coastal areas and within hinterland-inland valleys within reach of the rising water. Nunn and Reid (2016:41) speculate that generation after generation of Aboriginal people around the Australian continent are likely to have had to continuously re-negotiate and realign land tenure and share arrangements with neighbours and ultimately make stay and go decisions about '*lowland clan estates*'. This line of thinking will also have applied to the Aboriginal communities living in Parramatta.

2.3 Changes to landscape and shifting ecological zones

The precise nature and rate of post-glacial sea-level rise, and when and how quickly the post-glacial rising water progressed upstream from Sydney Harbour to Parramatta is not well understood. It is probable that one ongoing effect that rising (and dropping) sea-levels is likely to have had on the lives of Aboriginal communities living in the valley was the constant shifting of the relative landscape positions of freshwater, estuarine and saltwater ecological zones because these determined the location and availability and distribution of resources people used at different times in the past.

As a result of rising sea-level, Parramatta's freshwater river valley environments progressively gave way over time to estuarine environments featuring a complexity of sub-tidal, intertidal and supratidal environments with ecosystems ranging from saltwater-freshwater wetlands to savanna grasslands and woodlands. The changes in the landscape position of these environmental zones and development time for new ecological zones to transition from or to replace those effected by rising sea-levels with comparable carrying capacity suggests the position and nature of Aboriginal land use will have continuously changed as environmental conditions changed in the lead up to and following stabilisation of sea-levels about 2,000 years ago.

2.4 Climate and vegetation changes

During the late-Pleistocene the conditions were much drier and colder than today with periods of extreme cold and aridity occurring around the LGM when temperatures were about six to ten degrees colder than present. It was also drier, windier and precipitation was about half than compared to today. The vegetation was semi-arid grassland where shrubs and herbs were restricted, and tree dominated vegetation was reduced to survival in refugia (see Stockton and Merriman 2009:28-29). These paleo-reconstructions are based on studies such as the one used here to illustrate by Chalson and Martin (2008) who report that pollen remains with dating recovered from deposits taken from an abandoned river channel on the Hawkesbury-Nepean River revealed three broad vegetation phases.

The first phase (38,000-36,000 cal. years BP) showed vegetation was dominated by open sclerophyll forest featuring *Eucalyptus viminalis* and *Leptosperum,* 'spineless *Asteraceae'*, and *Cassinia arcuata* prominent in the understorey representing cold tolerant species. The following phase (27,000-16,000 cal. years BP) showed a change to shrubland/grassland featuring *Cassinia arcuata* with the lack of eucalypts suggesting a cold, arid climate. The final phase (6,000 cal. years BP to present) documents woodland with grassy understorey (*Eucalyptus tereticornis and Leptospermum juniperinum*). Conditions oscillated between wetter and drier periods and from around 7,000 BP to 5,000 BP was warmer and wetter than today (see Attenbrow 2006:204-206, Bowler et al. 1976:456). A return to a cooler and drier climate appears is evident from out 4,500 BP and after 3,000 BP, ENSO began to operate with increasing seasonality leading to more marked winter–summer precipitation patterns in some areas.

2.5 Evidence for 'ancient' river and creek alignments at Parramatta

2.5.1 Parramatta River

As previously noted, the current alignment of Parramatta River is at least 64,000 years old based on OSL dating of sediments in Parramatta Park (and similar dating at 140 Macquarie Street). There are at least two older palaeo-channels of the proto-Parramatta River that have previously been identified in the CBD area of Parramatta (Lawrie 1982) and these can be traced to depths of 7m below ground surfaces at least as far as between 109-111 George and Union Streets.

2.5.2 Clay Cliff Creek

Mitchell (2008) describes almost no floodplain landscape survives along Clay Cliff Creek because the watercourse has been almost totally converted into a concrete channel. Examples of the original channel that remain intact include a small meander cut into the shale hillslope below Elizabeth Farm adjacent to Alfred Street and a larger meander also cut into a shale bank between Grand Avenue North and Hassall Street. Although there is a terrace present along Clay Cliff Creek it is less well defined than the equivalent feature along Parramatta River. Michell reported dark clay soils with minimal development of a texture contrast profile were found in auger holes behind Hambledon Cottage, at the southern end of Gregory Place, and along Oak Street, indicating a clay-based terrace extends along the southern bank of the creek.

Evidence for an older alignment of Clay Cliff Creek within an older and lower landscape position is suggested by the following newspaper descriptions from 1908 (Cumberland Argus, 2 May 1908, p.4):

> *Further interesting discoveries continue to be made by the workmen employed on the Parramatta sewerage works. The other day an interesting memento of barbaric times was unearthed in the shape of a black-fellow's stone tomahawk, which is now in the possession of Mr. E. J. Love. At a depth of 15ft. evidences were found of an old water-worn channel, with stones and pebbles evidently rounded by the action of water. There was also found red soil of a character only found in the neighbourhood at Redbank and near the Industrial School, and which must, at some remote period, have been brought down by water. It is remarkable that similar indications were discovered in connection with the construction of the bridge across the river for the Carlingford line, at a depth of 45 feet, and also 15ft. down in the excavations which are being made at the 'Black Bridge.'*
>
> *The signs point to the existence of a channel ages ago along the present course of Clay Cliff Creek, or nearly so, which has gradually been buried by accumulating deposits brought down by the water.*

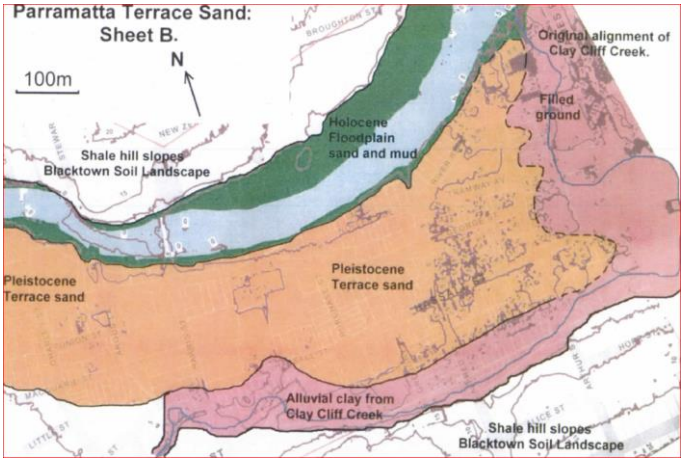
The 'red soil' at Redbank refers to the clay banks mapped by Bradley as 'Red Bank - Clay Cliff'. The red soils seen near the Industrial School refers to the site of the old (c1840s) Roman Catholic Orphan School on the northern side of Parramatta (current Norma Parker centre, Fleet Street, North Parramatta). The Carlingford line refers to the Parramatta River Bridge at Camellia that was constructed in 1895 (and modified in 1995).

A second article in the same 1908 newspaper issue reported that excavations for a concrete foundation for a pier to support a proposed new steel bridge to replace the old wooden 'Black Bridge' had extended down a considerable depth at the southern side of Parkes Street and that digging had revealed '*the existence of old swampy ground and the ancient water channel mentioned elsewhere'* (Cumberland Argus, 2 May 1908, p.4)

2.6 Parramatta Sand Body

The Quaternary-age soils and sediments associated with the river that represent a sedimentary archive of these long-term landscape changes include the PSB that contains an archaeological record about Aboriginal life in Parramatta dating back over 35,000 years and contains information about how the landscape has evolved over this timeframe. Mitchell (2008) describes that the main part of the sand body originally extended along the river from Church Street to Arthur Street and back from the river to the eastern end of Macquarie Street, along Hassall Street, from Harris Street on the north side of Oak Street, and to about Arthur Street where it interfaces with the clay terrace of Clay Cliff Creek. A smaller section of the sand body was also present in the area bounded by O'Connell, Macquarie and Marsden Streets. Between these two locations an area of high ground (about 10m ASL) appears to be underlain by another body of alluvium that is a mixture of clay and sand that is probably older than the main sand body and may even be of Tertiary age.

Figure 2.4: PSB and deposits associated with Clay Cliff Creek within proximity to the study area (Mitchell 2008). This work was completed prior to the Quaternary mapping of Pleistocene Terrace (Qpat) deposits by Troedson et al 2015



Moving east the sandy terrace declines to 4m-6m in the vicinity of Charles Street and 2m-5m above the river along Grand Avenue and this general decline downstream is consistent with the gradient of the modern stream. At the eastern extremity of the sand body the presence of sand has been confirmed in auger holes in Tramway Avenue and at the intersection of George Street and Arthur Street Mitchell 2004). Beyond Arthur Street the sand body probably interfingers with clay sediments on a terrace formed along Clay Cliff Creek (but no exposures of this relationship were found). Quaternary mapping shows Pleistocene terraces deposits (Qpat) that includes the sand body describes as the PSB continues eastwards as far as the Duck River.

2.7 Aboriginal memories of postglacial sea level rise

Nunn and Reid (2016:11-12) discuss the issue of how far back in time orally transmitted memories can reach. It is debated, but a consensus view is that memories of particular events/persons can generally survive about 500-800 years. After that length of time the original core information becomes completely obscured by the '*layers of narrative embellishment needed to sustain transgenerational interest in a particular story*'. Against this background, the authors describe stories belonging to Aboriginal groups from 21 locations around the coastline that tell of a time when the coast was inundated by the sea and that appear to recall the effects of post-glacial sea-level rise over 7,000 years ago.

One of these is a D'harawal story (Gymea Lily) that tells of a long time ago when the river now known as the Georges River, but then known as Kai'eemah joined with the Goolay'yari, or Cook's River, and flowed as one through the swamps that once were Botany Bay. Together they flowed out through the place called Kurunulla (Cronulla). Then one day a '*great storm came up, and huge waves washed into the Kai'eemah destroying much of the swampland used for food gathering. The waves crashed into the shore so fiercely that they washed over the land*' (Bodkin Andrews nd). The people fled inland to escape the flooding, and sometime later, returning to the coast at the mouth of the Georges River, they found '*that what they had once known was no longer. Instead of the swamps, there was a great bay, and where Kai'eemah had met the sea there was high mountains of sand. The two rivers now no longer joined together but ran into the sea separably*' (ibid).

Nunn and Reid (2016:21-22) suggest the flooding of Botany Bay recalled by this story pre-dates Cook's visit by reason that Cook anchored and charted the bathymetry and configuration of the landscape likely referred to in the story. They propose if the sea level was 9-16m lower than today, the Bay would have been dry and possibly dominated by 'swamp land' before the rising sea reached the narrow entrance to the Bay and a time when the two rivers referred to would likely have come together before reaching the coast. The authors conclude their study suggests Aboriginal stories of coastal drowning in Australia from locations thousands of kilometres apart date from 7,000 thousand years ago provide corroboration that postglacial sea-level rise was observed.

3.0 Aboriginal archaeological heritage context

3.1 Overview of archaeological investigations of the PSB

3.1.1 Nature, composition, and antiquity of the PSB Aboriginal archaeological evidence

The general nature and composition of the Aboriginal archaeological record contained within the PSB are largely characterised by the findings of the first archaeological investigations in the City undertaken in the early 2000s. One of the first salvage excavations was on a block located at the corner of Charles and George Streets that saw over 210 sqm of the site's deposit hand excavated and another 250 sqm mechanically screened.

Over 6,500 Aboriginal stone artefacts were subsequently recovered (JMCHM Pty Ltd 2005a:26). Evidence for several 'living floors' containing artefacts and fire-place arrangements were also recorded.

The stone-tool assemblages were generally co-dominated by artefacts made from silicified tuff and silcrete, with lesser numbers of artefacts made from chert, quartz, banded-tuff, and volcanic materials occurring. In addition, some possibly worked glass items were found and regionally rare artefact types recovered included axes (several complete), hammerstones, anvils, and grindstone fragments. A perforated shark tooth was also found (thought to have been a hair ornament) and residue analysis of ground-stone artefacts from the site suggested some had been used for the preparation of starchy plant material, presumably during food preparation.

Another early investigation in 2003 at 109-113 George Street revealed evidence for multiple phases of prehistoric Aboriginal occupation extending from the Late Pleistocene (c.30,000 BP) to about 3,500 BP (the last 2-3,000 years lost from historic landuse impacts).

Approximately 4,775 artefacts were recovered and most of the assemblage (82%) was manufacture debitage. About 75% of the finds were found in the upper 40cm of deposit, about 16% occurred between 40cm and 60cm in depth, 8% was between 60cm and 80cm depth, and very few artefacts were found below this depth. Glossy heat-altered silcrete was found concentrated in the top 10cm-20cm of deposit and was associated with small, backed artefacts, and a sparse distribution of patinated (weathered) silicified tuff was also found between 60cm and 80cm depth.

3.1.2 Quaternary mapping

The maps below locate the 2A Gregory Place site and show its relative elevation on the southern edge of Quaternary fluvial sediments mapped as Pleistocene terrace deposits

Figure 3.1: Location of the Gregory Place site relative to Quaternary mapping of Qpat deposits (Troedson et al 2015)

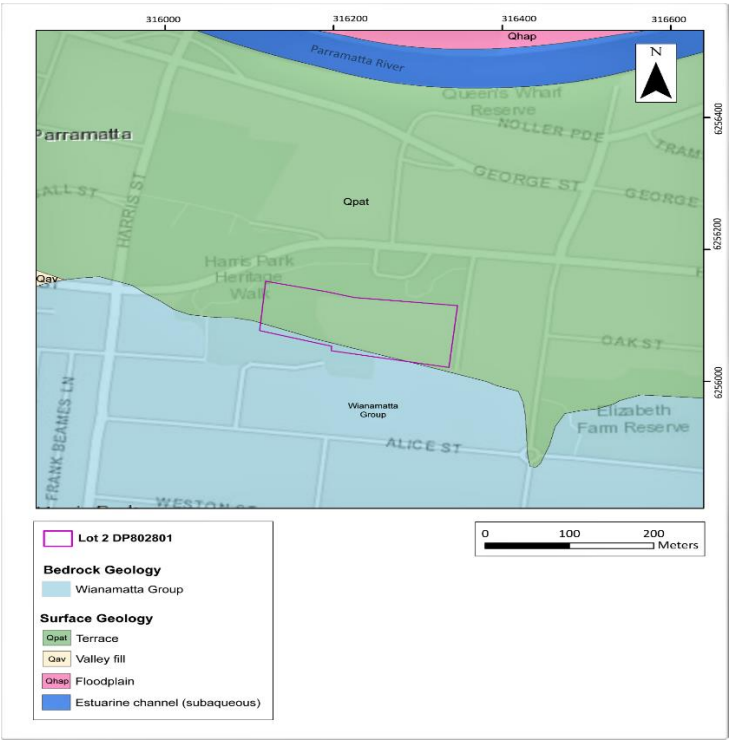
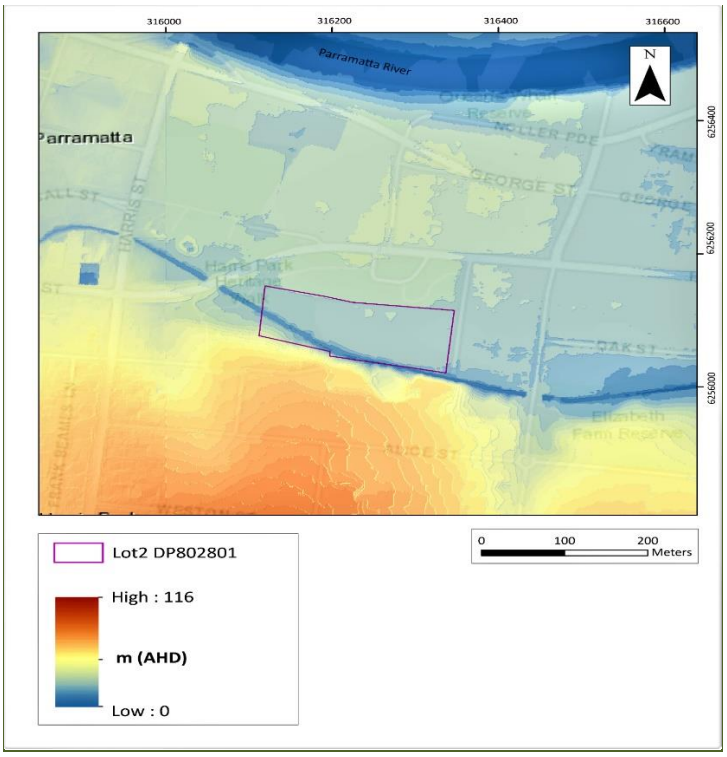


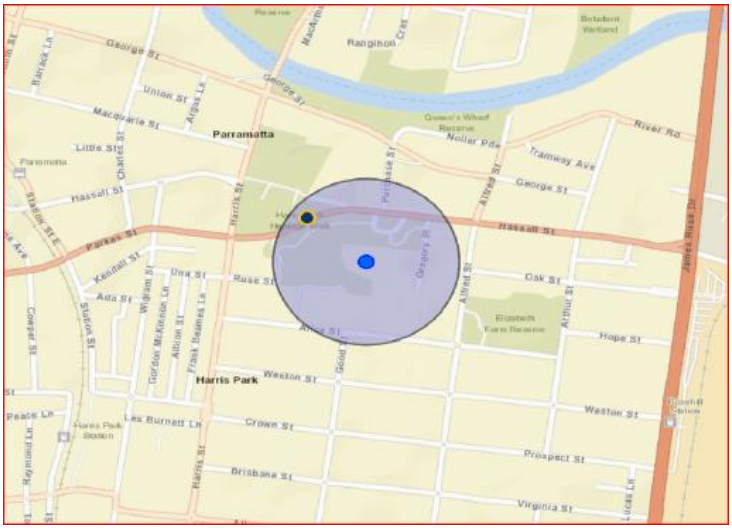
Figure 3.2: Location of the 2A Gregory Place site and relative elevation (Troedson et al 2015)



3.2 Database searches (AHIMS)

The Aboriginal Heritage Information Management System (AHIMS) is a database operated by HNSW and regulated under s.90Q of the *National Parks and Wildlife Act 1974* that contains information about registered Aboriginal archaeological sites, objects, and declared places. Searches of AHIMS (**Appendix A**) shows no heritage sites have been previously recorded on the site.

Figure 3.3: Nearest known AHIMS recording to the 2A Gregory Place site (200m AHIMS search)



3.3 Overview of nearest-known Aboriginal archaeological sites

3.3.1 Robin Thomas Reserve and Harris Street

The Parramatta Sand Body (PSB) is listed on the State Heritage Register and SHR Item #01863 features a section of the PSB within a curtilage bounded by George Street, east by 153 George Street and 42 Hassall Street, west by Harris Street, and south by Lot 7 DP 720779. Robin Thomas Reserve (RTR) forms the southern portion of SHR Item #01863 and is also listed on Schedule 5 of PLEP 2011 as an archaeological site of local significance (RTR archaeological site - Item A2). Two Aboriginal archaeological sites (AHIMS #45-6-3157/#45-6-3158) encompass the curtilages of SHR Item #01863 and the Robin Thomas Reserve archaeological site.

AHIMS #45-6-3157/#45-6-3158 (Harris Street footpath/Robin Thomas Reserve) was registered on AHIMS as an Aboriginal Resource and Gathering site located on the crest of a low flat PSB terrace. The site listing notes the location would have been an attractive location for Aboriginal people because it had access to two permanent water sources (Parramatta River and Clay Cliff Creek) and their forest, riverine and estuarine food and raw material resources. In 2013 Comber Consultants (2014:37) undertook excavations (nine 1m x 1m test squares) for services in the footpath of Harris Street and recovered fifty-nine artefacts (mainly of silcrete, chert, quartz, and quartzite) including several pieces of worked glass.

The site was test excavated in 2017 to investigate the impact of the Parramatta Light Rail construction along the western edge of Robin Thomas Reserve. The testing comprised four test squares (TS7-TS10) aligned along the western edge of the grassed reserve and this revealed intact subsurface deposit in three of the four squares below a variably thick layer of disturbance. Squares TS7, TS9 and TS10 contained deep sand deposits associated with the PSB that extended to a depth of at least 1m. At TS7, this was shallow with compact orange-brown sands encountered between 18-20cm depth. At TS9, red/orange-brown sands were encountered at 35-37cm depth. At TS10 sands were present from 26cm and undisturbed apart from a single brick fragment. A total of nine artefacts were recovered and the majority (n=8) came from TS10 and were recovered from spit 6 (50-60cm depth, n=5) and spit 7 (60-70cm depth, n=3). One further artefact was found at TS7 in spit 5 (40-50cm depth), and all artefacts were from the intact natural sand deposits (Kelleher Nightingale Consulting (2017:47).

3.3.2 189-191 Macquarie Street

Archaeological test excavation at 189-191 Macquarie Street (AHMS Pty Ltd 2013) found the PSB extended into the northern part of the site where the deposits were shallow and contained no Aboriginal objects. Previous archaeological investigations in the vicinity had indicated past Aboriginal occupation and use of this river terrace landform appeared focussed on the higher ground and where the PSB extended into the Macquarie Street site it appeared to have been a relatively low-lying edge of the landform and was considered unlikely to have been the preferred location of past Aboriginal camping.

The southern part of the Macquarie Street site extended into a landform that was interpreted as a former levee of Clay Cliff Creek and where excavated it was found to have relatively deep deposits (about 60 cm) and to contain a low density of Aboriginal objects (4-7/m²) that may possibly have derived from Aboriginal occupation in the Late Pleistocene period. As with the PSB, the levee was considered likely to have been a favoured occupation location, with a focus on the high ground, and the lower ground within the site appears to have been a more marginal occupation zone.

3.3.3 Parramatta Skate Park

Archaeological testing at James Ruse Reserve in 2004 (AHMS Pty Ltd 2004) to inform plans to enlarge the skate facilities found an absence of sand grains in the soils that if present would have derived from the sandstone country that dominates the Parramatta River upstream (and which contributes to the sandy composition of the PSB closer to the river). This absence suggested the influence of the river was minor in the formation of the very fine-grained alluvial soils recorded. The site lies at a slightly lower elevation than the sand levee of the PSB and is likely to have been subject to relatively low velocity flood flows that deposited fine grained sediment from the shale hills. The stratigraphy comprised 20cm modified/introduced loam topsoil over brown clayey silt

(20-50cm) gradually transitioning into light brown clay with iron manganese staining that developed with depth (to about 850mm). Plastic silty clay was identified below this to a depth of 1.2m. In summary (ibid:29):

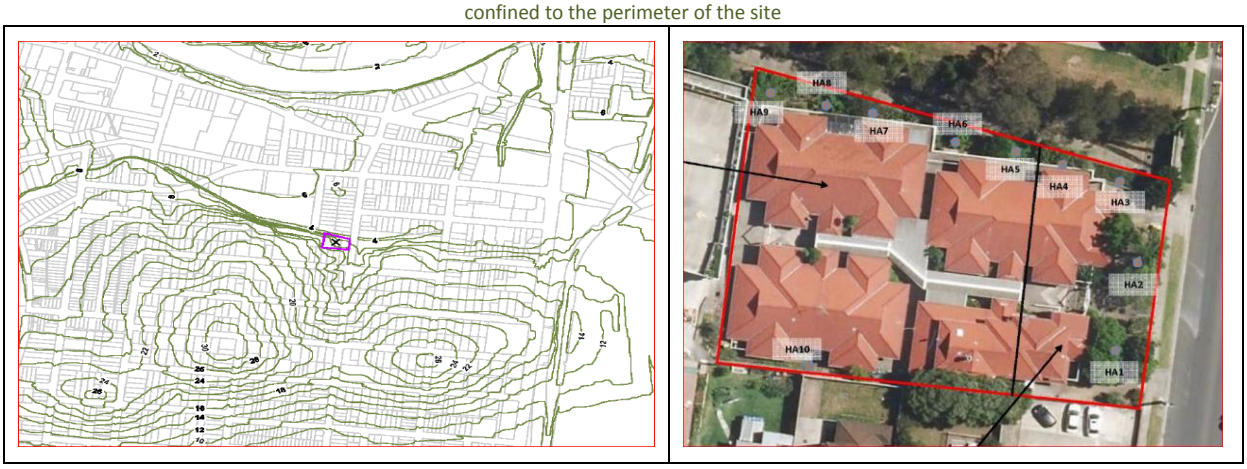
- The soil profiles were not the same as the PSB soils recorded on the higher ground closer to the river.
- A low-density of Aboriginal stone artefacts was found (thirteen) and none were in in situ.
- No artefacts were found lower than 0.85m below current ground surfaces which marked the interface with the impermeable plastic clays.
- The low-density distribution of stone artefacts within the disturbed soils was largely unremarkable in size and nature and to comprise mainly items of silcrete 'waste flake' with little research value.

It was proposed that the area may have been a swamp oak environment prior to European settlement and not a highly favourable campsite for occupation for long periods that would have created substantial archaeological signatures. It was concluded (AHMS Pty Ltd:44) that unlike the PSB archaeological contexts on higher ground closer to the river that attracted repeated Aboriginal visitation and use in the past, the Skate Park was located on an alluvial flood plain of a creek and back of the river with low archaeological research potential.

3.3.4 Nearby geotechnical records – 40-46 Alice Street and 128A Alfred Street, Harris Park

This property located at 40-46 Alice Street and 128A Alfred Street (Lot 2 in DP 209226) is positioned about 50m to the southeast of the Gregory Place site and is situated on the southern side of the Clay Cliff Creek stormwater channel that separates the two sites. Trace Environmental (2015: Appendix 1) have reported on the geotechnical conditions at the Alice & Alfred Streets site and the nature of the subsurface stratigraphic profile that is present beneath the structures that occupy the land.

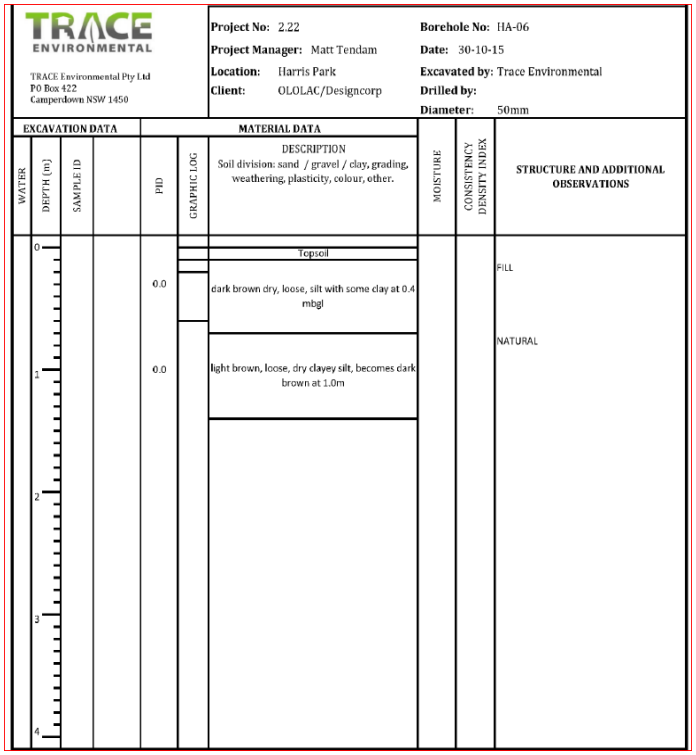
Figure 3.5: Location of 40-46 Alice Street and 128A Alfred Street site and surface elevation contours of the land (Trace Environmental 2015). Note the steeper shale hill topography to the immediate south of the site that overlooks the flatter back-plain terrain between Clay Cliff Creek and Parramatta River. The location of the geotechnical borehole location investigated in 2015 are shown (right) to have been confined to the perimeter of the site



The close proximity of the two sites to each other, and their similar landscape positions on the alignment of Clay Cliff Creek enables the findings of this nearby geotechnical report to be used to provide a guide to the potential nature of the subsurface stratigraphic profile that may be present at Gregory Place and to make generalised comments on the potential Aboriginal archaeological sensitivity of the soils and sediments recorded by the geotechnical bore logs. A review of the ten bore-logs recorded in the locations shown above and preliminary evaluation of their potential Aboriginal archaeological sensitivity indicate that:

- All boreholes were drilled down to a maximum depth of 4.0m below ground levels and each terminated before bedrock was reached.
- All boreholes had a surface deposit identified as fill and this covered in places a deep (up to 3-4.0m) sequence of natural alluvial deposits
- Until proven otherwise, these alluvial deposits would appear to have potential to contain Aboriginal objects and potential archaeological deposits (see below).
- One borehole (HA-06 – original format below) appears to record a buried soil horizon at approximately 1m below the ground surface (within a deeper alluvial sequence: down to 4.0m).
- This potential buried soil may represent a former land surface and thereby a potential soil that has potential to contain Aboriginal objects.

Figure 3.6: Bore-log record from 40-46 Alice Street and 128A Alfred Street Trace Environmental 2015Appendix 1) showing a potential buried soil horizon and possible soil related to a former land surface and with potential to contain Aboriginal objects



TRACE ENVIRONMENTAL

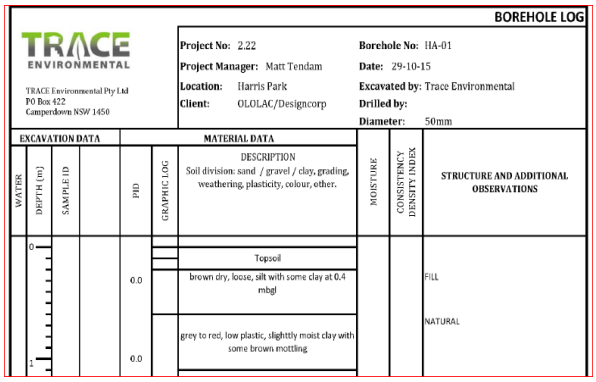
TRACE Environmental Pty Ltd
PO Box 422
Camperdown NSW 1450

Project No: 2.22 **Borehole No:** HA-06
Project Manager: Matt Tendam **Date:** 30-10-15
Location: Harris Park **Excavated by:** Trace Environmental
Client: OLOLAC/Designcorp **Drilled by:**
Diameter: 50mm

EXCAVATION DATA				MATERIAL DATA				
WATER	DEPTH (m)	SAMPLE ID	PID	GRAPHIC LOG	DESCRIPTION Soil division: sand / gravel / clay, grading, weathering, plasticity, colour, other.	MOISTURE	CONSISTENCY DENSITY INDEX	STRUCTURE AND ADDITIONAL OBSERVATIONS
	0				Topsoil			
			0.0		dark brown dry, loose, silt with some clay at 0.4 mbgl			FILL
	1		0.0		light brown, loose, dry clayey silt, becomes dark brown at 1.0m			NATURAL
	2							
	3							
	4							

- Three boreholes (HA-01-03) along the eastern site boundary were shallow (<1.0m) with fill directly over truncated residual B horizon materials. These subsoils are not potential archaeological deposits.

Figure 3.7: bore-log record from 40-46 Alice Street and 128A Alfred Street (Trace Environmental 2015Appendix 1)



BOREHOLE LOG

TRACE ENVIRONMENTAL

TRACE Environmental Pty Ltd
PO Box 422
Camperdown NSW 1450

Project No: 2.22 **Borehole No:** HA-01
Project Manager: Matt Tendam **Date:** 29-10-15
Location: Harris Park **Excavated by:** Trace Environmental
Client: OLOLAC/Designcorp **Drilled by:**
Diameter: 50mm

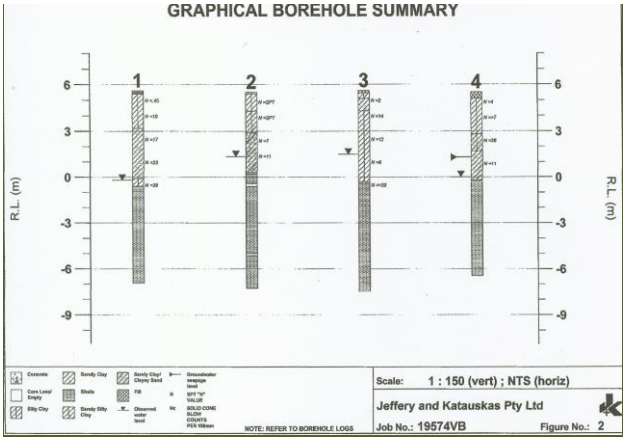
EXCAVATION DATA				MATERIAL DATA				
WATER	DEPTH (m)	SAMPLE I.D	PID	GRAPHIC LOG	DESCRIPTION Soil division: sand / gravel / clay, grading, weathering, plasticity, colour, other.	MOISTURE	CONSISTENCY DENSITY INDEX	STRUCTURE AND ADDITIONAL OBSERVATIONS
	0		0.0		Topsoil brown dry, loose, silt with some clay at 0.4 mbgl			FILL
	1		0.0		grey to red, low plastic, slightly moist clay with some brown mottling			NATURAL

- The site represents from a geomorphological perspective a transitional zone between the shale hills to the south and the Pleistocene alluvial terraces of the PSB to the north and east.
- Excluding HA-01-03, the remaining boreholes show alluvial soils that are mapped as forming part of the Qpat Pleistocene Terrace formation. The geotechnical soil and sediment descriptions conform with the soil descriptions of the PSB. Mindful that the ages of the alluvial deposits recorded to a depth of 4.0m is unknown, and because the geotechnical boreholes did not reach bedrock, it is possible that the full alluvial profile has potential to contain Aboriginal objects.

3.3.5 Nearby geotechnical records – 39-43 Hassall Street

This site is located about 200m to the northwest of the Gregory Place site and was subject to an archaeological assessment in 2014 (DSCA 2014). The geotechnical data for the site is of use to predicting the nature and depth of the subsurface stratigraphic profile beneath the footprint of the Gregory Place site because of the proximity and similar landscape positions of the two sites.

Figure 3.8: Geotechnical summary for 39-43 Hassall Street (Jeffery & Katsuaskas Pty Ltd 2005)



Four boreholes located in the four corners of the block recorded fills covering natural silty and sandy clays that graded into shale bedrock at depths between 5.2m and 6.2m (RL0.3m and RL-0 .6m). Key features comprise:

- Silty clayey deposits reflect multiple deposition events associated with erosion of shale landscape soils that form part of Clay Cliff Creek.
- Sandy clayey deposits that form part of the PSB deposits.
- The deposits of both Clay Cliff Creek and the PSB appeared to inter-finger in the borehole profiles and suggest that alluvial deposition at the site was at times in the past controlled by erosion of shale-derived or sand-derived deposits or, combinations of both.

Table 3.1: 39-43 Hassall Street borehole data and preliminary (2014) interpretation

Borehole	Depth (m)	Unit	Description	Interpretation
BH 1	~5.6m AHD			
	0-0.10	1	Concrete	Modern concrete
	0.10-0.15	2	Void	Void
	0.15-0.20	3	Concrete	Modern concrete
	0.20-0.70	4	Dark brown silty clay with rootlets	Truncated humic A horizon; Clay Cliff Creek alluvium
	0.70-1.30	5	Brown silty clay with rootlets	Buried A horizon; Clay Cliff Creek alluvium
	1.30-2.40	6	Light grey silty clay with fine grained sand	B/C horizon; Clay Cliff Creek alluvium with fine grained (windblown?) sand derived from the PSB
	2.40-4.20	7	Grey mottled orange, brown sandy clay with medium grained sand	Mature, buried B horizon; PSB alluvium
	4.20-5.40	8	Dark grey, brown mottled orange, brown sandy clay	Mature, buried B horizon; PSB alluvium
	5.40-5.70	9	Grey sandy clay with medium grained sand	C horizon? Zone of lateral water movement (grey colours indicate anaerobic [water-logged] environments); PSB alluvium
	5.70-6.20	10	Grey silty clay	Truncated B horizon of residual shale soil; *in situ* soil formation
	6.20	11	Shale bedrock	C horizon for overlying residual soil
BH 2	~5.5m AHD			
	0-0.10	12	Concrete	Modern concrete
	0.10-1.20	13	Dark orange, brown silty clay	Truncated B horizon; Clay Cliff Creek alluvium or reworked fills?
	1.20-2.60	14	Grey mottled orange, brown silty sandy clay & medium grained sand	Subsoil (B?) horizon; mixed Clay Cliff Creek and PSB alluvium; possible continuation of Unit 6
	2.60-5.20	15	Brown sandy clay/clayey sand with medium grained sand	Mature, buried B or C horizon; PSB alluvium; the absence of shale residual soils means the boundary between the lower unit is an unconformity
	5.20	11	Shale bedrock	
BH 3	~5.60m AHD			
	0-0.18	16	Dark brown silty clay with rootlets	Truncated A horizon soil; Clay Cliff Creek alluvium
	0.18-0.50	17	Grey, brown silty clay	Subsoil B horizon; Clay Cliff Creek alluvium
	0.50-1.30	18	Orange, brown and brown sandy clay with fine to medium sand grains	Mature, buried B horizon; PSB alluvium
	1.30-2.20	19	Light grey mottled orange, brown silty clay	Buried subsoil (B?) horizon; Clay Cliff Creek alluvium
	2.20-3.60	20	Light grey mottled orange, brown	Buried subsoil (B?) horizon periodically/seasonally water-logged;

			silty clay with a trace of angular ironstone gravels	Clay Cliff Creek alluvium
	3.60-5.90	21	Light grey mottled orange, brown silty clay	Buried subsoil (B?) horizon; probably B horizon of residual shale soil; *in situ* soil formation
	5.90	11	Shale bedrock	
BH 4	~5.50m AHD			
	0-0.20	22	Dark brown silty clay with rootlets	Truncated A horizon soil; Clay Cliff Creek alluvium; same as unit 16
	0.20-0.40	23	Dark brown silty clay with a trace of angular ironstone gravels	Continuation of A horizon but with evidence of periodic/seasonal water-logging; Clay Cliff Creek alluvium
	0.40-1.60	24	Brown silty clay with sand and a trace of roots	Buried A horizon; Clay Cliff Creek alluvium; sand derived from the PSB
	1.60-2.70	25	Grey silty clay	Buried subsoil (B or C?) horizon periodically/seasonally water-logged; Clay Cliff Creek alluvium
	2.70-3.80	26	Orange, brown mottled grey silty sandy clay with ironstone gravels and fine grained sand	Subsoil (B?) horizon; mixed Clay Cliff Creek and PSB alluvium; possible continuation of Units 6 & 14
	3.80-4.40	27	Orange, brown sandy clay with medium grained sand	Mature, buried B horizon; PSB alluvium
	4.40-5.70	28	Light grey sandy clay with clayey sand bands	Undifferentiated PSB alluvium with some mixing with Clay Cliff Creek deposits? C horizon; possible continuation of Unit 15; the absence of shale residual soils here means the boundary between the lower unit is an unconformity
	5.70	11	Shale Bedrock	

The 2014 archaeological assessment for this block concluded that there was *potential* for Aboriginal archaeology to survive in buried topsoil profiles below disturbed zones. However, the potential for substantial and intact archaeological soils at the site was unlikely based on the landscape position of the property (low-lying and flood prone) and comparisons with nearby Aboriginal archaeological investigations that are potentially relevant (on Macquarie Street and in James Ruse Reserve in particular).

3.3.6 Summary of nearby geotechnical records

The two nearby geotechnical investigations discussed above indicate there are deep alluvial soil and sediment subsurface stratigraphic profiles that are mapped as forming part of the Qpat Pleistocene Terrace formation. These deposits extend to a depth of up to six metres, and from a geomorphological and landscape archaeological perspective, both sites occupy a transitional zone between the shale hills to the south and the Pleistocene alluvial terraces of the PSB to the north and east.

At Hassall Street, it was concluded there was potential for Aboriginal objects to survive in buried topsoils below disturbed zones but substantial/intact archaeological soils were assessed to be unlikely based on the low-lying nature of the site and through comparisons with nearby Aboriginal archaeological investigations such as James Ruse Reserve. At this latter site, It is unclear whether hand-excavations reached the 'bottom' of the potential archaeological deposit in this locality, or if the investigation stopped at this depth because few finds were recovered and the need to expand the test trenches to investigate deeper was not considered warranted.

4.0 Aboriginal and non-Aboriginal historical heritage context

4.1 British discovery of Rosehill

Port Jackson was explored and charted by the British soon after landing at Sydney Cove. Captain John Hunter and Lieutenant William Bradley (HMS Sirius) examined the eastern end of the harbour first (28-29 January) and then followed (3 February) with the coves and inlets to the northwest (Lane Cove). The next day was the first of three explorations made by the British to establish the westward termination of the harbour (and to find agricultural land). The river landscape in the vicinity of the 'head of the harbour' was first seen by the British on 4-5 February by an exploration party led by Hunter along with three other officers and a dozen sea-men. They were in a six oared boat (along with another small boat) when they reached the tidal flats near to the entrance to today's Homebush Bay. Bradley (1969:76) described:

> *'At noon we were far enough to see the termination of the Harbour as far as Navigable for ships, being all Flats above us with narrow passages that we supposed might run a considerable distance but very shoal. The harbour is navigable for ships twelve miles east and west and the branches extend six miles north and south. It is one continuation of harbour formed by snug coves with good depth of water and fresh water in many of these'*

Bradley also noted (ibid:75-77) '*there being assembled up here an astonishing number of Natives all Arm'd, Flats on which the boats might ground in this channel and put us much in their Power*'. Hunter (in Flynn 1997:17) describes the same incident and recorded they had just landed on shore to take measurements when:

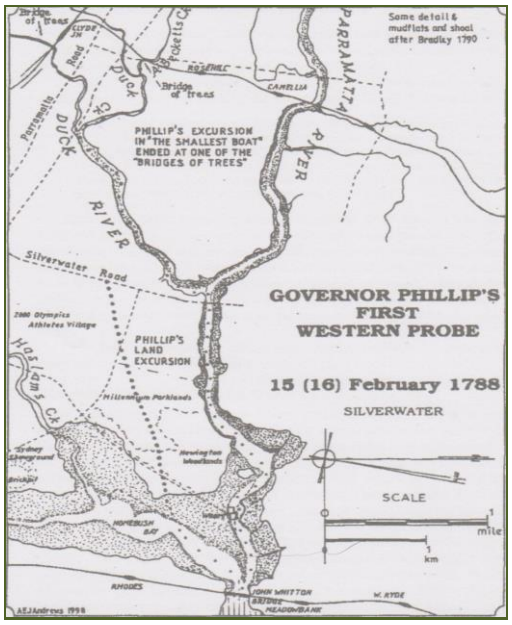
> *'we were a little surprised to find the natives here in greater numbers than we had ever seen them before in any other place…..they appeared very hostile, a great many armed men appeared upon the shore wherever we approached it, and, in a threatening manner, seemed to insist upon our not presuming to land. During the whole time we were near them, they hailed each other through the woods, until their numbers were so much increased, that I did not judge it prudent to attempt making any acquaintance with them'.*

The second exploration up the harbour and west was made on 15 February 1788 in three boats that proceeded up to the beginning of the 'Flats' (Rhodes Point) where the party landed and explored the Concord area for 2-3 miles into the country where the trees were seen to be spaced '*a considerable distance apart & the soil in general good. Grass very long & no underwood*' (ibid 82-83). Their likely route probably took them midway between Haslam's Creek and the Parramatta River and possibly ended in the vicinity of Sydney Olympic Park. The next entry in Bradley's journal (ibid:83-84) and states:

> *'At 1pm, returned to Boats & after Dinner went in the smallest boat over the Flats and past a Mangrove Island* [Mud island] *& followed a Creek* [Parramatta River] *some distance to the W.ward when it branched away to the NW* [Parramatta River] *and SW* [Duck River] *which last we followed 4 Miles as near as we could judge, the lake or drain is very shoal and where we stop'd was entirely filled up with fallen trees from both sides, the water filling fast we had barely time to get down Boats, which we then join'd returned to the Ship*'.

The railway line that crosses Duck River and Duck Creek defines the approximate limit shown on both headwaters on Bradley's charts as 'Bridge of Trees' (Bradley's chart stops about a kilometre short) but whether the party had been on Duck River or Duck Creek is not indicated.

Figure 4.1: Early British explorations of the Parramatta River landscape in February 1788 (Andrews 1999:149)



The third exploration party (April 22-27) was to pass through the future site of Rose Hill and to proceed west through Seven Hills and Blacktown to reach two hills with views over the Eastern Creek Valley below and towards the Blue Mountains in the distance. The first hill is believed to be today's Bungarribee Hill and the second hill is believed to have been Rooty Hill (Flynn 1995:122ff). During the trip they came across a few '*mean'* Aboriginal huts that were located next to water holes and lagoons on the western outskirts of the future Rosehill township, and they saw fleeting glimpses of Aboriginal social activity in progress at Eastern Creek, but they made no direct contact with local Aboriginal groups in Parramatta or on the way west or on their return. The *Historical Records of NSW* (1:134-134) version of Phillip's account of this expedition is:

> *I set off the 22nd of April, with six days provisions. We were eleven officers and men, and landed near the head of the harbour... We proceeded westward, finding the country in general as fine as any we ever saw, the trees growing from twenty to forty feet from each other... The country thro' which we past was mostly level, or only rising in small hills, which gave it a pleasing and picturesque appearance. The fifth day we got to a rising ground... The country round this hill was so beautiful that I called the hill BelleVeue...*

John White's journal gives a more detailed eye-witness account and provides details of the repeated evidence the explorers saw of Aboriginal people's presence and activity in the landscape that are important Aboriginal historical records because they are the first. White describes on 22 April:

> *'the governor, accompanied by the same party, with the addition of Lieutenant Cresswell of the marines and six privates, landed at the head of the harbour* [The landing site was at the confluence of the Parramatta and Duck Rivers], *with an intention of penetrating into the country westward, as far as seven days provisions would admit of; every individual carrying his own allowance of bread, beef, rum, and water. The soldiers, beside their own provisions, carried a camp kettle and two tents, with their poles, &c. Thus equipped….we proceeded on our destination. We likewise took with us a small hand hatchet in order to mark the trees as we went on, those marks (called in America blazing) being the only guide to direct us in our return. The country was so rugged as to render it almost impossible to explore our way by the assistance of the compass.*
>
> *In this manner we proceeded for a mile or two, through a part well covered with enormous trees, free from underwood. We then reached a thicket of brush-wood, which we found so impervious as to oblige us to return nearly to the place from whence we had set out in the morning. Here we encamped, near some stagnant water, for the night, during which it thundered, lightened, and rained'* (White 1788:131ff).

White (1788:128ff) describes on 23 April that having got around a wood or thicket which had '*harassed*' them the day before they soon fell in with a '*hitherto unperceived branch of Port Jackson harbour*' [Parramatta River] where the banks were grassed with tolerably rich, and chest high grass interspersed with a plant that closely resembled indigo. McClymont (2004:43) suggests by skirting to the north of the thicket, the party emerged on the Parramatta River bank around two miles from their previous camp site that would be at a point just west of today's Thackeray Street. The party then followed the Parramatta River west for a few miles, where the same tall grassland again prevailed, until they came to a fresh-water stream that emptied into the river. The party camped here overnight (and ate soup made from a white cockatoo and two crows White had shot on the way). This overnight campsite was on Clay Cliff Creek and was probably in the vicinity of where today's River Road West crosses the watercourse to the west of James Ruse Drive (see McClymont 2004:42).

On the 24 April the group walked along the southern bank of the Parramatta River where there were immense trees spaced at a considerable distance from each other, and where the land was flat and rather low but well covered with long grass and shrubs as previously seen. This was in the vicinity of today's Queens Wharf and west towards probably the vicinity of the foot of today's Smith Street where White records here the tide stopped flowing and further progress for boats was stopped by a flat space of large broad stones over which a fresh-water stream ran. Just above this flat they saw '*a quarry of slates, from which we expected to derive great advantage in respect to covering our houses'* but it proved to be of a crumbling nature (and is likely to have been shale).

On the freshwater and saltwater sections of the river they saw many ducks and teal (three they shot along with two crows and some 'loraquets'). Proceeding upstream, through today's Parramatta Park, and camped overnight 'near the head of the stream' (today's confluence of Toongabbie and Darling Mills Creek).

White describes that the next day (after having sowed some seeds) the party proceeded west for three or four miles '*where we met with a mean hut belonging to some of the natives but could not perceive the smallest*

trace of their having been there lately. Close to this hut we saw a kangaroo, which had come to drink at an adjacent pool of stagnated water, but we could not get within shot of it. A little farther on we fell in with three huts, as deserted as the former, and a swamp, not unlike the American rice grounds'. The party continued for about two more miles and then camped overnight ('*near a stagnant pool'):*

> *The country about this spot was much clearer of underwood than that which we had passed during the day. The trees around us were immensely large, and the tops of them filled with loraquets and paroquets of exquisite beauty, which chattered to such a degree that we could scarcely hear each other speak. We fired several times at them, but the trees were so very high that we killed but few.*

The exploration party is likely to have walked upstream from Parramatta Park and turned west and travelled along Toongabbie Creek. From the overnight camp, they would have followed Blacktown Creek westwards to where the creek branches and today is a small lake (possibly the site of the 'swamp' and Aboriginal huts) and then proceeded by compass over undulating higher ground roughly along the line of present-day Bungarribee Road. White describes the subsequent journey west to Eastern Creek.

- *26th April. We still directed our course westward, passed another tree on fire, and others which were hollow and perforated by a small hole at the bottom, in which the natives seemed to have snared some animal. It was certainly done by the natives, as the trees where these holes or perforations were, had in general many knotches cut for the purpose of getting to the top of them. After this we crossed a water-course, which shews that at some seasons the rain is very heavy here, notwithstanding that there was, at present, but little water in it. Beyond the chasm we came to a pleasant hill, the top of which was tolerably clear of trees and perfectly free from underwood. His Excellency gave it the name of Belle Veue.*

  From the top of this hill we saw a chain of hills or mountains, which appeared to be thirty or forty miles distant, running in a north and south direction. The northernmost being conspicuously higher than any of the rest, the governor called it Richmond Hill; the next, or those in the centre, Lansdown Hills; and those to the southward, which are by much the lowest, Carmarthen Hills. In a valley below Belle Veue we saw a fire, and by it found some chewed root of a saline taste, which shewed that the natives had recently been there. The country hereabout was pleasant to the eye, well wooded, and covered with long sour grass, growing in tufts. At the bottom of this valley, or flat, we crossed another water-course and ascended a hill, where the wood was so very thick as to obstruct our view. Here, finding our provisions to run short, our return was concluded on, though with great reluctance, as it was our wish, and had been our determination, to reach the hills before us if it had been possible.

  In our way back, which we easily discovered by the marks made in the trees, we saw a hollow tree on fire, the smoke issuing out of the top part as through a chimney. On coming near, and minutely examining it, we found that it had been set on fire by the natives; for there was some dry grass lighted and put into the hole wherein we had supposed they used to snare or take the animal before alluded to. In the evening, where we pitched our tents we shot two crows and some loraquets, for supper. The

night was fine and clear, during which we often heard, as before, a sound like the human voice, and, from its continuance on one spot, we concluded it to proceed from a bird perched on some of the trees near us.

- *27th April. We now found ourselves obliged to make a forced march back, as our provisions were quite exhausted, a circumstance rather alarming in case of losing our way, which, however, we met with no difficulty in discovering by the marked trees. By our calculation we had penetrated into the country, to the westward, not less than thirty-two or thirty-three miles.*

Lieutenant Newton Fowell (Sirius) records that on their return (quoted in Flynn 1995:21):

> *'he* [Phillip] *supposed he had been about 40 mile in Land & that it was all the Way like a Park with Trees about 20 yards Distance from each other – the Country in General quite a Plain – the Grass about 3 feet high & paths all the Way that Natives had made – at about the Distance of about 20 Miles from them when Furthest in Land they saw Mountains, the very tops of them can be seen in a clear day from the head of the harbour – Water in Land is in great Plenty – they saw Several Ponds – some of them 200 Yards wide'.*

Elsewhere around the harbour the British 'often fell in' with 'native paths' that formed networks leading along rivers, and between woods and through grasslands connecting important places in the Aboriginal geography of the time. It made the colonists travel through the often-unfamiliar country easier as recognised by Hunter (2005 [1793]) who noted '*these paths rendered our march, not only on account of pointing to us the most easy and accessible parts of the hills and woods, but, in point of direction, the shortest which could be found, if we had even been better acquainted with this tract*'.

Additional observations of Aboriginal Parramatta in early 1788 are recorded by Bradley (1969) who describes a further examination of the 'shale beds' at Rosehill (12 May 1788):

> *A party went up the harbour to the lake or creek running to the NW above the flats. We went about 3 Miles up, to a very fine run of water. The country on both sides [was] pleasant and the ground apparently fit for opening, with far less trouble than any in the other parts of the harbour, and the soil good. A little above the part where the fresh water meets the tide is the place supposed would produce slate but had been found on examination not fit for working. We tried it as coal, without success. Found a great number of cranes and other birds about and above the flats, all very shy.*

George Worgan was a surgeon on the Sirius, and described on 14 May:

> *I have had a most delightful Excursion to Day with Captn Hunter and Lt. Bradley, We went in a Boat about 12 Miles up the Harbour. For 3 or 4 Miles the Harbour forms a narrow arm, which at high Water, has the appearance of a River, the sides of this Arm are formed by gentle Slopes, which are green to the Water's Edge. The Trees are small and grow almost in regular Rows, so that, together with the Evenness of the Land for a considerable Extent, it resembles a Beautiful Park. We landed quite up at the Head of this Branch where a fresh Water River runs into it, but which, at this time was dry in many places. We walked about two Miles up the Country in the Direction of this River; the Ground ran in easy ascents and Descents, the Soil was extremely rich, and produced luxuriant Grass.*

> *We now and then, in our Walk, met with Clusters of a very delicate looking Tree, the Trunks of some of Them were 12. 14. 20 Inches round, covered with a green Bark, the leaves of a peculiarly beautiful Verdure and growing like the Fern, but more delicate. Having extended our Excursion as far as we wished, we returned to the Place where we landed and after regaling Ourselves with a cold Kanguroo Pie and a Plum Pudding, a Bottle of Wine &c, all which Comforts we brought from the Ship with Us, We returned on Board.*

Worgan provides further details about the nature of the country and its park-like appearance and the evidence for fire in the landscape (quoted in Gammage 2011:44-45):

> *In our Excursions inland….we have met with great Extent of Park-like country and Trees of a moderate Size and at a moderate Distance from each other, the Soil, apparently, fitted to produce of any kind of Grain, and clothed with extraordinary luxuriant Grass. It is something singular, that all, of this kind of Trees, and many others, appear to have been partly burnt, the Bark of them being like Charcoal.*

Watkin Tench (2005b) also adds details about the nature of the water availability in this landscape and the grass and the trees. Tench notes that Phillip's exploration party, who travelled through the country at Rosehill and continued west to reach what was to be called Eastern Creek, did not encounter any *'rivulets'* (the term Tench also used to describe the Parramatta River at Rose Hill) but were reliant on drinking water provided by *'standing pools'* which occurred in the valleys and were supposed to be formed by seasonal rainfall. This is likely describing former chain-of-ponds drainage as further discussed shortly. Similar to previous observations made by others Tench also reported the trees were spaced a considerable distance from each other and the intermediate space was not filled with underwood but with a thick rich grass. In addition, the grass did not '*overspread the land in a continued sward',* but grew *'in small-detached tufts, growing every way about three inches apart, the intermediate space being bare*'. Tench further describes that this grass grew in every place but the swamps with the '*greatest vigour and luxuriancy'* and (was '*found to agree better with horses and cows than sheep'*).

4.2 A culturally managed landscape at Aboriginal Parramatta

These first descriptions of Aboriginal Parramatta describe the rocky shoreline and woodlands on the southern side of the Parramatta River from the harbour to past Balmain the landscape began to flatten and ease into more open country from around Drummoyne and continued to do so westward. The country at Rose Hill and westward to Eastern Creek was undulating terrain with plains and rolling hills that featured open grasslands and widely spaced trees with low-shrub and grass understories free of underwood. The land was also interspersed with watercourses that occurred as discontinuous chains of ponds and wetlands, and the appearance of this landscape was consistently described by the British as resembling 'park-like country'.

These observations provide insight into likely vegetation community structures that were present in the landscape at Parramatta before they were changed by colonial agricultural land use. The first descriptions of the place also suggest that the landscapes described were constructed and maintained rather than natural. Hunter (2005) alludes to this when describing the land at the head of the harbour: '*there is a very considerable extent of tolerable land, and which may be cultivated without waiting for its being cleared of wood; for the trees stand very wide of each other, and have no underwood: in short, the woods on the spot I am speaking of resemble a deer park, as much as if they had been intended for such a purpose'.*

Hunter (ibid) also commented from an agricultural mind-set perspective that although the (clay-loam) soil from Rose-hill to Prospect-Hill was nearly alike he found it '*remarkable, that although the distance between these two places is only four miles, yet the natives divide it into eight different districts*'. Flynn (1995:30) describes in 1790 that Lieutenant William Dawes (probably guided by Bennelong) would follow part of the ancient network of pathways in the area to record eight Aboriginal places you would come to in succession after walking so many minutes westward for four miles from Rosehill before reaching Prospect Hill; *Parramatta, Wau-maille, Malgray-matta, Era-worong, Carramatta, Boolbane-matta, Carro-Wotong, and Marrong* (Prospect).

Benson & Howell (1990) propose the higher (Pleistocene) terraces at Parramatta were covered by woodlands dominated by grey box (*Eucalyptus moluccana*) and forest red gum (*Eucalyptus tereticormis*) with an open grass understorey, whilst the lower (Holocene) terraces were colonized by the common reed (*Phragmites communis*), paperbarks (*Melaleuca linariifolia*) and/or rough-barked native apple (*Angophora floribunda*) depending on soil drainage. Macphail & Casey (2008) note colonial documents do not record the presence of she-oaks (casuarinas) such as black she-oak (*Allocasuarina littoralis*), or river-oak (*Casuarina cunninghamiana*) or saltwater tolerant swamp-oak (C. glauca) that also grew at Parramatta. The combined data point to the landscape that was cleared was '*a savanna grassland with scatted eucalypts (Eucalyptus sensulato), sclerophyll shrubs (rare) and she-oaks (Allocasuarina/Casuarina spp.) lined local creek lines on the Pleistocene terraces and probably the sides of the river valley upstream of the tidal limit'* (Macphail & Casey 2008).

The open and lightly wooded grassland is believed to have been shaped and maintained by Aboriginal people over a long period of time who managed the landscape and its ecological communities through the use of fire (see Fletcher et al 2020; Gammage 2013; 2014; Hunter 2017; Mooney et al 2012). Fires of varying intensities were used to create mosaic grassland and woodland ecological communities that contained and attracted different animals and promoted different plants.

When the British arrived in Port Jackson, they were according to Hunter (ibid) perplexed as to why the country looked the way it did where '*two-thirds of the trees in the woods were very much scorched with fire, some were burnt quite black, up to the very top*'. The colonists frequently saw large fires and '*firing of the country, which the natives constantly do when the weather is dry*' and the results of this burning that often occurred in windy

weather that helped spread the fires over several miles of country. It was soon concluded that the firing was generally for the purpose of '*disturbing such animals as may be within reach of the conflagration*' and thereby providing the opportunity for people to catch these animals, and to also '*clear that part of the country through which they have frequent occasion to travel*' of brush or underwood to create and maintain the network of paths that connected the important places in the Aboriginal Parramatta landscape.

Long term Aboriginal land management practices including 'firestick farming' is believed to be reflected by the increase in charcoal percentages in sediments and soils during the LGM and the Holocene (see Hunter 2017; Fletcher et al 2020; Mooney et al 2012) and there is evidence that management was based on mosaic patterns according to cultural divisions of landforms, geology and ecology (see Mooney et al 2012; Bowman et al 2012).

4.3 Reconstructing the nature of the Clay Cliff Creek landscape in 1788

4.3.1 Preamble

A now almost disappeared drainage network was present in parts of Parramatta in 1788. Valley flats contained irregularly spaced and often steep-sided ponds that were separated by preferential flow paths that would only see continuously running water during high rainfall events and would otherwise remain as intermittent ponds for the remainder of the time. These landforms are today known as swampy meadows formations (Mactaggart et al 2007) and represent in-channel forms that were vegetated with grasses, rushes and sedges and interspersed with irregularly spaced, disconnected ponds (Eyles 1977, Mactaggart et al 2007:Figure 2.19).

These were fragile ecological systems and their demise was caused by vegetation clearance for agriculture and impacts from hard-hooved grazing animals that led to the loss of swamps and wetlands, native grasses and trees, and the entrenchment of drainage flows into continuous creek channels. The former presence of this important element of the landscape is reflected in the naming of a number of today's western Sydney watercourses including First Ponds Creek, Second Ponds Creek, Gidley Chain of Ponds (Bells Creek), and the Killarney Chain of Ponds. Lawrence and Davies (2018:240-241) further explain:

> *It was not until the late 1960s that geomorphologists began to recognise that the prevalence of deeply incised creek lines in Australia was the product of settler activity (see review in Bird 1982). Crucial to this discovery was the use of historical sources that documented the observations of early European explorers and settlers and recorded the form of waterways and ponds on early maps. Before settler colonisation, watercourses were discontinuous chains of ponds and wetlands that relied on heavy rain to overflow the ponds and join them into a stream. The ponds drought-proofed the land by keeping water available for plants, animals and people. Settler activity disrupted this by draining the wetlands, clearing vegetation, grazing sheep and cattle and introducing rabbits. These activities caused rain to bite into the watercourses, converting the chains of ponds into continuous streams in incised channels up to 15 metres deep, with water draining quickly away.*

Some first edition Parish maps for the Cumberland Plain show watercourses as connected chains of individual ponds as shown below (left) for a tributary of Breakfast Creek near Quakers Hill and (right) for the Gidley Chain of Ponds (later renamed Bells Creek) crossing through the Blacktown Native Institute in the early 1830s.

Figure 4.2: Chain of Ponds drainage depicted on Breakfast Creek (undated Parish of Gidley map) and Felton Mathews 1833 sketch of Crown Reserve and school house at Blacktown (Bickford 1981: Figure 3)

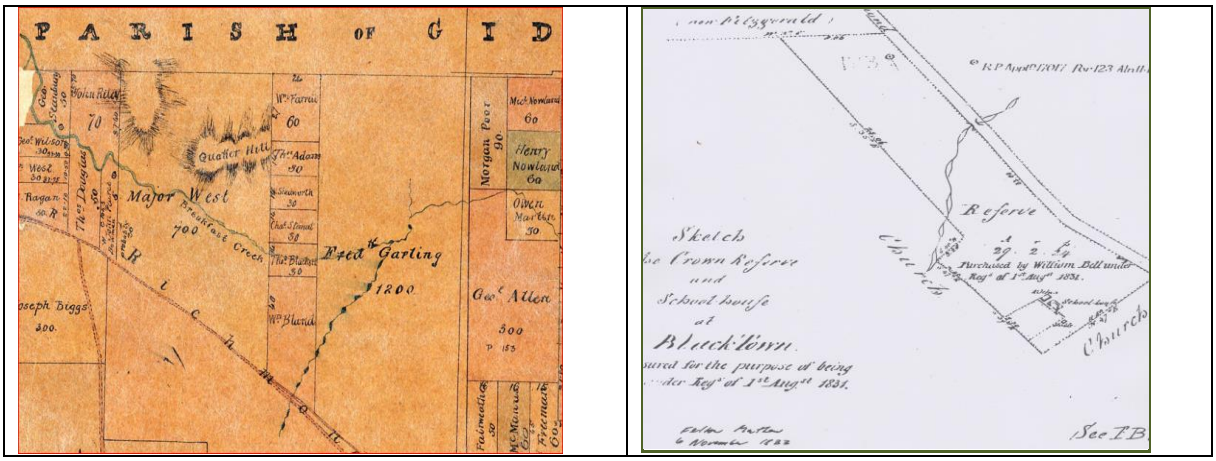


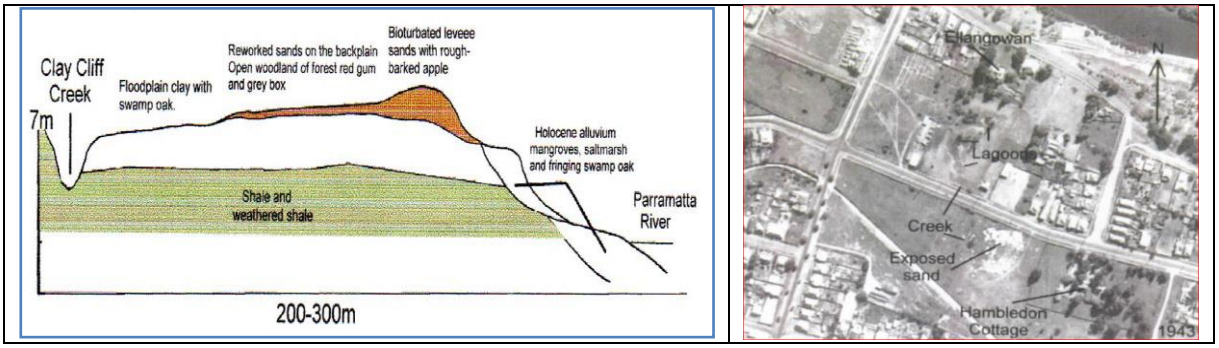
Figure 4.3: An example (left) off a swampy meadow located in a valley of the Upper Shoalhaven of NSW, now known as Cookanulla Creek, with disconnected pools, or a chain of ponds. A typical swampy meadow (Neville State Forest, Neville, NSW) showing an unchanneled valley floor vegetated with sedge and tussock grass (Source: Mactaggart et al 2007 Figures 1 and 2: 462

4.3.2 Ponds and lagoons on Clay Cliff Creek

It is likely that the landscape contained within the back-plain country between Clay Cliff Creek and the Parramatta River and within proximity of the Gregory Place site had uneven and some low-lying surface topography of sandy soil that featured chain of ponds drainage and associated swampy meadows formation vegetation. Mitchell (2009:2) has mapped the approximate locations of known drains (creeks or constructed drains) and waterholes or swamps along the Parramatta River at the time of European settlement and confirms the surface of the sand body across was uneven topography with swamps and waterholes present in 1788. The best defined and most persistent of these original landscape elements was a large lagoon with three ponds

located in low ground behind 'Ellangowan' in the centre of the block bounded by Harris, Hassall, Purchase and George Streets.

Figure 4.3: to the left is a north-south cross-section from Clay Cliff Creek (south) to Parramatta River (north) showing predicted soil materials in between (JMCHM 2005a). To the right is shown the channel form of a lagoon(s) behind 'Ellangowan' that was still evident in 1943 in the same location they were shown on an 1895 town map (Mitchell 2009).



Walter Campbell recollects in the 1850s (Cumberland Argus, 8 December 1920, P.4) described the land at 'Harris' paddock', which is likely to refer to the immediate landscape of Experiment Farm, was largely cleared of timber by this time but there was on the '*summit of the hill'* an open forest of mahogany trees '*which probably were in much the same condition as they were when Parramatta was first discovered*'. Campbell also described that meandering through the paddock was Clay Cliff Creek that was '*generally a series of waterholes*' and that he used to '*collect thistles, clover and soft grasses on the Old Experiment Farm, where John Ruse cultivated his historical wheat'*.

Insights into the nature of the wider Experiment Farm - Elizabeth Farm estate grounds around this time, and particularly the survival of indigenous vegetation in this otherwise well-established agricultural landscape are provided by a first-hand overview of the flora of the district in 1857 (Sydney Morning Herald 1857, 24 December 1857:8). Black-butt and Bloodwood and Turpentine trees were described as abundant near creeks north of Parramatta and the Woolly-butt tree (*E. gomphocephala*) grew abundantly on the south side of Parramatta. In one part of 'General Macarthur's bush' the latter tree type was found to be more plentiful than any other species. In the lower parts of the estate, towards Duck River, 'water gum' (*Tristania nereifolia*) grew in abundance. Near Red Bank there were some small turpentines, but the locality did not seem favourable for them (but purple coloured *Mirbelia* grew plentifully).

The author also noted there was one grass in the neighbourhood (*Anisopogon avenaceus*) that grew at the North Rocks but was not common elsewhere that had an oat-like appearance, but owing to the introduction of foreign grasses in the immediate neighbourhood, the native grasses were rapidly disappearing,

4.4 British settlement at Rosehill

By November 1788 surveyors and a party of marines had been to the Crescent in Parramatta Park to mark out the ground for a 'redoubt' and convicts were sent who '*understood the business of cultivation*'. Pollen (1983) suggests it was likely that James Ruse was amongst this party. By July 1789, a '*small redoubt was thrown up, and a captain's detachment posted in it, to protect the convicts who were employed to cultivate the ground*' (Tench 1979:136). The (first) barrack, and store, and convict huts enclosed within the redoubt were located on the south bank of the river nearby a timber bridge crossing (end of Bridge Street). Collins (1798:46) reported that *'some ground had been opened on the other side of the stream of water which ran into the creek.....in which the produce of the ground he* (Henry Dodd) *was then filling with wheat and barley was to be deposited*'.

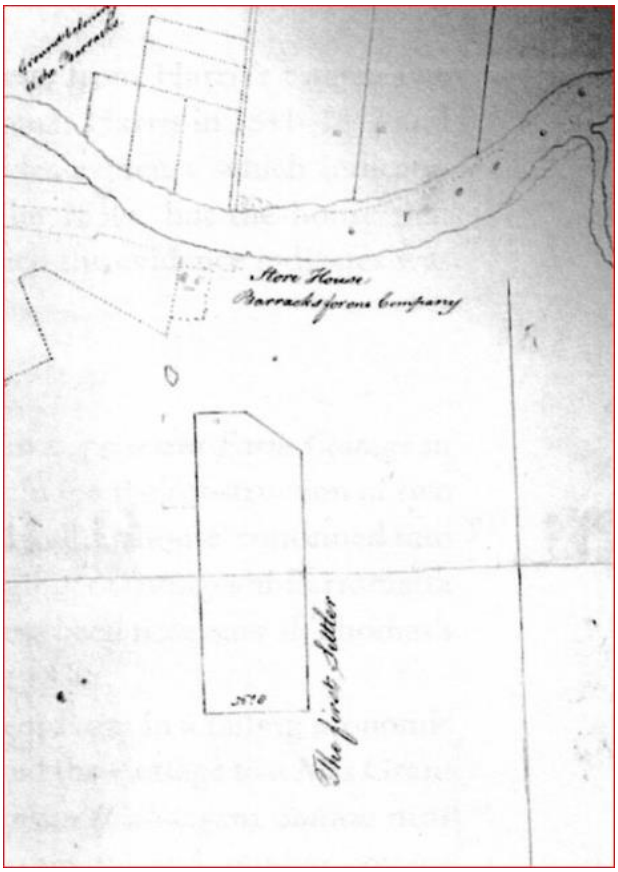
During this period, areas were cleared and cultivated south to today's Great Western Highway, past Northmead to the north, and to the east the Government Farm stretched as far as present day Charles Street. The main street at Rose Hill (High Street, later George Street) was laid out on an east-west axis from Government House to the first wharf. This broadly followed a part of a track 'blazed' by Phillip's' earlier exploration party to assist following explorations journeying from Sydney Cove to find Rose Hill.

Tench (1979:246) described the alignment of the road from starting near the Landing Place to the Governor's house was a mile long and in many places was '*carried over gullies of considerable depth, which have been filled up with trunks of trees, covered with earth*' that describes the originally undulating nature of the terrain and location of drainage along this stretch of the river (one such north flowing freshwater creek was identified during archaeological excavations at 184-188 George Street - Steele 2018). By September 1790 *'twenty-seven huts were in great forwardness at the end of the month'* (ibid:113), and by November1790 thirty-two houses were completed (Tench 1979:195). By December 1791 one hundred houses were finished. The first wharf at the '*Landing Place'* (approximately the site of Queens Wharf) was also completed (September 1790) and site for the storehouse and for the new barracks chosen (August 1790).

4.5 James Ruse and Experiment Farm

James Ruse had a hut built for him and to an acre and a half of ground cleared before he took occupancy of his land grant in November 1789. The Governor promised that if he made a success of his farm, it would be increased in size to thirty acres. A deed of grant issued in March 1791 called the grant 'Experiment Farm' and describes it was situated near the 'barracks ponds' (Jervis 1935) and is likely to refer to a chain of ponds or lagoons were once a dominant feature of the natural landscape in this part of the early town.

Figure 4.5: Detail from the 1792 'Plan and Survey of Parramatta and the Settlement' showing James Ruse's 30 acres and cottage (Reproduced in Rosen 2009:111)



When Watkin Tench visited his farm in 1790, Ruse advised although he did not know the precise limits of his land, he had cleared and burnt the fallen timber and cultivated as much land as he could. The northern boundary of Experiment Farm was adjacent to Clay Cliff Creek that drained the low-lying area sited to the east and south-east of the developing town from around where the railway station is now sited and emptied into Parramatta River near present day James Ruse Drive and where Phillip and his party has camped overnight in April 1788.

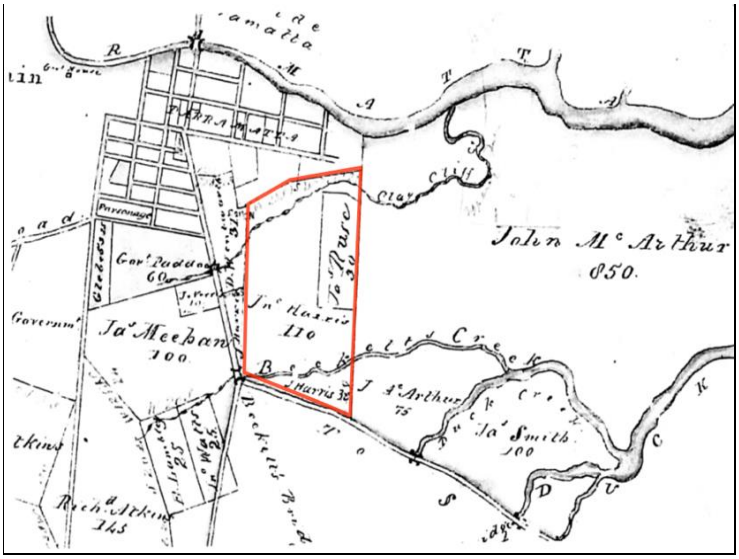
By early 1791 Ruse could support himself and family without assistance from the government store. In March 1791 Phillip moved to increase Ruse's land to 30 acres with Clay Cliff Creek playing the central role in the agricultural use of the land. Aside from being a source of fresh water, it was on the alluvial flats of Clay Cliff Creek above the river that Ruse grew crops.

However, Ruse's self-sufficiency could not be sustained because of the effects of drought and the rapid decline in agricultural fertility of the soils on his land ('soil exhaustion') and in October 1793 his land grant (30 acres) was sold to Surgeon John Harris who had arrived in the colony in 1790 as surgeon's mate to the New South Wales Corps and was stationed at Parramatta by May 1791.

4.6 Harris Farm

The grant of 110 acres made to John Harris in February 1794 was bound on the north by present-day Hassall Street and on the south by Becketts Creek. In addition to Becketts Creek the grant included a section of Clay Cliff Creek. Harris continued to add to his land holding at ' Harris Farm' over the following years and from June 1793 he lived there temporarily (Rosen 2009:107).

Figure 4.6: Detail from the map of the parish St John dated around 1835. The extent of John Harris' land by grant and purchase is delineated (Source: Land & Property Information).



Existing Experiment Farm Cottage is believed to have been built in the mid-1830s although a mid-1790s date has also been proposed (ibid). In the 1790s Harris' attention was focussed on Harris Farm (and on developing his grant at Ultimo from around 1804) and details of how the land was used is revealed in land and stock returns. In February 1794, 40 acres of the 110 acres were cropped with wheat, 70 acres were about to planted with maize, there were 120 sheep and 300 goats, and the clays of Clay Cliff Creek were also extracted for brick making. There are no direct historical references to Aboriginal people in the earliest records for the place.

4.7 Elizabeth Farm

It is likely that the land taken in by what was to become Elizabeth Farm contained a diversity of food and resource ecologies and many long-used campsites and other social places that were important to Aboriginal people when John Macarthur received his first grant of 100 acres at Rosehill in 1793. The Macarthur landholding encompassed the peninsula of land bound by Parramatta River to the north and Duck River to the south. Today this land slopes down from west to east from a high point (about 12m AHD) adjacent to Rosehill Railway Station after which the land falls to 7m AHD at Rosehill Racecourse and then it drops again to about 3m AHD near the confluence of the Parramatta and Duck Rivers.

This landscape will likely to have contained a complex mosaic of shaped and maintained savanna grasslands, woodlands and saltwater-freshwater wetlands, and chain of pond drainage and associated swampy meadows. The fabric of the country also provided the raw materials used for the first Elizabeth Farm buildings including hand-moulded bricks that were made from clay sourced from nearby Clay Cliff Creek, and the roof was formed of pit-sawn timber baulks with shingles made from swamp oaks.

Fowlie (1919:7) recalls that the bricks were made from a pit near where Camellia Station stands ('*this part of Macarthur's Estate was called Redbank'*) and that lime was made from shells that were procured from the '*great kitchen middens found along the riverbanks at the time*' that were processed a little to the east of the clay-pit (site of the Australian Kerosene and Oil Company).

Bennett (2014:68) reports the Macarthur's began interacting with Aboriginal people soon after arriving in Rosehill and several visited and camped on Elizabeth Farm including Tedbury (Pemulwuy's son) and two young men called Harry and Bill. We do not know how long these Aboriginal people or others may have stayed at the place or where they may have camped when there.

Citing Joy Hughes' transcription of William Macarthur's reminiscences (ML MSS A2935) Bennett (ibid:68, 72) describes the tale of Harry and Bill who were frequent visitors to Elizabeth Farm in the early nineteenth century. Harry and Bill were two youths of the same age and related to each other and inseparable companions. They unfortunately became attached to the same girl and Harry (who was of more gentle disposition) was favoured by the girl. Bill in an evil temper speared Harry whilst he was asleep. Harry survived, but his people were highly incensed and according to customs Bill would have to face spears thrown at him from several men in ritual punishment including from Cogy who was from the Cowpastures. Bill was speared by Cogy and died in an Elizabeth Farm outhouse and was buried nearby (it is uncertain if this was within the grounds of Elizabeth Farm).

4.8 Conflict and 'battle of Parramatta'

The Parramatta-Toongabbie-Prospect areas saw the initial brunt of frontier conflicts following the British taking of Aboriginal Parramatta and initial hostilities peaked with the Battle of Parramatta in 1797 when a party led by Bidjigal warrior Pemulwuy attacked the military barracks. In March 1797, Pemulwuy and his people had raided the government farm at Toongabbie and a vigilante group of armed settlers and soldiers had met and chased about 100 hostile Aboriginal people to the outskirts of the town. The armed Aboriginal group massed on the northern side of the river, possibly around the Government farms. The party then crossed the river and marched in ranks down High (George) Street to attack the military barracks in today's Robin Thomas reserve. The fight that followed killed at least five Aboriginal people and possibly as many as fifty. Pemulwuy himself was shot several times and taken to the hospital before escaping wounded and in irons. Pemulwuy was killed in 1802 and his death marked the effective end of Aboriginal resistance in the Parramatta district.

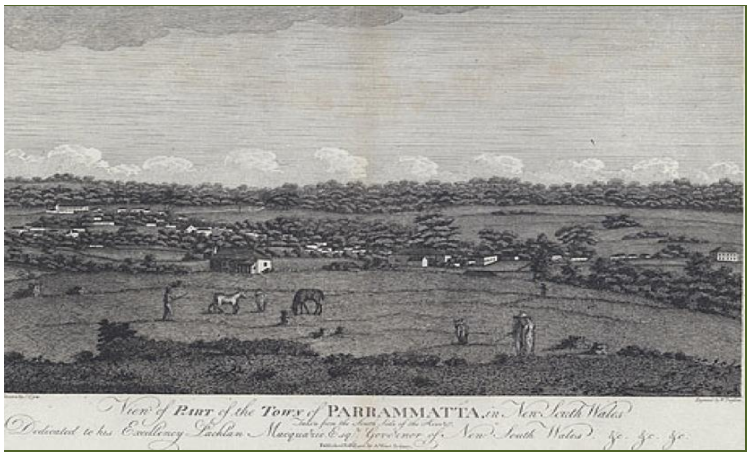
Renewed conflicts in 1805 led Governor King to reimpose the bans that prohibited Aboriginal people approaching settler dwellings in the '*out-settlements'* that included the Parramatta and Hawkesbury districts. Aboriginal people living in the Prospect area reached out to Samuel Marsden and wanted to talk with a view of opening the way to reconciliation. In July 1805, the Sydney Gazette wrote:

> *'having generally expressed a desire to come in, and many being on the road from Hawkesbury and other quarters to meet the Governor at Parramatta, no molestation whatever is to be offered them in any part of the colony – unless any of them should renew their late Acts, which is not probable, as a reconciliation will take place with the natives generally'.*

4.9 Agricultural development of the land

Relatively little is known of the physical development of Harris Farm in the nineteenth century. An engraving made around 1812 by Walter Preston is believed to show John Harris' cottage and other structures between this cottage and Clay Cliff Creek to the north. Another source is the 'birds eye' view of Parramatta (published in 1877) made from a photograph taken from a balloon. It depicts Experiment Cottage within a treed garden compound and most of the farm was cleared paddocks and the course of Clay Cliff Creek is shown.

Figure 4.7: Detail from Preston's 1814 'View of part of the town of Parramatta in New South Wales. Taken from the south side of the river'. The drawing depicted the rear of Harris' cottage within the 30 acres granted to Ruse (Source: National Gallery of Australia)



4.10 Parramatta Native Institution

The Native Institution at Parramatta officially opened in January 1815. It was located in the middle of town and was intended to operate as a 'boarding school' for Aboriginal children. Both sexes would receive religious instruction whilst being taught to read and write. The boys were to be taught manual labour and agriculture methods and the girls how to sew, knit and spin. The plan was for when the children who had been admitted to the place had matured, they would be paired off, married and settled on farms as couples (Brook 1996:7).

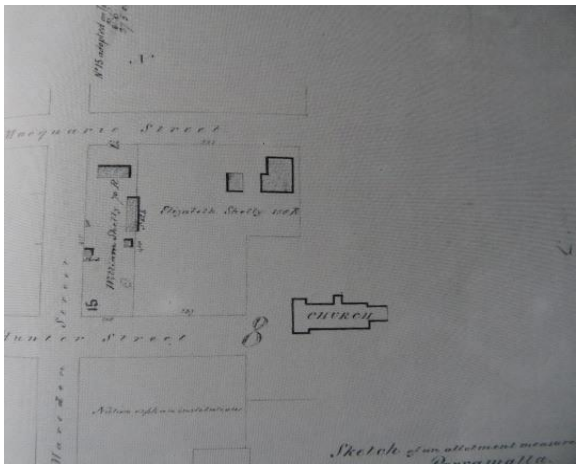
Three weeks prior to the official opening, over sixty Aboriginal people had attended a Conference, or Congress organised by Macquarie and held at the Market Place in Parramatta.

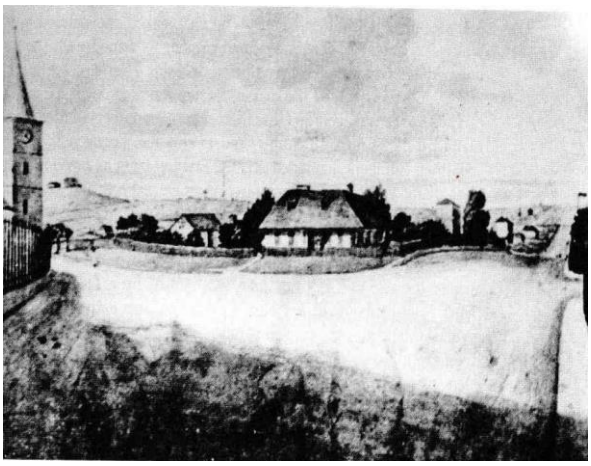
In March, Macquarie reported that only two months after the (official) establishment of the Institution six children had already been taken away by their parents (HRA VIII:467). In 1816, Nurragingy (Creek Jemmy) '*chief of South Creek*' and Mary-Mary '*chief of the Mulgoa clan*' with about fifty men, women and children visited Macquarie and were given breakfast and dinner in Parramatta Park, and a previously hostile man Narrang Jack gave himself up.

In April Macquarie orders the capture of twelve Aboriginal boys and six girls between four and six years of age for the Institute. He instructed that '*fine healthy good-looking children*' are to be delivered to Shelley (HRA IX:858). In February 1817 there are twenty children at the Native School but December Native Conference was not held because of a severe drought.

At the annual feast in 1818, Macquarie presented gorgets to '*Cogie as Chief of the George's River Tribe and to Norwong as Chief of the Botany Tribe and the Order of Merit to Tindall of the Cow Pastures and Pulpin of the Hawkesbury Tribe'* (Macquarie Journal, 1 January 1818). Almost 300 Aboriginal people attended the feast in 1819 with some travelling from beyond the Blue Mountains and '*from the North and South who had travelled a distance of upwards of 100 miles'* (SG, 2 January 1819).

Figure 4.8: Location of the Parramatta Native Institute occupying the land to the west of St John's church from 1815 (History of Aboriginal Sydney and Kass et al 1995:105)





4.11 Parramatta in 1820s

4.11.1 Hambledon Cottage

Hambledon Cottage was constructed in the early 1820s for the Macarthur's children's nanny, Penelope Lucas, who lived there from 1827 until her death in 1838 after which ownership of the cottage was transferred to Edward Macarthur.

4.11.2 Aboriginal people in the 1828 census

In the area between Parramatta and the Blue Mountains, the 1828 census records Aboriginal people were living at Parramatta, Richmond, Mulgoa, Burragorang, Cowpastures, Nepean and McDonald Rivers. The 'Parramatta Tribe' had just under fifty members. Later 'blanket returns' from the Parramatta district (1834-1843) do not record a Parramatta Tribe but identify groups in the district attending Parramatta for blanket distributions including people from Duck River, Kissing Point, Breakfast Creek, and Eastern and South Creeks.

4.12 Aboriginal people in 1830s and 1840s

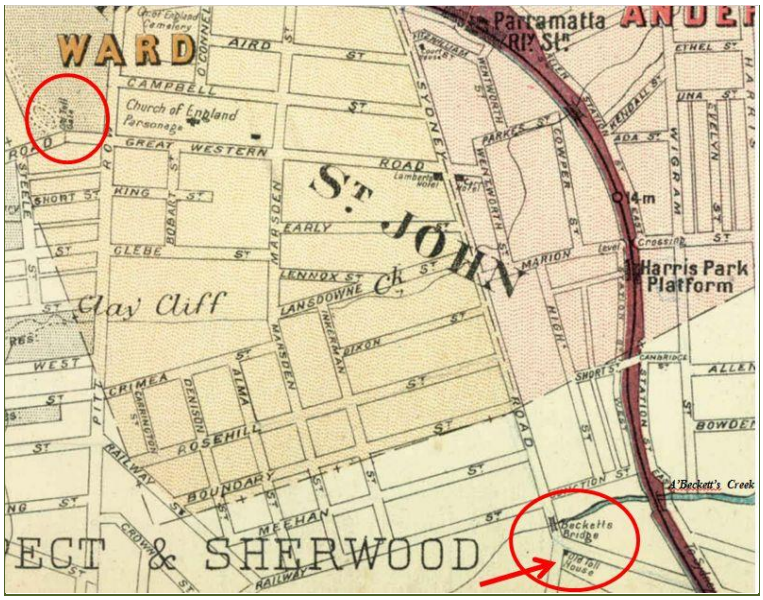
Governor Darling initiated an annual distribution of blankets and cheap 'slop' clothing to Aboriginal people in 1826 and to account for the cost the administrators created what are called 'blanket returns'. These generally included an Aboriginal individual's English and traditional name, probable age, number of wives, children, tribe, and district of usual resort.

The first general distribution of blankets was in 1827. Fowlie (1919) recalls Aboriginal people had a camping place near the junction of Union Street and Dog-Trap-road (Woodville Street) that continued to be used over the years when people travelled to Parramatta to receive blankets and *'those coming from the south chose this spot and those from the west camping near where Camellia Station now stands'.*

Another recollection (Cumberland Argus 19 June 1897, p.5) refers to 1837 or thereabouts:

> *The local aborigines — then a fairly numerous host — were gathered in a ring (men within and gins and piccaninnies and dogs on side) in an enclosure "run up" by men from the "lumber yard," and surrounded with bushes. The lumber yard was a place adjoining the Military Hospital in which men of different trades pursued their various callings. The Governor and suite would attend, followed by constables with rolls of blankets. Each blackfellow would be in turn accosted as His Excellency moved round the circle, and each would get his blanket, which he would generally pass back to his dusky housekeeper. The blankets were too often swopped for liquor before nightfall.*
>
> *After the distribution of blankets would come the feast — roast beef and plum pudding. The latter, I remember, was made by the inmates of the Female Factory over the water, and the viands, were trundled up from the institution to the feast-ground in the first vehicle handy. At nightfall the two or three hundred Blacks would have a feast according to their own fashion, generally on the vacant ground at the corner of Macquarie and Marsden Streets now occupied by the house "Mangoplah" where Sir Henry Parkes resided some 12 years ago. Others would go to higher ground — the Western Road near the tollbar for instance — and the feast fires could be seen and the drunken revelry heard till after midnight.*

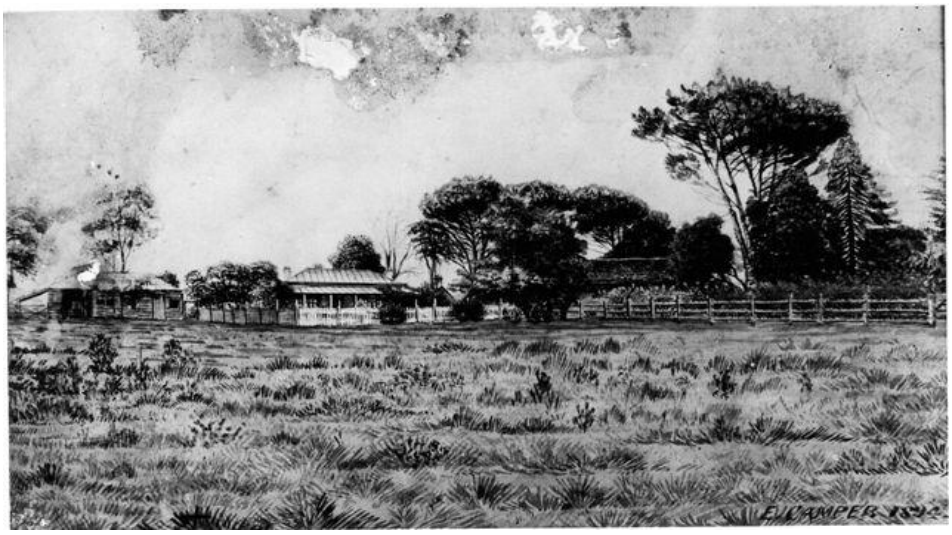
Figure 4.9: Aboriginal groups appear to have camped in separate locations while travelling to Parramatta in the 1820s and 1830s and shown is the head of A'Beckett's Creek and toll house on the Western Road (base-map PCC 'Murder at the Toll House')



4.13 'Neale's Cottage'

George Neale was a wheelwright who worked for the Macarthur family for most of his adult life. In 1831 he and Bridget Neale and their young daughter Elizabeth Mary moved into a small timber cottage that had been built between Hambledon Cottage and Clay Cliff Creek. In c.1854 a replacement brick cottage was built for the Neale family by Edward Macarthur within the immediate vicinity of the Gregory Place site (Historic House Trust, 'On the Hoof', 2006).

Figure 4.10: *A single fronted cottage facing east, enclosed by a semi-circular picket fence, with stables and outbuildings to the south. The well-established garden and coach house of Hambledon is seen to the north across a three railed hardwood fence'* (HHT 2006)



4.14 Late nineteenth and early twentieth century changes

4.14.1 Gregory Place study area

George Neale (widower) surrendered his lifetime leasehold in 1882 and the cottage passed through various owners before it was demolished (prior to the construction of the pharmaceutical factory that currently occupies the land). NBRS+Partners (2021:12) report an 1895 plan shows a group of buildings in the vicinity of the Gregory Place site and a rectangular stable/sheds structure to the southwest of Hambledon Cottage extended across the boundary of the study area. It appears that Neale's Cottage was demolished sometime before 1943 when the Land was purchased by the Goodyear Tyre and Rubber Co.

Figure 4.11: The site shown as vacant land crossed by the stormwater channel of Clay Cliff Creek in 1943 (Sullivan-ES 2015)

Figure 4.12: The study area in 1961 (Sullivan-ES 2015)

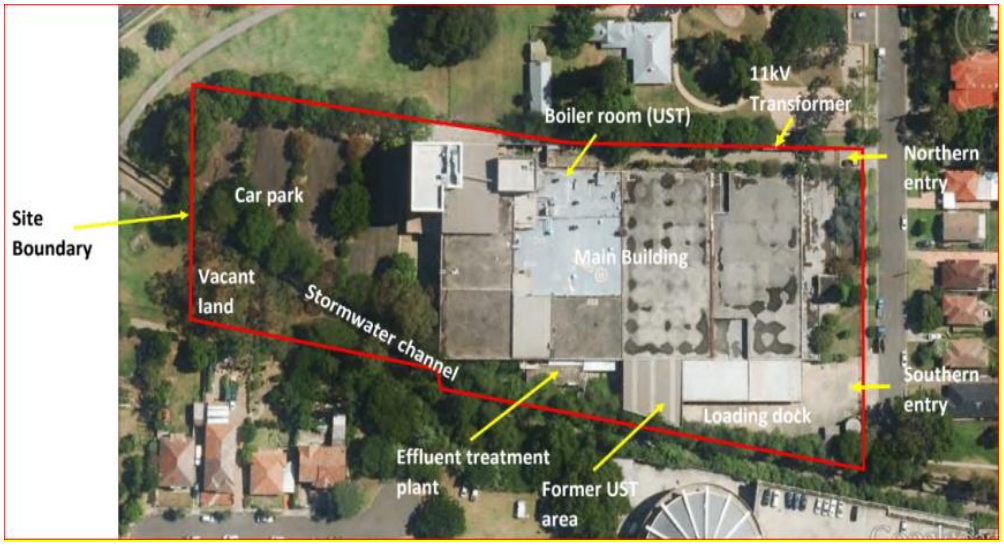
4.14.2 Clay Cliff Creek

With the rapid urbanisation of the land within the catchment of Clay Cliff Creek from the late 1870s the flow and the sanitary condition of the creek deteriorated, and by 1890, channelling the water course was thought to be necessary (Cumberland Argus, 21/2/1891). This work was documented by the Public Works Department. Only a portion of the concrete channel, between Church and Station Streets appears to have been completed in the early 1890s. Tenders for the construction of the extension of the channel east, and across Harris Street and onto Alfred Street were called for in 1894. The project was stopped (due to a lack of funds) in 1895 only to be revived in the late 1890s with completion of the channel to the west of Harris Street by 1900 (Cumberland Argus, 21/11/1900; 17/4/1901). Harris Street was the terminus of the channel for several years and there was continued periodic flooding of the old creek course east of Harris Street (Cumberland Argus, 4/7/1914).

4.15 Existing condition of the land

The site is 1.948 ha in size with key features comprising a main office/warehouse/factory building covering about two-thirds of the site, an asphalt carpark covering the western area, a concrete forecourt/loading dock covering part of the southern area, and a large open storm-water channel running the length of the southern boundary then cutting through the site in the southwest corner (Sullivan E-S 2015). The stormwater channel for Clay Cliff Creek is approximately 6m wide and 3m deep from ground level. It drains east for 400m then runs for approximately 500m before it empties into the Parramatta River adjacent to James Ruse Drive.

Figure 4.13: 2A Gregory Place layout and key built form (Sullivan-ES 2015)



5.0 Significance assessment

5.1 Heritage assessment criteria

Cultural significance is defined by the *Burra Charter* as '*aesthetic, historic, scientific or social value for past, present or future generations*' (Article 1.1). Significance may derive from the fabric of an item or place, its association with other items or places, or the research potential of an item or place. Linking this assessment process with a site's historical or archaeological context is currently achieved via the use of seven evaluation criteria which reflect significance categories and representativeness whereby a site, place or item can be evaluated in the context of State or Local historical themes.

Documented and potential historical archaeological sites are routinely evaluated according to these criteria. These criteria don't easily apply to Aboriginal archaeology but are used here to provide a general guide to support the Aboriginal archaeological heritage assessment of the site presented below:

- Criterion (a) – 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 (b) – an item has 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) – an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).
- Criterion (d) – an item has 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) – an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area).
- Criterion (f) – 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).
- Criterion (g) – an item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places, or cultural or natural environments.

Different components of a site, place or item may make a different relative contribution to its heritage value. Loss of integrity or poor condition that are factors most commonly caused by development impacts on archaeological sites, may diminish a site or an item's significance. Relative grades that can be used to determine the heritage significance of items (both built and archaeological) include:

- Exceptional: Rare or outstanding item of Local or State significance. High degree of intactness. Item can be interpreted relatively easily. Fulfils criteria for Local or State listing.

- High: High degree of original fabric. Demonstrates a key element of the item's significance. Alterations do not detract from significance. Fulfils criteria for Local or State listing.
- Moderate: Altered or modified elements. Elements with little heritage value but which contribute to the overall significance of the item. Fulfils criteria for Local or State listing.
- Little: Alterations detract from significance. Difficult to interpret. Does not fulfil criteria for Local or State listing.
- Intrusive: Damaging to the item's heritage significance. Does not fulfil criteria for Local or State listing.

5.2 Assessing Aboriginal archaeological heritage significance

The assessment of scientific significance of the potential Aboriginal archaeological resources contained within the study area below follows current OEH guidelines (NPWS 1997:5-11) and uses the additional criteria derived from the Burra Charter above. An important position that needs to be made clear as part of the assessment process is that not all sites are equally significant and not all heritage sites at a general level will warrant equal consideration and management. Heritage NSW (former OEH) guidelines for the assessment of significance of Aboriginal sites, objects and places identify two types of significance criteria comprising *cultural significance* and *archaeological significance.*

Cultural significance concerns the values of a site or feature to a community group which in this case is the local Aboriginal community. Aboriginal Archaeological sites, objects, and some landscapes are all often important for different reasons or have become important to Aboriginal people over time. This importance involves both people's historical links to 'country' in general, and possible attachments to specific areas, as well as an overall concern of many Aboriginal people for the continued protection of the land and its cultural heritage sites.

Scientific significance in archaeological contexts is usually assessed using criteria that aim to evaluate a given site's contents, state of preservation (integrity), representativeness or rarity, and research potential. A preliminary evaluation of the significance of the potential Aboriginal archaeological resources at the FABH site according to the criteria below is provided using the following as a guide:

- *Archaeological research potential* incorporates values of intactness (whether it has stratigraphic integrity or is disturbed), the association of the site to other sites in the local or regional (or State) context, and sometimes also how the site may fit into a datable chronology if one exists, when considering how the site may contribute to our further understanding of past Aboriginal life. This area of assessment is consistent with *Criterion 'e'* of the *Heritage Branch* guidelines (see below).
- *Representativeness* is a term to convey the idea that most Aboriginal archaeological sites are representative of a particular 'type' or sub-type/class which for example would apply to a rock shelter with art as distinct from an open campsite with stone artefacts. A key issue is what sites should be conserved to ensure a representative sample of the archaeological record is

retained for future generations. This general area of assessment is consistent with *Criterion 'a'* of the *Heritage Branch* guidelines (see below).

- *Rarity* can apply to a unique or uncommon archaeological site itself or elements of its component parts (archaeological rare finds or contexts), and can be assessed at a local, regional, State, and national level. This area of assessment is consistent with *Criterion 'a'* of the *Heritage Branch* guidelines (see below).

5.3 Assessment of significance against criteria

Criterion (a) – an item is important in the course, or pattern, of NSW's cultural or natural history (or cultural/natural history of the local area)

The Gregory Place site is located within an ancient river valley landscape whose natural and cultural evolution can be traced back to the Late Pleistocene.

The land at Rosehill formed part of the traditional territory of the Burramattagal and Wategora people in 1788. This country was first seen and partially explored by the British between early February and April 1788 during the first explorations led by Governor Phillip to ascertain what lay at the 'head of the river'.

This resulted in the discovery of critically needed agricultural land but also the rapid displacement of the Aboriginal owners of the country and is important in the course of NSW's cultural history.

Criterion (b) – an item has 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)

Parramatta has a strong late eighteenth and early nineteenth Aboriginal history and there is a potential for prehistoric archaeological evidence of Aboriginal occupation and use of the land to be present at the site.

The 2A Gregory Place site is situated within one Parramatta's more significant historical heritage precincts and is located close to several significant places that are listed on the SHR (Hambledon Cottage and Experiment Farm). However, the landuse history of the site itself is largely unremarkable. It was likely used primarily for agriculture in the early years followed by animal grazing, and it was not built on or until the second half of the nineteenth century ('Neale's Cottage). The site has associations with the life or works of a group of persons of importance in NSW's cultural or natural history (Macarthur family), but in general terms the site does not fulfil this criterion.

Criterion (c) – an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area)

The site is currently occupied by modern built fabric (structures) that do not show a high degree of creative or technical achievement and does not fulfil this criterion. The original 1950s factory has seen multiple additions and amendments to the fabric over time

Criterion (d) – an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons

Future Aboriginal community consultation is likely to illustrate that the site should be viewed as forming a part of wider Aboriginal cultural heritage landscape that has values that are important to contemporary Aboriginal communities that include its potential archaeological, historical, sedimentary and paleoenvironmental records.

Criterion (e) – an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area)

The subsurface alluvial soils and sediments at the site may contain archaeological evidence, and the potential to yield information that may contribute to an understanding of the cultural and natural history of Sydney.

Criterion (f) – 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)

The subsurface profiles of the study area may contain cultural materials and environmental evidence that is uncommon that can provide information that documents aspects of NSW's cultural and natural history that is not available from any other source. The site has potential conservation values for this reason.

Criterion (g) – an item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places, or cultural or natural environments.

The site may contain natural and cultural (archaeological) deposits that may potentially be of significance under this criterion by their ability to further demonstrate the principal characteristics of a class of NSW's cultural and natural places (ie. long-term Aboriginal use of the Parramatta River valley).

5.4 Evaluation

The 2A Gregory Place is situated within a sensitive Aboriginal archaeological landform context on Clay Cliff Creek that is mapped to have potentially deep subsurface alluvial soil profiles that may contain Aboriginal objects. However, the upper parts of the profile have been disturbed to a considerable depth by modern buildings and are buried beneath the footprint of the structures on the site, and the presence of potential archaeological deposit has not been confirmed.

The site landuse history suggests potential relics and archaeological deposits that may survive are likely to be of Local significance. Potential historical-archaeology that may have survived the demolition of 'Neale's Cottage' is likely to have been removed by the construction of the existing factory buildings that cover two-thirds of the site and for the construction of the asphalt carpark covering the western third. On this basis, it is not expected that significant and intact archaeological features and deposits are present at the site and it is evaluated that the potential historical-archaeological sensitivity of the 2A Gregory Place site is low.

6.0 Heritage Impact Assessment & Management Recommendations

6.1 Potential archaeological Impact

The landuse history of the 2A Gregory Place site combined with its topographically low-lying creek-side landscape context suggests the potential historical archaeological remains associated with the pre-1950s use of the land is likely to be of local archaeological (scientific) significance. *Potential* archaeological survival has however likely to have been considerably impacted upon by modern building and significant creek line alterations. In this context, it is considered that deep-cut archaeological features (cistern/well/cess pit etc) possibly located in the western third of the study area occupied by the carpark are the most likely type of physical remains that will have survived below zones disturbed by the construction of the current factory. However, survey plans show the construction of the carpark has lowered the ground level in this location by about 0.5m, and the potential for substantial and intact historical archaeological features and deposits to survive is limited.

There is a possibility that that soil and sediment profiles that may contain Aboriginal objects survive within the site footprint below and outside of the disturbed zones. The western two-thirds of the site have been widely disturbed to considerable depths by building footings and installation of underground tanks and the original ground levels below the carpark covering the eastern third of the site have been cut-down and are likely to be missing the upper parts of the potential archaeological profile.

6.2 Archaeological heritage management recommendations

1. The site is unlikely to contain or preserve relics and archaeological deposits that are protected by the *Heritage Act 1977,* and it is recommended that there are no obvious non-Aboriginal heritage constraints to the proposed development at 2A Gregory Place from proceeding (with caution) as planned.
2. It is recommended that a geotechnical borehole investigation should be undertaken at the site under supervision of a suitably qualified geoarchaeologist to provide interpretation of the results and to establish whether there are soils and sediments that may have potential to contain Aboriginal objects and clarify whether an Aboriginal Heritage Impact Permit (AHIP) is required under the *National Parks and Wildlife Act 1974* (NPW Act) for the proposal if it is determined that Aboriginal objects are likely to be present and harmed by the redevelopment.
3. Following the completion of the geotechnical work it is recommended an Aboriginal Archaeological and Cultural Heritage Assessment (ACHA) be prepared for the site following the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* which would be used to support an application to Heritage NSW for an Aboriginal Heritage Impact Permit (AHIP) if this is required.

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8.0 Appendices

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : 2a Gregory Pl 50m
Client Service ID : 615741

Dominic Steele Archaeological Consulting

Date: 23 August 2021

21 Macgregor Street
CROYDON New South Wales 2132

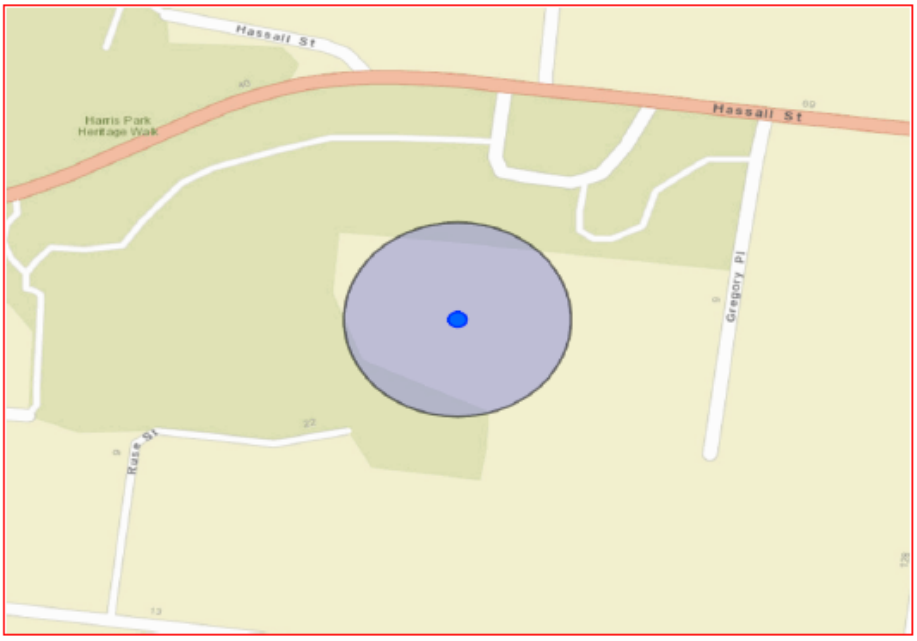
Attention: Dominic Steele

Email: dsca@bigpond.net.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Address : 2A GREGORY PLACE HARRIS PARK 2150 with a Buffer of 50 meters, conducted by Dominic Steele on 23 August 2021.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : 2A Gregory Pl 200m
Client Service ID : 615745

Dominic Steele Archaeological Consulting

Date: 23 August 2021

21 Macgregor Street
CROYDON New South Wales 2132

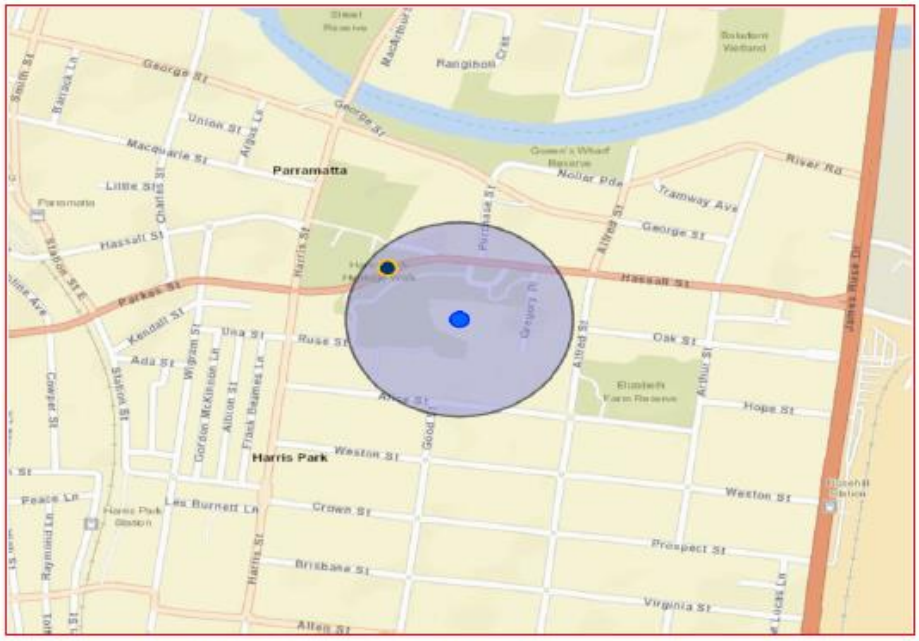
Attention: Dominic Steele

Email: dsca@bigpond.net.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Address : 2A GREGORY PLACE HARRIS PARK 2150 with a Buffer of 200 meters, conducted by Dominic Steele on 23 August 2021.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

1	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 2A Gregory Place 1km

Client Service ID : 615755

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-6-2554	Elizabeth Farmhouse	AGD	56	316420	6255700	Open site	Valid	Artefact :-	Open Camp Site	102196,103782
	Contact	Recorders	Michael Guider					Permits	2928	
45-6-2559	Sydney Turf Club Carpark;STC Carpark;	AGD	56	316900	6256020	Open site	Valid	Artefact :-	Open Camp Site	102142,102196
	Contact	Recorders	Michael Guider					Permits		
45-6-2627	HP-1	AGD	56	315850	6255210	Open site	Valid	Artefact :-		102196
	Contact	Recorders	Mick Leon					Permits		
45-6-2648	Charles/George 1	GDA	56	315690	6256470	Open site	Partially Destroyed	Artefact :-, Potential Archaeological Deposit (PAD) : -		99538,102196
	Contact	Recorders	Doctor.Jo McDonald,EMM Consulting - St Leonards - Individual users,Curio Project					Permits	1433,1682,2176,2240,2353,3049,3509,4661	
45-6-2678	SSP1 (formerly Smith Street PAD)	AGD	56	315330	6256150	Open site	Destroyed	Potential Archaeological Deposit (PAD) : -		99518,102196,103782
	Contact	Recorders	Doctor.Jo McDonald					Permits	1848,2561	
45-6-2668	Argyle St	AGD	56	315200	6256060	Open site	Valid	Potential Archaeological Deposit (PAD) : -		102196,103782
	Contact	Recorders	Doctor.Jo McDonald					Permits	1764,2155	
45-6-2669	Kendall Street, Harris Park	AGD	56	315525	6256150	Open site	Valid	Potential Archaeological Deposit (PAD) : -		102196,103782
	Contact	Recorders	Jim Wheeler					Permits	1767	
45-6-2673	RTA-G1	GDA	56	315842	6256510	Open site	Valid	Artefact :-		100552,102196,103782
	Contact	Recorders	Doctor.Jo McDonald					Permits	1841,2176,3050,3509	
45-6-2738	James Ruse Reserve Open Camp 1	AGD	56	316000	6256000	Open site	Valid	Potential Archaeological Deposit (PAD) : -		102196,103782
	Contact	Recorders	Jim Wheeler					Permits	2018,2187	
45-6-2741	Parramatta Transport Interchange PAD	AGD	56	315450	6256250	Open site	Valid	Potential Archaeological Deposit (PAD) : -		99438,99497,102196,103782
	Contact	Recorders	Doctor.Susan (left ahms) McIntyre-Tamwoy					Permits	2121,4767	
45-6-2863	Cumberland Press Site	GDA	56	315913	6256448	Open site	Valid	Artefact :89		103782
	Contact	Recorders	Ms.Lalla Haglund,Ms.Tory Stening					Permits	2865,3307,3509,3816	
45-6-2893	95-101 George St (GSP AD)	GDA	56	315720	6256570	Open site	Valid	Potential Archaeological Deposit (PAD) : -, Artefact :-		101078,103782
	Contact	Recorders	Megan Mebberson					Permits	3509	

Report generated by AHIMS Web Service on 23/08/2021 for Dominic Steele for the following area at Address : 2A GREGORY PLACE HARRIS PARK 2150 with a Buffer of 1000 meters. Number of Aboriginal sites and Aboriginal objects found is 34

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 2A Gregory Place 1km
Client Service ID : 615755

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-6-2950	Macquarie St PAD 2	GDA	56	315835	6256410	Open site	Destroyed	Potential Archaeological Deposit (PAD) : -		102144,103782
	Contact	Recorders	Doctor,Jillian Comber,Comber Consultants Pty Limited					Permits	3238,3366	
45-6-2976	George St PAD 1	GDA	56	315650	6256690	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	Contact	Recorders	Comber Consultants Pty Limited,Mr.David Nutley					Permits	3509,4766,4767	
45-6-3102	Phillip Street PAD 1	GDA	56	315581	6256801	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	Contact	Recorders	Mr.Dominic Steele					Permits	3755	
45-6-3068	GS PAD 1 184-188 George Street	GDA	56	315899	6256375	Open site	Destroyed	Potential Archaeological Deposit (PAD) : 1		103962
	Contact	Recorders	Mr.Dominic Steele					Permits	3584	
45-6-3065	PHILLIP ST PAD 1	GDA	56	315500	6256675	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	Contact	Recorders	Mr.Dominic Steele					Permits		
45-6-3118	Clay Cliff Creek Levee	GDA	56	315801	6256294	Open site	Valid	Artefact : 1, Potential Archaeological Deposit (PAD) : 1		102992,103297,102998
	Contact	Recorders	Ms.Fenella Atkinson					Permits	3788	
45-6-3131	River Road West	GDA	56	316650	6256450	Open site	Valid	Potential Archaeological Deposit (PAD) : -, Artefact : -		102338
	Contact	Recorders	Ms.Fenella Atkinson,Mr.Ryan Taddeucci					Permits	3734,4657	
45-6-3158	Robin Thomas Reserve	GDA	56	316100	6256300	Open site	Partially Destroyed	Aboriginal Resource and Gathering : -, Potential Archaeological Deposit (PAD) : -, Artefact : -		
	Contact	Recorders	Doctor,Jillian Comber,Extent Heritage Pty Ltd - Pyrmont - Individual users,Extent H					Permits	4439	
45-6-3157	Harris St Footpath	GDA	56	316013	6256461	Open site	Valid	Artefact : -		
	Contact	Recorders	Ms.Tory Stening					Permits	4439	
45-6-3180	21 Hassall Street	GDA	56	315761	6256247	Open site	Partially Destroyed	Potential Archaeological Deposit (PAD) : 1		103758
	Contact	Recorders	Ms.Ngaire Richards					Permits	3906,3975	

Report generated by AHIMS Web Service on 23/08/2021 for Dominic Steele for the following area at Address : 2A GREGORY PLACE HARRIS PARK 2150 with a Buffer of 1000 meters. Number of Aboriginal sites and Aboriginal objects found is 34

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 2A Gregory Place 1km
Client Service ID : 615755

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-6-3312	PLR AFT 1	GDA	56	316105	6256465	Open site	Valid	Artefact : -		
	Contact	Recorders	Kelleher Nightingale Consulting Pty Ltd,Ms.Cristany Milicich					Permits		
45-6-3313	PLR AFT 2	GDA	56	316305	6256340	Open site	Valid	Artefact : -		
	Contact	Recorders	Kelleher Nightingale Consulting Pty Ltd,Ms.Cristany Milicich					Permits		
45-6-3214	Wigram & Hassall St AS	GDA	56	315825	6256231	Open site	Valid	Artefact : 1, Potential Archaeological Deposit (PAD) : 1		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users,Mr.Alistair Hobbs					Permits	4043	
45-6-3503	32 Smith Street	GDA	56	315536	6256745	Open site	Partially Destroyed	Potential Archaeological Deposit (PAD) : 1		103963,10396 4,103965
	Contact	Recorders	AMAC Group P/L,Mr.Benjamin Streat					Permits	4268,4347	
45-6-3630	Hassall St PAD	GDA	56	315587	6256244	Open site	Destroyed	Potential Archaeological Deposit (PAD) : 1		
	Contact	Recorders	Comber Consultants Pty Limited,Ms.Jillian Comber					Permits	4412,4527	
45-6-3495	116 Macquarie St Parramatta	GDA	56	315700	6256475	Open site	Valid	Potential Archaeological Deposit (PAD) : 1, Artefact : -		103782
	Contact	Recorders	Comber Consultants Pty Limited,Comber Consultants Pty Limited,Ms.Alandra Tasi					Permits	4607,4651	
45-6-3702	Smith St PAD1	GDA	56	315480	6256713	Open site	Destroyed	Artefact : -, Potential Archaeological Deposit (PAD) : 1		
	Contact	Recorders	Comber Consultants Pty Limited,Comber Consultants Pty Limited,Ms.Jillian Combe					Permits	4513,4756	
45-6-3837	Baludarri Drive PAD	GDA	56	316635	6256597	Open site	Not a Site	Potential Archaeological Deposit (PAD) : 1		
	Contact	Recorders	Extent Heritage Pty Ltd - Pyrmont - Individual users,Extent Heritage Pty Ltd - Pyrm					Permits	4657	
45-6-3801	APHS Stone and Glass Artefacts	GDA	56	315650	6256471	Open site	Partially Destroyed	Artefact : -, Hearth : -, Potential Archaeological Deposit (PAD) : -		
	Contact	Recorders	GML Heritage Pty Ltd - Surry Hills,GML Heritage Pty Ltd - Surry Hills,Doctor.Tim O					Permits		
45-6-3895	PLR Macquarie St PAD	GDA	56	315787	6256398	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	Contact	Recorders	GML Heritage Pty Ltd - Surry Hills,Doctor.Tim Owen					Permits		
45-6-3896	PLR George St PAD	GDA	56	316497	6256288	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	Contact	Recorders	GML Heritage Pty Ltd - Surry Hills,Doctor.Tim Owen					Permits		

Report generated by AHIMS Web Service on 23/08/2021 for Dominic Steele for the following area at Address : 2A GREGORY PLACE HARRIS PARK 2150 with a Buffer of 1000 meters. Number of Aboriginal sites and Aboriginal objects found is 34

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 2A Gregory Place 1km
Client Service ID : 615755

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
45-6-3897	PLR RTR Artefacts and PAD	GDA	56	316017	6256441	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) : -		

Contact | Recorders: GML Heritage Pty Ltd - Surry Hills, Doctor.Tim Owen | Permits

** 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 23/08/2021 for Dominic Steele for the following area at Address : 2A GREGORY PLACE HARRIS PARK 2150 with a Buffer of 1000 meters. Number of Aboriginal sites and Aboriginal objects found is 34

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