POTTS HILL, BANKSTOWN

INDIGENOUS HERITAGE ASSESSMENT

June 2007

Report to

Cité Urban Strategies on behalf of Landcom

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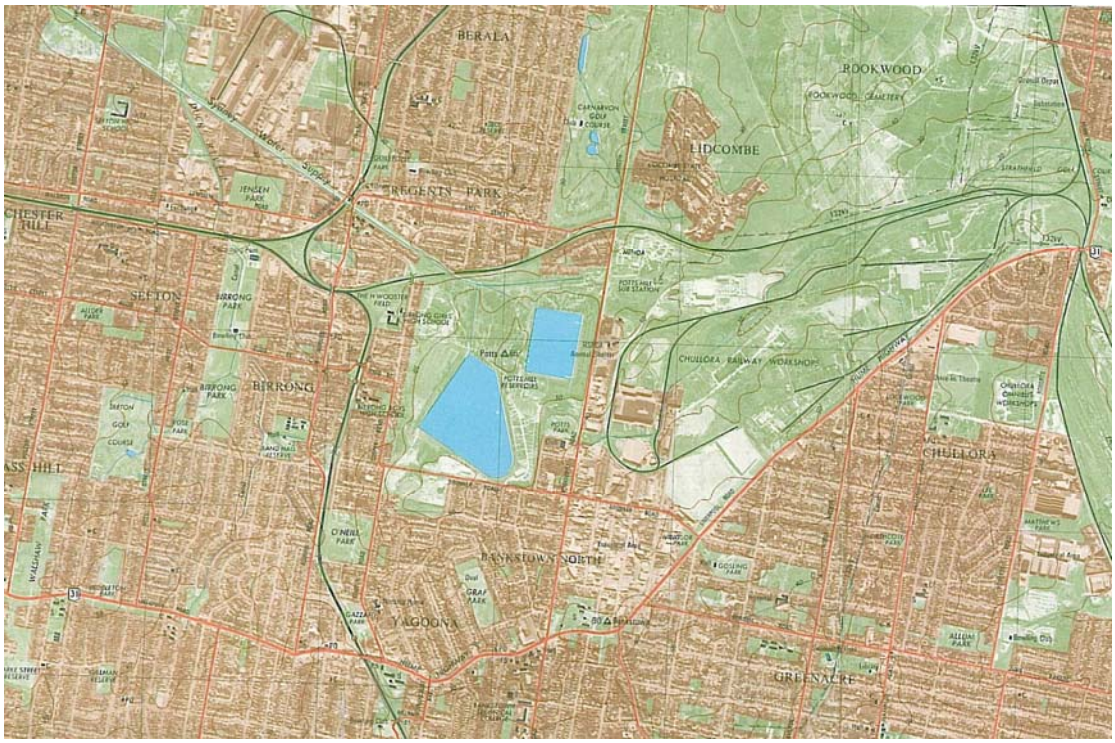
1. INTRODUCTION AND BACKGROUND

1.1 Project background

Jo McDonald Cultural Heritage Management (JMcD CHM) was commissioned by Cité Urban Strategies to conduct an assessment of the Potts Hill Reservoir site in Bankstown to evaluate its Indigenous heritage values.

Figure 1: The study area (Botany Bay 1:25K topographic map)



This has been done in two stages, the first being a preliminary assessment of the study area, based on air photo interpretation, land use impact assessment and previous work in this area. The preliminary assessment incorporated predictive modelling formulated for the location of prehistoric Aboriginal sites and indicates the likely zones of sensitivity across the study area.

The second stage was a survey of the study area in order to ground truth the results of the preliminary assessment.

Both stages of this assessment are reported here.

Summary of findings and recommendations

The survey of Potts Hill Reservoir site was conducted on April 20th, 2007. Participants included Gordon Workman and Des Dyer (DTAC), Leanne Watson (DCAC), Celestine Everingham (DACHA), Andrea Ward and Amy Stevens (JMcD CHM) and Peter Byrnes (Sydney Water). A copy of the draft report was forwarded to each group and the comments received have been included in the final report. Gandangara Local Aboriginal Land Council were informed at every stage of the project and invited to participate in the survey, but were unable to provide a representative to take part in the survey. This report has been forwarded to GLALC but no response had not been received from them before this final report was finalised.

Land use mapping (Figure 4) of the study area highlights zones of both high and moderate disturbance. No archaeological potential was identified within Zone 1 (high disturbance). Low (to no) archaeological potential was identified within Zone 2 (moderate disturbance).

The survey identified no sites or artefacts within the study area. Figures 5 displays the zones of archaeological potential identified for this site.

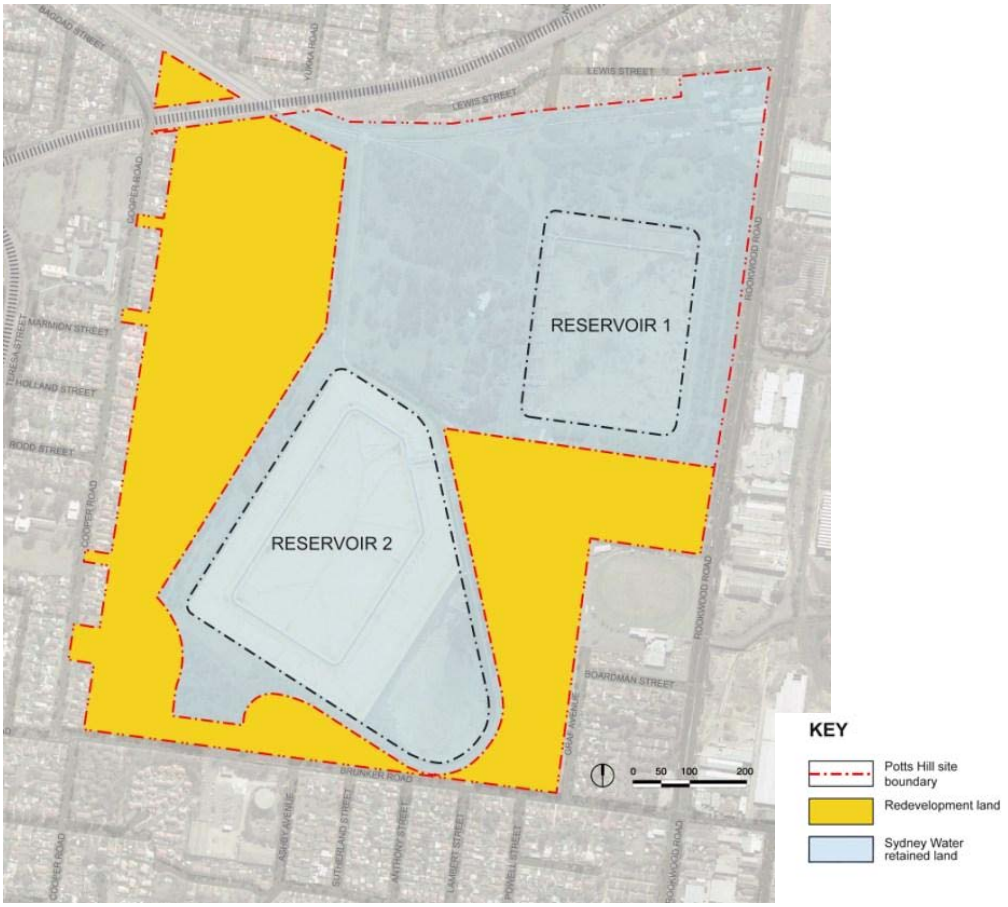
As no Aboriginal cultural material was found within the developable lands at the Potts Hill Reservoir site and that this area has very little likelihood of containing areas with potential archaeological deposit (PAD). It is recommended that the proposed development does not require further archaeological investigation and that there are no Indigenous heritage constraints to development.

1.2 The Study Area

The study area consists of proposed surplus land in the Potts Hill Reservoir site and the adjacent Sydney Water Depot Reservoir site in Birrong, in the Bankstown City Council Local Government Area.

Figure 2: Aerial photograph of the Potts Hill Reservoir site (outlined in red).

Figure 3: Surplus land in the Potts Hill Reservoir & Sydney Water Depot Reservoir



Potts Hill Reservoir plays a key role in the water supply for metropolitan Sydney.

The Potts Hill Reservoir site is approximately 126 hectares in size. The proposed surplus lands consist of a roughly u-shaped area of land along the western, southern and south-eastern perimeter of the site, surrounding Reservoir 2.

The Potts Hill Reservoir site is bounded to the north by a water supply pipeline, to the east by Rookwood Road, to the south-east by Graf Avenue and a greyhound racing club, to the south by Brunker Road, to the west by residential dwellings along Cooper Road and to the north-west by a freight rail line.

The Sydney Water Depot Reservoir site is bounded to the north by Brunker Road, to the east by Rookwood Road, to the south by residential dwellings along Terpentine Place and to the west by residential dwellings along Houston Road and Quarry Close.

Potts Hill Reservoir currently contains one operating reservoir (Reservoir 2), one decommissioned reservoir (Reservoir 1), major water supply infrastructure (including pumps, pipework and associated works depots), administration buildings, technical services and storage and maintenance facilities. Topographically, the original landform has been altered during construction of the reservoirs. Remnant vegetation and vegetation regrowth are located on parts of the site as are cultural plantings.

Sydney Water Depot Reservoir currently contains buildings, open areas and car parking. The surface of the site is covered with concrete and there had been some tree planting around part of the western, northern and eastern perimeter.

The Potts Hill Reservoir is listed on the NSW State Heritage Register (SHR). A number of buildings and other infrastructural elements on the site have state and local historic heritage significance.

1.3 Proposed Development

The surplus land in the Potts Hill Reservoir site has been identified as suitable for residential development with a component of open space on the western side of the site, adjacent to the residential areas along Cooper Road, and employment related development on the eastern portion of the site.

Residential development

The residential development is likely to be sympathetic to the surrounding residential area, with the potential for the inclusion of seniors housing.

Employment related development

The employment related development in the eastern portion of the surplus land has the potential for a range of employment and infrastructure uses, including relocation of Sydney Water field operations.

1.4 Project objectives

The objectives of this project are to:

- Conduct an initial desktop assessment of archaeological/Indigenous heritage constraints within the study area;
- Identify the relevant statutory requirements to be met by this study;
- Identify and conduct initial consultations with relevant Aboriginal community representatives and stakeholder groups to identify and document the study area's cultural heritage values and archaeological potential;
- To obtain, familiarize and incorporate into this assessment any relevant and available background Indigenous Heritage Studies and data within or adjacent to the study area;
- Conduct a search of relevant databases, including but not limited to the relevant Commonwealth registers, the Department of Environment and Climate Control (DECC) Aboriginal Heritage Information Management System (AHIMS) and Aboriginal archaeology and areas of cultural heritage sensitivity listings within Local and Regional Environmental Plans;
- Undertake a surface survey within the study area and identify any sites and PADs which may be located here. Assess previously recorded sites and Potential Archaeological Deposits (PAD) within the study area;
- Map all identified surface sites or PADs;

- Review and assess past environmental factors that may influence the condition and integrity of archaeological sites present in or near the study area;
- Formulate a predictive model for sites within the study area based on background analysis; and
- Advise of any Indigenous heritage management constraints that may affect project development.

1.5 Aboriginal Stakeholder Consultation

The study area falls within the boundaries of the Gandangara Local Aboriginal Land Council (GLALC) and is within the area of interest to Darug Custodians Aboriginal Corporation (DCAC), Darug Tribal Aboriginal Corporation (DTAC) and Darug Aboriginal Cultural Heritage Assessments (DACHA).

The Aboriginal groups were informed of the proposed development and members of DCAC, DTAC and DACHA participated in the field inspection. GLALC were invited to participate, but were unable to provide a representative. GLALC stated that the field inspection could proceed in their absence, provided they were provided with a copy of the report.

1.6 Report authorship

This report was written by Frances Scully and Andrea Ward with management input from Jo McDonald.

2. ENVIRONMENT AND CONTEXT

2.1 Geological background

Potts Hill is located on the edge of the southern Cumberland Plain. The underlying geology in this area is of the Wianamatta group of shales. Surrounding Potts Hill, Bringelly shale (a sub-group of the Wianamatta shales) is the dominant geology, but across the area of the site, Potts Hill Sandstone (a sub-group of the Hawkesbury Sandstone) is present. Relief across the site is undulating, with shale dominating in the low-lying areas and sandstone on the higher areas.

Geoarchaeological consequences of the underlying Wianamatta Formation geology include:

- Low relief landforms with well developed and quite high density drainage networks. Water sources are relatively easily found, with both ephemeral and permanent streams and ponds forming significant elements in the prehistoric landscapes; and

- Poor soils have precluded significant intensive agricultural use of the area. This natural low fertility has assisted in the preservation of the natural woodland, promoted pastoral land-use and minimized the effects of land disturbance from clearance and agriculture in some areas. There is thus a higher potential for *in situ* undisturbed preservation of surface and near surface archaeological sites where urban development has not yet occurred.

2.2 Topography

Potts Hill Reservoir is located on a localised high point within the landscape. The study area is located on a north-south ridgeline between Birrong and Chullora. Across the site, relief ranges from a maximum of 66m RL (the highest point on the subject land occurs at a point between Reservoirs 1 and 2) and 42m RL (along Cooper Road). Much of the study area is 5-8m higher than the surrounding landscape.

Much of the topography across the site has been altered as a result of the original construction of the reservoirs. During construction, steep embankments were created on the eastern and western edges of the site. Fill from the excavation of the reservoirs was also levelled out over surrounding areas within the site.

2.3 Soils

There are two main soil groups present in the study area. These are Blacktown Residuals and soils derived from the Potts Hill sandstone.

Blacktown Residual soils are generally of low fertility, moderately reactive and erodible, highly plastic and poorly drained. Potts Hill Sandstone soils are typically very infertile, moderately acidic and highly permeable. They exhibit strong transition characteristics, due to the mixing of the sandstone with the shale derived materials.

The levels of past activity on the site (construction, maintenance and alteration to the reservoirs) have resulted in significant disturbance across the study area. The soils have been substantially modified. Approximately 10% of the soils across the subject land are undisturbed.

2.4 Vegetation

Much of the original vegetation was cleared during the construction of the reservoirs. Although some remnant vegetation remains, much of the vegetation consists of exotic plantings. The Potts Hill Structure Plan (Allen Jack + Cottier 2006) describes the site as being characterised by a number of distinct landscape areas, including remnant bushland; native vegetation regrowth; cultural plantings some of which include introduced noxious trees and plants; and park-like areas with trees and grass.

Remnant vegetation is associated with areas of undisturbed soils and consists of Shale-Sandstone Transition Forest, characterised by open ironbark forest with thin undergrowth and a tree canopy. Ecological studies have identified three areas of remnant vegetation which are endangered ecological communities. They are the Cooks River Castlereagh Ironbark Forest (CRCIF), predominantly located in the northern area of the site, adjacent to the western boundary of Reservoir 1 (outside the study area), also along parts of the northern boundary, the south western boundary and along the southern boundary of Reservoir 2; Cumberland Plain Woodland (CPW), located in patches along the central western boundary of the site (adjacent to Cooper Road); and Sydney Turpentine Forest (STIF), to the south east of the CRCIF community adjacent to Reservoir 1 and to the south of the CRCIF community along the southern boundary of Reservoir 2). The Downy Wattle (*Acacia pubescens)*, an endangered plant species, has also been identified in the south west and central northern parts of the subject land.

2.5 Hydrology and stream order

Stream order modelling was first used by McDonald and Mitchell (1994) to aid predictive modelling for Aboriginal site location. Stream order looks at the naturally occurring watercourses in an area and uses them as an indicator both for the potential for Aboriginal sites to be located in that area and a predictor for the type of sites that may be there. Headwater tributary streams are identified as first order streams and this classification is expanded stepwise downstream. Two first order streams join at a first

order node to form a second order stream; two second order streams join at a second order node to form a third order stream, and so on.

The logic behind the stream order model is that in any particular climate and landscape a threshold catchment area is probably necessary to allow permanent stream flow or the establishment of waterholes with extended longevity (i.e. months to years). In the context of the Cumberland Plain with an average annual rainfall of between 700 and 900 mm, the critical point where these conditions are met appears to be at the junction of two second or third order streams (second and third order nodes). At this stage of model-testing this is not a firm conclusion and it should be noted that conditions might also depend on other catchment characteristics. The results of the salvage works in the Rouse Hill development Area (JMcD CHM 2001a, 2001b, 2005c; S. Garling Consultants 2000), and more recent excavations in the former ADI Site (JMcD CHM 2004, 2005c) provide further support for this model.

There are no naturally occurring watercourses on the site, although the Sydney Water Supply Pipeline runs along the northern boundary and is linked to Reservoir 2.

The Potts Hill Reservoir is on the watershed between the Duck River catchment and the Cooks River catchment: it is located 2.3km south west of Duck River, 4.1km west of Cooks River and 5.53km east of Prospect River. There are no streams within the study area, although prior to construction of the Reservoirs, there may once have been headwater streams within the area.

2.6 Land use impact assessment

Land use impact assessment allows the quantification of known disturbances and impacts to the study area. As a result of the land use impact assessment, areas of archaeological sensitivity can be identified across the site. Previous impacts across the subject area are divided into one of the following categories:

High disturbance – Severe disturbance to the soil. Buildings, houses, Reservoirs, suburbs, roads, market gardens, poultry farms, BMX tracks, rubbish tips, formed tracks, dams, drains and other excavations.

Moderate disturbance – Cleared of trees at some time, cultivated or extensive soil disturbance probable, caused by machinery or extended periods of trampling.

Much of this area has been used for small agricultural pursuits such as orchards and the remainder carries improved pasture.

Low disturbance – Partly cleared and grazed at some time (particularly on shale geology), but apparently never subject to extreme soil disturbance. Heavily vegetated areas (particularly on sandstone geology) may currently be weed infested in places.

On the basis of air photo interpretation, the SWC retained land (Sydney Water 2005) and the Potts Hill Structure Plan (Allen Jack + Cottier 2006), it had been identified that there have been moderate to high levels of disturbance across approximately 90% of the site. These disturbances include:

- Excavation and associated earthworks (including the creation of steep embankments and the levelling of areas with material from reservoir excavations) of the two reservoirs;
- Construction of various buildings, including the Caretakers Cottage, various residences and the Electrical Water Pumping Station;
- Construction of the Migrant Workers Camp
- Construction of various roads/access ways to the site; and
- Landscaping.

Figure 4: Land use mapping within the study area showing disturbance zones, based on pre-survey assessment

Field survey has ground-truthed this impact and confirmed an absence of Indigenous heritage constraints.

3. LEGISLATION

Aboriginal Cultural Heritage is afforded protection by a number of different pieces of legislation. The following is a brief summary of these.

- The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (Amended 2006) is Federal legislation. It protects the environment, particularly matters of National Environmental Significance. It streamlines national environmental assessment and approvals process, protects Australian biodiversity and integrates management of important natural and cultural places; and

- The *Aboriginal and Torres Strait Islander Heritage Protection Amendment Act 1984* is also Federal legislation, which was enacted to protect places, areas and objects of particular significance to Aboriginal's and for related purposes.

In New South Wales, there are three Acts that principally pertain to Aboriginal heritage:

- The *National Parks and Wildlife Act 1974* in the primary piece of legislation providing protection for Aboriginal objects (sites, relics and cultural material) and Aboriginal places. As part of this Act, the Department of the Environment (DECC) have created the Aboriginal Heritage Information Management System (AHIMS), which records all known Aboriginal heritage sites in the state;

- The *Environmental Planning and Assessment Act 1979* requires the consideration of the environmental impact of a development before it happens. This includes impacts on both Aboriginal and non-Aboriginal cultural heritage items and places. Under this act, Local Governments are required to prepare Local Environmental Plans (LEPs), which provide guidance on the level of environmental assessment required prior to development taking place. This legislation also requires the preparation and implementation of Regional Environmental Plans (REPs); and

- The *Heritage Act 1977 (as amended 1998)* has made provision for places, objects or relics to be placed on the State Heritage Inventory and / or the State Heritage Register, which affords a level of protection against destruction. Although this act primarily deals with non-Aboriginal heritage, Aboriginal places, objects or relics may also be placed on these lists.

Locally:

- Part 5 of the *Bankstown Local Environment Plan 2001*, relates to heritage and clause 42 deals with Aboriginal cultural heritage. This section of the LEP states that consent will be granted to developments on archaeological sites which have Aboriginal cultural heritage significance or are reasonably likely to have Aboriginal cultural heritage significance if they have met the following criteria:

1. a Statement of Heritage Impact has been prepared on how the proposed development will affect the conservation of the site and any relic known to be located or reasonably likely to be located at the site;

2. the Director-General of the National Parks and Wildlife (now Department of Environment & Climate Control) has been notified of the intention to develop the site and comments received from the Director-General have been taken into consideration within 28 days of notice being sent;

3. any necessary consents or permissions have been granted in accordance with the *National Parks and Wildlife Act 1974.*

4. ARCHAEOLOGICAL CONTEXT

4.1 Ethnohistoric background

A number of early recorders indicate that at the time of European contact, this region of the Sydney basin was occupied by speakers of the *Darug* language. It has been suggested that the Georges River may have formed a boundary between *Darug* and *Dharawal* speakers, with *Darug* speakers located to the east (north) of the river. Information derived from the ethnographic accounts, the 1828 census and blanket returns indicate that the *Gweagal* and *Bidjigal* clans of the Darug language group inhabited the Liverpool area (Kohen 1993: 21).

On 22nd April 1788, Governor Philip ordered the first major inland expedition crossed the Cumberland Plain. At this time, evidence of Aboriginal people was seen 'everywhere' in the form of huts, camp fires, burning trees and partially eaten food (Tench 1788 [1996]: 91). Barrallier, in his expedition through *Darug* and *Gandangara* territory in the early 19th century, describes the swamps in the Nepean River area as being excellent sources of fish, shellfish and 'enormous' eels. He states that:

> the people from this area usually fed upon opossum and squirrels, which are abundant in that country, and also upon kangaroo rats and kangaroo, but they can only catch this last one with the greatest trouble, and they are obliged to unite in great numbers to hunt it (Barrallier 1802 [1975]: 2-3).

Such a kangaroo hunt, with a large group using fire, spears and 'tomhawks' was described near Menangle Swamp. The participants were spaced at '30 paces … [and] formed a circle which contain[ed] an area of 1 or 2 miles' (Barrallier 1802[1975]: 3). Based on this description, in the order of 100 people may have been involved in this hunt, suggesting that such activities may have involved co-operation between several bands.

Lizards and grubs, 'particularly those … found in the trunks of trees' were also documented as part of the diet (Barrallier 1802[1975]: 6, Collins 1798[1975]:462). For the purpose of collecting these grubs (*Cahbrogal*) a specific utensil was used, this being described as:

> a switch about twelve inches long and the thickness of a fowl's feather … One of the extremities of this stick is provided with a hook. … [which is used upon finding evidence of these grubs in the bark of trees having] widen[ed] the hole … with their axe … dip their switch into the hole, and, by means of the hook, draw it out, and eat it greedily. (Barrallier 1802[1975]: 6).

Other specialized inland adaptations to localized resources include the 'squirrel traps' in hollow trees and 'decoys for the purpose of ensnaring birds' (Tench 1793[1961]: 154-5). These decoys were assessed as having great utility as they were full of quail feathers. The accounts described these structures as complex (see also Philips in *HAR*, 1:156 and Collins 1798[1975]: 462) and that they were made of reeds and 'underwood'. They were described as being 'long and narrow, shaped like a mound raised over a grave; with a small aperture at one end for admission of the prey; and a grate made of sticks at the other' (Tench 1793[1961]: 154-5). One such structure described by Collins 'was between 40-50 feet long' (1798[1975]: 462). He also describes animal and bird traps near inland lagoons as consisting of holes with camouflaged tops (*ibid.*).

Early accounts remarked on the facility with which men of the inland tribes climbed trees (Hunter 1793, Tench 1793, Collins 1798, Barrallier 1802). This was done for the purpose of obtaining possums (usually with assistance of smoke) and was achieved by cutting notches for toeholds 'with a stone hatchet' (Hunter 1793[1968]: 430; Tench 1793[1961]: 233). Possums and other tree dwelling animals were indeed the staple of

the woodland tribes and edge-ground hatchets were identified as the dominant subsistence item in the inland toolkit.

At the time of contact, Aboriginal camp sites on the Cumberland Plain were described (Collins 1798[1975]: 460) as being made of the bark of a single tree, bent in the middle and placed on its two ends on the ground 'exactly resembling two cards, set up to form an acute angle' (Tench 1793[1961]: 154; and see Philip 1789[1970]: 55-77) and 'affording shelter to only one miserable tenant (Collins 1798[1975]: 460). These shelters (*gunyahs*) would be grouped together, up to a total of nine (Barrington 1802: 20).

It is not clear from the early accounts what sort of family or social groupings might have been expected in these camps, nor the spatial arrangement of these. It is also unclear for how long such camps would have been occupied, whether these were base or transient camps.

4.2 Local archaeological context

Previous work along the Georges River catchment (close to the study area) has shown that approximately 24 sites have been identified in this area. Most of these (62.5%) are open campsites or scarred trees (20.8%) (JMcD CHM 1997a). Similarly, previous work in the Prospect River catchment shows that sites here follow the same pattern. Approximately 30 sites have been identified in the Prospect River catchment and again, most of these are open sites (86.6%) or scarred trees (10%) (JMcD CHM 1997a) Although silcrete is the dominant raw material in this area, the highest proportion of volcanics dominated assemblages in the Cumberland Plain come from the Georges River catchment (JMcD CHM 2003). A low density of archaeological deposits has been identified within the Duck River catchment (Attenbrow 2002).

A request for an AHIMS database search was lodged for this study on 27th February 2007. The results were received on the 6th March 2007. The search area for the study incorporated a 5km radius of the Potts Hill area.

No sites are recorded within this area on the AHIMS database.

4.3 Heritage listing for Potts Hill

Potts Hill is listed on the following Heritage Registers:

Heritage Register	Item	Significance level
State Heritage Register	Potts Hill Reservoir 1	
	Potts Hill Reservoir 2	
Sydney Water s.170 Heritage and Conservation Register	Potts Hill Reservoirs and Site	State
	Potts Hill Pumping Station Ruins	Local
	Potts Hill Pumping Station (WP0004)	Local
Bankstown City Council LEP 2001	Potts Hill Reservoirs and Site	Local
National Trust of Australia	Potts Hill Reservoirs	
	Pipe Head to Potts Hill supply pipes and pressure tunnel	
Register of the National Estate	Location of the Potts Hill Reservoirs	
	Location of Pipe Head to Potts Hill Water supply	

4.4 Predictive model

The predominant archaeological site type on the Cumberland Plain is the open stone artefact scatter. Most occur within shallow shale soils and stratified deposits are rarely encountered. Most sites have been subject to soil formation processes and are at least partially buried.

Extensive previous archaeological work on the Cumberland Plain allows a number of statements to be made in relation to the prediction of site type and location for this area. These can be summarised as follows:

In general:

- The complexity of the Cumberland Plain's archaeological record is far greater than was previously identified on the basis of surface recording and more limited test excavation. Similarly, the time span of Aboriginal occupation has been demonstrated to be far greater than was originally thought (by Kohen 1986);

- Gross patterning is identifiable on the basis of environmental factors: archaeological landscapes on permanent water are more complex than sites on ephemeral or temporary water lines (McDonald 1996: 115). This has been documented by open area excavations in a number of landscape contexts.

Specifically:

- Most sites encountered will be of mid- to late Holocene in age. Specific geomorphic conditions (e.g. deep sand bodies) for the preservation of Pleistocene-aged assemblages do occur but are not common on the Cumberland Plain;

- Where sandstone features occur (e.g. overhangs and platforms) they may have been used for habitation, processing basalt ground-edged axes or the production of art;

- Most areas, even those with sparse or no surface manifestations, contain sub-surface archaeological deposits;

- Where lithic concentrations are found in are found in aggrading or stable landscapes, they are largely intact and have the potential for internal structural integrity. Sites in alluvium possess potential for stratification;

- The density and diversity of implements and *debitage* is conditioned by permanence of water (stream order), landscape unit and distance to lithic source;

- Where silcrete outcrops occur naturally there will be evidence for quarrying and likely some reduction activity in the vicinity; and

- Contrary to earlier models for the region (e.g. Kohen 1986, Smith 1989) many areas contain extremely high artefact densities, with variability appearing to depend on the range of lithic activities present.

Predictive modelling for the Potts Hill Reservoir site

- The Potts Hill Reservoir site has no naturally occurring watersource (although one may have existed in the past). Any previously existing watercourse on the site would have been a lower order stream;
- There are no known sources of silcrete in the vicinity of the site;
- The site is located on a ridge top;
- The site has been heavily modified and disturbed since 1888 through the construction of the reservoirs and associated earthworks/buildings and maintenance.

It is therefore predicted that:

- Due to the generally high existing levels of landscape modification and disturbance over the majority of the site, it is unlikely that intact archaeological deposit will be located on the site;
- If intact archaeological deposit is present, it is most likely to take the form of open artefact scatters or isolated artefacts. Where artefacts occur, they are likely to be of silcrete and, to a lesser extent, volcanics, quartz and chert/indurated mudstone; and
- Scarred trees may occur, but will be rare. Where present, scarred trees are located in areas of remnant forest/vegetation. Although there are areas of remnant vegetation on site, they are outside of the surplus lands and therefore not a part of the current assessment.

5. SURVEY RESULTS

5.1 Fieldwork Methodology

Andrea Ward and Amy Stevens undertook the field inspection of the Potts Hill Reservoir site on Friday 20th April 2007, accompanied by Peter Byrnes (Sydney Water), Gordon Workman and Des Dyer (DTAC), Leanne Watson (DCAC) and Celestine Everingham (DACHA).

The subject land was covered by vehicle and pedestrian survey. Due to the high level of disturbance and fill across the study area, the survey focussed on tracks and other areas of good surface visibility.

Plate 1: Example of surface visibility, fill disturbance along developed lands, adjacent to the main administration building.

Plate 2: Grassy coverage of surveyed lands, west of Reservoir 2

Plate 3: Regeneration area (facing south)

Plate 4: Scattered areas of visibility (concentration of fill). Entrance from Coopers Road, facing east of the surveyed lands.

5.2 Survey Results

No sites or surface artefacts were identified within the Potts Hill study area. Archaeological sensitivity mapping of the site carried out for the initial assessment of the site (Figure 4) identified two disturbance zones: Zones 1 (high disturbance) and Zone 2 (moderate disturbance). As a result of the survey and the identification of higher levels of disturbance than was evident from air photo interpretation, archaeological sensitivity mapping of the study area was Zoned as 3 (low archaeological potential) and 4 (no archaeological potential) (Figure 5).

Fill covers the study area, up to *circa* 6m in height, sloping considerably towards the East-West boundary of the site. The slope wash from the fill alongside Reservoir 2 extends to the road.

Plate 5: Fill from Reservoir 2 (from western boundary of study area, facing east).

Plate 6: Slope wash from fill, private properties adjacent (facing west).

Effective survey coverage of the subject land was limited by extensive grass cover, fill and a large amount of building rubble. The building rubble across the site includes fragments of blue metal and road base as well as abandoned buildings and their associated infrastructure.

Plate 7: Fill and rubbish south of Reservoir 2.

Plate 8: Facing north, bitumen running parallel to Potts Park Oval (outside of study area).

Plate 9: Facing west, view of infrastructure.

Plate 10: Facing east, view towards Rookwood Road.

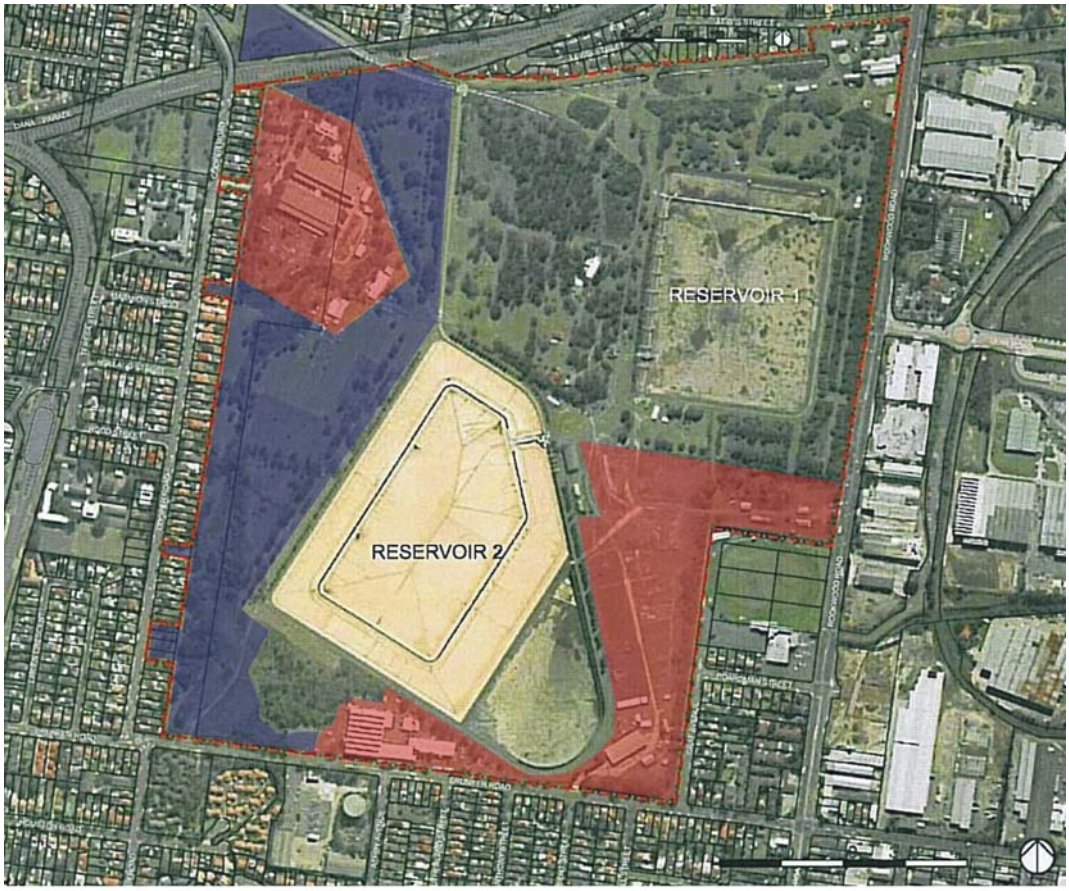
The level of disturbance across the site and the presence of such a large amount of fill allows for the archaeological potential within the study area to be assessed as low to zero.

Plate 11: Layers of fill and clay disturbance along developed lands, behind main administration building (facing west)

On the basis of land-use mapping, prior to the survey (refer to Figure 4), the area with the greatest potential to contain intact archaeological deposit is in the central northern part of the study area, within the Sydney Water retained lands. This area is not a part of the developable lands for the purposes of this study and as such was not surveyed during the field inspection. If the Sydney Water retained lands within the Potts Hill Reservoir Site are to be subject to development in the future, a separate archaeological assessment will need to be conducted for these lands.

The survey identified no sites or artefacts within the study area. As a result of the survey, the assessed zones of archaeological potential for this site are highlighted in Figure 5. The study area assessed as having high disturbance has **no archaeological potential** (Zone 4). The area assessed as having moderate disturbance has **low to no archaeological potential** (Zone 3). This has been evaluated by ground truthing results through survey.

Figure 5: Ground-truthed archaeological sensitivity zones within the study surplus lands (development zones) on the site after inspection.



6. DISCUSSION

In order to appropriately manage Indigenous heritage values in the study area, it needs to be assessed for its archaeological significance and/or potential. Assessment includes the identification of lands with the greatest potential to contain intact archaeological deposit (i.e. only minimally disturbed by previous land-use impact) and those which are locally (and regionally) threatened by existing urban development. These two factors affect the assessment of high conservation potential.

The land-use mapping has been reinterpreted as one of archaeological sensitivity. Four zones are identified generally for this purpose, although only the two lowest categories are found within the subject land:

- Zone 1 – High archaeological potential
- Zone 2 – Moderate archaeological potential
- Zone 3 – Low archaeological potential
- Zone 4 – No archaeological potential

These zones area used to assist in the assessment of the sites and landscapes within the study area.

Cultural significance

This usually refers to the importance of a site or feature to the local Aboriginal community. Certain sites, items and landscapes may have traditional significance or contemporary importance to the community. This importance may involve both traditional links with specific areas, as well as an overall concern by Indigenous people for continued protection of their sites in general. Cultural significance must be assessed by the relevant Aboriginal community – in this case the Gandangara Local Aboriginal Land Council, the Darug Custodial Aboriginal Corporation, the Darug Aboriginal Cultural Heritage Assessments and the Darug Tribal Aboriginal Corporation.

A report outlining the field inspection of the study area and its assessed cultural or Aboriginal significance will be forwarded by the Aboriginal groups and included in the appendices.

Scientific significance

One of the aims of cultural heritage management is to preserve a representative sample of the archaeological resource for the benefit of future scientific researchers and the general public. Assessment of scientific significance involves placing a site or heritage item within a broader regional framework, as well as assessing the site's individual merits in light of current archaeological discourse. This usually includes an assessment of a site's potential to answer current archaeological research questions. Assessment is also based on the condition (integrity), content, and representative of a site, e.g. is it representative of a certain site type? Is it a rare or exceptional example? Can it contribute information that no other site can?

The scientific assessment of The Potts Hill site, with the condition and integrity of the site being highly disturbed, is of low scientific significance.

Public significance

This usually refers to a site's potential to educate the general public about Aboriginal culture, but can have a broader definition. Increasing public awareness and understanding about a site's Indigenous and scientific values may spare other sites spared from inadvertent or intentional destruction. Educating the public to appreciate the past may increase the chances of archaeological resources surviving into the future.

Public significance may also include the different community values placed on a site or heritage place. These may include its importance to local residents or the wider community: e.g. aesthetic values, recreational values, links with local European history and local identity.

Management Principles

The following general management principles apply for sites and landscapes with Aboriginal heritage values which occur within the study area. These principles are predicated on the assessment of archaeological sensitivity based on previous levels of land-use disturbance.

- Sites and/or landscapes with high archaeological potential or Aboriginal significance (particularly in threatened landscape) should be identified as worthy of conservation, and development impacts ion these should be avoided.

- Sites and/or landscapes with good archaeological potential or Aboriginal significance (particularly in threatened landscape) should be avoided if possible by development proposals. If impacts are unavoidable then these features should be subject of further investigation to ensure that information is retrieved prior to their destruction. Selection of salvage areas should be made on the basis of a 'whole of development' approach and be landscape based;

- Sites and/or landscapes with moderate archaeological potential or Aboriginal significance should be managed on the basis of their assessed significance. These

area would only require sub-surface investigation if they provided landscape parameters which are poorly understood in the local and regional context;

- Sites and/or landscapes of low or no archaeological potential or Aboriginal significance do not require planning consideration or further archaeological investigation in relation to the proposed development;

Managing identified sites/landscapes

The proposed management strategy for the study area is predicated on a landscape-based philosophy. Rather than targeting only surface sites of known extent or known significance (e.g. by surface manifestation or through sub-surface investigation), zones based on landscape parameters have been defined. These areas should be managed on the basis of their archaeological sensitivity.

All of the current study area has little or no archaeological sensitivity (Zone 3 and Zone 4). Zone 3 is assessed as having minimal or no archaeological potential; Zone 4 is assessed as having no archaeological potential. These zones pose no constraint to development. Further archaeological works will not be required in these areas.

No land within the current study area has been identified as worthy of conservation. There are no identified heritage constraints within the study area.

6.1 Regional landscape analysis

The Potts Hill Reservoir site is located in a part of Sydney that has undergone extensive modification and urbanisation since 1798, the date at which Governor Hunter located a settlement of marines at the junction of Georges River and Prospect Creek.

The levels of landscape modification that have occurred in this region since the 1940's has been extensive and the character of the Potts Hill area today is that of a suburban neighbourhood, comprising a mixture of low density detached housing with pockets of higher density infill residential development interspersed with areas of industrial development, retail areas, schools, special use areas and public open spaces (Sydney Water 2005). Lands beyond the current study area- to be retained by SWC - preserving remnant vegetation and intact landscapes, should be assessed further if development impacts are proposed on these lands.

6.2 Land use impact assessment

Due to the high existing levels of landscape modification and disturbance across the subject land, it is concluded that intact archaeological deposit is unlikely to have survived at the Potts Hill reservoir site.

7. RECOMMENDATIONS

The following recommendations are made on the basis of:

- the legal requirements of the National Parks and Wildlife Act NSW 1974 (as amended) whereby it is illegal to damage, deface or destroy an Aboriginal Relic without the prior written consent of the Director, DECC NSW;
- the interests of the Gandangara Local Aboriginal Land Council, Darug Tribal Aboriginal Corporation, Darug Custodian Aboriginal Corporation and Darug Aboriginal Cultural Heritage Assessments;
- the findings of this desk top assessment and previous field surveys done within the current study area;
- the assessed potential of the landscapes and archaeological features identified within the study area; and,
- the preliminary stage of the development process.

It is recommended that:

1. There are no areas within the subject land that are considered to have high archaeological potential and hence no areas are identified as being worthy for conservation of their Indigenous heritage values;

2. Areas and/or landscapes within Zone 3 have low archaeological potential while those in Zone 4 have no archaeological potential. These should be considered as developable, and without archaeological constraint. There is no requirement for further investigation in these areas;

3. The recommendations in this report are restricted to the Potts Hill Reservoir site surplus lands. Areas of remnant vegetation that are outside the study area, within the SWC retained lands, are identified as having higher potential to contain intact archaeological deposits. These retained Sydney Water lands have not been surveyed as a part of this report. If these areas of remnant vegetation are proposed for development in the future, they must be subject to a separate Aboriginal archaeological assessment.

4. Gandangara Local Aboriginal Land Council, Darug Custodian Aboriginal Corporation, Darug Tribal Aboriginal Corporation and Darug Aboriginal Cultural Heritage Assessments may wish to be informed about the future stages of this project.

5. One copy of this report should be sent to:

Mr. Mark Johnson and Karen Maltby
Gandangara LALC
Level 2
103 Moore Street,
Liverpool NSW 2170

Gordon Workman and Des Dyer
Darug Tribal Aboriginal Corporation
PO Box 441
Blacktown NSW 2148

Mrs. Leanne Watson
Darug Custodian Aboriginal Corporation
PO Box 81
Windsor NSW 2756

Ms. Celestine Everingham
Darug Aboriginal Cultural Heritage Assessments
90 Hermitage Road
Kurragong Hills NSW 2758

6. Three copies of this report should be sent to:

Ms Lou Ewins
Manager Cultural Heritage Division
Sydney Zone DECC
PO Box 668
Parramatta NSW 2124.

8. REFERENCES

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Appendix 1

Responses from Aboriginal groups

DARUG TRIBAL ABORIGINAL CORPORATION

(Incorporating Darug Link Association Inc.)
P.O BOX 441
BLACKTOWN NSW 2148
02 9672 8323 phone
02 9672 8344 fax only
ABN: 77 184 131 909

13th November 2007

Frances Scully

Project Archaeologist
Jo McDonald Cultural Heritage Management Pty Ltd
77 Justin Street
Lilyfield NSW 2040

The recommendations in this report are restricted to the Potts Hill Reservoir site surplus lands. Areas of remnant vegetation that are outside the study area, within the SWC retained lands are identified as having higher potential to contain intact archaeological deposits. These retained Sydney Water lands have not been surveyed as a part of this report. If these areas of remnant vegetation are proposed for development in the future, they must be subject to a separate Aboriginal archaeological assessment
Darug Tribal Aboriginal Corporation (DTAC) wisher's to be informed about the future work stages of this project.

With Thanks

Gordon Workman

Chairperson DTAc

0411240710

Darug Aboriginal Cultural Heritage Assessments

28 Calala Street, Mt Druitt 2770
ABN 51734106483

Gordon Morton
Ph: 9625 0005
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Celestine Everingham
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Mob: 0432 528 896

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Attention
Fran Scully
Jo McDonald C.H.M.

re Potts Hill, Bankstown –
Darug Heritage Assessment

DACHA have reviewed your report on the above and support your findings. We wish to be notified if any changes are to be made in the future stages of this project, however DACHA finds there are no identified Darug Heritage constraints in this study area.

Yours Sincerely,

G Morton