APPENDIX E FINAL CREDIT REPORT



Biodiversity credit report



This report identifies the number and type of biodiversity credits required for a major project.

Date of report: 19/01/2017 Time: 12:50:55PM Calculator version: v4.0

Major Project details

Proposal ID: 0035/2016/4008MP
Proposal name: Nevertire solar farm

Proposal address: Mitchell Highway Nevertire

Proponent name: Epuron

Proponent address: Level 11 75 Miller St North Sydney

Proponent phone: 02 8456 7400

Assessor name: Dave Maynard

Assessor address: PO Box 470 Bega NSW 2550

Assessor phone: (02) 64928311

Assessor accreditation: 144

Summary of ecosystem credits required

Plant Community type	Area (ha)	Credits created
Poplar Box - Belah woodland on clay-loam soils on alluvial plains of north-central NSW	1.41	14.00
Total	1.41	14

Credit profiles

1. Poplar Box - Belah woodland on clay-loam soils on alluvial plains of north-central NSW, (CW167)

Number of ecosystem credits created

14

IBRA sub-region

Bogan-Macquarie - Central West

Offset options - Plant Community types	Offset options - IBRA sub-regions	
Poplar Box - Belah woodland on clay-loam soils on alluvial plains of north-central NSW, (CW167)	Bogan-Macquarie - Central West and any IBRA subregion that adjoins the	
Western Grey Box tall grassy woodland on alluvial loam and clay soils in the NSW South Western Slopes and Riverina Bioregions, (CW145)	IBRA subregion in which the development occurs	
Mixed box eucalypt woodland on low sandy-loam rises on alluvial plains in central western NSW, (CW152)		
Western Grey Box - cypress pine shrub grass shrub tall woodland in the Brigalow Belt South Bioregion, (CW317)		

Summary of species credits required

Common name	Scientific name	Extent of impact Ha or individuals	Number of species credits created
Sloane's Froglet	Crinia sloanei	22.72	295

APPENDIX E ABORIGINAL CULTURAL HERITAGE ASSESSMENT



Report Title	Aboriginal Cultural Heritage Assessment Nevertire Solar Farm			
-	Aboriginal cultural Heritage Assessment Nevertire Solai Farm			
Author(s) Name	Matthew Barber & Kirsten Bradley			
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	No: Street:			
	Suburb: State: NSW Postcode:			
	Title Reference:			
	Solar farm			
Address of Subject	• Lot 26/ DP 755292			
Area	Transmission line			
	 Lot 37/ DP 755292 Lot 100/ DP 1179330 and Lot 1/ DP 830042. 			
	Local Government Area: Warren Shire Council Local Government Area			
	Other:			
	Company Name: Epuron Island GP Management Pty Ltd			
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Date of Report	30 January 2017			

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	Date: 30 January 2017

Aboriginal Cultural Heritage Assessment

NEVERTIRE SOLAR FARM



JANUARY 2017



Document Verification

ngh environmental	Project Title:	Nevertire Solar Farm

Project Number: 16-318

Project File Name: Nevertire Solar Farm ACHA Report V2

Revision	Date	Prepared by (name)	Reviewed by (name)	Approved by (name)
Draft	18/01/17	Kirsten Bradley	Matthew Barber	Matthew Barber
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EXECUTIVE SUMMARY

INTRODUCTION

NGH Environmental has been contracted by Epuron Island GP Management Pty Ltd (Epuron) to prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the proposed Nevertire Solar Farm, located at Nevertire, 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 (cultural and archaeological) impacts of the development, including adequate consultation with the local Aboriginal community (SEARS for Nevertire Solar Farm 05/12/16).

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 Warren Shire Council Local Government Area.

PROJECT PROPOSAL

The Nevertire Solar Farm proposal would comprise of the installation of a solar plant with the power generated fed into the Nevertire Substation. Epuron proposes to develop approximately 200ha of the 255ha proposal site, retaining existing remnants of native vegetation that occur within Lot 26/ DP 755292.

The Nevertire Solar Farm proposal would include the following elements:

- An access track off the Mitchell Highway.
- Flat plate PV modules in a fixed or tracking arrangement.
- Onsite substation.
- A site office and maintenance building.
- Internal inverter stations to allow conversion of DC module output to AC electricity.
- Underground electrical conduits and cabling to connect the arrays on the array site.
- Internal access tracks to allow for site maintenance.
- Perimeter security fencing.
- Grid connection to the existing substation approximately 1.5km east of the site via an overhead and/or underground line.
- Native vegetation screening, where required to break up views of infrastructure.



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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 groups who registered interest was the Warren Macquarie Local Aboriginal Land Council. No other party registered their interest, including the entities and individuals recommended by OEH.

The fieldwork was organised and the Warren Macquarie Local Aboriginal Land Council was asked to participate in the fieldwork.

A copy of the draft report was provided to the registered party for comment. A response was received in and as a result the language group noted in the report was amended in the final report.

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 had previously been recorded within and adjacent to the proposal area. The closest AHIMS site to the project area, a scarred tree, is located approximately 1.6km west of the proposal area.

Assessment of Aboriginal site models for the region suggest that the most archaeologically sensitive areas within the proposal area are areas of remnant vegetation and areas in close proximity to the Boggy Cowal ephemeral watercourse. 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

Survey transects were undertaken on foot and traversed the main part of the proposed solar farm site given that the project was going to disturb approximately 200 hectares, within the 255-hectare property on Lot 26/ DP 755292. The survey visibility was variable with the wheat paddock visibility on average 50% and the remnant vegetation about 5%.

Between the survey participants, over the course of the field survey, approximately, 55 km of transects were walked across the main solar farm proposal area. Allowing for an effective view width of 5 m each person, this equates to a surface area of 27.5 ha. However, allowing for the visibility restrictions, the effective survey coverage is reduced to 13.75 ha, or 6.9% of the project area. The effective survey coverage for the proposed powerline was higher at 14.7% of the alignment corridor.

Despite the variable visibility encountered during the survey, there were three stone artefacts (Nevertire IF 1, Nevertire IF 2, Nevertire IF 3) and a scarred tree (Nevertire ST 1) found across the proposal area.

In terms of the current proposal therefore, extrapolating from the results of this survey, it is possible that additional stone artefacts could occur within the proposed development footprint. 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 solar farm and powerline easement areas.



The models of site location for the area have been shown to be accurate, with the current survey confirming the predicted distribution and nature of archaeological material with three of the sites located in close proximity to the Boggy Cowal watercourse.

While the results of this investigation have increased the number of sites recorded in the local area 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. We would argue that there are likely to be many hundreds of such sites in the local area, and that the lack of artefact sites in AHIMS is merely an indication that few surveys have been undertaken in the area and therefore they are yet to be found.

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 an above ground and/or underground powerline. The development will result in disturbance of almost 200 hectares of the 255 hectare property within Lot 26/ DP 755292. 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 Aboriginal objects by the development in its present form.

The impact to the scientific values if the sites Nevertire IF 1, Nevertire IF 2 and Nevertire IF 3 were to be impacted by the current proposal is considered low. The isolated artefacts have 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 artefacts and in the development of Aboriginal site modelling, which has largely now been realised by the recording.

The scarred tree site, Nevertire ST 1, will not be impacted by the solar farm proposal as per the development designs in this report.

The Nevertire Solar Farm proposal is classified as State Significant Development under the EP&A Act which 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.

Site name	Site integrity	Type of harm	Degree of harm	Consequence of harm	Recommendation
Nevertire Isolated Find 1	Poor – 100+ year history of agricultural use	Direct	Complete	Minimal loss of value	Salvage object prior to development of project.
Nevertire Isolated Find 2	Poor – 100+ year history of agricultural use	Direct	Complete	Minimal loss of value	Salvage object prior to development of project.
Nevertire Isolated Find 3	Poor – 100+ year history of agricultural use	Direct	Complete	Minimal loss of value	Salvage object prior to development of project.
Nevertire Scarred Tree 1	Good- <i>in situ</i> living tree	Nil- outside of development area or access tracks	Nil- outside of development area or access tracks	Nil- outside of development area or access tracks	Avoid



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RECOMMENDATIONS

It is recommended that:

- 1. The sites Nevertire Isolated Find 1, Nevertire Isolated Find 2 and Nevertire Isolated Find 3 are salvaged by an archaeologist and/or the Warren LALC prior to the proposed work commencing. The final storage place for the artefacts should be negotiated with the registered Aboriginal party.
- 2. Once the sites as noted in recommendation 1 are salvaged, the proposed work can proceed with caution within the development footprint.
- 3. The development must avoid the site Nevertire Scarred Tree 1, as per the current design plans detailed in this report. A minimum 10m buffer around the tree should be in place to protect the root zone.
- 4. The development proposal should now be able to proceed without any additional archaeological investigation.
- 5. Epuron 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 registered Aboriginal party.
- 6. 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.
- 7. 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 party and may include further field survey.



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1 INTRODUCTION

Epuron Island GP Management Pty Ltd (Epuron) proposes to develop a commercial scale solar photovoltaic (PV) farm at Nevertire, New South Wales NSW (Figure 1). The proposal site is 255-hectares in size and would have a capacity of around 105 Megawatts (MW). NGH Environmental has been contracted by Epuron to prepare an Aboriginal Cultural Heritage Assessment (ACHA) to investigate and examine the presence, extent and nature of Aboriginal heritage for the proposal 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 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 Nevertire 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 Nevertire 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 (cultural and archaeological) impacts of the development, including adequate consultation with the local Aboriginal community (SEARS for Nevertire Solar Farm 05/12/16).

The assessment area of the proposed solar farm comprises of Lot 26/ DP 755292. The proposal requires an additional transmission line (including underground and overhead sections) to connect to the existing substation within Nevertire, approximately 1.5km east of the site. The Lots and DPs relating to the transmission line include:

- Lot 37/ DP 755292
- Lot 100/ DP 1179330 and
- Lot 1/ DP 830042.

The Nevertire Solar Farm proposal site is located approximately 1km west of the township of Nevertire and 90km west of Dubbo, within the Warren Shire Council Local Government Area (LGA).



1.2 PROJECT PROPOSAL

The Nevertire Solar Farm proposal (Figure 1) would comprise of the installation of a solar plant with a capacity up to 105MW. The power generated will be fed into the National Electricity Market (NEM) at the transmission level from Essential Energy Nevertire Substation.

Epuron Island GP Management Pty Ltd proposes to develop approximately 200ha of the 255ha proposal site, retaining existing remnants of native vegetation that occur within Lot 26/ DP 755292.

The Nevertire Solar Farm proposal would include the following elements:

- An access track off the Mitchell Highway.
- Flat plate PV modules in a fixed or tracking arrangement.
- Onsite substation.
- A site office and maintenance building.
- Internal inverter stations to allow conversion of DC module output to AC electricity.
- Underground electrical conduits and cabling to connect the arrays on the array site.
- Internal access tracks to allow for site maintenance.
- Perimeter security fencing.
- Grid connection to the existing substation approximately 1.5km east of the site via an overhead and/or underground line.
- Native vegetation screening, where required to break up views of infrastructure.

In total, the construction phase of the proposal is expected to take 12 months. The Nevertire Solar Farm is expected to operate for around 30 years. Approximately 2-3 operations and maintenance personnel would operate the plant. The solar farm would be decommissioned at the end of its operational life; all above ground infrastructure and underground infrastructure less than 500mm deep may be removed in consultation with the landowner however the landowner preference may be to leave underground infrastructure undisturbed.

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. One Aboriginal group registered their interest in the proposal. This group was the Warren Macquarie Local Aboriginal Land Council (Warren LALC)

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



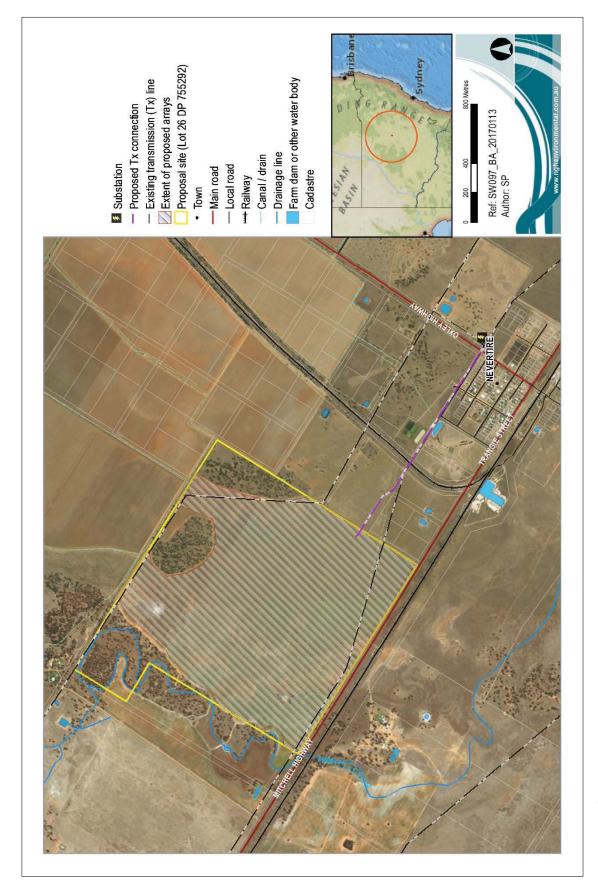


Figure 1. Location of proposal site.

1.4 REPORT FORMAT

For the purposes of this assessment of the Nevertire 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.



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 Warren Macquarie LALC (Warren LALC), and various statutory authorities including OEH, as identified under the ACHCRP. An advertisement was placed in the local newspapers, the Daily Liberal on 28 October 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, a single group contacted the consultant to register their interest in the proposal. The group who registered interest was the Warren LALC who registered via email.

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

Stage 2. On the 30 November 2016 an Assessment Methodology document for the Nevertire Solar Farm was sent to the 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 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. Keith Redman, the CEO the Warren LALC provided written response via email that he was satisfied with the methodology and found the document to be of high quality. He also noted that the Warren LALC were happy to proceed and assist with the 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 Warren LALC were asked to participate in the fieldwork, which was carried out in early January 2017.

Stage 4 In January 2017 a draft version of this *Aboriginal Cultural Heritage Assessment Report* for the proposal (this document) was forwarded to the Warren 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

Community consultation occurred throughout the project with community representatives on site during the survey. The draft report was provided to the registered party and feedback was sought on the recommendations, the assessment and any other issues that may have been important. Below is a summary of the main points from the consultation with the Warren LALC, these details are provided in full in Appendix A.

The Warren LALC noted that the draft report was very good and easy to digest. The only other comment received was that the registered party considers the Warren language group as Ngiyampaa Wayilwan and it was suggested that Nevertire is the same. The comments regarding the language group for the project area have since been amended in the final report.

3 BACKGROUND INFORMATION

3.1 REVIEW OF LANDSCAPE CONTEXT

3.1.1 Geology and Topography

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 Darling Riverine Plains Bioregion and the Bogan - Macquarie Subregion (IBRA v.7 2012). The geology of the region is Jurassic to Cretaceous with the geological basins consisting of sandstone, siltstone, claystone and volcanic deposits. Landforms are described as low plateaus; sand and clay plains and the bioregions is generally flat with river channel and floodplain features dominant.

Three Mitchell Landscapes occur within the development site; Boggy Cowal Channels and Floodplains, Boggy Cowal Alluvial Plains and Trangie Terrace.

- Boggy Cowal Channels and Floodplains occurs around the outer edge of the development site, and is currently 65% cleared (OEH, 2016).
- Boggy Cowal Alluvial Plains occurs throughout the central portion of the development site, and is currently 82% cleared (OEH, 2016)
- Trangie Terrace occurs to the north of the development site, and is currently 87% Cleared (OEH, 2016)

The Mitchell Landscape descriptions are provided in Table 1 below and shown in Figure 2.

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

Mitchell Landscape

Boggy Cowal Channels and Floodplains

Pleistocene fluvial sediments of channel and meander plain facies of the Carrabear Formation associated with the Boggy Cowal distributary stream system. Sediments are mainly fine sands, relatively clean in channels and forming structureless red-brown loamy sand on the plains.

Originally mainly white cypress pine *Callitris glaucophylla* woodland, now extensively cleared. Slightly heavier soils in shallow depressions dominated by bimble box *Eucalyptus populnea*, belah *Casuarina cristata* and myall *Acacia pendula*.



Mitchell Landscape

Boggy Cowal Alluvial Plains

Pleistocene fluvial sediments of backplain facies of the Carrabear Formation associated with the Boggy Cowal distributary stream system. Medium to heavy grey cracking clays with extensive gilgai. Carbonate nodules common in the subsoil and worked to gilgai crests, local relief to 2m.

Extensive grasslands with scattered stands of myall *Acacia pendula*, bimble box *Eucalyptus populnea*, black box *Eucalyptus largiflorens* and belah *Casuarina cristata*.

Trangie Terrace

The oldest fluvial units recognised in the upper section of the Macquarie-Bogan alluvial fan. Slightly elevated plain with northwest slope of late Pliocene and Pleistocene fluvial sand and gravel channel facies on an abandoned meander plain with flanking silty clay with sand layers of backplain facies of the Trangie Formation. Red texture-contrast soils are widespread with red sandy loams on coarser sediments, overall relief 5 to 7m.

Mostly spear grass Austrostipa sp. and wallaby grass Austrodanthonia sp. with scattered to dense patches of myall Acacia pendula or bimble box Eucalyptus populnea. The myall country probably originally carried an old man saltbush Atriplex nummularia understorey but little remains. White cypress pine Callitris glaucophylla, budda Eremophila mitchellii and wilga Geijera parviflora on sandy soils. Extensively grazed and cultivated.

The dominant Mitchell Landscape affected by the proposal is Boggy Cowal Alluvial Plains.

One stream occurs within the western portion of the development site. Boggy Cowal Creek is a first order tributary of the Macquarie River. The stream is understood to be ephemeral in nature, filling only during periods of high rainfall. The inundation of the Boggy Cowal Creek also forms an ephemeral wetland within the western portion of the development site (NGH Environmental 2016).

There is little topographic variation within the land for the proposed Solar Farm. The ground is level except in areas in close proximity to agricultural dam where the ground has been modified. There is minor variation in the natural elevation between the Boggy Cowal Creek and the remaining proposal area.

3.1.2 Flora and Fauna

The biodiversity assessment carried out by NGH Environmental identified one distinct plant community type within the proposal area, the Poplar Box - Belah woodland on clay-loam soils on alluvial plains of north-central NSW (NGH Environmental 2016).

The overstorey was characteristically dominated by Poplar Box (*Eucalyptus populneus* subsp. *bimbil*) with a sub component of Belah (*Casuarina cristata*) and occasional Wilga (*Geijera parviflora*). Western Rosewood (*Alectryon oleifolius* subsp. *canescens*) was present as occasional individuals within the less disturbed vegetation to the north of the solar array site. Characteristic shrub species present include Thorny Saltbush (*Rhagodia spinescens*), Climbing Saltbush (*Einadia nutans* subsp. *nutans*), Ruby Saltbush (*Enchylaena tomentosa*) and Galvanised Burr (*Sclerolaena birchii*). The ground cover was heavily invaded with exotic annuals, perennial grasses and forbs. Where a native groundcover was present, Curly Windmill Grass (*Enteropogon acicularis*) was often the dominant grass species.

The majority of the proposal area is cleared and cropped farmland containing exotic species of grass and commercial crops such as wheat.

The Poplar Box-Belah woodland vegetation community provides numerous habitat types for fauna. Canopy trees 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



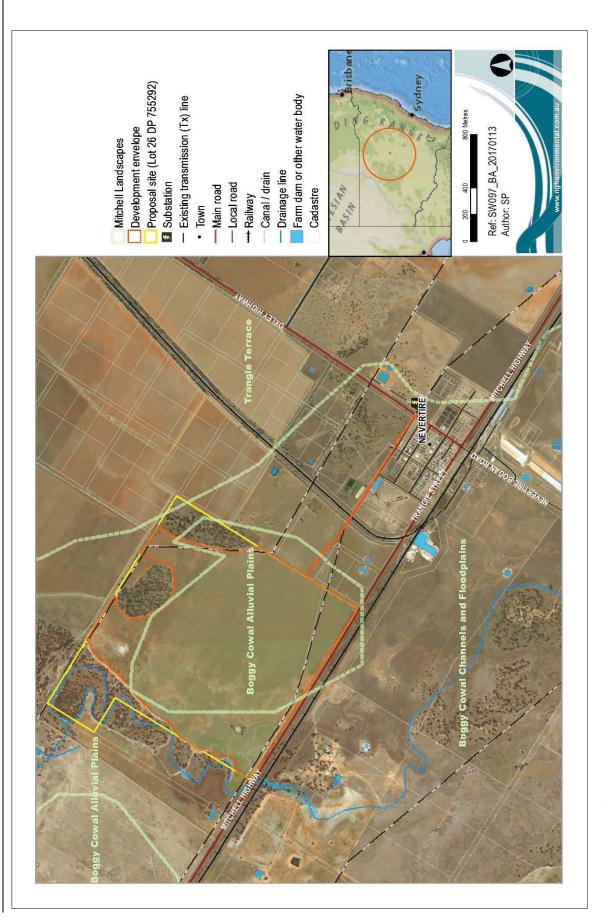


Figure 2. Location of Mitchell landscapes.

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.

The dominant pre-European vegetation type is considered to be Eucalypt Woodland dominated by Poplar Box (*Eucalyptus populnea*), Silver-leaved Ironbark (*Eucalyptus melanophloia*), Cypress Pine (*Callitris spp.*) and Wattle (*Acacia spp.*) (NGH Environmental 2016).

3.1.3 Historic Landuse

The proposal area has a history of intensive agricultural and pastoral use. The majority of the area has been utilised for grazing and crop production since European settlement in the mid 1800's. The location of the proposed Nevertire Solar Farm is within mostly cleared wheat paddocks with approximately 205 ha of Lot 26/ DP 755292 recently harvested. Within the areas of remnant vegetation within the proposal site, previous evidence of tree felling was observed. The impacts from farming activities over many decades has meant that any cultural material within the proposal area has been extensively disturbed and potentially destroyed. The alignment of the proposed powerline has been subject to disturbance through the construction of existing powerlines and the development of the township of Nevertire and the Main Western Railway Line. There is also a large portion of the proposed powerline easement that contains man made ponds and modified ground.

Overall, the proposal area would be categorised as disturbed through consistent farming practices, land clearing and development.

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 terrain is generally flat.

The only differences observed within the landscape is the presence of the water source Boggy Cowal Creek in the western portion of the proposal area. The Mitchell landscapes were not readily identifiable within the survey area and were not therefore used as means of landscape differentiation. The current vegetation in the proposal site can be classified as either remnant native or introduced crops. As the landform for the survey was across a level plain separated only by vegetation it was determined to be two units, level plain with remnant vegetation and level plain with cropped vegetation.

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).



Historically linguistic anthropologists have placed the Nevertire area within the boundaries of the Wiradjuri language group (Howitt 1996, Tindale 1974, MacDonald 1983, Horton 1994). However, these assertions of boundaries are seen as flawed amongst the local Aboriginal people.

The Warren areas is considered by the local Aboriginal community to be a part of the Ngiyampaa Wayilwan language group and it is suggested that Nevertire is the same (pers. comm K. Redman). This is an assemblage of many small clans and bands speaking similar dialects. 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 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. 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. Charles Sturt also passed through the region in 1828. At this point the Aboriginal population in most parts of NSW was in decline, due to disease such as small pox and influenza as well as dispossession from traditional lands. Acts of violence against 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. In 1882 the railway line from Dubbo to Nevertire open with Nevertire proclaimed a town in 1885.

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

Like everywhere in Australia, Ngiyampaa Wayilwan 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 also food sources. Fish and mussels would have been prevalent from the rivers and creeks. Insects were also a common food type; in particular grubs, 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 region include the Yam Daisy, 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. 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 34km east-west x 32km north-south centred on the proposal area, was undertaken on the 10th of October 2016. The AHIMS Client Service Number was: 248633. There were nine Aboriginal sites and no declared Aboriginal Places recorded in the search area. All recorded sites in the search area were modified trees as shown in Table 2. Figure 3 shows the locations of the AHIMS sites in relation to the proposal area. A copy of the search is provided in Appendix B.

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

Site Type	Number
Modified Tree	9
TOTAL	9

None of the sites are located within the current proposal area. The closest sites to the project area is a modified tree (AHIMS # 27-5-2013) located approximately 1.6km west along the Mitchell Highway. The site AHIMS # 27-5-2013 will not be impacted by the current proposal



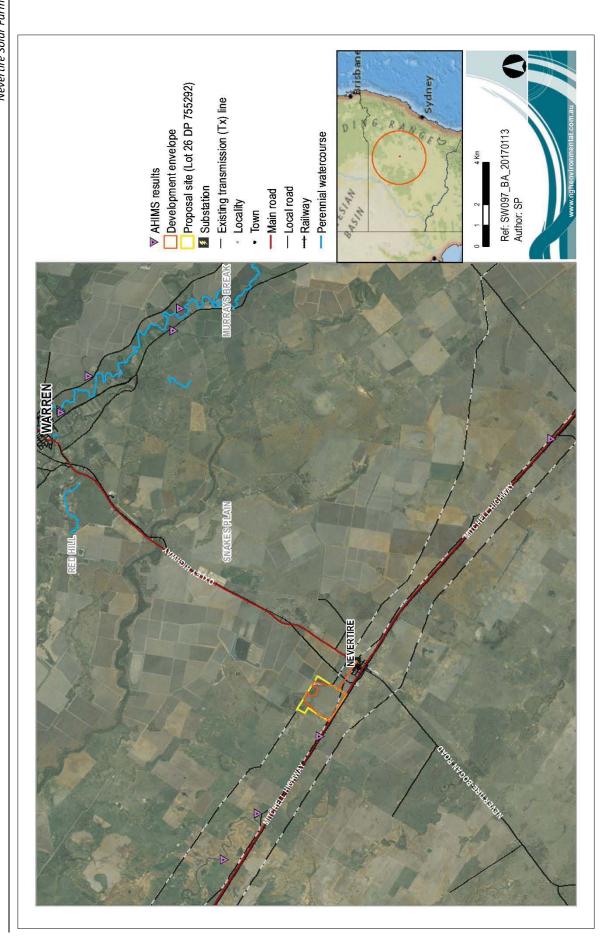


Figure 3. Location of AHIMS sites

3.2.3 Regional Archaeological models

While no regional synthesis of the archaeology has been completed for the Nevertire area research studies have been undertaken in the Upper Macquarie River region by Pearson (1981) and Koettig (1985). The following is a summary of the finding from these studies.

Pearson (1981) analysed a series of sites which tended to be biased towards larger and more noticeable sites identified by local residents. During this study he excavated three rockshelters (Botobolar 5, Granites 1 and Granites 2) which provided a record of regional Aboriginal occupation in the area to 5,000 years before present. Based on his finding Pearson categorised these sites as either occupation sites or non-occupation sites (sites that are generally for a single purpose ie. scarred trees, grinding grooves and burial sites) and built an archaeological model based on location. The model developed by Pearson is summarised below.

- Distance to water from sites varied from 10 to 500m, with larger sites found closer to a water source.
- Good soil drainage and an outlook over a water source were important to location.
- Ceremonial and stone arrangement sites were located away from campsites.
- Quarry sites were located in areas with desirable stone source qualities and reasonably accessible.

Koettig (1985) continued to build on the archaeological understanding of this region by conducting a comprehensive and systematic study of the Dubbo region. Koettig investigated all topographic landform units and creek orders through sample survey to clarify locations and site types. The study arrived at the following conclusions:

- Aboriginal sites may be expected throughout all landscapes.
- Artefact scatters, scar trees and grinding grooves are the most frequently occurring site types.
- The location and size of sites were determined by various factors; predominately
 environmental and social factors around the proximity to water, geological formations
 and the availability of food resources.

Koettig suggested that larger and constantly occupied sites are likely to occur along permanent watercourses, while more sporadic occupation would have occurred along ridge tops or temporary water courses.

3.2.4 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 Nevertire area, although the archaeological evidence from Lake Mungo, 450 km to the south west provides ample evidence of Aboriginal occupation dating back 40,000 years (Mulvaney and Kamminga 1999, Hiscock 2007). While sites have been recorded in the surrounding area, as identified during the AHIMS database search noted above, there are very few corresponding reports in AHIMS for these surveys and very limited information about the nature of the sites beyond the information provided in site cards. Despite the fact that no regional synthesis of the archaeology for the Nevertire area has been completed surveys have been conducted in relative proximity, including a survey by Smith in 1988 that intersected the current proposal area. The following is a summary of the finding from these studies.

Smith (1988) surveyed a proposed 168km transmission line from Nyngan to Dubbo. The survey ran through the township of Nevertire (see Figure 4) along the proposed transmission line for Option B before crossing



the north-eastern corner of the current project area within Lot 26/ DP 755292. Smith's survey route then continued west along the northern boundary of Lot 26/ DP 755292. Figure 4 shows this portion of the route was intensively surveyed on foot (red) and was subject to visual inspection (blue). A total of 13 artefact scatters, six isolated finds and a modified tree were recorded during the survey over the entire powerline. None of these sites are within or adjacent to the current assessment area. The majority of the sites recorded were located with 100m of a water course with five of the sites found less than 100m from swamps or the marshy headwaters of a creeks. The sites recorded closest to the current project area were located around Belar Creek and its tributaries, approximately 15km east of Nyngan and 40km west of the current assessment area. Flakes dominated the assemblages with less numbers of cores and flaked pieces. Quartz was the dominant lithology with silcrete, chert, basal, quartzite and volcanic material also recorded.

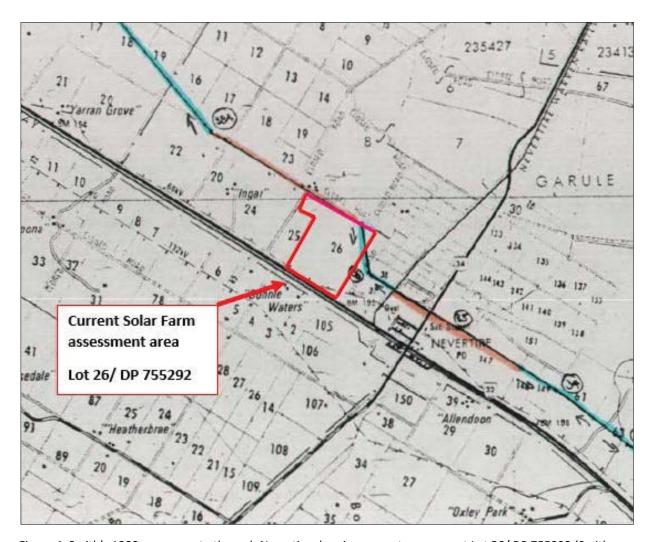


Figure 4. Smith's 1988 survey route through Nevertire showing current assessment Lot 26/ DP 755292 (Smith 1988 Figure 2 portion of original map).

In 1989 Geering undertook a study of the Beemunnel Reserve area approximately 0.5km north of Warren. The Beemunnel Reserve is highly significant to the local Aboriginal community. The reserve area contains physical evidence of the Aboriginal occupation of the area with burials, an oven, a carved tree and scarred trees known in the area. Geering recorded the locations of 155 scarred trees with the majority noted to be Box trees and only three recorded as River Red Gums. The Beemunnel Reserve area was recorded to be



occupied by Aboriginal people from the 1920's until the 1960's when they were forcibly re-housed into the town of Warren.

In 1995 Central West Archaeological and Heritage Services conducted a survey for the proposed additions to the levee bank area, new borrow pits and river stabilisation program at Warren. Fifteen modified trees, a hearth, a fringe camp and three historic sites were recorded. While none the Aboriginal sites recorded were going to be impacted by the proposed development the consultants noted that many of the modified tress, an archaeologically sensitive creek and its river bank areas were adjacent to the proposed work areas.

In 1998 Central West Archaeological and Heritage Services conducted a survey for the proposed Warren Sewerage Scheme Augmentation. The proposal was for an upgrade of the existing sewage treatment works and the laying of approximately 3km of pipeline from the sewage treatment works to the Warren Racecourse and the construction of a pond within the racecourse grounds. Two scarred trees were recorded during the survey and it was recommended that a minimum 5m buffer be placed around the sites.

In 1998 Kelton (as cited by Central West Archaeological and Heritage Services 1998) conducted a survey for a proposed 19 km fibre optic cable route between Narromine and Buddah along the Narromine-Warren Road. A total of nine scarred trees were recorded along the proposed route.

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

In 1985 McIntyre (as cited by Central West Archaeological and Heritage Services 1995) surveyed a transmission line between Dubbo and Wellington covering approximately 110km. A total of 15 sites were recorded including 11 open camp sites.

In 2012 Dibben surveyed the proposed Nyngan Solar Plant, approximately 60 km west of the Nevertire assessment area. The proposed solar farm would cover 300 ha of a 460 ha property. Three Aboriginal objects were recorded within areas of exposure in erosion scalds. The artefacts recorded were a silcrete core, a quartz flake and a quartz core. The Aboriginal objects were noted to have low archaeological significance.

3.2.5 Summary of Aboriginal land use

The results of previous archaeological surveys in the Nevertire 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 lack of other site types other than scarred trees 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 a water source with scarred trees and stone artefacts located near permanent or temporary water sources. In addition, site density in the Nevertire area appears to be low (less than ten sites recorded on AHIMS). This may suggest the seasonal occupation of the area by Aboriginal people using water availability to move through the land. It's more likely to suggest 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 in reality 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.



3.2.6 Archaeological Site Location Model

Based on the results of these previous archaeological investigations in the local Nevertire area, and through extrapolation of Wiradjuri sites from other areas within close proximity of Nevertire, 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 proposal area, the Boggy Cowal water source is an obvious resource however 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 in stands of native trees. These conditions exist particularly adjacent to the western boundary of the proposal area near the Boggy Cowal water source. Therefore, this feature is likely to occur

Hearths/Ovens – are identified by burnt clay used for heat retainers or charcoal. None are recorded in the area 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 places 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 have potentially been attractive to Aboriginal people to concentrate activity and therefore have a better chance of leaving archaeological traces. The conclusion regarding Aboriginal site modelling for the proposal area is that the most archaeologically sensitive areas are the areas of remnant vegetation and areas within close proximity to the Boggy Cowal ephemeral watercourse. 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 is most likely to be in the form of stone artefacts and scarred trees.

3.2.7 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 Nevertire 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 be a reflection of the obtrusiveness of trees and it can be assumed that artefacts would also be present 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 Nevertire area. No such places have been identified through the consultation process for the Nevertire 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 200 hectares, within the 255-hectare property on Lot 26/ DP 755292. 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.

The strategy therefore was to walk a series of transects across the landscape to achieve maximum coverage. Because landforms were the same across the location of the arrays, that is, flat with cropped vegetation, transects were spaced evenly with the survey team spread apart between 25 and 50 m, walking in parallel lines. The flat and cleared nature of the proposed solar array area made this an ideal survey strategy. The team were able to walk in parallel lines, at a similar pace, allowing for maximum survey coverage and maximum opportunity to identify any heritage features. The size of the survey team was a maximum of two people which allowed a 50 m tract of the project area to be surveyed with each transect. At the end of each transect, the team would reposition along a new transect line at the same spacing and walk back on the same compass bearing.

We believe that the survey strategy was comprehensive and the most effective way to identify the presence of Aboriginal heritage sites. Discussion were held in the field during each day between the archaeologists and Aboriginal community representative to ensure all were satisfied and agreed with the spacing and methodology.

The proposal area was divided into three sections as follows:

- The solar farm proposal area- comprising of 255 hectares of which 200ha would be developed.
- The linking powerline options —approximately 1.5 km in length with an easement width of 50m, primarily along or adjacent to an existing powerline route to the Nevertire substation.

The survey was undertaken by the team between the 10th and 12th of January 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. Mature trees within the property were also inspected for evidence of Aboriginal scarring.

4.2 SURVEY COVERAGE

The solar farm area comprised of open flats with little topographic variation except in areas in close proximity to the agricultural dam where the ground had been modified. The landforms were therefore the same with no clear differentiation apart from the vegetation type within the proposal site of Lot 26/ DP 755292 made during the survey.

The only definition was between the recently harvested wheat paddock and the stands of remnant vegetation. The difference was in the effective visibility, where the wheat paddock was on average 50% and the remnant vegetation about 5%. It should be noted however that the areas of remanent vegetation will not be disturbed by the proposed development as shown in Figure 1.

Survey transects were undertaken on foot and traversed all the infrastructure areas proposed for the solar farm site including the three powerline easement options. Visibility within the project area was variable however, the proposed solar farm development areas was entirely within the wheat paddock that had been



harvested prior to the survey. Visibility in this area was variable but overall was quite good and averaged 50%.

The stands of remnant vegetation within Lot 26/ DP 755292 will not be disturbed by the proposal. However, a portion of remnant vegetation was surveyed as these areas where deemed to have high archaeological sensitivity and are directly adjacent to the development envelope area. The stands of trees offered a good perspective of the nature of the relatively undisturbed landscape but generally had poor visibility due to dense grass 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.

The powerline easement leaves the solar farm along the eastern boundary and is adjacent to an existing powerline before it aligns with the existing powerline running eastwards to the substation. Visibility along the powerline easement varied as it transverses cropped paddocks, water treatment dams and a gravel road (Belerenga Road) which offered an approximately 350m corridor with 90% visibility. Visibility within the cropped paddock that extended to the railway line for approximately 650m averaged 50% while the dense vegetation from the railway to Belerenga Road restricted the visibility to less than 5% in areas.

Table 3 below shows the calculations of effective survey coverage and plates 1-6 show examples of the transects within the proposal area.

Between the survey participants, over the course of the field survey, approximately, 55 km of transects were walked across the main solar farm proposal area. Allowing for an effective view width of 5 m each person, this equates to a surface area examined of 27.5 ha. However, allowing for the visibility restrictions, the effective survey coverage is reduced to 13.75 ha, or 6.9% of the project area.

The survey for the powerline examined 2.2 ha of the 7.5 ha easement, but allowing for visibility restrictions, the effective survey coverage was 1.1 ha or 14.7% of the corridor.

Overall, it is considered that the surface survey of the solar farm proposal area and the powerline easement had sufficient and effective survey coverage. The effective survey coverage is considered sufficient with the results identified considered a true reflection of the nature of the Aboriginal archaeological record present within the proposal area.





Plate 1 View west from Nevertire IF1, note flat landscape.

Plate 2 View north-west from gate entrance to proposal area, note good visibility.





Plate 3 View south from north-western corner of solar array area, note remnant vegetation in far right of frame.

Plate 4 View east within area of remnant vegetation, note dense grass cover.





Plate 5 View west from railway line along powerline easement within cropped area.

Plate 6 View west from intersection of Belerenga Road and Oxley highway, note existing powerline easement.



Table 3. Transect information.

Archaeological result	3 isolated finds	Ë	1 scarred tree
Percentage of Project area effectively surveyed (ha)	6.9	14.7	3.5
Project Area surveyed (ha)	13.75	1.1	1.95
Effective coverage (area x visibility) m²	137,500	11,000	19,500
Visibility	50% average	50% average	5% average
Survey Area m²	275,000	22,000	39,000
Surveyed area (length m x width m)	55,000 × 5	4,400x 5	7,800×5
Project Area ha	200	7.5	55
Exposure	Plough lines, vehicle tracks, denuded ground	Plough lines, soil mounds, vehicle tracks, gravelled roads, denuded ground	Erosion
Topography	Level plain	Level plain	Level plain
Number of Survey Transects	99	4	19
Survey Section	Solar farm proposal area with cropped vegetation	Powerline	Proposal area with remnant vegetation (not being developed)

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4.3 SURVEY RESULTS

Despite the variable visibility encountered during the survey, there were three stone artefacts found across the proposal area and a scarred tree. The archaeological features have been recorded as four site occurrences. The details of the sites are outlined below; their location is shown in Figure 5. The artefact and tree characteristics are provided in Table 4 and photographs are provided in Plates 7-14.

Nevertire Isolated Find 1

This site consisted of a single artefact in a flat cropped paddock. The artefact was a red silcrete core with a single negative flake scar. The deposits consisted of a brown cracking silty clay and visibility within the area was 50%. The area has been subject to disturbance from ploughing in the past and the site was on the edge of a relatively large exposure of cracking clay in a slight depression in the landscape.





Plate 7. View west, pole shows artefact location.

Plate 8. Close up of Nevertire Isolated Find 1.

Nevertire Isolated Find 2

This site consisted of a single artefact on a vehicle track. The artefact was a flake of quartz. The deposits consisted of a brown cracking silty clay and visibility along the track was 40%. The track was adjacent to the area of remnant vegetation associated with the Boggy Cowal watercourse. The artefact is located approximately 70m east of the Boggy Cowal watercourse.





Plate 9. View north, pole shows artefact location.

Plate 10. Close up of Nevertire Isolated Find 2.



Nevertire Isolated Find 3

This site consisted of a single artefact on a vehicle track. The artefact was a flake of quartz. The deposits consisted of a brown cracking silty clay and visibility along the track was 70%. The track was adjacent to the area of remnant vegetation associated with the Boggy Cowal watercourse. The artefact is located less than 5m east of Boggy Cowal watercourse.





Plate 11. View north, pole shows artefact location.

Plate 12. Close up of Nevertire Isolated Find 3.

Nevertire Scarred Tree 1

This site consists of a single scarred tree considered to be Aboriginal in origin within an area of remnant vegetation. The tree is a mature living Brimble Box (*Eucalyptus populnea*) tree in good condition that has a single scar assessed as conforming to the standard scarring morphology accepted for Aboriginal modification (cf. Long 2005). The tree is approximately 15m in height and is located approximately 35m south of the Boggy Cowal watercourse. The elongated oval scar is located on the trunk of the tree facing south. The base of the scar is approximately 25 cm above the ground. No axe marks were noted.



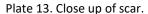




Plate 14. View north of Nevertire Scarred Tree1.



Table 4. Artefact and scarred tree characteristics

AHIMS #	Site Name	Artefact Type	Raw Material	Dimensions (mm)	Comments
27-5-0226	Nevertire IF 1	Core	Silcrete	27 x 27 x 30	Single platform core with 1 negative flake scar.
27-5-0225	Nevertire IF 2	Flake	Quartz	12 x 12 x 2	Broad platform, feather termination, tertiary stage of reduction,
27-5-0224	Nevertire IF 3	Flake	Quartz	17×15×3	Broad platform, feather termination, secondary stage of reduction, 10% riverine cortex,
27-5-0223	Nevertire ST 1	Modified tree	Brimble Box tree	1600 x 250 x 50	Long oval scar on trunk, scar approximately 25cm above ground surface, tree living, scar facing south, no axe marks.

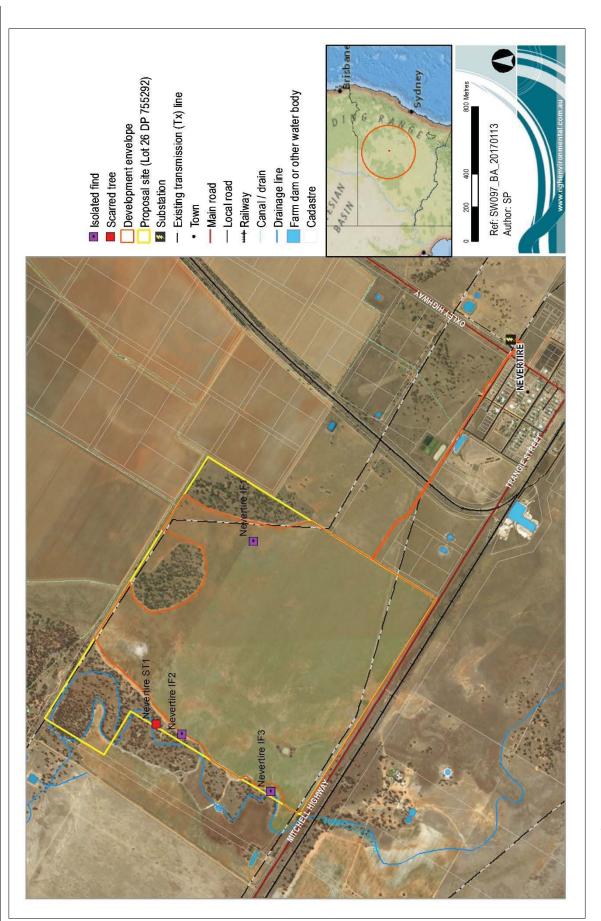


Figure 5. Location of recorded sites.

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 areas closest to a water source were likely to have sites given the modelling for the region. The survey results have confirmed this prediction with stone artefacts and a scarred tree recorded.

Three of the sites are noticeable located within 100m of the Boggy Cowal watercourse. The only site to be identified over 100m from the Boggy Cowal watercourse, Nevertire IF1, was also noted to be located adjacent to a slight clay depression that would likely be an ephemeral water source after heavy rain given the landscape. These results indicate that while sites can occur throughout the landscape, even in areas highly disturbed by farming activities, there is a dominance of Aboriginal cultural material recorded in close proximity to a water source.

The area was likely used intermittently over a period of time for camping. This is evident by the presence of a scarred tree and stone artefacts. Based on this assumption, there is every chance that there are similar stone artefacts and scarred trees across similar landscapes in the Nevertire area and that these site types, particularly stone artefacts, could be more prevalent in the landscape than previously recorded.

The sites identified in this assessment are in close proximity to ephemeral water sources and are representative of the opportunistic use and movement of people through the landscape. They are most likely representative of the use of the back country between larger known water sources in the area with the Beleringar Creek approximately 10km north.

The identification of only a single scarred tree in the project area is likely to be the result the previous land clearing. However, it should be noted that high densities of scarred trees have been recorded in the area near large and more permanent watercourses. It is possible that the identification of only a single scarred tree in the project area is actually representative of the use of the opportunistic use of small ephemeral watercourses in the region.

While the sites themselves and the distribution of cultural material provide an indication that the area was used more than once, scarred trees and artefacts manufactured from silcrete and quartz is common for the general region. The presence of a core and flakes indicates that tool manufacture may have occurred onsite, though on few occurrences.

It should also be noted that the results of this investigation have increased the number of artefact sites recorded in the local area from nil to three. There appears to previously be a bias towards more obvious site types in the AHIMS record, with only scarred trees previously recorded in the area. This is something we consider anomalous in the typical pattern of site recording in Australia. The implications for this relate to significance assessments and the related appraisal of site representativeness. We would argue that there are likely to be many hundreds of such artefact sites in the local area, and that the lack of artefact sites in AHIMS is merely an indication that few surveys have been undertaken in the area and therefore they are yet to be found.

In terms of the current proposal therefore, extrapolating from the results of this survey, it is possible that additional 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 solar farm and powerline easement areas.



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 Aboriginal representatives for this proposal through the fieldwork and draft reporting process.

Feedback about the cultural value of the sites during phone conversations while in the field with Keith Redman, CEO of the Warren LALC, indicated that all sites hold cultural value to the Aboriginal community. It was also clear that the scarred tree was important and a particular site type that should be avoided by development. It was also clear from the conversation that the community view the stone artefacts as



important and would like to see them collected before any damage or development occurs. It was noted during the conversation that there was importance placed on collecting the artefacts and placing them in a safe location to avoid future disturbance or stored at the Warren LALC office.

Scientific (archaeological) value.

The research potential of the sites located during this assessment is considered to be low. While the presence of the sites can be used to assist in the development of site modelling for the local landscape, their scientific value for further research is limited.

The scarred tree most likely represents the opportunistic use of the landscape in close proximity to a water source but any further observations are restricted due to the clearing of the area. The isolated nature of the tree in remnant vegetation and the fact that the adjacent landscape has been cleared means that as a representative example of this site type has high value. The tree is alive and healthy which enhances the viability of its medium term survival, therefore its integrity is also high. However, scarred trees are a common site type in the district and prior to this survey was the only recorded site type in the area.

While the artefacts themselves are intrinsically interesting in terms of their base technical information their current lack of temporal context and the absence of information about local resources makes further conclusions about land use difficult. Their scientific value for further research is also limited due to the disturbed nature of the landscape and the subsequent movement of objects by clearing and ploughing activities. However, as the three artefacts identified are the only known AHIMS recoded artefacts within the Nevertire area, these sites are considered to have increased scientific value based on representativeness and rarity. Having said that, correspondence with Keith Redman, CEO of the Warren LALC, noted that artefacts are known within the district and therefore they may not be as not unique as currently represented in the AHIMS database. We would therefore argue that although the presence of artefacts recorded in the area prior to this survey was nil, they are in fact likely to be many times more numerous than that of scarred trees.

The findings of this project have substantially increased the number of such sites listed in the AHIMS database for the area. In terms of representativeness and rarity however, we would argue that there are likely to be many hundreds of such sites in the local area, the lack of sites in AHIMS is merely an indication that few surveys have been undertaken and therefore they are yet to be found. The nature of Aboriginal occupation in almost any landscape in Australia is that stone artefact sites considerably outnumber any other site type, including scarred trees.

Aesthetic value.

There are no aesthetic values associated with the archaeological site per se, apart from the presence of Aboriginal artefacts and a scarred tree in the landscape. The modified and heavily disturbed landscape within the solar farm development area 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 impacted through land use practices, in particular clearing, ploughing and grazing.

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 implication for stone artefacts is that they may have been damaged or moved but they are likely to be present and remain in the general area they were discarded by Aboriginal people.

The alignment of the proposed transmission line has been heavily impacted by farming activities, the existing overhead powerlines, the railway and the development of the township of Nevertire.

Despite these impacts, Aboriginal artefacts and cultural material remain in the area, indicating the presence of past Aboriginal people and providing indications of their use of this landscape.

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 via a transmission line. The development will result in disturbance of approximately 200 ha of the 255 ha property on Lot 26/ DP 755292.

Disturbances will largely be in the preparation of the ground for the solar farm. Piles would be driven or screwed into the ground in order 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 contain 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 (overhead and/or underground) to connect the solar farm to the existing Nevertire substation.

The proposed construction timetable is 7-12 months duration and the operational life of the solar farm is estimated to be 30 years. Once operation ceases, the site will be rehabilitated and decommissioned

The development activity will therefore involve disturbance of the ground during the construction of the solar farm and transmission line to the existing 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, four archaeological sites were located within the project area. The following table provides a summary of the degree of harm and the consequence of that harm upon the heritage value of each site resulting from the proposed works for the solar farm and transmission line to the Nevertire substation.

Table 5 Identified risk to known sites

Site name	Site integrity	Type of harm	Degree of harm	Consequence of harm	Recommendation
Nevertire Isolated Find 1	Poor – 100+ year history of agricultural use	Direct	Complete	Minimal loss of value	Salvage object prior to development of project.
Nevertire Isolated Find 2	Poor – 100+ year history of agricultural use	Direct	Complete	Minimal loss of value	Salvage object prior to development of project.
Nevertire Isolated Find 3	Poor – 100+ year history of agricultural use	Direct	Complete	Minimal loss of value	Salvage object prior to development of project.
Nevertire Scarred Tree 1	Good- <i>in situ</i> living tree	Nil- outside of development area or access tracks	Nil- outside of development area or access tracks	Nil- outside of development area or access tracks	Avoid

There is Aboriginal archaeological material present within the solar farm and the assessment is that there are likely to be other artefacts and cultural material present as well, although in similar low densities. The proposed level of disturbance for the construction of the solar farm could impact the stone 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 such as the installation of cabling and the transmission line poles, which may involve the removal, breakage or displacement of artefacts and cultural material. This is considered a direct impact on the sites and the Aboriginal objects by the development in its present form.

The proposed construction methodology for the project will however results in only small areas of disturbance. The construction of access and maintenance tracks may involve some grading but given the flat nature of the terrain, this is likely to be minimal. The installation of the solar arrays involves drilling or screwing the piles into the ground and no widespread ground disturbance work such as grading is required to accomplish this.

The assessment of harm overall for the project is therefore assessed as low.

6.4 IMPACTS TO VALUES

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



The impact to values for this development are summarised in Table 5 above

The impact to the scientific values if the sites Nevertire Isolated Find 1, Nevertire Isolated Find 2 and Nevertire Isolated Find 3 were to be impacted by the current proposal is considered low. However, 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.

The scarred tree site, Nevertire Scarred Tree 1, will not be impacted by the project as per the proposed design in this report.

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 sites and the potential for mitigating impacts to the sites recorded within the Nevertire Solar Farm proposal area. The main consideration was the cumulative effect of the proposed impact to the sites 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 Upper Macquarie River region. The immediate local area previously only had scarred trees recorded. However, the identification of stone artefacts during this survey suggest that the dominance of scarred tree in the local area as a site types is the results of a lack of survey and not an accurate representation of the other site types in the area.

Currently there is no clear regional synthesis of the nature, number, extent and content for archaeological sites within the Warren Shire Council LGA. Nevertheless, given the size of the geographical area, it is certain that there would be similar artefacts and scarred trees present within the region. The result of this Aboriginal heritage assessment has confirmed the proposed model of site location and site distribution, whereby sites could be expected to occur in close proximity to a water source, even in ploughed areas.

The implications for ESD principles is that other artefacts and scarred trees are likely to be present in the district.

As noted above, the archaeological values of the sites, considering the scientific, representative and rarity values was deemed to be low within the solar farm given that in terms of representativeness and rarity the lack of sites in AHIMS for the local area is merely an indication that few surveys have been undertaken and therefore they are yet to be found. It is believed therefore that the proposed impacts to the sites through the development would not adversely affect the broader archaeological record for the local area or the region.

The principle of inter-generational equity requires the present generation to ensure that the sites 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 solar farm proposal.



We therefore consider, that while the current development proposals will impact three sites with isolated stone artefacts, 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 the four sites is technically possible through avoidance. However, the position of Nevertire Isolated Find 1 would pose serious design constraints on the solar farm proposal. Where possible the design has already been altered to avoid remnant vegetation that includes the location of Nevertire Scarred Tree 1.

Based on the assessment of the sites and artefacts, and in consideration of discussions with the Aboriginal representative and CEO of the Warren LALC during the field survey, it is not considered necessary to prevent all development at the solar farm location, or for total avoidance of the three isolated find sites identified within the solar farm area. The sites have been shown to be in highly disturbed contexts with little remaining scientific value. Aboriginal cultural value has been determined by the local Aboriginal community to be generally low enough to not prevent the development proposal proceeding.

The sites Nevertire Isolated Find 1, Nevertire Isolated Find 2 and Nevertire Isolated Find 3 are situated within the area of the proposed solar arrays, tracks and fencing. The most likely cause of harm to the artefacts will be through ground preparation such as vegetation clearance, installation of the posts and solar arrays.

The question remains about possible occurrence of artefacts and cultural material 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 sites and Aboriginal objects.

Given the avoidance of Nevertire Scarred Tree 1, a site type deemed to have high significance to the Aboriginal community, it is argued here that mitigation in the form of alteration is not feasible or warranted within the solar farm area in this situation for the sites Nevertire Isolated Find 1, Nevertire Isolated Find 2 and Nevertire Isolated Find 3. However, the three sites are conducive to salvage as a mitigation strategy as requested by the CEO of the Warren LALC during the field survey.

As identified above, it is recommended that Nevertire Isolated Find 1, Nevertire Isolated Find 2 and Nevertire Isolated Find 3 are salvaged by an archaeologist and/or the Warren LALC prior to the proposed development commencing. The final storage place for the artefacts should be negotiated with the registered Aboriginal party.



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

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environmental impact assessment process. The Department of Planning and Environment will consult with other departments, including OEH prior to development consent being approved.

The Nevertire 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 sites Nevertire Isolated Find 1, Nevertire Isolated Find 2 and Nevertire Isolated Find 3 are salvaged by an archaeologist and/or the Warren LALC prior to the proposed work commencing. The final storage place for the artefacts should be negotiated with the registered Aboriginal party.
- 2. Once the sites as noted in recommendation 1 are salvaged, the proposed work can proceed with caution within the development footprint.
- 3. The development must avoid the site Nevertire Scarred Tree 1, as per the current design plans detailed in this report. A minimum 10m buffer around the tree should be in place to protect the root zone.
- 4. The development proposal should now be able to proceed without any additional archaeological investigation.
- 5. Epuron 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 registered Aboriginal party.
- 6. 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.
- 7. 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 party and may include further field survey.



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APPENDIX A ABORIGINAL COMMUNITY CONSULTATION



Consultation Log of Nevertire Solar project.

Organisation	Contact	Action	Date Sent	Reply Date	Replied by	Response
ОЕН	Phil Purcell	letter sent via email	24/10/2016	7/11/2016	Letter via email	supplied list of additional possible stakeholders
NTScorp	information@ntscorp.com.au	letter sent via email	24/10/2016			
National Native Title Tribunal		online search- project area outside Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan native title determination	24/10/2016			
Office of Registrar Aboriginal Land Rights Act	adminofficer@oralra.nsw.gov.au	letter sent via email	24/10/2016	25/10/2016		Informed that does not appear to have Registered Aboriginal Owners best contact would be Warren Macquarie Local Aboriginal Land Council
Central West Local land services	admin.centralwest@lls.nsw.gov.au	letter sent via email	24/10/2016			
Warren shire council	council@warren.nsw.gov.au	letter sent via email	24/10/2016	24/10/2016	email	Informed that best contact would be Warren Macquarie Local Aboriginal Land Council,
Warren Macquarie LALC	warrenlalc@gmail.com	letter sent via email	24/10/2016	8/11/2016	email	Registered for project- CEO Keith Redman
Local Newspaper	Daily Liberal	Daily Liberal	28/10/2016			closing date 11 November
OEH list of potential stakeholders						closing date 22 November
Bogan Aboriginal Corporation		letter sent via post	7/11/2016			

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Organisation	Contact	Action	Date Sent	Reply Date	Replied by	Response
John Shipp		letter sent via post	7/11/2016			
Nyngan LALC		letter sent via email	7/11/2016			
Wiradjuri Interim Working Party		letter sent via post	7/11/2016			letter returned to sender -noted left this address
Letter to OEH advising of registered parties and return to sender letters	Phil Purcell	via email	30/11/2016			1 x registered party Warren Macquarie LALC 1 x return to sender letter
Methodology						
Warren Macquarie LALC	Keith Redman	sent via email	30/11/2016			
Warren Macquarie LALC		MB email to LALC	16/12/2016			asked if there were any questions and sought availability for fieldwork in January
Warren Macquarie LALC Fieldwork (10-12 Jan 2017) Warren Macquarie LALC	George Riley	KB phone call to LALC LALC representative during fieldwork LALC representative	20/12/2016	20/12/2016	via email	KB requested dates 10-12 Jan for fieldwork. Keith later emailed confirming dates in Jan ok with representative selected for field work (George Riley). LALC provided insurance details, rates and comments on methodology. The Land Council is very satisfied with the information provided in the project Methodology and finds this report to be of high quality. It very easily serves its purpose of informing the Land Council as to what is occurring.
	George Riley	during fieldwork LALC representative during fieldwork				fieldwork 12 Jan 2017- LALC representative during fieldwork
		ממווופ וובומאסויי				

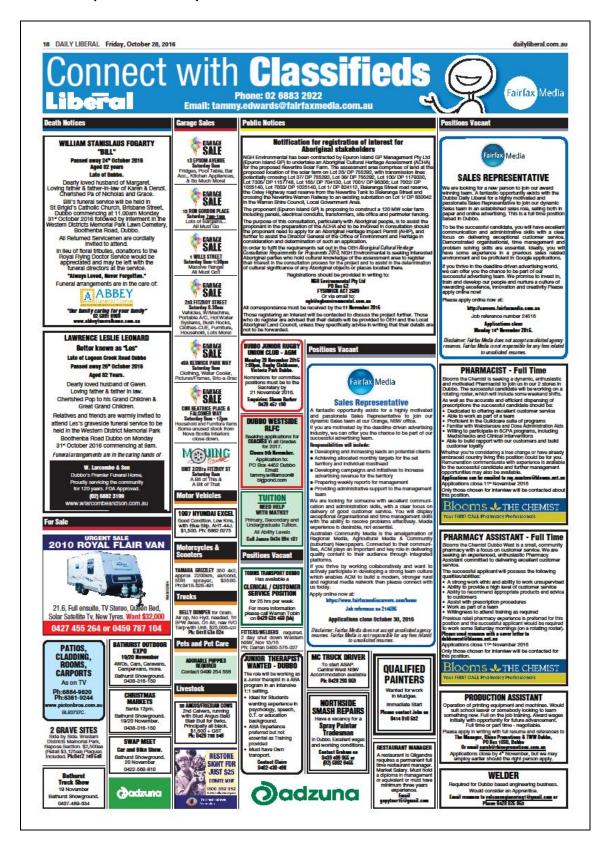
H-11

Response	KB called to provide update on fieldwork. Informed only IF artefacts to date. Keith requested opportunity for LALC to salvage artefacts prior to development	KB called to provide update on fieldwork. Informed 3 IF artefacts and scarred tree recorded. Noted happy with results of survey and discussed development and how it would affect sites recorded. Keith requested opportunity for LALC to salvage all three artefacts prior to development rather than leave in situ or be avoided by the development. Happy that the scarred tree will be avoided as many scarred trees in area cleared or destroyed. Site type (scarred tree) has significance to community.		Draft report sent via email for comment. Comments received as below and incorporated into report. Keith comments: very good and very easy to digest. Only comment I have and it is probably a matter of small contention: Warren language group is Ngiyampaa Wayilwan and we would suggest that Nevertire is the same. However, for the purpose of your report and the sources that you have named we do not see it as a big deal. Amongst Aboriginal People in NSW Tindale and his assertions of boundaries are seen as flawed.
Replied by				via email
Reply Date				27/01/2017
Date Sent	11/01/2017	12/01/2017		18/01/2017
Action	Phone call	Phone call		Report via email
Contact	Keith Redman	Keith Redman		Keith Redman
Organisation			Draft Report	Warren Macquarie LALC

16-318 Draft

H-III

Public Notice placed in the Daily Liberal on 28 October 2016.





Correspondence from Warren LALC regarding comments for Draft report received 27th January 2017.

From: KEITH REDMAN [mailto:warrenlalc@gmail.com]

Sent: Friday, 27 January 2017 2:05 PM

To: Kirsten Bradley < kirsten.b@nghenvironmental.com.au> **Subject:** Aboriginal Cultural Assessment Nevertire Solar Farm

Hello Kirsten

Read your and Mathew's report

Gave you and Mathew a wrap with Jessica Picton when discussing the Tax Invoice

Anyway that wrap is just; thanks for providing us with the latest report re: the Solar Farm

The following is to be taken as our response to your report

Again, very good and very easy to digest. Only comment I have and it is probably a matter of small contention:

Warren language group is Ngiyampaa <u>Wayilwan</u> and we would suggest that Nevertire is the same. However, for the purpose of your report and the sources that you have named we do not see it as a big deal. Amongst Aboriginal People in NSW Tindale and his assertions of boundaries are seen as flawed.

But not to worry, as I said it is not a big deal in the context of your report

Kirsten it has been a pleasure dealing with you and can I say you and Mathew make such dealings very easy for us

Kind regards

Keith Redman CEO



16-318 Draft A-II

APPENDIX B AHIMS SEARCH



16-318 Draft B-III

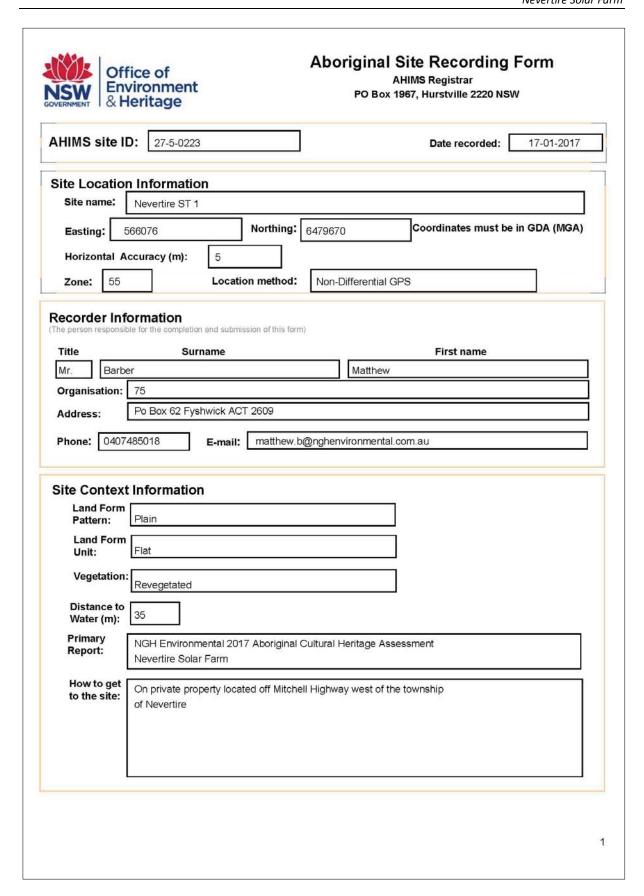
NSW CONFIRMINE	Environment & Heritage	Extensive search - Site list report	port						Clien	Client Service ID: 248633
SiteID 27-4-0007	<u>SiteName</u> Mitchell Highway;		Datum AGD	Zone Easting 55 561000	ing Northing 10 6482000	Context Open site	Site Status Valid	SiteFeatures Modified Tree	<u>SiteTypes</u> Scarred Tree	Reports
	Contact		Recorders	Warren Bluff	5 2			Permits		
27-5-0212	WBP-ST-1		AGD Recorders	55 580187 Jim Kelton	6491360	Open site	Valid	Modified Tree (Carved or Scarred): 1 Permits		3711
27-4-0008	Mitchell Highway; Contact		AGD Recorders	55 558800 Warren Bluff	10 6483600 ff	Open site	Valid	Modified Tree (Carved or Scarred) : <u>Permits</u>	Scarred Tree	
27-5-0002	Wambandry		AGD Recorders	55 585062 Harry Creame	55 585062 6485684 Harry Creamer Ray Kelly	Open site	Valid	Modified Tree (Carved or Scarred):	Scarred Tree	65
27-5-0018	Shady Bends;		AGD	55 584000	00 6486000	Open site	Valid	Modified Tree (Carved or Scarred):	Scarred Tree	1333
27-5-0214	WBP-ST-2		AGD Recorders	55 580108 Jim Kelton	6491330	Open site	Valid	Modified Tree (Carved or Scarred): 1		3711
27-5-0213	WTSR-ST1		AGD Recorders	55 564690 Craig Wall	09 6479060	Open site	Valid	Modified Tree (Carved or Scarred) : - Permits		
27-5-0009	Rosewood Station		AGD Recorders	55 581832 Sabu Dunn	6490016	Open site	Valid	Modified Tree (Carved or Scarred):	Carved Tree	
27-5-0216	MHWT-ST1		AGD	55 578841	1 6468094	Open site	Valid	Modified Tree (Carved or Scarred): 1		100508
	Contact T Russell		Recorders	OzArk Envi	onmental and Her	OzArk Environmental and Heritage Management		Permits		

This information is not guaranteed to be free from error omission. Office of Environment and Herftage (NSW) and its employees disclaim liability for any act done acts or omission.

APPENDIX C SITE CARDS



16-318 Draft C-I





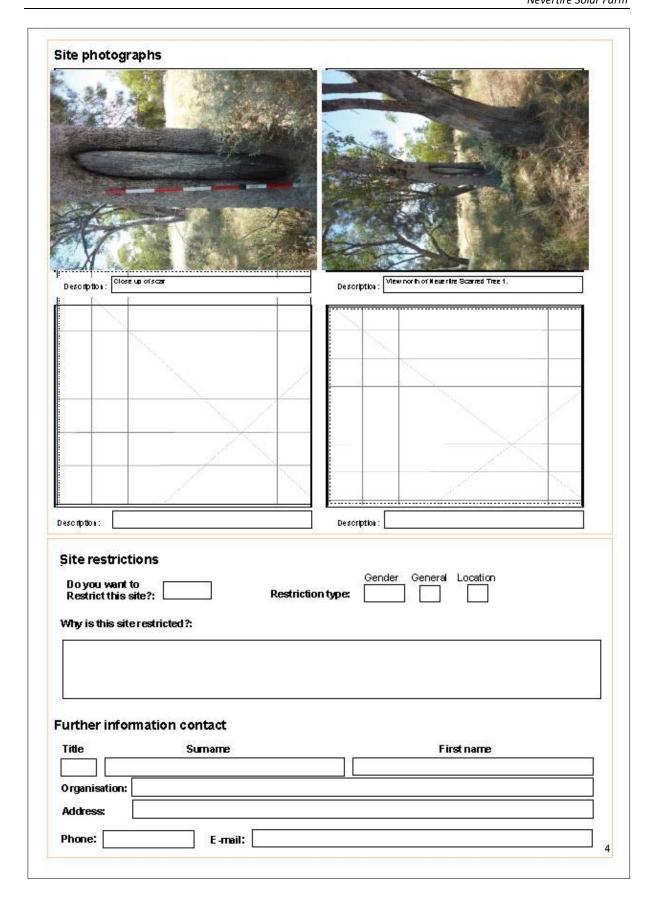
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sw Bite contents informa	tion open/closed site: Open	Site condition: Good
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Features: 1. Modified Tree Description: single scarred tree within an area of re approximately 15m in height. The elon 25 cm above the ground. No axe mark	Number of feature(s) feature (s) extent (m) In the tree is a mature living Brinble Box in good conditions of the second on the trunk facing south. The base of the seasons is	Site condition: Soarred Trees



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16-318 Draft C-III





	D: 27-5-0224			Date recorded: 17-01-2017
Site Location	n Information			
Site name:	Nevertire IF 3			
Easting:	565672	Northing:	6478990	Coordinates must be in GDA (MGA)
Horizontal	Accuracy (m): 5			
Zone: 55	Loc	ation method:	Non-Differential	GPS
	<u> </u>			
Recorder In	formation ible for the completion and su	hmission of this form)		
Title	Surname	annosien or mis willy		First name
Mr. Barl			Matthey	
Organisation:				
	107			
Addroses	Po Box 62 Evshwick	ACT 2609		
Address:	Po Box 62 Fyshwick	ACT 2609		
	Po Box 62 Fyshwick		@nghenvironmenta	al.com.au
			nghenvironment	al.com.au
Phone: 040	7485018 E-m a		@nghenvironmenta	al.com.au
Phone: 040	7485018 E-ma		nghenvironment	al.com.au
Phone: 040	7485018 E-ma		@nghenvironmenta	al.com.au
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Phone: 040 Site Contex Land Form Pattern: Land Form Unit:	7485018 E-ma at Information Plain Flat Cleared		@nghenvironmenta	al.com.au
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16-318 Draft C-V

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	Actual	Ret 56/15/18/18/19/19/19
sw Site contents informati	ion open/closed site: Open	Site condition: Disturbed
- Bite contents informati		
- Bite contents informati Features:		Site condition: Disturbed
Site contents informati Features:	open/closed site: Open Number of Length of Width of feature(s) feature(s)	Site condition: Disturbed Scarred Trees Scar Depth Regrowth Scar Length Scar W (cm) (cm) (cm) Scar Tree
Features: Artefact Description:	open/closed site: Open Number of Length of Width of feature(s) feature(s)	Site condition: Scarred Trees
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Features: Artefact Description: This site consisted of a single artefact on Broad platform, feather termination, seco	Number of feature(s) extent (m) Number of feature(s) feature(s) extent (m) 1 1 1 1 a vehicle track. The artefact was a flake of quartz. Dimensions (mondary stage of reduction, 10% riverine contex Number of feature(s) feature(s) feature(s)	Site condition: Scarred Trees



16-318 Draft C-VI

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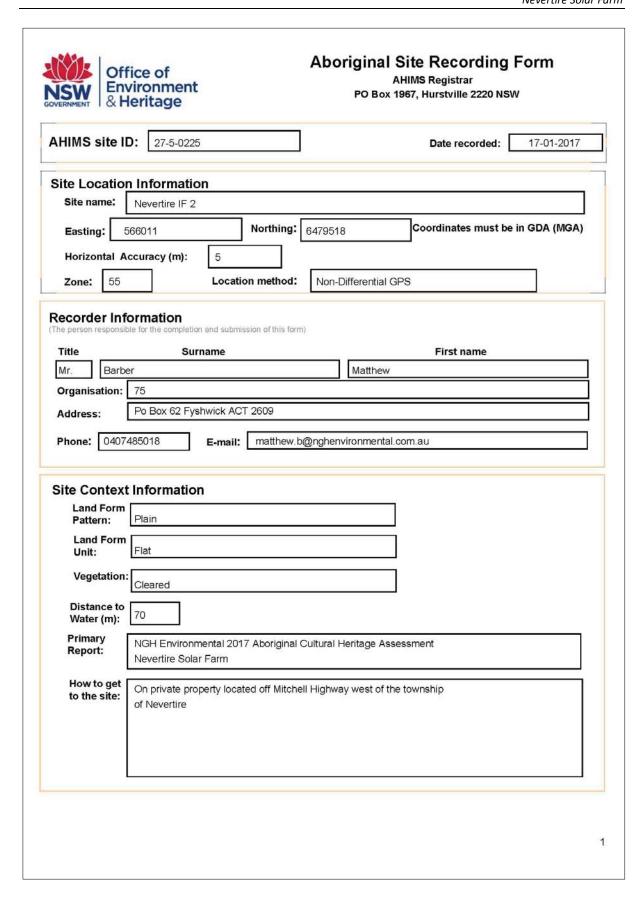


16-318 Draft C-VII

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Further in	formation contact Sumame			First name	3
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Organisatio	on:				
Address:					









16-318 Draft C-IX

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		Ret 590(57) 5A, 2017/0112 Author 5P
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Site contents informat		Site condition: Disturbed Scarred Trees
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Site contents informat Features:	ion open/closed site: Open Number of Length of Width of feature(s) feature(s)	Site condition: Disturbed Scarred Trees Scar Depth Regrowth Scar Length Scar W (cm) (cm) (cm) Scar Tree
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•				feature	teatu	nt (m) ex	ature (s) tent (m)	(cm)	(cm)	(cm)	(cm)
3.								Scar		Tree	
Desc	ription:							shape		Species	
Foot	ures:				Leno	th of W	idth of	Sees Donth		ed Trees	Coor Mis
reati	ures.			Numb feature	er of featu es exter	nth of Wire(s) fea nt (m) ex	ature (s)	Scar Depth (cm)	(cm)	Scar Length (cm)	Scar Wid (cm)
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						N - F 105				ed Trees	
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16-318 Draft C-XI







HIMS site	ID: 27-5-0226				Date recorded: 17-01-2017
Site Location	o <u>n Informatio</u>	n			
Site name:	Nevertire IF 1				_
Easting:	567164	Northing:	6479093		Coordinates must be in GDA (MGA)
Horizontal	Accuracy (m):	5			
Zone: 55		Location method:	Non-D	ifferential GPS	3
	4				
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Phone: 040	7485018	E-mail: matthew.t	o@nghenv	ironmental.co	m.au
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Land Form Pattern: Land Form Unit: Vegetation Distance to Water (m):	xt Information Plain Flat Cleared 10	,			
Land Form Pattern: Land Form Unit: Vegetation Distance to Water (m):	xt Information Plain Flat Cleared 10	ental 2017 Aboriginal			
Land Form Pattern: Land Form Unit: Vegetation Distance to Water (m):	xt Information Plain Flat Cleared NGH Environm Nevertire Solar	ental 2017 Aboriginal Farm	Cultural He	eritage Asses	sment
Land Fore Land Fore Land Fore Unit: Vegetation Distance to Water (m): Primary Report:	xt Information Plain Flat n: Cleared NGH Environm Nevertire Solar	ental 2017 Aboriginal	Cultural He	eritage Asses	sment
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16-318 Draft C-XIII

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NW	N	NF
January 13		Scarned find Scarned tree Selecting transmission (Tx) line Town Main road Local fload Relivery Canal (data) Development envelope Propose as in (Lot 26 OP 755282) Britisharts
	arend	Ret SW(57, SA, 20170113 Author: SP
sw Site contents information	S onen/closed site: Onen	Site condition: Disturbed
Site contents information		Site condition: Disturbed Scarred Trees
		Site condition: Disturbed Scarred Trees Scar Depth Regrowth Scar Length Scar W (om) (om) (om) (om)
Site contents information	open/closed site: Open Number of Length of Width of feature(s) feature (s)	Site condition: Disturbed Scarred Trees Scar Depth Regrowth Scar Length Scar W (cm) (cm) (cm) (cm)
Site contents information Features:	open/closed site: Open Number of Length of Width of feature(s) feature (s)	Site condition: Disturbed Scarred Trees Scar Depth Regrowth Scar Length Scar W (om) (om) (om) (om)
Site contents information Features: 1. Artefact Description:	open/closed site: Open Number of Length of Width of feature(s) feature (s)	Site condition: Soarred Trees
Features: 1. Artefact Description: This site consisted of a single artefact in a flat of flake soar. Dimensions (mm) 27 x 27 x 30	Open/closed site: Open Number of feature(s) feature (s) extent (m) extent (m) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Site condition: Soarred Trees
Bite contents information Features: 1. Artefact Description:	Open/closed site: Open Number of feature(s) feature(s) extent (m) extent (m)	Site condition: Soarred Trees
Features: 1. Artefact Description: This site consisted of a single artefact in a flat of flake soar. Dimensions (mm) 27 x 27 x 30 Features:	Open/closed site: Open Number of feature(s) feature(s) extent (m) extent (m) 1 1 1 1 Oropped paddock. The artefact was a red silcrete core with a silcret	Site condition: Soarred Trees

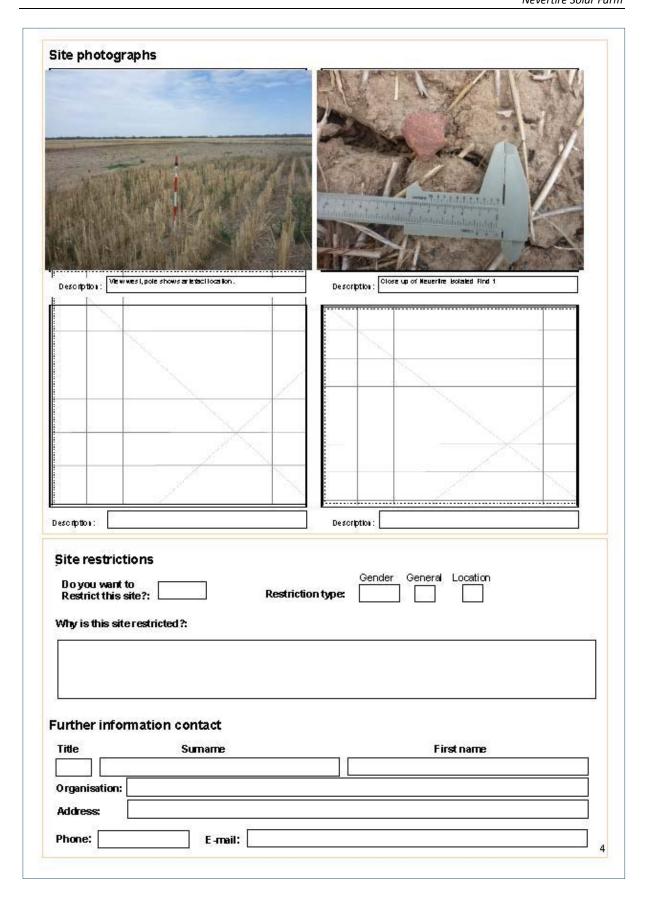


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