# St Marys Development Site, Regional Detention Basins C and V6

## Aboriginal Cultural Heritage Assessment Report

**Report prepared for Lendlease**

**October 2020**

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## Report Register

The following report register documents the development and issue of the report entitled St Marys Development Site, Regional Detention Basins C and V6—Aboriginal Cultural Heritage Assessment Report, undertaken by GML Heritage Pty Ltd in accordance with its quality management system.

| Job No. | Issue No. | Notes/Description | Issue Date |
|---|---|---|---|
| 19-0397 | 1 | Draft report for client review | 31 March 2020 |
| 19-0397 | 2 | Draft report—revised, minor client comments | 15 April 2020 |
| 19-0397 | 3 | Final report | 20 October 2020 |

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The report has been reviewed and approved for issue in accordance with the GML quality assurance policy and procedures.

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# Executive Summary

GML Heritage Pty Ltd (GML) was engaged by the Maryland Development Company Pty Ltd (MDC)to prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the St Marys Development Site Regional Detention Basins C and V6 project.

This report forms part of the Environmental Assessment for the study area prepared under Part 4 of the NSW *Environmental Planning and Assessment Act 1979.*

The aims of this project are to:

- identify, assess and report on Aboriginal heritage values within the study area;
- involve the Aboriginal community in decisions with respect to its heritage;
- determine how the project may harm these values; and
- establish the mechanism for conservation and mitigation of harm to these values.

This ACHAR should be read in conjunction with the Aboriginal Archaeological Technical Report for this study area. The archaeological report details the results of the archaeological test excavation program, scientific assessment, impact assessment and mitigation and management recommendations for the project. This assessment identified low density Aboriginal stone based 'sites' in a surface and subsurface context inside the study area.

The cultural heritage assessment has confirmed the identification of social, aesthetic and scientific Aboriginal values associated with the study area. These values, including 11 Aboriginal archaeological sites, will be harmed by the proposed development.

It is recommended that prior to any 'harm' occurring to the Aboriginal objects identified inside the study area, the proponent should apply for an Aboriginal Heritage Impact Permit, under Section 90 of the *National Parks and Wildlife Act,* 1974. Further salvage archaeological works are not recommended. The Aboriginal community should be afforded the opportunity to collect further surface based stone artefacts, as present, prior to their impact by development works. All Aboriginal objects should be reburied in the designated location inside the study area.

| | |
|---|---|
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| **Address of subject area** | St Marys Development Site<br><br>*Street* Off Delany Circuit and Agnes Way<br>*Suburb* Jordan Springs *State* NSW *Postcode* 2747<br>*Title reference* parts of Lot 1 DP 1216994, Lot 4 DP1216994, and Lot 5 DP 1216994<br>*Local government area* Penrith |
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| **Date of Report** | October 2020 |
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This page complies with the 2011 *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW*, reproduced at Appendix D.

# 1.0 Project Background

## 1.1 Introduction

GML Heritage Pty Ltd (GML) has been engaged by Maryland Development Company Pty Ltd (MDC), on behalf of Lendlease, to prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Regional Detention Basins C and V6 project. MDC is proposing to construct two regional detention drainage basins in the northwest of the St Marys Development Site (SMDS), Penrith. The basin sites, Basin C and Basin V6 (collectively the 'study area'), adjoin the Jordan Springs precinct within the SMDS.

The project has been identified as a Designated Development under Section 78A of the *Environmental Planning and Assessment Act 1979* (NSW) (EPA Act). Environmental Assessment Requirements (SEARs No. 1360) have been issued for the project, including the requirement for:

> *Identification and description of the Aboriginal cultural heritage values that exist across the whole area that will be affected by the proposal. This may include the need for surface survey and test excavation. The identification of cultural heritage values must be conducted in accordance with the Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (OEH 2010), and should be guided by the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW 2011) and consultation with OEH regional branch officers.*

A development application (DA19/0810) was lodged with Penrith City Council on 22 November 2019. This included the submission of an Aboriginal Archaeological and Cultural Assessment Methodology (AACAM) prepared by GML (Appendix A). The AACAM contains a desktop assessment of the environmental and archaeological context of the study area to inform the potential for Aboriginal archaeological sites to be present. It also presented a methodology for consulting with Aboriginal people, including a field survey and program of archaeological test excavation in accordance with NSW Department of Planning, Industry and Environment (DPIE) guidelines.[1]

## 1.2 Project Description

The proposal involves the construction of two detention basins (Basins C and V6) to detain, treat and attenuate stormwater runoff from Village 3 and Village 6 in the Jordan Springs development. The basins are located within the northwestern extent of the SMDS and within the Wianamatta Regional Park. Basins C and V6 will be constructed wetlands and act as water quality improvement basins with the provision for active stormwater detention during high flows.

Basin C will have a surface area of approximately 1.8ha and a notional depth of 1.7m, and Basin V6 will have a surface area of approximately 0.3ha and a notional depth of 1.6m.

Each basin is designed to contribute to the water quantity and quality management objectives under the Sydney Regional Environmental Plan No. 30—St Marys (SREP 30) and Penrith City Council's (Council) Water Sensitive Urban Design Policy (December 2013). The basins will incorporate the features for both water quality treatment and detention, including a drainage inlet point, low-level culvert outlet, spillway with erosion protection and vegetated slopes to provide effective nutrient removal. An access track along the side of each basin, with ramps, will be constructed for regular inspection and maintenance access.

## 1.3 Project Area

The project area is located in the Wianamatta Regional Park, adjacent to Jordan Springs, approximately 50km west of the Sydney CBD (Figure 1.1). It is situated in the northwest area of the SMDS (Figure 1.2).

The site is bounded by Agnes Way and Delany Circuit to the north, and bushland to the south. It falls within the Penrith local government area and Londonderry parish (Figure 1.3) and covers parts of the following lots/DP:

- Lot 1/DP 1216994;
- Lot 4/DP 1216994; and
- Lot 5/DP 1216994.

## 1.4 Objectives of this Aboriginal Cultural Heritage Assessment

Our objectives for the assessment were to:

- identify and consult with local Aboriginal community members who can speak for Country;
- understand and record Aboriginal heritage places and values, and determine whether these are part of a larger Aboriginal cultural landscape and/or Aboriginal traditions;
- involve the local Aboriginal community in the cultural heritage values assessment process, and determine best practice options for the future management of the identified Aboriginal cultural heritage;
- determine how the proposed project may impact the identified Aboriginal cultural heritage values, and aim to minimise impacts through sensible and pragmatic site and land management; and
- provide clear recommendations for the conservation of Aboriginal heritage values and relevant impact mitigation strategies that benefit both Aboriginal cultural heritage and the proponent.

## 1.5 Development Controls

In NSW, Aboriginal heritage is principally protected under two Acts:

- the *National Parks and Wildlife Act 1974* (NSW) (NPW Act); and
- the *Environmental Planning and Assessment Act 1979* (NSW) (EPA Act).

### 1.5.1 National Parks and Wildlife Act 1974

The NPW Act provides statutory protection for all Aboriginal 'objects' (consisting of any material evidence of the Indigenous occupation of New South Wales) under Section 90 of the NPW Act, and for 'Aboriginal Places' (areas of cultural significance to the Aboriginal community) under Section 84 of the NPW Act. Aboriginal objects and places are afforded automatic statutory protection in New South Wales whereby it is an offence (without the Minister's consent) to harm an Aboriginal object or declared Aboriginal place.

The NPW Act defines an Aboriginal object as:

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

The protection provided to Aboriginal objects and places applies irrespective of the level of their significance or issues of land tenure. Sites of traditional significance that do not necessarily contain material remains may be gazetted as 'Aboriginal Places' and thereby be protected under the NPW Act.

However, areas are only gazetted if the Minister is satisfied that sufficient evidence exists to demonstrate that the location was and/or is of special significance to Aboriginal culture.

A strict liability offence applies for harm to or desecration of an Aboriginal object or declared Aboriginal Place. [2] The definition of 'harm' includes destroying, defacing, damaging or moving an Aboriginal object or declared Aboriginal Place. The strict liability offence of harming Aboriginal objects has a number of defences. The two defences relevant to the proposed development are:

- the statutory defence of due diligence through complying with an adopted industry code; or
- compliance with the conditions of an Aboriginal Heritage Impact Permit (AHIP).

The potential for Aboriginal objects, sites, places and/or values within the study area, and for the proposed development to impact such objects, has been assessed and the results presented in this report.

### 1.5.2 Environmental Planning and Assessment Act 1979

The EPA Act provides a statutory framework for the determination of development proposals. It provides for the identification, protection and management of heritage items through inclusion in schedules to planning instruments such as Local Environmental Plans (LEPs) or Regional Environmental Plans (REPs). Heritage items in planning instruments are usually historical sites but can include Aboriginal objects and places. The EPA Act requires that appropriate measures be taken for the management of the potential archaeological resource by means consistent with practices and standards adopted in meeting the requirements of the NPW Act.

The study area is in the Penrith City Council LGA and comes under the Penrith LEP. It is zoned as a Non Standard Zone. There are no items within the study area currently listed as heritage items.

### 1.5.3 Aboriginal Heritage Guidelines

In NSW, Aboriginal heritage assessment and management is underpinned by several guidelines and policies. Our approach is based on the following guidelines:

- *Guide to Determining and Issuing Aboriginal Heritage Impact Permits*, 2009;[3]
- *Operational Policy: Protecting Aboriginal Cultural Heritage*, 2009;[4]
- *Aboriginal cultural heritage consultation requirements for proponents*, *2010*;[5]
- *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW*, 2010 (the Due Diligence Code);[6]
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales,* 2010 (the Code of Practice);[7]
- *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW*, 2011;[8]
- the *Australia ICOMOS Burra Charter*, 2013 (the Burra Charter).[9]

### 1.5.4 The Burra Charter Process

The Burra Charter (Article 6) outlines a three-stage process for the assessment and management of heritage. The three stages are to:

1. develop an understanding of heritage significance;

2. develop policy that is appropriate to the significance; and

3. undertake management in accordance with the policy.

The Burra Charter's explanations for heritage are the basis for definitions used in this report. The Burra Charter's Indigenous Practice Note provides further guidance for application of the Burra Charter to Aboriginal heritage. We have used the following definitions:

*Article 1.1—Place*

*Place means a geographically defined area. It may include elements, objects, spaces and views. Place may have tangible and intangible dimensions.*[10]

*'Place' includes locations that embody spiritual value (such as Dreaming places, sacred landscapes, and stone arrangements), social and historical value (such as massacre sites), as well as scientific value (such as archaeological sites). In fact, one place may be all of these things or may embody all of these values at the same time.*[11]

*Article 1.2—Cultural Significance*

*Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects. Places may have a range of values for different individuals or groups.*[12]

*Article 1.10—Use*

*Use means the functions of a place, including the activities and traditional and customary practices that may occur at the place or are dependent on the place.*[13]

*Article 1.11—Compatible Use*

*Compatible use means a use which respects the cultural significance of a place. Such a use involves no, or minimal, impact on cultural significance.*

*Article 8—Setting*

*Conservation requires the retention of an appropriate setting. This includes retention of the visual and sensory setting, as well as the retention of spiritual and other cultural relationships that contribute to the cultural significance of the place.*[14]

*Places of significance to Indigenous people require a holistic approach to 'setting'. 'Setting' may encompass the broadest of experiential factors including a sense of 'intrusion' occasioned when people of the 'wrong' gender, age or level of initiation trespass on defined areas, as well as auditory and visual intrusion.*

*For some Indigenous peoples, nature and culture are indivisible. The social significance and spiritual significance of a place for Indigenous people may be wholly or partly dependent on the natural environment that the place forms a part of, including aspects such as biodiversity, and totemic and resource species.*[15]

## Application to the Current Assessment

To implement the Burra Charter process, we have undertaken the following steps:

*Step 1—Understand the Place*

This involved investigation into the background environment, archaeology, history and literature. Field survey and archaeological test excavation was undertaken in collaboration with the Aboriginal community. The outcome of the Step 1 investigations was the development of plans that identify the

known Aboriginal sites, places and values connected to the study area. The approach followed the notion that the study area is part of an Aboriginal cultural landscape, and the study area represents a small zone within this landscape.

*Step 2—Assess Cultural Significance*

A preliminary indication of cultural significance considered aesthetic, historic, scientific and social aspects of the study area. This preliminary assessment of value should be used for future assessments, noting both that 'cultural significance may change'[16] and 'tangible heritage should not be emphasised at the expense of intangible heritage'.[17]

*Step 3—Identify Factors and Issues*

The results from Steps 1 and 2 were used to identify key future management factors and/or issues. The issues and factors define future needs, opportunities and constraints connected with compatible future use.

*Step 4—Develop Policy*

The outcome from Step 3 was applied to develop appropriate management policy, in consultation with the Aboriginal community and in accordance with relevant NSW statutory processes.

## 1.6 Who Undertook the Project

This project has been undertaken by the following people. Each person's role and affiliations are detailed.

**Table 1.1** Investigators and Contributors.

| Person | Affiliation | Role |
|---|---|---|
| Sophie Jennings | GML | Project Manager, Excavation Director, Report Author |
| Hannah Morris | GML | Secondary Excavation Director |
| Dr Tim Owen | GML | Project Director, Technical Review |
| Shezani Nasoordeen | Subconsultant | Lithics Analyst |
| Elise Jakeman | N/A | Field Archaeologist |
| Yolanda Pavincich | N/A | Field Archaeologist |
| Rebecca Vartto | N/A | Field Archaeologist |
| Peter Woodley | N/A | Field Archaeologist |
| Raymond Adams | Kamilaroi-Yankuntjatjara Working Group | Registered Aboriginal Party |
| Tylah Blunden | Darug Custodian Aboriginal Corporation | Registered Aboriginal Party |
| Martin Bradshaw | Barking Owl Aboriginal Corporation | Registered Aboriginal Party |
| Krystle Carroll | Ginninderra Aboriginal Corporation | Registered Aboriginal Party |
| Amanda DeZwart | Amanda Hickey Cultural Services | Registered Aboriginal Party |

| Person | Affiliation | Role |
|---|---|---|
| Nicholas DeZwart | Amanda Hickey Cultural Services | Registered Aboriginal Party |
| Jamie Gibbs | Deerubbin Local Aboriginal Land Council | Registered Aboriginal Party |
| Adam Gunther | Kamilaroi-Yankuntjatjara Working Group | Registered Aboriginal Party |
| Steven Hickey | Widescope Indigenous Services | Registered Aboriginal Party |
| Paul Hunter | Kamilaroi-Yankuntjatjara Working Group | Registered Aboriginal Party |
| Belinda Jackson | Kamilaroi-Yankuntjatjara Working Group | Registered Aboriginal Party |
| Ryan Johnson | Murra Bidgee Mullangari Aboriginal Corporation | Registered Aboriginal Party |
| Adam King | Ginninderra Aboriginal Corporation | Registered Aboriginal Party |
| Steven Knight | Deerubbin Local Aboriginal Land Council | Registered Aboriginal Party |
| Jody Kulakowski | Barking Owl Aboriginal Corporation | Registered Aboriginal Party |
| Justin Lawlis | Kamilaroi-Yankuntjatjara Working Group | Registered Aboriginal Party |
| Brayden McDougall | A1 Indigenous Services | Registered Aboriginal Party |
| Storm McEwen–Gillespie | Deerubbin Local Aboriginal Land Council | Registered Aboriginal Party |
| Shelley Weldon | Deerubbin Local Aboriginal Land Council | Registered Aboriginal Party |
| David Whitten | Deerubbin Local Aboriginal Land Council | Registered Aboriginal Party |
| Jonathon Whitten | Deerubbin Local Aboriginal Land Council | Registered Aboriginal Party |


**Figure 1.1** Location of the project area within NSW. (Source: SIX Maps, with GML additions, 2019)

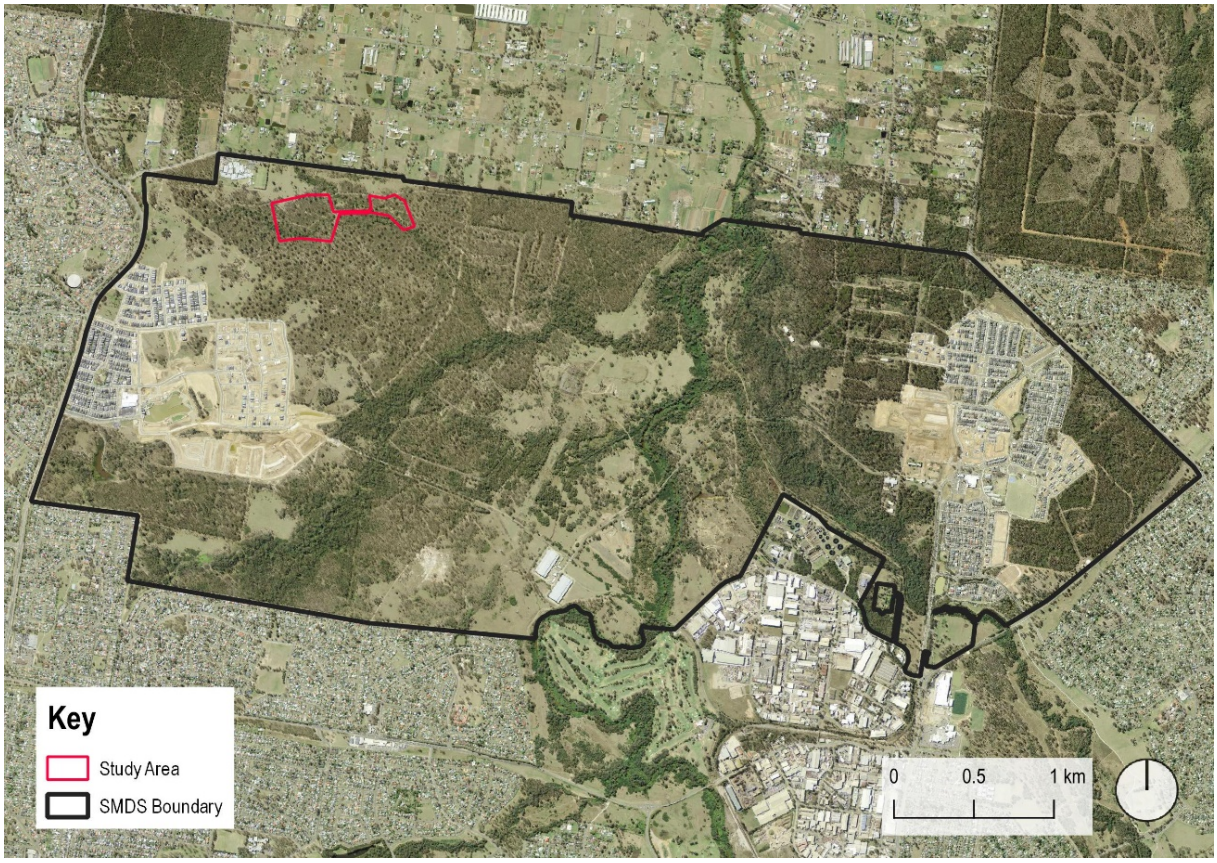


**Figure 1.2** Location of the study area (outlined in red) in relation to the SMDS (outlined in black). (Source: NSW Land and Property Information [LPI] with GML additions, 2019)

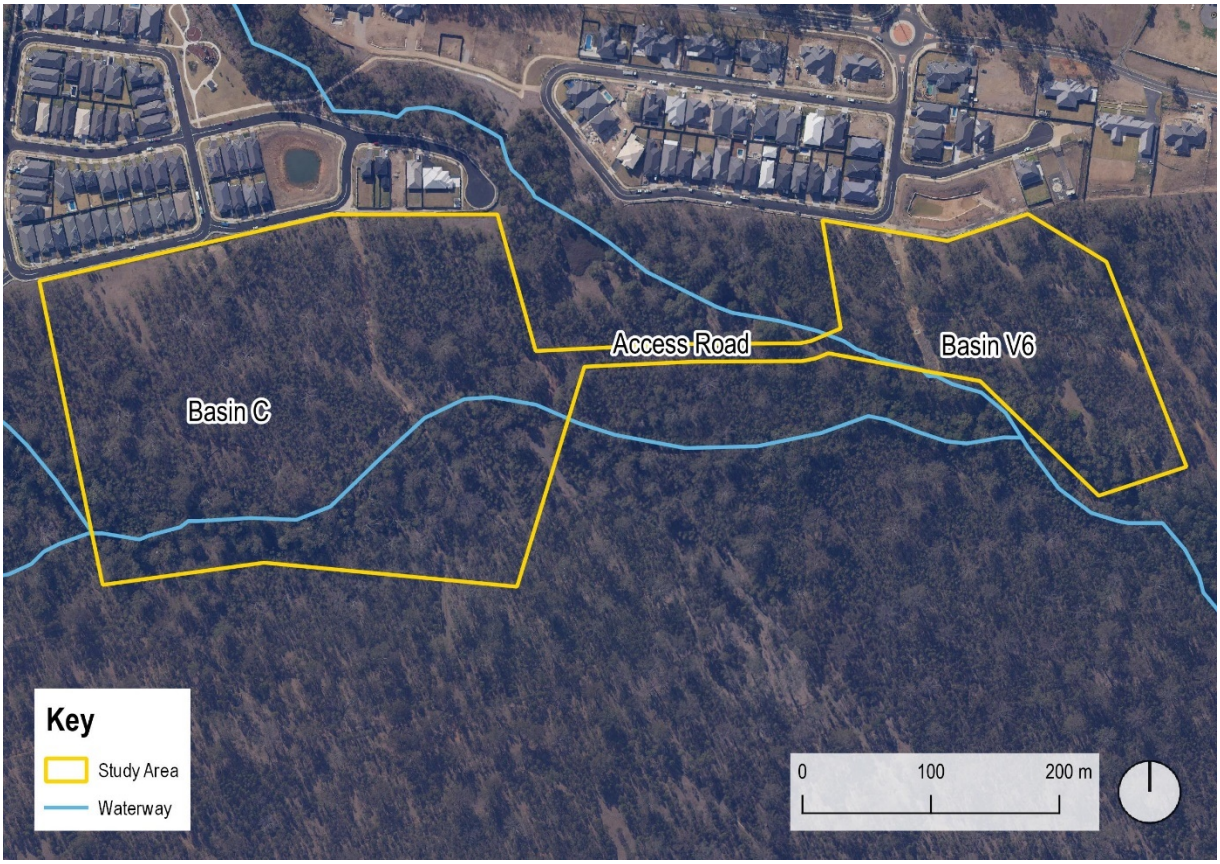


**Figure 1.3** Plan showing the area assessed in this report (outlined in yellow) with the basin locations indicated. (Source: NSW LPI with GML additions 2019)

# 2.0 Consultation with the Local Aboriginal Community

## 2.1 Introduction

Aboriginal community consultation is required for any assessment of Aboriginal heritage in order to make a valid assessment of Aboriginal (heritage) 'values', especially those memories and stories that connect Aboriginal people to their traditional lands or Country. Aboriginal people frequently express an enduring connection to Country, a connection that transcends generations, both past and present. The connection is frequently expressed as a sense of belonging, which may manifest through physical objects or place. Alternatively, it may be presented as an intangible idea, where an appreciation of an unseen quality or non-materialistic value connects a place in the landscape, tradition, observance, custom, lore, belief and/or history to the person or group describing the item, event or value. The notion of intangible, social, or community values is essential to Aboriginal people as 'the effective protection and conservation of this heritage is important in maintaining the identity, health and wellbeing of Aboriginal people'.[18]

In order to gather social and community views with respect to Aboriginal heritage, and to identify and address Aboriginal heritage values, the DPIE requires proponents to adhere to the guideline document *Aboriginal cultural heritage consultation requirements for proponents 2010.*[19] In addition to providing a mechanism for engaging the Aboriginal community, the directives in the guidelines must be followed for any study that might eventually be used to support an application for an AHIP under Part 6 of the NPW Act.

GML acknowledges the continuing Indigenous ownership of traditional knowledge, cultural expressions, practices and innovations—and associated intellectual property rights—in the materials provided by Aboriginal and Torres Strait Islander people on which research and assessments in our reports may be based. We endeavour to protect the privacy, integrity and wellbeing of participants in this research.

## 2.2 The Process of Consultation

These consultation guidelines set out a process involving identification, registration, engagement and consultation with Aboriginal peoples who may hold cultural knowledge relevant to determining the significance of an Aboriginal object and/or place.

Adherence with guidelines involves following a number of stages:

1. Informing Aboriginal people about the nature and scope of the proposal.
2. Understanding what might be present in the landscape and its cultural significance.
3. Determining the potential impacts and the proposed strategies to deal with them.
4. Reviewing the report.[20]

Aboriginal groups are invited to register interest as a party to consultation. This includes placing local press advertisement(s) seeking responses from the Registered Aboriginal Parties (RAPs) on the proposed assessment methodology, and providing RAPs an opportunity to comment on the assessment reports and recommendations. The guidelines specify timeframes for each stage of the consultation process. Further details pertaining to these stages are described below.

The Aboriginal community consultation for this project has been carried out in accordance with the OEH guideline. This section contains specific details of Aboriginal community consultation with regard to the heritage assessment of the study area to date.

### 2.2.1 Stage 1: Notification of Project

The aim of Stage 1 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 area of the proposed project'.[21] The identification process involves:

- sending letters to select government agencies to determine relevant Aboriginal stakeholder groups to contact; and
- placing notices in local press, inviting Aboriginal people who hold relevant cultural knowledge to register in the process of community consultation.

A letter notifying all Aboriginal people and the Deerubbin Local Aboriginal Land Council (LALC) about the proposed project must be sent to each individual and group identified through the above stages. Aboriginal people have a minimum of 14 days after the letter is sent or the notice published in the newspaper to register an interest in the project.

The outcome of Stage 1 is a list of Aboriginal people who have registered to be involved in consultation. These are the project's RAPs. The RAPs are to be involved for the remainder of the project; consultation with Aboriginal groups or persons outside of RAPs is not required.

Letters requesting contact details for Aboriginal people or organisations who may hold cultural knowledge and may identify heritage issues relevant to the study area were sent via email on 2 October 2019 to:

- the DPIE;
- Deerubbin Local Aboriginal Land Council;
- Office of The Registrar, Aboriginal Lands Right Act 1983 (NSW);
- National Native Title Tribunal;
- Native Titles Service Corporation;
- Penrith City Council; and
- the Greater Sydney Catchment Management Authority (Greater Sydney Local Land Service).

Responses were received from the following groups:

- the DPIE;
- Office of The Register, *Aboriginal Lands Right Act 1983* (NSW); and
- National Native Title Tribunal.

Those Aboriginal people identified as having cultural knowledge relevant to the project area were contacted via letter on 16 October and 24 October 2019, providing information regarding the project and inviting them to register an interest.

A notification was also placed in the *Penrith Press* on 2 October 2019, inviting registrations of interest.

### The Project's Registered Aboriginal Parties

Following DPIE guidelines[22], and in line with the outcomes of Stage 1, the project's RAPs are:

- Widescope Indigenous Group;
- Goodradigbee Cultural & Heritage Aboriginal Corporation;
- Darug Custodian Aboriginal Corporation;
- Deerubbin LALC;
- Didge Nhunawal Clan;
- Kamilaroi Yankuntjatjara Working Group;
- A1 Indigenous Services;
- Barking Owl Aboriginal Corporation;
- Aragung Aboriginal Cultural Heritage Site Assessments;
- Ginnginderra Aboriginal Corporation;
- Murra Bidgee Mullangari Aboriginal Corporation; and
- Amanda Hickey Cultural Services.

A copy of the notification and the details of registered Aboriginal parties were provided to DPIE and the LALC on 12 November 2019.

### 2.2.2 Stage 2: Presentation of Information

A letter was sent to all RAPs informing them of the project outline, impacts, timeline and milestones. It included a methodology for undertaking the project's assessment and a request for any information on culturally sensitive areas of local traditional knowledge relating to the study area. Stage 2 allowed 28 days for the RAPs to respond.

Each RAP group was provided with written details of the proposed project and a test excavation strategy (Archaeological Research Design [ARD]) by post and email. Comments were received from the Darug Custodian Aboriginal Corporation on the proposed excavation methodology. Both the comments and GML's response were presented in Section 4.8.1 of the ARD.

### 2.2.3 Stage 3: Gathering Information—Field Work

During the assessment process, we discussed local Aboriginal heritage values, places and sites with the community representatives. All participants were involved in identifying Aboriginal objects, recording sites and determining the potential archaeological extent of deposits. At the completion of the survey and archaeological excavations an open discussion was held, during which the objects recorded, the archaeological potential and outcomes from test excavation was discussed and agreed on by all present. The outcomes of this consultation underwrite this heritage assessment.

### 2.2.4 Stage 4: Review of Draft Report

The consultation process for the St Marys Basins C and V6 project has provided an opportunity for RAPs to make an informed comment on the cultural significance of the project area. The draft ACHAR was issued to RAPs on 20 April 2020 with a 28-day review period for comments ending on 18 May 2020. Table 2.1 presents a summary of comments received from RAPs on the draft ACHAR. Copies of responses are presented in Appendix B.

**Table 2.1** RAP Comments on ACHAR with Respect to Cultural Heritage Values Within or Associated with the Study Area.

| # | RAP | Date of Submission | Format | Comment |
|---|---|---|---|---|
| 1 | Darug Custodian Aboriginal Corporation | 23 April 2020 | Letter (via email) | "We have received the Draft report for St Marys Basins C and V6 project, Within this document the amount of groups for consultation is high with many groups not from this area, we do not support personal profit groups and also do not support any input that they have into the recommendations. |
| 2 | Kamilaroi-Yankuntjatjara Working Group | 8 May 2020 | Email | "we agree and support your recommendation regarding the St Marys Basin Project". |
| 3 | Murra Bidgee Mullangari | 12 May 2020 | Email | "I have read the project information and draft archaeological cultural heritage reports for the above project, I endorse the recommendations made." |

# 3.0 Understanding the Project Area

The purpose of this section is to provide contextual information to inform our understanding of Aboriginal occupation, use and connections within the project area. This section is separated into the following parts:

- Section 3.1 identifies the traditional Aboriginal connections with the project area;
- Section 3.2 provides an overview of the existing environmental setting;
- Section 3.3 presents the outcomes of relevant prior Aboriginal heritage work; and
- Section 3.4 outlines a predictive model of the archaeological potential for the study area that synthesises the information from Sections 3.1 to 3.3.

## 3.1 The Darug Aboriginal People

The SMDS, as with much of the Cumberland Plain, was part of the territory of the Gomerigal clan of the Darug (various spellings including Dharug, Dharrook, Dharruk, Dhar-rook) people. They were present on the land for thousands of years prior to European colonisation, which inscribed the land with a different pattern and form.[23] The Darug was a language group that represented a number of different groups of people who occupied the Sydney basin, from the coast between South Head and the north shore of Botany Bay out to the edge of the Blue Mountains. Within this area there were approximately 20 different bands, each having a different territory, boundaries and sacred spaces.[24]

The eastern part of the SMDS is traversed by two major watercourses (Ropes Creek and South Creek) and the resulting floodplain would have created wetlands and river terraces, providing a range of food resources (associated with the varied ecological communities) and raw materials for tools, shelters, clothes and other purposes. The Darug people used the landscape seasonally, and formed open campsites on the higher ground with ready access to numerous natural water sources present across the land in association with Ropes and South creeks. Campsite locations were seasonally occupied based on the abundance of food and climatic conditions. The surrounding plains provided native animals and vegetable foods and other resources including timber and leaves, natural gums and resins that were used for a range of implements and tasks. The Darug fired areas within their traditional Country to maintain a clear and open understorey. This encouraged the fruiting of plants and the growth of fresh herbage for animals to graze. Kangaroos, emus, snakes, bandicoots, possums and other game foods would have been eaten. Roots and tubers, including yams, would have been dug along the creeks and roasted in open campfires.

Stone was a vital material used for many traditional purposes and its distribution in the landscape played a role in determining people's movements, as well as patterns of trade and exchange with other language groups.[25] Silcrete was the dominant stone material used in the manufacture of the stone tools in the region. However, the Darug people also utilised other locally available stone such as silicified tuff, chert and quartz. The prevalence and use of stone materials, along with the mode of working, changed over the course of the Holocene—these changes can be used to understand and temporally separate assemblages.[26]

It is likely that the Darug clans of the Cumberland Plain had the rights to the natural resources that occurred in their respective Country.[27] As such, the silcrete quarry located within the former Eastern Precinct of the SMDS, and the acquisition and use of the silcrete from this location, may have been

subject to the control by members of the South Tribe Gomerigal clan. Archaeologically, there are distinct patterns of stone access and consequent use either side of South Creek.[28]

The SMDS contains a number of natural features that would have provided resources to Aboriginal people in terms of subsistence, social and/or ceremonial activities. These include:

- the confluence of South Creek and Ropes Creek;
- numerous lower order tributaries from both South and Ropes creeks that flow through the SMDS;
- varying vegetation cover and type, providing food resources (ie hunting areas or locations to gather food); and
- proximity to raw material sources (silcrete) for the manufacture of stone artefacts.

Oral history collection and consultation with the Darug Aboriginal people currently residing in Western Sydney for the development of the CMP for the Wianamatta Regional Park has noted that a concentration of significant historical/contact period landscapes is present between South and Ropes creeks, to the northeast of the Central Precinct.[29]

## 3.2 Environmental Setting of the Project Area

The project area's 'environment' forms a component of the Darug traditional lands and Country. An understanding of the environment through its geology, soils, landforms, water and ecology is important to understand the context of long-term Aboriginal connections to the land. Combining basic environmental information with the history and contemporary connections described by Aboriginal people starts to provide an understanding of the local and regional cultural landscape. Describing and mapping the landscape contextualises the physical data, and underpins intangible connections inherent in most Aboriginal cultural landscapes. An overview of the baseline datasets for geology, soil, landforms, water, the climate and ecology is provided in this section.

A detailed analysis of the study area's environmental setting is presented in Appendix A. This section summarises the key aspects that pertain to an understanding of the environmental and landscape setting.

### 3.2.1 Geology and Soil Landscapes

The SMDS overlies two main soil landscapes—Luddenham and South Creek soils. Basins C and V6 are both located on the Luddenham soil landscape,[30] a residual soil developed from in situ weathering of the underlying Wianamatta Group shales, often associated with Minchinbury Sandstone. To the east of Basin V6, following the main watercourse, is the South Creek soil landscape. The mapped extent of the soil profile is representative of the creek's floodplains that bisect the SMDS.

### 3.2.2 Landforms

The study area is located at the base of a series of hills to the west and south. To the east of the study area, the landscape flattens out into the floodplains associated with South Creek and Ropes Creek. Basin C is characterised by flats adjacent to a second-order creek. The southern margin of the study area around Basin C encompasses an area of lower hillslopes. Basin V6 lies within the valley associated with the creek to the south. The area is relatively flat, with a slight rise to the west.

### 3.2.3 Water Resources

The availability of water has significant implications for the range of resources available and the suitability of an area for human occupation. The study area is located west of South Creek, the major creek network on the Cumberland Plain, which bisects the SMDS. Basins C and V6 cross two second order creeks that flow eastwards towards South Creek. An ephemeral unnamed second order creek flows west to east through the study area and directly through Basin C. A further ephemeral second order creek flows northwest to southeast between the proposed locations of Basin C and V6, confluencing with the aforementioned second order creek immediately outside the southeast boundary of the study area.

### 3.2.4 Ecology

The SMDS is located within the Cumberland Plain Woodlands. It would have originally comprised open woodland (eg Forest Red Gum) with closed woodland (eg Paperbark, Swamp Oak) along the creek margins. Today, the study area is within native Shale Plains Woodland vegetation, with freshwater wetland vegetation and introduced species along the creek margins.

### 3.2.5 History of the Recent Land Use

The SMDS has been subject to extensive land modification, notably during the 1940s and 1950s, associated with the former Australian Defence Industries (ADI) site. Construction of the ADI site involved extensive vegetation clearance, redirection of creeks, construction of access tracks and large-scale earthworks. Historical aerials, discussed in detailed in Section 2.2.5 of the ARD, show that these activities occurred largely south of the study area. Recent land use impacts, associated with construction of the adjacent Jordan Springs residential areas and establishment of the Wianamatta Regional Park, have resulted in localised disturbance, mainly at Basin V6.

Basin V6 has been heavily disturbed by landscaping and the construction of drainage systems. Landscaping in the eastern half of the study area has likely disturbed the upper layers of soil. The potential for intact archaeological deposits on the surface or upper layers of soil is predicted to be low to nil. Moreover, the deep and extensive drainage pits along the western boundary of the study area will likely have entirely removed both surface and subsurface archaeological deposits. These statements regarding the integrity of the Basin V6 site will be verified through the program of archaeological test excavation (see also Section 6.3).

The construction of the haul road also lowers the potential for archaeological deposits along the road between Basins C and V6. While some artefacts have been identified on the road surface, these will have been displaced from their original location due to the landscaping required to clear the road and continued vehicular disturbance. While they are evidence of Aboriginal occupation in the vicinity, these deposits are not considered to be intact deposits. Artefacts recovered on either side of the road itself may contain intact archaeological deposits.

Historical aerials show that the area of Basin C was cleared of vegetation prior to the mid-1950s and several access tracks have been cut through the site. During a site visit completed in December 2019 (see Section 4.0), we also identified localised areas of disturbance, including earthen bunds likely from the ADI phase. Outside of these locations, the area appears to be moderately intact.

### 3.2.6 Summary of the Local Environment

Figure 3.1 presents a synthesis of the environmental setting of the study area.

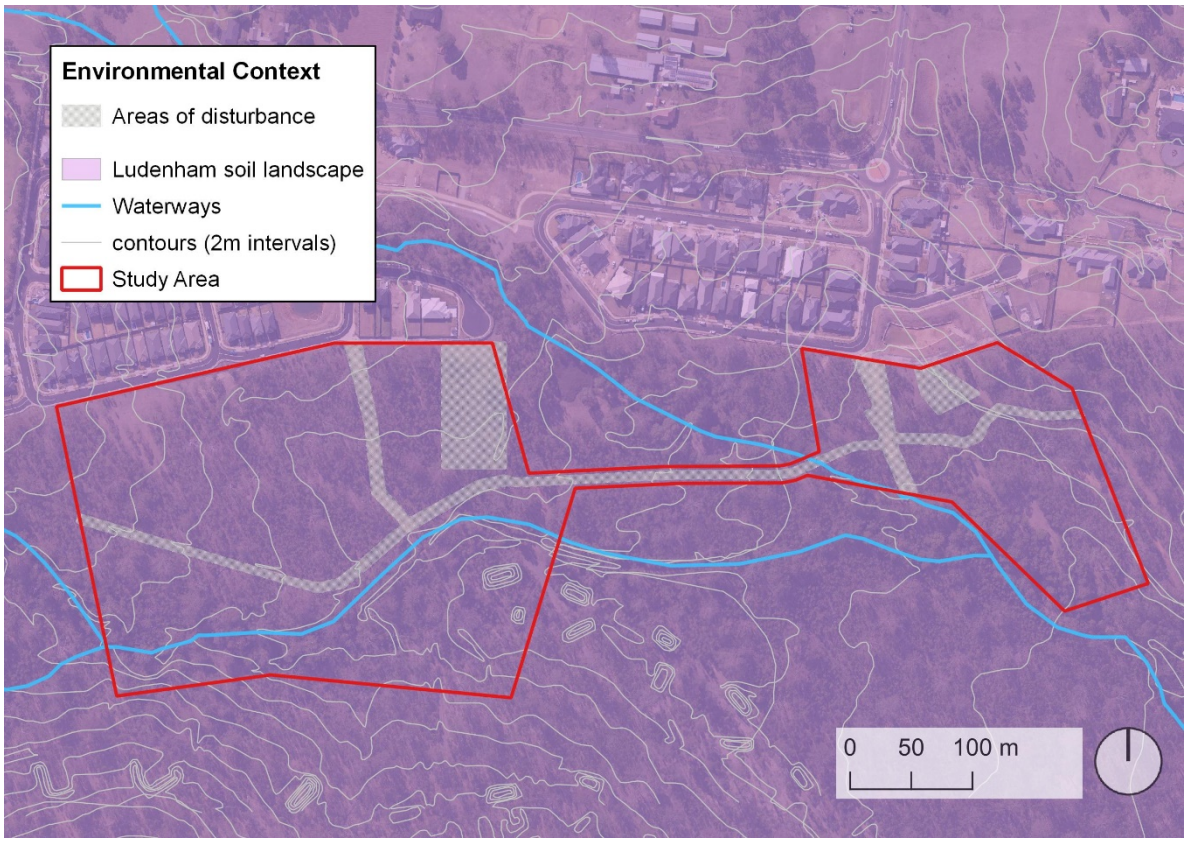


**Figure 3.1** Environmental setting of the study area, including creeks, soil landscape and contour data. Contour intervals are at 2m. (Source: NSW LPI with GML additions)

## 3.3 Previously Identified Aboriginal Heritage

### 3.3.1 AHIMS Register

A search of the DPIE Aboriginal Heritage Information Management System (AHIMS) database of an area 4.5 km (north to south) by 5.1 km (east to west) was undertaken on 30 September 2019. The results of the search are shown in Figure 3.2. The search identified 113 recorded Aboriginal sites. An overview of the AHIMS results are shown in Table 3.1, Figure 3.2 and Figure 3.3. The sites fell into four categories—artefact sites (meaning multiple stone artefacts in a landscape location), isolated finds (single stone artefacts unconnected with a bigger site), Potential Archaeological Deposits (PADs) (locations with a yet to be proven subsurface archaeological expression), and PADs with isolated finds. The majority of sites within the search area are classified as artefact sites, sometimes referred to as open campsites in the AHIMS database and literature. The second most frequent type of site was isolated finds. Five of these isolated finds have been interpreted as being part of a PAD, meaning there is the potential for further artefacts to be recovered through archaeological investigation of subsurface deposits.

**Table 3.1** Results of the AHIMS Search.

| Site Feature | Frequency | Percentage (%) |
|---|---|---|
| Artefact Site | 70 | 62 |
| Isolated Find | 35 | 31 |
| Isolated Find and PAD | 5 | 4 |
| PAD | 3 | 3 |
| **Total** | **113** | **100** |

The general patterning of Aboriginal sites in the local area shows a wide spread of sites across the SMDS. There is a strong association with South Creek and its tributaries, some of which run through the study area.

*Basin C*

The AHIMS search identified two sites registered within Basin C. The artefact site (AHIMS No. 45-5-3610) was recorded as an open artefact scatter containing eight lithics (Figure 3.3). As a result, more artefacts will be potentially located on the surface of the area within the Basin C footprint. The presence of stone artefacts on the surface is typically the result of soil erosion, particularly in areas stripped of vegetation.

A second open artefact scatter (AHIMS No. 45-5-3609) is located in the southwest corner of Basin C. The open artefact scatter only contained two artefacts. However, the scatter may be considered in conjunction with an isolated find (AHIMS No. 45-5-3608) only 150m to the west and the aforementioned scatter within Basin C. These two sites are in locations that have been subject to minimal historical disturbance. They are located on the northern bank of the second order creek, and potentially relate to occupation activities on flats adjacent to the creek.

The landscape position of these sites are within the 50m zone that Jo McDonald Cultural Heritage Management (JMcDCHM) suggested contains higher potential for archaeological evidence.[31] In summary, when contrasted against other similar landscapes within the SMDS it is likely that the 50m zone on either side of the creek will retain archaeological evidence of Aboriginal activities.

*Basin V6*

No archaeological sites have been recorded within the Basin V6 boundary. However, the location of the second order tributary river is only approximately 35m to the south of the southern boundary of the study area. As a result, the potential for archaeological sites such as open artefact scatters are highest in the southern half of the Basin V6 boundary. The closest recorded artefact site (AHIMS 45-5-3587) was subject to archaeological test and salvage excavation in 2014 as part of the Jordan Springs redevelopment (WP1).[32]

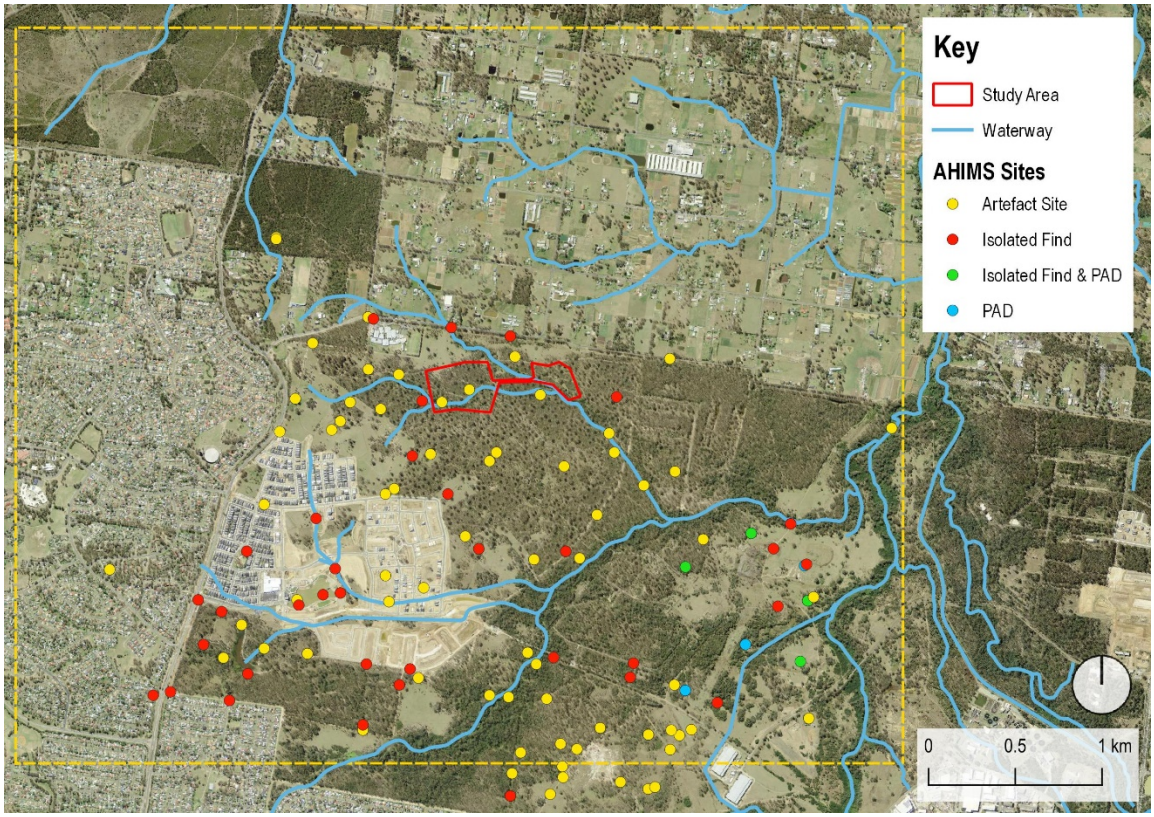


**Figure 3.2** DPIE AHIMS results for the landscape surrounding the study area. (Source: DPIE, with GML additions, 2019)

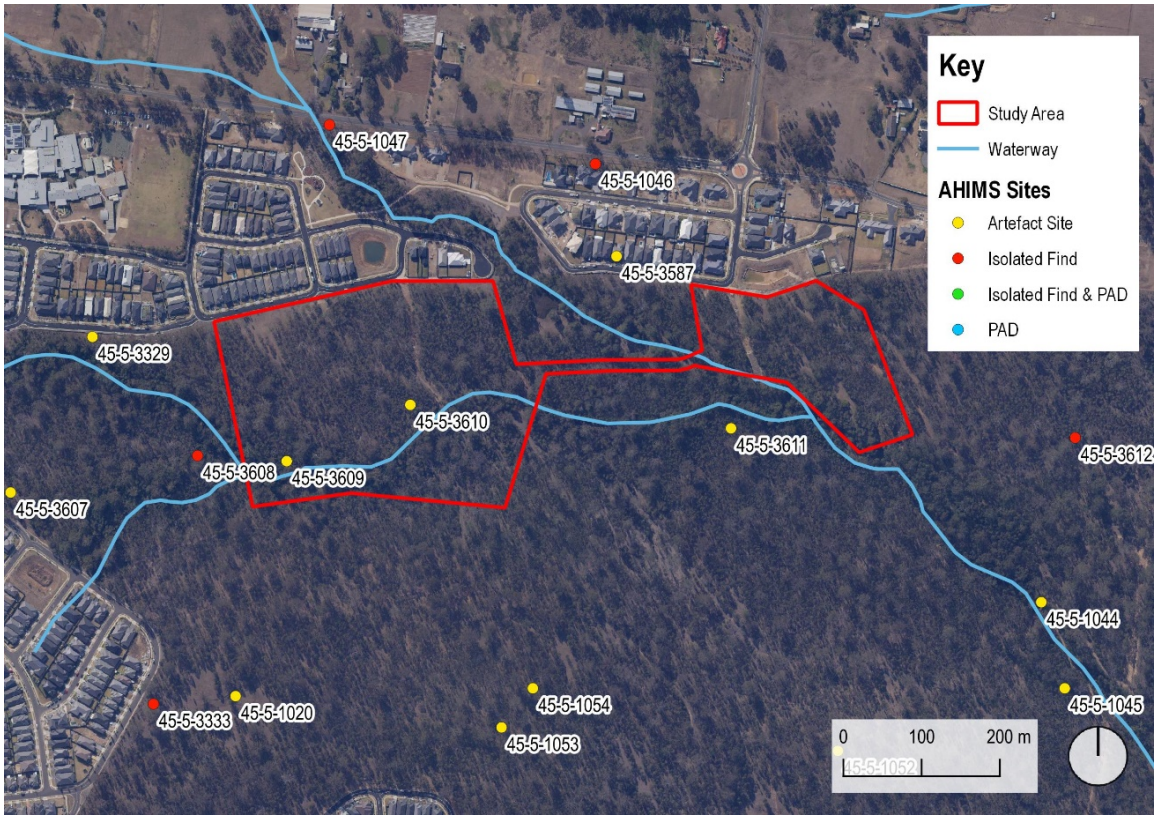


**Figure 3.3** Detail of DPIE AHIMS sites directly surrounding the study area. (Source: DPIE, with GML additions, 2019)

### 3.3.2 Previous Heritage Investigations

The project area is located in a region that has been subject to extensive prior Aboriginal heritage assessment. A review of key local Aboriginal archaeological and heritage reports has been undertaken and is provided in Appendix A. A summary of relevant prior Aboriginal reporting is provided in Table 3.2. The location of these studies with reference to the project area is shown in Figure 3.4.

**Table 3.2** Summary of Relevant Prior Aboriginal Heritage Reports.

| Author / Year | Report | Relationship with Study Area | Outcomes |
|---|---|---|---|
| JMcDCHM 1997a[33] | Interim Heritage Management Report | Investigated area to the east of the present study area. | Found locations of potential silcrete (raw material) extraction within the SMDS. |
| JMcDCHM 1997b[34] | St Marys ADI Test Excavation | Excavated 113 test pits across five sample areas within the SMDS. The closest were 700m southeast of Basin C and 500m from Basin V6. | A total of 3,461 stone artefacts were recovered across 113 test pits. In the areas nearest Basins C and V6, 321 artefacts were recovered from 33 test pits. |
| JMcDCHM | Sites ADI 47+48 Salvage Excavation | Excavation of 42 test pits and salvage excavation of two areas located 200m northwest of the present study area. | A total of 216 stone artefacts were recovered from the testing program and a further 4,841 artefacts were recovered from the open area salvage excavation covering a total of 193m$^2$. The artefacts were located along an east-facing ridgeline that are interpreted as representing many short-term occupation events of the area. |
| JMcDCHM 2004,[35] 2005,[36] 2006[37] | Fauna Fence Survey | Field surveys along a stretch of the Fauna Fence Line. The area surveyed passed through the study area, and to the north. | Six open artefact scatters, three isolated finds, one open artefact scatter and PAD, and one PAD were recorded. The artefact scatter and PAD (AHIMS No. 45-5-3609), located less than 25m from the southwestern extent of Basin C, contains moderate to high potential for further archaeological remains. The PAD (AHIMS No. 45-5-2610) was located within the Basin C footprint. |
| JMcDCHM 2009[38] | Jordan Springs WP3 and WP4 Salvage Excavation | Salvage excavation of Jordan Springs, located directly north of the present study area. | Eighty test pits, with additional open areas, were excavated. A total of 2,355 cultural lithics were recovered. Of these, 1,976 lithics met the technical criteria to be classified as artefacts. |
| GML + JMcDCHM 2012[39] | Jordan Springs WP5 Salvage Excavation | Salvage excavation of Jordan Springs, located directly east of the present study area. | Forty-two test pits, with additional open areas, were excavated. A total of 1,835 cultural lithics were recovered. |
| GML + JMcDCHM 2014[40] | Jordan Springs WP1 Salvage Excavation | Salvage excavation of Jordan Springs, located directly east of the present study area. | Forty-one test pits, with additional open areas, were excavated. A low density of artefacts was recovered. It comprised a maximum of 25 artefacts per metre squared. |

| Author / Year | Report | Relationship with Study Area | Outcomes |
|---|---|---|---|
| GML + JMcDCHM 2011[41] | Jordan Springs WP2 and WP6 Salvage Excavation | Salvage excavation of Jordan Springs, located directly east of the present study area. | Ninety-two test pits, with additional open areas, were excavated. A total of 4,282 cultural lithics were recovered. |

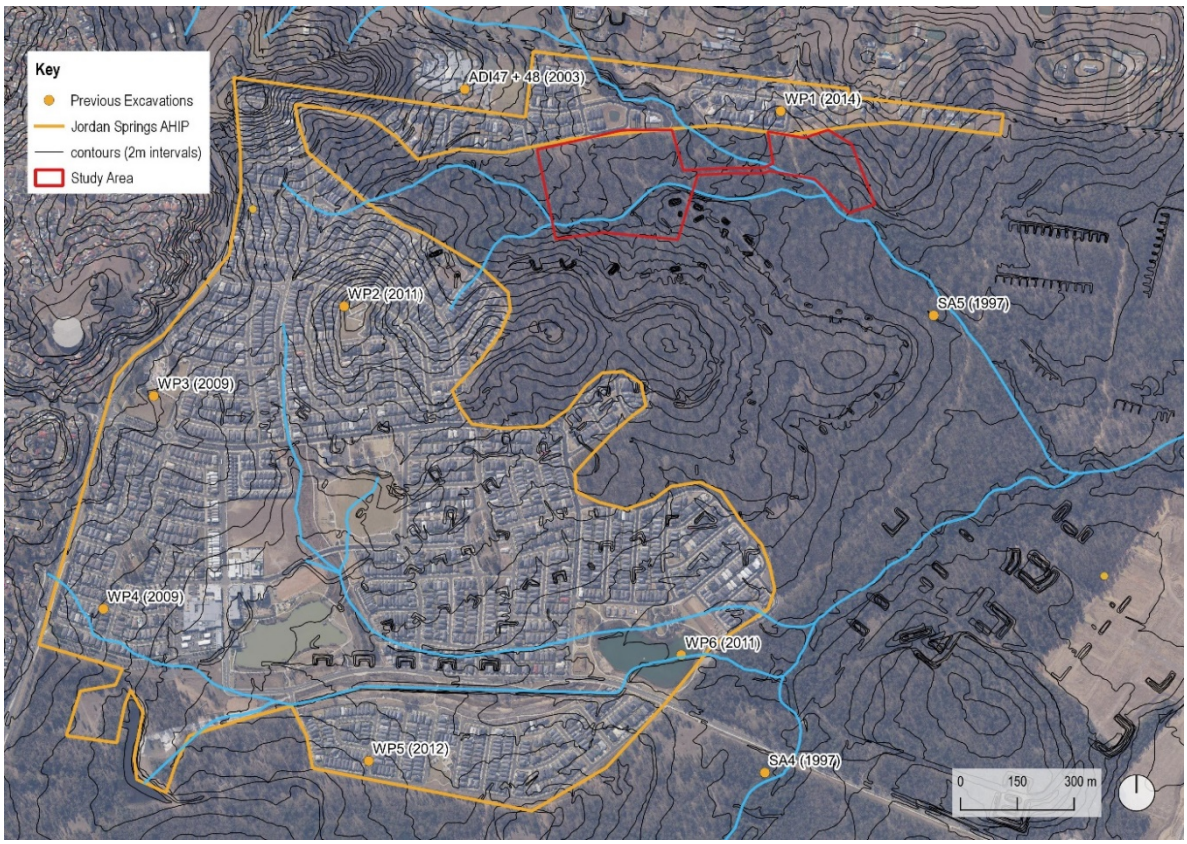


**Figure 3.4** Association between prior heritage/archaeological investigations and the project area. (Source: NSW LPI with GML additions 2020)

## 3.4 Archaeological Predictive Models

Aboriginal heritage predictive modelling provides an understanding of Aboriginal sites, places and object distribution within a wider landscape.[42] Through a process of landscape characterisation, Aboriginal people and archaeologists are able to infer those locations most frequently visited and used in the past. Such assessment may be used to interpret long-term subsistence and habitation patterns. Based on the landscape context, land use history, and regional and local archaeological patterns it is possible to provide a predictive statement for the likely occurrence of Aboriginal archaeological sites/places connected with the project area.

### 3.4.1 Archaeological Site Types

The Cumberland Plain is one of Australia's most archaeologically excavated landscapes. Over the past 20 years, hundreds of excavations have occurred across many locations and landforms. A number of key Aboriginal heritage archaeological excavations have been undertaken that have informed the archaeological record and provided the basis for predictive modelling on the Cumberland Plain.[43]

Table 3.3 outlines the potential archaeological site types that will be encountered within the study area. It is predicted that the soil landscape connected with Basins C and V6 will contain stone artefacts retained in an unstratified context. Within this assemblage some ochre (or stones used to manufacture ochre) could also be identified. There is a low potential for other types of associated archaeological material, such as hearths, stone manuports (used as heat retainers) or ground ovens.

There are a number of reasons why other site types will not be encountered. Firstly, all the registered sites within the vicinity of the study area have been stone based open scatters, isolated finds or areas with potential archaeological deposits (PAD). Secondly, the landscape is very flat and there are no sandstone outcrops or ridgelines. As such, there is no possibility of encountering rock shelters and associated occupation sites. It is also therefore highly unlikely that rock art (painting or engraving) or grinding grooves will be discovered within the study area. Thirdly, the initial site visit and aerials suggest that vegetation in the study areas is less than 100 years old. Much of the vegetation appears to be regrowth from the 1940s. As a result, the potential is low for identifying trees, such as scarred trees, which have been culturally modified by Aboriginal people. The site survey will confirm any presence of culturally modified trees. Finally, shell middens will not be found as the freshwater creeks do not contain edible shellfish that could have been consumed by Aboriginal people.

**Table 3.3** Types of Aboriginal Archaeological Sites that may be Located within the Project Area.

| Archaeological Site Type | Description and Potential Location |
|---|---|
| Stone artefacts | Stone artefact concentrations are collections of stone, frequently brought from other areas, which demonstrate evidence for Aboriginal working, use and/or discard of the stone at a single location. Stone artefact concentrations may be associated with any of the below site types.<br>Where such sites are buried by sediment, they may not be noticeable unless exposed by erosion or disturbed by modern activities.<br>These sites are likely to be encountered within a 50m buffer of the South Creek tributaries running through the study area. |
| Isolated finds | Sites consisting of a single stone artefact, isolated from any other artefacts or archaeological evidence. They are generally indicative of sporadic past Aboriginal use of a location.<br>A distinction should be drawn between isolated finds that are a component of the background distribution of objects and specialised objects such as axes, hammer stones, grinding dishes etc which would have been used repeatedly and may have been carried from place to place.<br>These sites are likely to be encountered within a 50m buffer of the South Creek tributaries running through the study area. However, they could be encountered across the entire study area zone. |
| Scarred trees | Scarred trees bear the marks of bark and wood removal for utilisation as canoes, shields, boomerangs or containers. It is commonly very difficult to confidently distinguish between Aboriginal scars and natural scars or those made by Europeans. Scars may also originate as 'foot-marks', small pockets cut into the bark of a tree enabling the tree to be climbed.<br>These sites are unlikely to be encountered. The 1940s aerial suggest the vegetation is relatively young as much of the land is cleared. As a result, any substantial, old trees are likely to have been removed. |

| Archaeological Site Type | Description and Potential Location |
|---|---|
| Resource area | Resource gathering areas represent landforms that contain a high number of fauna and flora species that were known Aboriginal resources. Resource areas are frequently associated with permanent water resources, often swamps or marshes, and frequently have recorded sites such as middens nearby. Landforms associated with these sites are often flats with a favourable outlook.<br>The identification of resource gathering within the study area is difficult to assess. It is highly likely that the creeks in the area were utilised for food and water. However, the present-day creek system may not be in the same location or form as it has been in the past. Silcrete extraction locations have been identified 2–5km east of the study area.[44] However, none have been located within the study area. Lastly, the study area is not located on a flat with a favourable outlook, reducing the likelihood of identifying the study area as a resource centre. |

### 3.4.2 Stream Order Model

Development of a predictive model for the archaeological landscape within the study area also applies the stream order model. The stream order model posits that artefact sites of higher density and complexity are more likely to occur in association with higher-order streams, on lower slopes and terraces with a north or northeast-facing aspect.

On the basis of relevant archaeological research, a predictive model, referred to as the Cumberland Plain Predictive Model (CPPM), has been developed that suggests how the likely nature of sites across the Cumberland Plain can vary in terms of landforms and landscape. Stream order is the basis for this model of Aboriginal site location—it assumes that people would have preferentially selected camping locations where the water supply was more permanent and predictable.[45] This model predicted that the size (density and complexity) and nature of archaeological features will vary according to the permanence of water (ie ascending stream order), landscape unit and proximity to lithic resources.

The key components of the CPPM regarding the potential for Aboriginal archaeological sites along second order creeks are as follows:

- In the middle reaches of minor tributaries (second order creeks) there will be archaeological evidence for sparse but focused activity (eg one-off camp locations, single episode knapping floors).
- Creek junctions may provide foci for site activity; the size of the confluence (in terms of stream ranking nodes) could be expected to influence the size of the site.

The CPPM also posits that in any landscape location there is a chance that a ‘background scatter’ of Aboriginal objects exists—that is, objects deposited as a consequence of one-off manufacture, use and/or discard use, where no correlation would be associated with a landform or a more permanent activity area. Such areas are unlikely to contain a subsurface archaeological deposit. Another major conclusion of the CPPM was that surface artefacts are not an accurate reflection of subsurface archaeological potential, as soils are largely aggrading across the Cumberland Plain and most artefacts are therefore buried.

### 3.4.3 Basin C and Basin V6 Predictive Model

Based on the CPPM and results of archaeological excavations at Jordan Springs, the following predictions are made regarding the potential for Aboriginal archaeological sites within the study area:

- Basin C—a 50m corridor along the creek that borders the southern edge of Basin C is the area most likely to contain stone artefacts. This translates to the southernmost boundary of the study area, which is only 30m away from the creek line, and to the southwestern corner of the study area, where the creek crosses through the basin site. The northern half of the study area is expected to exhibit a lower density background scatter of surface and subsurface artefacts.
- Basin V6—this area has been heavily disturbed in the past and is not expected to retain in situ archaeological deposits. The results of the excavation at WP1 immediately north of Basin V6 indicated that this area had been subject to disturbance that had stripped the soil profile and very few artefacts were recovered. The northeastern area of Basin V6 is likely to contain no intact archaeological deposits, and minimal artefacts. The western half of Basin V6 is also considered heavily disturbed as a result of the drainage infrastructure.
- Haul Road—during the site visit it was observed that creation of the existing 4WD track/road required earthworks to build up the road surface, which will have disturbed the surrounding area. Additionally, the road is heavily eroded and is unlikely to retain deposits containing in situ Aboriginal artefacts.

In summary, predictive modelling indicates that stone artefact sites and isolated finds are highly likely to be identified across the landscape. They are most likely to be found within a 50m buffer of the creeks running through the study area. The area has been heavily disturbed due to recent land use related to the SMDS. Landscaping activities have disturbed large parts of the study area and therefore the surface and subsurface archaeology.

The outcomes from the modelling, contrasted against the history of recent land use, provides an indication of locations and landforms that could be connected with physical (tangible) aspects of Aboriginal heritage. These locations are presented in Figure 3.5.

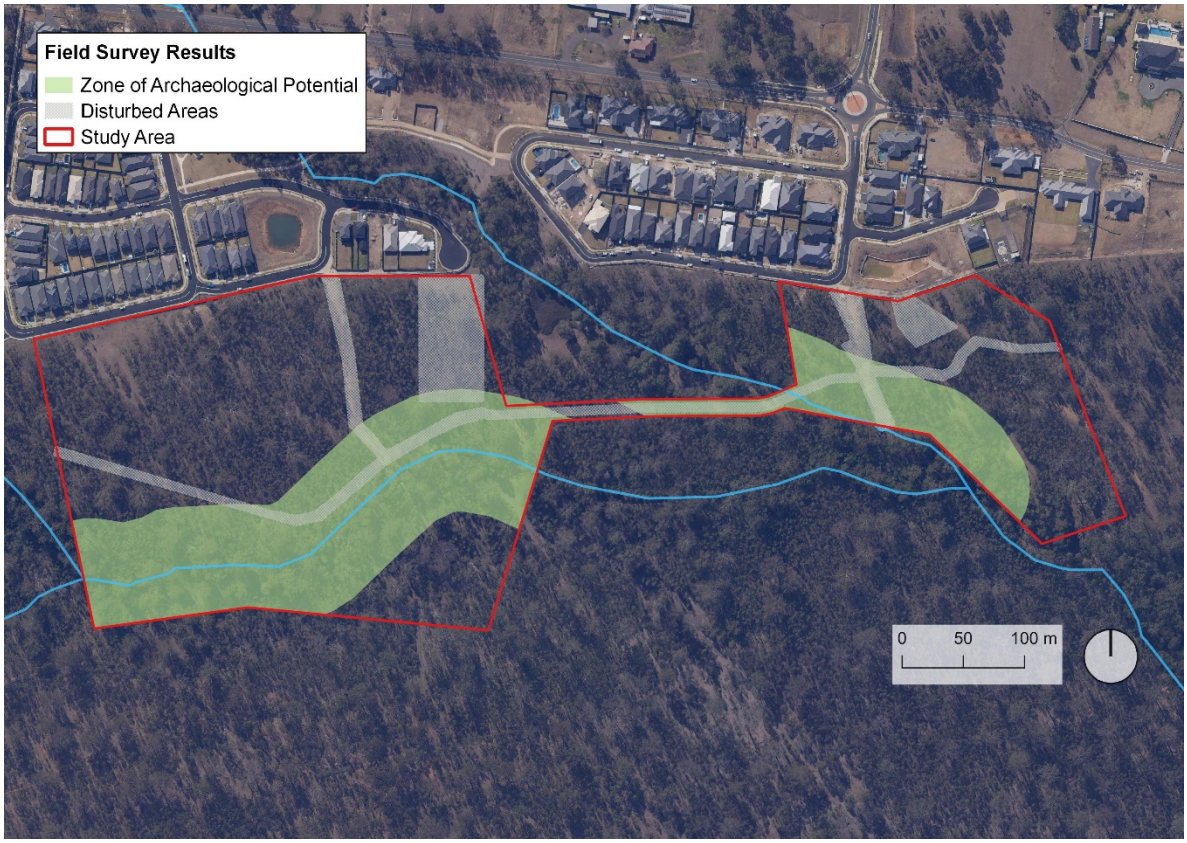


**Figure 3.5** Summary of Aboriginal heritage predictive modelling for the project area. (Source: NSW LPI with GML additions 2020)

# 4.0 Investigations into Aboriginal Heritage

The background investigations have established the nature of the local environment, the extent of prior heritage works, and known Aboriginal connections to the project area. This section presents the results of our investigations into the Aboriginal heritage of the project area. The outcomes combine to describe the overarching cultural landscape, and provide the basis for the Aboriginal heritage values assessment.

## 4.1 Archaeological Survey

A pedestrian archaeological survey was undertaken in December 2019 to characterise the study area through the identification of areas with potential for subsurface archaeological deposits. A detailed discussion of the archaeological survey is presented in Section 3.0 of the ATR. A summary of the survey results, including coverage and landform, is presented in Table 4.1.

The survey confirmed that the majority of the study area is expected to have low potential for subsurface archaeological deposits. Several areas of past disturbance were identified during the survey that were not identifiable through the desktop assessment and allowed for the refinement of the testing methodology.

**Table 4.1** Survey Units, Effective Survey Coverage and Summary of Sampled Areas by Landform.

| Survey Unit | Landform | Landform Area (LA) ($m^2$) | Visibility (V) | Exposure (E) % | Effective Coverage Area (ECA) ($m^2$) (=SUA* V%*E%) | % Landform Effectively Surveyed (=ECA/LA *100) | Number of Aboriginal Sites Located in Survey |
|---|---|---|---|---|---|---|---|
| 1, 2 | Flat | 150,886 | 10 | 10 | 1,508 | 1% | 4 |
| 3 | Simple slope | 13,714 | 20 | 10 | 137 | 2% | 1 |

## 4.2 Archaeological Test Excavations

A program of archaeological test excavation was completed in January 2020, comprising 121 0.25$m^2$ test units (TUs) across the study area. The test excavation recovered a total of 200 stone artefacts. The highest density of artefacts (n=137) was obtained from TU110 that had been expanded to 1$m^2$. All other TUs contained between 0 to 13 artefacts representative of low density background scatter, a typical characteristic of this part of the Cumberland Plain demonstrated by other excavations across the SMDS.

A detailed discussion of the results of the test excavation is presented in the ATR (Appendix A).

## 4.3 Traditional Connections

A Conservation Management Plan (CMP) prepared for the Wianamatta Regional Park in 2011 included extensive consultation with the Aboriginal community.[46] The consultation identified a range of cultural connections and values attached to the regional park, including multiple specific sites shown in Figure 4.1.

The creeks that pass through the regional park, including those within the study area, were identified by the Aboriginal participants as travel routes. One of the participants discussed how he and his family and ancestors used the creeks to navigate through the area, and as places for fishing and recreation.[47]

During the December field survey, Aboriginal representatives also noted the significance of the creeks and noted their preference that these were not significantly altered or blocked by the development.

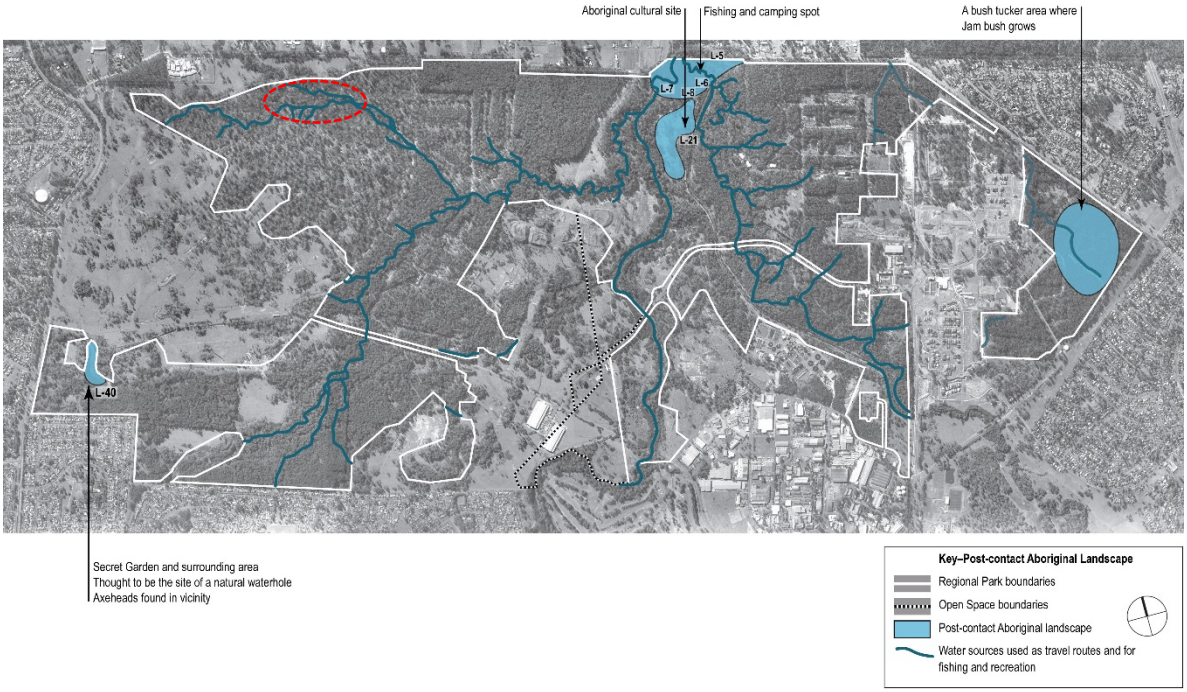


**Figure 4.1** Post-contact Aboriginal sites identified within the Wianamatta Regional Park (outlined in white) as part of the Aboriginal community consultation conducted for the CMP. The approximate location of the study area is outlined in red. (Source: Wianamatta Regional Park CMP[48] with GML additions)

## 4.4 Information Gaps

The existing background information may be limited, as Aboriginal people involved in previous investigations, research or surveys may not have disclosed the existence of places with cultural heritage values as they may not have been under immediate threat when the earlier study was undertaken.[49]

## 4.5 Aboriginal Objects and Values Within the Proposal Site

Based on AHIMS results, site survey and test excavation, the Aboriginal objects and values known to be present within the current project alignment are identified in Table 4.2.

**Table 4.2** Aspect of Aboriginal Heritage identified within the Study Area.

| Aspect of Aboriginal Heritage (including objects) | Description |
|---|---|
| Artefact background scatter | Area of low-density artefacts identified through archaeological test excavation. |
| Basin V6 AS2 (AHIMS #45-5-5369) | Small artefact site with low density background scatter. |

| Aspect of Aboriginal Heritage (including objects) | Description |
|---|---|
| Artefact Sites—Basin C AS1 (AHIMS #45-5-5276), Basin C AS2 (AHIMS #45-5-5275); Basin C AS4 (AHIMS #45-5-5366), Basin C AS5 (AHIMS #45-5-5367), Basin C AS6 (AHIMS #45-5-5362), Basin C AS7 (AHIMS #45-5-5361), Basin C AS8 (AHIMS #45-5-5363), Basin C AS9 (AHIMS #45-5-5364) and Basin V6 AS1 (AHIMS #45-5-5365). | Surface artefacts and isolated artefacts identified within the study area. |
| Artefact Sites ADI–FF09 (AHIMS #45-5-3609) and ADI–FF10 (AHIMS #45-5-3610) | Artefact sites could not be relocated during the field survey. |
| Basin C AS3 (AHIMS #45-5-5368) | Artefact site located outside of the study area to the south. |
| Traditional Connections | Use of creeks as former walking routes for Aboriginal people to navigate through the area. |

# 5.0 Aboriginal Heritage Significance Assessment

The best practice guide to managing heritage places is the Burra Charter. It defines cultural significance as:

> *Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects. Places may have a range of values for different individuals or groups.*

An assessment of aesthetic and social/spiritual values of Aboriginal cultural significance can only be made by the relevant Aboriginal community because Aboriginal people are the primary source of information about their cultural heritage values. Consulting with Aboriginal people at an early stage of the assessment process ensures they have opportunities to fulfil their heritage obligations. Aboriginal people must have control of their cultural knowledge and how it is used and shared. Restriction of cultural knowledge may be an important part of the value of the cultural knowledge. Management of impacts to Aboriginal cultural heritage values must involve the relevant Aboriginal people to ensure appropriate management is undertaken in accordance with the cultural heritage values.[50]

In line with the Burra Charter's four principal values (social, historical, scientific and aesthetic) and the NSW Heritage Office's publication *Assessing Heritage Significance*,[51] four assessment criteria can be used to assess the Aboriginal heritage values of a study area.[52] The four criteria are:

- Social value:[53] 'an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons';
- Historic value:[54] 'an item is important in the course, or patterning, of NSW's cultural or natural history (or cultural or natural history of the local area)';
- Aesthetic value:[55] 'an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area)'; and
- Scientific value:[56] 'an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area)'.

Consultation with the RAPs, investigation into the background history of the study area and local region, the field inspection and archaeological excavations have facilitated the development of an understanding of the key social, historical and scientific values associated with the sites and objects within both the study area and surrounding landscape. Following the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW*,[57] values are graded in accordance with a basic ranking of high, moderate or low. The ranking is based upon the research potential, representativeness, rarity and educational potential of each value. The grading is stated at the end of each value assessment below.

## 5.1 Significance Assessment

### 5.1.1 Social Value

The study area is assessed as having a high level of social significance, as part of the Wianamatta Regional Park and as a place of continuing cultural connection for the local Aboriginal community.

Contemporary Aboriginal groups have deep connections to the Aboriginal landscape that comprises the Wianamatta Regional Park, of which the study area is a part. Aboriginal people continue to live in Western Sydney and maintain cultural connections to their land, particularly through participation in Aboriginal archaeological investigations. The archaeological record provides tangible evidence of the presence of Aboriginal people in the past. These traces have meaning and value due to their ability to help Aboriginal people today understand how their people lived in and used the land and its resources in the past. This manifests as a continuing cultural connection.

### 5.1.2 Historical Value

The study area is considered to have a low level of historical significance. The Wianamatta Regional Park has historical value as a place where Aboriginal people continued to camp along South Creek following European occupation of the area in the early 1800s. While the study area forms part of the regional park, no direct historical associations are documented for the study area.

### 5.1.3 Scientific Value

This statement of scientific value is reproduced from the ATR (Appendix A).

The Aboriginal artefact assemblage recovered during the test excavation program is assessed as having low scientific significance. The assemblage is considered to have low research potential based on the lack of variability in raw materials and technology exhibited within the assemblage and is neither representative nor rare within the context of the SMDS. The Luddenham soil landscape has been extensively excavated within Jordan Springs and the results from Basin C and V6 do not contribute new information to our understanding of past Aboriginal occupation of the SMDS and broader Cumberland Plain.

The Basin C and Basin V6 assemblages has significance as part of the archaeological landscape of the SMDS. The Basin V6 assemblage is also considered to have educational potential.

### 5.1.4 Aesthetic Value

The study area is assessed as having a moderate level of aesthetic significance. This is manifest through the remnant and regenerated Cumberland Plain woodland that survives within the study area, which forms part of the extensive Wianamatta Regional Park. The area also provides habitat for native wildlife, most notably kangaroos and emus. Although the vegetation is regrowth forest (the study area having been extensively cleared in the early–mid twentieth century), the redevelopment of large portions of land across Western Sydney has altered the landscape and reduced the amount of Cumberland Plain woodland areas. These woodlands also hold values in connection with their sounds and smell.

The study area traverses relatively low-lying ground and does not contain any view corridors towards the Blue Mountains or coastal regions.

## 5.2 Statement of Significance

The study area is considered to hold a high level of social value and a moderate level of aesthetic value to the Aboriginal community. The study area is considered to have a low level of historical value, and the artefact assemblages have low scientific value. The social values manifest through individuals' connections to the Wianamatta Regional Park, and St Marys more broadly, as a place where they and their families have resided, and its location within the wider cultural landscape. The

Aboriginal artefact assemblages have low research potential and are neither rare nor representative within the context of the SMDS.

An overview of how these cultural values are manifest within the study area is presented in Table 5.1.

**Table 5.1** Summary of Aboriginal Cultural Heritage Values.

| Value | Manifest Through | Grade of Significance |
|---|---|---|
| Social | Location within the Wianamatta Regional Park as a place of associations and connections for Aboriginal people to their collective past.<br>The archaeological deposits within the study area. | High |
| Historic | The study area is not considered to hold Aboriginal historic values. | Low |
| Scientific | The Aboriginal archaeological objects recovered during the test excavation program are assessed as having low scientific significance, on the basis of limited variability in technology and raw materials that could contribute additional knowledge to our understanding of Aboriginal occupation of the wider landscape. | Low |
| Aesthetic | Remnant Cumberland Plain as part of the Wianamatta Regional Park, with the remnant and regenerated ecology, its habitat value, and the sounds and smells of dense woodland. | Moderate |

# 6.0 Proposed Works

This section provides a description of the proposed project activity, its timing, objectives, and Aboriginal values that it may harm (directly or indirectly). Aboriginal heritage management policy has been developed to guide and minimise impacts to Aboriginal heritage values.

## 6.1 Description of the Proposed Works

### 6.1.1 Construction

Lendlease proposes to construct two stormwater detention basins within the study area. The proposed activity is shown in Figure 6.1. The proposed activity will involve excavation of the two basins (C and V6) and ancillary works, including localised excavation for stormwater outlets, modification of existing creek alignments to create inflow and outflow channels, and construction of access tracks for long-term maintenance.

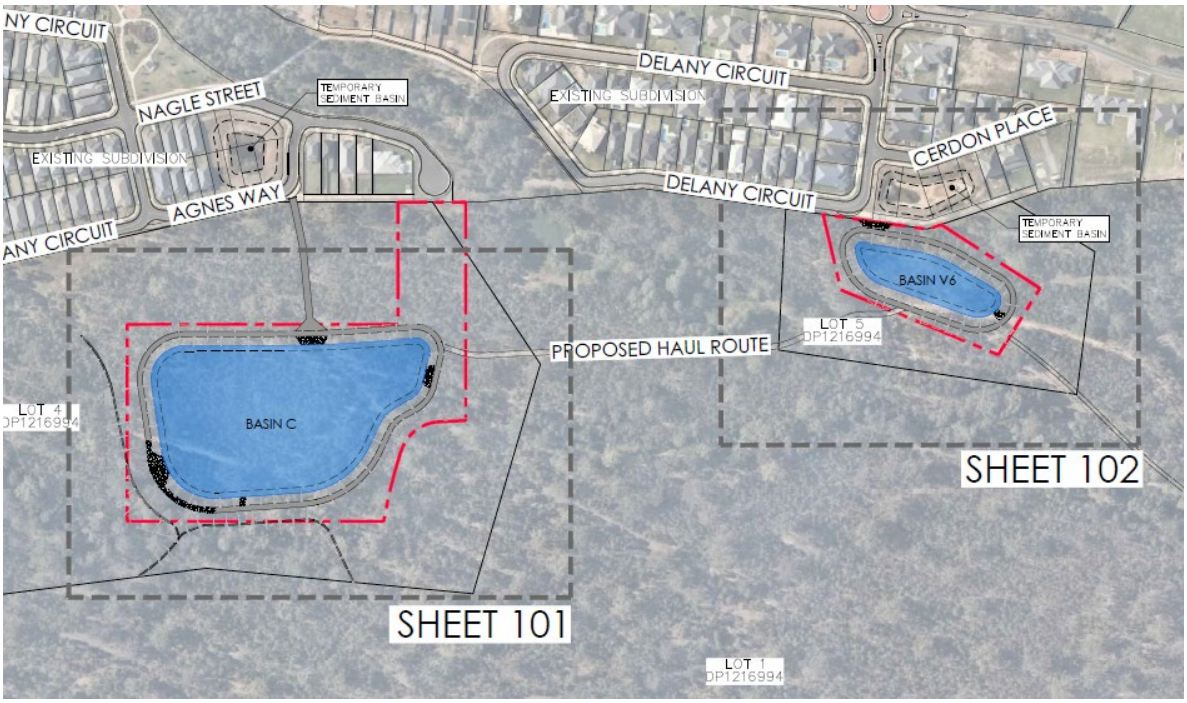


**Figure 6.1** Plan of the proposed layout of the stormwater detention Basin C (at left) and Basin V6 (at right). (Source: ADW Johnson, dwg. 300225-CENG-003 Rev. A, 18 November 2019)

### 6.1.2 Contamination Remediation

The Remediation Action Plan[58] prepared for the study area identified two locations in Basin C requiring remediation. Hydrocarbon contamination was identified at the eastern end of Basin C, near TU24, with asbestos containing material (ACM) identified at the western end of Basin C along the existing access track, near TUs 42–44 (Figure 6.2). Remediation at these locations will involve excavation of the contaminated soils to a depth of 0.3–0.5m below the existing ground surface. The excavated material will either be re-used in a suitable location on site as appropriate or disposed of off site.

In addition to the locations above, ACM was identified by the test excavation team, between TUs 66 and 68, and in TU84 on the south side of the creek (Figure 6.2). Lendlease has advised that these

areas would be assessed following the Unexpected Finds Procedure set out in the Remedial Action Plan. This involves assessment by an environmental consultant/field scientist, and remediation (involving excavation of contaminated materials and soils) as required.[59]


**Figure 6.2** Location of known contaminants identified within the Basin C study area, based on the Remediation Action Plan[60] and visual identification during the test excavation program. (Source: NSW LPI with GML additions).

## 6.2 Harm to Aboriginal Objects and Values

The assessment of Aboriginal heritage has identified Aboriginal archaeological sites and cultural values in connection with the project area. An assessment of the proposed activity is able to determine whether these aspects will be 'harmed' either directly or indirectly. This assessment is presented in Table 6.1. Figure 6.3 shows the location of the proposed basin footprints and access roads in relation to the Aboriginal sites identified within the study area.

**Table 6.1** Aspects of Physical (Tangible) Aboriginal Heritage and the Identified Potential Harm to Aboriginal Heritage.

| Aspect of Aboriginal Heritage | Type of Harm | Degree of Harm | Consequence of Harm |
|---|---|---|---|
| Any remnant Aboriginal archaeological deposits, represented by sites:<br>ADI–FF09 (45-5-3609), ADI–FF10 (45-5-3610), Basin V6 AS2 (45-5-5369), Basin C AS1 (45-5-5276), Basin C AS2 (45-5-5275), Basin C AS4 (45-5-5366), Basin C AS5 (45-5-5367), Basin C AS6 (45-5-5362), Basin C AS7 (45-5-5361 Basin C AS8 (45-5-5363), Basin C AS9 (45-5-5364), and Basin V6 AS1 (45-5-5365) | Direct impact resulting from construction of basins, access tracks, contamination remediation and ancillary works | Total removal | Total loss of value |
| Aesthetic values | Direct resultant from vegetation and landform impacts | Partial, as the works require revegetation and creation of basins, within a woodland setting. | Partial loss of value |
| Creeks/waterways | Direct impact resulting from modification of creek alignment | Partial<br>A portion of the entire creek length will be modified | Modification of creek banks, partial loss of value |
| Social values | Direct, as both Aboriginal objects and aesthetics of the study area will be impacted. | Partial | Partial loss of value |
| Basin C AS3 (45-5-5368) | No harm—outside of study area | None | No loss of value |

The various aspects of Aboriginal heritage hold a variety of heritage values (Table 5.1). These values may be impacted by the proposed activity. An assessment of how the values may be directly or indirectly affected by the proposal is provided in Table 6.2.

**Table 6.2** Overview of Impacts to Values and Identified Potential Harm.

| Values | Manifest through | Degree of Harm | Consequence of Harm |
|---|---|---|---|
| Social | Individuals' associations with the Wianamatta Regional Park and St Marys. | None | None |
| | Archaeological deposits as demonstrated by archaeological sites identified during field survey and test excavation. | Total | Total loss of value |

| Values | Manifest through | Degree of Harm | Consequence of Harm |
|---|---|---|---|
| Historic | Does not exhibit historic values associated with Aboriginal history of the site. | None | N/A |
| Scientific | Archaeological potential as demonstrated by archaeological sites identified during field survey and test excavation. | Total | Total loss of value |
| Aesthetic | Remnant Cumberland Plain woodland. | Partial—woodland will be lost within basin footprints, but will remain within regional parkland | Partial loss of value |

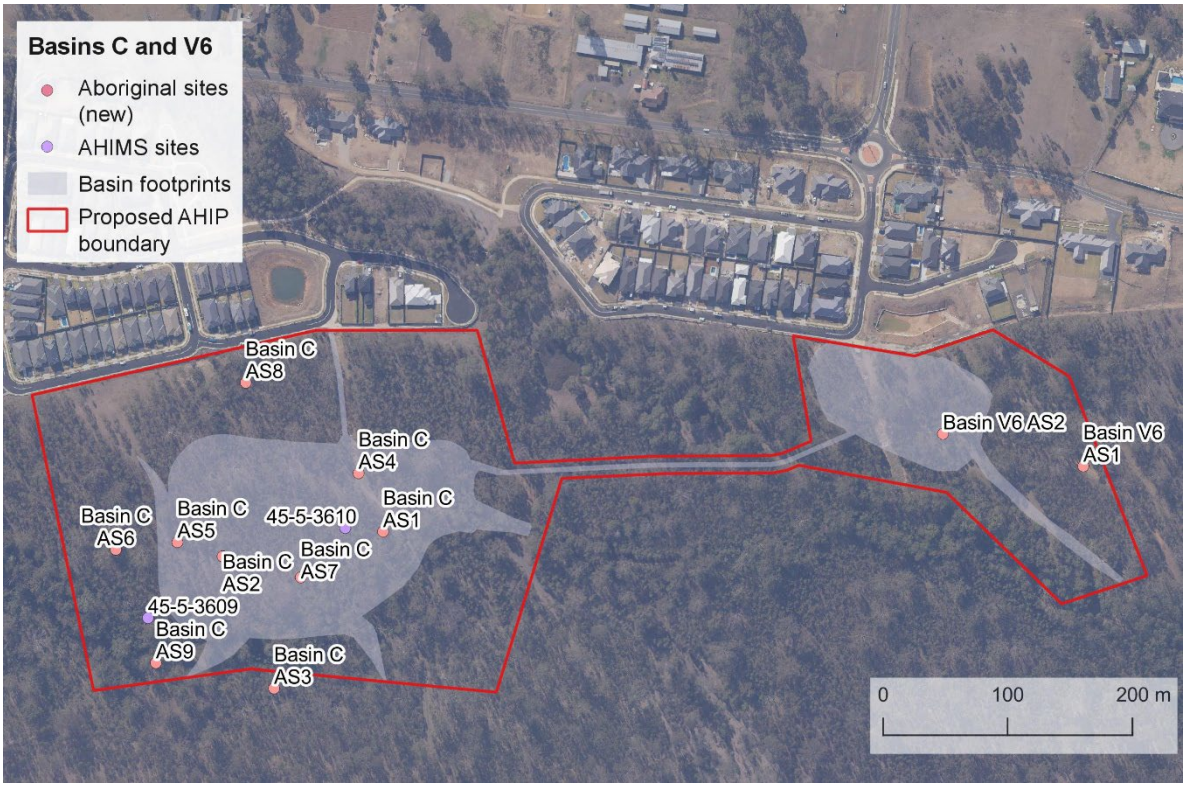


**Figure 6.3** Plan showing location of the basin footprints in relation to Aboriginal archaeological sties identified within the study area. (Source: NSW LPI with GML additions)

# 7.0 Aboriginal Heritage Management Policy

The following management and mitigation statements are made in light of the findings of the study area inspection, background research, predictive modelling, results of test excavation, heritage significance assessment, relevant NSW legislation protecting Aboriginal heritage, the DPIE Aboriginal Cultural Heritage Assessment Guidelines and consultation with local Aboriginal stakeholders.

If unmanaged and unmitigated, the impacts resulting from the proposal on Aboriginal heritage are likely to result in a loss of values and thus impact to the local Aboriginal community. The following management and mitigation statements are based on consideration of:

- legal requirements under the terms of the NPW Act, as amended—which states that it is illegal to harm or desecrate an Aboriginal object without first obtaining an AHIP from the Director-General, DPIE, NSW;
- abiding by the Code of Practice for archaeological works connected with heritage mitigation;
- the requirements for considering Ecologically Sustainable Development (ESD) principles, and applying a cautious approach under the Burra Charter;
- consideration of intergenerational equity and its application to the project area;
- consideration of cumulative impacts to Aboriginal heritage and the consequences of continued loss of Aboriginal heritage values;
- the assessment of the Aboriginal cultural heritage values;
- the interests of the local Aboriginal community members who participated in this project; and
- the size of the project area, the extent of Aboriginal heritage values and likely impacts posed by the project proposal.

## 7.1 Potential Management and Mitigation Strategies

### 7.1.1 Policy—Community Collection

The RAPs should be presented with an opportunity to collect any surface Aboriginal objects that were identified within the study area during the field survey and test excavation. This should be undertaken prior to the start of construction activities.

### 7.1.2 Policy—Aboriginal Heritage Impact Permit

Given the low densities of Aboriginal objects that occur across the study area, and the low research potential of the Aboriginal objects which were excavated from the study area, no further archaeological investigation is recommended. An AHIP under Section 90 of the NPW Act should be sought for the development.

## 7.2 Future Aboriginal Heritage Management

This ACHAR has identified that there are Aboriginal objects in the area of the proposed activity. It has also identified cultural values (social and aesthetic) associated with the study area and its position

within the Wianamatta Regional Park. This assessment has concluded that the proposed work will have an impact on Aboriginal objects identified within the study area.

The following actions are recommended to manage Aboriginal heritage during the proposed development.

- This ACHAR should be provided to the RAPs for this project for comment, and their comments recorded and addressed in the final ACHAR.
- An AHIP under Section 90 of the NPW Act (without salvage excavation) should be sought prior to the construction program commencing. This development cannot commence until an AHIP is issued by the DPIE. The conditions of the AHIP will guide the development process.
- An approved development application (DA) must be in place for DPIE to consider the AHIP application.
- An Aboriginal Site Recording Impact Form must be submitted to AHIMS once the activity is complete.
- An opportunity for the collection of surface artefacts by members of the Aboriginal community who registered an interest in this project should be arranged prior to the proposed works occurring.
- The stone objects recovered during the test excavation, and any artefacts from the community collection, should be reburied on Country. A location which will be part of the Wianamatta Regional Park has been identified. The location is not associated with any Aboriginal objects. The location is TU1 (identified in ATR: Figure 8.1); it was excavated during the testing phase and contained no Aboriginal artefacts. The test units surrounding the reburial location also contained zero artefacts.
- The Aboriginal objects excavated will need to be securely stored in the proponent's office at Level 14, Tower Three, International Towers Sydney, Exchange Place, 300 Barangaroo Avenue, Barangaroo NSW 2000, until reburial can occur.
- This report will be provided to relevant members of the Aboriginal community who registered an interest in this project for their comment and Aboriginal social assessment. All comments will be incorporated into this report.

# 8.0 Endnotes

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[6] Department of Environment Climate Change and Water NSW 2010, *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*, Department of Environment, Climate Change and Water NSW, Sydney.

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[18] Department of Environment, Climate Change and Water 2010, *Aboriginal cultural heritage consultation requirements for proponents 2010*, Sydney.

[19] Department of Environment, Climate Change and Water 2010, *Aboriginal cultural heritage consultation requirements for proponents 2010*, Sydney.

[20] List taken from Department of Environment, Climate Change and Water 2010, *Aboriginal cultural heritage consultation requirements for proponents 2010*, Sydney, p 10.

[21] Department of Environment, Climate Change and Water 2010, *Aboriginal cultural heritage consultation requirements for proponents 2010*, Sydney, p 10.

[22] Department of Environment, Climate Change and Water 2010, *Aboriginal cultural heritage consultation requirements for proponents 2010*, Sydney.

[23] Attenbrow, V, Pre-colonial Aboriginal Land and Resource Use in Centennial, Moore and Queens Parks Assessment of Historical and Archaeological Evidence for Centennial Parklands Conservation Management Plan, report prepared for Beyond Consulting on behalf of Conybeare Morrison and Partners, January 2002, p 33.
Kohen, J 1993, *The Darug and their Neighbours—The traditional Aboriginal owners of the Sydney Region*, Darug Link in association with the Blacktown and District Historical Scoiety, Blacktown, p 21.

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[33] JMcDCHM, Interim Heritage Management Report, ADI Site St Marys, Maps, vol. 2, report prepared for the Lend Lease-ADI Joint Venture in Response to the Section 22 Committee Interim Report, April 1997.

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