

Report Title	Aboriginal Cultural Heritage Assessment Coleambally Solar Farm- Final
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Address of Subject Area	No: Street: Suburb: State: NSW Postcode: Title Reference: Solar Farm: • Lot 78/ DP 750896 • Lot 81/ DP 750896 • Lot 82/ DP 750896 • Lot 83/ DP 750896 • Lot 101/ DP 750896 • Lot 100/ DP 750896 • Lot 1/DP 821577 Substation: • Lot 3/DP 1055725 Local Government Area: Murrumbidgee Local Government Area Other:
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Date of Report	1 May 2017

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Aboriginal Cultural Heritage Assessment

COLEAMBALLY SOLAR FARM



MAY 2017



Document Verification

	Project Title:	Coleambally Solar Farm
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Project Number: 16-419

Project File Name: Coleambally Solar Farm ACHA Final

Revision	Date	Prepared by (name)	Reviewed by (name)	Approved by (name)
Draft	16/03/17	Kirsten Bradley	Matthew Barber	Matthew Barber
Draft v2	23/03/17	Kirsten Bradley	Anne Frederic (Neoen)	Matthew Barber
Final	1/05/17	Kirsten Bradley	Matthew Barber	Matthew Barber

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EXECUTIVE SUMMARY

INTRODUCTION

NGH Environmental has been contracted by Neoen Australia Pty Ltd (Neoen) to prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the proposed Coleambally Solar Farm, located at Coleambally, New South Wales.

The solar farm proposal would involve ground disturbance that has the potential to impact on Aboriginal heritage sites and objects which are protected under the NSW *National Parks and Wildlife Act 1974* (NPW Act). The purpose of the Aboriginal Cultural Heritage Assessment (ACHA) is therefore to investigate the presence of any Aboriginal sites and to assess the impacts and management strategies that may mitigate any impact.

The Secretary of the DPE Environmental Assessment Requirements (SEARs) relating to Aboriginal heritage were as follows:

Include an assessment of the likely Aboriginal and historic heritage (cultural and archaeological) impacts of the development, including adequate consultation with the local Aboriginal community (SEARS for Coleambally Solar Farm 13/02/17).

This ACHA Report was prepared in line with the following:

- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011);
- *Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales* (OEH 2010a), and
- *Aboriginal cultural heritage consultation requirements for proponents 2010* (ACHCRP) (OEH 2010b) produced by the NSW Office of Environment and Heritage (OEH)

The proposal area is within the Murrumbidgee Local Government Area.

PROJECT PROPOSAL

The Coleambally Solar Farm proposal would comprise of the installation of a solar plant with a capacity up to 150MW. The power generated will be fed into the National Electricity Market (NEM) at the transmission level from the adjacent Substation. Neoen proposes to develop approximately 555 hectares (ha) of the proposal site, retaining existing viable native vegetation where possible.

The Coleambally Solar Farm proposal would include the following elements:

- Flat plate PV modules in a fixed or tracking arrangement.
- A site office and maintenance building.
- An access track off Ercildoune Road.
- A system of inverters and voltage step up transformers throughout the arrays.
- Underground electrical conduits and cabling to connect the arrays on the array site and to the inverters and transformers.
- Internal access tracks to allow for site maintenance.
- Perimeter security fencing.
- Native vegetation screening.
- A underground transmission line to connect the solar farm to the existing Coleambally TransGrid substation.

- Extension of the existing substation on Lot 3/DP 1055725 to accommodate the new connection infrastructure.

ABORIGINAL CONSULTATION

The consultation with Aboriginal stakeholders was undertaken in accordance with clause 80C of the *National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010* following the consultation steps outlined in the (ACHCRP) guide provided by OEH.

The full list of consultation steps, including those groups and individuals that were contacted and a consultation log is provided in Appendix A.

As a result of this process, two groups contacted the consultant to register their interest in the proposal. The groups who registered interest were the Griffith Local Aboriginal Land Council (Griffith LALC) and the Bangerang Aboriginal Corporation (Bangerang). No other party registered their interest.

The fieldwork was organised and both registered parties were asked to participate in the fieldwork. Due to unforeseeable circumstance neither party could participate in the fieldwork. The fieldwork was carried out in early March 2017 by an archaeologist from NGH Environmental.

A copy of the draft report was provided to both registered parties for comment.

ARCHAEOLOGICAL CONTEXT

The assessment included a review of relevant information relating to the landscapes within the proposal area. Included in this was a search of the OEH AHIMS database. No Aboriginal sites have previously been recorded within the proposal area. The closest AHIMS site to the project area, a scarred tree, is located approximately 200m north of the proposal area on the opposite side of the Tubbo Channel.

Assessment of Aboriginal site models for the region suggest that there is a pattern of site location that relates to the presence of potential resources for Aboriginal use. The archaeological sensitivity of sand hills, Black Box depressions and exposures adjacent to irrigation bays has been noted. Nonetheless, given that Aboriginal people have lived in the region for tens of thousands of years, there is some potential for archaeological evidence to occur across the proposal area. This would most likely be in the form of stone artefacts and scarred trees.

SURVEY RESULTS

Over the course of the field survey approximately, 33 km of transects were walked across the main solar farm proposal area. Allowing for an effective view width of 5 m, this equates to a surface area examined of 16.5 ha. However, allowing for the visibility restrictions, the effective survey coverage is reduced to 13.3ha, or 2.4% of the project area. Approximately 3km of transects were walked across the areas of remnant vegetation with 1 km of transects walked within the substation Lot.

Overall, it is considered that the surface survey of the solar farm proposal area and the substation Lot had sufficient and effective survey coverage. The results identified in this report are considered a true reflection of the nature of the Aboriginal archaeological record present within the proposal area.

Despite the variable visibility encountered during the survey, no Aboriginal cultural material or objects were recorded. However, three European survey or blaze marker trees were identified within and/or adjacent to the proposal area. The European survey marker trees, such as the one identified during the scoping report, were deemed not to be Aboriginal in origin.

Given that the majority of the project area has been laser levelled and subject to extensive modification the lack of Aboriginal sites was not unexpected. The lack of Aboriginal scarred trees within the remnant stands of Black Box vegetation was unexpected but was probably due to the previous land clearing.

Based on the land use history of the proposal area, and an appraisal of the results from the field survey, there is negligible potential for the presence of intact subsurface deposits with high densities of objects or cultural material within the Coleambally Solar Farm project area.

POTENTIAL IMPACTS

The proposal involves the construction of a solar farm and includes connection to the nearby substation with an underground powerline. The development will result in disturbance of almost 555 ha within Lots 78, 81, 82, 83, 101 and 100 of DP 750896 and Lot 1/DP 821577. A minor extension to the existing substation on Lot 3/DP 1055725 would also be needed to accommodate infrastructure for the solar farm connection. The impact is likely to be most extensive where earthworks occur.

Given that no Aboriginal archaeological sites were located within the project area the assessment of harm and impact to Aboriginal heritage values for this development is nil. Consequently, there are no mitigation methods proposed for the Coleambally Solar Farm development.

RECOMMENDATIONS

It is recommended that:

1. The three European survey or blaze marker trees (Coleambally European Survey marker tree 1, Coleambally European Survey marker tree 2 and Coleambally European Survey marker tree 2) identified within an/or adjacent to the project area should be avoided by the proposed work. If they are unable to be avoided further recording is recommended to establish if they have any historical significance.
2. The development proposal should now be able to proceed without any additional Aboriginal archaeological investigation.
3. Neon should prepare an unexpected finds protocol (UFP) to deal with construction activity and the inadvertent discovery of Aboriginal objects. An UFP has been provided in Appendix C in case of finds.
4. In the unlikely event that human remains are discovered during the construction, all work must cease in the immediate vicinity. OEH, the local police and the registered Aboriginal parties should be notified. Further assessment would be undertaken to determine if the remains were Aboriginal or non-Aboriginal.
5. Further archaeological assessment would be required if the proposal activity extends beyond the area of the current investigation. This would include consultation with the registered Aboriginal parties and may include further field survey.

1 INTRODUCTION

Neoen Australia Pty Ltd (Neoen) proposes to develop a commercial scale solar farm at Coleambally, NSW (Figure 1 and 2). The proposal site is approximately 555 hectares in size and would have a capacity of around 150 Mega Watt (MW). NGH Environmental has been contracted by Neoen to prepare an Aboriginal Cultural Heritage Assessment (ACHA) to investigate and examine the presence, extent and nature of any Aboriginal heritage for the proposal area as part of an Environmental Impact Assessment (EIS).

The solar farm proposal would involve ground disturbance that has the potential to impact on Aboriginal heritage sites and objects which are protected under the NSW *National Parks and Wildlife Act 1974* (NPW Act). The purpose of the Aboriginal Cultural Heritage Assessment (ACHA) is therefore to investigate the presence of any Aboriginal sites and to assess the impacts and management strategies that may mitigate any impact.

1.1 DEVELOPMENT CONTEXT

The development of renewable energy projects is one of the most effective ways to achieve the commitments of Australia and a large number of other nations under the Kyoto Protocol to reduce greenhouse gas emissions. The Coleambally Solar Farm would provide the following benefits:

- Reduction in greenhouse gas emissions.
- Provision of embedded electricity generation to supply into the Australian grid close to a main consumption centre.
- Provision of social and economic benefits through the provision of direct employment opportunities.

The establishment of a Solar Farm would therefore have both local, National and International benefits.

As part of the development impact assessment process, the proposed development application will be assessed under part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The proposed solar farm at Coleambally is classified as “state significant development” (SSD) under Part 4 of the EP&A Act. SSDs are major projects which require approval from the Minister for Planning and Environment. The EIS has been prepared in accordance with the requirements of the Secretary of the Department of Planning and Environment (DPE).

The Secretary of the DPE Environmental Assessment Requirements (SEARs) relating to Aboriginal heritage were as follows:

Include an assessment of the likely Aboriginal and historic heritage (cultural and archaeological) impacts of the development, including adequate consultation with the local Aboriginal community (SEARs for Coleambally Solar Farm 13/02/17).

The assessment area of the proposed solar farm comprises of Lots 78, 81, 82, 83, 101 and 100 of DP 750896 and Lot 1/DP 821577. A minor extension to the existing substation on Lot 3/DP 1055725 would also be needed to accommodate infrastructure for the solar farm connection.

The Coleambally Solar Farm proposal site is located approximately 5km north-east of the township of Coleambally, within the Murrumbidgee Local Government Area (LGA).

1.2 PROJECT PROPOSAL

The Coleambally Solar Farm proposal (Figure 1 and 2) would comprise of the installation of a solar plant with a capacity up to 150MW. The power generated will be fed into the National Electricity Market (NEM) at the transmission level from the adjacent Substation.

Neoen proposes to develop approximately 555ha within Lots 78, 81, 82, 83, 101 and 100 of DP 750896 and Lot 1/DP 821577, retaining existing viable native vegetation remnants. The majority of the proposal area has been cleared of native vegetation, laser levelled for irrigation and cultivated.

The Coleambally Solar Farm proposal would include the following elements:

- Solar arrays: approximately 560,000 solar panels supported by approximately 75,000 piles, driven or screwed into the ground in order to support the solar array's mounting system. The panels to be installed would be either:
 - single-axis tracking panels (which would have approximately 7,900 tracker units)
 - north-oriented fixed-tilt panels
 - east-west facing fixed-tilt panels
 - or a combination of these alternatives.
- Approximately 7900 tracker units (for the single-axis tracking technology option).
- Approximately 80 PV boxes or PV skids, each of them containing an inverter and transformer.
- One containerised or skid-mounted 132kV transformer and delivery station.
- Onsite cabling and electrical connections between solar arrays and panel inverters.
- Trenches for underground cabling.
- New site access point from Ercildoune Road.
- Gravel access road and parking for staff and visitors.
- Internal gravel access tracks to allow for site maintenance.
- Upgrade of Ercildoune Road and its intersection with Kidman Way in accordance with NSW Roads and Maritime Services and Murrumbidgee Council requirements.
- Construction of access bridge over Tubbo irrigation channel from Ercildoune Road.
- Construction of bridge across central irrigation drainage channel.
- Construction of a new access from Kook Road including a new bridge over Tubbo irrigation channel.
- Permanent staff amenities and office building (approximately 12 metres long and 7 metres wide).
- Perimeter security fencing, approximately 2.3 m high.
- Planted native vegetation buffers.
- A 132kV underground transmission line to connect the solar farm to the existing Coleambally TransGrid substation.
- Possible battery storage, subject to final design.
- Possible irrigation drainage channel relocation, subject to final design.
- Extension of the existing bench of the substation on Lot 3/DP 1055725 to accommodate the new connection infrastructure. Soil material for the substation extension would be sourced from an existing borrow pit located within the Coleambally substation site.

In total, the construction phase of the proposal is expected to take 9-12 months. The Coleambally Solar Farm is expected to operate for around 30 years on a lease agreement. The solar farm would either be decommissioned at the end of its operational life, removing all above ground infrastructure and returning the site to its existing land capability, or continue operation (which could involve reconditioning) if the lease agreement is renewed. Reconditioning would involve replacing components that were originally installed with new components that reflect technology that is available at that time.

1.3 PROJECT PERSONNEL

The assessment was undertaken by the archaeologist Kirsten Bradley of NGH Environmental, including research, Aboriginal community consultation, field survey and report preparation.

Consultation with the Aboriginal community was undertaken following the process outlined in OEH's *Aboriginal cultural heritage consultation requirements for proponents 2010*. Two Aboriginal groups registered their interest in the proposal. These groups were:

- Griffith Local Aboriginal Land Council (Griffith LALC); and
- Bangerang Aboriginal Corporation (Bangerang).

Further detail and an outline of the consultation process is provided in Section 2.

1.4 REPORT FORMAT

For the purposes of this assessment of the Coleambally Solar Farm, we have prepared the report in line with the following:

- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011);
- *Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales* (OEH 2010a), and
- *Aboriginal cultural heritage consultation requirements for proponents 2010* (ACHCRP) (OEH 2010b) produced by the NSW OEH.

The purpose of this ACHA Report is therefore to provide an assessment of the Aboriginal cultural values associated with the study area and to assess the cultural and scientific significance of any Aboriginal heritage sites. This conforms to the intention of the SEARs.

The objectives of the assessment were to:

- Conduct Aboriginal consultation as specified in clause 80c of the *National Parks and Wildlife Regulation 2009*, using the consultation process outlined in the ACHCRP;
- Undertake an assessment of the archaeological and cultural values of the study area and any Aboriginal sites therein;
- Assess the cultural and scientific significance of any archaeological material, and
- Provide management recommendations for any objects found.

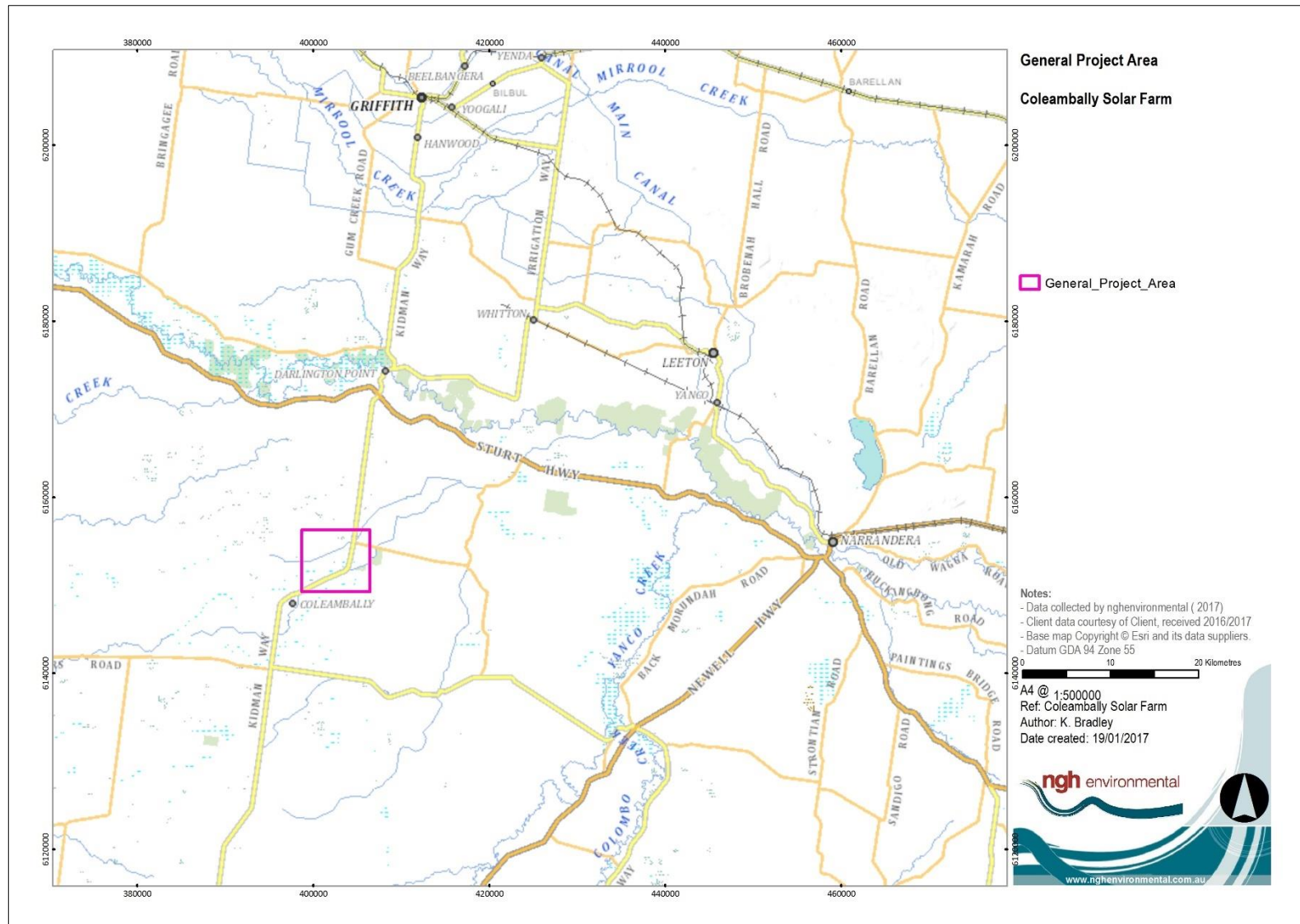


Figure 1. General project area.

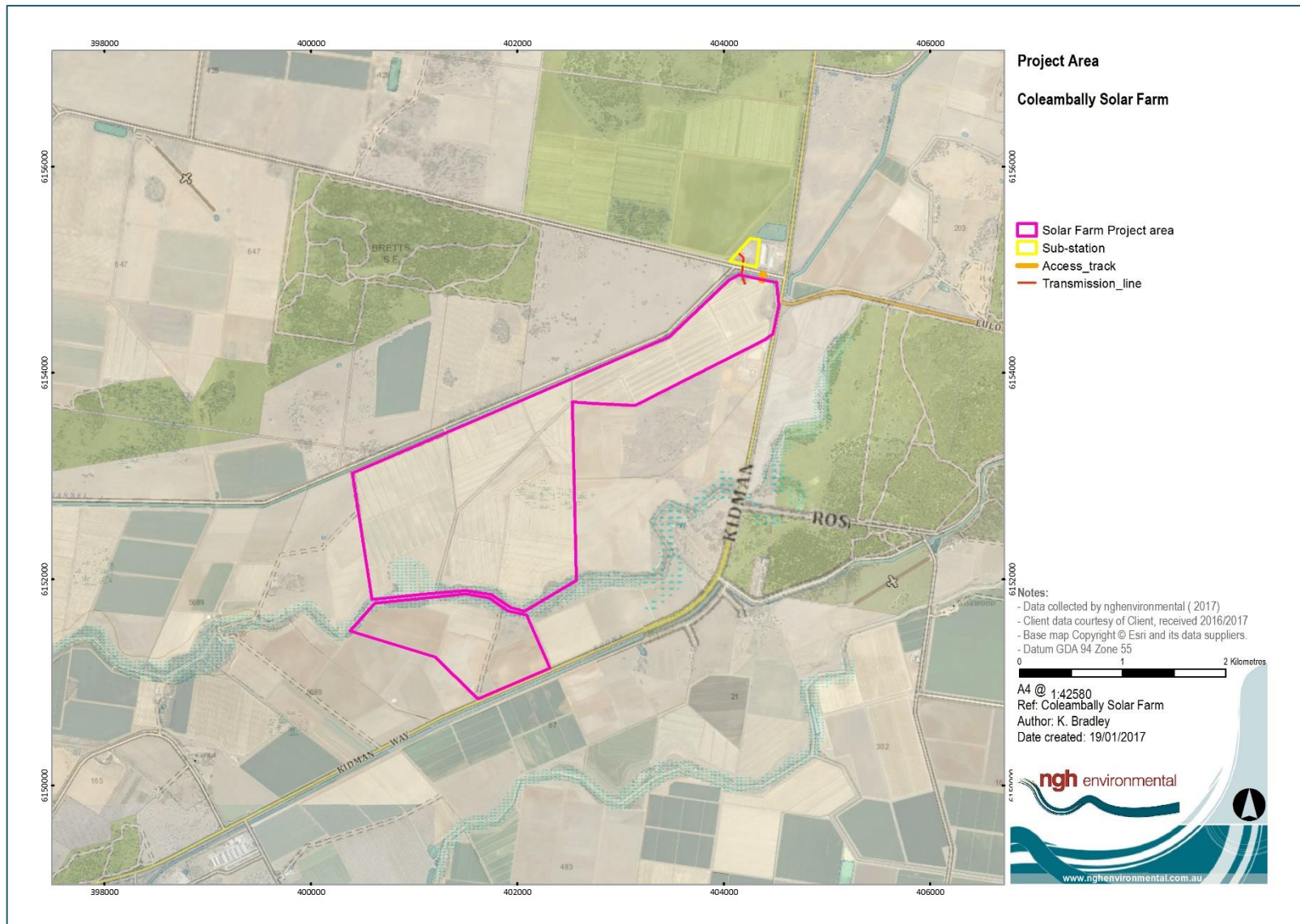


Figure 2. Project area.

2 ABORIGINAL CONSULTATION PROCESS

The consultation with Aboriginal stakeholders was undertaken in accordance with clause 80C of the *National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010* following the consultation steps outlined in the ACHCRP guide provided by OEH. The guide outlines a four-stage process of consultation as follows:

- Stage 1 – Notification of project proposal and registration of interest.
- Stage 2 – Presentation of information about the proposed project.
- Stage 3 – Gathering information about cultural significance.
- Stage 4 – Review of draft cultural heritage assessment report.

The full list of consultation steps, including those groups and individuals that were contacted and a consultation log is provided in Appendix A. A summary of actions carried out in following these stages are as follows.

Stage 1. Letters outlining the development proposal and the need to carry out an ACHA were sent to the Griffith LALC and various statutory authorities including OEH, as identified under the ACHCRP. An advertisement was placed in the local newspapers, the Daily Advertiser on the 10th of December 2016 seeking registrations of interest from Aboriginal people and organisations. A further series of letters was sent to other organisations identified by OEH in correspondence to NGH Environmental. In each instance, the closing date for submission was 14 days from receipt of the letter.

As a result of this process, two groups contacted the consultant to register their interest in the proposal. The groups who registered interest were the Griffith LALC who registered via email and Bangerang who registered via phone. No other party registered their interest.

Stage 2. On the 27th of January 2017, an Assessment Methodology document for the Coleambally Solar Farm was sent to the Griffith LALC. On the 30th of January 2017, an Assessment Methodology document for the Coleambally Solar Farm was sent to the Bangerang registered party. This document provided details of the background to the proposal, a summary of previous archaeological surveys and the proposed heritage assessment methodology for the proposal. The document invited comments regarding the proposed methodology and sought any information regarding known Aboriginal cultural significance values associated with the subject area and/or any Aboriginal objects contained therein. A minimum of 28 days was allowed for a response to the document. No comments were received on the methodology from either registered party.

Stage 3. The *Assessment Methodology* outlined in Stage 2 included a written request to provide any information that may be relevant to the cultural heritage assessment of the study area. It was noted that sensitive information would be treated as confidential. No response regarding cultural information was received.

At this stage, the fieldwork was organised and both registered parties were asked to participate in the fieldwork. Due to unforeseeable circumstance neither party could participate in the fieldwork. The fieldwork was carried out in early March 2017 by an archaeologist from NGH Environmental. Further details are provided in Appendix A.

Stage 4 In March 2017 a draft version of this *Aboriginal Cultural Heritage Assessment Report* for the proposal (this document) was forwarded to the Griffith LALC and Bangerang inviting comment on the results, the

significance assessment and the recommendations. A minimum of 28 days was allowed for responses to the document.

2.1 ABORIGINAL COMMUNITY FEEDBACK

Community consultation occurred throughout the project. The draft report was provided to each of the Registered Aboriginal Parties (RAPs) and feedback was sought on the recommendations, the assessment and any other issues that may have been important.

Report feedback was provided in writing by the Bangerang Aboriginal Corporation with the response and additional information provided in full in Appendix A. The Griffith LALC provided verbal feedback on the report during a phone conversation and Freddie Dowling (Bpangerang Elder) also provided verbal feedback as documented in the consultation log in Appendix A. Below is a summary of the main points from the consultation with each group.

Griffith LALC agreed with the recommendations outlined in the report and had no additional comments to provide.

Bangerang Aboriginal Corporation felt that some parts of the cultural background information for the report needed to be addressed to acknowledge the Bpangerang People. Supporting information and maps were provided that has been incorporated where possible into the final report. The Bangerang Aboriginal Corporation did not raise any concerns with the recommendations outlined in the report however they did request that signage be erected at the entrances to the solar farm recognising the Aboriginal Lands and the Bpangerang People.

3 BACKGROUND INFORMATION

3.1 REVIEW OF LANDSCAPE CONTEXT

3.1.1 Geology, Topography and Climate

The landscape context assessment is based on a number of classifications that have been made at national and regional level for Australia. The national IBRA system identifies the proposal area as located within the Riverine Bioregion and the Murrumbidgee Subregion (IBRA v.7 2012). The base geology of the region comprises millennia of flood deposits of black and red clays and silts with sand and gravel.

The proposal area is solely within the Murrumbidgee scalded plains unit of the Mitchell landscape (DECC 2012). Two other Mitchell Landscapes, the Murrumbidgee source boarding dunes and Murrumbidgee depression plains, are also located near the proposal area. These Mitchell Landscape descriptions are provided in Table 1 below and shown in Figure 3.

Table 1 Description of the Mitchell Landscape relevant to the proposal (DECC 2002)

Mitchell Landscape
Murrumbidgee scalded plains Quaternary alluvial plains with extensive scalding interpreted as relic floodplains or terraces. Grey, brown and red cracking clays, red brown texture-contrast soils with scalds. Levees traces evident, relief generally <1m, up to 5m on associated pans, swamps and lunettes. Low shrub lands and grasslands of bladder saltbush (<i>Atriplex vesicaria</i>), other annual saltbushes (<i>Atriplex</i> sp.), numerous burrs (<i>Sclerolaena</i> sp.), cottonbush (<i>Maireana aphylla</i>), bush minuria (<i>Minuria cunninghamii</i>), white-top grass (<i>Austrodanthonia caespitosa</i>), windmill grass (<i>Chloris truncata</i>), and hill wallaby grass (<i>Austrodanthonia eriantha</i>).
Murrumbidgee source boarding dunes Sandy rises adjacent to river channels and along prior streambeds, deep red and brown sands and loams, relief 3 to 12m. Often heavily grazed and subject to wind erosion. White cypress pine (<i>Callitris glaucophylla</i>), needlewood (<i>Hakea leucoptera</i>), hooked needlewood (<i>Hakea tephrosperma</i>), wilga (<i>Geijera parviflora</i>), bull oak (<i>Allocasuarina luehmannii</i>), emu bush (<i>Eremophila longifolia</i>), miljee (<i>Acacia oswaldii</i>), yarran (<i>Acacia homalophylla</i>), native quince (<i>Petalostigma pubescens</i>), thorny saltbush (<i>Rhagodia spinescens</i>), western pittosporum (<i>Pittosporum phylliraeoides</i>), belah (<i>Casuarina cristata</i>), some bumble box (<i>Eucalyptus populnea</i>), narrow-leaf hopbush (<i>Dodonaea attenuata</i>) with sparse grasses. Black bluebush (<i>Maireana pyramidata</i>) occurs in the shrub layer in western areas.
Murrumbidgee depression plains Quaternary alluvial plains with numerous circular depressions interpreted as high floodplains or low terraces beyond the reach of average floodwaters, relief to 10m. Grey to brown clays and clay loams with linear patterns of sandy prior streams. Now extensive grasslands of white-top, windmill grass, sand broom, and spear grasses, heavily grazed and invaded by exotic species. Reported to have originally been myall (<i>Acacia pendula</i>), old man saltbush (<i>Atriplex nummularia</i>) and bladder saltbush (<i>Atriplex vesicaria</i>). Sandy ridges of prior streams support patches of white cypress pine (<i>Callitris glaucophylla</i>), with needlewood (<i>Hakea leucoptera</i>), western pittosporum (<i>Pittosporum phylliraeoides</i>) and spear grasses (<i>Austrostipa</i> sp.).

Soils in the study area are generally formed from the deposition of flood material. Within the proposal area, the soils are typically a grey-brown or reddish-brown cracking clay with some silt content and very little natural gravels. The soil profile would be expected to be deep with little variation for metres in the heavily aggrading landscape.

A once natural creek line has since been modified into an irrigation drain/channel and runs through the centre of the site bisecting the project area. This has changed the hydrology of the site, creating controlled use of the water. The original creekline is unnamed and is bordered by remnant vegetation.

The Tubbo Channel (Plate 1) borders the project area to the north following Kook Road. A number of smaller irrigation channels also run across the project area (Plate 2). There is no topographic variation within the land for the proposed Solar Farm as the majority of the project area has been subjected to laser levelling. There is no discernible variation in the elevation from one part of the block to another.



Plate 1 View west of the Tubbo Channel that borders the project area to the north.



Plate 2 View south-west of the irrigation channels in the project area.

The proposed solar farm area has been heavily modified for the purposes of irrigation. This has included:

1. Extensive clearing of native vegetation.
2. Wide spread earth moving to flatten the paddocks (Laser Levelling).
3. Modification of a natural drainage line into an irrigation drain.
4. Construction of irrigation supply channels.

Paddocks within the site are lined with irrigation channels which are fed from the Tubbo Channel, a major irrigation channel, along the northern boundary of the property.

The Coleambally area is characterised by a semi-arid climate, with long hot summers and cool winters. The mean maximum temperature is 31.6^o in January and the mean minimum is 2.9^o in July. Rainfall is typically highest in October (41.3mm) and lowest in February (27.8mm) but the spread is relatively even across the year.

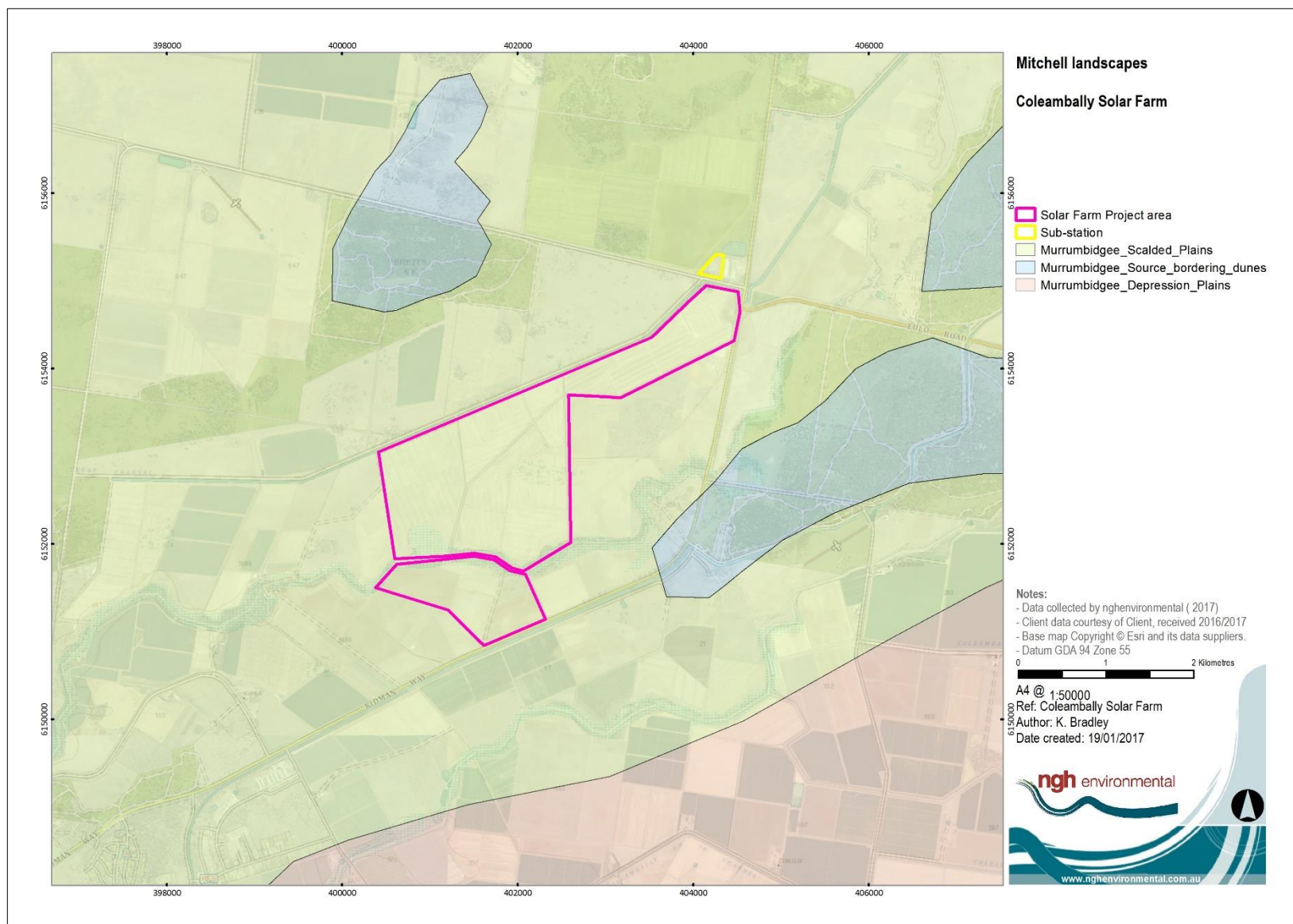


Figure 3. Location of Mitchell landscapes.

3.1.2 Flora and Fauna

The biodiversity assessment carried out by NGH Environmental identified two distinct plant community types within the proposal area, the Weeping Myall and Black Box Open Woodlands, both consisting of remnant patches of vegetation. There were no native species present within the irrigated bays examined during this assessment. The natural vegetation of the area would most likely have consisted of Weeping Myall (*Acacia pendula*) and Black Box (*Eucalyptus largiflorens*) woodlands with chenopods, such as saltbushes, native cotton bushes, bluebushes, goosefoots and copperburrs, an important component of the understorey.

The Weeping Myall and Black Box Open woodland vegetation community provides numerous habitat types for fauna. These areas provide habitat features such as hollows and are likely to support habitats for a number of threatened bird species including the Superb Parrot (*Polytelis swainsonii*), which was recorded in the project area. The canopy trees also provide foraging and nesting/resting habitat for birds and arboreal fauna. The mid-storey provides foraging and nesting habitat for smaller birds, as well as refuge for small-medium sized mammals and reptiles. Ground cover plants, logs and fallen leaves also provide shelter and foraging habitat for terrestrial fauna.

Where hollow-bearing trees are present, they may provide daytime resting habitat for bats and mammals, and roosting habitat for birds. It was noted during the biodiversity assessment carried out by NGH Environmental that a large diversity of birds was heard calling particularly in the large patch of remnant Black Box Woodlands adjacent to the canalised creek/irrigation drain.

3.1.3 Historic Landuse

The construction of the Coleambally irrigation system was commenced by the NSW Government in 1958. The township of Coleambally was established in 1968 for the sole purpose of supporting those who were first encouraged by the NSW government to establish irrigated agriculture in the area. It is not known when the proposal area was first cleared and developed but it assumed that it would have been around the time the Coleambally irrigation system was commenced though the area would have most likely been used as pastoral and/or agricultural farm land prior to the construction of the irrigation system.

The establishment of the irrigation scheme led to development of the region through construction of irrigation channels, either by constructing new ones or channelising existing creek lines and construction of banks and levees. The scale of the development and the subsequent division of the landscape into irrigation bays required extensive earthworks, including clearing and levelling of the ground.

The location of the proposed Coleambally Solar Farm is within an irrigation development and therefore has been subject to considerable impacts from farming for many decades. The irrigation bays across the majority of the site at the time of the survey were recently ploughed and the irrigation process had begun. There were also fields covered in wheat stubble with crop waste scattered through the bays. It is clear that the land has been intensively used for farming.

Overall, the project area would be categorised as highly disturbed through continual modification for farming and irrigation activities over many decades.

3.1.4 Landscape Context

Most archaeological surveys are conducted in a situation where there is topographic variation and this can lead to differences in the assessment of archaeological potential and site modelling for the location of Aboriginal archaeological sites. However, as already noted, the proposal area is entirely within the broad

scalded plains of the Murrumbidgee that have been laser levelled and divided into irrigation bays. There are no differences in the soil types and no micro features such as sand ridges or palaeochannels within the project area.

The only difference observed within the landscape is the presence of remnant vegetation boarding the canalised creek that bisects the project into two areas. The vegetation in the proposal site can therefore be classified as either remnant vegetation or irrigation cropping bays.

The landforms for the survey were therefore determined to be two units, irrigation cropping bays and remnant vegetation. The nature of the irrigation cropping bays unit is an aggrading unit, although flooding regimes have been dramatically altered with the installation of channels and levees as part of the irrigation development. Soils are heavily disturbed and there is unlikely to be any remnant intact profile within at least the upper 20-30 cm.

There is a single once natural water course adjacent to the project area that bisects the assessment area. Although now a modified channel the design is believed to follow the natural course of an unnamed creek. The areas of remnant vegetation within the project area generally borders this water source and it is therefore likely that areas within 200m of this water course would to have been a major focus for Aboriginal people. However, prior to European land modifications, this area may have provided resources, shelter, water and food for Aboriginal people.

3.2 REVIEW OF ABORIGINAL ARCHAEOLOGICAL CONTEXT

3.2.1 Ethnohistoric Setting

Cultural areas are difficult to define and “must encompass an area in which the inhabitants have cultural ties, that is, closely related ways of life as reflected in shared meanings, social practices and interactions” (Egloff *et al.* 2005:8). Depending on the culture defining criteria chosen - i.e. which cultural traits and the temporal context (historical or contemporary) - the definition of the spatial boundary may vary. In Australia, Aboriginal “marriage networks, ceremonial interaction and language have been central to the constitution of regional cultural groupings” with the distribution of language speakers being the main determinate of groupings larger than a foraging band (Egloff *et al.* 2005:8 & 16).

Early mapping of tribal boundaries by Tindale (1940) identified the Coleambally area as within the Pangerang tribe. However subsequent mapping by Tindale (1974) reduced the area of the Pangerang to south of the Murray River, and placed the Coleambally area within the Jeithi tribal/language group, on the south western boundary with the Wiradjuri. Later maps (eg Horton 1994) removed the Pangerang group entirely as a tribal/language group from the region.

However, there is dispute concerning this mapping as there are people who identify themselves as Bpangerang (Freddie Dowling pers comm). Freddie Dowling has identified that the Bpangerang country straddled the Murray and extended across the Victorian and NSW boarder from Albury in the east to Moama in the west and reached as far north as Coleambally and included the current assessment area.

The area no doubt had an assemblage of many small clans and bands speaking a number of similar dialects (Howitt 1996, Tindale 1974, MacDonald 1983, Horton 1994). It is likely that their borders were not static, they were most likely fluid, expanding and contracting over time to the movements of smaller family or clan groups. Boundaries ebbed and flowed through contact with neighbours, the seasons and periods of drought and abundance.

It was the small family group that was at the core of Aboriginal society and the basis for their hunting and gathering life. The immediate family camped, sourced food, made shelter and performed daily rituals together. The archaeological manifestations of these activities are likely to be small campsites, characterised by small artefact scatters and hearths across the landscape. Places that were visited more frequently would develop into larger site complexes with higher numbers of artefacts and possibly more diverse archaeological evidence.

These small family units were part of a larger band which comprised a number of families. They moved within an area defined by their particular religious sites (MacDonald 1983). Such groups might come together on special occasions such as pre-ordained times for ceremonies, rituals or simply if their paths happened to cross. They may also have joined together at particular times of the year and at certain places where resources were known to be abundant. The archaeological legacy of these gatherings would be larger sites rather than small family camps. They may include large hearth or oven complexes, contain a number of grinding implements and a larger range of stone tools and raw materials.

Identification and differentiation of such sites are difficult in the field. A family group and their antecedents and descendants occupying a particular campsite repeatedly over a long period of time may leave a similar pattern of archaeological signatures as a large group camped over a shorter period of time.

European settlers started arriving in the district in the 1830s, after the explorer Oxley passed through the region in 1817. At this point the Aboriginal population was in decline, due to disease such as small pox and influenza as well as dispossession from traditional lands and acts of violence against the Aboriginal people meant there was great social upheaval and partial disintegration of the traditional way of life. This meant that access to traditional resource gathering and hunting areas, religious life and marriage links and access to sacred ceremonial sites were disrupted or destroyed.

However, despite these disruptions, Aboriginal people continued to maintain their connections to sites and the land in the early days of European settlement. Where Aboriginal people were taken to places like Warangesda, a mission established near Darlington Point in 1880, or Brungle Reserve between Gundagai and Tumut, people were able to maintain at least some form of association with country and maintain traditional stories.

Early settlers and others who wrote about the Wiradjuri people and customs differentiated between the origin of some groups, referring to people as the Lachlan or Murrumbidgee tribes, or the Levels tribe for those between the two major rivers (Woolrych 1890). The extent of the Wiradjuri group means that there were many different environments that were exploited for natural resources and food. Like everywhere in Australia, Wiradjuri people were adept at identifying and utilising resources either on a seasonal basis or all year round. The Bpangerang were also famous for their bark canoes and utilisation of the resources of the Murray.

Terrestrial animals such as the possum was noted by many early observers as a prime food source and the skins were made into fine cloaks that evidently were very warm (Evans 1815, Oxley 1820, Mitchell 1839). Kangaroos were also eaten and their skins made into cloaks as well. A range of reptiles and other mammals were food sources. Fish and mussels would have been prevalent from the rivers and creeks and insects were also a common food type, in particular grubs and ants and ant eggs (Pearson 1981, Fraser 1892). Birds including emus were common as a food source, often being caught in nets made from fibres of various plants such as flax, rushes and kurrajong trees. Bird hunts were also often undertaken as group activities, with emus, ducks and other birds targeted through groups of people flushing them out and driving them into pre-arranged nets (Ramson 1983).

Plant foods were equally as important and mostly consisted of roots and tubers, such as *Typha* or Cumbungi whose tubers were eaten in late summer and the shoots in early spring. Other edible plants from the Wiradjuri region include the Yam Daisy or *Murnong*, eaten in summer and autumn, the Kurrajong seeds and roots, Acacia seeds and other rushes (Gott 1982).

Some of the early settlers and pastoralists, surveyors, explorers, administrators and others observed traditional Aboriginal activities, including ceremonies, burial practices and general way of living, and recorded these in letters, journals and books. These early records of Aboriginal lifestyle and society within the region assist in understanding parts of the traditional Aboriginal way of life, albeit already heavily disrupted at the time of the observations and through the eyes of largely ignorant and uninformed observers.

The early observations also note that some weapons and tools were carried, some made from wood such as spears, spear throwers, clubs, shields, boomerangs, digging sticks, bark vessels and canoes. Other materials were observed in use such as stone axes, shell and stone scrapers and bone needles.

In an archaeological context, few of these items would survive, particularly in an open site context. Anything made from bark and timber and animal skins would decay quickly in an open environment. However, other items, in particular those made of stone would survive where they were made, placed or dropped. Shell material may also survive in an archaeological context. Sources of raw materials, such as the extraction of wood or bark would leave scars on the trees that are archaeologically visible, although few trees of sufficient age survive in the modern context. Outcropping stone sources also provide clues to their utilisation through flaking, although pebble beds may also provide sources of stone which leave no archaeological trace.

3.2.2 AHIMS Search

The Aboriginal Heritage Information Management System (AHIMS) is maintained by OEH and provides a database of previously recorded Aboriginal heritage sites. A search provides basic information about any sites previously identified within a search area. However, a register search is not conclusive evidence of the presence or absence of Aboriginal heritage sites, as it requires that an area has been inspected and details of any sites located have been provided to OEH to add to the register. As a starting point, the search will indicate whether any sites are known within or adjacent to the investigation area.

A search of the AHIMS database was conducted over an area approximately 22 km east-west x 22 km north-south centred on the proposal area, was undertaken on the 12th of December 2016. The AHIMS Client Service Number was: 258363. There were 18 Aboriginal sites and no declared Aboriginal Places recorded in the search area. Table 2 below shows the site types previously recorded in the region and Figure 4 shows the locations of the AHIMS sites in relation to the assessment area.

Table 2 Breakdown of previously recorded Aboriginal sites in the region.

Site Type	Number
Modified Tree	9
Hearth, Aboriginal Resource and Gathering	5
Artefact, modified tree and burial	2
Aboriginal Resource and Gathering	1
Modified trees, Aboriginal Resource and Gathering	1
TOTAL	18

None of the sites are located within the proposal area. The closest sites to the project area is a modified tree (AHIMS # 49-4-0014) located approximately 200m to the north of the project area on the opposite side of the Tubbo Channel.

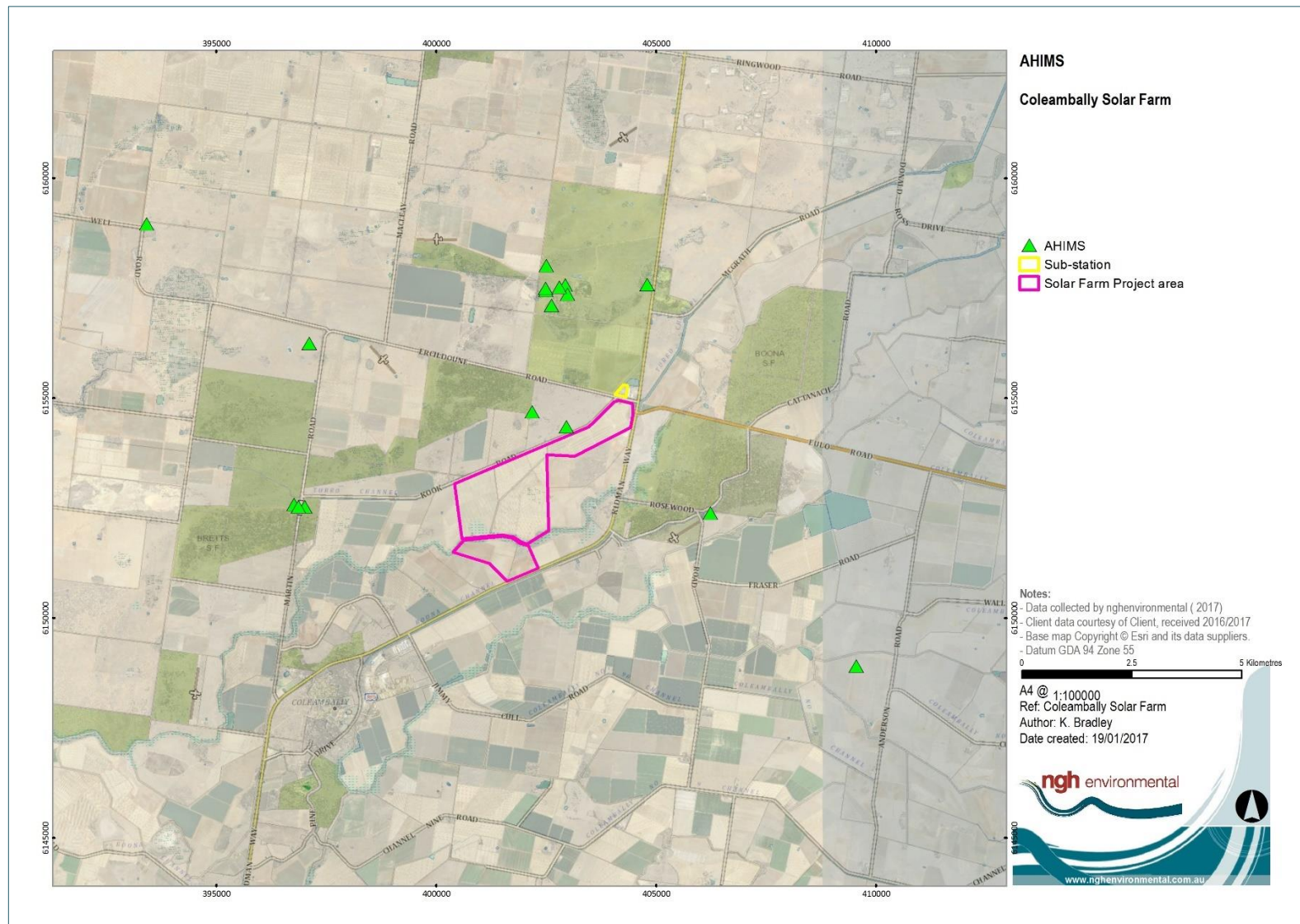


Figure 4. Location of AHIMS sites

3.2.3 Previous archaeological studies

Aboriginal people have occupied what we now know as the Australian continent for at least 40,000 years and perhaps 60,000 years and beyond. There have been no dated excavations in the Coleambally area, although the archaeological evidence from Lake Mungo, 300 km to the north-west provides ample evidence of Aboriginal occupation dating back 40,000 years (Mulvaney and Kamminga 1999, Hiscock 2007). No regional synthesis of the archaeology has been completed for the Coleambally area and there have been few archaeological surveys conducted in the area. However, a previous survey by the Griffith LALC is known to have inspected Lot 78/ DP 750896 and several Lots adjacent to the current assessment area in 2006 (see Figure 5). The survey by Griffith LALC and other surveys in the region are summarised below.

In 2006 the Griffith LALC surveyed Lots 78, 79, 80, and 112 of DP 750896 at Coleambally for Booth Associates for a proposed integrated ethanol and dairy development. Griffith LALC noted that there were archaeological sensitivity landforms including a large sandy ridge and remnant black Box woodland depressions within the survey area. It was further stated that the sand hill had potential for burials given that a burial had recently been unearthed in a sand quarry approximately 5 km north-east of the survey area. Due to poor visibility within the open grasslands at the time of the field survey only the Black Box swamp/depression and sand hill landforms were surveyed. Three possible scar trees were identified however these were located within a proposed vegetation conservations area and would not be impacted by the development. No site cards relating to these sites are available on AHIMS.

In 1985 McIntyre carried out a survey for a 167-km transmission line between Darlington Point and Deniliquin. A total of 27 Aboriginal archaeological sites were recorded with one associated with historic features. The site types recorded were primarily scarred trees with artefact scatters, hearths and mounds also recorded. Artefacts were manufacture from silcrete, quartz, basalt, siltstone, chert and siliceous rock. All scarred trees recorded during the survey were Grey Box trees. McIntyre noted that the majority of the sites recorded were clustered around existing water courses. It was suggested that such areas were favoured by Aboriginal people as they provided a number of resources such as food, water and shade. This survey route passed along the northern boundary of the current assessment area and recorded the known AHIMS site closest to the current assessment area #49-4-0014 as noted in Section 3.2.2 above.

In 1995 Hamm carried out a survey for a 117km optical fibre cable to link telephone exchange networks from Darlington Point, Coleambally, Finley and Jerilderie. A total of 20 sites were recorded during the survey with three scarred trees located between Darlington Point and Coleambally and 17 scarred trees recorded between Finley and Jerilderie. All scars were on Yellow Box trees. This survey route passed along the southern boundary of the current assessment along Kidman Way.

In 2004 Milian Khulti Aboriginal Services surveyed the Tirkandi Inaburra property, approximately 2km north of the current assessment area. A total of eight sites were recorded. The sites were scarred trees, a silcrete flake and loose heat retainer nodules. A large sand hill in the north-eastern corner of the property was noted to have potential for burials given that a burial was found in a sand quarry less than 3km east of the property.

Figure 6 and 7 shows the surveys detailed above that have previously been carried out near the current assessment area and their relationship to the recorded AHIMS sites.

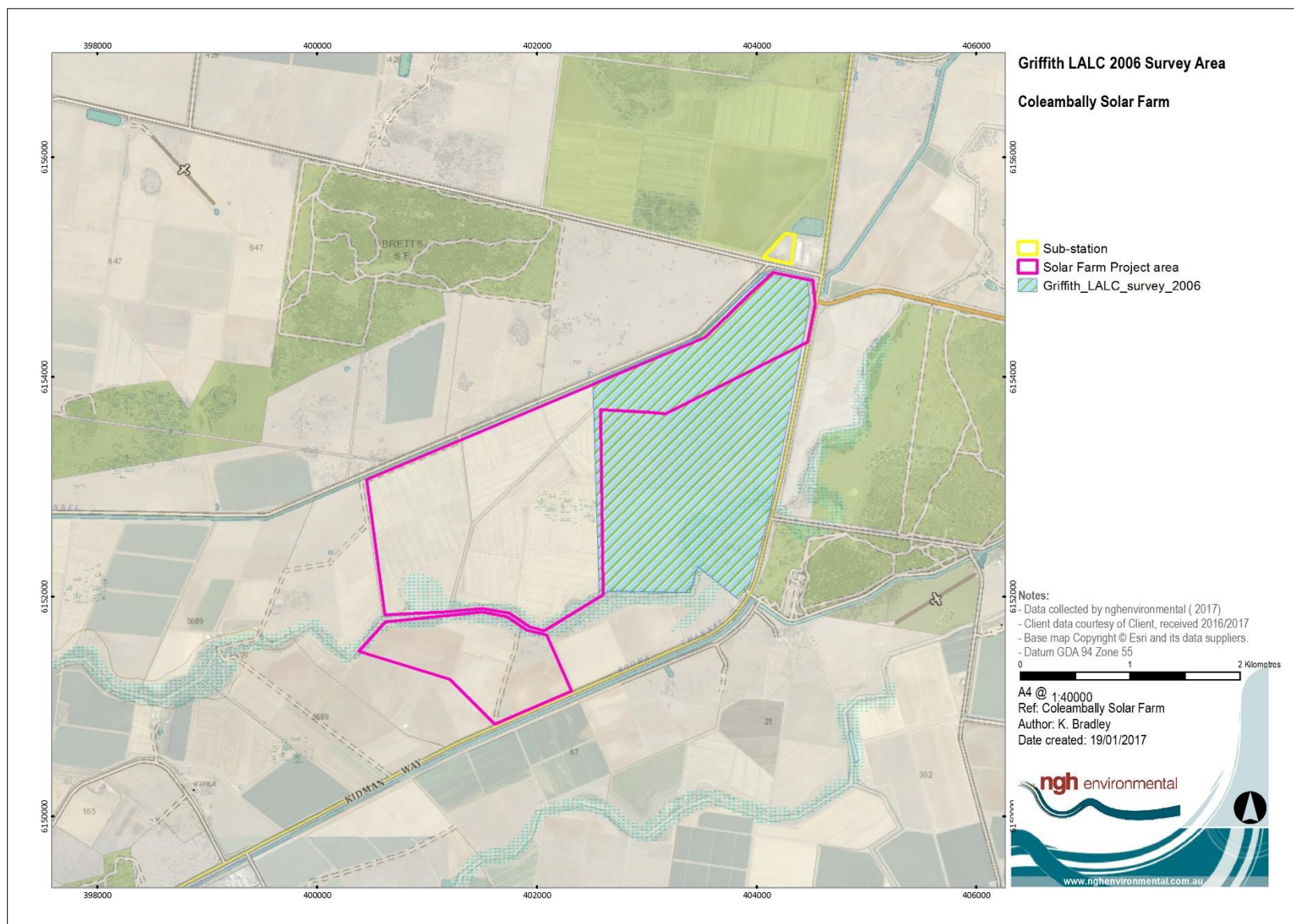


Figure 5. Griffith LALC (2006) survey within the project area.

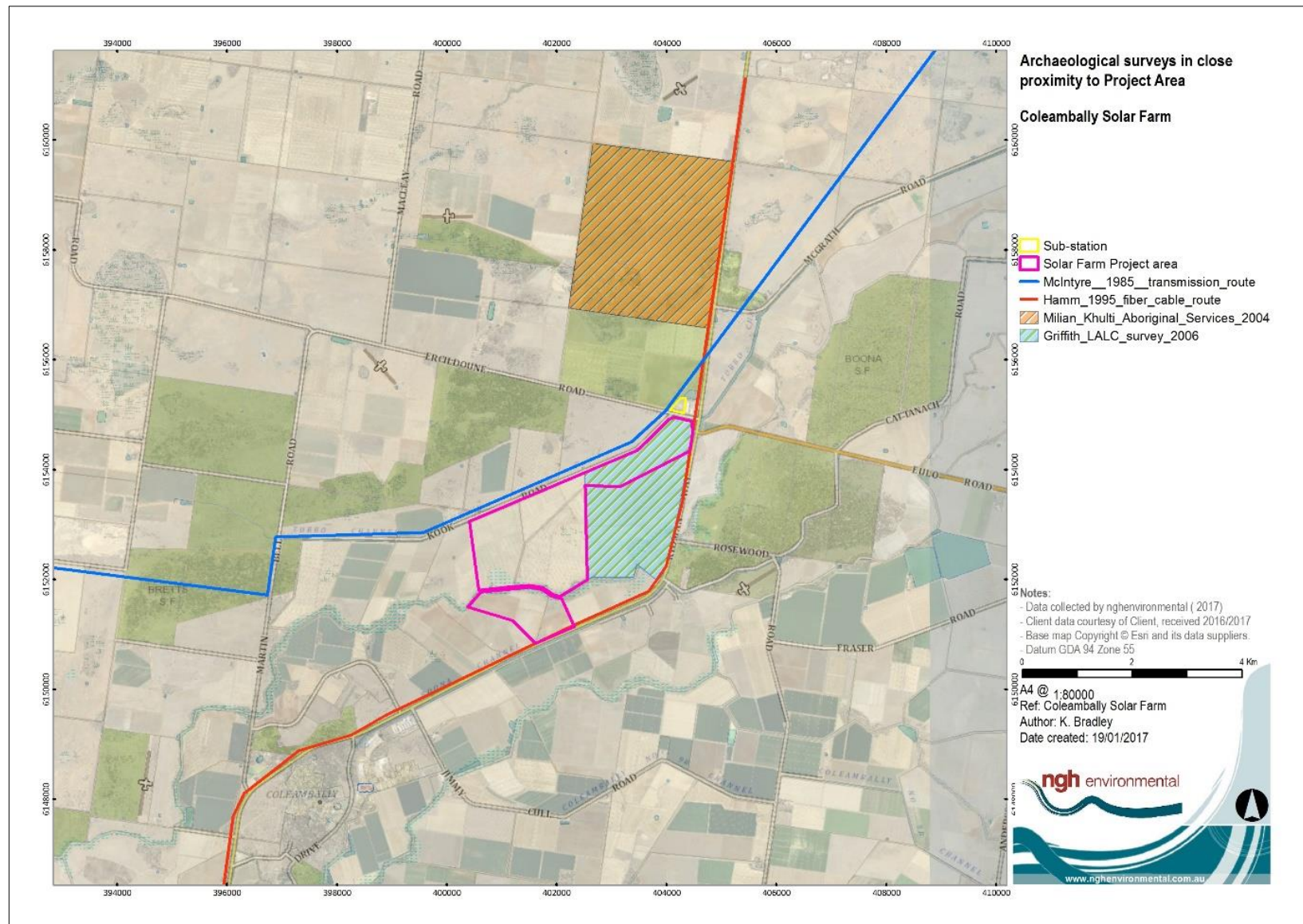


Figure 6. Previous archaeological surveys conducted near the project area.

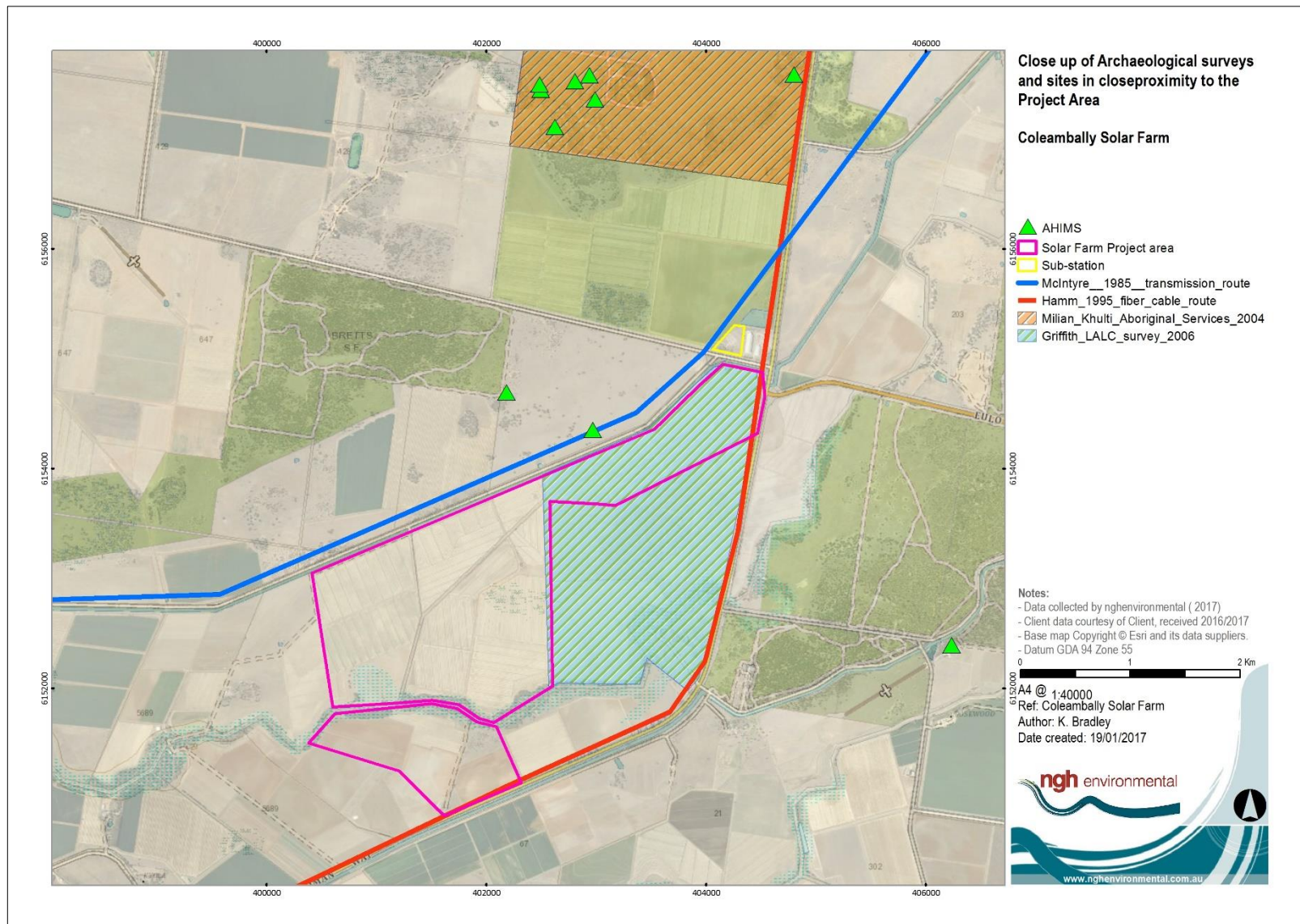


Figure 7. Close up of previous archaeological surveys and sites near the project area.

Within the broader region, several surveys have been undertaken that have resulted in a range of Aboriginal site being recorded. The major relevant studies are summarised below.

In 1982 Gollan carried out a survey for a transmission line between Griffith and Darlington Point. Darlington Point is approximately 20 km north of the current assessment area. He recorded a number of scarred River Red Gum trees on the southern bank of the Murrumbidgee River on Tubbo station. He also recorded an artefact scatter on both sides of Mirrool Creek, where artefacts were observed in eroded pans that were affected by stock movement. Of particular note from this survey was the discovery of a stone quarry on Whitton Road, where stone material was extracted for flaking. Gollan identified that the stone source was the pebbles within the pebbly sandstone and conglomerate beds, over an area of 40 m x 50 m. Although the area was heavily disturbed from recent quarrying and machine extraction, he found numerous cores, flakes and hammerstones identifying the Aboriginal use of the outcrop. Raw materials recorded included quartz, quartzite, chert, greenstone and basalt. The site also exhibited signs of excavation or quarrying to obtain better materials (Gollan 1982).

Some archaeological investigations were undertaken by Edmonds (1990, 1992, 1996) in the Benerembah Irrigation District (BID), a 44,000-hectare area about 20km west of the current assessment area. The 1990 and 1992 surveys resulted in 13 scarred trees, three artefact scatters, four hearths- two of which were in association with artefacts and an open campsite being recorded. Edmonds identified six landscape units within the BID: Prior Streams; Elevated Lands; Alluvial Plains; Linear Depressions; Alluvial Floodplain and Occluded Depressions. Edmonds concluded from her surveys that two of these, Linear Depressions and Prior Stream Formations were archaeologically sensitive (1996:11).

Edmonds also undertook a number of surveys on Wyvern Station (1995), on the western edge of the BID. She recorded ten scarred trees, and artefact scatter and four campsites. She noted that the Occluded Depression landscape could be added as another landscape that was archaeologically sensitive, after a number of scarred trees were identified in this landscape. The results of these surveys showed that certain landscapes had higher potential to contain Aboriginal sites than others. It also showed a difference in the occurrence of site types, with scarred trees found on Black Box trees in association with Linear Depressions and Occluded depressions. The open artefact scatters and campsites were found within Prior Stream Formations, while Edmonds noted that within this landscape, sites were found on micro features such as linear sand hills and elevated levee banks.

OzArk undertook two assessments for development proposals in the Hanwood area, approximately 45km north of the current assessment area. The first study did not find any sites within a generally flat area with a fine cracking silt deposit. The second assessment included survey of a proposed bottling plant and an 8km long pipeline across the plain. They recorded two isolated artefacts in a ploughed paddock and a scatter of three artefacts in a table drain. All the artefacts were silcrete and in highly disturbed contexts but OzArk concluded that despite predictions suggesting there would be no archaeological material present, the presence of the artefacts indicate Aboriginal movement across the landscape, and possibly associated with now altered depressions or basins that could have held water after flooding or rain prior to European land alterations (2011:24).

In 2016 NGH Environmental (NGH) carried out a survey for the proposed Griffith Solar Farm located 7 km south-east of Griffith, approximately 50km north of the current assessment area. The location of the proposed Griffith Solar Farm was within an irrigation development that had been subject to considerable impacts from farming for many decades with irrigation bays across the assessment area. Despite poor visibility encountered during the survey, 11 artefacts were identified that were recorded as two isolated finds and an artefact scatter that had nine stone artefacts. The three sites were recorded in exposures adjacent to the irrigation bays. The artefacts were predominantly silcrete with a lesser number of volcanic, quartzite,

sandstone and fine grained siliceous material. The artefact types recorded were flakes, flaked pieces, broken flakes, grindstones, a core and a hammerstone. NGH noted that the model of site location for the Griffith area should be amended to identify that sites can occur at least 600 m from a water source and that Aboriginal artefact scatters, or campsites, exist within the broader floodplain environments, despite intensive agricultural practices.

3.2.4 Summary of Aboriginal land use

The results of previous archaeological surveys in the Coleambally region show that there are sites and artefacts present throughout the landscape. There is a dominance of scarred trees in the area especially where there are remnant stands of native trees. Scarred trees provide a tangible link to the past and provide evidence of Aboriginal subsistence activities through the deliberate removal of bark or wood. It is likely that the dominance of scarred trees as a site type in the area is related to the more obtrusive nature of scarred trees when compared to small artefact scatters.

There appears to be a pattern of site location that relates to the presence of potential resources for Aboriginal use. The archaeological sensitivity of sand hills (particularly for the presence of burials), Black Box depressions (particularly for the presence of scarred trees) has been noted. The most likely site type to be encountered within the Coleambally Solar Farm project area would be stone artefacts and scarred trees where old growth trees remain.

In addition, site density in the Coleambally area appears to be low (less than 20 sites recorded on AHIMS). This may suggest the seasonal occupation of the area by Aboriginal people though it's more likely that there has been a lack of survey in the area or that land clearing and farming activities in the area have disturbed or removed the cultural material evident of the Aboriginal occupation of the area.

A detailed understanding of the Aboriginal land use of the region is lacking, as few in depth studies have been completed. It is possible however, to ascertain that proximity to water sources and raw materials was a key factor in the location of Aboriginal sites. It is also reasonable to expect that Aboriginal people ventured away from these resources to utilise the broader landscape.

3.2.5 Archaeological Site Location Model

Based on the results of the previous archaeological investigations in the local Coleambally area, and through extrapolation of Wiradjuri sites from other areas of the Murrumbidgee plain, it is possible to provide the following model of site location in relation to the proposed Solar Farm area.

Stone artefact scatters – representing camp sites can occur across the landscape, usually in association with some form of resource or landscape unit. Within the project area, it is uncertain which water features are natural due to the modification of the landscape however areas of remnant vegetation may retain stone artefact scatters. However, due to the level of disturbance in the project area large campsites are unlikely to occur.

Burials – are generally found in elevated sandy contexts or in association with rivers and major creeks. No such features exist with the project area and therefore such sites are unlikely to occur.

Scarred Trees – these require the presence of mature trees and are likely to be concentrated along major waterways and around swamps areas. There are patches of remnant vegetation within and adjacent to the project area. Therefore, this feature is likely to occur.

Hearths/Ovens – are identified by burnt clay used for heat retainers. Some are recorded in the district in association with resource locations. However, they could occur either independently or in association with

other Aboriginal cultural features such as campsites. Such places are not obvious within the project area and this feature is therefore unlikely to occur.

Stone resources – are areas where people used natural stone resources as a source material for flaking. This requires geologically suitable material outcropping to be accessible. The project area contains no natural outcropping stone therefore such sites are unlikely to occur.

Shell Middens – are the agglomeration of shell material disposed of after consumption. Such places are found along the edges of significant waterways, swamps and billabongs. No such natural undisturbed features occur and therefore this site type is unlikely to exist at the project area.

Isolated Artefacts – are present across the entire landscape, in varying densities. As Aboriginal people traversed the entire landscape for thousands of years, such finds can occur anywhere and indicate the presence of isolated activity, dropped or discarded artefacts from hunting or gathering expeditions or the ephemeral presence of short term camps.

In summary, the lack of topographic, environmental or landscape features within the project area means that there are few loci that could potentially be attractive to Aboriginal people to concentrate activity and therefore have a better chance of leaving archaeological traces. Nonetheless, given that Aboriginal people have lived in the region for tens of thousands of years, there is some potential for archaeological evidence to occur. This is most likely to be in the form of stone artefacts and scarred trees in areas of remnant Black Box vegetation.

3.2.6 Comment on Existing Information

The AHIMS database is a record of those places that have been identified and had site cards submitted to OEH. It is not a comprehensive list of all places in NSW as site identification relies on an area being surveyed and on the submission of site forms to AHIMS. There are likely to be many areas within NSW that have yet to be surveyed and therefore have no sites recorded. However, this does not mean that sites are not present.

Within the Coleambally district there have only been a few archaeological investigations. The information relating to site patterns, their age and geomorphic context is little understood.

The robustness of the AHIMS survey results are therefore considered to be only moderate for the present investigation. There are likely to be many sites that exist that have yet to be identified. In particular, the prevalence of scarred trees in the AHIMS database is more likely to reflect the obtrusiveness of trees and it can be assumed that other site types would also be prevalent across the landscape but have yet to be found and recorded.

With regard to the limitations of the information available, archaeologists rely on Aboriginal parties to divulge information about places with cultural or spiritual significance in situations where non-archaeological sites may be threatened by development. To date, no such places have been identified within the archaeological reports carried out within the broader Coleambally area. No such places have been identified through the consultation process for the Coleambally solar farm proposal area.

4 ARCHAEOLOGICAL INVESTIGATION RESULTS

4.1 SURVEY STRATEGY

The intention for the heritage survey was to cover as much of the ground surface as possible given that the project was going to disturb approximately 555 hectares. Although the actual ground impact from the construction method was likely to be low, the placement of solar arrays across the landscape has the potential to cover any cultural heritage sites.

As already noted, the assessment area is within an irrigation development and has therefore been subject to considerable impacts from farming for many decades with areas of remnant vegetation and exposures adjacent to irrigations bays deemed to have the highest potential for sites.

The survey method was therefore to carry out a series of pedestrian survey transects across the proposal area focusing on the tracks and edges of the irrigation bays and areas with remnant Black Box vegetation. This survey method would ensure enough coverage to be able to assess and characterise the archaeology of the proposal area especially given that several the irrigation bays contained water or were recently ploughed to a depth of 20-30cm in preparation for irrigation.

While Neoen plan to retain existing viable native vegetation remnants this landform was deemed to have high archaeological potential and mature trees within the proposal area were also inspected for any evidence of Aboriginal scarring.

We believe that the survey strategy was comprehensive and the most effective way to identify the presence of Aboriginal heritage sites.

The proposal area was divided into three sections as follows:

- The solar farm proposal area with irrigation bays and crops - comprising approximately 550 hectares.
- Areas of remnant vegetation. comprising approximately 14 hectares.
- The substation area-. comprising approximately 3.5 hectares.

The survey was undertaken by an archaeologist from NGH Environmental on the 2nd and the 3rd of March 2017.

Notes were made about visibility, photos taken and any possible Aboriginal features identified were inspected, assessed and recorded if deemed to be Aboriginal in origin.

4.2 SURVEY COVERAGE

Survey transects were undertaken on foot focusing on the vehicle tracks around the irrigation bays and the areas of remnant Black Box vegetation. Most of the solar farm development area has previously been laser levelled with some patches of remnant vegetation recently cleared with several trees felled within the last few months. These trees and the exposed ground were inspected.

Soils within the bays consisted of grey-brown or reddish-brown silty clay, often cracking, leaving large fissures between 1 and 3 cm in width. The survey was severely impeded by the recent ploughing of bays to an approximant depth of 25-30cm and the irrigation of several bays. Meanwhile, other areas had been cropped leaving a mat of cut stubble that resulted in reduced visibility. This has implications for the existence and preservation of *in situ* archaeological deposits as was another reason why the vehicle tracks were the focus

of the survey transits. The visibility along the tracks was generally very good with an average visibility of 90%. Overall the irrigation bay and crop areas had an average visibility of 80%.

While the majority of the remnant vegetation will not be disturbed by the project the Black Box stands were inspected as these areas were deemed to have high archaeological sensitivity. The stands of trees offered a good perspective of the nature of the relatively undisturbed landscape of the area but generally had poor visibility due to a dense grass mat cover and averaged 5% visibility. The stands of remnant vegetation were likely to have scarred trees and a number of mature trees were inspected to ascertain if there was any evidence of cultural modification.

Table 3 below shows the calculations of effective survey coverage and plates 3-10 show examples of the transects within the proposal area. The survey data accounts for a single person with an estimated survey transect width of 5 meters.

Over the course of the field survey approximately, 33 km of transects were walked across the main solar farm proposal area. Allowing for an effective view width of 5 m, this equates to a surface area examined of 16.5 ha. However, allowing for the visibility restrictions, the effective survey coverage is reduced to 13.3 ha, or 2.4% of the project area.

Approximately 3km of transects were walked across the areas of remnant vegetation. Allowing for an effective view width of 5 m, this equates to a surface area examined of 1.5 ha. However, allowing for the visibility restrictions, the effective survey coverage is reduced to 0.08 ha, or 0.55% of the project area.

The survey for the substation examined approximately 1 km of transects around the existing structure, but allowing for visibility restrictions, the effective survey coverage was 0.3 ha or 9% of the substation Lot.

Overall, it is considered that the surface survey of the solar farm proposal area and the substation Lot had sufficient and effective survey coverage. The effective survey coverage is considered sufficient given that most the proposed development area for the project has been laser levelled and is highly modified. The results identified in this report are considered a true reflection of the nature of the Aboriginal archaeological record present within the proposal area.

	
Plate 3 View west across bays with crop stubble in north-west area of project.	Plate 4 View north of irrigated bays with crop stubble in north-east area of project.



Plate 5 View south of bays in the southern portion of the project area.



Plate 6 View north of irrigated bays in south-western portion of the project area.



Plate 7 View east of irrigated bay in far western portion of the project area.



Plate 8 View north of remnant vegetation in project area along unnamed channel.



Plate 9 View west of remnant vegetation in project area along unnamed channel.



Plate 10 View east to existing substation structure.

Table 3. Transect information.

Survey Section	Number of Survey Transects	Topography	Exposure type	Project Area ha	Surveyed area (length m x width m)	Survey Area m ²	Visibility	Effective coverage (area x visibility) m ²	Project Area surveyed (ha)	Percentage of Project area effectively surveyed	Archaeological result
Solar farm area with irrigation bays and crops	22	Level plain with irrigation bays predominantly laser levelled	Plough lines, soil mounds, vehicle tracks, channel banks	550	33,300 x 5	166,500	80% average	133,200	13.32	2.4	Nil
Area of remnant vegetation.	6	Level plain with undulating areas near channel	Bare ground	14	3,100 x 5	15,500	5% average	775	0.0775	0.55	3 Europeans Survey marker trees
Substation	2	Level plain with disturbance	Vehicle tracks, bare ground, fire exposed areas	3.5	900 x 5	4,500	70% average	3,150	0.315	9	Nil

4.3 SURVEY RESULTS

Despite the variable visibility encountered during the survey, no Aboriginal cultural material or objects were found across the proposal area. However, three European survey or blaze marker trees were identified within the proposal area. The European survey marker trees were deemed not to be Aboriginal in origin. The details of these European survey marker trees are outlined below, their location is shown in Figure 5.

Coleambally European Survey marker tree 1

(GDA 94 Zone 55 Easting 404121 Northing 6154995)

This site consists of a single European survey marker tree considered not to be Aboriginal in origin within an area of remnant vegetation adjacent to the proposal area near the intersection of Kook and Ercildoune Roads. The tree is a mature living Black Box tree in good condition that has a single arch shaped scar. The scar had an arrow engraved above the writing BM34. A branch has grown out below the scar partially obstructing the view. Regrowth was noted to also have partially covered some of the engraved writing. The tree is approximately 15m in height and is located approximately 35m north of the Tubbo Channel.



Plate 11. View east of Coleambally European Survey marker tree 1.



Plate 12. Close up of Coleambally European Survey marker tree 1.

Coleambally European Survey marker tree 2

(GDA 94 Zone 55 Easting 401800 Northing 6151730)

This site consists of a single European survey marker tree considered not to be Aboriginal in origin within an area of remnant vegetation adjacent to the unnamed channel that bisects the proposal area. The tree is a mature living Black Box tree in good condition that has a single oval shaped scar facing west. The scar has remnants of white paint with the writing B9C1. The tree is approximately 15m in height and is located approximately 45m south of the unnamed channel. Regrowth was noted to have partially covered some of the engraved writing.



Plate 13. View east of Coleambally European Survey marker tree 2.



Plate 14. Close-up of Coleambally European Survey marker tree 2.

Coleambally European Survey marker tree 3

(GDA 94 Zone 55 Easting 401044 Northing 6151791)

This site consists of a single European survey marker tree considered not to be Aboriginal in origin within an area of remnant vegetation adjacent to the unnamed channel that bisects the proposal area. The tree is a mature living Black Box tree in good condition that has a single oval shaped scar. The scar had an arrow engraved above the writing 1N. Regrowth was noted to have partially covered some of the engraved writing. The tree is approximately 10m in height and is located approximately 40m south of the unnamed channel.



Plate 15. Close-up of Coleambally European Survey marker tree 3.

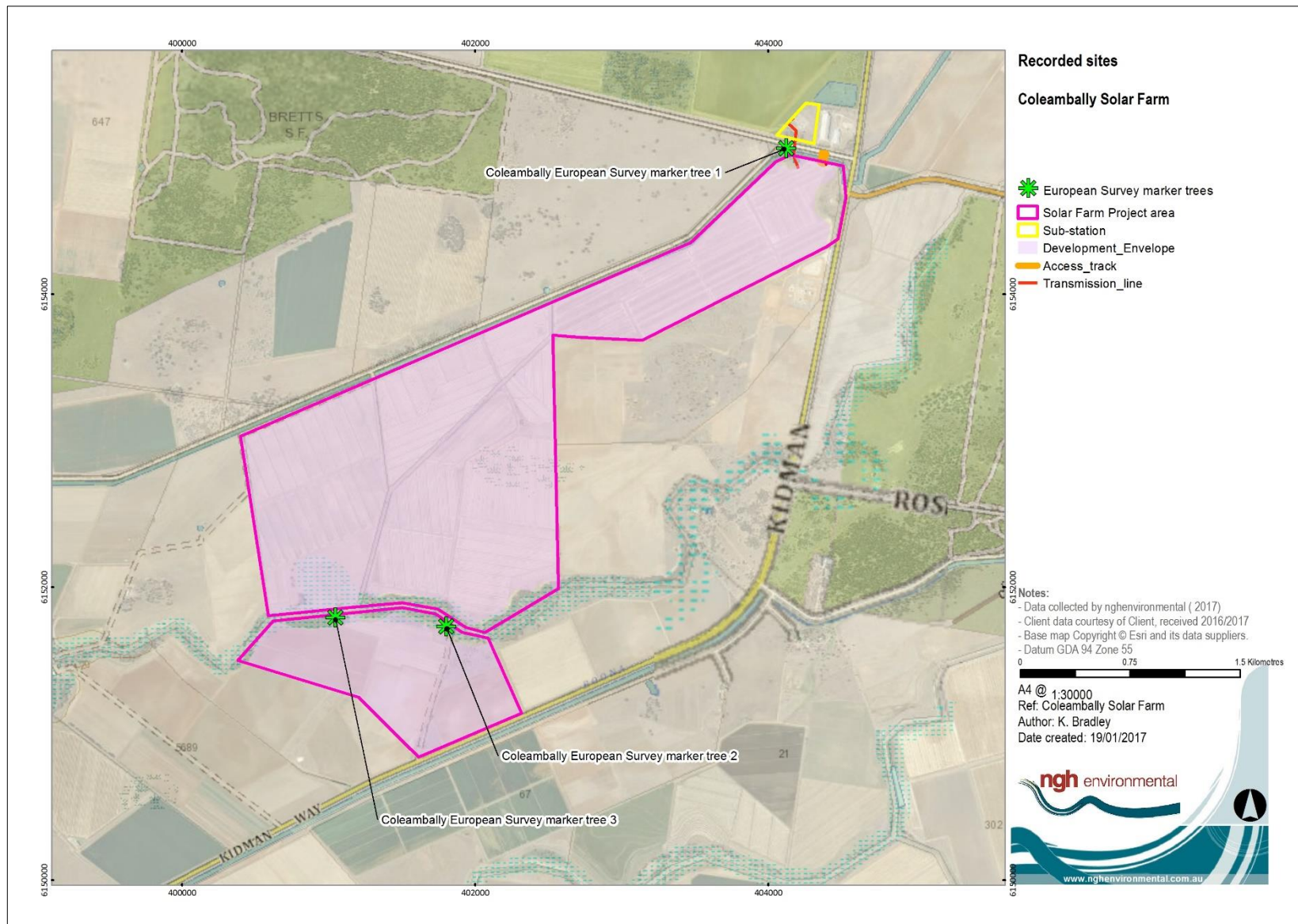


Figure 8. Location of recorded sites.

4.4 DISCUSSION

The predictions based on the modelling for the proposal area were that stone artefacts and scarred trees were the most likely manifestation of Aboriginal occupation of the area. It was noted that the remnant stands of native trees and Black Box depressions were likely to have scarred trees while exposures and tracks adjacent to irrigation bays may contain stone artefacts. However, the survey identified no Aboriginal cultural material within the project area.

Given that the majority of the project area has been laser levelled and subject to extensive modification the lack of Aboriginal sites was not unexpected. The lack of Aboriginal scarred trees within the remnant stands of Black Box vegetation was unexpected but was probably due to the previous land clearing. The inspection of the areas of remnant vegetation along the canalised creek indicated that there were few mature trees within the vicinity of the project area suggesting the area had been subject to previous land clearing. This most likely occurred during while canalising the creek.

For a tree to have been a mature specimen suitable for bark extraction at the time Aboriginal people were last practicing tradition ways, the tree would have to be over 100 years old. While it was evident that there were scars present on a number of the trees present, the scarring on those trees were considered to be natural and not to be Aboriginal in origin. The trees were either too young, damaged from falling limbs and fire or did not conform in any way to the standard scarring morphology accepted for Aboriginal modification (cf. Long 2005).

The identification of three European survey marker trees in the remnant stands of Black Box adjacent to the canalised creek suggest that the absence of Aboriginal sites is likely the result the previous land clearing. However, it should be noted that it is also possible that Aboriginal people did not occupy or leave any trace of their activity within this landscape though this scenario is considered to be unlikely.

It is also possible that the Aboriginal occupation of the area focused on larger and more permanent sources of water and resources rather than the ephemeral creek bisecting the project area. Unfortunately, due to the extensive modifications of the drainage patterns, the construction of channels and continual cultivation of the project area the pre-European landscape of the area is unable established.

In terms of the current proposal therefore, extrapolating from the results of this survey, it is unlikely that *in situ* stone artefacts could occur within the proposed development footprint. However, consideration must also be given to the level of disturbance of any such sites. Based on the land use history of the proposal area, and an appraisal of the results from the field survey, there is negligible potential for the presence of intact subsurface deposits with high densities of objects or cultural material within the Coleambally Solar Farm project area.

5 CULTURAL HERITAGE VALUES AND STATEMENT OF SIGNIFICANCE

The assessment of the significance of Aboriginal archaeological sites is currently undertaken largely with reference to criteria outlined in the ICOMOS Burra Charter (Marquis-Kyle & Walker 1994). Criteria used for assessment are:

- *Social or Cultural Value:* In the context of an Aboriginal heritage assessment, this value refers to the significance placed on a site or place by the local Aboriginal community – either in a contemporary or traditional setting.
- *Scientific Value:* Scientific value is the term employed to describe the potential of a site or place to answer research questions. In making an assessment of Scientific Value issues such as representativeness, rarity and integrity are addressed. All archaeological places possess a degree of scientific value in that they contribute to understanding the distribution of evidence of past activities of people in the landscape. In the case of flaked stone artefact scatters, larger sites or those with more complex assemblages are more likely to be able to address questions about past economy and technology, giving them greater significance than smaller, less complex sites. Sites with stratified and potentially in situ sub-surface deposits, such as those found within rock shelters or depositional open environments, could address questions about the sequence and timing of past Aboriginal activity, and will be more significant than disturbed or deflated sites. Groups or complexes of sites that can be related to each other spatially or through time are generally of higher value than single sites.
- *Aesthetic Value:* Aesthetic values include those related to sensory perception, and are not commonly identified as a principal value contributing to management priorities for Aboriginal archaeological sites, except for art sites.
- *Historic Value:* Historic value refers to a site or place's ability to contribute information on an important historic event, phase or person.
- *Other Values:* The Burra Charter makes allowance for the incorporation of other values into an assessment where such values are not covered by those listed above. Such values might include Educational Value.

All sites or places have some degree of value, but of course, some have more than others. In addition, where a site is deemed to be significant, it may be so on different levels or contexts ranging from local to regional to national, or in very rare cases, international. Further, sites may either be assessed individually, or where they occur in association with other sites the value of the complex should be considered.

Social or cultural value

While the true cultural and social value of Aboriginal sites can only be determined by local Aboriginal people, as a general concept, all sites hold cultural value to the local Aboriginal community.

No Aboriginal sites were identified during the survey for the Coleambally Solar Farm and no known cultural sites or places of value within the proposal area have been identified during the consultation process for this assessment.

Scientific (archaeological) value.

Given that no Aboriginal sites were identified during the survey for the Coleambally Solar Farm there are limited scientific values to evaluate for this project. While the absence of sites can be used to assist in the development of site modelling for the local landscape, the scientific value for further research is nil.

Aesthetic value.

The modified and heavily disturbed landscape within the solar farm development area detracts from any aesthetic setting. There are no aesthetic values associated with the archaeological sites per se, apart from the presence of European survey marker trees in the landscape.

Other Values

There are no other known heritage values associated with the subject area beyond the presence of three European survey marker trees. The area may have some educational value (not related to Aboriginal archaeological research) through educational material provided to the public about European survey markers.

6 PROPOSED ACTIVITY

6.1 HISTORY AND LANDUSE

It has been noted above that historically the solar farm proposal area has been impacted through land use practices, in particular laser levelling, clearing, ploughing and the construction of irrigation channels and bays.

The implications for this activity is that the archaeological record has been compromised in terms of the potential for scarred trees to remain outside the areas of remnant vegetation. The scale of the earthworks for laser levelling of the irrigation bays means that any stone artefacts that may have been present are now likely to have been removed or displaced.

Despite these localised impacts, Aboriginal artefacts and cultural material remain in the broader area with 18 Aboriginal sites previously recorded within a 22km radius of the project area, indicating the presence of past Aboriginal people and providing indications of their use of this landscape.

6.2 PROPOSED DEVELOPMENT ACTIVITY

As noted in section 1.2, the proposal involves the construction of a solar farm and includes connection to the nearby substation via a transmission line. The development will result in disturbance of approximately 555ha of Lots 78, 81, 82, 83, 101 and 100 of DP 750896 and Lot 1/DP 821577.

Disturbances will largely be in the preparation of the ground for the solar farm. Piles would be driven or screwed into the ground to support the solar array's mounting system, which reduces the potential overall level of ground disturbance.

Flat plate PV modules would be installed and spread across the site. Each of them would be linked to an inverter and a transformer.

Trenches would be dug for the installation of a series of underground cables linking the arrays across the proposal site.

Some internal access tracks would also be required, and typically these would comprise or a compacted layer of gravel laid on stripped bare natural ground.

Some ancillary facilities would also be required including parking facilities, staff amenities and offices.

A perimeter fence and a vegetation buffer would also be constructed around the solar farm.

A power line would be installed (underground) to connect the solar farm the existing Coleambally substation.

An extension of the existing substation on Lot/3 DP 1055725 may be required to accommodate the new connection infrastructure.

The proposed construction timetable is 9-12 months' duration and the operational life of the solar farm is estimated to be 30 years on a lease agreement. The solar farm would either be decommissioned at the end of its operational life, removing all above ground infrastructure and returning the site to its existing land capability, or continue operation (which could involve reconditioning) if the lease agreement is renewed. Reconditioning would involve replacing components that were originally installed with new components that reflect technology that is available at that time.

The development activity will therefore involve disturbance of the ground during the construction of the solar farm and transmission line to the existing substation and the extension of the substation. Once established however, there would be minimal ongoing disturbance of the ground surface.

The final details and timing of the proposed construction activity have yet to be finalised but it is anticipated that construction could commence in 2017.

6.3 ASSESSMENT OF HARM

As described in this report, no Aboriginal archaeological sites were located within the project area. Therefore, the assessment of harm for the project is nil.

6.4 IMPACTS TO VALUES

The values potentially impacted by the development are any social and cultural values attributed to the project area by the local Aboriginal community. As described in this report, no Aboriginal archaeological sites were located within the project area and no cultural values within the project area have been identified by local Aboriginal community. Therefore, the impact to the Aboriginal Heritage values for this development are nil.

No values have been identified that would be affected by the development proposal.

7 AVOIDING OR MITIGATING HARM

7.1 CONSIDERATION OF ESD PRINCIPLES

The consideration of the principles of Ecologically Sustainable Development (ESD) and the use of the precautionary principle was not required to be undertaken when assessing the harm to sites and the potential for mitigating impacts on Aboriginal heritage within the Coleambally Solar Farm proposal area given that no sites or cultural values were identified.

We therefore argue that the overall cumulative impact on the archaeological record for the region is likely to be nil given that no sites or cultural values were identified.

7.2 CONSIDERATION OF HARM

As described in this report, no Aboriginal archaeological sites were located within the project area and no cultural values within the project area have been identified by local Aboriginal community. Given the

absence Aboriginal archaeological sites and cultural values within the proposed Coleambally Solar farm project area no mitigation methods are required.

8 LEGISLATIVE CONTEXT

Aboriginal heritage is primarily protected under the NPW Act and as subsequently amended in 2010 with the introduction of the *National Parks and Wildlife Amendment (Aboriginal Objects and Places) Regulation 2010*. The aim of the NPW Act includes:

The conservation of objects, places or features (including biological diversity) of cultural value within the landscape, including but not limited to: places, objects and features of significance to Aboriginal people.

An Aboriginal object is defined 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 the occupation of that area by persons on non-Aboriginal extraction and includes Aboriginal remains.

Part 6 of the NPW Act concerns Aboriginal objects and places and various sections describe the offences, defences and requirements to harm an Aboriginal object or place. The main offences under section 86 of the NPW Act are:

- A person must not harm or desecrate an object that the person knows is an Aboriginal object.
- A person must not harm an Aboriginal object.
- For the purposes of this section, "circumstances of aggravation" are:
 - that the offence was committed in the course of carrying out a commercial activity, or
 - that the offence was the second or subsequent occasion on which the offender was convicted of an offence under this section.
- A person must not harm or desecrate an Aboriginal place.

Under section 87 of the NPW Act, there are specified defences to prosecution including authorisation through an Aboriginal Heritage Impact Permit (AHIP) or through exercising due diligence or compliance through the regulation.

Section 89A of the Act also requires that a person who is aware of an Aboriginal object, must notify the Director-General in a prescribed manner. In effect this section requires the completion of OEH AHIMS site cards for all sites located during heritage surveys.

Section 90 of the NPW Act deal with the issuing of an AHIP, including that the permit may be subject to certain conditions.

The EP&A Act is legislation for the management of development in NSW. It sets up a planning structure that requires developers (individuals or companies) to consider the environmental impacts of new projects. Under this Act, cultural heritage is considered to be a part of the environment. This Act requires that Aboriginal cultural heritage and the possible impacts to Aboriginal heritage that development may have are formally considered in land-use planning and development approval processes.

Proposals classified as State Significant Development or State Significant Infrastructure under the EP&A Act have a different assessment regime. As part of this process, Section 90 harm provisions under the NPW Act are not required, that is, an AHIP is not required to impact Aboriginal objects. However, the Department of Planning and Environment is required to ensure that Aboriginal heritage is considered in the environmental impact assessment process. The Department of Planning and Environment will consult with other departments, including OEH prior to development consent being approved.

The Coleambally Solar Farm proposal is a State Significant Development and will therefore be assessed via this pathway, which does not negate the need to carry out an appropriate level of Aboriginal heritage assessment or the need to conduct Aboriginal consultation in line with the requirements outlined by the OEH *Aboriginal cultural heritage consultation requirements for proponents 2010* (OEH 2010b).

9 RECOMMENDATIONS

The recommendations are based on the following information and considerations:

- Results of the archaeological survey;
- Consideration of results from other local archaeological studies;
- Results of consultation with the registered Aboriginal parties;
- The assessed significance of the sites;
- Appraisal of the proposed development, and
- Legislative context for the development proposal.

It is recommended that:

1. The three European survey or blaze marker trees (Coleambally European Survey marker tree 1, Coleambally European Survey marker tree 2 and Coleambally European Survey marker tree 2) identified within an/or adjacent to the project area should be avoided by the proposed work. If they are unable to be avoided further recording is recommended to establish if they have any historical significance.
2. The development proposal should now be able to proceed without any additional Aboriginal archaeological investigation.
3. Neon should prepare an unexpected finds protocol (UFP) to deal with construction activity and the inadvertent discovery of Aboriginal objects. An UFP has been provided in Appendix C in case of finds.
4. In the unlikely event that human remains are discovered during the construction, all work must cease in the immediate vicinity. OEH, the local police and the registered Aboriginal parties should be notified. Further assessment would be undertaken to determine if the remains were Aboriginal or non-Aboriginal.
5. Further archaeological assessment would be required if the proposal activity extends beyond the area of the current investigation. This would include consultation with the registered Aboriginal parties and may include further field survey.

10 REFERENCES

- DECC 2002 *Descriptions for NSW (Mitchell) Landscapes Version 2*. NSW Department of Environment and Climate Change.
- Edmonds, V. 1990 *An Archaeological Survey of the Benerembah Irrigation District, Griffith, NSW*. Report prepared for Department of Water Resources, Sydney.
- Edmonds, V. 1992 *Further Archaeological Investigations of the Benerembah Irrigation District*. Report prepared for Water Resources, Sydney.
- Edmonds, V. 1995 *An Archaeological Survey of Wyvern Station, West of Griffith, NSW*. Report prepared for Booth Associates.
- Edmonds, V. 1996 *An Archaeological Survey of the Benerembah Irrigation District Stage 4 Drainage, West of Griffith, NSW*. Report prepared for Booth Associates.
- Egloff, B., Peterson, N., and Wesson, S. 2005. *Biamanga and Gulaga: Aboriginal Cultural Association with Biamanga and Gulaga National Parks*. NSW Office of the Registrar – Aboriginal Land Rights Act (1983), Surrey Hills - Sydney.
- Evans, G. 1815 in *Historical Records of Australia Series 1* Vol. 8.
- Fraser, J. 1892 *The Aborigines of New South Wales*.
- Gollan, K. 1982 *Archaeological Survey of the Proposed 132KV Transmission Line, Darlington Point-Griffith*. Report prepared for Electricity Commission of NSW.
- Gott, B. 1982 "Ecology of Root Use by the Aborigines of Southern Australia" in *Archaeology in Oceania* 17:59-67
- Griffith LALC 2006 *Aboriginal Heritage Assessment of DP 750896, Coleambally for Booth Associates*. Report prepared for Booth Associates.
- Hamm, G. 1995 *An archaeological assessment of Telecom's proposed optical Fibre Cable routes. Darlington Point- Coleambally- Finley- Jerilderie, Riverina South West NSW*. Report prepared for Telecom Australia.
- Hiscock, P 2007, *The Archaeology of Ancient Australia*. Routledge, New York.
- Horton, D. (ed) 1994 *The Encyclopedia of Aboriginal Australia: Aboriginal and Torres Strait Islander History, society and culture*. Aboriginal Studies Press, Canberra.
- Howitt, A W 1996, *The Native Tribes of South-East Australia*. Aboriginal Studies Press, Canberra.
- IBRA 2012 *Department of Sustainability, Environment, Water, Population and Communities. Commonwealth of Australia* Accessed online via <http://www.environment.gov.au/land/nrs/science/ibra>
- Long, A. 2005 *Aboriginal Scarred Trees in New South Wales A Field Manual*. Department of Environment and Conservation, Hurstville.
- McIntyre, S. 1985 *Archaeological survey of the Proposed Darlington Point to Deniliquin 132kV Transmission Line*. Report prepared for the Electricity Commission of NSW.
- MacDonald, G. 1983 *The Concept of Boundaries in Relation to the Wiradjuri People of Inland New South Wales: An assessment of Inter-Group Relationships at the Time of European Conquest*. Report prepared for Wiradjuri Land Council.
- Marquis, P and Walker, M. 1994 *The Illustrated Burra Charter*. Australian ICOMOS, Sydney.

Malian Khulti Aboriginal Heritage Services 2004 *Tirkandi Inaburra Aboriginal Heritage Assessment Report* for the NSW Attorney Generals Department. Results of Survey 6th, 7th and 12th March 2004. Report prepared for the NSW Attorney Generals Department

Mitchell, T. 1839 *Three Expeditions to the Interior of Eastern Australia* 2 Vols. London. Accessed online via <http://gutenberg.net.au/ebooks/e00036.html>

Mulvaney, D. J., and Kamminga, J. 1999. *Prehistory of Australia*. Allen & Unwin, St Leonards, NSW.

NGH Environmental 2016 *Aboriginal Cultural Heritage Assessment: Griffith Solar Farm*. Report prepared for Neoen Australia Pty Ltd.

OEH 2010a *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*.

OEH 2010b *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*.

OEH 2011 *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW*.

Oxley, J. 1820 *Journals of Two Expeditions into the Interior of New South Wales by Order of the British Government in the Years 1817-1818*.

OzArk EHM 2011 *Aboriginal Heritage Assessment McWilliams Hanwood Proposed Winery Expansion Project*. Report to McWilliams Wines Pty Ltd.

Pearson, M. 1981 *Seen Through Different eyes: Changing Land Use and Settlement Patterns in the Upper Macquarie River Region of NSW from Prehistoric Times to 1860*. Unpublished PhD thesis, Department of Prehistory and Anthropology, ANU.

Ramson, M. 1983 *To Kill a Flocking Bird*. Unpublished B. Litt. Thesis, Department of Prehistory and Anthropology, ANU.

Tindale, N.B. 1974 *Aboriginal Tribes of Australia*. ANU Press, Canberra.

Woolrych, F.B. 1890 "Native Names of some of the Runs etc. in the Lachlan District" in *Journal of the Royal Society of New South Wales* 24:63-70.

APPENDIX A ABORIGINAL COMMUNITY CONSULTATION

Consultation Log of Coleambally Solar project.

Organisation	Contact	Action	Date Sent	Reply Date	Replied by	Response
OEH	John Gilding	letter sent via email	9/12/2016	20/12/2016	letter via email	supplied list of possible stakeholders to contact
NTScorp		Letter via post	9/12/2016			
National Native Title Tribunal		online search	8/12/2016			no registered Native title
Office of Registrar <i>Aboriginal Land Rights Act</i>		Letter via post	9/12/2016			
Riverina Local land services		Letter via post	9/12/2016			
Murrumbidgee Council		Letter via post	9/12/2016			
Griffith LALC	Robert Carroll	letter via email	8/12/2016	15/12/2016	via email	Advised LALC registered for project
Local Newspaper		The daily Advertiser	10/12/2016			closing date 13 Jan
OEH list of potential stakeholders						
Griffith LALC						already contacted 8/12/2016
Bangerang Aboriginal Corporation	Freddie Dowling	Letter via post	20/12/2016			email bounced letter sent via post
Bangerang Aboriginal Corporation	Freddie Dowling	Registered interest	27/01/2017			
Inform OEH of registered stakeholders	Miranda Kerr	via email	30/01/2017			informed 1 x registered party Griffith LALC
	John Gilding	via email	6/02/2017			informed additional registered party now Griffith LALC and Bangerang Aboriginal Corporation
Methodology						
Griffith LALC	Robert Carroll	via email	27/01/2017			close date 24 February
Bangerang	Freddie Dowling	via email	30/01/2017			close date 26 February
Griffith LALC		MB rang	24/02/2017			left message re seeking rates and insurance

Organisation	Contact	Action	Date Sent	Reply Date	Replied by	Response
Bangerang		MB rang	24/02/2017			left message to call
Bangerang		FD rang back	24/02/2017			Freddie advised that he didn't have the appropriate insurances therefore he would be rendered unable to participate in fieldwork
Griffith LALC			28/02/2017			MB Text and calls to organise fieldwork, unsuccessful
Griffith LALC			1/03/2017			MB called to organise fieldwork, left message
Griffith LALC			1/03/2017			MB arranged for Neerim to meet KB at Griffith LALC at 730am on 2/3/2017 for field work
Fieldwork						
Griffith LALC			02/03/2017			KB called and text Neerim multiple times as not at assigned meeting spot.
Griffith LALC			2/03/2017			Neerim text KB that he was unable to make survey at approx. 9am and would not be able to attend survey
Griffith LALC		KB text and called Neerim multiple times throughout day to confirm if available for survey on the following day	2/03/2017			KB received no response from Neerim re if available to make survey on the following day.
Griffith LALC	Robert Carroll	MB informed Robert Carroll via txt in morning that Neerim unable to make survey as original planned and that KB will survey project area	2/03/2017	2/03/2017	Via text	RC replied via text to MB acknowledging situation and that KB will survey project area without RAPs.
Draft Report						
Griffith LALC	Robert Carroll	via email	23/03/2017			Comments due on the 20th April
Bangerang	Freddie Dowling	via email	23/03/2017			Comments due on the 20th April

Organisation	Contact	Action	Date Sent	Reply Date	Replied by	Response
Bangerang	Freddie Dowling	via phone to KB	28/03/2017			Freddie called asked for following changes on page 40 in consultation log entry dated 24/02/2017 "Freddie advised that he didn't have the appropriate insurances therefore he would be rendered unable to participate in fieldwork". Also, noted area in Bangerang country. Request for signage on entrance to project to acknowledge Aboriginal Lands. He will send detailed email and information on Bangerang country. Note correct spelling of name is Freddie please update in document to Freddie or Fred. No issued raised with recommendations.
Bangerang	Freddie Dowling	via email to KB	28/03/2017			sent KB report and maps on Bangerang ppl
Bangerang	Freddie Dowling	via email	29/03/2017			Additional comments sent via email to KB to be included in report I.
Griffith LALC	Robert Carroll	Send reminder that comment due next week	13/04/2017			
Griffith LALC	Robert Carroll	KB phone conversation with Robert	26/04/2017			Robert provided comments over phone that Griffith LALC is happy with the report and recommendations as outlined in the report and had no further comments to provide.

Public Notice placed in the Daily Advertiser on 10th of December 2016.

56 WEEKEND ADVERTISER Saturday, December 10, 2016

Garage Sales

VISIT VISITED

LAKE ALBERT, 8 Pooler St. 8.30am - 4.00pm. Renovation sale, curtains, light fittings, large furniture, bric-a-brac, clothing, new children's sun protector swimwear.

VISIT VISITED

SPRINGVALE, 50 Dunne Rd. 8am-12pm Sat. 10 Dec. A selection of furniture, exercise equipment, clothing and bric-a-brac.

VISIT VISITED

TATTON, 10 Melville Place, Sat. 8am - 2pm. Moving sale. Pots, plants, fridge, lounge, tools, sport goods, household. Too much to mention.

VISIT VISITED

TATTON

13 Baggins Cres. Not before 8am Household items, kids bikes, dog kennel, car seats.

VISIT VISITED

TOLLAND, 3 Lecho St. Sat. 8am - 1pm. Clothing, toys, kitchenware, jewellery, assorted items.

VISIT VISITED

URANDUMITY, 45 Cornillon St. Sat. 7.30am-5pm. Mt. Erin uniforms, summer, winter & sports, bric-a-brac. Elec goods & tools, furniture, rhinos, birds & heaps more.

VISIT VISITED

URANDUMITY, 7 Ben St. 8am-6pm. WB & HD parts and assets, tyres, tools, baby prams, etc.

VISIT VISITED

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422 Koorringal Rd. After 8am! Clothing, toys, furniture.

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Contracts: 10th Dec 12.00pm, Day Renewed 14th Dec 9.00am

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Wagga - 13th Dec @ 6pm
Deni - 23rd Dec @ 9pm
Call: 1300-889-321
www.abchadventure.com
Limited Spots

Real Estate

Private Sale - Holbrook

3 br home, large block and shed, close to all amenities. Ph: 0427 814 263 call after hours 02 6528 5242.

Cattle

MURRAY GREY Bulls for sale. Phone: Ted Keen on 0828 3427 or 0419 126 430

Sheep

BORPER Rams for sale, clean skins. Ph: Ted Keen on 0828 3427.

Public Notices

Brian Letton in concert

Sunday 11th Dec, 2pm - 5pm
Commercial Club Wagga.
Tickets at the door

Boats and Accessories

BOATING LICENCE COURSE & JETSKI

Wagga - 11th Dec @ 1.30pm
Deni - 23rd Dec @ 9pm
Call: 1300-889-321
www.abchadventure.com
Limited Spots

Public Notices

Blue Christmas

For those who find Christmas a difficult time.

St John's Anglican Church, Wagga

6:30pm - Thursday, 15th December

All Welcome

Public Notices

Christmas SEAFOOD FISHERMAN'S PARADISE

Farmers Home Hotel Jaramba, Wagga

TRADING 24 Dec 8.00am until sold out Orders Taken 0407 463 672

PUBLICATION AND CLOSURE TIMES FOR CHRISTMAS AND NEW YEAR

Please note the following changes to The Daily Advertiser Classifieds deadlines for the following publications:

Saturday, 24 December
Deadline: Friday, 23 December at 2pm

Monday, 26 December
PAPER NOT PRINTED

Tuesday, 27 December
Deadline: Friday, 23 December at 2pm

Wednesday, 28 December
Deadline: Tuesday, 27 December at 2pm

Thursday, 29 December
Deadline: Wednesday, 28 December at 2pm

Friday, 30 December
Deadline: Thursday, 29 December at 2pm

Saturday, 31 December
Deadline: Friday, 30 December at 1pm

Monday, 2 January 2017
Deadline: Friday, 30 December at 2pm

Tuesday, 3 January
Deadline: Friday, 30 December at 2pm

Wednesday, 4 January
Deadline: Tuesday, 3 January at 2pm

Notification for registration of interest for Aboriginal stakeholders

NGH Environmental has been contracted by Neeson to undertake an Aboriginal Cultural Heritage Assessment (ACHA) for a proposed solar farm at Coleambally. The assessment area comprises land between the Korman Way and Kook Road, just north of the township of Coleambally, in the Murrumbidgee Local Government Area.

The purpose of the consultation with Aboriginal people is to assist the proponent in the preparation of the ACHA and to be involved in consultation as part of the lodgement of a State Significant Development application.

In order to fulfil the requirements set out in the OGH Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, NGH Environmental is seeking interested Aboriginal parties who hold cultural knowledge of the assessment area to register their interest in the consultation process for the project and to assist in the determination of cultural significance of any Aboriginal objects or places located there.

Registrations should be provided in writing to:

NGH Environmental Pty Ltd
PO Box 62
FISHERMAN ACT 2609
Or Via Email: nghe@nghenvironmental.com.au

All correspondence must be received by **5pm Friday, 13 January 2017**

Those registering an interest will be contacted to discuss the project further. Those who do register are advised that their details will be provided to OGH and the Local Aboriginal Land Council, unless they specifically advise in writing that their details are not to be forwarded.

Yvonne O'Connor School of Dancing

A.R.A.D. & S.O.B.H.D. Teacher's Diploma
Fully registered teacher with R.A.D.

49TH ANNUAL CONCERT

Saturday 17th December

2pm and 7:15pm

at the Civic Theatre

All proceeds will go to Cerebral Palsy Alliance

Bookings at the Civic Theatre

WAGGA OFFICE CLOSED

MONDAY, 26 DECEMBER

TUESDAY, 27 DECEMBER

WEDNESDAY, 28 DECEMBER

THURSDAY, 29 DECEMBER

FRIDAY, 30 DECEMBER

MONDAY, 2 JANUARY

Customers wanting to book Classified advertisements over the Christmas period please contact our Phone Sales Office on 1300 65 65 62 or email: riverinaclassifieds@fairfaxmedia.com.au

The Classifieds Team would like to wish everyone a very Happy Christmas & a safe and joyous New Year

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The Fred Hollows Foundation

16-419 Final

43

ng environmental

Comments on Draft report provided in writing by Freddie Dowling via email from the Murrumbidgee Council Administration/Finance Support Officer Tianni Given on the 29th March 2017.

COMMENT

The Bpangerang People are quite happy to see their Traditional country used for a Solar Farm which will benefit so many people without causing any environmental issues such as noise and pollution etc .

Although there were no Artifacts located at the site at the time of survey owing to the continuing land use since European settlement it still must be remembered that this was indeed Aboriginal Land and some sort of recognition of the Bpangerang People should be acknowledged on signage at entrances in respect .

All old genuine maps by researchers and historians clearly show that the Bpangerang Tribe occupied the area .

We wish the project good fortune ... and may the sun keep on shining .

That is what BYAMEE (the creator) made Nungara (The Sun) for ...!!

Freddie Dowling .. Bpangerang Elder

Additional information of the Bangerang provided by Freddie Dowling via email from the Murrumbidgee Council Administration/Finance Support Officer Tianni Given on the 28th March 2017.



REGIONAL HISTORIES OF NEW SOUTH WALES

ABORIGINAL PEOPLE

The area lying between the Murrumbidgee and Murray Rivers seemed to settlers to constitute a well-defined entity: John Dunmore Lang coined the name Riverina on the specific South American analogy of provinces called 'entre rios' ('between the rivers') and although the term has often been used subsequently for a more extensive area of New South Wales, the basic concept of an interfluvial region bounded to the north and south by the two major rivers, to the west by the junction of the Murrumbidgee and the Murray and to the east by the mountains has remained powerful. (See Fig 12.1)

But even in European eyes, there are major deviations from this simple formula. In the Murrumbidgee heritage region, the local government units of Leeton, Narrandera, Wagga Wagga and Tumut all have land both north and south of the Murrumbidgee. The border between the heritage regions 12 and 13 lies approximately halfway between the Murrumbidgee and the Murray. The Murray itself is the border between the states of New South Wales and Victoria and therefore, unlike the Murrumbidgee, has constituted a major administrative boundary for Europeans for a century and a half.

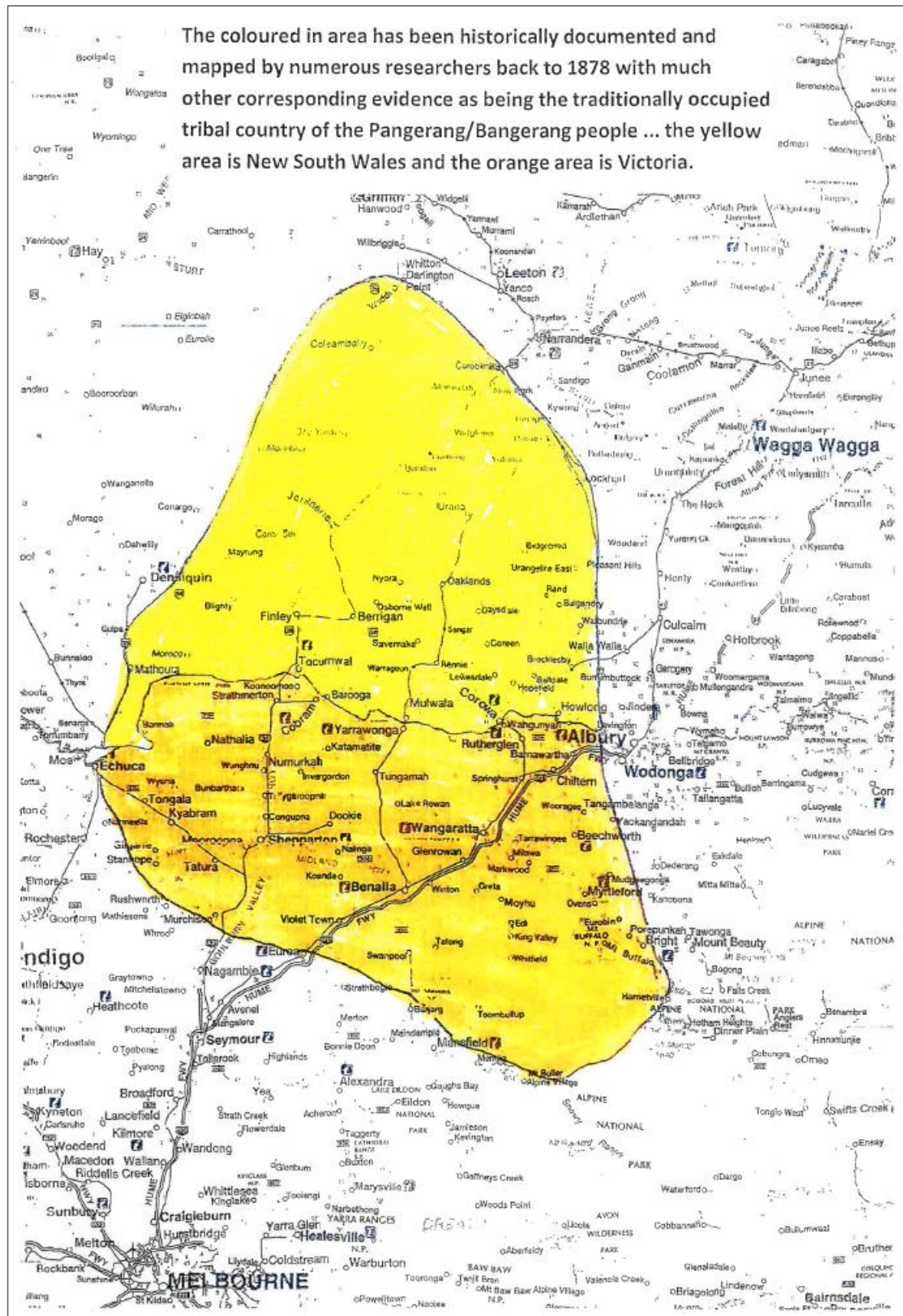
The Aboriginal perception of the land was profoundly different. The major rivers were not in general boundaries between linguistic groups. Wiradjuri country lay on both sides of the Murrumbidgee, Bangerang country straddled the Murray from Albury in the east to Moama in the west and the Narinari occupied the drier country still further west. The only area where the Murray appears to have been a boundary between Aboriginal groups was east of Albury where the north side was Wiradjuri country, the south side Durooa. The Murray heritage region was therefore divided into three Aboriginal areas, Wiradjuri on the higher rainfall area to the east, Bangerang in the middle and the Narinari to the west (Fig 13.1); but the Wiradjuri also occupied large tracts of country to the north as far as the Macquarie River, whereas the Bangerang occupied large areas to the south of the Murray in modern Victoria. In the west both sides of the Murray were in the one linguistic area, on the east the river was a linguistic frontier.

The Bangerang used the river Murray as a thoroughfare and were famous for their bark canoes: the banks of the Murray today still have a relatively large number of older trees with the wood exposed where bark for canoes was cut out in the early nineteenth century or before. To the Bangerang the river fulfilled a function very similar to that of the Hawkesbury for early European settlers: as a major highway for communications and trade and as a major source of food. As late as 1848 the squatter E.M. Curr travelled on the river with an Aboriginal guide in a 6-metre long canoe with a traditional fire 'burning on a hearth of clay in the bows' to grill fish or duck en route.⁷⁴

The Bangerang found plentiful food, shellfish and Murray cod in the river and fruit, tubers and nuts in the adjacent country. Although they probably joined the Wiradjuri and the people of Monaro and the southern tableland at the annual feast on bogong moths in the alpine peaks each December and January, the Bangerang were less mobile than the highland folk and their activities seem to have concentrated on the Murray. Upstream from Corowa there is still a line of rocks running across the river, constituting a largely natural weir, uncovered in low water: this was developed and exploited by the Bangerang to make fish-spearing more efficient.

The dislocation by Europeans of normal Aboriginal routines of life was increasingly severe from the 1840s onwards, but already in the 1830s and probably earlier, European diseases, influenza, smallpox and syphilis, had taken a terrible toll of both Wiradjuri and Bangerang.

In 1845 the census of Aborigines in the Murrumbidgee Pastoral District, which included the Murray, estimated the total number as some two thousand. These were precisely located. Those in the Murray heritage region totalled six hundred: 100 at Thomas Mitchell's station of Mungabareena, later Albury (in Wiradjuri country); 300 at the Geraphana River, a tributary of the Edward River near Deniliquin, in the area where Bangerang and Narinari met; and 200 at Urana in the centre of Bangerang country.⁷⁵ *



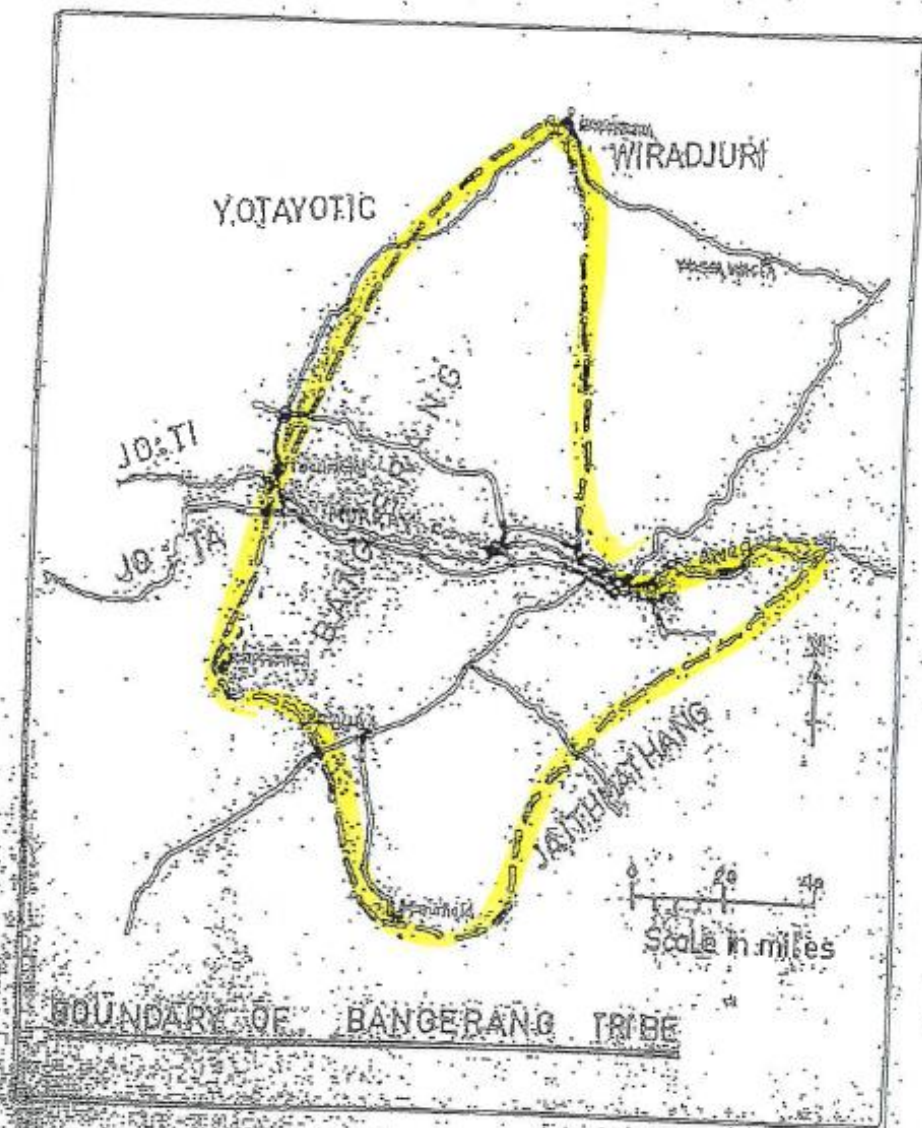
1913.

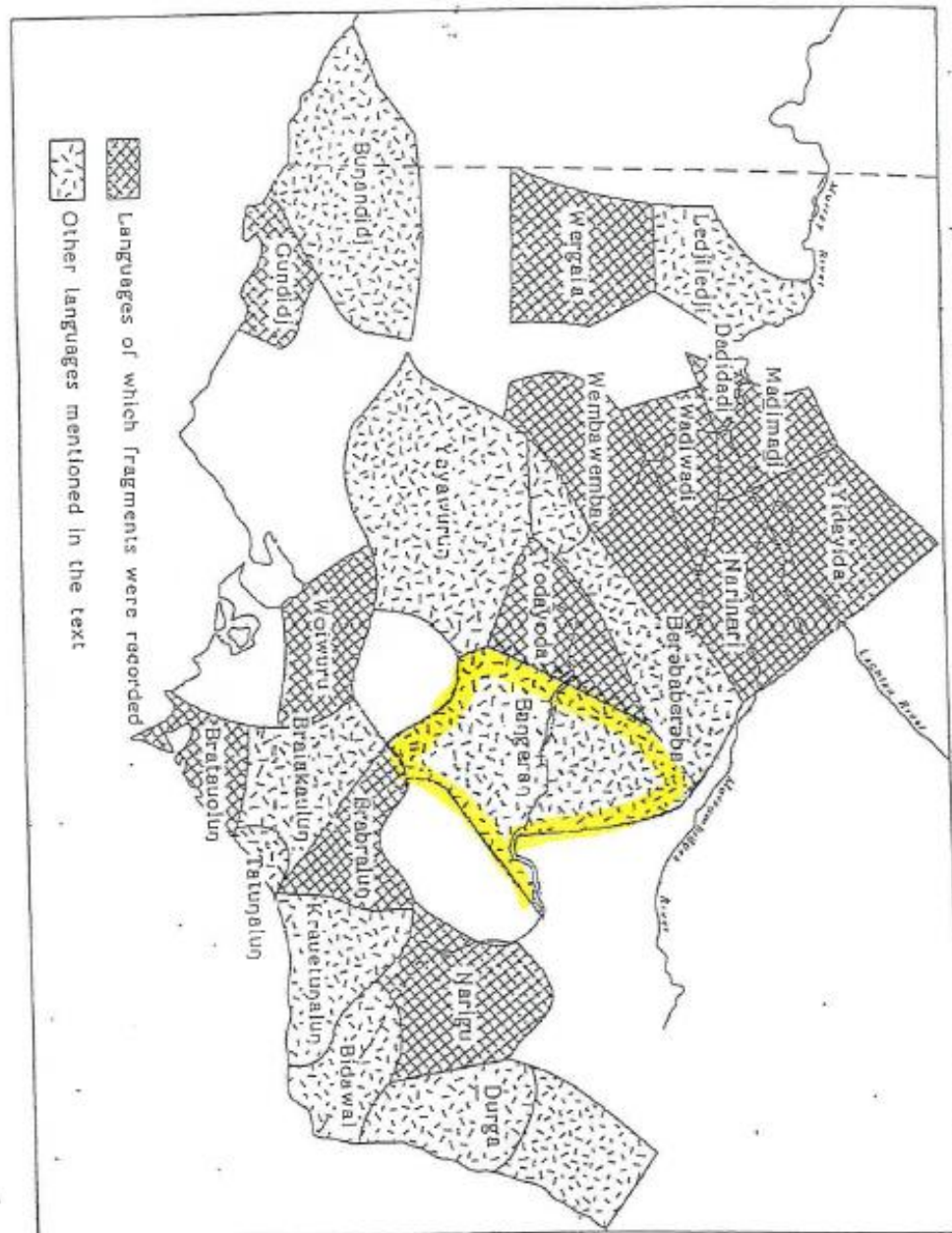
Flow Gently PAST.

Chapter Two

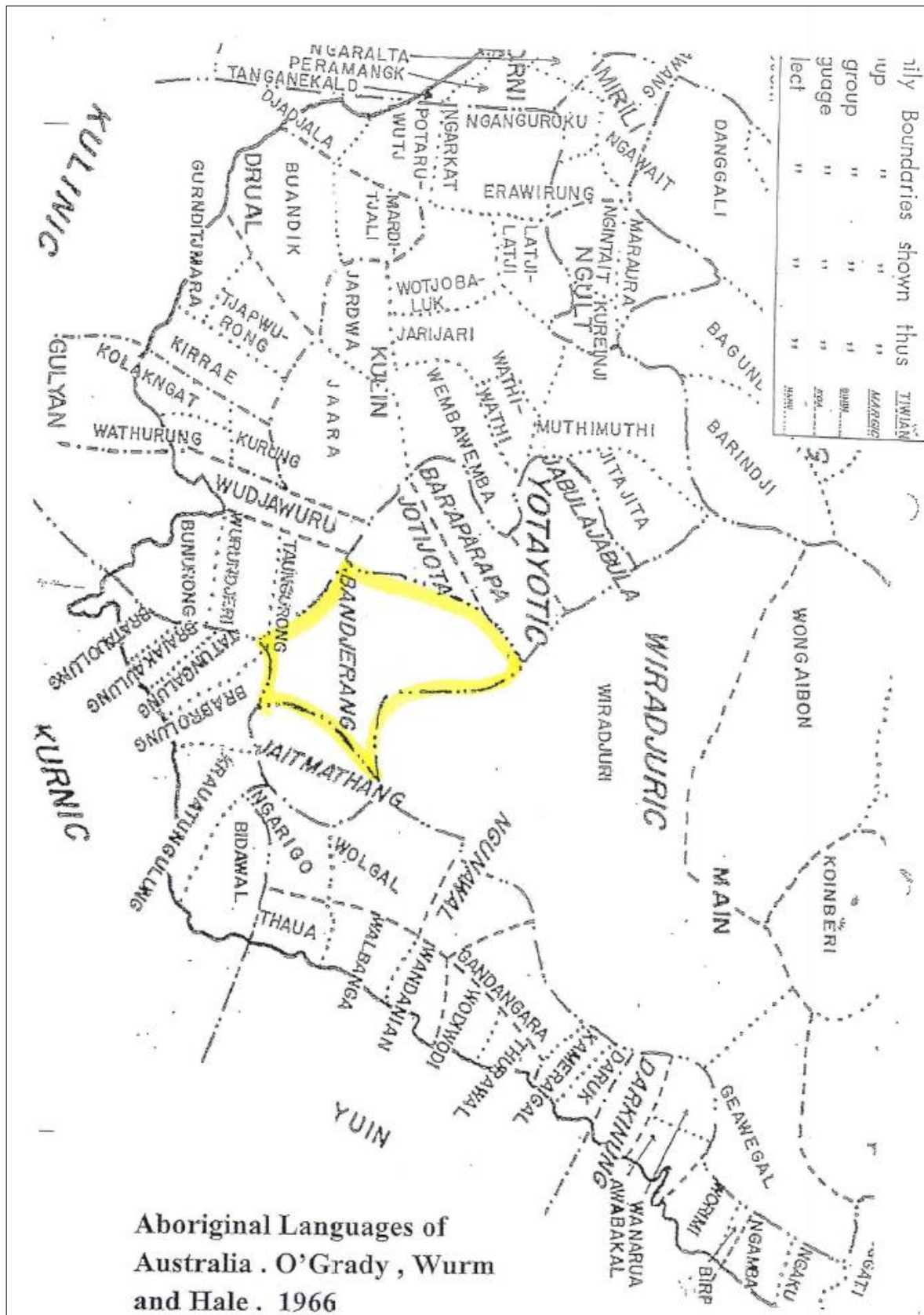
THE FIRST PEOPLE

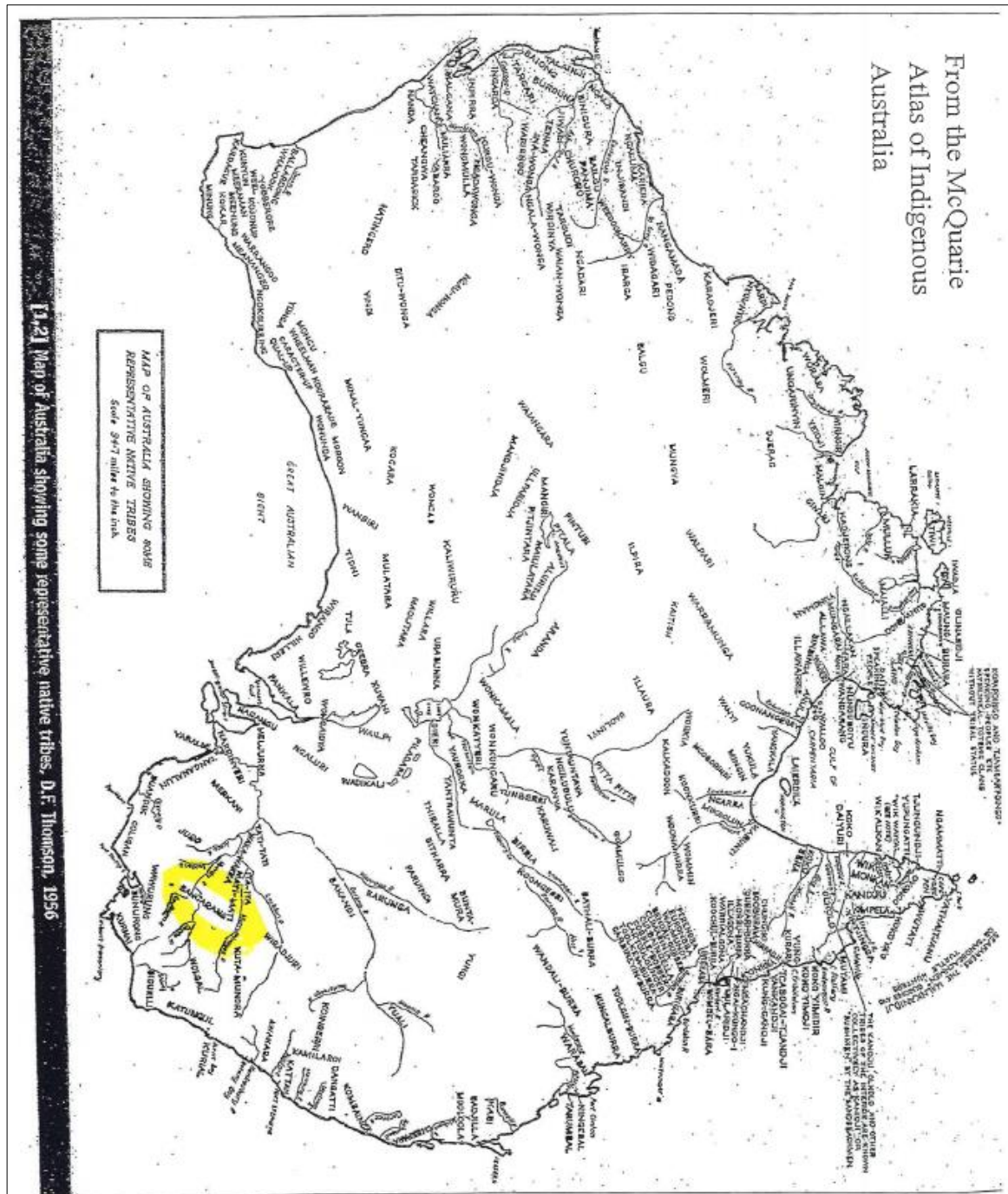
The tribe of aborigines that inhabited the Corowa area were called, in their own language, the Bangerang Tribe. The name has various spellings in English, varying all the way from Band-jalang through Panderang to Pinigorine.

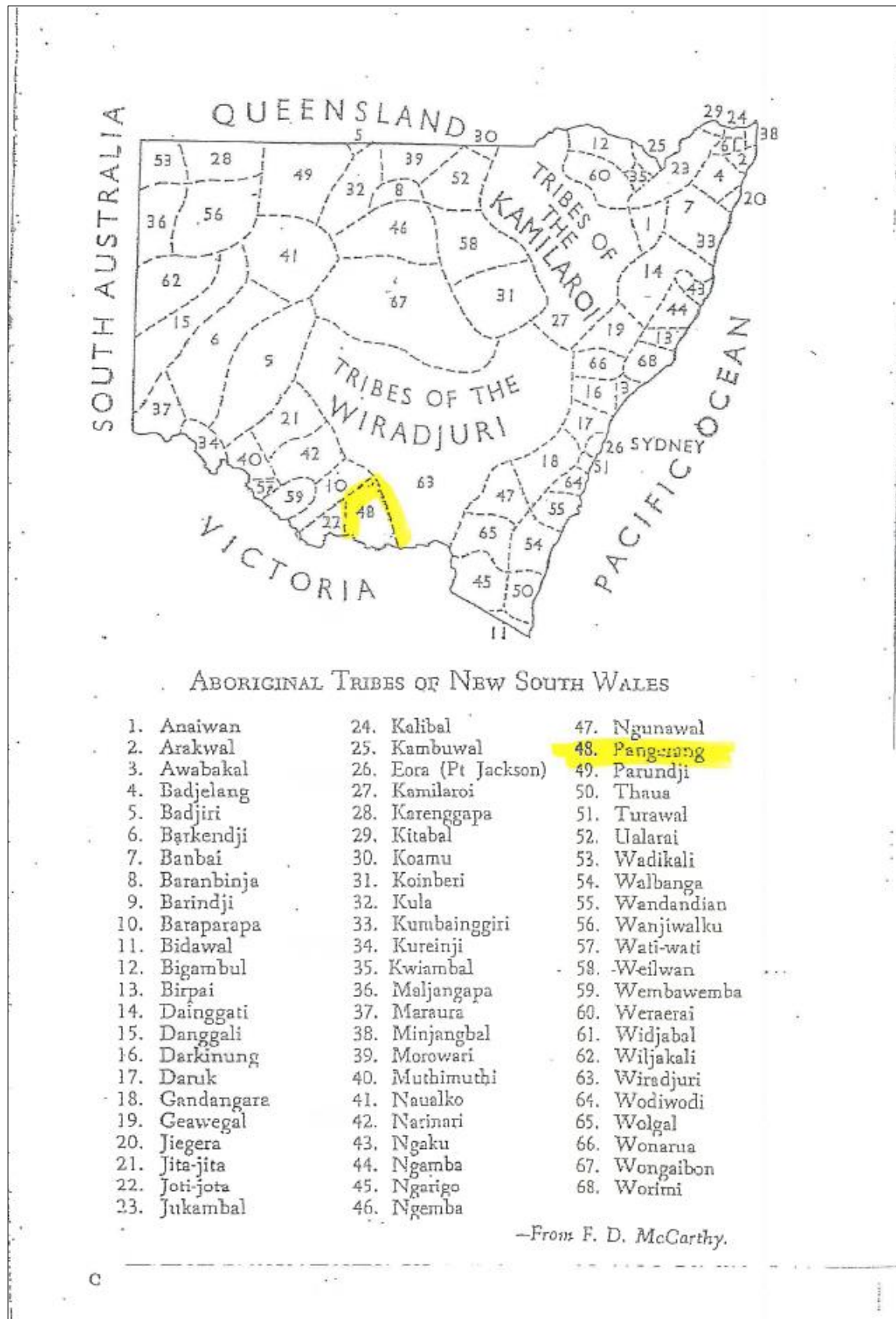




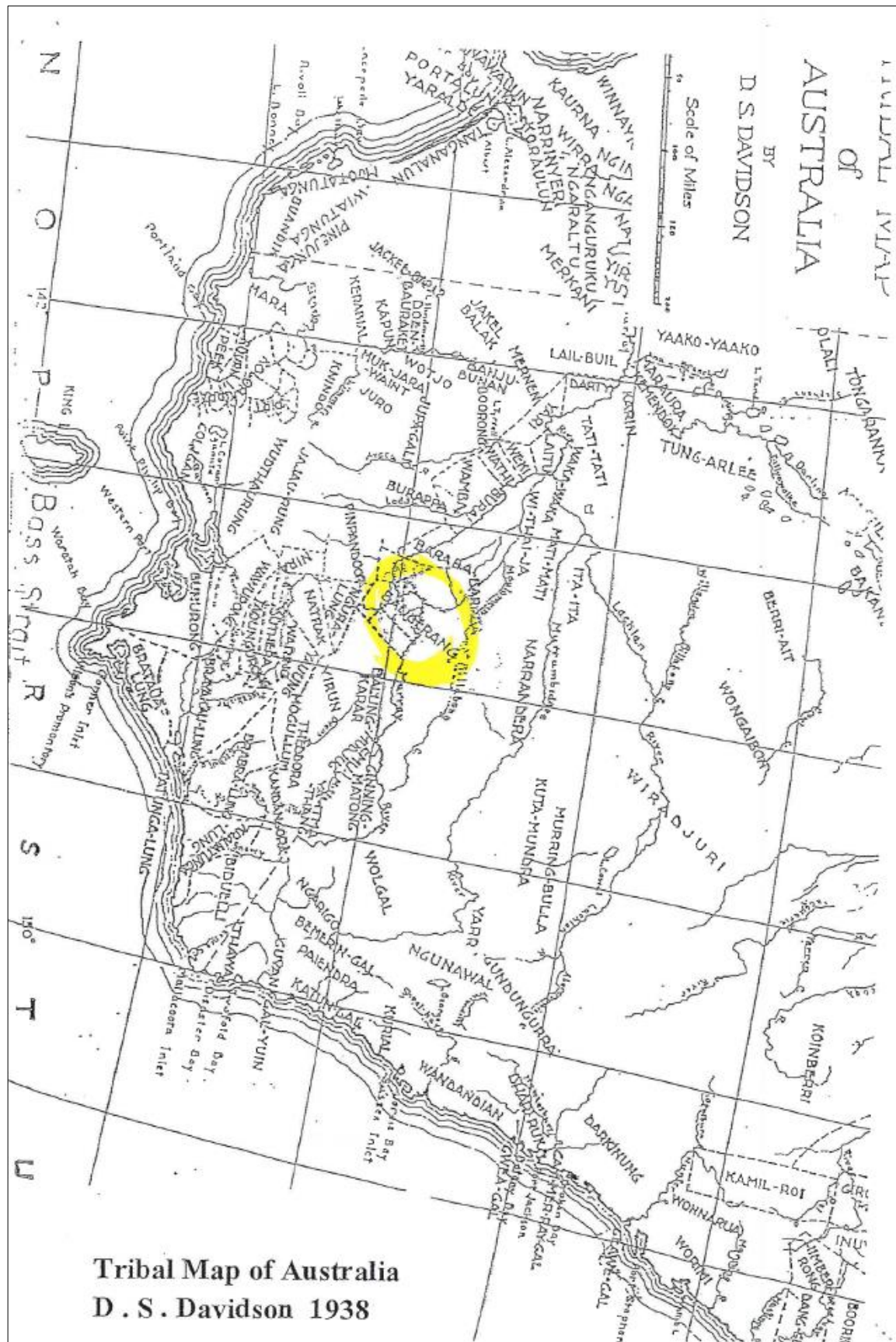
**Approximate location of
Particular Languages
Luise Hercus . 1968**

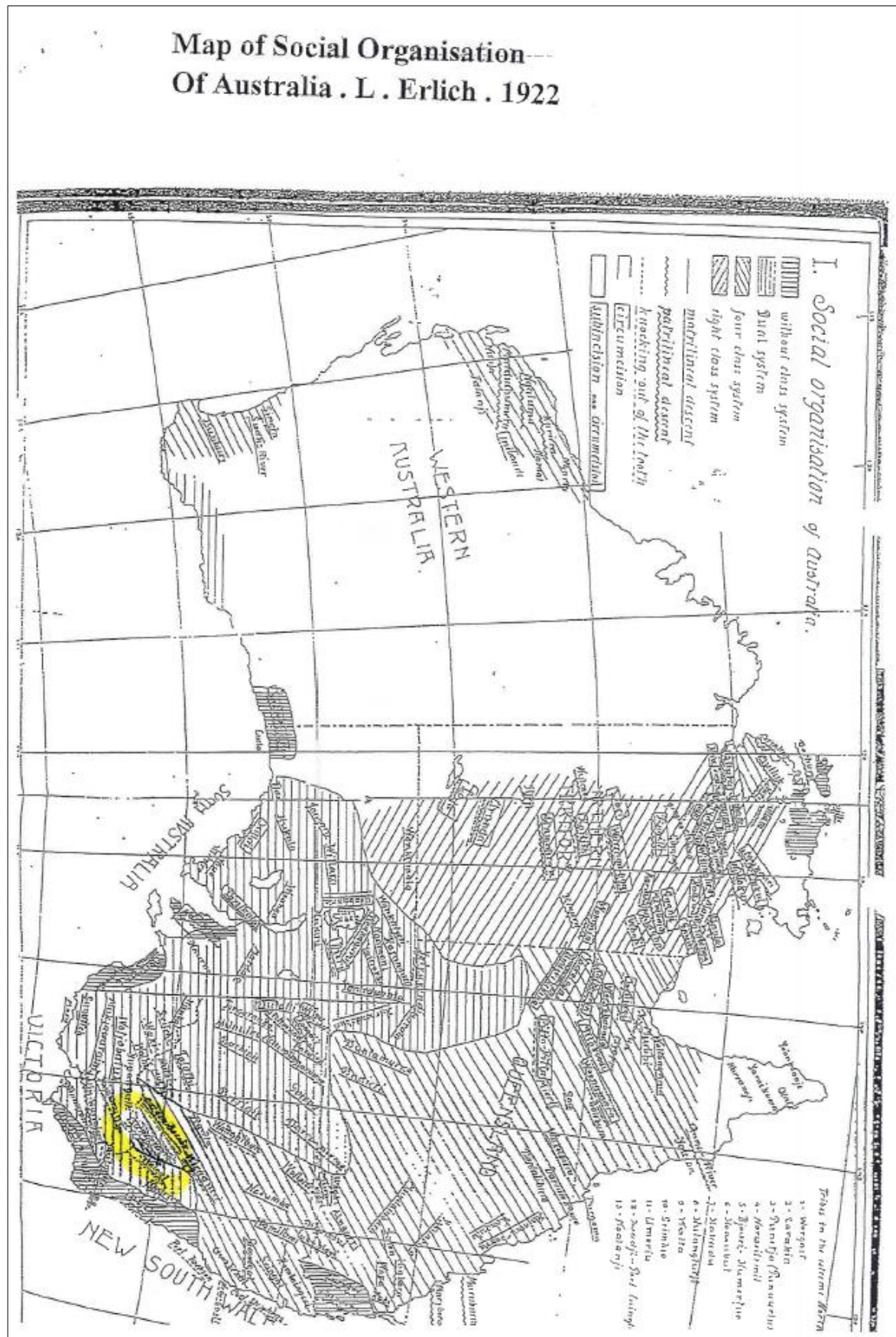












APPENDIX B AHIMS SEARCH



Office of
Environment
& Heritage

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Coleambally solar farm

Client Service ID : 258363

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
49-4-0018	D B #6;	AGD	55	396750	6152350	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	1326
<u>Contact</u>		<u>Recorders</u>		George McIntyre		<u>Permits</u>				
49-4-0020	D B #5;	AGD	55	396900	6152350	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	1326
<u>Contact</u>		<u>Recorders</u>		George McIntyre		<u>Permits</u>				
49-4-0021	Wondaree;	AGD	55	405450	6159800	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
<u>Contact</u>		<u>Recorders</u>		J Brickhill		<u>Permits</u>				
49-5-0066	Kooba TTT B;TSR;	AGD	55	409438	6148722	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
<u>Contact</u>		<u>Recorders</u>		R Reid		<u>Permits</u>				
49-5-0085	Kerarbury Channel Site 8;	AGD	55	393300	6158775	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
<u>Contact</u>		<u>Recorders</u>		Mr.K Heffernan,Jan Klaver		<u>Permits</u>				
49-4-0014	Ercildoune Rd 1 (DB#3)	AGD	55	402850	6154350	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	1326,98206
<u>Contact</u>		<u>Recorders</u>		Mr.I George,Doctor.Susan McIntyre-Tamwoy		<u>Permits</u>				
49-4-0015	D-B #7;Coleambally;	AGD	55	396650	6152400	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	1326,98206
<u>Contact</u>		<u>Recorders</u>		Mr.I George,Doctor.Susan McIntyre-Tamwoy		<u>Permits</u>				
49-4-0054	tirkandi 1	AGD	55	402689	6157342	Open site	Valid	Modified Tree (Carved or Scarred) : -, Aboriginal Resource and Gathering : -		98914
<u>Contact</u>		<u>Recorders</u>		Malian Khulti Aboriginal Heritage Services		<u>Permits</u>				
49-4-0055	tirkandi 2	AGD	55	402508	6156925	Open site	Valid	Hearth : -, Aboriginal Resource and Gathering : -		98914
<u>Contact</u>		<u>Recorders</u>		Malian Khulti Aboriginal Heritage Services		<u>Permits</u>				

Report generated by AHIMS Web Service on 12/12/2016 for Lisa Hamilton for the following area at Lat, Long From : -34.8347, 145.8149 - Lat, Long To : -34.6928, 146.0399 with a Buffer of 1000 meters. Additional Info : heritage assessment. Number of Aboriginal sites and Aboriginal objects found is 18
This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.



Office of
Environment
& Heritage

AHIMS Web Services (AWS) Extensive search - Site list report

Your Ref/PO Number : Coleambally solar farm

Client Service ID : 258363

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
49-4-0056	tirkandi 3	AGD	55	402871	6157177	Open site	Valid	Hearth : -, Aboriginal Resource and Gathering : -		98914
	<u>Contact</u>							<u>Permits</u>		
49-4-0057	tirkandi 4	AGD	55	402385	6157830	Open site	Valid	Artefact : -, Aboriginal Resource and Gathering : -		98914
	<u>Contact</u>							<u>Permits</u>		
49-4-0058	tirkandi 5	AGD	55	402368	6157311	Open site	Valid	Aboriginal Resource and Gathering : -, Hearth : -		98914
	<u>Contact</u>							<u>Permits</u>		
49-4-0059	tirkandi 6	AGD	55	402378	6157264	Open site	Valid	Aboriginal Resource and Gathering : -, Hearth : -		98914
	<u>Contact</u>							<u>Permits</u>		
49-4-0060	tirkandi 7	AGD	55	402820	6157394	Open site	Valid	Aboriginal Resource and Gathering : -		98914
	<u>Contact</u>							<u>Permits</u>		
49-4-0061	tirkandi 8	AGD	55	404682	6157402	Open site	Valid	Aboriginal Resource and Gathering : -, Hearth : -		98914
	<u>Contact</u>							<u>Permits</u>		
49-4-0062	Ercildoune Rd 2	GDA	55	402180	6154694	Open site	Valid	Artefact : -, Modified Tree (Carved or Scarred) : -, Burial : -		
	<u>Contact</u> Searle							<u>Permits</u>		
49-4-0063	Coleambally Golf Club	GDA	55	397109	6146245	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	<u>Contact</u> Gerry Saals							<u>Permits</u>		
49-4-0132	Rosewood ST1	GDA	55	406233	6152391	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	<u>Contact</u>							<u>Permits</u>		

Report generated by AHIMS Web Service on 12/12/2016 for Lisa Hamilton for the following area at Lat, Long From : -34.8347, 145.8149 - Lat, Long To : -34.6928, 146.0399 with a Buffer of 1000 meters. Additional Info : heritage assessment. Number of Aboriginal sites and Aboriginal objects found is 18
This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

APPENDIX C HERITAGE UNEXPECTED FINDS PROTOCOL

HERITAGE UNEXPECTED FINDS PROTOCOL

PURPOSE

This unexpected finds protocol has been developed to provide a method for managing unexpected non-Aboriginal and Aboriginal heritage items identified during the construction and maintenance of the Project. The unexpected finds protocol has been developed to ensure the successful delivery of the Project while adhering to the NSW *National Parks and Wildlife Act 1974* (NPW Act) and the *Heritage Act 1977* (Heritage Act).

Despite undertaking appropriate heritage assessment prior to the commencement of the Project, unexpected heritage items may still be identified during construction, operation and maintenance works. If this happens the following unexpected finds protocol plan should be implemented.

WHAT IS A HERITAGE UNEXPECTED FIND?

An unexpected heritage find is defined as any possible Aboriginal or non-Aboriginal heritage object or place, that was not identified or predicted by the project's heritage assessment and is not covered by appropriate permits or development consent conditions. Such finds have potential to be culturally significant and may need to be assessed prior to development impact.

Unexpected heritage finds may include:

- Aboriginal stone artefacts, shell middens, modified trees, hearths and rock art;
- Human skeletal remains; and
- Remains of historic infrastructure and relics.

ABORIGINAL HERITAGE PLACES OR OBJECTS

All Aboriginal objects are protected under the NSW *National Parks and Wildlife Act 1974* (NPW Act).

An Aboriginal object is defined 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 the occupation of that area by persons on non-Aboriginal extraction and includes Aboriginal remains.

All Aboriginal objects are protected and it is an offence to harm or desecrate an Aboriginal object or place.

HISTORIC HERITAGE

The *Heritage Act 1977* protects relics which are defined as:

Any deposit, artefact, object or material evidence that relates to the settlement of the area that comprises NSW, not being Aboriginal settlement; and is of State or local heritage significance.

UNEXPECTED FINDS MANAGEMENT PROCEDURE

In the event that any unexpected Aboriginal heritage places or objects or any substantial intact historic archaeological relics of State or local significance are unexpectedly discovered during the Project, the following management protocols will be implemented:

1. Works at that identified heritage location will cease with an appropriate buffer zone of at least 20 metres to allow for the assessment and management of the find. All site personal will be informed about the buffer zone with no further works to occur within the buffer zone.
2. Heritage specialist will be engaged to assess the Aboriginal place or object encountered, Representatives from the registered the Aboriginal Stakeholders for the Project may also be engaged to assess the cultural significance of the place or object.
3. The Project approvals will be reviewed to assess consistency with the approvals to impact Aboriginal heritage within the Project area.
4. The discovery of an Aboriginal place or object will be reported to the local office of the Office of Environment and Heritage (OEH).
5. If the Aboriginal heritage places or objects are found to be covered under the existing approvals to impact Aboriginal heritage within the Project area, works may continue to be conducted in accordance with mitigation measures and approval requirements.
6. If the Aboriginal heritage places or objects are found to not be covered under the existing approvals to impact Aboriginal heritage within the Project area, works will not recommence at the heritage place or object until advised to do so by OEH.
7. If the heritage place or object can be managed *in situ*, works at the heritage location will not recommence until appropriate heritage management controls have been implemented, such as protective fencing.
8. For historic relics, work must cease in the affected area and the Heritage Council must be notified in writing. This is in accordance with section 146 of the *Heritage Act 1977*.
9. Depending on the nature of the discovery, additional assessment may be required prior to the recommencement of work in the area. At a minimum, any find should be recorded by an archaeologist.

HUMAN SKELETAL REMAINS

Where human skeletal remains are unexpectedly found during works for the Project the following protocol would be adopted:

1. Works at that location will cease, and an appropriate buffer zone of at least 50 metres will be established;
2. The human remains will not be moved;
3. The NSW police will be notified, and if the human remains are deemed a crime scene, the place will be managed by the police;
4. Should the human remains be deemed Aboriginal or historical by the police, OEH must be notified immediately to assess the remains; and
5. Should the human remains be deemed Aboriginal in origin all registered Aboriginal parties for the Project are to be notified in writing.

The above process functions only to appropriately identify the human remains and secure the site, from which time the management of the remains is to be determined through liaison with the NSW police, OEH and the relevant Aboriginal stakeholders.