



Panthers North Precinct
Aboriginal Heritage Due Diligence Assessment

Report to Cabe for ESQ 1818 Panthers Pty Ltd

31 May 2016

LAKE

RANSLEY STREET

PROPOSED APARTMENTS AND CAR PARK

EXISTING CAR PARK

TRIGON ROAD



Panthers North Precinct

Aboriginal Heritage Due Diligence Assessment

Penrith Local Government Area

Report to Cabe for ESQ 1818 Panthers Pty Ltd
31 May 2016

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1 Introduction

1.1 Scope

ESQ1818 Panthers Pty Ltd proposes to construct a mixed use development within the Panthers North Precinct at Penrith. Baker Archaeology was commissioned by Cabe for ESQ 1818 Panthers Pty Ltd to assess whether Aboriginal heritage impacts may result from the development. The project is subject of Development Application (DA) before Penrith City Council for an approval under Part 4 of the *Environmental Planning and Assessment Act 1979*. Council has requested an Aboriginal heritage assessment as part of its consideration of the DA.

The appropriate level of investigation for this purpose is a due diligence assessment as per the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW, 2010). This high level of assessment is appropriate for identifying whether physical evidence of Aboriginal objects is present or likely to occur on the site. A more detailed Aboriginal Cultural Heritage Assessment would be warranted if physical evidence is identified and relevant approvals required.

Information about the proposal, the land and relevant maps contained in this report has been provided by Cabe to the author.

1.2 Method

The due diligence assessment method includes:

- review of the Aboriginal Heritage Information Management System (AHIMS) site register held by the Heritage Division of the Office of Environment and Heritage (OEH);
- review of Aboriginal heritage assessment reports relevant to the area;
- consideration of environmental aspects normally considered as sensitive for Aboriginal site occurrence; and
- visual inspection for familiarisation purposes.

Data from these tasks are presented and assessed in this due diligence report.

1.3 The Study Area

The study area is defined as a 6.6 hectare area generally on the northern side of the existing main Panthers Club building. The area occurs generally between Mulgoa Road in the east and an electricity easement and artificial lake in the west and a retirement complex in the north (Figure 1). The land comprises Part Lot 1 DP1043008, Lot 1 DP1064526 and Lot 1021 DP812335.

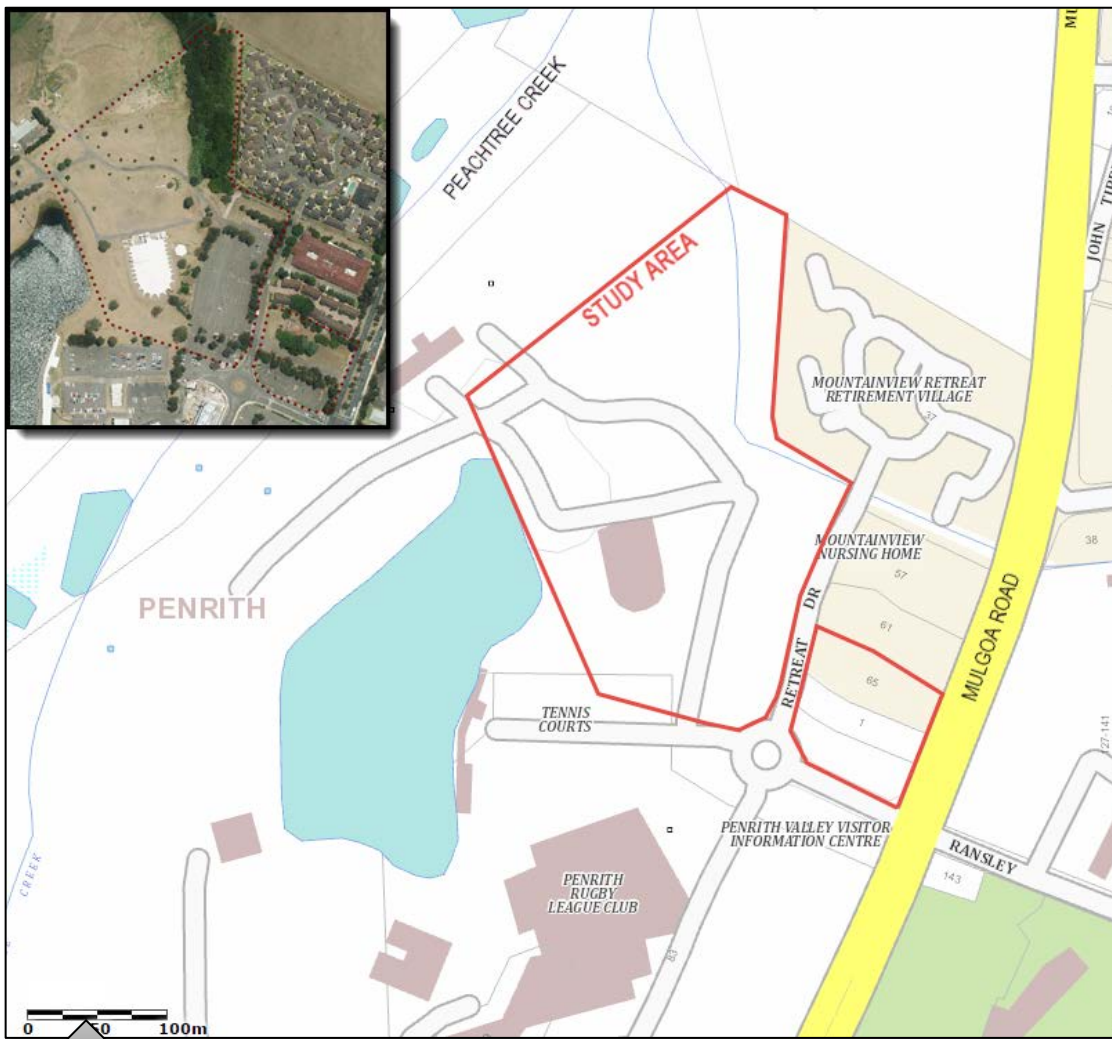


Figure 1. The Study Area

Source: LPI Six Maps

1.4 Legislation

1.4.1 National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act) provides for the protection of Aboriginal objects and declared Aboriginal places by establishing offences of harm. The NPW Act does not refer to “Aboriginal sites”, however it is generally understood that the term refer to the locations where *Aboriginal objects* are known to occur.

Harm is defined as destroying, defacing, damaging and Aboriginal object or Aboriginal place, or moving an object from the land. Part 6 of the Act includes a knowing offence of harm and a strict liability offence of harm. There are a number of defences and exemptions to the offence of harm. One defence is the possession of an Aboriginal Heritage Impact Permit (AHIP) issued under section 90 of the NPW Act. An application for an AHIP must include an Aboriginal Cultural Heritage Assessment (ACHA) and evidence of Aboriginal consultation undertaken in accordance with clause 80C of the *National Parks and*

Wildlife Regulation 2009. Under certain circumstances an AHIP may not be required, such as where the activity is trivial, negligible or of low impact.

1.5 Participants and Authorship

This report was prepared by Neville Baker BA Hons MAACAI who is a consultant archaeologist of over 20 years' experience. Participants on the field inspection on 27 May 2016 included Neville Baker, Joe Bevacqua (Cabe) and Steve Randall (Deerubbin Local Aboriginal Land Council (DLALC)).

2 Background

2.1 Environmental Setting

The study area is located entirely on the Nepean River alluvial plain approximately 500 metres from the present Nepean River. Prior to European arrival, the land was originally part of a complex of shallow creeks and stranded former river channels. The land would have been subject to periodic flooding, but the rich soil, creek channel and other former channel depressions would have provided rich food resources for original Aboriginal inhabitants. The past 200 years have seen the land cleared of its original riverine forest and, in more recent decade, extensively modified, filled and altered.

2.1.1 Topography

The study area is generally flat, reflecting its origin as an alluvial plain but with local irregularities indicative of construction disturbance over recent decades. Modern filling in the north western area has created a locally elevated flat area.

2.1.2 Drainage

The study area occurs within the catchment of the Nepean River which is located approximately 500 m to the north. Peachtree Creek, a third order creek, flows north east parallel to the river, 150 metres west of the study area. An unnamed first order right bank tributary of Peachtree Creek flows through the study area, although it appears more as a broad weed-filled wet depression. This channel originally ran through the land where the current Panthers main club building stands. The channel was filled south of the study area as part of construction of the club building in the early 1980s or earlier.

2.1.3 Geology and Soils

The study area is located on alluvium and modern fill in the Richmond soil landscape¹. The Richmond soil landscape is typically comprised of Quaternary alluvium consisting of sand, silt and gravels derived from sandstone and shale. The area is otherwise described as belonging to the Cranebrook Formation (Smith & Clark 1991:43).

A geotechnical investigation (Ground Technologies 2016) confirmed a natural sequence of silts and sands underlain by a dense gravel layer of cobble to boulder size. This sequence was overlain in all areas to some degree by fill and a modern topsoil layer. Much of the southern area comprises modern concrete and asphalt car park with less fill between 0.1 metres to 1.5 metres. The northern area includes significantly disturbed land with more fill up to 3 metres. The western and north western parts of the study area, including the area adjacent to the lake appear to be on a fill platform (Ground Technologies 2016:5).

2.1.4 Vegetation

Although the land would have once comprised river-flat forest dominated by *Eucalyptus benthamii* (Camden white gum or Nepean River gum – Benson 1992), no trace of forest remains. The land is now open lawn with introduced garden plants in prepared beds, and a complex of weeds mainly within the tributary channel.

¹ ESPADE soil data OEH <http://www.environment.nsw.gov.au/eSpadeWebapp/> accessed 18 May 2016

2.1.5 Disturbance

The land is significantly disturbed. Natural drainage depressions evident in early air photos are filled and landforms reshaped in the 1980s and beyond. Borehole logs reveal thick layers of fill in the northwest area. Air Photos and logs suggest that original land surface in the south east have been scraped to level and drain the car park areas.

The pre-development cleared condition of the land is evident in a 1943 air photo which shows the original Peachtree Creek tributary channel through cleared dairy land (Photograph 1). The complex of old channel depression on the floodplain is evident in the photo. The concrete canal alongside to present Penrith Showground and onto the study area is evident.



Photograph 1. 1943 Air Photo over Modern Air Photo with Study Area outlined

Source: LPI

The contamination report includes an review of air photos from 1960 and 1970 (Ground Technologies 2016b:5) and its findings are repeated here.

In 1960 the site appears to be utilised as pastoral land and residential housing. Residential houses appear to be present on the eastern side of the site. Neighbouring properties are rural/farming.

In 1970 the land is still utilised as market gardening, pastoral land and residential housing. Residential houses appear to be present on the eastern side of the site. Neighbouring properties are rural/farming. Construction of the Panthers club complex around the early 1980s included significant filling of the Peachtree Creek tributary (Photograph 2).



Photograph 2. 1983 Panthers Construction: filled and disturbed areas circled

Source: Penrith City Council Photo #2526 (extract) General Photographic Collection

In 1986 the Panthers Club complex has been mostly constructed, with car parks in the south eastern part of the study area. Earthworks in the north western part of the study area are evident in the air photo (Figure 2). These earthworks were also described in the archaeological survey of the electricity transmission line corridor by Elizabeth Rich (Rich 1986) who identified an number of Aboriginal stone artefact sites within the Panthers land (see summary below). Dallas also conducted a follow up archaeological survey of the sites within Panthers land reported by Rich, and described the areas as having been “bulldozed, graded and covered with stockpiles of the bulldozed deposits” (Dallas 1987:25).



Figure 2. 1986 air photo showing extensive construction disturbance

Source: Ground Technologies 2016b Figure 4.3

This disturbance in the vicinity of site 45-5-541 (RP5) was ongoing, with filling of the area evident as recently as 2013 observed in an online air photo sequence.

The filling of the land is evident in borehole logs (Ground Technologies 2016a: Appendix B). The varying depth of surface fill is illustrated in Figure 3.

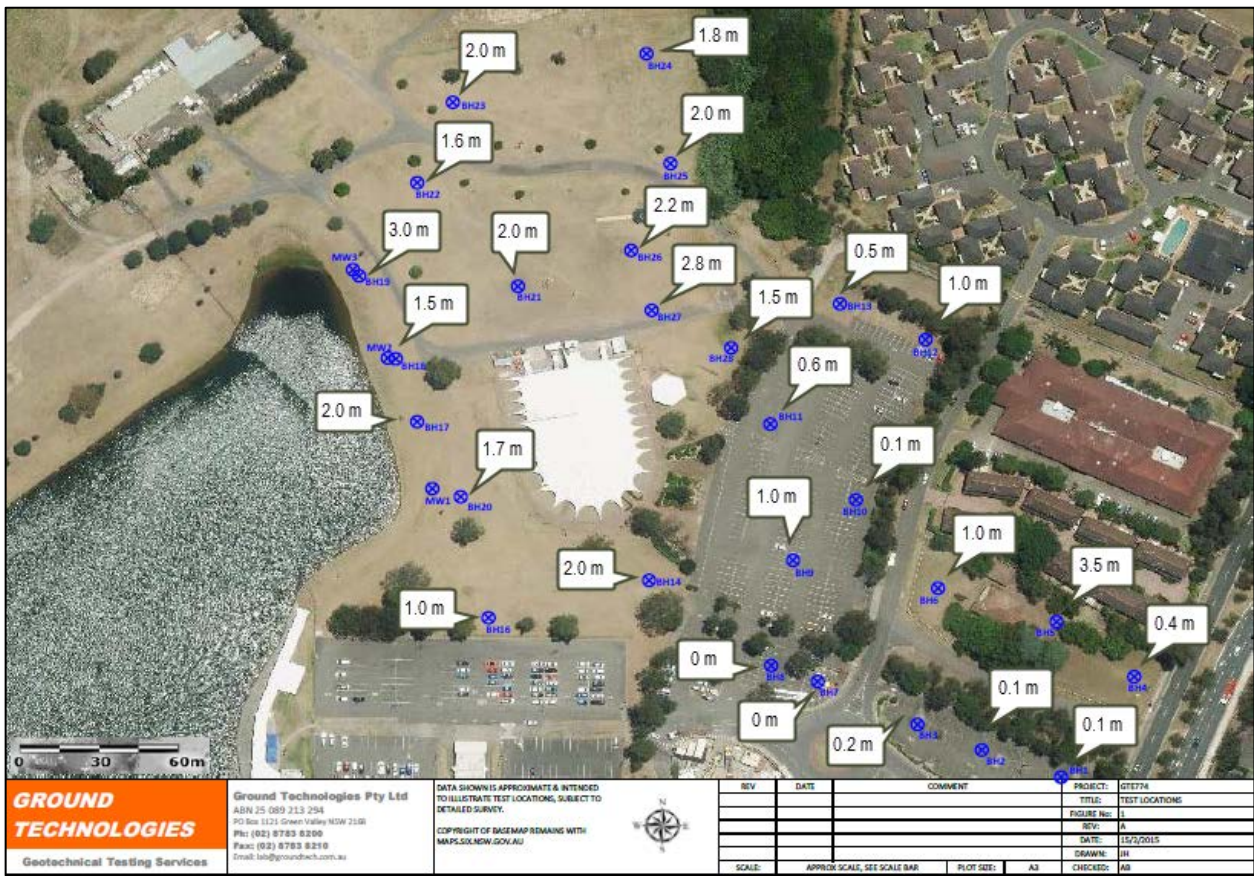


Figure 3. Depth of Fill based on Borehole Logs

Source: Ground Technologies 2016a Figure 1 & Appendix B Logs; annotation by NB

2.2 Aboriginal Archaeological Background

The study area is located within the Nepean valley which divides the shale-based Cumberland Plain from the dissected sandstone country of the Blue Mountains. The archaeological contrast between mountains, plain and riverine valley is significant. Cumberland Plain archaeology is dominated by stone artefact sites captured within topsoil layers of texture contrast soils. With rare exceptions, Cumberland Plain sites contain stone toolkits dating to the last 5,000 years. Other site types such as Aboriginal scarred trees are rare and opportunities to reliably date sites are few, apart from the typological marker of backed artefacts and associated technology. The raw materials to make these tools included silcrete acquired from deposits of old river cobbles stranded on high ridges across the north western Cumberland Plain in locations such as Luddenham, Riverstone, Plumpton and Glossodia (Doelman et.al 2015). Indurated mudstone/tuff (IMT – Hughes et.al 2011) from the Nepean gravels and Rickabys Creek gravels was also used and some deeper open site deposits indicate it was the preferred raw material in earlier assemblages (e.g. site RH/CC2 on Cattai Creek, Rouse Hill – JMCHM 2005). The suggested preference for IMT points to an earlier settlement pattern focussed on the Nepean-Hawkesbury Riverine Plain, as suggested by Kohen (Kohen 1986).

Earliest evidence of Aboriginal occupation in the region dates from the alluvial sediments at Windsor dated to around 15,000 years (Williams et.al. 2012) as well as from Shaws Creek KII excavations near

Yarramundi on the western side of the Nepean River (Kohen et al 1984) where a radiocarbon date of 14,700 before present was obtained from the lower occupation level. Aboriginal occupation has been dated to over 40,000 years at many sites throughout Australia including the famous site of Lake Mungo in western NSW. Evidence for Aboriginal occupation 55,000 years ago in the Northern Territory has been claimed and disputed (Hiscock 2008). Aboriginal occupation more than 6,000 years ago in the Sydney Basin may well have been focussed on now-drowned river valleys and the coastal fringe at least 45 km to the east of the present day coastline.

Aboriginal sites in the Hawkesbury sandstone country surrounding the Cumberland Plain comprise rockshelter sites with art and occupation deposit as well as an abundance of sandstone-based Aboriginal site-types such as axe-grinding grooves, rock engravings or pigment art sites. Open stone artefact sites are less commonly recorded, although this likely reflects less development-driven archaeological investigation in this region.

A number of important local archaeological studies are directly relevant to the study area. The archaeological importance of the alluvial plain west of Mulgoa Road was highlighted in an early Penrith City Council area Aboriginal heritage study by Rhoads (1985). Aboriginal sites in the vicinity of what is now the Penrith Lakes at Cranebrook and Castlereagh had been recognised in the early 20th century by McCarthy (1948), but it was only with the work of Stockton and Kohen that closer attention was paid. Stockton reported the presence of flaked stone implements from deep gravel layers dated to older than 40,000 years old but sceptics question the provenance and whether the objects are actually of natural origin rather than of Aboriginal manufacture. Kohen conducted over 10 years of annual monitoring of deep gravel layers at Penrith Lakes to identify whether there were stone artefacts present within the gravels. No artefacts were observed in the gravels contrary to Stockton's claims, reinforcing the unreliability of his claims. In the author's recent work in recent decades at Penrith Lakes a greater concentration of artefacts has been identified along the banks of Cranebrook Creek (pers.obs.) and elevated areas such as Hunts Gully at the northern end of the Cranbrook Terrace. These assemblages are clearly Holocene in age based on the presence of backed artefacts and associated technology.

A very recent claim for Pleistocene artefacts deep within the Nepean alluvium has been made at Peachtree Creek just north of the Victoria Bridge where a claim for artefacts many metres within alluvial layers has been made (AHMS 2014). The illustrated objects in the AHMS report (AHMS 2014:45-46) do not convince this author that they are Aboriginal flaked stone tools on the basis of lack of clear morphology derived from humanly-induced conchoidal fracture. Like Stockton, the claims of deep archaeological evidence within the Nepean alluvial plain do not withstand close scrutiny. There remains no convincing basis for expecting archaeological evidence beyond 50 cm depth from present day surface except where there is evidence of very recent alluvium.

3 Results

3.1 Relevant Local Reports

3.1.1 Rich 1986 Transmission Line Survey

Within the study area a number of sites have been found in the course of archaeological survey in the 1980s. In 1986 an archaeological survey was conducted by Rich (Rich 1986) along the route of the existing electricity transmission line through Panthers land at the western margin of the study area. Three large stone artefact sites were found including one, 45-5-541 (RP5) within the north western part of the present study area and two near the present Cables lake. Dallas investigated these sites further in 1987 (Dallas 1987) describing significant disturbance at RP5. Two sites near or in the present Cable ski park lake were subsequently test excavated in a somewhat cursory and uninformative manner (Silcox 1987).

Site 45-5-541 (RP5) was described as follows (Rich 1986: 36; see Figure 4 and Figure 5):

Location: ...about 15 metres east of Tower 5.

Description: Artefacts are exposed by a bulldozer excavation about 40m long x 10-40m+ wide, and up to about 1m deep. The full extent of the site could not be determined due to poor ground visibility.

The excavation wall shows a pale brown silty-clay about 50cm thick which grades into an orange basal (?) clay.

Artefacts were present in disturbed stock piles and along the section walls. A total of 37 artefacts were recorded, most being less than 3cm long. No cores were observed, and no bipolar pieces. A large number of the flakes were wider than long. Raw material was largely indurated mudstone, with some chert, quartz and silcrete.

Condition: An area of about 40m x 20m has been destroyed by the excavation. Construction of the track and the transmission line will also have caused some disturbance. In places the ground was uneven to walk across, but the full extent of disturbance could not be determined due to poor ground visibility.

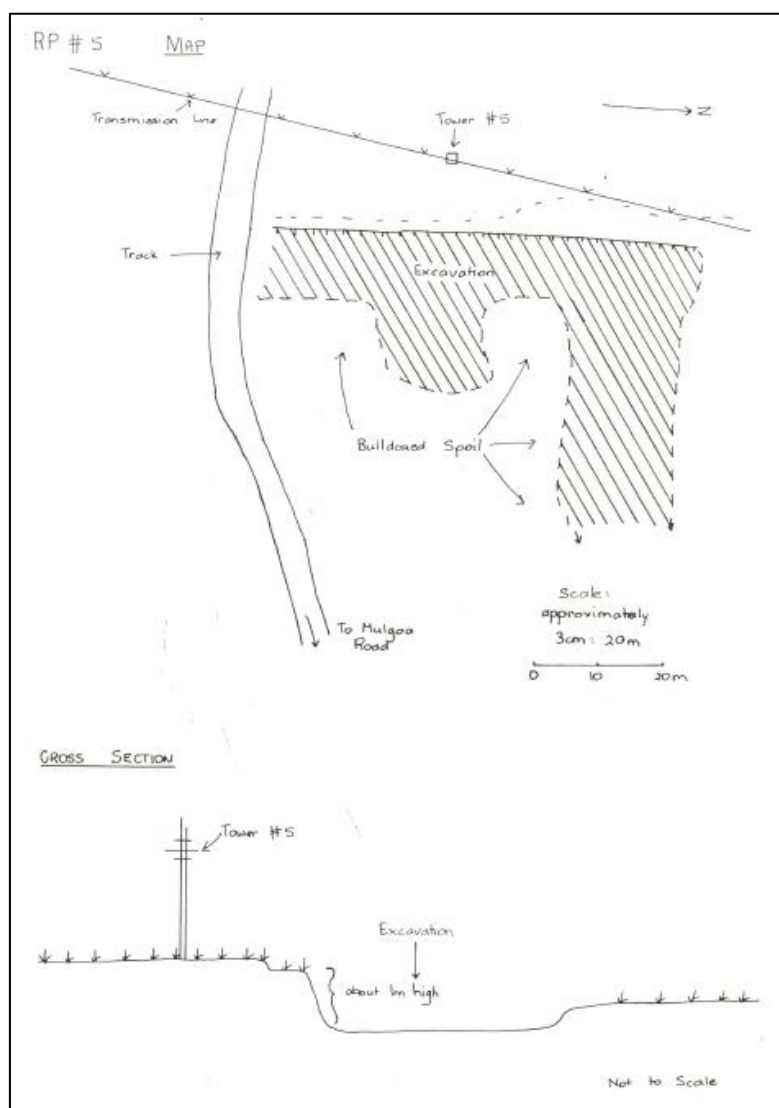


Figure 4. Site 45-5-541 (Site RP5) map from Rich 1986:37

3.1.2 Dallas 1987 Cable Ski Park Survey

Sites 45-5-539 (RP3) and 45-5-540 (RP4) were found by Dallas as a follow-up survey to comprise extensive distributions of stone artefacts over an area greater than that recorded by Rich. These sites, comprising stone artefacts observed in ground exposures across an area of 300 m by 300 m likely reflected an extensive distribution of artefacts within the topsoil all along Peachtree Creek. She agreed with Rich's earlier recommendation for test excavation.

In her assessment of 45-5-541 (RP5) Dallas noted that it was a "thoroughly disturbed site, the site context is completely destroyed" (Dallas 1987:25) and she concluded that no further investigation or management was warranted.

The location of these sites according to coordinates registered in the Aboriginal Heritage Information System (AHIMS) Aboriginal sites database and my estimate of areas based on the Rich and Dallas reports is illustrated in Figure 6 below.

3.1.3 Silcox 1987 Test Excavation of 45-5-539 (RP3) and 45-5-540 (RP4)

Silcox was commissioned to conduct archaeological test excavations following Dallas's recommendations (Silcox 1987). A total of 11 roughly rectangular trenches of 1 m by 0.2 m were dug somewhat haphazardly. The sampling approach is haphazard, recording is poor by contemporary standards and does not meet present standard. The excavations demonstrated the presence of subsurface artefact deposit less than 40 cm deep. A total of 11 of these shovel trenches were dug with Silcox concluding that there was disturbance and landform modification evident across the site. The sites were assessed as being of low scientific significance on the basis of the disturbance.



Figure 5. Aboriginal Sites within Panthers Land

Source: LPI Aerial photography WMS in QGIS 2.12.2; AHIMS Data; approximation of site areas from Dallas 1987 map

3.2 AHIMS Aboriginal Site Search

The AHIMS Aboriginal sites register lists point coordinate for previously recorded Aboriginal site where a site card has been lodged with the NSW government authority, currently the Heritage Division of the Office of Environment and Heritage (OEH). Older records may include inaccurate locational information due to translated imperial to metric coordinates.

A search of the AHIMS Aboriginal site register was conducted on 13 April 2016 (AHIMS client service ref: 220547 – see Appendix A). An area of 5 km x 5 km centred on the study area was searched. A total of 24 Aboriginal sites were identified within the search area, including one within the study area as described above (Figure 6). All but one of the sites within the 25 km² search area are stone artefact sites, with the exception being a possibly spurious record of a stone engraving site at the Penrith Regional Art Gallery, an area devoid of sandstone.

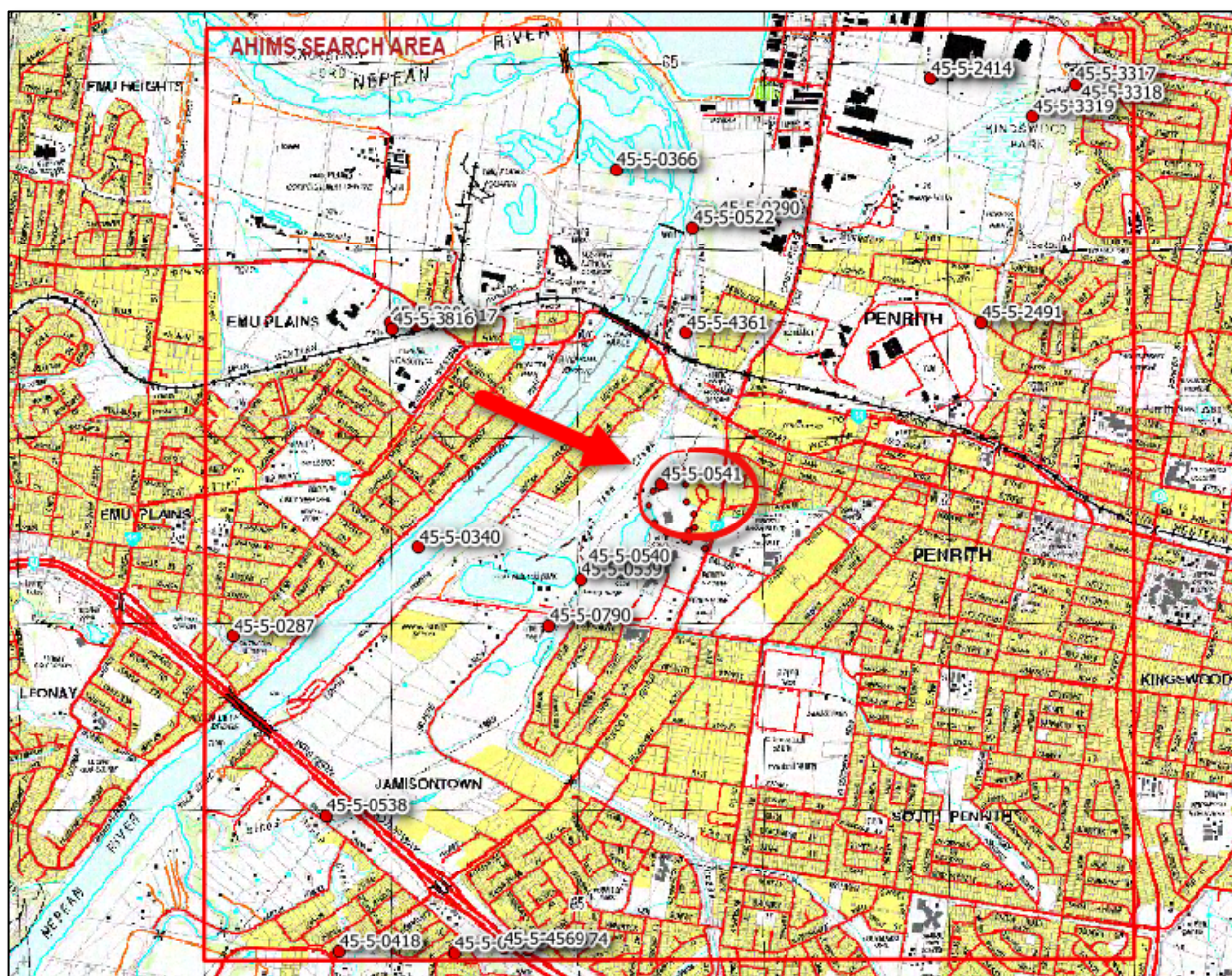


Figure 6. AHIMS Aboriginal Site Register Results

Source: LPI Topographic maps in QGIS 2.12.2; AHIMS coordinate data;

3.3 Visual Inspection

A visual inspection of the site in accordance with OEH due diligence guidelines was conducted on 27 April 2016 by Neville Baker accompanied by Joe Bevacqua (CABE) and Steve Randall from the Deerubbin Local Aboriginal Land Council. All parts of the study area were inspected on foot and documented in a series of photographs (Photographs below). No Aboriginal objects were identified across the heavily

disturbed area, however all parts of the ground were covered in mown grass car park tarmac, building footprint or concrete drain rendering efforts to detect Aboriginal objects ineffective.

The location of former site 45-5-541 near the transmission line was inspected and observed to be modified as evident in the constructed drainage swale (Photograph 3). The Peachtree Creek tributary was observed to be choked with weeds in the north western area and channelised in a pre-1943 concrete drain in the eastern part (Photograph 4, Photograph 5). Roads, car park areas, terraces and structures within an irregular topography are indicative of the past decades of excavation, filling and landform modification across the study area (Photograph 6, Photograph 7).



Photograph 3. View north east over area of former site 45-5-541 (RP5)



Photograph 4. View north along Peachtree Creek tributary



Photograph 5. View south east along concrete drain



Photograph 6. View south over car parks in southern study area



Photograph 7. View south to middle study area showing terrace from fill and exhibition centre in distance

3.4 Have Aboriginal Sites Survived?

The study area occurs in a landscape previously identified as archaeologically sensitive, in an environmentally suitable area for repeated camping. Past archaeological survey has confirmed the past presence of Aboriginal objects in previous soil exposures both within the study area at site 45-5-451 (RP5) and in other parts of the Peachtree Creek environs in Panthers land (sites 45-5-539 and 45-5-540). Furthermore observations at site 45-5-541 (RP5) and test excavations at sites 45-5-539 (RP3) and 45-5-540 (RP4) confirm that artefacts were present within the upper 40 cm of the soil profile. These observations indicate the archaeological sensitivity of the entire Peachtree Creek area with the Panthers land.

Regardless of disturbance, if Aboriginal objects are present even in a disturbed condition, they are protected under the NPW Act and require an approval prior to any harm. The question then is have Aboriginal stone artefacts survived in a disturbed state at site 45-5-541 (RP5) in a manner which may be harmed by the development? Evidence from air photos and geotechnical logs suggest not. Evidence points to excavation and filling of the land. Given that artefacts are limited to the topsoil upper 40 cm of original soil sequence and considering the excavation and reshaping of land I consider that there is no reasonable prospect of Aboriginal objects remaining. On this basis site 45-5-541 (RP5) is considered destroyed by past activity.

4 Conclusion

4.1 Key Findings

Aboriginal objects were observed within the study area in 1986 in a highly disturbed context and recorded as site 45-5-541 (RP5).

Site 45-5-541 has since been subject to excavation and filling in the context of major construction works in 1986 and ongoing use as a construction spoil stockpile area as recently as 2013.

There is no reasonable chance of Aboriginal objects at site 45-5-541 having survived the cycles of construction excavation, subsequent spoil stockpiling and landform modification for landscaping purposes. Two metres of fill now lies over truncated alluvium. The truncated surface of undisturbed alluvium would not include original artefact bearing topsoil.

The history of disturbance to the entirety of the study area makes the discovery of any Aboriginal objects improbable, regardless of its original pre-development environmental setting being suitable for survival of archaeological evidence.

There is no reasonable prospect of deeply buried artefacts occurring. Previously claims for deeply buried artefacts near gravel layers do not stand up to close archaeological scrutiny.

No impacts to Aboriginal objects are anticipated to occur.

4.2 General Recommendations

There is no identified Aboriginal heritage constraint to proceed with the proposed development. Based on the findings of this assessment there is no justification for further archaeological assessment or monitoring.

In the unlikely event that an Aboriginal object is identified, all work must stop in the general vicinity of the land and an archaeologist should be contacted to assess the object and, if confirmed, advise on the requirements for an Aboriginal Heritage Impact Permit under section 90 of the NPW Act.

If human skeletal remains are located all work must immediately stop and the Police should be contacted. If the skeletal remains are confirmed to be Aboriginal then OEH must be contacted on the Enviroline 131 555. Contact with the Deerubbin Local Aboriginal Land Council is also advisable on the advice of OEH.

References

- AHMS (2014) *Archaeological Technical Report: Peachtree Creek Stabilisation Works, Penrith, NSW (Penrith LGA)* Report to Penrith City Council
- Attenbrow, V. (2004) **What's Changing: Population Size or Land-Use Patterns? The Archaeology of Upper Mangrove Creek, Sydney Basin Terra Australia 21** Pandanus Books ANU: Canberra
- Attenbrow, V. (2010) **Sydney's Aboriginal Past** UNSW: Sydney
- Benson, D.H. (1992) The Natural Vegetation of the Penrith 1:100 000 map sheet **Cunninghamia** 2(4) 541-596
- Dallas, M. (1987) *Archaeological Survey of Penrith Cable Ski Park* Report to Leffler Simes Adameitis Pty Ltd, Architects for Penrith Rugby League Club
- Doelman, T., J. Webb, A. Williams, J. May, & F. Barry (2015) Palaeochannels and Patches: a Geoarchaeological Assessment of Silcrete Sources in the Cumberland Plain, Eastern Australia **Geoarchaeology** 30: 495-510
- Ground Technologies (2016a) *Geotechnical Investigation at Panthers North Precinct* Report to ESQ 1818 Panthers Pty Ltd
- Ground Technologies (2016b) *Stage 1 Contamination Assessment at Panthers North Precinct* Report to ESQ 1818 Panthers Pty Ltd
- Hiscock, P. (2008) **Archaeology of Ancient Australia**, Routledge, London: pp.34-44
- Hughes, P., Hiscock & A. Watchman (2011) Terminological debate in the upper Hunter Valley: Indurated Mudstone versus Tuff **Australian Archaeology** 72
- JMCHM (2005) **Salvage Excavation of Six Sites along Caddies, Seconds Ponds, Smalls and Cattai Creeks in the Rouse Hill Development Area, NSW** Australian Archaeological Consultancy Monograph Series Volume 1 AACAI: St Lucia Queensland
- Kohen, J. (1986) *Prehistoric Settlement in the western Cumberland Plain: Resources, Environment and Technology* PhD thesis School of Earth Sciences, Macquarie University, Sydney
- Kohen, J.L., E.D. Stockton and M.A.J. Williams (1984) Shaws Creek KII Rockshelter: A prehistoric occupation site in the Blue Mountains piedmont, eastern New South Wales. **Archaeology in Oceania** 19(2):57-73.
- McCarthy, F.D. (1948) The Lapstone Creek Excavation: Two Culture Periods revealed in Eastern New South Wales **Records of the Australian Museum** 22(1): 1-34
- Rich, E. (1986) *Proposed Transmission Line between Regentville and Penrith: Archaeological Survey for Aboriginal Sites* Report to Electricity Commission of NSW
- Silcox, R. (1987) *Test Excavations at Sites RP3 and RP4 on Peachtree Creek, Penrith* Report to Leffler Simes Adameitis Pty Ltd, Architects for Penrith Rugby League Club
- Smith, V. & N.R. Clark (1991) Cainozoic Stratigraphy in D.C. Jones and N.R. Clark (eds) **Geology of the Penrith 100,000 Sheet 9030** Dept Mineral Resources, Sydney pp.29-56
- Tindale, N. 1974 **Aboriginal Tribes of Australia: Their Terrain, Environmental Controls, Distribution, Limits and Proper Names** University of California Press, Berkeley
- Williams, A.N., Mitchell, P., Wright, R.V.S., Toms, P. (2012) A Terminal Pleistocene Open Site on the Hawkesbury River, Pitt Town, NSW. **Australian Archaeology**, 74: 85-97.

Appendix A – AHIMS Search Results

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-5-2416	L-1;Penrith Lakeside Village; Contact	AGD	56	286800	6264740	Open site	Valid	Artefact : -	Open Camp Site	102450
45-5-3317	Western Sydney 5 Contact Searle	GDA	56	287679	6264900	Open site	Valid	Artefact : 1		100554,102450
45-5-3318	Western Sydney 6 Contact Searle	GDA	56	287710	6264801	Open site	Valid	Artefact : 5		100554,102450
45-5-3319	Western Sydney 7 and PAD Contact Searle	GDA	56	287450	6264725	Open site	Valid	Artefact : 1, Potential Archaeological Deposit (PAD) : -		100554,102450
45-5-3904	EPRSY 3(PAD) Contact	GDA	56	284000	6263615	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
45-5-1074	Clyburn Avenue; Contact	AGD	56	284630	6260060	Open site	Valid	Artefact : -	Open Camp Site	103155,103360
45-5-2414	L1 (Penrith Lakeside Village) Contact	AGD	56	286800	6264740	Open site	Valid	Artefact : -	Open Camp Site	102450
45-5-0418	SP 20 South Penrith Contact	AGD	56	283620	6260050	Open site	Valid	Artefact : -	Open Camp Site	256,1018,103155,103360
45-5-0340	Penrith Regional Art Gallery Contact	AGD	56	284048	6262220	Open site	Valid	Art (Pigment or Engraved) : -	Rock Engraving	260,1018,103155,103360
45-5-0366	Emu Plains Emu Plains 4 Contact	AGD	56	285107	6264253	Open site	Valid	Artefact : -	Open Camp Site	1018,102450,103155,103360
45-5-0538	RP#2 Regentville Contact	AGD	56	283550	6260780	Open site	Valid	Artefact : -	Open Camp Site	1018,103155,103360
45-5-0539	RP3 Peach Tree Creek Contact	AGD	56	284920	6262050	Open site	Valid	Artefact : -	Open Camp Site	1018,103155,103360
45-5-0540	RP4 Peach Tree Creek Contact	AGD	56	284960	6262120	Open site	Valid	Artefact : -	Open Camp Site	103155,103360

Report generated by AHIMS Web Service on 13/04/2016 for Neville Baker for the following area at Datum :GDA, Zone : 56, Eastings : 283000 - 288000, Northings : 6260200 - 6265200 with a Buffer of 0 meters. Additional Info : Due diligence. Number of Aboriginal sites and Aboriginal objects found is 24

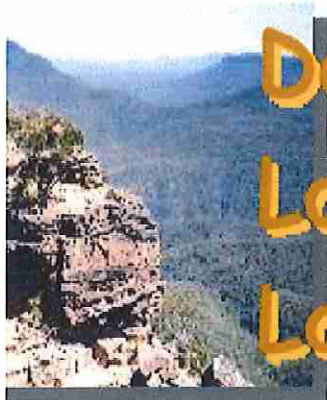
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SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
45-5-0541	RP5 Penrith Leagues Club	AGD	56	285350	6262560	Open site	Valid	Artefact : -	Open Camp Site	102450,103155,103360
	Contact		Recorders	Elizabeth Rich				Permits		
45-5-0287	Emu Plains (Jamisons Creek)	AGD	56	283052	6261743	Open site	Partially Destroyed	Artefact : -	Open Camp Site	260,1018,103155,103360
	Contact		Recorders	Jim Kohen				Permits	1423,1842	
45-5-0290	The Island	AGD	56	285661	6263989	Open site	Valid	Artefact : -	Open Camp Site	260,526,1018,102450,103155,103360
	Contact		Recorders	Jim Kohen				Permits		
45-5-0305	SP 7;	AGD	56	284240	6260040	Open site	Valid	Artefact : -	Open Camp Site	256,260,1018,103155,103360
	Contact		Recorders	Mary Dallas Consulting Archaeologists				Permits	173	
45-5-0790	Jamison_and Blaikie Roads;	AGD	56	284750	6261800	Open site	Valid	Artefact : -	Open Camp Site	1633,103155,103360
	Contact		Recorders	Pam Dean-Jones				Permits		
45-5-0522	Penrith P/1	AGD	56	285520	6263940	Open site	Valid	Artefact : -	Open Camp Site	1018,102450,103155,103360
	Contact		Recorders	Jim Kohen				Permits		
45-5-4569	M4-19B Regentville	GDA	56	284607	6260253	Open site	Valid	Artefact : -		
	Contact		Recorders	Helen Brayshaw				Permits		
45-5-2491	Coreeen Ave 1	AGD	56	287070	6263430	Open site	Partially Destroyed	Artefact : -	Open Camp Site	98259,102450,103155,103360
	Contact		Recorders	Helen Brayshaw,Tony Kondek				Permits	1367	
45-5-3816	Emu Plains Rail Stabling Yards	GDA	56	284015	6263583	Open site	Destroyed	Artefact : 1		
	Contact		Recorders	Mr.Alan Williams,Mr.Alan Williams				Permits	3485	
45-5-3817	Emu Plains Rail Stabling Yards1	GDA	56	284138	6263601	Open site	Destroyed	Artefact : 1		
	Contact		Recorders	Mr.Alan Williams,Mr.Alan Williams				Permits	3282	
45-5-4361	Peachtree Creek PAD	GDA	56	285590	6263560	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) : -		103360
	Contact		Recorders	Mr.Oliver Brown				Permits	3664,3688	

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Appendix B – Letter from Deerubbin Local Aboriginal Land Council



Deerubbin Local Aboriginal Land Council

Level 1, Suite3
291-295 High Street
PENRITH NSW 2750

PO Box 40
Penrith BC
NSW 2751 AUSTRALIA

ABN: 41 303 129 586
T: (02) 4724 5600
F: (02) 4722 9713
E: reception@deerubbin.org.au
W: <http://www.deerubbin.org.au>

Baker Archaeology

Our Ref: 2570

P O Box 8225

GLENMORE PARK NSW 2745

12 May 2016

PROTECTION OF ABORIGINAL CULTURAL HERITAGE

Proposed Development, Panthers

Part Lot 1 in DP 1043008, Lot 1 in DP 1064526 and Lot 1012 in DP 812335

Mulgoa Road, Penrith

Attention: Neville Baker,

A representative of Deerubbin Local Aboriginal Land Council inspected the proposed development area of the abovementioned lots at Panthers Wednesday, 27 April 2016. An Aboriginal cultural heritage assessment was undertaken to evaluate the likely impact the proposed development has on the cultural heritage of the land.

It is reported that, due to the levelling, landscaping and infrastructure with the waterway diversion the landform has been highly disturbed. No Aboriginal cultural material (in the form of stone artefacts, for example) were located during the assessment.

Deerubbin Local Aboriginal Land Council therefore, has no objection to the proposed development of high rise units located at Panthers

Yours Faithfully,

(Steven Randall

Aboriginal Cultural Heritage Officer)

C.c. Miranda Firman – Office of Environment & Heritage