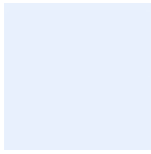


APPENDIX G ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT

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Aboriginal Cultural Heritage Assessment

GRIFFITH SOLAR FARM



FEBRUARY 2016



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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 Griffith Solar Farm, located 7 km south east of Griffith, NSW

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*. 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) of the relating the Aboriginal heritage were as follows:

The EIS must include an assessment of impacts on Aboriginal heritage. The EIS must demonstrate the likely impacts of the development on Aboriginal heritage (including cultural and archaeological significance). Where impacts are identified the assessment shall:

- Outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the measures) generally consistent with the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (Department of Environment and Conservation 2005);
- Be undertaken by a suitably qualified heritage consultant;
- Demonstrate effective consultation with Aboriginal communities in determining and assessing impacts and developing and selecting options and mitigation measures (including the final proposed measure); and
- Demonstrate that an appropriate archaeological assessment methodology, including research design (where relevant) has been undertaken, to guide physical archaeological test excavations of areas of potential archaeological deposits. The full spatial extent and significance of any archaeological evidence shall be established and results of excavations included. (SEARs for Griffith Solar Farm (SSD 14_6604) 26/8/14).

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 Griffith City Council Local Government area

PROJECT PROPOSAL

The Griffith Solar Farm proposal site covers approximately 120 hectares of land. Key infrastructure components would include:

- Solar arrays: approximately 200,000 solar panels supported by approximately 25,000 piles, driven or screwed into the ground.
- Approximately 26 PV boxes.
- One containerised delivery station.
- Cables and trenches.

- Internal access tracks and parking for staff and visitors.
- Perimeter security fencing.
- A vegetation screening buffer around the perimeter of the site
- A 33kV underground or overhead power line to connect into the existing Griffith/Yoogali Transgrid substation.

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, one group contacted the consultant to register their interest in the proposal. The group who registered interest was the Griffith LALC. No other party registered their interest, including the entities and individuals recommended by OEH.

A representative of the Griffith LALC, was present during the field survey. A copy of the draft report was provided to the Griffith LALC for comment.

ARCHAEOLOGICAL CONTEXT

The assessment included a review of relevant information relating to the existing landscape of 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. Assessment of Aboriginal site models suggest that the proposal area would only contain small scatters of Aboriginal stone artefacts.

SURVEY RESULTS

Survey transects were undertaken on foot and traversed the main part of the proposed solar farm site. The survey was severely impeded by very poor visibility. Recent cropping of the bay had left a mat of cut stubble and visibility of the ground surface as a result was limited.

Between the two survey participants, just under 15 km of transects were walked across the main proposal area. Allowing for an effective view width of 5m each person, this equates to a surface area of 148,400 m², representing 11.8% of the 125 hectares. However, allowing for the poor visibility, the effective coverage is reduced to 7,420m², which is only 0.6% of the area.

The effective survey coverage for the proposed powerline was higher at about 20% of the alignment.

Despite the poor visibility encountered during the survey, there were 11 artefacts found, recorded as three separate site areas. Griffith Solar Artefact Scatter (AS) 1 was a scatter of nine stone artefacts, and two isolated finds, Griffith Solar Isolated Find (IF) 1 and Griffith Solar Isolated Find (IF) 2.

In terms of the current proposal, extrapolating from the results of this survey, it is likely that additional artefacts could occur within the proposed development footprint. However, based on the land use history of the proposal area, and an appraisal of the area from the field survey, there is negligible potential for the presence of intact subsurface deposits.

The models of site location for the Griffith area must however be amended to identify that sites can occur at least 600 m from water sources and that Aboriginal artefact scatters, or campsites, exist within the broader floodplain environments, despite intensive agricultural practices.

The research potential of the sites located during this assessment are considered to be generally low, as their scientific value for further research is limited.

The cultural significance of the sites is only determined by the local Aboriginal community.

POTENTIAL IMPACTS

The proposal involves the construction of a solar farm and includes connection to the nearby substation with either an overhead or underground powerline. The development will result in disturbance of almost all of the 125 hectare property. The impact is likely to be most extensive where earthworks occur and would involve the removal, breakage or displacement of artefacts. This is considered a direct impact on the site and the Aboriginal objects by the development in its present form.

The impact to the scientific values if the artefacts were to be impacted by the current proposal is considered low to moderate. The site is very disturbed, with little research value apart from what has already been gained from the information obtained during the present assessment. This information relates more to the presence of the site and in the development of Aboriginal site modelling, which has largely now been realised by the recording. The integrity of the site is already low and any additional disturbance is therefore unlikely to make a meaningful difference to the status of the site.

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.

RECOMMENDATIONS

It is recommended that:

1. The development proposal should be able to proceed with no additional archaeological investigations. No areas of potential archaeological deposits have been identified and the significance of the Aboriginal heritage objects within the proposal site have been assessed as low.
2. All efforts should be made in the design stage to avoid the artefacts recorded during the survey.
3. If complete avoidance is not possible, the artefacts should be collected and moved to a safe area within the property, as close as possible to their original location, which will not be subject to ground disturbance. The collection and relocation should be undertaken by representatives of the Griffith LALC. A new AHIMS site card will need to be completed identifying the new location of the moved artefacts.
4. Neoen prepares a Cultural Heritage Management Plan (CHMP) to address the potential for finding additional Aboriginal artefacts during the construction of the Solar Farm. The CHMP will outline an unexpected finds protocol to deal with construction activity. Preparation of the CHMP should be undertaken in consultation with the Griffith LALC.
5. 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 Griffith LALC should be notified. Further assessment would be undertaken to determine if the remains were Aboriginal or non-Aboriginal.

6. Further archaeological assessment would be required if the proposal activity extends beyond the area of the current investigation. This would include consultation with the Griffith LALC and may include further field survey.

1 INTRODUCTION

NGH Environmental has been contracted by Neoen Australia Pty Ltd (Neoen) to prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the proposed Griffith Solar Farm, located 7 km south east of Griffith, NSW (Figure 1).

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*. 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 considered to be 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 Griffith 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 Griffith has a capital investment estimated to be \$90 million, therefore the proposal 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 the Aboriginal heritage were as follows:

The EIS must include an assessment of impacts on Aboriginal heritage. The EIS must demonstrate the likely impacts of the development on Aboriginal heritage (including cultural and archaeological significance). Where impacts are identified the assessment shall:

- Outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the measures) generally consistent with the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (Department of Environment and Conservation 2005);
- Be undertaken by a suitably qualified heritage consultant;
- Demonstrate effective consultation with Aboriginal communities in determining and assessing impacts and developing and selecting options and mitigation measures (including the final proposed measure); and
- Demonstrate that an appropriate archaeological assessment methodology, including research design (where relevant) has been undertaken, to guide physical archaeological test excavations of areas of potential archaeological deposits. The full spatial extent and significance of any archaeological evidence shall be established and results of excavations included. (SEARS for Griffith Solar Farm (SSD 14_6604) 26/8/14).

The proposal area is within the Griffith City Council Local Government area on Lots 59, 60, 61, 62, 81 and 82 DP 751728.



Figure 1. Location of proposal site.

1.2 PROJECT PROPOSAL

The Griffith Solar Farm proposal site covers approximately 125 hectares of land. Key infrastructure components would include:

- Solar arrays: approximately 200,000 solar panels supported by approximately 25,000 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 trackers (which would have approximately 2,650 tracker units), fixed-tilt orientated to the north or east-west facing fixed-tilt.
- Approximately 26 PV boxes (either containerised or installed on a skid platform) each of them containing an inverter and a 33kV transformer.
- One containerised delivery station (no further voltage step-up being required, the delivery station will not contain any transformer).
- Cables and trenches.
- Internal access tracks to allow for site maintenance vehicles, and gravel access road and parking for staff and visitors.
- Perimeter security fencing, approximately 2.3m high.
- A 33kV underground or overhead power line to connect into the existing Griffith/Yoogali Transgrid substation, approximately 300 metres east of the site, on Hamilton Road.

All electrical equipment and plant will be established above the surrounding finished surface level to accommodate extreme flood events. The layout is shown in Figure 2.



Figure 2. Proposed Solar Farm Layout.

1.3 PROJECT PERSONNEL

The assessment was undertaken by archaeologist Matthew Barber 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*. One Aboriginal group registered their interest in the proposal and a representative participated in the fieldwork. The group was:

- Griffith Local Aboriginal Land Council (CEO Robert Carroll, Senior Sites Officer Max Harris).

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

The Aboriginal heritage assessment was also assisted by the landowner John Badoco, Neoen representative Chris Leonard and Jenny Walsh from NGH Environmental.

1.4 REPORT FORMAT

The SEARs for the Griffith Solar Farm identified a 2005 publication as the guide for conducting the Aboriginal heritage assessment. The Office of Environment and Heritage (OEH) undertook a review of the *National Parks and Wildlife Act 1974* and has since updated the guides for conducting Aboriginal heritage assessments. For the purposes of this assessment of the Griffith Solar Farm, we have prepared the report in line with the more recent and updated guidelines to ensure compliance with the most recent and best practice techniques and methods.

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 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

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 Local Aboriginal Land Council (Griffith LALC), and various statutory authorities including OEH, as identified under the ACHCRP. An advertisement was placed in the local newspapers, the *Griffith Area News* on 23 October 2015 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, one group contacted the consultant to register their interest in the proposal. The group who registered interest was:

- Griffith LALC (Registered by phone).

No other party registered their interest, including the entities and individuals recommended by OEH.

Stage 2. On the 13 November 2015 an Assessment Methodology document for the Griffith Solar Farm was sent to the Griffith LALC. 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 also 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 written response was received but Robert Carroll, CEO of the Griffith LALC indicated by phone that he was satisfied with the methodology and was happy to proceed to conducting fieldwork.

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 the Griffith LALC were asked to participate in the fieldwork. Max Harris, an experienced senior sites officer attended the survey with the archaeologist and assisted in conducting the survey.

Stage 4 In January 2016 a draft version of this *Aboriginal Cultural Heritage Assessment Report* for the proposal (this document) was forwarded to the Griffith LALC 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

To be inserted after LALC review

3 BACKGROUND INFORMATION

3.1 REVIEW OF LANDSCAPE CONTEXT

3.1.1 Geology and Topography

The study area is positioned within the Murrumbidgee River floodplain. The base geology comprises millennia of flood deposits of black and red clays and silts with sand and gravel. Nearby Griffith has some elevated terrain that consists of Late Devonian sandstone, conglomerate, siltstone and pebbly sandstone as part of the Cocoparra Group (Pogson 1974). The presence of conglomerate and pebbly sandstone is likely to have provided a source of stone material for Aboriginal people for flaking, as there is rarely stone material found on the flood deposits of the Murrumbidgee.

There is no topographic variation within the land for the proposed Solar Farm as the site area has been subjected to laser levelling. There is no discernible variation in the elevation from one part of the block to another.

Soils in the study area are generally formed from the deposition of flood material. Within the proposal area, the soils are typically grey cracking clays 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.

The proposal area sits at an elevation of about 129 m AHD.

3.1.2 Vegetation and Climate

The natural vegetation across the proposal area has been totally cleared and is now considered as a modified environment. There were no native species present within the irrigated bays examined during this assessment. Some native trees were present along Hamilton Road along the western boundary of the proposal area. The natural vegetation of the area would most likely have consisted of Weeping Myall (*Acacia pendula*) woodlands with chenopods, such as saltbushes, native cotton bushes, bluebushes, goosefoots and copperburrs, an important component of the understorey.

Griffith is on the very western boundary of the south western slopes bioregion of NSW but may be more aptly associated with the adjacent Riverina bioregion. The Griffith area is characterised by a semi-arid climate, with long hot summers and cool winters. The mean maximum temperature is 31.6⁰ in January and the mean minimum is 2.9⁰ 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.

3.1.3 Historic Landuse

The Murrumbidgee Irrigation Scheme was approved by the NSW Government in 1906 and the first farms established in the area about 1916. It is not known when the proposal area was first cleared and developed but the village of Yoogali, 6 km from Griffith and 3 km from the proposal area was gazetted in 1921 so it assumed that it would have been around this time.

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 some levelling of the ground.

The location of the proposed Griffith Solar Farm is within an irrigation development and therefore has been subject to considerable impacts from farming for many decades. The irrigation bays at the time of the survey were covered in wheat stubble but there were also corn cob waste scattered through the bays. It is clear that the land has been intensively used for farming.

The landowner also informed us that the channel parallel to Poletta Road had been lined with fill brought in from the Mirrool Creek area approximately four years ago and about two years ago it had been cleaned out, with the material placed along the channel bank. If this is a consistent management strategy then it could be assumed that the areas along the channels are comprised of local and imported fill material.

Overall, the proposal area would be categorised as highly disturbed through consistent farming and irrigation practices for 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 within the broad floodplain of the Murrumbidgee River, and is associated with the Mirrool Creek floodplain. The terrain is totally flat with no relief. There are no differences observed in the soil types and no micro features such as sand ridges or palaeochannels within the proposal area.

The landforms for the survey were therefore determined to be one single unit, described as level floodplain. The nature of this unit is that is an aggrading unit, although flooding regimes have likely 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 are no natural water courses or drainage lines across the proposal area, the nearest permanent water is Mirrool Creek, located about 600 m to the east. This is a major drainage channel within the broader Murrumbidgee floodplain, commencing about 125 km to the east of Griffith and terminating in the closed depression of Barren Box Swamp, 23km to the north west of Griffith. Mirrool Creek is not a tributary of the Murrumbidgee as it does not drain into this river and therefore is likely to have been a major focus for Aboriginal people, resource, plants and animals away from the river. At its closest, at Darlington Point, Mirrool Creek is 16.5 km north of the current alignment of the Murrumbidgee River. In times past, the Murrumbidgee, and likely the Mirrool Creek as well, had different flow patterns and different channels.

Also of note is the presence of a probable remnant Black Box swamp, about 650 m north of the solar farm proposal area. This swamp is now modified as a farm dam and from aerial photography appears to have been cleared of trees. 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).

The Griffith area is within an area identified as part of the Wiradjuri language group. This is an assemblage of many small clans and bands speaking a number of similar dialects (Howitt 1996, Tindale 1974, MacDonald 1983, Horton 1994).

The Wiradjuri language group was the largest in NSW prior to European settlement. The borders were however, 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, 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.

The 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 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 try and 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, people were able to maintain at least some form of association with country and tell traditional stories and Wiradjuri people continue to have a strong connection to their land.

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.

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 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 too (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. Searches of the AHIMS database can be made providing information about any sites previously identified within a designated search area. The results of the search are able to be relied upon for 12 months.

An extensive search of the AHIMS database was undertaken on 10 November 2015. The search area focussed on a rectangular area approximately 25 km (east-west) x 20 km (north-south) centred on the study area. The coordinates for the search area were Lat. Long. from: -34.409, 145.9838 – Lat. Long. to: -34.215, 146.285 with a buffer of 50 meters. The AHIMS Client Service Number was: 198654.

The AHIMS register search revealed that there were 57 Aboriginal heritage sites within the search area and a breakdown of the site types is shown in Table 1.

Table 1. Site types within AHIMS search

Site Type	Number
Isolated Find/artefact scatter	39
Modified tree	15
Quarry	2
Art	1

It is clear from these results that the dominant site type in the region are occurrences of stone artefacts, either as isolated finds or in clusters as artefact scatters. None of the sites are within or adjacent to the solar farm proposal area. The nearest site is Mirrool 1, an artefact scatter situated 5.5km to the east.

3.2.3 Archaeological Setting

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 Griffith area, although the archaeological evidence from Lake Mungo, 300 km to the 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 Griffith area. The following are summaries of those archaeological survey reports that have been completed in the Griffith area.

Gollan carried out a survey for a transmission line between Griffith and Darlington Point in 1982. 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, hammerstones identifying the Aboriginal use of the outcrop. Raw material included quartz, quartzite, chert, greenstone and basalt. The site also exhibited signs of excavation or quarrying to obtain better materials (Gollan 1982).

Palmer carried out a survey for a proposed reservoir on the southern ridge of McPhersons Range, at Scenic Hill Reserve, Griffith (Palmer 1984). A number of artefacts had been identified at the general location by National parks and Wildlife officers on a graded track. The artefacts had been collected and included a ground edge axe, a pecked axe, two cores and a unifacial pebble implement. Palmer also found additional flakes scattered across the disturbed area and concluded that the location was infrequently visited by Aboriginal people, based on the scattered and low density nature of the site. Palmer mentioned that part of the area had been quarried for road base and that the geology was pebbly sandstone and conglomerate but he makes no connection with the area as a possible stone source, despite noting that a similar outcrop, the Whitton Quarry described by Gollan, was made from the same geological formation (Palmer 1984).

Some archaeological investigations were undertaken in the Benerembah Irrigation District (BID), a 44,000 hectare area about 20km west of Griffith by Edmonds (1990, 1992, 1996). 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 defined a difference in the site content between campsites, containing grindstones and hearths and artefact scatters, which did not.

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 sandhills and elevated levee banks.

In 1998 Barber carried out an assessment of a proposed subdivision at Lake Wyangan, 6km north of Griffith. The area contained a lunette on the eastern side of the southern section of Lake Wyangan and there was a sand ridge running north-south through the property. Barber recorded four sites, comprising three artefact scatters and an isolated find, an edge ground axe. Two of the artefact scatters were found on a lunette feature on the eastern side of the lake, one was found in a disturbed context around a farm dam in a drainage depression and the axe was found on the edge of a drainage outlet from the adjacent wetland (1996).

As part of further investigations into the proposed development area at Lake Wyangan, Barber (2000) undertook a subsurface testing program on two areas, the lunette and the ridgeline. Within the lunette, Barber hand excavated twelve 25cm x 25cm, four 50cm x 50cm and three 100cm x 50 cm test probes, as well as eight mechanical test pits, ranging in size from 1200cm to 1600cm long and 65cm wide. A total of 10.4 m² in area was excavated and 3.7 m³ of deposit was sieved on the lunette.

On the ridgeline, he excavated thirteen 25cm x 25cm test pits, and three mechanical pits of between 1400cm and 1600cm in length and 65cm wide. The total excavated area for this feature was 3.8m² and 0.9m³ of deposit was sieved.

Excavations from the lunette recovered 35 artefacts, with silcrete the dominant material followed by fine grained volcanic, quartzite and quartz. Artefacts were noted as being mostly within the upper 50cm of the deposits but existed to a maximum depth of 70cm.

The results from the ridgeline were considerably less than on the lunette, with only one artefact recovered from the testing program. There were four surface finds also recorded in the area (Barber 2000).

Kabaila carried out an assessment for a small subdivision of 22.5 hectares about 1.5km south east of Lake Wyangan (2010) but found no Aboriginal sites within the property.

OzArk undertook two assessments for development proposals in the Hanwood area, about 10 km south of Griffith. 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 of 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).

3.2.4 Summary of Aboriginal land use

The results of previous archaeological surveys in the Griffith region serve to show that there are sites present in a range of landforms. There does appear however to be a pattern of site location that relates to the presence of potential resources for Aboriginal use. The quarry sites are present due to the occurrence of useable raw material in the form of stone, which was an essential material for Aboriginal people.

Other sites, such as those at Lake Wyangan were associated with a wetland, and the proximity to food, raw materials such as reeds, and water. The sites identified within the Benerembah Irrigation area were also often associated with raw materials, such as Black Box trees.

The Aboriginal land use of the region is in reality little understood, as few in depth studies have been completed. It is possible however, to ascertain that proximity to 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 but the current archaeological record of that activity is currently limited.

3.2.5 Archaeological Site Location Model

Ozark proposed a model of site location for their small study area at Hanwood (2011). This included that there were unlikely to be scarred trees present due to European land clearing, there was some potential for the presence of artefact scatters, possibly with the remnants of ovens, human burials are most common in sand dunes and quarry or stone sources don't occur within 15 km of the Murrumbidgee River and isolated artefacts have the potential to occur anywhere but are most likely in association with permanent water.

Based on the results of these previous archaeological investigations in the local Griffith area, and through extrapolation of Wiradjuri sites from other areas of the Murrumbidgee floodplain, 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 Griffith district, Mirrool Creek is an obvious resource as are large lakes and swamps such as Wyangan and Barren Box. However, smaller water holding bodies, such as ephemeral Black Box swamps can also be a focus of Aboriginal occupation. Sand bodies, topographically elevated areas or changes in soils with associated changes in vegetation can also be a desirable location for occupation. Within the proposal area, no such features exist and therefore 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 proposal 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 no trees remaining on the proposal area.

Hearths/Ovens – are identified by burnt clay used for heat retainers. None are recorded in the district but they could occur either independently or in association with other Aboriginal cultural features such as campsites, often in association with resource locations. Such places are not obvious within the proposal 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 so as to be accessible. The proposal area contains no natural outcropping stone.

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

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 Griffith district there have only been a few archaeological investigations. The information relating to site patterns, their age and geomorphic context is little understood, particularly on the floodplain of grey cracking clays.

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. Although the terrain is generally an aggrading landscape, the scale of farming development, in particular the construction of channels, banks, possible laser levelling and irrigation bays has altered the natural hydrological regime. This activity has also greatly disturbed the archaeological record and there are unlikely to be many places that retain *in situ* archaeological material due to the scale of agricultural development.

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 Griffith area. Nor has this consultant been told of any such places within the solar farm proposal area. There is always the potential for such places to exist but insofar as the current proposal is concerned, no such places or values have been identified.

4 ARCHAEOLOGICAL INVESTIGATION RESULTS

4.1 SURVEY STRATEGY

As already noted, while the proposal for the Griffith Solar Farm involves a number of components the landscape could not be differentiated into separate land units as it was part of a uniform plain. The survey strategy in terms of standard practice for delineating different survey units based on topography, soils or other landscape features was not applicable to this survey area.

The survey method was therefore to carry out a series pedestrian survey transects across the proposal area, and to ensure enough coverage to be able to assess and characterise the archaeology of the proposal area. The proposal was divided into two sections as follows:

- The solar farm proposal area- comprising approximately 125 hectares.
- The linking overhead powerline – approximately 400m in length.

The survey was undertaken by a team of two on 15 December 2015. The two team members walked in parallel lines across each paddock or irrigation bay looking for the evidence of Aboriginal occupation.

The proposed underground power option was not assessed as this would be placed within the sealed road.

4.2 SURVEY COVERAGE

Survey transects were undertaken on foot and traversed the main part of the proposed solar farm site. The survey was severely impeded by very poor visibility. Recent cropping of the bay had left a mat of cut stubble and visibility of the ground surface as a result was limited. However, there were sections where visibility was present through raised furrows and some tractor tracks were also present. In addition, bare ground on the outside perimeter of the bays and vehicle tracks on the channel banks provided other windows of visibility.

Table 2 below shows the calculations of effective survey coverage and plates 1-4 show examples of the transects within the proposal area. The survey data accounts for two people with an estimated survey transect width of 5 m each.

Between the two survey participants, just under 15 km of transects were walked across the main proposal area. Allowing for an effective view width of 5m each person, this equates to a surface area of 148,400 m², representing 11.8% of the 125 hectares. However, allowing for the poor visibility, the effective coverage is reduced to 7,420m², which is only 0.6% of the area.

The effective survey coverage for the proposed powerline was higher at about 20% of the alignment.

Soils within the bays consisted of brown grey gritty loamy clay, often cracking, leaving fissures between 1 and 3 cm in width. This has implications for the existence and preservation of *in situ* archaeological deposits - see discussion below.

Overall, it is considered that the surface survey of the development area had low effective survey coverage. However, this has been ameliorated by discovery of Aboriginal artefacts in areas of increased exposure. While visibility was low, archaeological objects were identified, leading to some ability to characterise the Aboriginal archaeology present and the potential impacts by the proposed development.

Table 2. Transect information.

Survey Section	Survey transect numbers	Topography	Exposure type	Surveyed area (length m x width m)	Survey Area m ²	Visibility	Effective coverage (area x visibility) m ²	Archaeological result
Main proposal area	12	Level plain	Plough lines, soil mounds, vehicle tracks, channel banks	14,840 x 10	148,400	5% (2% in bays, up to 80% on tracks)	7,420	11 artefacts
Powerline	1	Level plain	Bare ground	800 x 10	8,000	20%	1,600	Nil

	
Plate 1. View north east along typical transect within irrigation bay.	Plate 2. View north west along edge of crop towards artefact scatter 1.
	
Plate 3. View north west along proposed access road, note heavily modified ground.	Plate 4. View east along proposed powerline route.

4.3 SURVEY RESULTS

Despite the poor visibility encountered during the survey, there were 11 artefacts found, recorded as three separate site areas. The details of the sites are outlined below, their location is shown in Figure 3 and artefact characteristics provided in Table 3.

Griffith Solar Artefact Scatter (AS) 1

A scatter of nine stone artefacts (1-9 in Table 3) were recorded on the bare ground at the northern end of an irrigation bay. The artefacts were scattered along a 200 m x 6 m section of flat, bare ground between the channel bank and the crop. The soils were brown grey gritty loam with high clay content. The artefacts were clearly in a disturbed context, at the head of the irrigation bay and evidenced by the large tractor tyre turning marks. While it is possible that some of the artefacts came from the excavated channel, this is unlikely given the nature of the soil they were found on, being more associated with the surrounding deposits, as opposed to the grey clay on the channel bank.

The exposure continued to the north and south of the artefacts but the closest other objects were found 60m away, indicating that this is likely to represent a defined site. Artefacts are likely to extend into the bay to the west within the cropped area but visibility was too poor to discover any other artefacts.

Table 3. Artefact characteristics

Artefact Number	Type	Material	Dimensions mm	Platform Surface	Platform Type	Termination	Reduction Stage	Comment
1	Flake	Silcrete	21x18x4	Flake scar	Focal	Feather	Primary	
2	Flake	Volcanic	30x35x14	Cortex	Focal	Feather	Primary	Black, fine grained with pebble cortex
3	Flaked piece	Silcrete	20x9x5					
4	Hammerstone	Quartzite	55x30x28					broken pebble with hammer damage on end and side
5	Core	Silcrete	28x22x14	Flake scar			Tertiary	small core with 2 negative scar from 1 platform
6	Broken flake	Volcanic	13x18x5					
7	Flake	Silcrete	19x12x3	Flake scar	Focal	Step	Tertiary	White silcrete
8	Flake	Fine grained siliceous	20x15x5	Flake scar	Focal	Feather	Tertiary	
9	Distal fragment	Silcrete	16x17x7					
10	Grindstone	Sandstone	260x186x80					Large thick piece with grinding on one surface. Grinding is not total, has a very shallow concave with a narrow ground groove. Some plough damage. Opposite side appears not to be used.
11	Grindstone	Sandstone	90x65x30					Small broken grindstone with concave ground surface and anvil pit on opposite side. Margins are shaped by hammer dressing and flaking

Griffith Solar Isolated Find (IF) 1

This grindstone (artefact #10) was found 60m south from the nearest artefact within AS1 but in the same situation. It was located on the edge of the cropped area, on the farm track at the head of the irrigation bay a few metres from the base of the channel bank and a water gate. The soils were the same brown grey loamy clay as present at site 1 and this artefact may originate from the main concentration but was considered distant enough to warrant a separate recording.

Griffith Solar Isolated Find (IF)2

This grindstone (artefact #11) was situated 130 m further south along the same edge of the crop within the same topographic setting and soil context as the other finds. Being in the same environmental context as the other finds, it is possible that it is related to the man site area and has been displaced but was recorded as a separate items due to the distance between the finds.



Plate 5. View east to IF1, note proximity of channel and water metre.



Plate 6. Grindstone surface of IF1, note plough damage.



Plate 7. View south east to IF2.



Plate 8. Close up of ground surface of IF2.

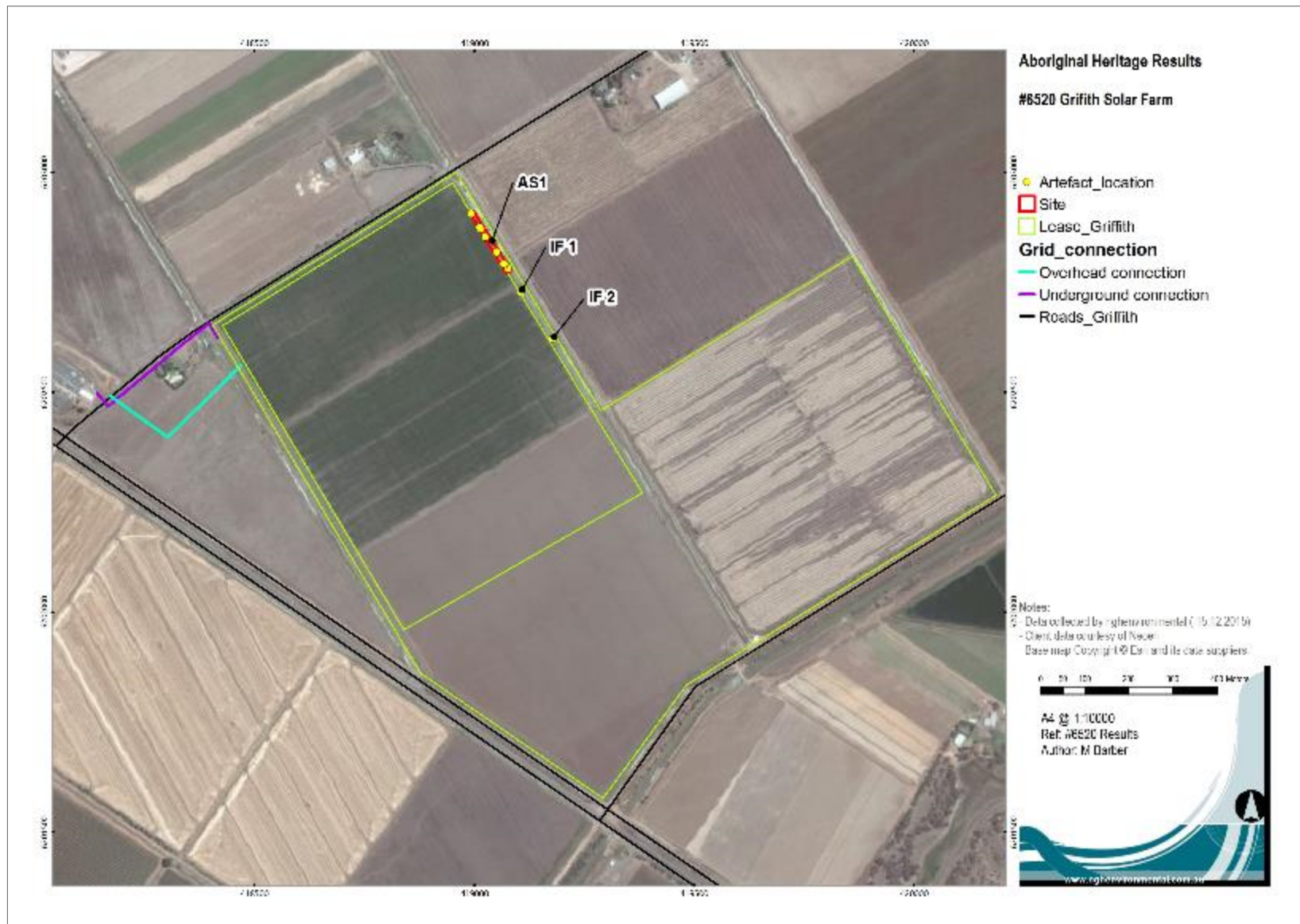


Figure 3. Location of recorded artefacts.

4.4 DISCUSSION

The predictions based on limited modelling for the proposal area were that isolated artefacts were the most likely manifestation of Aboriginal occupation of the area. The survey however, found that there were more artefacts than expected, despite the severe limitations provided by the lack of visibility. There are therefore implications for the predictive statements and also for the potential impacts of the proposal on Aboriginal heritage.

The results indicate that even within the flat, apparently featureless plains of the district, artefact scatters can occur, even with areas of highly developed farming contexts. Due to the level of European land use activities including modifications of the drainage patterns and the construction of channels and continual cultivation, it is difficult to relate the presence of the site to any pre-European natural features such as drainage lines, vegetation or other subtle resource locations. It is unlikely however that there has been wholesale removal of soil landscapes (such as sand dunes) and therefore we must assume that the presence of the artefacts indicates Aboriginal use of this particular environment. The location is almost equidistant (600 m) between Mirrool Creek and a Black Box swamp, suggesting that water was easily accessible and therefore not a constraint to camping at this locality.

Based on this assumption, there is every chance that there are similar artefact scatters across similar plains in the Griffith district. Indeed the result of the OzArk survey at Hanwood, where they also were surprised to find artefacts, strengthens the argument that such artefact scatters could be more prevalent in this landscape than previously envisaged.

In terms of the current proposal, extrapolating from the results of this survey, it is likely that additional artefacts could occur within the proposed development footprint. There are no differences in any of the irrigation bays that would preclude or favour the location of the current site over the balance of the proposal area.

However, consideration must also be made of the level of disturbance of any such sites or artefacts. Based on the land use history of the proposal area, and an appraisal of the area from the field survey, there is negligible potential for the presence of intact subsurface deposits. While the poor visibility potentially hampered the discovery of other artefacts, we strongly argue that there is no value in undertaking further investigations such as subsurface testing. The nature and the distribution of low density (0.005/m²) artefacts would not warrant further investigation in the standard archaeological approach.

The models of site location for the Griffith area must however be amended to identify that sites can occur at least 600 m from water sources and that Aboriginal artefact scatters, or campsites, exist within the broader floodplain environments, despite intensive agricultural practices.

The artefacts themselves provide an indication that the site was used more than once. The range of raw material present suggest that the site was visited repeatedly. This is further supported by the presence of two grinding artefacts, indicating that food preparation or other maintenance activities took place there. The size of the larger grindstone also indicates that the location may have been used a number of times as it was large and heavy and not conducive to carrying large distances.

The presence of a core and flakes would indicate artefact manufacture and tool maintenance occurred although no retouched artefacts were identified. The implication from the artefacts present is that the site was probably used by a family group, with all genders present and therefore was not a transient hunting site.

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 as a whole 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. An opportunity to identify cultural and social value was provided to the Griffith LALC for this proposal through the draft reporting process.

Scientific (archaeological) value.

The research potential of the sites located during this assessment are considered to be generally low. While their presence has been used to assist in the development of site modelling for the floodplain environment in the Griffith area, their scientific value for further research is limited. The disturbed nature of the artefacts from the heavy agricultural use of the area and the lack of subsurface deposits prevents further assessment through excavation or analysis of spatial patterning. Without subsurface deposits and the presence of hearths or charcoal, there is no potential for dating of the site.

The artefacts themselves are intrinsically interesting in terms of their base technical information, including the presence of grinding technology but their lack of context and absence of information about local resources or why the location was chosen as a campsite makes further conclusions about land use difficult. The artefacts do indicate the presence of a family group, but beyond these simple observations, the scientific potential of the site is limited.

The only other potential area of research would be to analyse the grinding artefacts to see if there was any residues present that could indicate what materials were ground. However, this is likely to be difficult as the items would have been moved around by agricultural activity and may have been compromised through contact with cereal crops.

Aesthetic value.

There are no aesthetic values associated with the archaeological site per se, apart from the presence of Aboriginal artefacts and in particular grindstones in the landscape. The modified and heavily disturbed landscape however detracts from this aesthetic setting.

Other Values

There are no other known heritage values associated with the subject area. The area may have some educational value (not related to archaeological research) through educational material provided to the public about the Aboriginal occupation and use of the area, although the archaeological material is within private property and there is little for the public to see.

6 PROPOSED ACTIVITY

6.1 HISTORY AND LANDUSE

It has been noted above that historically the solar farm proposal area has been heavily impacted through landuse practices, in particular construction of irrigation channels, bays and intensive cultivation. The proposal area has also been laser levelled, so little of any topographic or other natural variation remains. The ground disturbance activities have resulted in a landscape with little evidence of the pre-European natural features.

The implications for this activity is that the archaeological record has been compromised in terms of its context, with little likelihood of subsurface deposits remaining and the movement of some archaeological materials across the landscape.

The alignment of the proposed powerline has not been as radically disturbed, although the paddock has been cropped and therefore ploughed over a number of decades. It is not within an irrigation bay and is probably slightly less disturbed than the area proposed for the solar farm panel arrays.

Despite these impacts, Aboriginal artefacts remain in the area, indicating the presence of an archaeological site. While the site's integrity has been compromised, the presence of the stone artefacts attests to their resilience.

6.2 PROPOSED DEVELOPMENT ACTIVITY

As noted above in section 1.2, the proposal involves the construction of a solar farm and includes connection to the nearby substation with an overhead powerline. The development proposal area is 125 hectares in size.

Disturbances will largely be in the removal of surface vegetation, which is all crop stubble or weeds, for preparation of the ground. Approximately 25,000 poles would be driven or screwed into the ground in order to support the solar array's mounting system and solar panels, with racking systems to allow the installation of solar panels. The panel structures would be 1.5 m to 2.3 m high. The mounting system to be installed on the poles would be single axis tracking systems, fixed tilt oriented to the north or east-west fixed tilt.

Approximately 26 containerised PV boxes in 13 locations (2x2 arrangement) would be installed and spread across the site. Each of them would contain an inverter and a transformer. The PV boxes measurements would be up to 6.1 m long x 2.6 m high x 2.4 m wide.

There would be a series of underground cables linking the arrays across the proposal site. The trenches would be approximately 1-1.2 m deep and about 1 m wide. The trenches would contain power ducts and communication cables.

Some internal access tracks would also be required, and typically these would comprise or a compacted layer of gravel and be about 3.5m wide, laid on stripped bare natural ground.

Some ancillary facilities would also be required including material laydown areas, temporary construction offices, including sanitary modules, change and dining rooms, warehouse area and generator. A temporary car park for construction would also be required and this would be downsized for operating staff at completion of construction.

A perimeter fence, consisting of a 2.3m high security fence and a vegetation buffer would also be constructed around the solar farm.

The proposed construction timetable is nine months duration and the operational life of the solar farm is estimated to be 25 years. Once operation ceases, the site will be rehabilitated and decommissioned and potentially revert back to farming use.

The development activity will therefore involve disturbance of the ground during the construction of the solar farm. 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 January 2017.

6.3 ASSESSMENT OF HARM

There is an Aboriginal archaeological material present within the proposal area and the assessment is that there are likely to be other artefacts present as well, although in similar low densities. The proposed level of disturbance for the construction of the solar farm could impact the artefacts recorded during the field survey and others that may be present within other areas of the development site.

The impact is likely to be most extensive where earthworks occur and would involve the removal, breakage or displacement of artefacts. This is considered a direct impact on the site and the Aboriginal objects by the development in its present form.

6.4 IMPACTS TO VALUES

The values potentially impacted by the development are any social and cultural values attributed to the artefacts and the site by the local Aboriginal community. The extent to which the loss of parts of the site would impact on the community is only something the Aboriginal community can articulate.

The impact to the scientific values if the artefacts were to be impacted by the current proposal is considered low to moderate. The site is very disturbed, with little research value apart from what has already been gained from the information obtained during the present assessment. This information relates more to the presence of the site and in the development of Aboriginal site modelling, which has largely now been realised by the recording. The integrity of the site is already low and any additional disturbance is therefore unlikely to make a meaningful difference to the status of the site.

The intrinsic values of the artefacts themselves may be affected by the development of the site. Any removal of the artefacts, or their breakage would reduce the low scientific value they retain.

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

7 AVOIDING OR MITIGATING HARM

7.1 CONSIDERATION OF ESD PRINCIPLES

Consideration of the principles of Ecologically Sustainable Development (ESD) and the use of the precautionary principle was undertaken when assessing the harm to the site and the potential for mitigating impacts to the artefacts recorded for the Griffith Solar Farm proposal. The main consideration was the cumulative effect of the proposed impact to the site and the wider archaeological record. The

precautionary principle in relation to Aboriginal heritage implies that development proposals should be carefully evaluated to identify possible impacts and assess the risk of potential consequences.

In broad terms, the archaeological material located during this investigation is similar to what has been found previously within the Griffith region, comprising an open artefact scatter.

There have been archaeological investigations for other projects in the region, including subsurface investigations but currently there is no clear regional synthesis of the nature, number, extent and content for archaeological sites within the Griffith LGA. Nevertheless, given the size of the geographical area, it is almost certain that there would be similar site types present within the region. The result of this Aboriginal heritage assessment has led to a change in the proposed model of site location and site distribution, whereby more sites could be expected to occur in the floodplain landscape than was previously envisaged.

The implications for ESD principles is that in fact more sites are likely to be present than previously thought, which reduces the individual value of this particular site, especially considering the high degree of disturbance it has endured. While the Griffith district has been heavily developed and other sites are also likely to have been disturbed, the conclusion that more such sites exist reduces the representative values of the site at the present location.

As noted above, the archaeological values of the site, considering the scientific, representative and rarity values was deemed to be low. It is believed therefore that the proposed impacts to the site through the development would not adversely affect the broader archaeological record for the local area or the region.

The cumulative impacts of the development on the Aboriginal archaeological record can be viewed in two ways. Firstly, with regard to the site Griffith Solar AS1 and the two isolated finds, existing disturbances in the site area have led to a degradation of the site from its pre-European condition. However, this activity has not entirely diminished the site, as artefacts are still present, although their exact context is not understood. If development impacted the site, cumulative impacts therefore would include further degradation of the site.

The second consideration is more broadly the archaeological record within the local area, here considered to be the Griffith LGA. As already noted, the presence of the site has meant a re-assessment of the Aboriginal site model and more such sites are expected to occur. Whilst acknowledging the precautionary principle, it also stands that there are many other archaeological sites present that are outside the area of the current development.

The principle of inter-generational equity requires the present generation to ensure that the health and diversity of the archaeological record is maintained or enhanced for the benefit of future generations. We believe that the diversity of the archaeological record is not compromised by development of this particular site, given it is the most common site type so far recorded within the local area.

We therefore consider, that while the current development proposals will impact a portion of the identified site, the overall cumulative impact on the archaeological record for the region is likely to be minimal.

It is argued that the cumulative impacts of the proposal are not enough to reject outright the development proposal.

7.2 CONSIDERATION OF HARM

Avoiding harm to Griffith Solar AS1, Griffith Solar IF1 and Griffith Solar IF2 is possible through avoidance. The position of the artefacts in a strip along the boundary of the development area may provide opportunities for redesign that would avoid direct impacts.

Based on the assessment of the site, it is not considered necessary to prevent all development at this location. The site has been shown to be highly disturbed with little remaining scientific value. Aboriginal cultural value is determined by the local Aboriginal community.

The most likely cause of harm to the artefacts and site area is through vegetation clearance, installation of a maintenance track and perimeter fencing. The artefacts are situated outside the area of the proposed solar arrays. It may be possible to realign the track and fencing to avoid the sites.

The question remains however about possible occurrence of artefacts within the balance of the Solar Farm site. It is possible, and considered likely that additional artefacts will be present. Without knowing their exact locations, it is difficult to manage the impacts. We do not consider that the risk of such disturbances means the development should be abandoned. The archaeological material identified in the survey, and potentially present in the balance of the development site is not of sufficient value to reject the development proposal.

Mitigation of harm to cultural heritage sites generally involves some level of detailed recording to preserve the information contained within the site. Mitigation can be in the form of minimising harm, through slight changes in the development plan or through direct management measures of the artefacts.

8 LEGISLATIVE CONTEXT

Aboriginal heritage is primarily protected under the NSW *National Parks and Wildlife Act 1974* (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 Griffith 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 development proposal should be able to proceed with no additional archaeological investigations. No areas of potential archaeological deposits have been identified and the significance of the Aboriginal heritage objects within the proposal site have been assessed as low.
2. All efforts should be made in the design stage to avoid the artefacts recorded during the survey.
3. If complete avoidance is not possible, the artefacts should be collected and moved to a safe area within the property, as close as possible to their original location, which will not be subject to ground disturbance. The collection and relocation should be undertaken by representatives of the Griffith LALC. A new AHIMS site card will need to be completed identifying the new location of the moved artefacts.
4. Neoen prepares a Cultural Heritage Management Plan (CHMP) to address the potential for finding additional Aboriginal artefacts during the construction of the Solar Farm. The CHMP will outline an unexpected finds protocol to deal with construction activity. Preparation of the CHMP should be undertaken in consultation with the Griffith LALC.
5. 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 Griffith LALC should be notified. Further assessment would be undertaken to determine if the remains were Aboriginal or non-Aboriginal.
6. Further archaeological assessment would be required if the proposal activity extends beyond the area of the current investigation. This would include consultation with the Griffith LALC and may include further field survey.

10 REFERENCES

- Barber, M. 1998 An Archaeological Survey of Proposed Subdivision at Lake Wyangan, Griffith, NSW. Report to Griffith Local Aboriginal Land Council.
- Barber, M. 2000 An Archaeological Subsurface Investigation at Lake Wyangan, Griffith, NSW. Report to Griffith Local Aboriginal Land Council.
- Edmonds, V. 1990 An Archaeological Survey of the Benerembah Irrigation District, Griffith, NSW. Report to Department of Water Resources, Sydney.
- Edmonds, V. 1992 Further Archaeological Investigations of the Benerembah Irrigation District. Report to Water Resources, Sydney.
- Edmonds, V. 1995 An Archaeological Survey of Wyvern Station, West of Griffith, NSW. Report to Booth Associates.
- Edmonds, V. 1996 An Archaeological Survey of the Benerembah Irrigation District Stage 4 Drainage, West of Griffith, NSW. Report to 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 to Electricity Commission of NSW.
- Gott, B. 1982 "Ecology of Root Use by the Aborigines of Southern Australia" in *Archaeology in Oceania* 17:59-67
- 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.
- Kabaila, P. Aboriginal Heritage Assessment: Residential Subdivision at Lot 2 DP1071622, Lot 2 DP1068127 Lake Wyangan, Griffith NSW. Report to Griffith City Council.
- 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.
- Mitchell, T. 1839 *Three Expeditions to the Interior of Eastern Australia* 2 Vols. London
- Mulvaney, D. J., and Kamminga, J. 1999. *Prehistory of Australia*. Allen & Unwin, St Leonards, NSW.
- 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.

Palmer, G. 1984 An Aboriginal Archaeological Site Survey of a Proposed Reservoir Site at Griffith, NSW. Griffith Water Supply Augmentation Scheme II. Report to Public Works Department, NSW.

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.

Pogson, D.J. 1974 Narrandera 1:250,000 Geological sheet. Geological survey of NSW, Sydney.

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

Speight, J.G. 2009 "Landform" in *Australian Soil and Land Survey Field Handbook*. The National Committee on Soil and Terrain, CSIRO Collingwood, Third Edition.

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

Organisation	Contact	Action	Date Sent	Reply Date	Replied by	Response
OEH		Letter to OEH Griffith	29/10/2015	6/11/2015	letter	Two groups- LALC and Griffith Aboriginal Working Party
NTScorp		Letter to NTScorp	29/10/2015			
National Native Title Tribunal		Letter to NNTT	29/10/2015	9/11/2015	letter	No Native Title Registrations or Claims
Office of Registrar <i>Aboriginal Land Rights Act</i>		Letter to Office of the Registrar	29/10/2015	2/11/2015	letter	No known registered Aboriginal owners
Griffith LALC		Letter to Griffith LALC	29/10/2015	RTS - not known at PO Box 1424		
		resent letter	11/11/2015			resent letter to alternative PO Box (8043) also via email to griffalalc@bigpond.com
Riverina Local Land Services		Letter to LLS	29/10/2015	Nil		
Local Newspaper		Newspaper advertisement, Griffith Area News	23/10/2015	1/12/2015		
OEH list of potential stakeholders						
Griffith LALC						
Griffith Aboriginal working Party	Steve Meredith	Called mobile	12/11/2015			Called Peter Ewin of OEH, obtained Steve's work number. 02 69690715
		Called mobile called landline	13/11/2015	Nil		

		called SM OEH work number - left message	13/11/2015	Nil		
		called Steve Meredith OEH left message	17/11/2015	Nil		
		Called mobile called landline left message	18/11/2015	Nil		
		called SM OEH work number - left message	27/11/2015	Nil		
Griffith LALC		Sent Methodology - email & post	13/11/2015	Nil		
	Robert Carroll			23/11/2015	Phone	Registered the interest of the LALC Confirmed contact details are: 0407 965 009 griffalalc@bigpond.com PO Box 8043 East Griffith NSW 2680 Had no comments on the methodology- happy to proceed with fieldwork - likely to be Max Harris
Fieldwork						
Griffith LALC		Called and emailed with suggestion for fieldwork date- 15 December	10/12/2015			
		Fieldwork conducted	15/12/2015			Attended by Max Harris
Report						
Griffith LALC	Robert Carroll	Sent Draft Report via email	10/02/2016			