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Appendix H

Aboriginal Heritage

Technical Working Paper

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Western Sydney Stadium

Technical Working Paper: Aboriginal Heritage



Western Sydney Stadium

Technical Working Paper: Aboriginal Heritage

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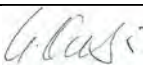
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Executive Summary

AECOM Australia Pty Ltd (AECOM) was commissioned by Infrastructure NSW (INSW) to undertake an Aboriginal heritage assessment for Stage 1 of the Western Sydney Stadium Project (the Project), west of O'Connell Street, in Parramatta, New South Wales. This assessment forms part of an Environmental Impact Statement (EIS) being prepared to support a staged development application for State Significant Development (SSD) Approval under Division 4.1 of Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for Stage 1 of the Project. Specifically, INSW is seeking approval for a concept proposal for the new stadium and concurrent demolition works. The stadium will be built on the site of the existing Parramatta Stadium and Parramatta Swimming Centre which will be demolished to facilitate the new stadium and ancillary facilities.

This Aboriginal Archaeological and Cultural Heritage Assessment Report (AACHAR) documents the results of AECOM's assessment and has been compiled with reference to the NSW Office of Environment and Heritage's *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010a), *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b) and *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011). Aboriginal community consultation for the assessment was conducted in accordance with OEH's *Aboriginal Cultural Heritage Consultation Requirements for Proponents*. A total of 20 Registered Aboriginal Parties (RAPs) were consulted for the assessment. Key consultation activities included the provision of information about the Project as part of the registration process, review of the draft assessment methodology, RAP participation in an archaeological survey of the Project area and review of a draft of this AACHAR.

Bounded to the south and west by the Parramatta River, O'Connell Street to the east and the Parramatta Leagues Club to the north, the Study Area for this assessment incorporates the current Parramatta Stadium complex and adjoining Parramatta Swimming Centre, with the former including the stadium itself, surface car parking to its immediate north and west, and a training field to the immediate south. Located around 1 km northwest of Parramatta Station in the Parramatta CBD, the Study Area is situated on the left (northern) bank of the Parramatta River around 1 km upstream of the Charles Street Weir, which marks the river's contemporary tidal limit. Although the natural topography of the Study Area has been significantly modified, historical and contemporary reference materials indicate that the bulk of the Study Area formerly comprised part of an extensive left bank river terrace, the constituent sediments of which appear consistent with those previously described for the "Parramatta Sand Sheet" (PSS), an informal stratigraphic name for an extensive fluvial sand body present along both sides of the Parramatta River within the Parramatta LGA (Mitchell 2008).

Previous archaeological investigations of the PSS within the Parramatta CBD have revealed extensive evidence of pre-colonial Aboriginal occupation, with excavated stone artefact assemblages documenting changes in the nature of stone artefact technologies and raw material use over time. Together with available radiometric dates, the technological and typological characteristics of several excavated stone artefact assemblages from the PSS support a Late Pleistocene antiquity for Aboriginal people's initial occupation of the Parramatta area and collectively attest to a landscape of high scientific and cultural significance. The PSS has been recognised as being of state heritage significance, with a section of the sand body at the eastern end of Parramatta's CBD registered on the SHR as an 'Ancient Aboriginal and Early Colonial Landscape' (SHR No 01863).

A search of the AHIMS database on 26 May 2016 for a 5 x 5 km area centred on the Study Area returned 84 site entries. As is typical for the Cumberland Plain, open artefact sites with and without other forms of archaeological evidence (i.e., PAD and scarred trees) are the most common site type represented within the AHIMS search area, accounting for 61.9% (n = 52) of known sites. Remaining sites consist principally of areas of Potential Archaeological Deposit (PAD) (n = 25, 29.8%). However, three grinding groove sites, three rockshelters, one scarred tree and one shell midden are also represented. Centroid coordinates for registered Aboriginal sites within the AHIMS search area place none within or immediately adjacent to the Study area. However, it is noted that Attenbrow's (1994a) map of Aboriginal archaeological sites within Parramatta Park, produced as part of an early management study, places scarred tree 45-5-0277 within the Study Area. While listed on AHIMS as a 'valid' site, this tree could not be relocated during the visual assessment component of the current assessment, with two previous attempts to relocate this site (Attenbrow 1994a; Comber 2014) likewise unsuccessful. Scarred tree 45-5-0277 is considered to have been destroyed sometime between 1981 and 1994, likely as part of the construction of the current stadium.

A visual inspection of the Study Area and its environs was undertaken on 30 June 2016 by a combined field team of one AECOM archaeologist and eight RAP field representatives. Consistent with available historical aerial photographs and geotechnical data, as well as Fanning's geomorphological assessment (**Appendix H**), the visual

inspection confirmed that the natural topography of the Study Area has been extensively modified as a result of historical land use activities, with the most drastic modifications having occurred as result of the construction of the current stadium and its associated ancillary facilities. Visual inspection of minimally disturbed alluvial landform elements to the south and east of the Study Area confirm that the majority of land within the Study Area formerly comprised part extensive left bank terrace of the Parramatta River, with a sequence of at least two terraces observed in the vicinity of Old Kings Oval. To the southeast of the Study Area, it was noted that Parramatta River's left bank terrace sequence remains relatively undisturbed, with the construction of Old Kings Oval the most significant impact.

AHIMS registered scarred tree 45-5-0277, as indicated above, was not relocated during the current visual inspection, with no potential or probable Aboriginal scarred trees observed in the vicinity of its AHIMS registered centroid coordinates. One new Aboriginal archaeological site was identified during the visual inspection, however. Located *wholly outside* of the current Study Area, the site consists of two flaked stone artefacts, located approximately nine metres apart, on an unsealed vehicle track that traverses a natural terrace riser to the immediate east of Old Kings Oval and has been designated as '**Old Kings Oval Artefact Scatter 1**'. The two artefacts - both of which were manufactured out of silcrete - consist of a complete flake and flake shatter fragment. Both artefacts have been exposed by the establishment / use of the track in question, with the constituent soils of the terrace riser sandy and variably compacted at the surface. Old Kings Oval Artefact Scatter 1 is assessed as being of moderate scientific significance.

In the absence of any definitive data on the nature, extent and integrity of subsurface Aboriginal archaeological materials within the Study Area, any assessment of the archaeological or scientific significance of this area must necessarily be an *assessment of potential significance or sensitivity*. Consistent with previous assessments of the occupational potential of the terraces bordering the Parramatta River (e.g., Jo McDonald CHM 2005c: 19-20; Mitchell 2008: 16), consideration of the pre- and early-post European settlement landscape of the Study Area suggests that this area would have represented a prime location for Aboriginal occupation over a long period of time. Ground surface impacts associated with historical land use activities within the Study Area are expected to have destroyed a proportion of the artefact-bearing component of the PSS present across the subject properties. Nonetheless, where preserved beneath historical fill materials, near-surface PSS sediments within the Study Area (i.e., those ~1.5 m below original ground surface) are expected to contain Aboriginal occupation deposits, albeit of highly variable integrity and composition. Owing to comparably favourable landform characteristics, the complexity of the Study Area's Aboriginal archaeological record - as indicated by subsurface artefact densities, assemblage richness values and numbers/types of archaeological features - is expected to match that previously identified on the right bank of the Parramatta River.

An assessment of the potential impacts of the Project on the identified Aboriginal heritage values of the Study Area finds that proposed Stage 1 demolition works outside of the Parramatta Swimming Centre, which would be limited to the removal or demolition of above-ground infrastructure, have a negligible Aboriginal heritage impact risk. Works in this portion of the Study Area are considered highly unlikely to result in impacts to any Aboriginal objects, as defined in the NPW Act 1974. Subsurface disturbances associated with Stage 1 demolition works within the Parramatta Swimming Centre are assessed as having a moderate Aboriginal heritage impact risk. While pool installation in this area is likely, in the case of pools greater than 1.5 in depth, to have completely removed any artefact-bearing PSS sediments, their presence outside of these contexts is considered highly likely. Where present, artefact-bearing PSS sediments within the Parramatta Swimming Centre are expected to have been variably truncated or disturbed.

The current impact assessment notwithstanding, it is noted that subsurface ground disturbance activities necessary to realise the Stage 1 Concept Proposal have the potential to result in impacts to Aboriginal objects. In the absence of detailed design documentation, construction methodology and information concerning the nature and location of the Stage 2 ground disturbance activities, the likely impact of Stage 2 construction works on the potential Aboriginal archaeological resource of the Study Area cannot be determined and is outside of the scope of the current Technical Working Paper. Should Stage 2 of the Project be approved by DP&E, any potential impacts to this non-renewable scientific and cultural resource will require management under an Aboriginal Cultural Heritage Management Plan (ACHMP), which would need to be prepared in consultation with RAPs, OEH and DP&E. Subject to Division 4.1 Development Consent and ACHMP approval by DP&E, this document would guide the management of Aboriginal cultural heritage within the Study Area throughout Stage 2 of the Project.

To manage potential impacts to the known and potential Aboriginal heritage values of the Study Area, a series of management recommendations have been developed. Specifically, it is recommended that:

1. Provided Stage 1 demolition works will require no physical impacts to natural soils across the Study Area, no further Aboriginal heritage works outside of standard management procedures for unanticipated finds (**Sections 10.2 and 10.3**) and insertion of an Aboriginal heritage component into any standard safety and environment site induction, are deemed warranted for Stage 1 of the Project;
2. As part of any standard safety and environment site induction, the demolition contractor is to ensure that all workers on-site are made aware of:
 - a. the nature and location of the areas of Aboriginal archaeological sensitivity demarcated on **Figure 23** of this report;
 - b. the unanticipated finds procedures detailed in **Sections 10.2 and 10.3** of this report; and
 - c. their obligation to notify OEH of the presence of any previously unrecorded Aboriginal objects that may be uncovered in the course of demolition works.
3. Should Stage 1 demolition works necessitate any physical impacts to natural soils within the Stage 1 Demolition Works Area demarcated on **Figure 2** in this report, a suitably qualified archaeologist should be engaged to provide - in consultation with RAPs - appropriate management advice. Any such advice should be provided *prior* to the commencement of the works in question. Depending on the nature of the proposed impact(s), a tailored subsurface archaeological investigation may be required;
4. A site card for newly identified open artefact site Old Kings Oval Artefact Scatter 1 should be prepared and submitted to the AHIMS registrar as soon as practicable;
5. While located wholly outside of the current Study Area, INSW should notify the Parramatta Park Trust of location and nature of newly identified Aboriginal archaeological site Old Kings Oval Artefact Scatter 1; and
6. An updated site card for AHIMS registered scarred tree 45-5-0277, which is considered to have been destroyed sometime between 1984 and 1994, should be submitted to the AHIMS Registrar as soon as practicable.

1.0 Introduction & Background

1.1 Introduction

AECOM Australia Pty Ltd (AECOM) was commissioned by Infrastructure NSW (INSW) to undertake an Aboriginal heritage assessment for Stage 1 of the Western Sydney Stadium Project (the Project), west of O'Connell Street, in Parramatta, New South Wales (**Figure 1**). This assessment forms part of an Environmental Impact Statement (EIS) being prepared to support a staged development application for State Significant Development (SSD) Approval under Division 4.1 of Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for Stage 1 of the Project. Specifically, INSW is seeking approval for a concept proposal for the new stadium and concurrent demolition works. The stadium will be built on the site of the existing Parramatta Stadium and Parramatta Swimming Centre which will be demolished to facilitate the new stadium and ancillary facilities.

This Aboriginal Archaeological and Cultural Heritage Assessment Report (AACHAR) documents the results of AECOM's assessment and has been compiled with reference to the NSW Office of Environment and Heritage's *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010a), *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b) and *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011).

1.2 Background

In September 2015, the NSW Government announced a package of works to renew the Sydney Stadium network over the next decade, with the Project forming a key part of this package. INSW, on behalf of Venues NSW, is therefore seeking approval for the development of a 30,000 seat stadium (Western Sydney Stadium) on the site of the existing stadium (Parramatta Stadium) in Parramatta. The regional context of the Project is shown in **Figure 1**.

The Project has been identified as a key priority for the NSW Government. Its development will help meet the objectives of a number of strategies for Parramatta and surrounding areas. The Project is expected to build Parramatta's profile as a cultural and sports precinct and significantly increases the sporting infrastructure for Western Sydney. The Western Sydney Stadium would be one of the major sporting and entertainment venues for Sydney and the third largest international sporting venue in Sydney by capacity.

The Project would also provide an opportunity for urban renewal and likely contribute to growth in the local economy as the increased capacity of the stadium would be a catalyst for added employment opportunities in the local and wider area. The layout of the Project, also aims to encourage the use of public and active transport to the Site via the provision of cycle paths and pedestrian access with minimal increase to the available public car parking spaces surrounding the Site.

The Project falls within the requirements of Schedule 1 of the NSW *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP), as the capital investment value of the Project exceeds \$30 million. The Project is therefore classified as State Significant Development (SSD), and approval is being sought under Division 4.1 of Part 4 of the EP&A Act.

Approval for the Project will be undertaken in two stages under Section 83B of the EP&A Act:

1. initial application for the Concept Proposal and demolition works to accommodate the Western Sydney Stadium (Stage 1); and,
2. a second separate application for the detailed design and subsequent construction and operation of the Western Sydney Stadium (Stage 2).

This Technical Working Paper supports the development application for the Proposal (i.e., Stage 1) only. Specifically, the Proposal includes:

- Concept Proposal for the Western Sydney Stadium, including parking and access facilities, ancillary infrastructure and landscaping; and,
- Staged demolition and removal of the existing stadium and associated infrastructure, including the existing stadium and the associated hardstand areas where required (footpaths, roads, car parks etc.), and the Parramatta Swimming Centre.

Works associated with the removal of below ground infrastructure, excavation works, and construction of the Western Sydney Stadium will be assessed under Stage 2 of the Project once a detailed design has been prepared.

1.3 Study Area

The Study Area for this assessment, shown on **Figure 2**, incorporates the current Parramatta Stadium complex and adjoining Parramatta Swimming Centre, with the former including the stadium itself, surface car parking to its immediate north and west, and a training field to the immediate south. The Stage 1 Demolition works area, also demarcated on **Figure 2**, comprises that portion of the Study Area where demolition works and supporting activities will take place. This area excludes the Parramatta Swimming Centre, two predominantly vegetated areas to the north and west of the stadium, and part of the training field. No activities or impacts are proposed in these excluded areas.

Bounded to the south and west by the Parramatta River, O'Connell Street to the east and the Parramatta Leagues Club to the north, the Study Area, which covers an area of approximately 9.3 ha, is located around 1 km northwest of Parramatta Station in the Parramatta CBD. Reference to the Geographical Names Register of NSW indicates that the Study Area falls wholly within the boundaries of the Parramatta Local Government Area (Parramatta LGA) and is situated in the Parish of St John in the County of Cumberland. Land within the Study Area is legally described as Lots 951, 952, 953, 954, 955, 956, 957, 958, 959, 961, 962, 963 on DP42643 and Crown Land Lot 80-3000 (part). Crown Land within the Study Area, currently occupied by the Parramatta Swimming Centre, comprises part of the State heritage-listed Parramatta Park (SHR No 00596).

Situated between MGA grid coordinates 314680 and 315050 east and 6257080 and 6257540 north on the Parramatta River (9130-3-N) 1:25,000 topographic map sheet, the Study Area is located on the left (northern) bank of the Parramatta River approximately 1 km upstream of the Charles Street Weir, which marks the river's contemporary tidal limit. Although the natural topography of the Study Area has been significantly altered, historical and contemporary reference materials indicate that the bulk of the Study Area formerly comprised part of an extensive left bank river terrace, the constituent sediments of which appear consistent with those previously described by Mitchell (2008) for "Parramatta Sand Sheet" (PSS), an informal stratigraphic name for an extensive fluvial sand body present along both sides of the Parramatta River within the Parramatta LGA (Mitchell 2008). Existing soil landscape mapping (i.e., Bannerman and Hazelton 2011; Chapman and Murphy 1989), which depicts the majority of land within the Study Area as comprising part of the Birrong (bg) and Blacktown (bt) Soil Landscapes, is inaccurate and in need of revision.

First identified as a soil landscape unit in 2002, the PSS is present along both sides of the Parramatta River, with the bulk of the sand body forming a levee on the river's right bank and extending from Church Street in the west to Arthur Street in the east and south from the river to around Macquarie Street in the west and Oak Street in the east (Mitchell 2008, 2010a). Previous geomorphological assessments of the PSS indicate a well-developed but locally variable soil profile, with intra-unit variability tied to local drainage conditions and variation in the internal composition of the river's terraces (Mitchell 2008: 12-15). Available radiometric dates suggest support a Late Pleistocene antiquity for the deposition of the upper portion of the sand body (Mitchell 2010a: 3; Jo McDonald CHM 2005c), with thermoluminescence (TL) dates from a sealed, archaeologically-sampled section of the PSS at 140 Macquarie Street indicating deposition between c.50 and 58,000 years ago (Mitchell 2010a: 3; see also Mitchell 2010b).

For the current Study Area, available bore log data (i.e., Douglas and Partners 1984, 2002; EIS, 2014a, 2014b; JBS&G, 2015a, 2015b, 2015c; 2016; see also Douglas and Partners 2016) indicate the presence, at depth underneath historical fill materials of variable composition and depth, of interbedded alluvial sand and clays generally consistent with those previously described for the PSS (Mitchell 2008). While the integrity of extant PSS sediments within the Study Area is expected to vary significantly owing to historical ground disturbance activities, which have included extensive cut and fill earthworks, extant "near-surface"¹ deposits are considered to retain high potential for the preservation of Aboriginal archaeological materials, including stratified occupation deposit(s). Previous archaeological investigations of the PSS within the Parramatta CBD (e.g., Austral Archaeology, 2007; Jo McDonald CHM, 2005a, 2005b, 2006) have revealed extensive evidence of pre-colonial Aboriginal occupation, with excavated stone artefact assemblages documenting changes in the nature of stone artefact technologies and raw material use over time. Together with available radiometric dates, the technological and typological characteristics of several excavated stone artefact assemblages from the PSS support a Late Pleistocene

¹ Those ~1.5m below the original or natural ground surface

antiquity for Aboriginal people's initial occupation of the Parramatta area and collectively attest to a landscape of high scientific and cultural significance. The PSS has been recognised as being of state heritage significance, with a section of the sand body at the eastern end of Parramatta's CBD registered on the SHR as an 'Ancient Aboriginal and Early Colonial Landscape' (SHR No 01863).

1.4 The Proposal

The Proposal comprises Stage 1 of development for the Project, comprising the Western Sydney Stadium Concept Proposal and the demolition works for the existing stadium (the Proposal). INSW on behalf of Venues NSW is seeking approval for the Proposal under a Section 83B SSD Application. Specifically:

- Concept Proposal for the Western Sydney Stadium, including parking and access facilities, ancillary infrastructure and landscaping; and
- Staged demolition and removal of the existing stadium and associated infrastructure, including the existing stadium and the associated hardstand areas where required (footpaths, roads, car parks etc.) and the Parramatta Swimming Centre.

Works associated with the removal of below ground infrastructure, excavation works, and construction of the Western Sydney Stadium will be assessed under Stage 2 of the Project once a detailed design has been prepared.

1.4.1 Concept Proposal

The Western Sydney Stadium Concept Proposal, shown in **Figure 3**, provides for:

- a maximum total Gross Floor Area (GFA) of approximately 60,000 m² (excluding the playing pitch) for the stadium development, including:
 - additional seating for approximately 10,000 more spectators in a seating bowl with 30,000 seats, including 27,000 general admission seats and 3,000 corporate seats;
 - playing pitch;
 - five levels of premium box/terrace, function/lounge offerings and a number of suite offerings;
 - flood lighting, stadium video screens and other ancillary fittings;
 - additional facilities for team, media, administration and amenity, including:
 - police facility and security office
 - players changing rooms
 - ticket gates and ticket boxes
 - media interview rooms
 - green room
 - production suite and joint operation control room
 - event briefing rooms
 - hirers office and patron services offices
 - first aid facilities
 - loading docks for deliveries
 - food, beverage and retail facilities.
- a maximum GFA of approximately 20,000 m² for future development of ancillary uses within the northern corner of the Site;
- transport, parking and accessibility;
- public domain elements; and
- landscaping elements throughout the Site.

Facilities for premium offerings, players, media and broadcasting, administration and deliveries/waste would be located on the western side of the stadium to maximise integration of servicing logistics and internal infrastructure.

1.4.2 Demolition of Parramatta Stadium and Parramatta Swimming Centre

Demolition methodology

Demolition would involve the removal of all the existing stands, buildings, surrounds and infrastructure within the boundary of the demolition works area of the Site. A project office compound would be established within the Site to enable appropriate management of demolition activities and deliveries.

The demolition works would be carried out by specialist subcontractors and would involve the following activities:

- site establishment to enable the commencement of demolition activities including the erection of perimeter barrier fencing for site security;
- decommissioning and demolition of the existing stadium, demolition of Parramatta Swimming Centre, related structures and hard and soft landscaping treatments, including all hard stand areas and access paths;
- waste management activities including the removal of classified waste; and
- 'make safe' activities including returning all areas to ground level.

These activities would be staged, with the stadium complex being removed first in late 2016 to early 2017, followed by the Parramatta Swimming Centre. All demolition works would be completed by mid 2017.

The proposed staging of demolition works would facilitate the continued operation of the Parramatta Swimming Centre for as long as practical to allow summer events to be completed prior to the demolition. Timing for closure of the pool prior to demolition would be determined by City of Parramatta Council. As such, the demolition works would commence on the western stand and progress to the eastern stand area.

Site establishment

To enable commencement of demolition activities on the Site, the existing facilities would be closed down on a given date and perimeter hoardings, fences and signage erected to establish a secure site for demolition. Fencing would also be provided around the exclusion areas to ensure no unauthorised use of the land. Pedestrian and vehicular movements will be maintained around the Site to minimise community impact. A project office compound would then be established within the Site to support construction activities and deliveries.

Sedimentation fencing and erosion controls will be installed around the Site to avoid stormwater erosion, contamination and sedimentation occurring as a result of the construction or demolition activities associated with the development.

Demolition activities

Demolition activities would initially involve the removal of classified material identified in a Hazardous Materials Buildings Survey prior to fitout removal and structural demolition works commencing. These materials would be disposed in accordance with relevant requirements and certification would be obtained from a qualified Occupational Hygienist obtained. Upon completion of hazardous material removal, demolition works would progress in a manner to maximise material recycling.

Demolition of the existing stadium would involve:

- Removal of the internal fitout including plasterboard walls, ceilings, services and joinery;
- Demolition of the roof structure by long reach excavators from the ground level;
- Demolition of concrete structural components of the existing spectator stands, buildings and inground footings (to ground level); and
- Removal of the existing stadium light towers.

Demolition of the Parramatta Swimming Centre would involve:

- demolition of slide facilities;
- flattening and stabilising the existing fill mound, potentially moving it northward away from the future access road (to ensure access is available for Stage 2);
- demolition of in-ground pool structures; and

- removal of trees where required.

All demolition works would be conducted in a safe manner as certified by a qualified structural engineer and carried out in accordance with approved safe work method documents.

Waste management

Demolition works would result in a number of different waste streams. The works would maximise recycling as far as practical and demolished steel, concrete and asphalt elements would be recycled. Dependent on the outcome of waste classification of other materials, appropriate controls would be implemented and a suitably licensed waste facility would be selected for offsite disposal. Appropriate waste documentation and permits would be maintained throughout demolition works.

Site retention and security

The demolition works would be temporary in nature and appropriately managed. No stockpiles or other ancillary facilities would remain on Site. The Site would be reinstated to a condition with ongoing environmental management controls to minimise offsite impacts prior to the next stage of work commencing (Stage 2 of the Project). These measures may include hydroseeding exposed areas, water management controls, and retention of barrier fencing.

Following demolition, construction of the new stadium and associated infrastructure would commence. As discussed previously, these works will be assessed in Stage 2 of the development application and will not be considered further under this Stage 1 assessment. For the purposes of this assessment it has been assumed that the Site will be secured, and maintained with appropriate environmental management controls in order to keep the Site safe after the demolition works are complete.

Site access and traffic management

The existing Victoria Road and O'Connell Street intersection would function as the main access gate for the duration of the demolition works, allowing for the safe use of the existing road and traffic light controls without effecting movement of pedestrians, cyclists or road users. A manned vehicle access gate would be established at this main access point to prevent unauthorised access. Traffic movements would be associated with the majority of demolition activities, including dismantling of the stadium light towers, demolishing and removing large structures from the stands by mobile cranes and excavators would be wholly contained within the fenced area.

Material would be transported offsite along the following truck routes:

- east along Victoria St before heading north/south/onward to the waste depot; and/or
- south along O'Connell St before heading west/south/onward to the waste depot.

Use of the above routes would avoid the need for heavy vehicles to travel north along O'Connell Street.

Plant and Equipment

Plant and equipment to be used for demolition works would be determined by the demolition contractor. However, the demolition works are anticipated to include the following plant/equipment:

- 250-400 tonne crane and boom lifts
- 30 tonne long reach excavators
- 40 tonne excavators
- bob-cats
- jackhammers
- water tanks
- re-fuelling tanks
- loading trucks
- other small scale / manual equipment

Hours and duration

Standard construction working hours would apply for the duration of the demolition works. The hours for demolition would therefore be confined to:

- 7:00 am to 6:00 pm Monday to Friday
- 8:00 am to 1:00 pm on Saturdays
- No work on Sundays or public holidays.

Whilst not anticipated, some night work may be required and would be considered where it may reduce impacts to the public and local community. Work outside standard hours may also occur to complete tasks safely or more efficiently.

If work is required outside standard construction hours, it would be carried out according to the Interim Construction Noise Guideline (DECC 2009). This would include notifying the local community in advance of any work planned to be carried out outside of standard hours.

Workforce

The contractor for the demolition works would determine the size of the workforce, however it is estimated that a maximum of 45 construction and site management personnel would be on site at any one time.

Program and schedule

Stadium soft strip out would commence in late 2016 with demolition in early 2017 continuing into the Parramatta Swimming Centre so that all demolition is completed by mid-2017. Demolition works would take around four to six months. Particular focus would be placed on minimising impact to the operation of the Parramatta Swimming Centre over the 2016-2017 summer months. However, this would be confirmed with City of Parramatta Council. The demolition works for the existing stadium, swimming centre and ancillary infrastructure are planned to be completed by mid-2017.

Exclusion areas

Exclusion areas have been identified within the Site. This includes vegetated areas to the northwest and west, and part of the training field to the south.

The two vegetated areas west of the existing stadium are owned by Venues NSW. It is intended that in the future this land would be dedicated to Parramatta Park Trust. The exclusion of this land does not form part of Stage 1 of the Project.

The training field is on land with known contamination issues. As a result the Project would minimise disturbance to the area as far as practical. However, part of the training field has been incorporated into the Concept Proposal as it would be required for site access and circulation. The remainder would be fenced off and excluded from the Project.

No activities or impacts are proposed in the exclusion areas.

1.5 Secretary's Environmental Assessment Requirements (SEARs)

The Secretary of the Director General of the NSW Department of Planning and Environment (DP&E) issued the Secretary's Environmental Assessment Requirements (SEARs) for the Project on 18 April 2016. For Aboriginal heritage, the SEARs require the proponent to:

- Address Aboriginal Cultural Heritage in accordance with the with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011) and *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010a).

This AACHAR, which documents the results of AECOM's Aboriginal heritage assessment, fulfils this requirement.

1.6 Assessment Objectives

The overarching objectives of this Aboriginal heritage assessment are as follows:

- to identify the Aboriginal cultural heritage values of the Study Area by way of background research, a visual inspection, consultation with Registered Aboriginal Parties (RAPs) and a geomorphological assessment;

- to assess the potential impact of the proposed development on the identified Aboriginal cultural heritage values of the Study Area;
- to provide an appropriate management strategy to avoid or minimise potential harm to the identified Aboriginal cultural heritage values of the Study Area; and
- to compile an Aboriginal Archaeological and Cultural Heritage Assessment Report (AACHAR) that will assist the Secretary of the Department of Planning and Environment (DP&E) in their assessment of the current SSD application.

1.7 Scope of Work

This assessment has been undertaken in accordance with OEH's *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011) and *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010a), and with reference to the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b). As such, its key requirements have been:

- to conduct a search of OEH's Aboriginal Heritage Information Management System (AHIMS);
- to review the landscape context of the Study Area, with specific consideration to its implications for past Aboriginal land use;
- to review relevant archaeological and ethnohistoric information for the Study Area and environs;
- to prepare a predictive model for the Aboriginal archaeological record of the Study Area;
- to undertake an archaeological field investigation;
- to identify, notify and register Aboriginal people who hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the Study Area;
- to provide RAPs with information about the scope of the proposed works and Aboriginal heritage assessment process;
- to facilitate a process whereby RAPs can:
 - contribute culturally appropriate information to the proposed assessment methodology;
 - provide information that will enable the cultural significance of Aboriginal objects and/or places within the Study Area to be determined; and
 - have input into the development of cultural heritage management options.
- to prepare and finalise an AACHAR with input from RAPs.

1.8 Project Team

Dr Andrew McLaren (Senior Archaeologist, AECOM) managed all aspects of the Aboriginal heritage assessment detailed herein and was the primary author of this report. Andrew holds a Bachelor of Arts (Honours) degree from the University of Queensland, a Master of Cultural Heritage from Deakin University, and a PhD from the University of Cambridge in England. In addition, he has over seven years of Australian Aboriginal cultural heritage management experience. Other key team members included Associate Professor Patricia (Trish) Fanning (Macquarie University), who prepared the geomorphological assessment report attached as **Appendix H**, and Dr Terry Kass (Historian & Heritage Consultant), who prepared the contextual history in **Section 4.6**.

Aboriginal community consultation for this assessment was undertaken in accordance with OEH's Consultation Requirements (DECCW 2010a). Full details of the consultation process undertaken are provided in **Section 3.0**. Aboriginal persons and organisations consulted as part of this assessment are listed in **Table 1**.

The visual inspection detailed in **Section 7.0** of this report was undertaken by McLaren and eight Registered Aboriginal Party (RAP) field representatives, with RAP field personnel listed in **Table 4** in **Section 3.0**. Figures 1, 2, 19, 22 and 23 were created by Tim Osborne (Designer, AECOM).

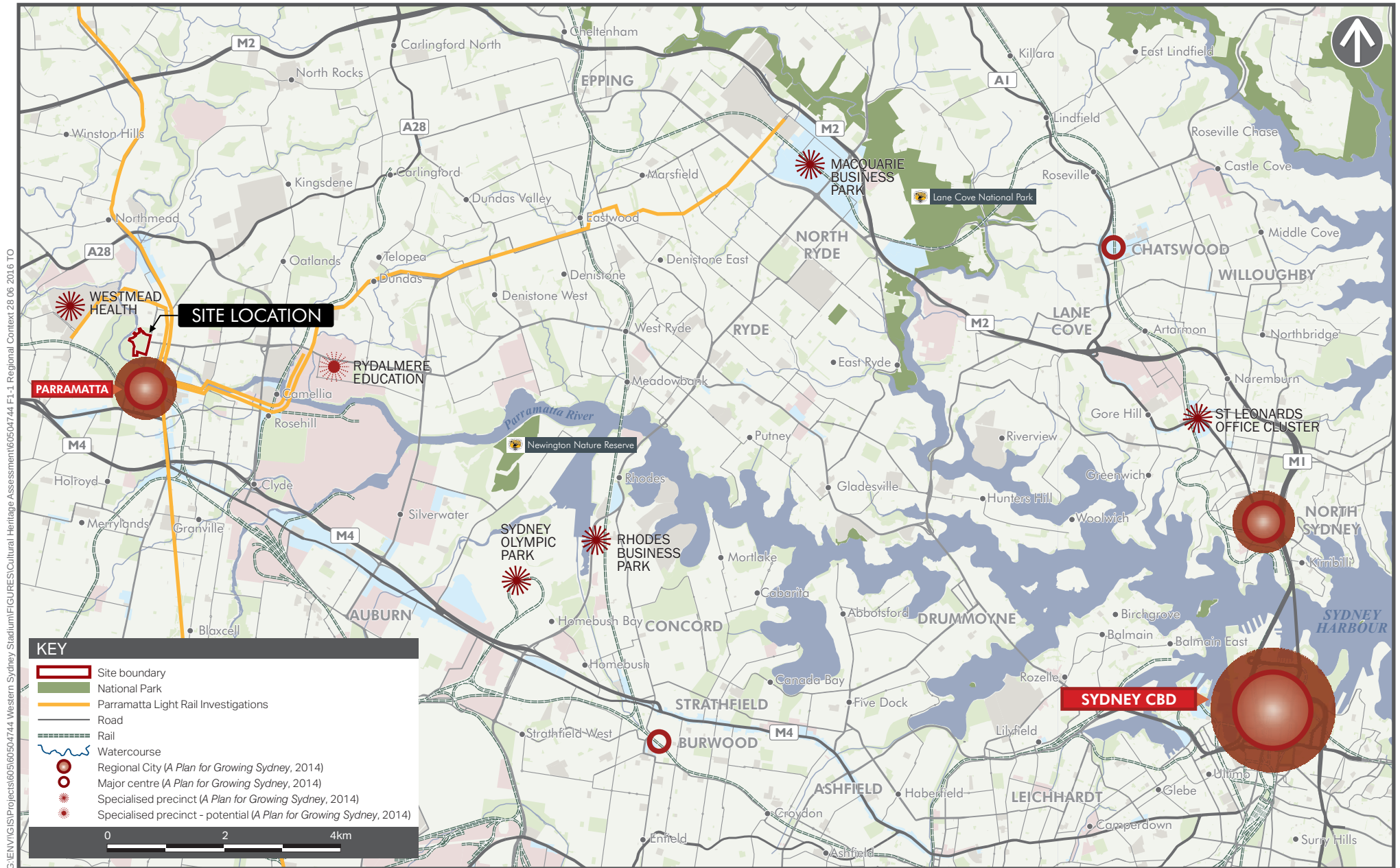
Table 1 Registered Aboriginal Parties for the current assessment

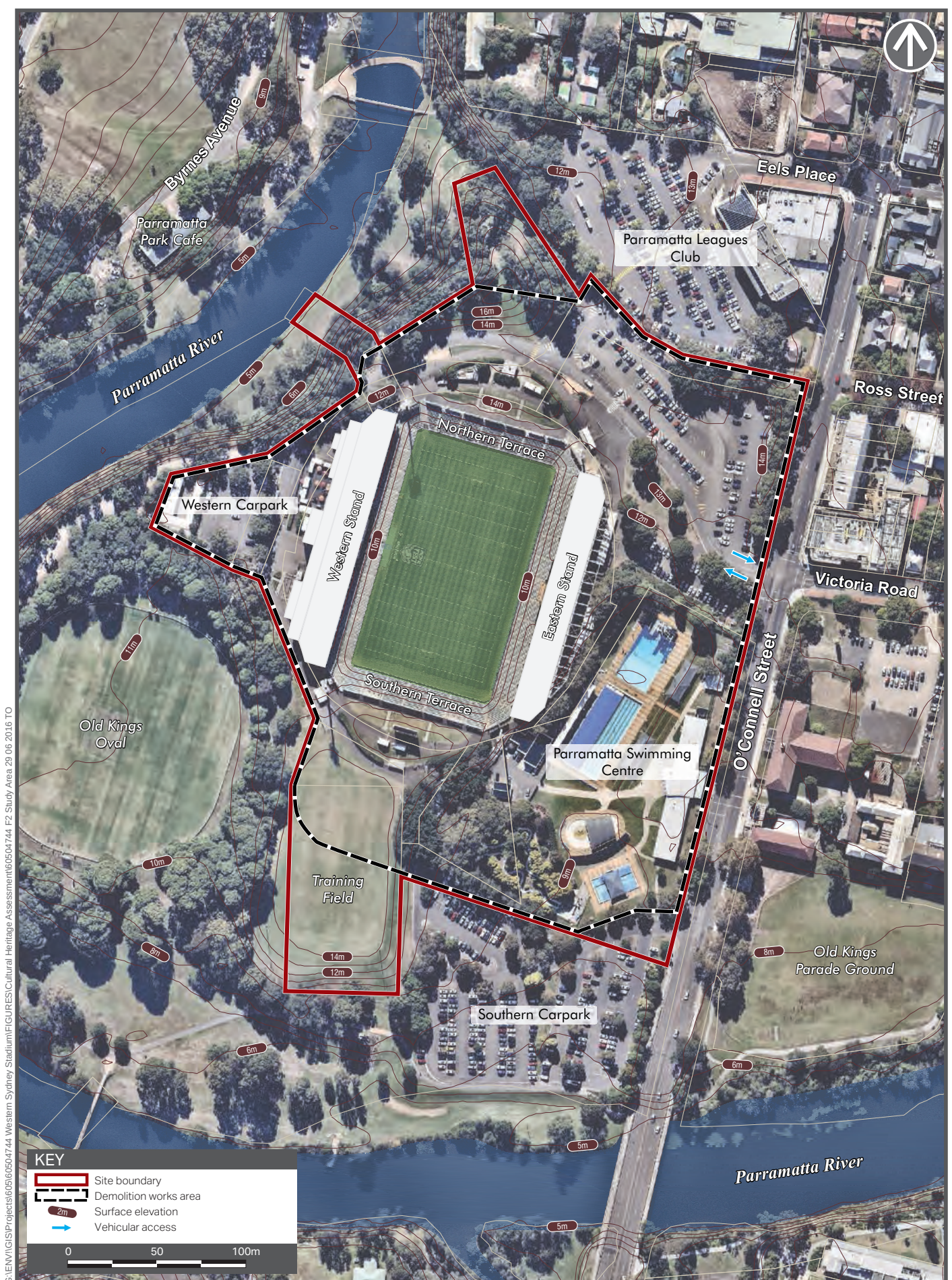
Organisation	Date of registration	Primary Contact Person
Deerubbin Local Aboriginal Land Council	26-05-16	Steve Randall
Darug Custodian Aboriginal Corporation	26-05-16	Justine Coplin
Darug Tribal Aboriginal Corporation	27-05-16	Corina Marino
Darug Aboriginal Cultural Heritage Assessments	26-05-16	Celestine Everingham
Darug Land Observations	27-05-16	Jamie Workman
Darug Aboriginal Land Care Inc	06-06-16	Des Dyer
Gunjeewong Cultural Heritage Aboriginal Corporation	01-06-16	Cherie Carroll Turrise
Corroboree Aboriginal Corporation	04-06-16	Steve Johnson
Kamilaroi-Yankuntjatjara Working Group	02-06-16	Phil Khan
Tocomwall Pty Ltd	10.06.16	Danny Franks
Aboriginal Archaeology Service	11.06.16	Andrew Williams
Walbunja	31-05-16	Hika Te Kowhai
Murri Bidgee Mullangari Aboriginal Corporation	31-05-16	Darlene Johnson
Wurrumay Consultant	09.06.16	Kerrie Slater
Kawul Cultural Services	09.06.16	Vicky Slater
Gundungurra Tribal Technical Services	03-06-16	Chris Payne
Didge Ngunawal Clan	12-06-16	Paul Boyd
Duncan Suey & Associates	13.06.16	Darren Duncan
Widescope Indigenous Corp	14.06.16	Steven Hickey
Muragadi Heritage Indigenous Corporation	17.06.16	Jesse Johnson

1.9 Report Structure

This report contains eleven sections. This section - **Section 1.0** - has provided background information on the Project and assessment undertaken. The remainder of the report is structured as follows:

- **Section 2.0** outlines the statutory framework within which this assessment has been undertaken;
- **Section 3.0** details the Aboriginal community consultation program undertaken for this assessment;
- **Section 4.0** describes the existing environment of the Study Area and its associated archaeological implications;
- **Section 5.0** describes the archaeological context of the Study Area on a regional and local scale. Predictions regarding the nature of the Study Area's Aboriginal archaeological record are also provided;
- **Section 6.0** summarises relevant ethnohistoric information for the Study Area;
- **Section 7.0** describes the visual inspection component of the assessment;
- **Section 8.0** assess the archaeological (scientific) and cultural significance of land within the Study Area;
- **Section 9.0** provides an assessment of the potential impacts of the Project on identified Aboriginal heritage values;
- **Section 10.0** details an appropriate management strategy for the identified Aboriginal heritage values of the Study Area; and
- **Section 11.0** lists the references cited in-text.





G:\ENV\GIS\Projects\60560504744 Western Sydney Stadium\FIGURES\Cultural Heritage Assessment\60504744 F2 Study Area 29 06 2016 TO



Figure 3 - Concept proposal
WESTERN SYDNEY STADIUM CONCEPT PLAN

2.0 Applicable Policy & Legislation

2.1 Commonwealth Legislation

2.1.1 Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (the ATSIHP Act) provides for the preservation and protection of places, areas and objects of particular significance to Indigenous Australians. The stated purpose of the ATSIHP Act is the “*preservation and protection from injury or desecration of areas and objects in Australia and in Australian waters, being areas and objects that are of particular significance to Aboriginals in accordance with Aboriginal tradition*” (Part I, Section 4).

Under the Act, ‘*Aboriginal tradition*’ is defined as “*the body of traditions, observances, customs and beliefs of Aboriginals generally or of a particular community or group of Aboriginals, and includes any such traditions, observances, customs or beliefs relating to particular persons, areas, objects or relationships*” (Part I, Section 3). A ‘*significant Aboriginal area*’ is an area of land or water in Australia that is of “*particular significance to Aboriginals in accordance with Aboriginal tradition*” (Part I, Section 3). A ‘*significant Aboriginal object*’, on the other hand, refers to an object (including Aboriginal remains) of like significance.

For the purposes of the Act, an area or object is considered to have been injured or desecrated if:

- a) In the case of an area:
 - i. it is used or treated in a manner inconsistent with Aboriginal tradition;
 - ii. the use or significance of the area in accordance with Aboriginal tradition is adversely affected; and
 - iii. passage through, or over, or entry upon, the area by any person occurs in a manner inconsistent with Aboriginal tradition
- b) in the case of an object:
 - i. it is used or treated in a manner inconsistent with Aboriginal tradition.

The ATSIHP Act can override state and territory laws in situations where a state or territory has approved an activity, but the Commonwealth Minister prevents the activity from occurring by making a declaration to protect an area or object. However, the Minister can only make a decision after receiving a legally valid application under the ATSIHP Act and, in the case of long term protection, after considering a report on the matter. Before making a declaration to protect an area or object in a state or territory, the Commonwealth Minister must consult the appropriate minister of that state or territory (Part 2, Section 13).

No declarations relevant to the Study Area have been made under the ATSIHP Act.

2.1.2 Native Title Act 1993

The *Native Title Act 1993* (NTA) provides for the recognition and protection of native title for Aboriginal peoples and Torres Strait Islanders. The NTA recognises native title for land over which native title has not been extinguished and where persons able to establish native title are able to prove continuous use, occupation or other classes of behaviour and actions consistent with a traditional cultural possession of those lands. It also makes provision for Indigenous Land Use Agreements (ILUA) to be formed as well as a framework for notification of Native Title Stakeholders for certain future acts on land where Native Title has not been extinguished.

Searches of the *Schedule of Applications (unregistered claimant applications)*, *Register of Native Title Claims*, *National Native Title Register*, *Register of Indigenous Land Use Agreements* and *Notified Indigenous Land Use Agreements* were undertaken in May 2016, with no relevant listings identified for the Study Area (**Appendix B**).

2.1.3 Environment Protection and Biodiversity Act 1999

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) took effect on 16 July 2000. Under Part 9 of the EPBC Act, any action that is likely to have a significant impact on a matter of National Environmental Significance may only progress with approval of the Commonwealth Minister for Sustainability, Environment, Water, Population and Communities (SEWPAC). An action is defined as a project, development, undertaking, activity, series of activities, or alteration. An action will also require approval if:

- It is undertaken on Commonwealth land and will have or is likely to have a significant impact;
- It is undertaken outside Commonwealth land and will have or is likely to have a significant impact on the environment on Commonwealth land; and
- It is undertaken by the Commonwealth and will have or is likely to have a significant impact.

The EPBC Act defines 'environment' as incorporating both natural and cultural environments and therefore includes Aboriginal heritage. Under the Act, protected heritage items are listed on the National Heritage List (items of significance to the nation) or the Commonwealth Heritage List (items belonging to the Commonwealth or its agencies). These two lists replaced the Register of the National Estate (RNE), which was closed in 2007 and is no longer a statutory list. Statutory references to the RNE in the EPBC Act were removed on 19 February 2012. However, the RNE remains an archive of over 13,000 heritage places throughout Australia.

Searches of the National Heritage List, Commonwealth Heritage List and RNE were undertaken in May 2016. These searches indicate that the Study Area falls *wholly within* the curtilage of the non-statutory RNE listing for Parramatta Park (Place ID 3072) but *wholly outside* the gazetted curtilage of Old Government House and its Domain, as per the National Heritage List entry for these items ("Old Government House and Government Domain", Place ID 105957). Neither item is listed on the Commonwealth Heritage List.

2.2 State Legislation

2.2.1 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act), administered by DP&E, requires that consideration be given to environmental impacts as part of the land use planning process in NSW. In NSW, environmental impacts are interpreted as including impacts to Aboriginal and non-Aboriginal (i.e., European) cultural heritage.

Upon repeal of Part 3A of the EP&A Act on 1 October 2011, the *Environmental Planning and Assessment Amendment (Part 3A Repeal) Act 2011* inserted a new Division 4.1 into Part 4 of the EP&A Act. Division 4.1 provides a determination regime for State Significant Development (SSD). Section 89C of the EP&A Act stipulates that a development will be considered SSD if it declared to be such by the new *State Environmental Planning Policy (State and Regional Development) 2011* (SEPP SRD).

Under Clause 8(1) of SEPP SRD, a development is declared to be State Significant Development if:

- a. the development on the land concerned is, by the operation of an environmental planning instrument, permissible with development consent under Part 4 of the EP&A Act; and
- b. the development is specified in Schedule 1 or 2 of SEPP SRD.

The Project is SSD as it meets both of these criteria, namely:

- it is permissible with development consent on the land on which it is located; and
- it is development that is specified in Schedule 1 of SEPP SRD.

Pursuant to Section 89J of the EP&A Act, Aboriginal Heritage Impact Permits (AHIPs) are not required for projects approved under Division 4.1 of Part 4 of the EP&A Act. Impacts to Aboriginal heritage values associated with approved SSD projects are typically managed under Aboriginal Cultural Heritage Management Plans (ACHMPs). ACHMPs are statutorily binding once approved by the Planning Assessment Commission (PAC) or DP&E under delegation from the Secretary.

2.2.2 Aboriginal Land Rights Act 1983

The *Aboriginal Land Rights Act 1983* (ALR Act) was established to return land in NSW to Aboriginal peoples through a process of lodging claims for certain Crown lands. The Act, administered by the NSW Department of Aboriginal Affairs, is a compensatory regime which recognises that land is of spiritual, social, cultural and economic importance to Aboriginal people. The ALR Act establishes the NSW Aboriginal Land Council (NSWALC) and a network of over 120 autonomous Local Aboriginal Land Councils (LALCs) and requires these bodies to:

- a. to take action to protect the culture and heritage of Aboriginal persons in the LALC's area, subject to any other law; and

- b. to promote awareness in the community of the culture and heritage of Aboriginal persons in the LALC's area.

LALCs constituted under the ALR Act can make claims. The Registrar of the ALR Act has responsibility for maintaining the Register of Aboriginal Land Claims under section 166 of the Act. All land claims that have been made since the Act came into force in 1983 have been recorded in the Register.

Consultation with the Registrar of the ALR Act in May 2016, undertaken as part of Stage 1 of the Aboriginal community consultation program for the current assessment, has indicated that the Study Area does not have any Registered Aboriginal Owners pursuant to Division 3 of the ALR Act.

2.2.3 National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act), administered by OEH, is the primary legislation for the protection of Aboriginal cultural heritage in NSW. The NPW Act gives the Secretary of OEH responsibility for the proper care, preservation and protection of 'Aboriginal objects' and 'Aboriginal places', defined under the Act as follows:

- An *Aboriginal object* is any deposit, object or material evidence (that is not a handicraft made for sale) relating to Aboriginal habitation of NSW, before or during the occupation of that area by persons of non-Aboriginal extraction (and includes Aboriginal remains).
- An *Aboriginal place* is a place declared so by the Minister administering the NPW Act because the place is or was of special significance to Aboriginal culture. It may or may not contain Aboriginal objects.

Part 6 of the NPW Act provides specific protection for Aboriginal objects and places by making it an offence to harm them and includes a 'strict liability offence' for such harm. A 'strict liability offence' does not require someone to know that it is an Aboriginal object or place they are causing harm to in order to be prosecuted. Defences against the 'strict liability offence' in the NPW Act include the carrying out of certain 'Low Impact Activities', prescribed in Clause 80B of the *National Parks and Wildlife Amendment Regulation 2010* (NPW Regulation), and the demonstration of due diligence.

An Aboriginal Heritage Impact Permit (AHIP) issued under Section 90 of the NPW Act is required if impacts to Aboriginal objects and/or places cannot be avoided. An AHIP is a defence to a prosecution for harming Aboriginal objects and places if the harm was authorised by the AHIP and the conditions of that AHIP were not contravened. Consultation with Aboriginal communities is required under OEH policy when an application for an AHIP is considered and is an integral part of the process. AHIPs may be issued in relation to a specified Aboriginal object, Aboriginal place, land, activity or person or specified types or classes of Aboriginal objects, Aboriginal places, land, activities or persons.

As indicated in **Section 2.2.1**, pursuant to Section 89J of the EP&A Act, AHIPs are not required for projects approved under Division 4.1 of Part 4 of the EP&A Act. Impacts to Aboriginal heritage values associated with approved SSD projects are typically managed under Aboriginal Cultural Heritage Management Plans (ACHMPs). ACHMPs are statutorily binding once approved by the Planning Assessment Commission (PAC) or DP&E under delegation from the Secretary.

Section 89A of the NPW Act requires notification of the location of Aboriginal sites within a reasonable time, with penalties for non-notification. Section 89A is binding in all instances, including Division 4.1 projects

2.2.4 The Heritage Act 1977

The *Heritage Act 1977* was enacted to conserve the environmental heritage of NSW. Parts 3 and 6 of the Heritage Act 1977 provide specific protection for heritage items by means of Interim Heritage Orders (IHO) (Part 3), listing on the State Heritage Register (SHR) (Part 3A) and the requirement for excavation permits (Part 6). Items that are assessed as having State heritage significance can be listed on the SHR by the Minister on the recommendation of the Heritage Council.

Archaeological relics (any relics that are buried) are protected by the provisions of Division 9 of Part 6 of the *Heritage Act*. Under Section 139, 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 a Section 140 Excavation Permit.

Proposals to alter, damage, move or destroy heritage items protected by an IHO or listed on the SHR require an approval under Section 60 of the *Heritage Act*. Demolition of whole buildings will not normally be approved except under certain conditions (Section 63).

As indicated in **Section 1.3**, Crown land within the Study Area (Lot 80-3000, part), currently occupied by the Parramatta Swimming Centre, forms part of Parramatta Park, which is listed on the SHR in the same listing as Old Government House (ID 00596).

Pursuant to Section 89J of the EP&A Act, approvals under Part 4, or an excavation permit under Section 139, of the *Heritage Act* are not required for projects approved under Division 4.1 of Part 4 of the EP&A Act. Impacts to Historic (European) heritage values associated with approved SSD projects are typically managed under Heritage Management Plans (HMPs) and Conservation Management Plans (CMPs). HMPs and CMPs are statutorily binding once approved by the Planning Assessment Commission (PAC) or DP&E under delegation from the Secretary.

2.2.5 Parramatta Park Trust Act 2001

The *Parramatta Park Trust Act 2001* controls the current administration and management of Parramatta Park by a statutory trust (the "Parramatta Park Trust") of seven (7) members, appointed by the Minister for Environment. The functions of the PPT, stipulated in section 6 of Part 3 the *Parramatta Park Trust Act*, are to:

- a. to maintain and improve the trust lands;
- b. to encourage the use and enjoyment of the trust lands by the public by promoting the creational, historical, scientific, educational and cultural heritage values of those lands;
- c. to ensure the conservation of the natural and cultural heritage values of the trust lands and the protection of the environment within those lands; and
- d. such other objects, consistent with the functions of the Trust in relation to the trust lands, as the Trust considers appropriate.

Section 15 of Part 5 of the *Parramatta Park Trust Act* specifies that a Plan of Management must be prepared for Trust Lands. This requirement is currently satisfied by the *Parramatta Park Conservation and Management Plan* (Parramatta Park Trust 2008), which is a companion document to the *Parramatta Park Landscape Master Plan* (NSW Department of Public Works Services 2002).

2.3 Local Government

2.3.1 Parramatta Local Environmental Plan 2011

Clause 5.10 of the *Parramatta Local Environmental Plan 2011* (PLEP 2011) provides specific provisions for the protection of heritage items, heritage conservation areas, archaeological relics, Aboriginal objects and Aboriginal places of heritage significance within the Parramatta LGA, defined in the LEP as follows:

- A *heritage item* means a building, work, place, relic, tree, object or archaeological site, the location and nature of which is described in Schedule 5 of the LEP;
- A *heritage conservation area* means an area of land of heritage significance:
 - shown on the Heritage Map as a heritage conservation area, and
 - the location and nature of which is described in Schedule 5 of the LEP,
 - and includes any heritage items situated on or within that area.
- An *Aboriginal object* means any deposit, object or other material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of an area of New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.
- An *Aboriginal place of heritage significance* means an area of land, the general location of which is identified in an Aboriginal heritage study adopted by the Council after public exhibition and that may be shown on the Heritage Map, that is:
 - a. the site of one or more Aboriginal objects or a place that has the physical remains of pre-European occupation by, or is of contemporary significance to, the Aboriginal people. It may (but need not) include

- items and remnants of the occupation of the land by Aboriginal people, such as burial places, engraving sites, rock art, midden deposits, scarred and sacred trees and sharpening grooves; or
- b. a natural Aboriginal sacred site or other sacred feature. It includes natural features such as creeks or mountains of long-standing cultural significance, as well as initiation, ceremonial or story places or areas of more contemporary cultural significance
 - *archaeological site* means a place that contains one or more relics.

Under Section 2 of Clause 5.10 of the PLEP 2011, development consent is required for any of the following:

- a. demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance):
 - (i) a heritage item,
 - (ii) an Aboriginal object,
 - (iii) a building, work, relic or tree within a heritage conservation area,
- b. (b) altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,
- c. (c) disturbing or excavating an archaeological site while 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,
- d. (d) disturbing or excavating an Aboriginal place of heritage significance,
- e. (e) erecting a building on land:
 - (i) on which a heritage item is located or that is within a heritage conservation area, or
 - (ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,
- f. (f) subdividing land:
 - (i) on which a heritage item is located or that is within a heritage conservation area, or
 - (ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.

Schedule 5 of the PLEP 2011 provides a list of heritage items, conservation areas and archaeological sites within the Parramatta LGA. As previously indicated, Crown Land within the Study Area (Lot 80-3000, part), currently occupied by the Parramatta Swimming Centre, comprises part of Parramatta Park, which is listed on Schedule 5 of the PLEP 2011 (Item I00596)

2.3.2 Parramatta Development Control Plan 2011

The *Parramatta Development Control Plan 2011* (Parramatta DCP 2011) provides detailed planning controls for development in the Parramatta LGA and came into effect on 12 October 2011. Section 3.5.3 of Part 3 of the DCP pertains specifically to Aboriginal heritage and contains a series of development controls for protecting and managing the known and potential Aboriginal heritage values of Parramatta LGA. These controls are as follows:

1. Before lodging a development application for development that may have an impact on known or potential Aboriginal sites, Council's information on known Aboriginal sites and potential heritage sensitivity should be consulted;
2. For properties identified with No Sensitivity no Aboriginal Heritage Assessment is required;
3. For properties identified with Low Sensitivity no Aboriginal Heritage Assessment is required unless land is within 100m of a creek or river foreshore and contains uncleared bushland, sandstone outcrops or exposed sandstone platforms;
4. For properties identified as Medium Sensitivity or High Sensitivity an Aboriginal Heritage Assessment is required;
5. For properties within 50m of a known Aboriginal site the National Parks and Wildlife Service Site Register should be consulted to determine whether the Aboriginal site is located on the property. If the known Aboriginal site is located on the property, the development becomes Integrated Development; and

6. Properties within an area of Aboriginal social/historical association will require an Aboriginal Heritage Assessment that investigates the impact of a development proposal in relation to the social/historical association.

Areas of Aboriginal archaeological sensitivity within Parramatta LGA are shown on the Aboriginal Sensitivity Map appended to the DCP (Appendix 11). Land within the Study Area is depicted in this map as being of both low and high sensitivity, with land of high sensitivity restricted to that portion of the Study Area comprising Crown Land (Lot 80-3000, part).

Subject to development consent under Division 4.1 of Part 4 of the EP&A Act, the planning controls required by the PLEP 2011 and Parramatta DCP 2011 will not apply to the current Project.

3.0 Aboriginal Community Consultation

Aboriginal community consultation acknowledges the right of Aboriginal people to be involved, through direct participation, on matters that directly affect their heritage. Involving Aboriginal people in all facets of the assessment process ensures that they are given adequate opportunity to share information about cultural values, and to actively participate in the development of appropriate management and/or mitigations measures. The successful identification, assessment and management of Aboriginal cultural heritage values are dependent on an inclusive and transparent consultation process.

Aboriginal community consultation for the current assessment was undertaken in accordance with OEH's *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (). The results of the consultation process undertaken are detailed below. A consultation log is provided as **Appendix A**.

3.1 Stage 1 - Notification and Registration

The aim of Stage 1 of the Consultation Requirements is to identify, notify and register Aboriginal people who hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the Study Area.

3.1.1 Consultation with Regulatory Agencies

Section 4.1.2 of the Consultation Requirements stipulates that proponents are responsible for ascertaining, from reasonable sources of information, the names of Aboriginal people who may hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places. Proponents are required to compile a list of Aboriginal people who may have an interest for the proposed Study Area and hold knowledge relevant to determining the cultural significance of Aboriginal objects and/or places by writing to:

- a) the relevant regional office of the NSW Office of Environment & Heritage (OEH);
- b) the relevant Local Aboriginal Land Council(s);
- c) the Registrar, Aboriginal Land Rights Act 1983 for a list of Aboriginal owners;
- d) the National Native Title Tribunal for a list of registered native title claimants, native title holders and registered Indigenous Land Use Agreements;
- e) Native Title Services Corporation Limited (NTSCORP Limited);
- f) The relevant local council(s); and
- g) The relevant catchment management authorities for contact details of any established Aboriginal reference group.

In accordance with this requirement, the following agencies were contacted via letter or email on 13 May 2016 requesting information on relevant Aboriginal persons and organisations:

- Office of Environment and Heritage;
- Deerubbin Local Aboriginal Land Council (Deerubbin LALC);
- Office of the Registrar, *Aboriginal Land Rights Act 1983* (NSW);
- The National Native Title Tribunal (NNTT);
- NTSCORP Limited;
- Parramatta City Council; and
- Greater Sydney Local Land Services (GS LLS).

Responses were received from six agencies and are attached as **Appendix B**:

- Deerubbin LALC responded on 18 May 2016 providing the names and mobile phone numbers of three individuals that the LALC knows have cultural knowledge of the Parramatta area;
- The NNTT responded on 19 May 2016 advising the results of searches of the *Schedule of Applications (unregistered claimant applications)*, *Register of Native Title Claims*, *National Native Title Register*, *Register of Indigenous Land Use Agreements* and *Notified Indigenous Land Use Agreements*;

- GL LLS responded on 23 May 2016 advising that their organisation is not the primary source for contacting or managing contact lists for Aboriginal communities and persons that may inform or provide comment on planning issues and that AECOM should make contact with OEH for an all-inclusive contact list;
- Parramatta City Council responded on 24 May 2016 advising that they would forward our written request to Aboriginal individuals and organisations known to Council that may be interested in responding; and
- OEH responded on 26 May 2016 providing the list of Aboriginal stakeholders known to OEH that may have an interest in the project; and
- The Office of the Registrar responded on 14 June 2016 advising the results of a search of the *Register of Aboriginal Owners*.

3.1.2 Public Notification

Section 4.1.3 of the Consultation Requirements requires that, in addition to writing to the Aboriginal people identified by the agencies listed in **Section 3.1.1**, the proponent must also place a notice in the local newspaper circulating in the general location of the proposed project. The notification must outline the project and identify its location.

In accordance with this requirement, a public notice was placed in the Parramatta Advertiser on 25 May 2016 (**Appendix C**). The closing date for registration via this notice was 9 June 2016, which provided the necessary minimum 14-day period for expressions of interest.

3.1.3 Invitations for Expressions of Interest

Section 4.1.3 of the Consultation Requirements requires that proponents must write to the Aboriginal people whose names were obtained through the regulatory agencies and the relevant Local Aboriginal Land Council(s) to notify them of the proposed project and invite them to register an interest in participating in a process of community consultation.

In accordance with this requirement, on 31 May 2016, a letter inviting expressions of interest and containing summary information on the project was sent to all Aboriginal persons and organisations identified by the regulatory agencies. A draft of AECOM's assessment methodology was also included with this letter. A total of 52 Aboriginal stakeholders were invited to register an interest in being consulted. The closing date for expressions of interest was 15 June 2016, which provided the necessary minimum 14-day period for expressions of interest.

By the closing date for expressions of interest, 19 organisations had registered an interest in the assessment, with a further one organisation registering after this date. Summary information on all RAPs, including registration dates, is provided in **Table 2**.

Table 2 Registered Aboriginal Parties (RAPs) for the current assessment

Organisation	Date of registration	Primary Contact Person
Deerubbin Local Aboriginal Land Council	26-05-16	Steve Randall
Darug Custodian Aboriginal Corporation	26-05-16	Justine Coplin
Darug Tribal Aboriginal Corporation	27-05-16	Corina Marino
Darug Aboriginal Cultural Heritage Assessments	26-05-16	Celestine Everingham
Darug Land Observations	27-05-16	Jamie Workman
Darug Aboriginal Land Care Inc	06-06-16	Des Dyer
Gunjeewong Cultural Heritage Aboriginal Corporation	01-06-16	Cherie Carroll Turrise
Corroboree Aboriginal Corporation	04-06-16	Steve Johnson
Kamilaroi-Yankuntjatjara Working Group	02-06-16	Phil Khan
Tocomwall Pty Ltd	10.06.16	Danny Franks
Aboriginal Archaeology Service	11.06.16	Andrew Williams
Walbunja	31-05-16	Hika Te Kowhai

Organisation	Date of registration	Primary Contact Person
Murri Bidgee Mullangari Aboriginal Corporation	31-05-16	Darlene Johnson
Wurrumay Consultant	09.06.16	Kerrie Slater
Kawul Cultural Services	09.06.16	Vicky Slater
Gundungurra Tribal Technical Services	03-06-16	Chris Payne
Didge Ngunawal Clan	12-06-16	Paul Boyd
Duncan Suey & Associates	13.06.16	Darren Duncan
Widescope Indigenous Corp	14.06.16	Steven Hickey
Muragadi Heritage Indigenous Corporation	17.06.16	Jesse Johnson

3.1.4 Notification of Registered Aboriginal Parties (RAPs)

Section 4.1.6 of the Consultation Requirements requires that the proponent make a record of the names of each Aboriginal person who registered an interest and provide a copy of that record, along with a copy of the EOI letter forwarded to the Aboriginal parties, to the relevant OEH regional office and LALC. Section 4.1.5 of the Consultation Requirements provides the opportunity for Aboriginal persons to withhold their details from being forwarded to these parties.

In accordance with these requirements, on 15 June 2016, a list of all RAPs that had not requested their details be withheld was forwarded to the relevant OEH regional office (Parramatta) and the Deerubbin LALC. A copy of the EOI letter sent out on 31 May 2016 was included in this correspondence.

3.2 Stage 2 - Presentation of Information about Project

The aim of Stage 2 of the Consultation Requirements is to provide RAPs with information about the scope of the proposed project and the proposed cultural heritage assessment process.

For the current assessment, presentation of information about the Study Area and proposed development was provided to RAPs as part of the registration of interest process detailed in **Section 3.1.3**. Basic information on the proponent and Project was included in the Expression of Interest (EOI) letter sent out on 31 May 2016, with more detailed information provided in the draft assessment methodology.

3.3 Stage 3 – Gathering Information about Cultural Significance

The aim of Stage 3 of the Consultation Requirements is to facilitate a process whereby RAPs can:

- Contribute to culturally appropriate information gathering and the assessment methodology;
- Provide information that will enable the cultural significance of Aboriginal objects and/or places on the proposed Study Area to be determined; and
- To have input into the development of any cultural heritage management measures.

For current assessment, consultation with RAPs regarding the cultural heritage values of the Study Area included:

- A request with the draft assessment methodology for any initial comments regarding the Aboriginal cultural heritage values of the Study Area;
- Discussion of cultural heritage values during fieldwork; and
- The provision of a draft report to all RAPs for comment prior to finalisation.

3.3.1 Draft Survey Methodology

Sections 4.3.1 and 4.3.2 of the Consultation Requirements require that the proponent present and/or provide the proposed methodology for the cultural heritage assessment to RAPs and that RAPs be given a minimum of 28 days to review and provide feedback on this methodology.

All RAPs for the current assessment were provided with a draft of AECOM's proposed assessment methodology as part of the EOI package sent out 31 May 2016. The specified closing date for comments on the draft methodology was 29 June 2016, which provided the necessary minimum 28-day period for comment.

Responses to the draft methodology were received from four RAPs. Responses are summarised in **Table 3**, with written responses attached as **Appendix E**. Information regarding the cultural values of the Study Area was provided by two RAPs in their response to the draft methodology.

Justine Coplin of Darug Custodial Aboriginal Corporation (DCAC) advised that DCAC:

“object to any further encroachment into Parramatta Park which is a significant Aboriginal cultural landscape. It was the home of the Burramatta clan of the Darug and evidence of the occupation can still be seen. The Park is a significant cultural landscape with many sites and stories. It is important that the open space of the Park is maintained as this landscape was created by our ancestors. They kept it open to hunt, camp and hold ceremonies. Even after the invasion the importance of the Park continued for Aboriginal people, who visited the Park and the Governors. Aboriginal people such as Bennelong and Colby visited the Park; Pemulway visited Parramatta; Baluderry, a Burramattagal, traded fish until convicts destroyed his canoe and stole his spears and fishing equipment. Macquarie made policies and regulations from Government House in the Park that harmed Aboriginal people such as establishing the Native Institute and Native Conference and stealing children for the Native Institute”.

In addition, Ms Coplin advised that DCAC are “concerned with any proposal that continues to chip away at the landscape” and “do not want more unnecessary structures built”.

Andrew Williams of Aboriginal Archaeology Service (AAS) advised that that the Study Area has spiritual and cultural significance to his organisation's current members and ancestors.

Table 3 RAP responses to draft methodology

Registered Aboriginal Party (RAP)	Date of response	Method of response	Summary of response to proposed methodology	AECOM response to RAP comments
Darug Aboriginal Land Care Inc.	05.06.16	Email with letter attachment	Darug Aboriginal Land Care Incorporated agree with the draft methodology	None required
Darug Custodial Aboriginal Corporation	06.06.16	Email with letter attachment	DCAC have requested the addition of the words “<i>an assessment of the cultural landscape</i>” into the first overarching objective of the assessment. DCAC further state that they “<i>object to any further encroachment into Parramatta Park which is a significant Aboriginal cultural landscape. It was the home of the Burramatta clan of the Darug and evidence of the occupation can still be seen. The Park is a significant cultural landscape with many sites and stories. It is important that the open space of the Park is maintained as this landscape was created by our ancestors. They kept it open to hunt, camp and hold ceremonies. Even after the invasion the importance of the Park continued for Aboriginal people, who visited the Park and the Governors. Aboriginal people such as Bennelong and Colby visited the Park; Pemulway visited Parramatta; Baluderry, a Burramattagal, traded fish until convicts destroyed his canoe and stole his spears and fishing equipment. Macquarie made policies and regulations from Government House in the Park that harmed Aboriginal people such as establishing the Native Institute and Native Conference and stealing children for the Native Institute</i>”. DCAC further advise that they are “<i>concerned with any proposal that continues to chip away at the landscape</i>” and “<i>do not want more unnecessary structures built</i>”	Wording in final methodology revised to include requested words. DCAC's comments regarding the high cultural significance of Parramatta Park for the Darug people are noted, as are their concerns regarding new development within Parramatta Park.
Darug Land Observations	07.06.16	Email with letter attachment	Darug Land Observations support the draft methodology	None required

Registered Aboriginal Party (RAP)	Date of response	Method of response	Summary of response to proposed methodology	AECOM response to RAP comments
Aboriginal Archaeology Service	11.06.16	Email	Aboriginal Archaeology Service agree with the draft methodology and advise that the Study Area has spiritual and cultural significance to its current members and ancestors.	None required

3.3.2 Visual Inspection

A total of eight RAPs were randomly selected to participate in a visual inspection of the Study Area (**Table 4**), which was undertaken on Thursday 30 June 2016 and is detailed in **Section 7.0**.

RAP field representatives involved in the visual inspection identified the following social or cultural values for the Study Area in conversation with AECOM archaeologist Dr Andrew McLaren:

- The Study Area forms part of a much larger and highly significant cultural landscape for Darug people, with Parramatta Park of particular significance;
- Terraces bordering the Parramatta River would have been prime camping locations for Darug people camping within and travelling through the Parramatta area;
- Previous archaeological digs in the vicinity of the Study Area (including the Parramatta CBD) have yielded large quantities of artefacts;
- Despite having been heavily impacted by historical land use activities, the Study Area - like many other parts of the Parramatta CBD - is likely to contain archaeological deposits in subsurface contexts; and
- Any impacts to natural soil profiles within the Study Area will need to be carefully monitored to ensure that no artefacts are disturbed.

Table 4 RAP field representatives by organisation

Organisation	Field representative
Deerubbin Local Aboriginal Land Council	Steve Randall
Darug Custodian Aboriginal Corporation	Justine Coplin
Darug Aboriginal Cultural Heritage Assessments	Tim Wells
Darug Land Observations	Jamie Workman
Darug Aboriginal Land Care Inc	Raymond Adams
Kamilaroi-Yankuntjatjara Working Group	Chris Jones
Tocomwall Pty Ltd	Jen Norfolk
Duncan Suey & Associates	Darren Duncan

3.4 Stage 4 - Review of Draft Assessment Report

The aim of Stage 4 of the Consultation Requirements is to prepare and finalise an Aboriginal Cultural Heritage Assessment Report (ACHAR) with input from RAPs.

In accordance with Section 4 of the Consultation Requirements, on 4 July 2016, a draft of this AACHAR was issued to RAPs for their review. The closing date for comments is 2 August 2016. All comments received will be considered during report finalisation and any key issues addressed as part of the submissions process for the Project.

4.0 Landscape Context

This section reviews the landscape context of the Study Area as a basis for predicting both the character of past Aboriginal occupation within it and its associated Aboriginal archaeological record. Consideration of the landscape context of the Study Area is predicated on the now well established proposition that the nature and distribution of Aboriginal archaeological materials are closely connected to the environments in which they occur. Environmental variables such as topography, geology, hydrology and the composition of local floral and faunal communities will have played an important role in influencing how Aboriginal people moved within and utilised their respective Country. Amongst other things, these variables will have affected the availability of suitable campsites, drinking water, economic² plant and animal resources, and raw materials for the production of stone and organic implements. At the same time, an assessment of historical and contemporary land use activities, as well as geomorphic processes such as soil erosion and aggradation, is critical to understanding the formation and integrity of archaeological deposits.

4.1 Physical Setting

As shown on **Figure 1**, the Study Area is located on the left (northern) bank of the Parramatta River approximately 1 km northwest of Parramatta Station in the Parramatta CBD and c.200 m upstream of the Marsden Street Weir. The Study Area, which covers an area of approximately 9.3 ha, incorporates the current Parramatta Stadium complex and adjoining Parramatta Swimming Centre, with the former encompassing the stadium itself, surface car parking to its immediate north and west, and a training field to the immediate south. Bounded to the south and west by the Parramatta River, O'Connell Street to the east and the Parramatta Leagues Club to the north, the Study Area is situated between MGA grid coordinates 314680 and 315050 east and 6257080 and 6257540 north on the Parramatta River (9130-3-N) 1: 25,000 topographic map sheet.

Reference to the Geographical Names Register of NSW indicates that the Study Area falls wholly within the boundaries of the Parramatta Local Government Area (Parramatta LGA) and is situated in the Parish of St John in the County of Cumberland. Land within the Project area is legally described as Lots 951, 952, 953, 954, 955, 956, 957, 958, 959, 961, 962, 963 on DP42643 and Crown Land Lot 80-3000 (part). Crown Land within the Study Area, currently occupied by the Parramatta Swimming Centre, comprises part of the State heritage-listed Parramatta Park (SHR No 00596), which includes Old Government House.

4.2 Topography, Geomorphology & Soils

While the natural topography of the Study Area has been significantly altered, historical and contemporary reference materials indicate that the majority of the Study Area formerly comprised part of an extensive left bank river terrace whose constituent sediments appear consistent with those previously described for the "Parramatta Sand Sheet" (PSS), an informal stratigraphic name³ for an extensive fluvial sand body present along both sides of the Parramatta River within the Parramatta LGA (Jo McDonald CHM 2005c; Mitchell 2008). This unit, discussed in further detail below and in Fanning's geomorphological assessment report (**Appendix H**), is known to contain extensive evidence of pre-Colonial Aboriginal occupation (Jo McDonald CHM 2005c; Mitchell 2010a). Existing soil landscape mapping (i.e., Bannerman and Hazelton 2011; Chapman and Murphy 1989), which depicts the bulk of the Study Area as comprising part of the Birrong (bg) and Blacktown (bt) Soil Landscapes, is inaccurate and in need of revision.

A map showing the geomorphological landform units present within and surrounding the Study Area, provided as **Figure 4**, has been compiled on the basis of field observations, available geospatial data (i.e., 1 m LiDAR contours and an associated slope analysis) and a review of relevant geomorphological, geotechnical and historical reference materials⁴. As indicated, three geomorphological landforms are interpreted to have been present within and immediately adjacent to the Study Area, namely, sections of Holocene floodplain, a Pleistocene terrace sequence and Middle Triassic shale-based slopes. While landform unit boundaries are tentative, it is inferred that the bulk of the Study Area formed part of an extensive river terrace, with sections of

² I.e., edible and/or otherwise useful (e.g., medicine, clothing)

³ The PSS has also been referred to as the "Parramatta Sand", "Parramatta Sand Body" and "Parramatta Terrace Sand"

⁴ Namely, previous geomorphological assessment reports for the PSS (Mitchell, 2003, 2004, 2005, 2008, 2010a, 2010b), historical aerial photographs and maps, and bore logs from previous geotechnical surveys (Douglas and Partners 1984, 2002; EIS, 2014a, 2014b; JBS&G, 2015a, 2015b, 2015c, 2016) within and immediately adjacent to the Study Area.

shale hillslope and floodplain also represented in the northeastern and northwestern portions of the site respectively. The left bank terrace sequence along this part of the Parramatta River appears to have included two terraces, with the Study Area associated principally with the upper (older) of the two identified by Ebsworth in 1887. The age of these terraces is unknown. However, a Pleistocene antiquity is tentatively inferred on the basis of Mitchell's (2010a) TL dates for the PSS on the river's right bank. Surface elevations for the two terraces evident in the vicinity of the Study Area appear to have ranged from approximately +10 to +13 m AHD, with both terraces no doubt containing various microtopographic features, now obscured by historical land use impacts.

In the northwestern portion of the Study Area, the former upper terrace plain appears to have dropped steeply, from approximately +13 m AHD, to a relatively narrow floodplain situated between +5 and +6 m AHD. Currently thickly-turfed, this floodplain wedges out below the western carpark, approximately 260 m downstream of the Ross Street Causeway. From here, the land falls sharply and directly to the river channel for approximately another 300 m, at which point the floodplain recurs and widens in a downstream, or easterly, direction (**Figure 4**). A low (<0.5 m) sandy levee is present along the riverside margin of the floodplain in this area (**Plate 1**) and is currently densely grassed, with widely-spaced, immature trees also present. The surface of the floodplain to the south of the Study Area and Old Kings Oval steps up to a slightly higher level, from +5 m AHD to +6 m AHD, in a line running roughly southwest to northeast from the northern end of Noller Bridge to the base of the lower terrace riser immediately south of the training field. This riser, which slopes up from the floodplain surface at +7 m AHD to the +10 m AHD contour, separates the floodplain from the tread of the lower terrace, now obscured by the training field (**Plate 2** and **Plate 3**). The floodplain narrows again to the east of this point, with earthworks associated with the construction of the Southern Carpark and the northern (left bank) approach to Rings Bridge obscuring the nature of the floodplain/ lower terrace boundary (**Figure 4**).

Previous geotechnical investigations within and immediately surrounding the Study Area confirm the presence, at depth underneath historical fill materials of variable composition and thickness (range: surface to 6m b.g.l), of interbedded alluvial sands and clays (Douglas and Partners 1984, 2002; EIS, 2014a, 2014b; JBS&G, 2015a, 2015b, 2015c; 2016); see also Douglas and Partners 2016). These sediments, which extend to a maximum depth of around 13 m b.g.l (Douglas and Partners 1984) and overlie weathered shale and/or sandstone bedrock are similar in texture, colour and consistence to those described by Mitchell (2008) for the PSS and are considered to form part of this now well-documented sand body (e.g., Mitchell, 2003, 2004, 2005, 2008, 2010a, 2010b). In the northwestern portion of the Study Area, under the western car park, JBS&G (2015a) report the presence of at least 0.7 m of "natural" yellow, homogeneous, poorly graded coarse sand, which may - *contra* Mitchell (2008: 10) - comprise part of a sandy levee on the margin of the upper terrace plain.

Mitchell's (2008) indicative distribution map for the PSS (**Figure 5**), prepared as part of a review of the nature and distribution of the PSS within the greater Parramatta CBD area, shows that the bulk of the sand body forms a levee on the right bank of the Parramatta River, just above the 1:100 ARI flood level, and extending from Church Street in the west to Arthur Street in the east and south from the river to around Macquarie Street in the west and Oak Street in the east (Mitchell 2008, 2010a). Schematic cross sections of the PSS and adjacent landform units / features, as interpreted by Mitchell (2008: 9, Fig. 6), are provided in **Figure 6**. While Mitchell (2008: 10, Figs. 6 & 7) concurs in-text with AECOM's and Fanning's interpretation of the landforms of the current Study Area and its environs, his indicative distribution map shows a different interpretation, namely that the Holocene floodplain to the south of the Study Area is actually a Pleistocene terrace on the left bank of Parramatta River, with the former restricted to a narrow strip of land no wider than the sandy levee described above and shown in **Plate 1**. The geomorphological landform map produced as **Figure 4** in this report reinterprets the relevant section of Mitchell's (2008: 8-9, Figs. 5 & 6) distribution map.

Previous geomorphological assessments of the PSS indicate a well-developed but locally variable soil profile, with intra-unit variability tied to local drainage conditions and variation in the internal composition of the river's terraces (Mitchell 2008: 12-15). Mitchell (2008: 12, Fig. 9), in his overarching review of the PSS, describes as "fairly typical" a profile exposed at the Cumberland Press site adjacent to Argus Lane in the Parramatta CBD. Here, a disturbed topsoil was observed to overlie a "yellow sandy clay with distinct earthy fabric" that, while well drained, became paler and slightly mottled with depth (Mitchell 2008: 12). Profiles in comparatively poorly drained portions of the sand body, Mitchell (2008: 15) reports, "are quite different in that they have a strongly bleached A2-horizon with a concentration of iron/manganese pisolites indicating occasional if not seasonal waterlogging of the surface soil". Underlying these bleached sediments are clayey sand B-horizons "with strong mottling and cementation of nodules and pipes" (Mitchell 2008: 15, Fig. 1). In other locations, dense clay layers have been observed to cap and lie between the sand body's more typical clayey sand and sand horizons, with the most "extreme example" of this phenomenon occurring at the Meriton site on the corner of George and Charles Streets (Mitchell 2008: 15, Fig. 16). Here, a dense clay B-horizon was observed to overlie a layer of bleached sand, which in turn, overlay a

mottled clayey sand (Mitchell 2008: 15, Fig. 16). Mitchell (2008: 15) reports that it was concluded at the time that “the clay layer marked the base of an in-filled channel or billabong on the terrace surface”.

With few exceptions (e.g., Mitchell, 2010b), profiles in all sections of the PSS exhibit extensive evidence of bioturbation, particularly infilled cicada larvae burrows. Such bioturbation, Mitchell (2008) concludes, “has the potential to mix and lower artefacts through the soil profile to the lower limit of mixing and to destroy any original stratigraphy”. Moreover, “[b]urrows filled with soil from higher levels can also affect the reliability of luminescence or radiocarbon dating because of the high risk of mixing sediment or charcoal fragments from the surface” (Mitchell 2008: 12). These observations notwithstanding, thermoluminescence (TL) dates obtained from atypically non-bioturbated PSS sands exposed at 140 Macquarie Street (Mitchell 2010b) suggest that the upper portion of the PSS was deposited in the Late Pleistocene, between c.50 and 58,000 years ago (Mitchell 2010a: 3). Sealed by a layer of acid clay deposited on the backplain or the margin of a lagoon, PSS sands in this context contained no evidence of bioturbation, lending confidence to the TL dates, as well as Jo McDonald CHM’s (2005c) earlier suggestion that the date of 30,735±407 BP obtained on charcoal at the RTA-G1 site on George Street was indeed associated with an initial, low intensity pulse of Aboriginal occupation. Given that the TL dates from the PSS at 140 Macquarie Street likely significantly predate Aboriginal peoples’ arrival in the Sydney Region (Attenbrow 2010; Williams et al. 2014), Mitchell’s (2010a: 3) conclusion that the “Parramatta sand can only be expected to contain Aboriginal material near its surface and distributed to the depth of effective bioturbation” seems reasonable.

4.3 Hydrology

The Study Area, as indicated above, is located on the left (northern) bank of the Parramatta River, approximately 1 km upstream of the Charles Street Weir, which marks the river’s contemporary tidal limit, and c. 200 m upstream of the Marsden Street Weir. Formed by the confluence of Toongabbie Creek and Darling Mills Creek, c.1 km upstream of the Study Area, the Parramatta River is the main tributary of Sydney Harbour and can be classified as an intermediate, tide-dominated drowned valley estuary (Roy et al. 2001). From Parramatta, the river flows in an easterly direction along the southern edge of the Hornsby Plateau, and enters Sydney Harbour between Manns and Yurulbin Points, some 20 km downstream.

Formation of the Port Jackson - Parramatta River Estuary can be traced to warmer and wetter climatic conditions during the post-glacial (c.18,000 to 11,700 years ago) and early Holocene (c.11, 700 to 5,000 years ago) periods, which resulted in a dramatic rise in sea levels and the inundation of both the inner continental shelf and its adjacent river valleys (Attenbrow 2010: 153-154). Prior to this time, the present-day estuaries of Port Jackson, Broken Bay and Port Hacking comprised deep sandstone river valleys whose constituent rivers, including the Parramatta River, were entirely freshwater. Rising sea levels during the post-glacial and early Holocene periods, which peaked in the early Holocene around 7,000 years ago at a level +1 to +2 m higher than today, are of significance not only for the creation of the above-mentioned estuaries, but also their implications for Aboriginal people occupying the Sydney Region during these periods, with diminishing land areas and associated environmental changes likely necessitating the re-negotiation and/or re-alignment of clan and language group boundaries, as well as modifications to traditional settlement and subsistence patterns (Attenbrow 2010: 153). Sea-level oscillations of ± 2m are reported for the period between 7,000 and 2,000 years ago, with higher sea levels persisting until around 1,400 years ago, when levels reduced to those of the present day (Attenbrow 2010: 38).

Together with available geotechnical and geomorphological evidence, historical reference materials for the Parramatta area indicate that the microtopography of the terraces bordering the Parramatta River included freshwater swamps or waterholes, some of which held permanent water and were used as a domestic water supply by early British settlers (Macphail & Casey 2008: 47). For the Parramatta CBD area, the apparent location of such features, as well as known drainage lines (both natural creeks and constructed drains), has been mapped by Lawrie (1982) and Mitchell (Mitchell 2008: 3-4, Figs. 1 & 2) (**Figure 7** and **Figure 8**). Comparable mapping has not been undertaken for the terrace plain on the northern side of the river, including the current Study Area. Nonetheless, it can be confidently assumed that such features would have been present and, in common with those on the southern side of the river, likely comprised focal resource features for Aboriginal people camping within, or passing through, the Study Area.

Approximate flood inundation levels for land within and surrounding the Study Area are shown on **Figure 9**. The red colour on this figure demarcates land likely to be inundated by a 100 year ARI flood event. Reference to the geomorphological landform map produced for the current assessment (**Figure 4**) shows that this area roughly coincides with the Holocene Floodplain to the immediate south of the Study Area. The purple line on **Figure 9**,

meanwhile, delimits the approximate elevation of the Probable Maximum Flood (PMF) (i.e., the largest flood that could possibly occur) and more-or-less coincides with the former Pleistocene terrace surface shown on **Figure 4**. As indicated, with the exception of a few areas of modified terrain (e.g., the top of the training field) and a small section of shale hillslope, the Study Area would be completely inundated by a PMF event.

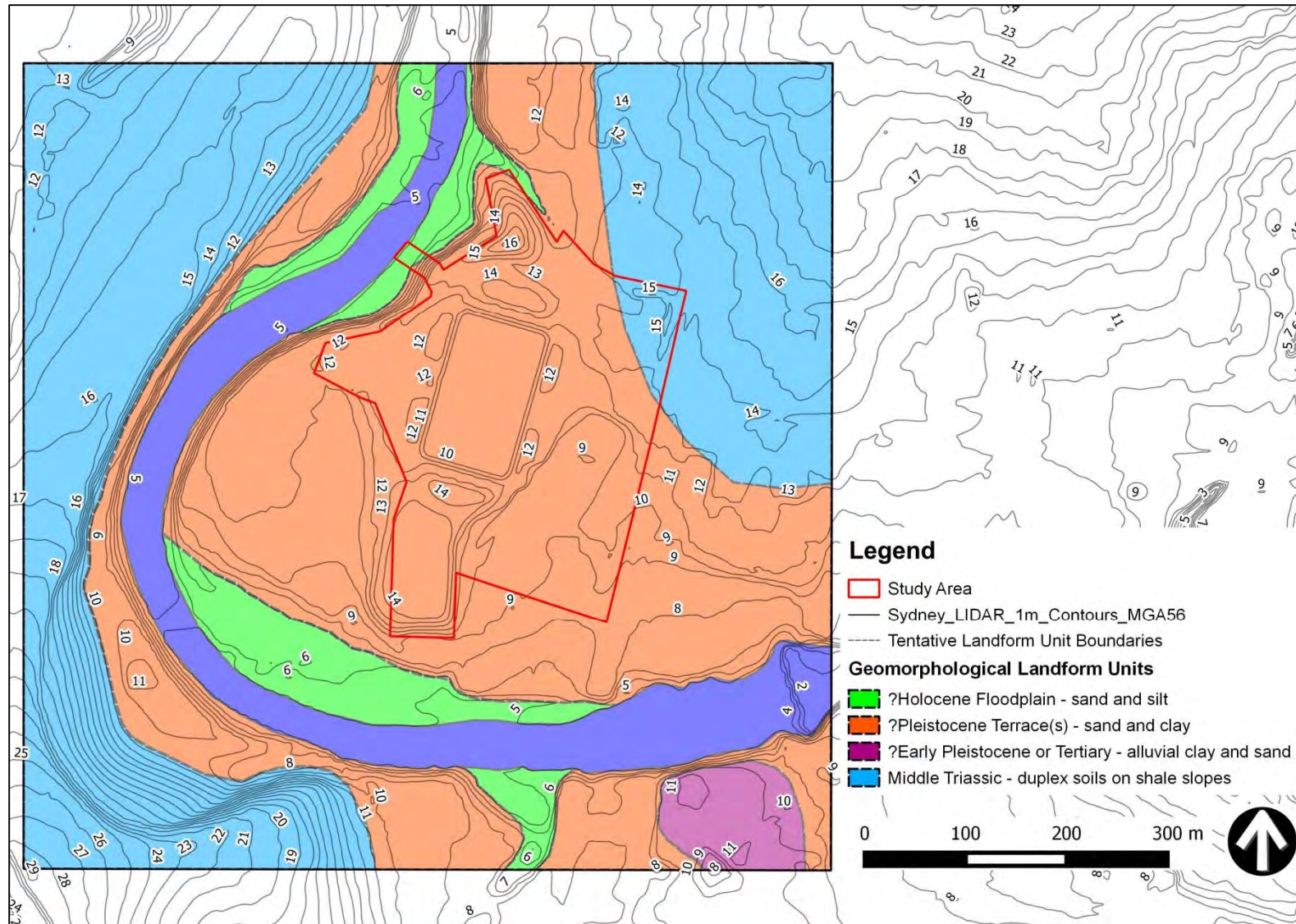


Figure 4 Geomorphological Landform Units within and surrounding the Study Area

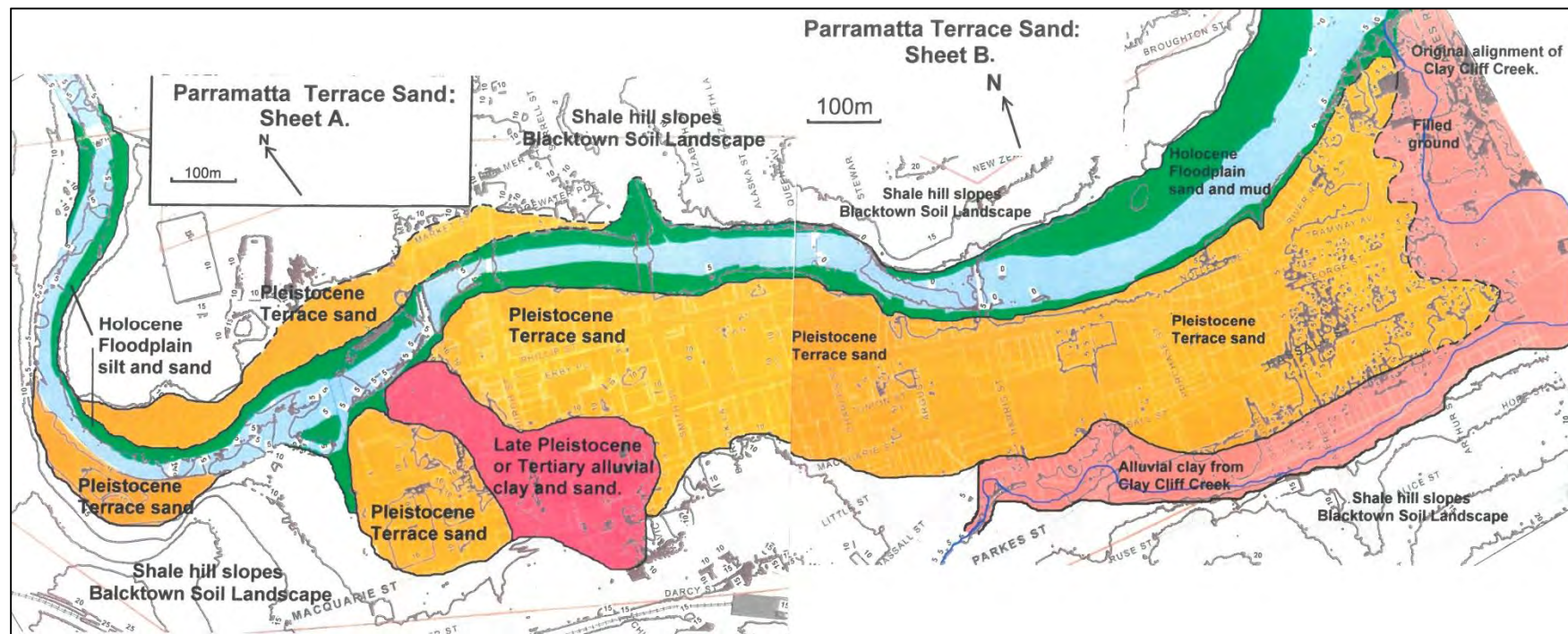


Figure 5 Mitchell's (2008) indicative distribution map of different soil parent materials and landscapes along the Parramatta River at the time of European settlement (modified from Mitchell 2008:7-8, Figs. 4 and 5). Note that Mitchell's mapping of the distribution of the Holocene floodplain and Pleistocene terrace in the vicinity of the current Study Area contradicts in his report text.

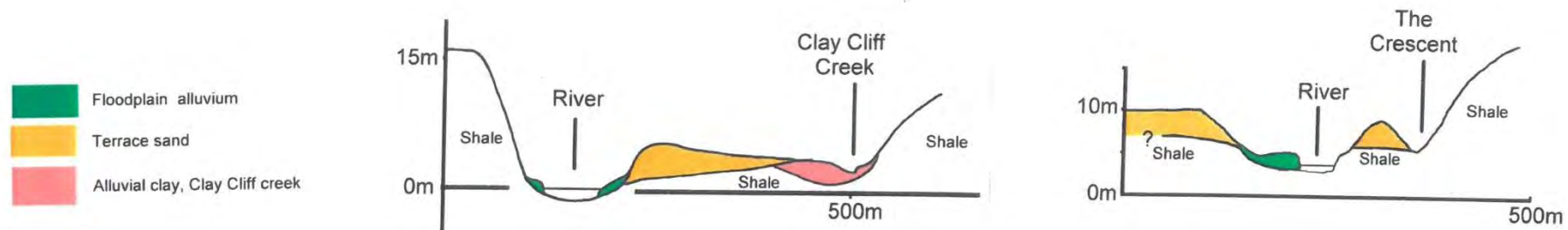


Figure 6 Schematic cross sections of the Parramatta River and adjacent geomorphological landforms / features, as interpreted by Mitchell (2008). Section on left approximately along Harris Street and across Clay Cliff Creek. Section on right in the vicinity of The Crescent and Old Government Farm (modified from Mitchell 2008: 9, Fig. 6).



Plate 1 View across Holocene floodplain, south of the Study Area. Low sandy levee on river margin labelled (Source: AECOM 2016)



Plate 2 View across Holocene floodplain and Pleistocene terrace, south of the Study Area, with individual landform elements labelled (Source: AECOM 2016)



Plate 3 A view of Government Farm at Rose Hill, New South Wales 1791 (Drawing 18 from the Watling Collection, by a Port Jackson Painter, 1791, pen and water colour, Natural History Museum London). Note depiction of river terrace sequence and location of farm buildings on terrace plain.

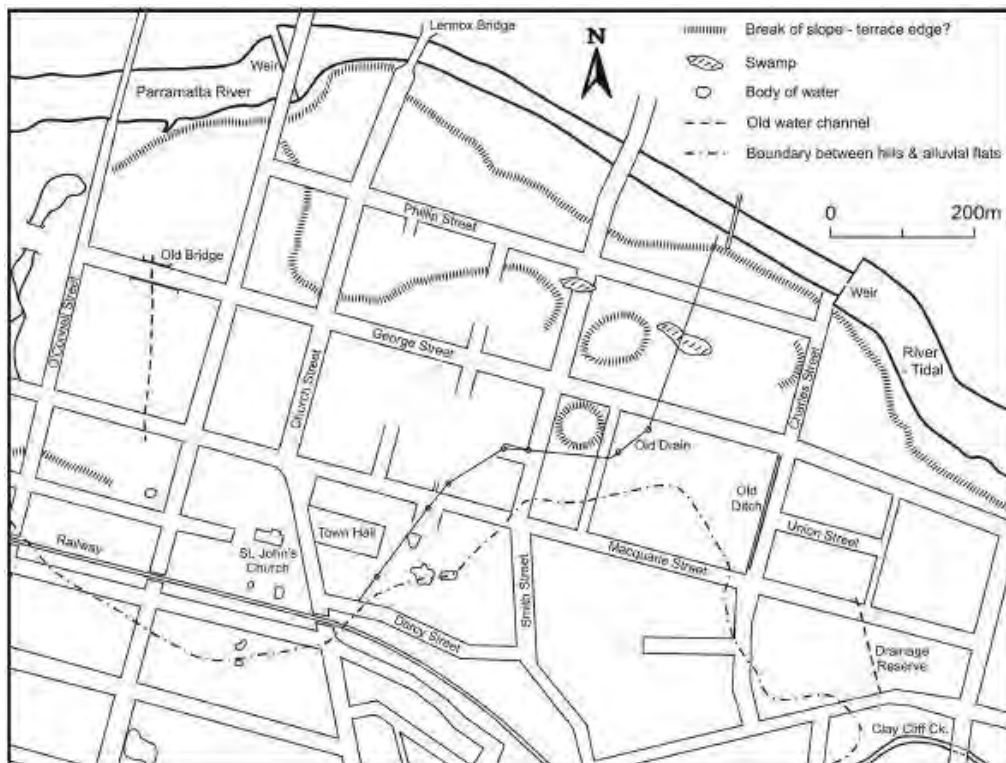


Figure 7 Reconstructed topography of Parramatta c.1789 (Lawrie 1982 in Macphail & Casey 2008). Note presence of swamps to the north of George Street.

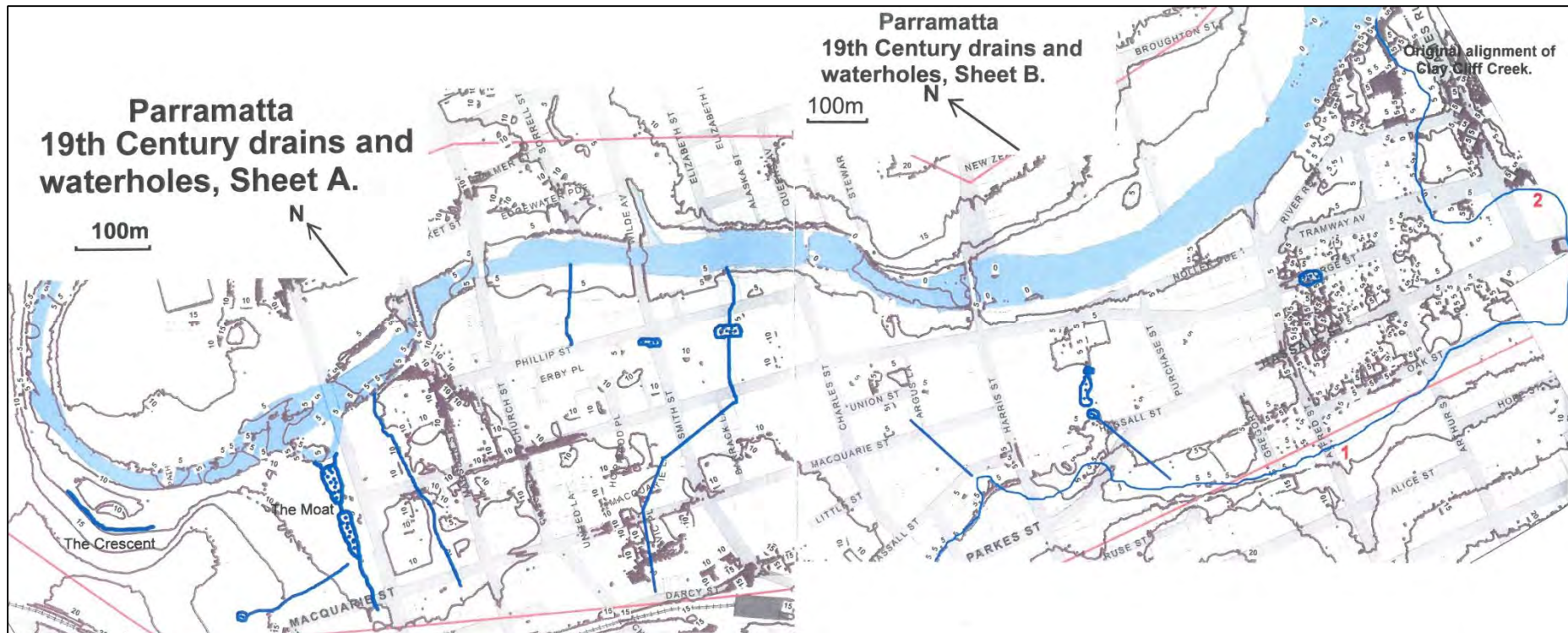


Figure 8 Apparent location of drainage lines (creeks and constructed channels) and waterholes on the right (southern) bank of the Parramatta River at the time of European settlement (modified from Mitchell 2008: 1-2, Figs. 3 & 4)

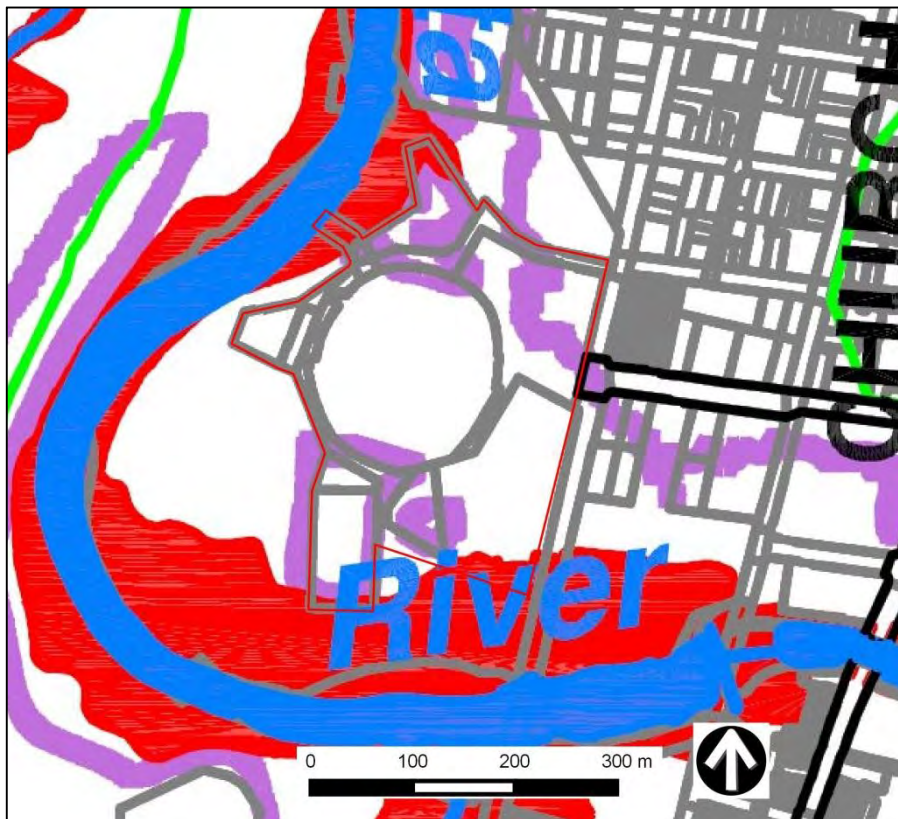


Figure 9 Georeferenced excerpt of Bewsher Consulting's (2003) flood extents map for the Upper Parramatta Catchment showing 100 year ARI flood extent (in red), Probable Maximum Flood (PMF) (purple line) extent and Study Area (red line) (modified from Bewsher Consulting 2003: 17, Fig. 2.4).

4.4 Surface Geology

Geotechnical bore logs confirm that the surface geology of the Study Area consists of interbedded alluvial sands and clays similar in colour, texture and consistence to those previously described for the PSS (Mitchell 2008). Douglas Partners (2016: 2) report a "general subsurface profile...characterised by very stiff or hard clay filling, overlying interbedded very stiff alluvial clay and medium dense alluvial sand, overlying weathered shale and medium strength sandstone". While the age of the alluvial sediments present within the Study Area has yet to be established, radiometric dates for the PSS on the right (southern) bank of the Parramatta River, in the Parramatta CBD, suggest that the upper portion of the PSS within the Study Area is likely of Late Pleistocene antiquity (see, in particular, Jo McDonald CHM 2005c; Mitchell 2010a).

Reference to the Penrith 1:100 000 Geological Series Sheet indicates that the Study Area is located close to the boundary between the Hawkesbury Sandstone (Rn) and Ashfield Shale (Rwa) formations, with the former identified as the ultimate source of the PSS (Mitchell 2008). A medium to coarse-grained quartz sandstone with minor shale and laminate lenses, Hawkesbury Sandstone weathers cavernously to form overhangs (i.e., rockshelters) but also occurs as flatted-topped outcrops (platforms) and isolated boulders (McDonald 2008). Utilised rockshelters, grinding grooves and rock art, both engraved and pigment, are common archaeological features of this formation, which also contains stone suitable for the production of flaked stone artefacts in the form of pebbles of white vein quartz (Attenbrow 2010: 43; Corkill 1999: 54). Locally, outcrops of Hawkesbury Sandstone occur principally in areas of elevated terrain to the north of the Parramatta River. However, streambed exposures of the formation, both contemporary and historical (e.g., White 1790 [1962]: 128), have also been identified.

Excavated stone artefact assemblages from sites in the greater Parramatta CBD area attest to an emphasis on the procurement and reduction of two rock types, namely silcrete and silicified tuff, with a range of other lithic materials (e.g., quartz, silicified wood, quartzite, Fine Grained Siliceous (FGS), ironstone and various igneous/volcanic rocks) also exploited, albeit comparatively non-intensively. Reference to Corkill (1999) and Attenbrow et al. (2008) indicates that the nearest known source of silcrete, silicified tuff, silicified wood and other fine-grained siliceous rocks to the Study Area occurs at Sydney Olympic Park, approximately 8 km to the

southeast of the stadium complex. Here, silcrete, silicified tuff, silicified wood and unidentified fine-grained siliceous materials were identified in a Tertiary palaeochannel remnant (Attenbrow et al. 2008: 113). Closer to the Study Area, ironstone, sandstone and quartz could have been sourced from locally-occurring fluvial and/or colluvial gravel sources (Jo McDonald CHM 2005c: 9). Other fine-grained siliceous rocks, such as silcrete and silicified tuff, may also have been available in the bedload of the Parramatta River. However, this remains to be confirmed.

Further afield, other well-known sources of flakeable stones on the western Cumberland Plain include the Tertiary St Marys (Ts) and Rickabys Creek Gravel (Tr) formations, as well the various unconsolidated Pleistocene units that line (as terraces) the present day and abandoned channels of the Nepean-Hawkesbury River (e.g., the Cranebrook Formation). Volcanic diatremes, dykes and intrusions of Cretaceous to Jurassic antiquity, which are widely distributed across the western Cumberland Plain, have also been identified as potential sources of flakeable rocks, both volcanic/igneous and fine-grained siliceous (Corkill 1999).

Alluvial in origin, the St Marys formation consists of channel remnants cut into shales of the Triassic Wianamatta Group, and contains, amongst other rocks, abundant quantities of silcrete, as well as silicified wood, quartzite and quartz (Corkill 1999: 56). Recorded deposits, which occur on ridge flanks and crests across the northern Cumberland Plain, vary in thickness from approximately 1 to 10 metres (Smith and Clark 1991: 30). Silcrete from the St Marys formation is typically light red or yellowish brown in colour, with a bleached weathering rind, and occurs in the form of complete and fragmentary⁵ pebbles, cobbles and boulders (Byrnes 1982; Corkill 1999; Jo McDonald CHM 2006b). Recent research by Doelman et al. (2015) indicates significant intra- and inter-exposure variation in the knapping quality of silcrete clasts derived from the St Marys formation, with variability tied to differences in grain-size, degree of silicification, the presence of internal inclusions/fractures, and the influence of bushfires.

In terms of geographic extent, the St Marys formation has been mapped at various localities in the Mulgoa, South and Eastern Creek catchments, with archaeologically significant deposits occurring along the upper parts of Plumpton Ridge between Bells and Eastern Creeks, approximately 15 km northwest of the Study Area (AMBS 2002; Dallas 1983; Jo McDonald CHM 2006c). However, the formation is known to be more widely distributed than currently mapped. Observations of the distribution of silcrete pebbles/cobbles and associated ironstone fragments on and adjacent to Plumpton Ridge, for example, have indicated a formation width three to four times that depicted on the Penrith 1:100 000 Geological Map (Mitchell 2002, 2005). Attention is also drawn to the identification in various archaeological contexts (e.g., AECOM 2012; Biosis 2010; Austral Archaeology 2005) of natural silcrete gravels on the floodplains of Bells and Eastern Creeks, a phenomenon suggestive of colluvial and/or fluvial transportation of silcrete clasts from the St Marys formation⁶.

The Rickabys Creek Gravel (Tr) formation consists of a poorly sorted, polymictic gravel deposit, with rounded to well-rounded, pebble to cobble-sized clasts of quartz, quartzite, silcrete, silicified tuff, porphyry, granite, hornfels and sandstone set within a sandy clay matrix. The formation varies in thickness from 2 to 12 m and occurs extensively across the northwestern portion of the Cumberland Plain (including its interface with the Blue Mountains Plateau), both as high-level terraces along contemporary creek systems (e.g., South, Rickabys and Mulgoa Creeks) and as isolated remnants (Smith and Clark, 1991: 32). The nearest mapped outcrops of Rickabys Creek gravels to the Study Area occur in association with South Creek approximately 22 km northwest of the site.

Existing archaeological and geological data for the Cumberland Plain preclude detailed comment on the utility, in terms of raw material availability (*sensu* Andrefsky 1994), of the volcanic diatremes, dykes and intrusions that occur across it. Quartz and other knappable rock types are known to occur in the vicinity of such features, having been brought to the surface from intruded strata below (Corkill 1999: 55). However, with few exceptions, the presence of flakeable rocks in the vicinity of mapped examples cannot be confirmed. As for the diatremes, dykes and intrusions themselves, Attenbrow's (2010: 44) general observation that many of these features are deeply weathered and contain rock that would not have been suitable for making edge-ground hatchet heads, may be applicable. However, exceptions are known (e.g., Jo McDonald CHM 2005c).

4.5 Flora & Fauna

Native vegetation within the Study Area has been extensively modified as a result of historical land use activities, complicating an accurate reconstruction of the site's pre- and early post-European settlement floral regime.

⁵ Broken by heat (i.e. bushfires)

⁶ It is acknowledged that silcrete found in areas outside of those mapped geologically as St Marys formation may derive from other formations (e.g., Rickabys Creek Gravel).

Nonetheless, early colonial observations (e.g., Bradley 1788, White 1788 and King 1790 in McLoughlin 2000: 585, Table 1), coupled with the results of more recent, broad-scale reconstructive efforts (e.g., Benson & Howell 1990, 1994; Benson 1992; McLoughlin 2000; Tozer 2003), suggest that the Study Area likely supported open forest and/or woodland with a predominantly grassy ground cover. Benson and Howell (1990), for their part, propose that the high terraces bordering the Parramatta River were covered by woodlands dominated by eucalypt spp., particularly grey box (*Eucalyptus moluccana*) and forest red gum (*E. tereticornis*), with an open grassy understorey. Closer to the river, on comparatively poorly-drained areas of floodplain, Paperbark (*Melaleuca linariifolia*), Swamp oak (*Casuarina glauca*) and Rough-barked Apple (*Angophora floribunda*) are predicted to have been key species (Benson & Howell 1990: 68). A variety of reeds, sedges and rushes would also have been present along and adjacent to the river, with examples including Common Reed (*Phragmites australis*), Tall Spike Rush (*Eleocharis sphacelata*) and Salt Marsh Rush (*Juncus kraussii*).

Reference to more recent vegetation mapping by Tozer (2003), which builds on previous mapping efforts by Benson (1992) and Benson and Howell (1994), suggests that the floodplain to the south of the Study Area likely supported 'Alluvial Woodland' (Map Unit 11), while the terrace plain upon which the current Parramatta Stadium and adjoining swimming centre now stand likely supported 'Shale Sandstone Transition Forest' (High sandstone influence) (Map Unit 2) and/or Shale Plains Woodland (Map Unit 10). Further downstream, beyond the Parramatta River's tidal limit, McLoughlin's (2000: 602) research indicates an early post-European settlement vegetation regime⁷ characterised by extensive saltmarsh and mangrove communities, as well as "groves of 'casuarina' and melaleuca scrub" on slightly elevated areas.

Alluvial Woodland is most often dominated by Cabbage Gum (*Eucalyptus amplifolia*) and Forest Red Gum (*E. tereticornis*), with Apple Box (*Angophora floribunda*) occurring less frequently (Tozer 2003: 31). Parramatta Green Wattle (*Acacia parramattensis*), Swamp Oak (*Casuarina glauca*) and Flax-leaved Paperbark (*Melaleuca linariifolia*) can also occur. A shrub stratum is typically present though is often sparse and dominated by Blackthorn (*Bursaria spinosa*). A dense ground cover of grasses such as Basket-grass (*Oplismenus aemulus*), Weeping grass (*Microlaena stipoides*), Bordered Panic (*Entolasia marginata*) and Forest Hedgehog Grass (*Echinopogon ovatus*) is also typical as is the presence of herb species such as Forest Nightshade (*Solanum prinophyllum*), Whiteroot (*Pratia purpurascens*) and Native Wandering Jew (*Commelina cyanea*) (Tozer 2003: 32).

The most widely distributed native vegetation community on the Cumberland Plain, Shale Plains Woodland is typically dominated by Grey Box (*E. moluccana*) and Forest Red Gum (*E. tereticornis*), with Narrow-leaved Ironbark (*E. crebra*), Thin-leaved Stringybark (*E. eugenioides*) and Spotted Gum (*Corymbia maculata*) also occurring, though less frequently (Tozer 2003: 36). A shrub stratum dominated by Blackthorn (*Bursaria spinosa*) is usually also present. Common ground stratum species for this vegetation community include Kidney Weed (*Dichondra repens*), Threeawn Speargrass (*Aristida vagans*), Weeping Grass (*Microlaena stipoides*), Kangaroo Grass (*Themeda australis*), Brunoniella (*Brunoniella australis*), Tender Tick-trefoil (*Desmodium varians*), Thin Leaf Stink Weed (*Opercularia diphylla*), Blue Bell (*Wahlenbergia gracilis*) and Shorthair Plumegrass (*Dichelachnemicrantha*) (Tozer 2003: 36).

Tozer (2003) describes two forms of Shale Sandstone Transition Forest - a "high sandstone influence" variety and a "low sandstone influence" variety - and maps vegetation remnants within and adjacent to the Study Area as belonging to the former community. Shale Sandstone Transition Forest with a high sandstone influence is dominated by Grey Gum (*E. punctata*) and Narrow-leaved Ironbark (*E. crebra*), with Red Ironbark (*E. fibrosa*), Red Bloodwood (*Corymbia gummifera*) and Turpentine (*Syncarpia glomulifera*) also represented, albeit comparatively poorly (Tozer 2003: 24). Black She-oak (*Allocasuarina littoralis*), Turpentine, Narrow-leaved Geebung (*Persoonia linearis*) and Green Wattle (*Acacia decurrens*) dominate the community's smaller tree stratum. A well-developed shrub stratum is usually present and dominated by White Kunzea (*Kunzea ambigua*), Narrow-leaved Geebung and Blackthorn. Common ground stratum species include Wiry Panic (*Entolasia stricta*), Kangaroo Grass, Spear Grass (*Stipa pubescens*), Variable Swordsedge (*Lepidosperma laterale*), Three-awned spear grass (*Aristida vagans*) and Pomax (*Pomax umbellata*) (Tozer 2003: 24).

While available historical records provide only limited insight into Aboriginal exploitation of plants across the Cumberland Plain, and Sydney Region more broadly (see, in particular, Attenbrow 2010: 76-78 and Kohen 1986: 36-52), it can be confidently asserted that the original vegetation communities of the Study Area and its environs will have supplied Aboriginal people camping within or travelling through the area with an extensive array of edible and otherwise useful plant species. Recorded native vegetation communities and locally occurring watercourses and lagoons would likewise have supported a large and diverse range of economic terrestrial, aquatic and avian

⁷ I.e., outside of large areas of bare, inter-tidal mudflats

fauna, with Aboriginal people occupying the greater Parramatta CBD area well placed to exploit both estuarine and freshwater species. Historical evidence for Aboriginal peoples' use of the floral and faunal resources of Sydney's Cumberland Plain is discussed in further detail in **Section 6.0**.

4.6 European Land Use History

In November 1788, a small group of convicts and marines under the command of Governor Arthur Phillip established a fortification or 'redoubt' at Rose Hill approximately on the site of Old Government House. It overlooked a semi-circular slope near the river (The Crescent) that could be easily defended. From that nucleus of settlement, white British colonists settled Parramatta. Convicts were brought upriver and settled further east (Kass et al. 1996: 14). The huts and barracks evolved into the Town of Parramatta. Crops were sown to the south in what is now Parramatta Park and east in what is now the Parramatta CBD as shown in a plan of the mid-1790s (**Figure 10**).

Crops were also sown north of the river, opposite the redoubt, on the 'Government Farm' (also known as 'Dodd's Farm'). A house for the farm superintendent James Smith was also erected in this area. Henry Dodd, Governor Phillip's personal servant, had some experience of farming. In March 1790, he replaced Smith. Dodd successfully managed the farm until his death on 28 January 1791 (Kass et al. 1996: 17-18, 26-27). His grave in St John's cemetery Parramatta is one of the oldest in that cemetery and one of the oldest in Australia. Farming spread to other areas near Parramatta so that the farm in what is now Parramatta Park gradually ceased to operate. There are two historic images that show Dodd's house and outbuildings (**Plate 3** and **Plate 4**). One of those images shows the threshing barn and storehouses near the house as well as a brick kiln near the river (Kass et al. 1996: 17).

Governor Arthur Phillip laid out the Parramatta Domain west of the town in 1790. As well as being the location of the Governor's house, now Old Government House, it was an open space resource for people of Parramatta and the government. It housed the service buildings and other support structures for Old Government House and some industrial activities as well. Parramatta Park/Domain had porous boundaries permitting nearby residents to enter and use it for their own purposes until Governor Lachlan Macquarie closed off public access. The extension of George Street west of O'Connell Street was closed and convict huts west of O'Connell Street were removed ensuring that the Domain became the governor's private domain. During Governor Macquarie's tenure, the boundary of the Domain was moved eastwards, and the stockyards and lumberyard were removed. Later developments within the Domain included the establishment of Governor Thomas Brisbane's private observatory completed by May 1822. Johnstone's 1836 map of Parramatta shows the Domain north of the river but includes no details of what was in this area.

The abolition of the convict system followed by the establishment of responsible government, which reduced the power of the Governor, allowed the citizens of the colony of New South Wales to take direct control of the Domain. From the 1850s onwards, the Domain was reduced in area. The western and north-western parts were subdivided and sold by auction creating what became the suburbs of Westmead and later Northmead.

A Park Trust under the Department of Lands was established in 1858 to manage the former Domain as a public resource, which became known as Parramatta Park (Rosen 2003: 138). Shortly afterwards, the Western railway excised a substantial portion of the Domain and severed the southern part. Public access to the Park was improved after the 1850s. Areas were set aside for public recreation. A racecourse had been established in the 1840s on the section of the Domain north of the river (**Figure 12** and **Figure 13**). The racetrack also included a cricket ground, which was first used in 1863. That part of the Domain also provided sports fields for Parramatta schools. On 25 October 1887 Lands Department staff surveyor Edward Ebsworth completed a survey of Parramatta Park and its boundaries that also included precise detail of the plantings, roads and improvements within the park (**Figure 14**). The fenced cricket ground north of the river was removed in 1902 and ornamental trees were planted. The racecourse was divided into three smaller ovals during the 1910s.

In 1939, a Rugby League Oval was built on Cumberland Oval north of the river taking over part of the park previously used by other organisations. On 28 November 1946, the Parramatta was admitted to the Rugby League competition (Kass et al. 1996: 403). The area of Parramatta Park devoted to Rugby league expanded (**Figure 16**). Parramatta Leagues Club received permission to use an area at the corner of Grose and O'Connell Streets for parking in June 1958 (Rosen 2003: 232). The Parramatta Memorial Swimming Centre was constructed alongside the Rugby League Oval. The first stage of the pool opened on 24 October 1959 (Kass et al. 1996: 405).

Parramatta Leagues Club requested a 10 year lease of the oval in 1963 and sought to make improvements (Rosen 2003: 232-3). The Parramatta Park Trust approved construction in February 1965 of a grandstand by the Leagues Club at the northern end of the Noller Pavilion (Rosen 2003: 233).

Other parts of the park were also taken for other purposes. In May 1965, an application by Parramatta Council to take a 12 feet wide strip along the Park to widen O'Connell Street was approved by the Park Trust Rosen 2003: 233). By 1965 a total of 40 acres of the park had been given over to private interests, mainly the Rugby League and golf clubs. The Leagues Club was intruding on part of the park used by the Cumberland Cricket Club. The swimming pool and parking for the pool and league oval had taken over the area used by the Marist Brothers School, Roman Catholic Convent and Rugby Union Club (Rosen 2003: 234) (**Figure 17**).

Parramatta Council became trustees of the park in September 1976 replacing the trustees appointed from the local community (Rosen 2003: 236). As park trustee, in October 1977, Council approved construction of additional parking over the League club car park, which was opened on 8 December 1978 by the Minister for Lands as a three-storey addition (Rosen 2003: 236). In October 1978, a proposal by the Leagues Club to build a new stadium aroused widespread public opposition, as well as opposition from the Lands, Police, Public Works and Main Roads departments (Rosen 2003: 244). The New South Wales Cabinet overrode all these objections and approved that proposal in a divisive cabinet meeting on 4 March 1981 (Rosen 2003: 245). By November 1982, after court cases, changes to the park legislation and widespread public support and opposition, the State Cabinet approved a reduced proposal. Construction was under way in late 1984 (Rosen 2003: 245). Parramatta Leagues Club requested a 99 year lease of the stadium site in 1998, but was given a 50 year lease despite the usual term for leases of public land being 45 years (Rosen 2003: 248).

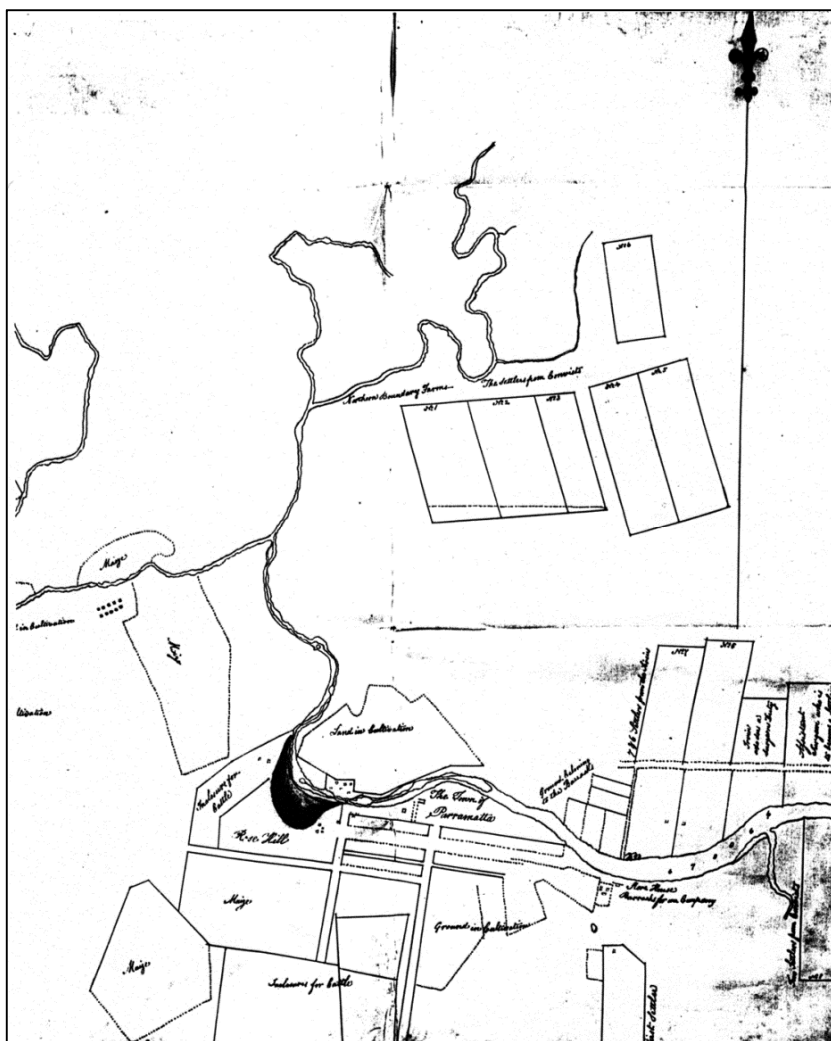


Figure 10 Map of Parramatta in the mid-1790s showing areas planted with crops. Note the farm buildings shown near the Study Area, which is shown as 'Land in cultivation' (Source: BT 36, ML)