Broken Hill Battery Energy Storage System Project Environmental Impact Statement

Appendix C

Aboriginal Cultural Heritage Assessment Report



Aboriginal Cultural Heritage Assessment Report AGL Energy Limited 21-May-2021

Broken Hill Battery Energy Storage System Project

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Aboriginal Cultural Heritage Assessment Report

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Executive Summary

AECOM Australia Pty Ltd (AECOM) has been commissioned by AGL Energy Limited (AGL) to undertake an Aboriginal cultural heritage assessment for the construction of a battery storage facility at Broken Hill in Far West New South Wales (NSW) (the Project).

This Aboriginal Cultural Heritage Assessment Report (ACHAR) documents the results of AECOM's assessment in accordance with Division 4.7 of the *Environmental Planning and Assessment Act 1979* (NSW) and has been compiled with reference to relevant statutory guidelines including Heritage NSW's Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010a), *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010b) and *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011).

The proposed location of the battery facility (the Site) is 74 to 80 Pinnacles Place, Broken Hill NSW 2880 (Lots 57 and 58 of DP 258288). The Site is located approximately 120 metres east of the TransGrid Broken Hill substation which is situated at 76 Pinnacles Road, Broken Hill NSW 2880 (Lot 2 of DP 1102040). The Project would also involve the installation of an overhead transmission connection between the Site and the TransGrid Broken Hill substation, which will traverse part Lot 7302 DP1181129, being a portion of the Willyama Common (referred to as Commons). The Site and the transmission line corridor constitute the 'Project Area', an area of approximately 2.5 hectares (ha). The Site comprises a cleared area with access tracks that is currently used to store disused equipment, vehicles and other materials. Meanwhile, the transmission line corridor is generally undisturbed and not in use, with the exception of an existing access road adjacent to the TransGrid Broken Hill substation.

It is noted that the land classified as Commons, where only the transmission line corridor is proposed, is subject to Local Aboriginal Land Claim number #40469. A previous Native Title Claim by the Barkandji Traditional Owners (NP2020/001) for the Commons was determined on 16 June 2015, with Native Title extinguished.

AGL has undertaken consultation with Broken Hill Local Aboriginal Land Council (BHLALC) and the NSWALC over the land claims.

This Aboriginal cultural heritage assessment involved:

- consultation with Aboriginal stakeholders for the purpose of identifying the Aboriginal heritage values of the Project area; and
- conduct an archaeological assessment involving a desktop study and an archaeological survey of the entire Project Area.

A search of the Aboriginal Heritage Information Management System (AHIMS) database undertaken on 15 December 2020 for a 10 x 10 kilometre (km) area centred on the Project Area resulted in the identification of 50 Aboriginal sites, comprising 40 open artefact sites (i.e. isolated artefacts and artefact scatters), seven stone quarries (two with associated artefacts), two hearths and one resource and gathering site. Consideration of the location of previously recorded Aboriginal sites indicates that none are located wholly or partially within the Project Area with the closest site – open artefact site "Kanandah 1" (AHIMS #23-4-0640) located around 390 m to the south.

A field team of two AECOM heritage specialists and Registered Aboriginal Parties (RAPs) representatives completed the archaeological survey within the Site and transmission line corridor on Wednesday 20 January 2021. All survey was conducted on foot, with five transects completed across the Project Area.

No Aboriginal archaeological sites or areas of Potential Archaeological Deposit (PAD) were identified during the survey. RAPs identified two lithic items they considered might potentially be artefacts. While neither item satisfied technical criteria for identification as a stone artefact, as a precautionary measure, both were moved outside of areas of potential ground surface disturbance by the attending RAP field representatives.

Overall, survey within the Project Area identified a predominately disturbed landscape where topsoils have been graded and levelled. RAPs present during the survey likewise suggested that land within the Project Area had been subject to significant historic disturbances.

As no Aboriginal objects or specific cultural values have been identified within the Project Area, no impacts to Aboriginal objects or heritage values are anticipated to occur as a result of the Project.

On the basis of the above findings, the following recommendations are made:

- No Aboriginal heritage constraints have been identified within the Project Area. As such, no further investigation works or reporting are considered warranted
- As a precaution, temporary fencing should be erected around the two lithic items identified by RAPs (Lithic item 1 539897E 6461017N GDA Zone 54, Lithic item 2 539833E 6460989N GDA Zone 54) prior to works in the area
- If Aboriginal cultural heritage material is identified at any point during the Project, the standard procedure, outlined in **Section 10.3**, would be followed.

1.0 Introduction

AECOM Australia Pty Ltd (AECOM) has been commissioned by AGL Energy Limited (AGL) to undertake an Aboriginal cultural heritage assessment for the construction of a battery storage facility at Broken Hill in Far West New South Wales (NSW) (the Project, **Figure 1**).

This Aboriginal Cultural Heritage Assessment Report (ACHAR) documents the results of AECOM's assessment and has been compiled with reference to relevant statutory guidelines including Heritage NSW's Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010a), Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010b) and Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011).

1.1 **Project context and overview**

The Project comprises a battery storage facility with a maximum capacity of approximately 50MW and up to 100 MWh that would store energy from the grid (**Figure 2**).

Key features of the Project include:

- Construction and operation of a Battery Energy Storage System (BESS); and
- Connection of the BESS to the nearby TransGrid substation via a 22 kV overhead powerline connecting through a 22 kV busbar in the substation.

The proposed location of the battery facility (the Site) is at 74 to 80 Pinnacles Place, Broken Hill NSW 2880 (Lots 57 and 58 of DP 258288). The Site is located approximately 120 metres east of the TransGrid Broken Hill substation which is situated at 76 Pinnacles Road, Broken Hill NSW 2880 (Lot 2 of DP 1102040). The Project would also involve the installation of an overhead transmission connection between the Site and the TransGrid Broken Hill substation, which will traverse Lot 7302 DP1181129, being Commons. The Site and the transmission line corridor constitute the 'Project Area'.

Built elements of the Project would include, but not be limited to the following:

- Battery enclosures
- Inverters
- Medium voltage transformers up to 22 kV
- Cabling and collector units
- Control and office building
- 22 kV electrical switchyard
- Security fencing and lighting
- Access, internal roads and car parking
- Drainage and stormwater management
- Overhead transmission connection infrastructure
- Minor works to connect the BESS to transformer compound or TransGrid Broken Hill substation switchyard
- Temporary site office
- Other ancillary infrastructure.

It is currently anticipated that construction of the Project would take up to 12 months, starting in 2021 with completion expected in 2022.

Construction works would be likely to comprise:

Enabling work

- Site clearance activities
- Installation of erosion and sediment controls and site fencing
- Provision of construction power
- Minor earthworks to form a level BESS pad, switchyard area and construction laydown areas, including potential import or export of fill as required
- Development of site access.
- Civil, structural, mechanical and electrical works including:
 - Connections to surrounding utilities, as required
 - Structural works to support BESS facilities
 - Construction of supporting structures, e.g. office building, workshop, and transmission line landing gantry
 - Delivery, installation and electrical fit-out of BESS
 - Construction of transmission connection between the Site and the TransGrid Broken Hill substation including installation of supporting structures, stringing the transmission line, and works at the transmission line landing gantry on site and the 22 kV busbar at the substation
 - Transportation of plant, equipment, materials and workforce to and from the Site as required.
- Commissioning including:
 - Testing and commissioning activities.
- Demobilisation including:
 - Provision of landscaping, as required
 - Removal of construction equipment and rehabilitation of construction areas.

A construction laydown area would also be provided on the Site. Minor earthworks would be required across this Site, including levelling the Site to ensure a suitable development footprint and establishment of site access. Excavations within the Site would be to a maximum of 1.5 m deep, with an up to 3 m footing for transmission line poles.

1.2 Purpose of this report

1.2.1 Assessment objective

The overarching objectives of this ACHAR are as follows:

- to identify the Aboriginal cultural heritage values of the Project Area by way of background research, archaeological survey and consultation with RAPs
- to assess the potential impact of the Project on the identified Aboriginal cultural heritage values of the Project Area
- to provide an appropriate management strategy for avoiding or minimising potential harm to the identified Aboriginal cultural heritage values of the Project Area
- to compile an ACHAR that will assist the Secretary of the Department of Planning, Industry and Environment (DPIE) in their assessment of the Project's State Significant Development (SSD) application.

1.2.2 Secretary's environmental assessment requirements

The Secretary's Environmental Assessment Requirements (SEARs) issued by the DPIE on 23 November 2020 relating to heritage and where these requirements are addressed in this ACHAR, are outlined in **Table 1**.

Table 1 Secretary's Environmental Assessment Requirements

SEARs requirement	Where addressed in this document
including an assessment of the likely Aboriginal and historic heritage (cultural and archaeological) impacts of the development, including consultation with the local Aboriginal community in accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents;	Refer to Section 3.0 and Section 9.0

In addition to the SEARs, Heritage NSW issued specific requirements for the Project in relation to Aboriginal heritage. These are:

- The EIS must identify and describe the Aboriginal cultural heritage values that exist across the whole area that will be affected by the development and document these in an Aboriginal Cultural Heritage Assessment Report (ACHAR). This may include the need for surface survey and test excavation. The identification of cultural heritage values must be conducted in accordance with the Code of Practice for Archaeological Investigation in NSW (DECCW, 2010), and be guided by the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales (OEH, 2011).
- 2. Consultation with Aboriginal people must be undertaken and documented in accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the ACHAR.
- 3. Impacts on Aboriginal cultural heritage values are to be assessed and documented in the ACHAR. The ACHAR must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the EIS must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to Heritage NSW.
- 4. The assessment of Aboriginal cultural heritage values must include a surface survey undertaken by a qualified archaeologist. The result of the surface survey is to inform the need for targeted test excavation to better assess the integrity, extent, distribution, nature and overall significance of the archaeological record. The results of surface surveys and test excavations are to be documented in the ACHAR.
- 5. The ACHAR must outline procedures to be followed if Aboriginal objects are found at any stage of the life of the project to formulate appropriate measures to manage unforeseen impacts.
- 6. The ACHAR must outline procedures to be followed in the event Aboriginal burials or skeletal material is uncovered during construction to formulate appropriate measures to manage the impacts to this material.

In preparing this ACHAR the SEARs and Heritage NSW requirements have been addressed.

1.3 Scope of Assessment

This assessment has been undertaken in accordance with the SEARs, clause 60 of the *National Parks and Wildlife Regulation 2019* (NSW) and with reference to the following guidelines:

- Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011)
- Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW, 2010a)
- Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010b)
- The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (Australia International Council on Monuments and Sites [ICOMOS] 2013)

• Ask First: A Guide to Respecting Indigenous Heritage Places and Values (Australian Heritage Commission 2002)

As such, its key requirements have been:

- to conduct a search of Heritage NSW's AHIMS
- to review the landscape context of the Project Area, with specific consideration to its implications for past Aboriginal land use
- to review relevant archaeological and ethnohistoric information for the Project Area and environments
- to prepare a predictive model for the Aboriginal archaeological record of the Project Area
- to undertake an archaeological field investigation, including detailed survey
- to identify, notify and register Aboriginal people who hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the Project Area
- to provide RAPs with information about the scope of the proposed works and Aboriginal heritage assessment process
- to facilitate a process whereby RAPs can:
 - contribute culturally appropriate information to the proposed assessment methodology
 - provide information that will enable the cultural significance of Aboriginal objects and/or places within the Project Area to be determined
 - have input into the development of cultural heritage management options
- to prepare and finalise an ACHAR with input from RAPs.

1.3.1 Structure of this report

The report structure is as follows:

- Section 1.0 provides background information on the Project and the assessment undertaken.
- Section 2.0 outlines the statutory framework within which this assessment has been undertaken
- Section 3.0 details the Aboriginal community consultation program undertaken for this assessment
- Section 4.0 describes the existing environment of the Project Area and its associated archaeological implications
- Section 5.0 summarises relevant ethnohistoric information for the Project Area
- Section 6.0 describes the archaeological context of the Project Area on a regional and local scale. Predictions regarding the nature of the Project Area's Aboriginal archaeological record are also provided
- Section 7.0 describes the archaeological survey methodology and results
- Section 8.0 assesses the archaeological (scientific) and cultural significance of Aboriginal sites within the Project Area
- Section 9.0 provides an assessment of the potential impacts of the Project on identified Aboriginal heritage values
- Section 10.0 details an appropriate management strategy for the identified Aboriginal heritage values of the Project Area
- Section 11.0 lists the references cited in-text.

1.4 Project Area

The Project Area, shown on **Figure** 2, comprises the proposed location for the battery facility (the Site) as well as an overhead transmission line corridor between the Site and the existing TransGrid Broken Hill substation. Occupying Lots 57 and 58 on DP258288, part Lot 7302 on DP1181129 and the existing substation Lot 2 DP1102040, the Site is located adjacent to Pinnacles Place, southwest Broken Hill. Combined, these areas produce a Project Area of approximately 2.5 ha. The Site comprises a cleared area with access tracks and is currently used as a storage area for disused equipment, vehicles and other materials. Meanwhile, the transmission line corridor is generally undisturbed and not in use with the exception of dirt access roads adjacent to the TransGrid Broken Hill Substation.

1.5 Project Team

Geordie Oakes (Principal Heritage Specialist, AECOM) managed all aspects of the Aboriginal heritage assessment detailed herein and was the primary author of this report. Dr Andrew McLaren (Principal Heritage Specialist, AECOM) assisted Geordie with fieldwork and provided technical review of this assessment report.

The archaeological survey was undertaken by a combined field team of two AECOM archaeologists (Geordie and Andrew) and RAP field representatives (as described in **Section 3.3.2**).

Geordie holds a Bachelor of Arts (Honours) degree in historic and prehistoric Archaeology from Sydney University and a Graduate Certificate in Paleo-anthropology from the University of New England. Geordie has over 13 years of Australian Aboriginal cultural heritage management experience.

Andrew holds a Bachelor of Arts (Honours) degree from the University of Queensland, a Master of Cultural Heritage from Deakin University, and a PhD from the University of Cambridge in England and has over 10 years of Australian Aboriginal cultural heritage management experience.







2.0 Legislative and Policy Context

2.1 Commonwealth Legislation

2.1.1 Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth)

The Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth) (ATSIHP Act) provides for the preservation and protection of places, areas and objects of particular significance to Indigenous Australians. The stated purpose of the ATSIHP Act is the "preservation and protection from injury or desecration of areas and objects in Australia and in Australian waters, being areas and objects that are of particular significance to Aboriginals in accordance with Aboriginal tradition" (Part I, Section 4).

Under the ATSIHP Act, 'Aboriginal tradition' is defined as "the body of traditions, observances, customs and beliefs of Aboriginals generally or of a particular community or group of Aboriginals, and includes any such traditions, observances, customs or beliefs relating to particular persons, areas, objects or relationships" (Part I, Section 3). A 'significant Aboriginal area' is an area of land or water in Australia that is of "particular significance to Aboriginals in accordance with Aboriginal tradition" (Part I, Section 3). A 'significant Aboriginal object', on the other hand, refers to an object (including Aboriginal remains) of like significance (Part 1, Section 3).

For the purposes of the ATSIHP Act, an area or object is considered to have been injured or desecrated if:

- a. In the case of an area:
 - *i. it is used or treated in a manner inconsistent with Aboriginal tradition;*
 - *ii.* by reason of anything done in, on or near the area, the use or significance of the area in accordance with Aboriginal tradition is adversely affected; or
 - iii. passage through or over, or entry upon, the area by any person occurs in a manner inconsistent with Aboriginal tradition; or
- b. In the case of an object it is used or treated in a manner inconsistent with Aboriginal tradition;

The ATSIHP Act can override state and territory laws in situations where a state or territory has approved an activity, but the Commonwealth Minister prevents the activity from occurring by making a declaration to protect an area or object. However, the Minister can only make a decision after receiving a legally valid application under the ATSIHP Act and, in the case of long-term protection, after considering a report on the matter. Before making a declaration to protect an area or object in a state or territory, the Commonwealth Minister must consult the appropriate Minister of that state or territory (Part 2, Section 13).

No declarations relevant to the Project Area have been made under the ATSIHP Act.

2.1.2 Native Title Act 1993 (Cth)

The *Native Title Act 1993* (Cth) (NTA) provides for the recognition and protection of native title for Aboriginal peoples and Torres Strait Islanders. The NTA recognises native title for land over which native title has not been extinguished and where persons able to establish native title are able to prove continuous use, occupation or other classes of behaviour and actions consistent with a traditional cultural possession of those lands. It also makes provision for Indigenous Land Use Agreements (ILUA) to be formed as well as a framework for notification of native title stakeholders for certain future acts on land where native title has not been extinguished.

Searches of the Schedule of Applications (unregistered claimant applications), Register of Native Title Claims, National Native Title Register, Register of Indigenous Land Use Agreements and Notified Indigenous Land Use Agreements were undertaken on 20 December 2020 using the NNTT Native Title Vision online system. It is noted that Lots 57 and 58 on DP258288 are freehold land whilst Lot 7302 on DP1181129 is freehold land that is owned by NSW government and is classified as Commons. The parcel of Commons is subject to undetermined Native Title Compensation Claim by the Barkandji Malyangapa People (NP2020/001). A previous Native Title Claim by the Barkandji

Traditional Owners #8 (Part A) for the Commons was determined on 16 Jun 2015 with Native Title ruled as being extinguished.

2.1.3 Environment Protection and Biodiversity Conservation Act 1999 (Cth)

The *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) took effect on 16 July 2000. Under Part 9 of the EPBC Act, any action that has, or is likely to have a significant impact on a 'matter of national environmental significance' may only progress with approval of the Commonwealth Minister for the Environment (or delegate). An action is defined as a project, development, undertaking, activity, series of activities, or alteration. An action will also require approval if:

- it is undertaken on Commonwealth land and will have or is likely to have a significant impact;
- it is undertaken outside Commonwealth land and will have or is likely to have a significant impact on the environment on Commonwealth land; or
- it is undertaken by the Commonwealth and will have or is likely to have a significant impact.

The EPBC Act defines 'environment' as incorporating both natural and cultural environments and therefore includes Aboriginal heritage. Under the EPBC Act, protected heritage items are listed on the National Heritage List (items of significance to the nation) (NHL) or the Commonwealth Heritage List (items belonging to the Commonwealth or its agencies) (CHL). These two lists replaced the Register of the National Estate (RNE), which was closed in 2007 and is no longer a statutory list. Statutory references to the RNE in the EPBC Act were removed on 19 February 2012. However, the RNE remains an archive of over 13,000 heritage places throughout Australia.

A search of the Australian Heritage Database, which includes places listed on the World Heritage List (WHL), NHL, CHL, RNE and List of Overseas Places of Historic Significance to Australia, was undertaken in January 2021. One item, the entire Broken Hill Local Government Area (LGA), is listed on the NHL.

Under the EPBC Act, activities that have the potential to result in significant impacts on MNES must be referred to the Commonwealth Minister for the Environment and Energy for assessment. An EPBC referral was submitted in January 2021. The EPBC referral was determined on 7 May 2021, which confirmed that the Project did not constitute a controlled action (EPBC 2021/8918).

2.2 State Legislation

2.2.1 Environmental Planning and Assessment Act 1979 (NSW)

The *Environmental Planning and Assessment Act* (NSW) (EP&A Act) is administered by DPIE and requires that consideration be given to environmental impacts as part of the land use planning process in NSW. In NSW, environmental impacts include impacts to Aboriginal and non-Aboriginal (i.e. European) cultural heritage.

Section 4.36 of the EP&A Act stipulates that a development will be considered SSD if it is declared to be such by a State environmental planning policy.

Under clause 8(1) of *State Environmental Planning Policy (State and Regional Development)* 2011 (SEPP SRD), a development is declared to be SSD if:

- a. the development on the land concerned is, by the operation of an environmental planning instrument, permissible with development consent under Part 4 of the EP&A Act; and
- b. the development is specified in Schedule 1 or 2 of SEPP SRD.

The Project is SSD as it meets both of these criteria, namely:

- it is permissible with development consent on the land on which it is located; and
- it is development that is specified in Schedule 1 of SEPP SRD.

Pursuant to section 4.41 of the EP&A Act, Aboriginal Heritage Impact Permits (AHIPs) are not required for projects classified as SSD and authorised by a development consent granted under Part 4 of the EP&A Act. Impacts to Aboriginal heritage values associated with approved SSD projects are typically

managed under Aboriginal Cultural Heritage Management Plans (ACHMPs), required under the conditions of the consent. ACHMPs are statutorily binding once approved by DPIE.

2.2.2 Aboriginal Land Rights Act 1983 (NSW)

The Aboriginal Land Rights Act 1983 (NSW) (ALR Act) was established to return land in NSW to Aboriginal peoples through a process of lodging claims for certain Crown reserves. The ALR Act, is administered by the NSW Department of Aboriginal Affairs and establishes a compensatory regime which recognises that land is of spiritual, social, cultural and economic importance to Aboriginal people. The ALR Act established the NSWALC and a network of over 120 autonomous Local Aboriginal Land Councils (LALCs) and requires these bodies to:

- a. take action to protect the culture and heritage of Aboriginal persons in the LALC's area, subject to any other law; and
- b. promote awareness in the community of the culture and heritage of Aboriginal persons in the LALC's area.

LALCs constituted under the ALR Act can make claims. The Registrar of the ALR Act must maintain the Register of Aboriginal Land Claims under section 166 of the ALR Act. All land claims that have been made under the Act are recorded in the Register.

The land classified as Commons, where only the transmission line is proposed, is subject to an undetermined Aboriginal Land Claim number #40469 lodged by the NSWALC. It is noted the AGL has undertaken consultation with BHLALC and the NSWALC over the land claim.

2.2.3 National Parks and Wildlife Act 1974 (NSW)

The NPW Act, administered by Heritage NSW, is the primary legislation for the protection of Aboriginal cultural heritage in NSW. The NPW Act gives the Secretary of Heritage NSW responsibility for the proper care, preservation and protection of 'Aboriginal objects' and 'Aboriginal places', defined as follows:

- An Aboriginal object is any deposit, object or material evidence (that is not a handicraft made for sale) relating to Aboriginal habitation of the area that comprises NSW, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction (and includes Aboriginal remains).
- An *Aboriginal place* is a place so declared by the Minister under section 84 of the NPW Act because in the opinion of the Minister, the place is or was of special significance with respect to Aboriginal culture. It may or may not contain Aboriginal objects.

Section 86 of the NPW Act provides specific protection for Aboriginal objects and places by making it an offence to harm them and includes a 'strict liability offence' for such harm under sections 86(2) and (4). A 'strict liability offence' does not require someone to know that it is an Aboriginal object or place they are causing harm to in order to be prosecuted. Defences against the 'strict liability offence' under section 87 of the NPW Act include the carrying out of certain 'Low Impact Activities', prescribed in clause 58 of the *National Parks and Wildlife Regulation 2019* (NSW) (NPW Regulation), and the demonstration of due diligence.

An Aboriginal Heritage Impact Permit (AHIP) issued under section 90 of the NPW Act is required if impacts to Aboriginal objects and/or places cannot be avoided. Applications for an AHIP must be accompanied by assessment reports compiled in accordance with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011) and the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW, 2010b). Applications must also provide evidence of consultation with the Aboriginal communities. Consultation is required under Part 8A of the NPW Regulation and is to be conducted in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010a). AHIPs may be issued in relation to a specified Aboriginal object, Aboriginal place, land, activity or person or specified types or classes of Aboriginal objects, Aboriginal places, land, activities or persons.

As indicated in **Section 2.2.1**, pursuant to section 4.41 of the EP&A Act, AHIPs are not required for projects classified as SSD and approved under Part 4 of the EP&A Act, with impacts typically managed under ACHMPs required under the conditions of the consent. ACHMPs are statutorily binding once approved by the DPIE.

Section 89A of the NPW Act requires notification of the location of Aboriginal sites within a reasonable time, with penalties for non-notification. Section 89A is binding in all instances, including for SSD projects.

2.3 Local Government

2.3.1 Broken Hill Local Environmental Plan 2013

Clause 5.10 of the *Broken Hill Local Environmental Plan 2013* (BHLEP 2013) provides specific provisions for the protection of heritage items, heritage conservation areas, archaeological sites, Aboriginal objects and Aboriginal places of heritage significance within the Broken Hill LGA.

Under clause 5.10(2) of the BHLEP 2013, development consent is required for any of the following:

a. demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance):

(i) a heritage item,

(ii) an Aboriginal object,

(iii) a building, work, relic or tree within a heritage conservation area,

- b. altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,
- c. disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,
- d. disturbing or excavating an Aboriginal place of heritage significance,
- e. erecting a building on land:

(i) on which a heritage item is located or that is within a heritage conservation area, or

(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,

f. subdividing land:

(i) on which a heritage item is located or that is within a heritage conservation area, or

(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.

In relation to Aboriginal heritage, clause 5.10(8) of the BHLEP 2013 states the consent authority must, before granting consent to the carrying out of development in an Aboriginal place of heritage significance:

- a. consider the effect of the proposed development on the heritage significance of the place and any Aboriginal object known or reasonably likely to be located at the place by means of an adequate investigation and assessment (which may involve consideration of a heritage impact statement), and
- b. notify the local Aboriginal communities, in writing or in such other manner as may be appropriate, about the application and take into consideration any response received within 28 days after the notice is sent.

Schedule 5 of the BHLEP 2013 lists heritage items, conservation areas and archaeological sites within the Broken Hill LGA. A review of the list indicates there are no Aboriginal objects or places of heritage significance located within the Project Area.

3.0 Aboriginal Community Consultation

Aboriginal community consultation acknowledges the right of Aboriginal people to be involved, through direct participation, on matters that directly affect their heritage. Involving Aboriginal people in all facets of the assessment process ensures that they are given adequate opportunity to share information about cultural values, and actively participate in developing appropriate management and/or mitigation measures. The successful identification, assessment and management of Aboriginal cultural heritage values are dependent on an inclusive and transparent consultation process.

Aboriginal community consultation for the current assessment was undertaken in accordance with Heritage NSW's *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010a) (Consultation Requirements) and clause 60 of the *National Parks and Wildlife Regulation 2019* (NSW). The results of the consultation process undertaken are detailed below. Associated correspondence is provided in Appendices A to E with a consultation log provided as Appendix F.

3.1 Stage 1 - Notification and Registration

The aim of Stage 1 of the Consultation Requirements is to identify, notify and register Aboriginal people who hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the Project Area.

3.1.1 Consultation with Regulatory Agencies

Section 4.1.2 of the Consultation Requirements stipulates that proponents are responsible for ascertaining, from reasonable sources of information, the names of Aboriginal people who may hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places. Proponents are required to compile a list of Aboriginal people who may have an interest for the proposed Project Area and hold knowledge relevant to determining the cultural significance of Aboriginal objects and/or places by writing to:

- a. the relevant regional office of the Heritage NSW
- b. the relevant Local Aboriginal Land Council(s) (LALCs)
- c. the Registrar, Aboriginal Land Rights Act 1983 for a list of Aboriginal owners
- d. the National Native Title Tribunal (NNTT) for a list of registered native title claimants, native title holders and registered Indigenous Land Use Agreements
- e. NTSCORP Limited
- f. the relevant local council(s)
- g. the relevant catchment management authorities for contact details of the established Aboriginal reference group (now Local Land Services).

In accordance with this requirement, the following agencies were contacted via letter or email on 11 September 2020 requesting information on relevant Aboriginal persons and organisations (Appendix A):

- Heritage NSW
- Broken Hill Local Aboriginal Land Council (BHLALC)
- Office of the Registrar, Aboriginal Land Rights Act 1983 (NSW)
- National Native Title Tribunal
- NTSCORP Limited
- City of Broken Hill Council
- Western Local Land Service.

In addition, AGL has undertaken direct consultation with BHLALC and the NSWALC over the lands where there is the undetermined Aboriginal Land Claim.

Responses were received from four agencies, as summarised in **Table 2** below, and are attached as Appendix B:

Table 2 Summary of agency responses received

Stakeholder	Notification date	Summary of response
Broken Hill Local Aboriginal Land Council – Chairperson and Chief Executive Officer	September 2020 - November 2020	The BHLALC Board endorsed the Project subject to a number of conditions and acknowledgements. AGL and BHLALC have negotiated terms and will formalise these into an agreement to allow access to the land for the transmission easement. AGL has also placed Aboriginal Cultural Heritage notifications in local publications to seek input from Aboriginal community members about the Project.
NSW Aboriginal Land Council – Senior Land Rights Officer and previously Land Rights Officer	September 2020 – November 2020	NSW Aboriginal Land Council outlined the process to enable an easement on the land classified as Commons where there is the undetermined Aboriginal Land Claim. They instructed AGL to liaise with the Broken Hill Local Aboriginal Land Council regarding the land and advised that there is a standard practice for a 'no objection' to an activity to Crown Lands.
Crown Lands	September 2020 – October 2020	Crown Lands provided advice about the Aboriginal land claim stating that the claimant, Aboriginal Land Council, should provide consent to Crown Lands when making the application for an easement.
James MacLeod, Senior Solicitor at NTS Corp on behalf of Barkandji Native Title Group Aboriginal Corporation	16 November 2020	In response to calls for expressions of interest for the Project, Mr MacLeod emailed AECOM to request that the Barkandji Native Title Group be included as a RAP
Broken Hill City Council	19 November 2020	Advised that the Traditional owner for Wilyakali country is Maureen O'Donnell and that Maureen should be contacted first in all instances. The Council also provided contact details for various government departments.
Guy Gibbs from Local Land Services, Western Region	20 November 2020	In response to calls for expressions of interest for RAPs for Broken Hill Battery, LLS responded with, 'It is recommended by LLS Western that you contact the following Aboriginal Community groups regarding cultural heritage matters within the project area. Broken Hill LALC – 84 Oxide Street, Broken Hill NSW 2880. Phone (08) 80877310'.

Stakeholder	Notification date	Summary of response
Representative from the Broken Hill Local Aboriginal Land Council	24 November 2020	In response to calls for expressions of interest for RAPs for the Broken Hill Battery Project, Broken Hill LALC responded. A representative called to register the LALC's interest in the project. Also, wanted to confirm that they was aware of the agreement between AGLM and the LALC. They also advised that there are Traditional Owner groups in the area and that they should be involved.
Heritage NSW	3 December 2020	Provided the contact details for seven groups and individuals that may have an interest in registering for consultation. A second response was provided by Heritage NSW on 3 December 2020, with a further five names, some of which were previously provided.
James MacLeod, Senior Solicitor at NTS Corp on behalf of Barkandji Native Title Group Aboriginal Corporation	21 December 2020	AGL sent the ACHAR proposed assessment methodology for the Broken Hill BESS Project.
Guy Gibbs from Local Land Services, Western Region	21 December 2020	AGL sent Western Local Land Service the ACHAR proposed assessment methodology for the Broken Hill BESS Project.
Donna Cruickshank of the Aboriginal Community Working Party	21 December 2020	AGL sent the ACHAR proposed assessment methodology for the Broken Hill BESS Project.
Representative from of The Depart of Aboriginal Affairs	21 December 2020	AGL sent The Dept of Aboriginal Affairs the ACHAR proposed assessment methodology for the Broken Hill BESS Project
Chloe Bennett of the NSW Aboriginal Land Council	21 December 2020	AGL sent NSW Aboriginal Land Council the ACHAR proposed assessment methodology for the Broken Hill BESS Project
Maureen O'Donnell of Wilyakali Country	21 December 2020	AGL sent Maureen O'Donnell of the Wilyakali Country the ACHAR proposed assessment methodology for the Broken Hill BESS Project
Broken Hill Local Aboriginal Council	21 December 2020	AGL sent the Broken Hill Local Aboriginal Land Council the ACHAR proposed assessment methodology for the Broken Hill BESS Project.

In addition to the above, searches of the NNTT Native Title Vision online system was, were undertaken to determine if there were any Native Title registrations or determinations, or Local Aboriginal Land Claims relevant to the Project Area.

As noted in **Section 2.1.2**, Lots 57 and 58 on DP258288 are freehold land, whilst Lot 7302 on DP1181129 is freehold land that is owned by NSW government and is classified as Commons.

It is noted that the land classified as Commons, where only the transmission line corridor is proposed, is subject to Local Aboriginal Land Claim number #40469. A previous Native Title Claim by the Barkandji Traditional Owners (NP2020/001) for the Commons was determined on 16 June 2015, with

Native Title extinguished. AGL has undertaken consultation with BHLALC and the NSWALC over the land claims.

3.1.2 Public Notification

Section 4.1.3 of the Consultation Requirements requires that, in addition to writing to the Aboriginal people identified by the agencies listed in **Section 3.1.1**, the proponent must also place a notice in the local newspaper circulating in the general location of the proposed project. The notification must outline the project and identify its location.

In accordance with this requirement, a public notice was placed in the Barrier Daily Truth on Wednesday 25 November 2020 (Appendix C). The closing date for registration via this notice was 10 December 2020, which provided the necessary minimum 14-day period for expressions of interest.

No registrations were received in response to the public notice.

3.1.3 Invitations for Expressions of Interest

Section 4.1.3 of the Consultation Requirements requires that proponents must write to the Aboriginal people whose names were obtained through the regulatory agencies and the relevant LALC(s) to notify them of the proposed project and invite them to register an interest in participating in a process of community consultation.

In accordance with this requirement, on 3 December 2020, a letter inviting expressions of interest and containing summary information on the project was sent to all Aboriginal persons and organisations identified by the regulatory agencies. The closing date for registrations was 18 December 2020 allowing the necessary minimum 14-day period for expressions of interest (EOI).

A total of four Aboriginal organisations registered an interest in the project. Summary information on all RAPs, including registration dates, is provided in **Table 3**. In accordance with Section 4.1.5 of the Consultation Requirements, AECOM provides the opportunity for RAPs to withhold their details from being forwarded on to the Local Aboriginal Land Council and/or Heritage NSW, and respects the wishes of RAPs to withhold their details at their discretion. No RAPs requested that their details be withheld in regard to this project.

Organisation	Date of registration	Method	Contact Person
Cally Doyle	11-Dec-20	Email	Cally Doyle
Wilyakali Aboriginal Corporation	18-Dec-20	Phone	Maureen O'Donnell
BHLALC	24-Nov-20	Phone	Representative
Barkanndji #8 Native Title Determinants	11-Jan-21	Phone	Derek Hardman

Table 3 Registered Aboriginal Parties

3.1.4 Notification of Registered Aboriginal Parties (RAPs)

Section 4.1.6 of the Consultation Requirements requires that the proponent make a record of the names of each Aboriginal person who registered an interest and provide a copy of that record, along with a copy of the EOI letter forwarded to the Aboriginal parties, to the relevant Heritage NSW regional office and LALC. Section 4.1.5 of the Consultation Requirements provides the opportunity for Aboriginal persons to withhold their details from being forwarded to these parties.

In accordance with these requirements, on 25 January 2021, a list of all RAPs was forwarded to the relevant Heritage NSW regional office and the BHLALC. A copy of the EOI letter and the newspaper advertisement was included in this correspondence (Appendix D).

3.2 Stage 2 - Presentation of Information about Project

The aim of Stage 2 of the Consultation Requirements is to provide RAPs with information about the scope of the proposed project and the proposed cultural heritage assessment process.

For the current assessment, presentation of information about the Project Area and proposed development was provided to RAPs as part of the registration of interest process detailed in **Section**

3.1.3. Information on the proponent and proposed development was included in the EOI letter mailed on 3 December 2020.

3.3 Stage 3 – Gathering Information about Cultural Significance

The aim of Stage 3 of the Consultation Requirements is to facilitate a process whereby RAPs can:

- a. Contribute to culturally appropriate information gathering and the assessment methodology
- b. Provide information that will enable the cultural significance of Aboriginal objects and/or places on the proposed Project Area to be determined
- c. To have input into the development of any cultural heritage management measures.

For current assessment, consultation with RAPs regarding the cultural heritage values of the Project Area included:

- A request with the draft assessment methodology for any initial comments regarding the Aboriginal cultural heritage values of the Project Area
- Discussion of cultural heritage values during fieldwork
- Provision of a draft report to all RAPs for comment prior to finalisation.

3.3.1 Draft Assessment Methodology

Sections 4.3.1 and 4.3.2 of the Consultation Requirements require that the proponent present and/or provide the proposed methodology for the cultural heritage assessment to RAPs and that RAPs be given a minimum of 28 days to review and provide feedback on this methodology (Appendix E).

On 22 December 2020, all RAPs were provided by mail/email with a draft of AECOM's proposed assessment methodology. RAPs were given a minimum of 28 days to review and provide feedback on this methodology, with the closing date for comments on 19 January 2021.

No responses were received on the proposed project methodology.

3.3.2 Archaeological Survey

The RAPs outlined in **Table 4** participated in the fieldwork component of this ACHAR.

Table 4 RAP field representatives by organisation

Registered Aboriginal Party	Field representative(s)
Wilyakali Aboriginal Corporation	Dulcie O'Donnell
Wilyakali Aboriginal Corporation	Bernie O'Donnell
Barkanndji #8 Native Title Determinants	Gerald Quayle
BHLALC	Ricky Man

During fieldwork, discussions were had with RAP field representatives concerning the Aboriginal cultural values of the Project Area. Attending representatives did not disclose any such values for the Project Area. However, all commented on the heavily disturbed nature of the Project Area.

3.4 Stage 4 - Review of Draft Assessment Report

The aim of Stage 4 of the Consultation Requirements is to prepare and finalise an ACHAR with input from RAPs.

In accordance with Section 4.4.2 of the Consultation Requirements, all RAPs were sent a draft of this ACHAR on 10 March 2021 for review and comment (either by email or mail). On 8 April 2021 phone calls were made to RAPs to obtain comments.

No comments on the project were provided by RAPs during the review period or on the phone.

A consultation log is provided as Appendix F.

4.0 Landscape Context

This section reviews the landscape context of the Project Area as a basis for predicting the character of past Aboriginal occupation within it and its associated archaeological record. Consideration of the landscape context of the Project Area is based on the now well-established proposition that the nature and distribution of Aboriginal archaeological materials are closely connected to the environments in which they occur. Environmental variables such as topography, geology, hydrology and the composition of local flora and fauna communities will have played an important role in influencing how Aboriginal people moved within and utilised their respective Country. Amongst other things, these variables will have affected the availability of suitable campsites, drinking water, economic¹ plant and animal resources, and raw materials for the production of stone and organic implements. At the same time, an assessment of historical and contemporary land use activities, as well as geomorphic processes such as soil erosion and aggradation, is critical to understanding the formation and integrity of archaeological deposits, as well as any assessments of Aboriginal archaeological sensitivity.

4.1 Physical Setting

The Project Area for this assessment, shown on Figure 2, comprises:

- the proposed location for the battery facility (the Site) at Lots 57 and 58 on DP258288 (74 to 80 Pinnacles Place) southwest of Broken Hill; and
- the proposed location for the overhead transmission line corridor between the Site and the existing TransGrid Broken Hill substation at Lot 2 DP1102040, consisting of part of Lot 7302 on DP1181129.

Combined, these areas produce a Project Area of approximately 2.5 ha. The Site comprises a cleared area with access tracks and is currently used as a storage area for disused equipment, vehicles and other materials. The transmission line corridor is generally undisturbed and not used with the exception of dirt access roads.

Reference to the Geographical Names Board of NSW confirms that the Project Area falls wholly within the boundaries of the Broken Hill LGA within the parish of Nadbuck in the County of Yancowinna. Surrounding villages include Stephens Creek to the north, Silverton and Burns to the west, and Mount Gipps to the east.

4.2 Topography

The Project Area lies within the Barrier Ranges sub-region of the Broken Hill Complex Bioregion, an area generally characterised by steep, low rocky ranges with eroded foot slopes extending to outwashed fans (Sahukar & Dunn, 2003). Mapped as occupying the lower slopes and outwash area of the southern Barrier Ranges, the topography of the Project Area comprises an area of level to very gently inclined south facing slope that is barely perceptible "on the ground" (**Figure** 3 and **Figure** 4). To the north of the Project Area the foot slopes rise to hills of the ranges proper, while to the south the slopes grade towards plains of the Barrier Downs subregion (**Figure** 5). Elevations across the Project Area range from 287 AHD to 288 m AHD, providing a total local relief of 1 m indicating that the Project Area is generally level.

¹i.e., edible and/or otherwise useful (e.g., medicine, clothing).

The Project Area is located within the Upper Darling catchment, with the Darling River itself located approximately 100 km to the southeast of the Project Area. The Darling River is the most significant watercourse in the Broken Hill region flowing in a south-westerly direction from its headwaters in Queensland to its confluence with the Murray River in Wentworth, NSW (**Figure** 6). One ephemeral drainage channel is located directly within the Project Area, the upper portion of a 1st order ephemeral tributary of Kellys Creek, whose central channel is located 5.5 km south of the Project Area (**Plate 1**). The channel of the ephemeral drainage line is barely perceptible and only holds water during rain and flood events. Kellys Creek is a 4th order locally significant watercourse which, like its tributaries, only flows during rain events.



Plate 1 View southeast showing part of the 1st order ephemeral drainage line (Source: AECOM 2021)

4.4 Geology

As noted above, the Project Area lies on the southern foot slopes of the Barrier Ranges - a triangularshaped block of metamorphic and sedimentary rocks that form a series of generally north-east and north-west trending ridgelines that rise up to 300 m above the surrounding plains (Sahukar & Dunn, 2003). There are two available geological map sheets for the Broken Hill area (**Figure 7**). Reference to the 1:100,000 Broken Hill Stratigraphy (Wills, 1989) map indicates the eastern half of the Project Area falls within the Early Proterozoic antiquity Purnamoota (Bs) subgroup of the Willyama Supergroup (W) and the western half falls within the Sundown Group (S). The Purnamoota subgroup is described as a metasediment sequence with two horizons comprising basic and garnet rich gneisses, as well as "lode horizon" rocks such a quartz and garnet. Rocks of the Sundown Group comprise well bedded nongraphitic metasediment with pelite-psammopelite units most abundant in the lower half and Psammitepsammopelite units more common in the upper half. Reference to the more detailed 1:25,000 sheet (7134-II-S) indicates that the surface geology of the Project Area is of part Cainozoic (Tertiary and Quaternary periods) and part Early Proterozoic antiquity. Cainozoic Rock Units (Cz) make up the majority of the Project Area and are described as comprising soils, sand, gravel and clays. A small pocket of Early Proterozoic antiquity rocks of the Amphibolite and Basic Granulite Group has been mapped within the proposed transmission line corridor. Rocks of this group comprise orthopyroxene, hornblende, plagioclase, clinopyroxene and quartz.

4.5 Soils

Rock-weathering processes operating throughout the area continuously for more than 90 million years have formed a deep weathered mantle across the landscape with soils varying with their associated bedrock parent materials. The Land Systems of Western New South Wales (1991) report classifies the Project Area as belonging to the Nine Mile (Nm) Land System, a large but somewhat dispersed system found associated with the Barrier Ranges. The Nine Mile Land System is described topographically as comprising lower slopes and outwash areas of the Barrier Ranges. Specifically, soils occupying foot slopes of the Barrier Ranges are characterised as weakly banded, red texture contrast soils with slight expressions of surface quartz. Erosion in this land system is widespread, both as being part of foot slopes as well as resulting from European land practices (see Fanning, 1999) that have exacerbated wind erosion, scalding, watersheeting and areas of riling and gullying. Similarly, reference to the Broken Hill Domain 1:100,000 Regolith-Landform Map indicates the soils within the Project Area comprise quartzose and lithic gravels/sands with minor red-brown sands. Geotechnical investigations undertaken for the Project, including hand and mechanical boreholing, indicate that soils directly sampled within the Project Area generally comprise red-brown silty clay loams with angular to subangular gravels to a depth of approximately 1-2 m overlying bedrock.



Plate 2 View east of the Project Area showing red soils with scattered quartz and other gravels (Source: AECOM 2021)



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Figure 5 Local elevation







AECOM





4.6 Flora and Fauna

Native vegetation within the Project Area has been extensively modified as a result of Broken Hill's urban development with the overwhelming majority cleared historically for industrial land uses. Reference to the historical aerials for the Project area indicates that it was fully cleared prior to 1982 **(Figure 9)** with the Site most recently fully cleared in 2010 (**Figure 10**). Vegetation across the Project area, where remaining today, is generally degraded, lacking larger woody vegetation and tree species, and is dominated by low-lying native *Sclerolaena* (Copper-burr) and *Maireana* (Bluebush) species. In addition, weeds including *Lycium ferocissimum* (African Boxthorn) and *Prosopis velutina* (Velvet Mesquite) are present across the Site.

Sheep and cattle grazing, commencing in the region around the 1860s had a dramatic effect on the previously well-vegetated and stable soils of the region which by 1900 were in a seriously degraded condition. Grazing, rabbits, and the general clearing of native vegetation were the major contributing factors, combined with naturally low rainfall, dry periods and hot summers (Ardill, 2017). Albert Morris, an amateur botanist living in the Broken Hill region during the early part of the Twentieth Century developed a deep concern about the continuing degradation of the landscape so undertook various field trips around Broken Hill to record the native vegetation. He noted species of Saltbush (*Atriplex nummularia*), Mulga Wattle (*Acacia aneura*) and various fungi, ferns, lichens, mistletoe and herb species that were originally ubiquitous in the Broken Hill landscape were being decimated by European land practices (Ardill, 2017).

4.7 Historical Context and Land Use

Exploration of the northern portion of the Darling River commenced with an expedition by Charles Sturt in 1829 who ventured slightly west of the junction of the Bogan and Darling Rivers, some 500 km east of Broken Hill. Six years later, in 1835, Major Thomas Mitchell led an expedition that largely followed Sturt's route northwest from Sydney but pushing past Sturt, explored the Darling River around Menindee Lakes, 100 km south east of Broken Hill, almost to its junction with the Murray River. In 1844, Charles Sturt once again led an expedition into Australia's interior, leaving Adelaide and following the Murray River to its junction with the Darling River and exploring northward to Stephens Creek near Broken Hill and further north into the Barrier Ranges. Returning to Adelaide in 1846, news quickly spread of the lands along the Darling River resulting in squatters taking up various runs along the River Darling frontage that very year (Kearns, 1973:7).

In 1858, a prospecting party sponsored by the South Australian Government, left Adelaide intent to search for gold in the Barrier Ranges. After several months searching the region they failed to find any gold or other minerals. Over the next 17 years until 1875 the region developed largely as a pastoral area until two friends discovered silver while sinking a well at Thackaringa sheep station in the Barrier Ranges 40 km west of Broken Hill. This was the first recorded discovery of silver-bearing ore in the Barrier Ranges became the "Pioneer Mine". Shortly after in 1880, gold was discovered at Mount Browne and Mount Poole 200 km north of Broken Hill that triggered a small gold rush. The following year, in 1881, the Umberumberka claim was pegged out resulting in a small settlement being established that eventually became Silverton. At the same time, to the north of Silverton the small villages of Tibooburra, Milparinka and Mount Browne were created by prospectors hunting for gold in the Barrier Ranges (Kearns, 1973:11).

The Broken Hill area was known by early pastoralists as "the broken hill" because of the rocky outcrop that was visible rising above the plains. Nonetheless, the first mining lease wasn't pegged in Broken Hill until 1883 when 40 acres was pegged out Charles Rasp, David James and James Poole registered lease number 12. The three were joined by station manager George McCulloch and three other station workers to form the "Syndicate of Seven" registering the Broken Hill Propriety Company Ltd (BHP) in 1885. Five years later the Municipality of Broken Hill was incorporated with a population of 11,000 and a railway connected to the South Australian railway head at Cockburn. The first post office was opened in 1886, hospital in 1887 and theatre, church and police lockup in 1888. Since this time, Broken Hill has been the site of many major developments in mining and metallurgical technology, as well as important to the history of the union movement (Vines, 2011:6).

More specifically, reference to Parish maps for Nadbuck indicates that land within the Project Area was subject to two early grants with the centre portion reserved for a roadway (now Commons). Lots

57 and 58 DP258288 are part of a 21.41 ha site referred to as ML 346 (mining lease) and Lot 2 DP1102040, the existing substation site, was originally recorded as Crown reserve operated by the Electricity Commission of NSW.

Historical aerial photographs for the Project Area provide a framework for assessing the nature and extent of post-European settlement land use activities and associated ground disturbance across it. Aerials from 1982 (Figure 9), 2004 (Figure 10), 2010 (Figure 11), 2015 (Figure 12), 2018 (Figure 13) and 2020 (Figure 14) indicate a range of activities and associated ground surface impacts. These include:

- Complete vegetation clearance across the entire Project Area prior to 1982
- Commencement of construction of the substation station at Lot 2 DP1102040 in 1982
- Grading for various access tracks in and around the Project Area prior to 1982
- Road constructed through the land classified as Commons prior to 2004
- Vegetation clearance and grading across Lots 57 and 58 DP258288 in 2010
- Vegetation clearance and further grading in part of Lot 58 DP258288 as well as grading within the land classified as Commons in 2015.

To varying degrees, all of the above-cited land use activities and associated ground impacts are relevant to the survival, integrity and identification of Aboriginal archaeological evidence within the Project Area. Key implications for the current archaeological investigation include the disturbance of pre-existing archaeological deposits (if present), both surface and subsurface, through direct (e.g., grading) and indirect means, resulting in a loss of archaeological integrity and a significantly reduced likelihood for the presence of culturally scarred trees.

Figure 15 comprises a land disturbance map for the Project Area, with two basic levels of disturbance - 'low' and 'high' - recognised. Areas of 'low' disturbance within the Project Area are defined as those that do not, on the basis of field observations and historical aerial photographs appear to have been subject to significant ground disturbance(s) (e.g., heavy earthworks). Highly disturbed areas, in contrast, comprise those that appear to have been severely disturbed through grading and heavy earthworks.



Figure 8 Part of undated plan of the Parish of Nadbuck Approximate location of Project Area marked in red (Source: Land & Property Information NSW)

Figure 9 1982 aerial photograph of the Project Area (Source: NSW Spatial Collaboration Portal)




Figure 10 2004 aerial photograph of the Project Area (Source: NSW Spatial Collaboration Portal)

Figure 11 2010 aerial photograph of the Project Area (Source: NSW Spatial Collaboration Portal)





Figure 12 2015 aerial photograph of the Project Area (Source: NSW Spatial Collaboration Portal)

Figure 13 2018 aerial photograph of the Project Area (Source: NSW Spatial Collaboration Portal)





Figure 14 2020 aerial photograph of the Project area (Source: NSW Spatial Collaboration Portal)



4.8 Key Observations

Key observations to be drawn from a review of the existing environment of the Project Area are as follows:

- Mapped as occupying the lower slopes and outwash area of the southern Barrier Ranges, the topography of the Project Area comprises an area of level to very gently inclined south facing slope that is barely perceptible "on the ground"
- One watercourse is located directly within the Project Area the upper portion of a 1st order ephemeral tributary of Kellys Creek, whose central channel is located 5.5 km south of the Project Area. The channel of the ephemeral drainage line is barely perceptible on the ground and only holds water during rain and flood events
- Reference to the 1:100,000 Broken Hill Stratigraphy (Wills, 1989) map indicates the eastern half
 of the Project Area falls within the Early Proterozoic antiquity Purnamoota (Bs) subgroup of the
 Willyama Supergroup (W) and western half falls within the Sundown Group (S). The Purnamoota
 subgroup is described as a metasediment sequence with two horizons comprising basic and
 garnet rich gneisses, as well as "lode horizon" rocks such a quartz and garnet. Rocks of the
 Sundown Group comprise well bedded non-graphitic metasediment with pelite-psammopelite
 units most abundant in the lower half and Psammite-psammopelite units more common in the
 upper half
- Field observations indicate that angular milky quartz gravels are present across the project area. However, no outcrops of this material, worked or otherwise, were noted during the survey detailed in **Section 7.2**
- Quartz and/or silcrete gibber pavements similar to those noted in other parts of the greater Broken area region (e.g., Shiner, 2008) do not occur within or immediately surrounding the Project Area
- Native vegetation within the Project Area has been extensively modified as a result of Broken Hill's urban development with the overwhelming majority cleared historically for industrial land uses
- Field observations and historical aerial photographs indicate that the Project Area mostly comprises of highly disturbed land with negligible potential for *in-situ* Aboriginal objects to be present.

5.0 Ethnohistoric Context

5.1 Introduction

Information regarding the ways in which Aboriginal people likely used pre-contact landscapes is available to archaeologists through two primary sources: archaeological (i.e., survey and excavation) data and historical records. **Section 6.0** summarised the Aboriginal archaeological context of the Project Area on both a regional and local scale. This section builds on this foundation by summarising relevant ethnohistoric information for the Project Area. As in other parts of NSW and Australia more broadly, non-Aboriginal people occupying the Broken Hill area began to document Aboriginal culture from first contact, with explorers, missionaries, settlers and the like recording their observations of Aboriginal people and/or their material culture in letters, journals and official reports. Many of these accounts are overtly Eurocentric in tone and the content and veracity of some is, at best, questionable. Nonetheless, taken together, they form an important source of information on Aboriginal lifeways at the time of British colonisation and can, in conjunction with available archaeological data, be used to generate working predictive models of prehistoric Aboriginal land use.

5.2 Language Groups and Boundaries

Available sources, both primary and secondary, generally indicate that the Project Area falls within the boundary of the Darling River language group, referred to as the Paakanty (Barkindji or Barkandji) language group, which comprised at least eight separate subgroups. One of these subgroups, the Wilyakali (or Wiljakali) people, is argued to have occupied the area surrounding Broken Hill. Paakanty is believed to have been spoken along the Darling River from Bourke to Wentworth, including areas around the Paroo River and Broken Hill. There were a number of local Paakanty dialects, including one spoken by the Wilyakali people, though while different, it is argued that they were similar enough to be understood by each other (Austin & Hercus, 2004). Tindale (1974) records the Wilyakali as occupying an area of approximately 28,000 km² from Olary (South Australia) in the west, south to Mutooroo, northeast to Mutawintii, and north into the Barrier Ranges (Figure 16). There is a suggestion by Tindale (1974) that the group retreated southward early in the 19th Century to avoid pressure to adopt traditions around circumcision being applied by the Ngadiuri people located to the northeast. For his part, Howitt (1904;49) speculates that the Wilyakali belonged to a supra-group he called the Itchumundi nation that incorporated four groups occupying the area around the Barrier Ranges called the Wilya, the Kongait, the Tongaranka and the Bulalli. However, this interpretation has not been widely accepted.



Figure 16 Tindale's 1940 Aboriginal Tribes of Australia

Figure 17 Aboriginal groups (Howitt 1904)



5.3 Social Organisation

Available historical records suggest that the primary units of social organisation amongst the Wilyakali were the clan and band. Although these terms are often used interchangeably (e.g., Kohen, 1993), following Attenbrow (2010), a distinction can be drawn between the two, with clans comprising local descent groups and bands, land-using groups who, though not necessarily all of the same clan, camped together and co-operated daily in hunting, fishing and gathering activities. Individual bands would have habitually occupied and exploited the resources of particular tracts of land within the overall territory of their clan. However, the territorial boundaries of each band would have been permeable or elastic in the sense of complex kinship ties facilitating inter-band territorial movements and the reciprocal use and/or exchange of resources.

The size of the individual groups or the general population of the Wilyakali/Paakanty occupying the region at contact is very hard to estimate and was no doubt activity and season dependent. Frederic Bonney (Bonney, 1883), one of the early European settlers in the Darling River area around Wilcannia, suggests that at contact, the Aboriginal population of the area would not "average more than about 100 on any 2,000 square miles". Bonney (1883) goes on to argue that the environment in this part of NSW could not support a large population, being subjected to protracted droughts, during which food and water would have been scarce. During severe periods of drought, groups occupying the area would retreat to back country springs and major rivers where they would camp subsisting on animals who came to drink.

According to Howitt (1904), the Wilyakali, like many groups in southern central Australia, had the twoclass (moiety) system whose class names are Kilpara and Mukwara, each of which has a group of totems. Children belong to the same class as their mother and when they are quite young are betrothed. Marriage was strongly forbidden within a class, and if it occurs, is considered unforgivable with the perpetrators shunned by their families but accepted between classes. Young men can marry their betrothed once they have completed the initiation ceremony (Bonney 1883:8).

5.4 Ceremony and Ritual

Evidence for ceremonial or ritual behaviour amongst the Aboriginal groups occupying the Darling River area at contact can be found in the accounts of a number of early observers (e.g., Bonney, 1883; Howitt, 1904), with documented 'ceremonial' activities including groups/clan gatherings, male initiation ceremonies, marriage, ritual combat and various burial, body adornment and modification practices. Although limited in number, references to spiritual beliefs of the Aboriginal groups occupying the region are also noted. However, many of these events were not directly witnessed by European observers but rather described by Aboriginal people who had participated in them or knew of them from their childhood.

Male initiation ceremonies in which Paakanty boys in the region became men are described by Bonney (1883). In this region, Bonney (1883) notes that the male initiation ceremony was referred to as when a youth is "made a young man of" and was a complex cultural practice involving boys of around 16 years of age. During the ceremony, the front tooth is removed (tooth avulsion) with the pointed end of a throwing stick. Alongside its use in the initiation ceremonies described above, body painting with animal fat and/or ochre was undertaken as part of gatherings and for the purposes of ritual combat. Amongst these groups body scarification and septum piercing were undertaken in ceremonies subsequent to that associated with initiation.

Available historical records suggest that burial in the earth was the most common form of burial practised by Aboriginal groups occupying the region. The body was buried immediately after death with the feet being tied together by the big toes and the hands tied by either the wrists, thumbs or little fingers. The body was wrapped in a rug and bound with a rope and the bundle tied on to a long stick called a *moolarie*. Two men would carry the body from the stick to the grave where it was covered in a low mound of earth with pieces of timber. There were no fixed burial grounds. Grave goods often consisted of items of personal gear such as a spear, hatchets and digging sticks (Bonney, 1883; Howitt, 1904).

Martin (1998:9) notes that the general Broken Hill area was a place of convergence for several important cultural stories, myths and pathways including the Bronzewing Pigeon; Eagle Hawk and Crow; Crow, Hawk and Duck; and Kuluwirru stories. These stories, and oral accounts suggest that

large gatherings of people from western NSW, southwest QLD and the Flinders Ranges came together in the Broken Hill area for ceremonies, exchange and other social interaction (Martin 1998).

5.5 Post-Contact History

As in other parts of NSW and Australia more generally, the early post-contact history of Aboriginal people in western NSW is primarily one of dispossession and loss, with traditional hunting and camping grounds rapidly claimed and settled by Europeans and populations significantly reduced by introduced diseases (Bonney, 1883; Bride, 1898; Clark, 1990; Howitt, 1904; Morrison, 1965). Bonney (1883:2) records one such event where in around 1850, an epidemic struck the Paakanty, killing a third of the population of the group.

The introduction of European diseases had a devastating impact on the Aboriginal population, with diseases such as whooping cough, typhoid, influenza, bronchitis, tuberculosis, small-pox, pneumonia and even the common cold causing or contributing to the deaths of large numbers of Aboriginal people (Bride, 1898; Shaw, 1998). The loss of traditional hunting grounds, a decline in the abundance of game that populated these areas and historical impacts on the waterways (i.e., mining and pastoral activities), have also been identified as factors relevant to the marked population decline that accompanied the European settlement of the region. Aboriginal people were often employed at local stations for their skills in bark cutting to build huts as well as hunting and gathering (Bonney, 1883).

After being displaced from their country, Aboriginal people have since returned to country and retained strong cultural connections to the land. Today, the Wilyakali people are actively involved in the protection and promotion of their culture for future generations.

6.0 Archaeological Context

This section describes the archaeological context of the Project Area on a regional and local scale. Archaeological data of relevance to this area, including the results of previous archaeological investigations within and surrounding the Project Area, are reviewed in order to contextualise the results of the current assessment.

6.1 Regional Context

As highlighted by Shiner (2008) and others (e.g., Holdaway & Fanning, 2014; Holdaway et al., 2000; Witter, 2004), the Aboriginal archaeological record of the semi-arid rangelands of far western NSW is dominated by extensive surface distributions of stone artefacts and heat retainer hearths. These features occur in a range of landscape contexts but are particularly prevalent on eroded land surfaces adjacent to creeks, drainage lines and swamps. Levels of archaeological visibility in these and other rangeland settings are typically high, a product of naturally discontinuous vegetation regimes and accelerated levels of erosion triggered by the introduction of European pastoralism in the mid-19th century (Fanning, 1999; Fanning & Holdaway, 2004; Fanning et al., 2009). Geoarchaeological research carried out at various locations across the rangelands, undertaken as part of the Western New South Wales Archaeological Program (WNSWAP), has demonstrated that the surface archaeological record of this region is both spatially and temporally discontinuous, with the preservation, exposure and visibility of surface artefact and hearth deposits controlled by geomorphic processes operating on highly variable time and spatial scales, from hours to millennia and tens to many thousands of m² (e.g., Fanning, 2002; Fanning et al., 2008; Shiner, 2008; Fanning et al., 2009). Here, as in several other arid to semi-arid regions of Australia, surface distributions of stone artefacts and heat retainer hearths typically lack clear, readily definable boundaries, as well as stratigraphy in the conventional sense. Accordingly, it has been argued that these deposits are best conceived of as 'cumulative' or 'time-averaged' palimpsests (sensu Bailey, 2007 and Stern, 1994 respectively) (see, in particular, Holdaway et al., 2008; Shiner, 2008, 2009).

Discontinuous mid-to-late Holocene (~7000 BP to present day) chronologies for the semi-arid rangelands of western NSW, established via radiocarbon determinations on charcoal from hearths and OSL determinations for the land surfaces on which the archaeological deposits rest, attest to both a dynamic record of past Aboriginal occupation across this region, as well as complex histories of landscape change (e.g., Fanning & Holdaway, 2001; Fanning et al., 2008; Holdaway et al, 2005; Shiner, 2008). This dynamism is also reflected in the stone artefact assemblages of the region, with technological analyses of rangeland assemblages demonstrating considerable complexity in the organization of Aboriginal lithic technology, and providing further support for variable long-term occupation histories (e.g., Douglass & Holdaway, 2011; Douglass et al., 2016; Holdaway et al., 2014; Holdaway et al., 2008; Shiner, 2008; Shiner et al., 2005). Quartz and/or silcrete dominant, flaked stone assemblages from the rangelands indicate a "simple" flake and core technology geared towards the provisioning of individuals (*sensu* Kuhn, 1994) under conditions of high mobility, with regionally high stone abundance ostensibly removing the need for large numbers of formal tools, extended artefact maintenance and intensive core preparation.

Recent approaches to the analysis and interpretation of deflated surface deposits of stone artefacts across western NSW, including the semi-arid rangelands, have advocated a perspective rooted in the concepts of persistent place use (after Schlanger, 1992) and artefact accumulation as a time dependent process (Holdaway et al., 2008, 2004; Shiner, 2006, 2008, 2009; Shiner et al., 2005). Schlanger (1992) introduced the term "persistent place" to describe specific areas of landscape that witnessed repeated human activity over the long term occupation of a region. Persistent places, as articulated by Schlanger (1992), are created through two basic mechanisms, the first being when a particular landscape segment possesses a quality that attracts repeated human activity over time, for example, a watercourse or knappable stone source, the second, being the structuring of future landscape use through human creations and/or environmental modifications. Such places may be functionally dynamic through time and need not attract permanent settlement, the alternative being long-term episodic use (Shiner, 2009:26). Viewed from this perspective, the composition and spatial characteristics of flaked stone artefact assemblages reflect the long-term repeated use of locations and, as such, are beyond ethnographic-scale reconstructions (Shiner, 2008:11; 2009:26).

Investigating the temporal character of assemblage accumulation requires that consideration be given to the life histories of individual artefacts; specifically, their probability of discard. Flaked stone artefact assemblages contain both 'expedient' and 'formal' (or 'curated') tools, with the latter representing a greater investment of time and energy (Andrefsky, 1994). Compared to their expedient counterparts, formal tools are more likely to be transported between multiple locations before being discarded. Accordingly, assemblages with large numbers of formal tools "are indicative of intensively occupied persistent places" (Shiner, 2008: 11). Differences in the intensity of raw material utilisation can likewise serve as a relative measure of occupation intensity because extended occupation can lead to a more intensive reduction of raw materials (Dibble & Rolland, 1992; Dibble, 1995; Elston, 1990). As Shiner (2008:34), with reference to Dibble et al. (1995:267), has observed, "assemblages that reflect more intensive reduction of raw materials will exhibit high flake to core ratios, a low proportion of cortical artefacts, a decrease in debitage size and heavily worked tools and cores". Measures of the intensity of reduction can be compared between locations to investigate differential place use, with intensively utilised locations characterised by large numbers of formal tools and intensively utilised raw materials.

A useful example of the application of these principles to the surface archaeological record of the rangelands is provided by Shiner (2006, 2008, 2009), who analysed flaked stone assemblages from four separate sampling areas on Pine Point and Langwell Stations, two adjoining pastoral leases located approximately 50 km south of Broken Hill, on the southern periphery of the Barrier Ranges. Occupational chronologies for the two alluvial systems associated with these assemblages were constructed through a Bayesian analysis of 16 radiocarbon determinations from heat retainer hearths, which indicated five main phases of hearth construction between c.2,000 cal BP and 550 to 350 cal BP. Shiner compared levels of reduction intensity between these locations, as well as patterns of raw material use, ultimately revealing both consistencies and inconsistencies in the reduction and utilisation of lithic raw materials. While some aspects of the Pine Point-Langwell assemblages were argued to reflect raw material availability, with, for example, silcrete distance-decay relationships evident, others were interpreted as a product of unique occupational histories, with no single location occupied in the same manner throughout the duration of assemblage accumulation. For Shiner, Aboriginal peoples' use of the Pine Point-Langwell landscape has resulted in "multi-layered temporal landscape of human occupation", with archaeological record of this landscape documenting not one but multiple settlement systems and thus not amenable to synchronic settlement pattern models.

6.2 Local Archaeological Context

6.2.1 AHIMS Database Search Results

The AHIMS database, administered by Heritage NSW, contains records of all Aboriginal objects reported to the Chief Executive of the Office of Environment and Heritage in accordance with Section 90Q of the NPW Act. It also contains information about Aboriginal places, which have been declared by the Minister to have special significance with respect to Aboriginal culture. Previously recorded Aboriginal objects and declared Aboriginal places are known as 'Aboriginal sites'.

A search of the AHIMS database undertaken on 15 December 2020 for a 10 x 10 km area centred on the Project Area, extending 5 km to the north, south, east and west, resulted in the identification of 50 Aboriginal sites, comprising 40 open artefact sites (i.e., isolated artefacts and artefact scatters), seven stone quarries (two with associated artefacts), two hearths and one resource and gathering site (**Figure 18,Table 5**).

Consideration of the location of previously recorded Aboriginal sites indicates that no previously recoded Aboriginal sites are located wholly or partially within the Project Area. The closest site – open artefact site "Kanandah 1" (AHIMS #23-4-0640) is located around 390 m to the south of the Project Area.

Table 5 Site search results (10 x 10 km area)

Site Type	Count	% site type
Open artefact site (i.e., isolated artefacts and artefact scatters)	40	80
Stone quarry	7	14
Hearths	2	4
Resource and gathering site	1	2
Total	50	100

6.2.2 Previous Archaeological Investigations within the Broken Hill Area

Existing AHIMS data indicate that a number of Aboriginal archaeological investigations have been undertaken within the Broken Hill area over the last three decades. These include archaeological surveys by Central West Archaeological and Heritage Services (1996), Dibden (2008), Gay (2001), Martin (1989,1998), OzArk Environmental & Heritage Management (2013) OzArk Environmental & Heritage (2014) and Time Capsule Earth (2007). Summaries of these assessments are provided below.

In 1989, Sarah Martin completed an archaeological survey of a section of Gairdners Creek where a concrete causeway was to be constructed. One open artefact site was identified that was partly impacted by construction of the exiting road. The identified assemblage was dominated by quartz (66%) with smaller quantities of "exotic" materials including silcrete/chert (20%) and quartzite (14%). Recorded types included cores, retouched flakes and flakes, as well as debitage items.

In 1996, Central West Archaeological and Heritage Services completed an archaeological survey for a proposed bridge replacement over Thackaringa Creek, 44 km west of Broken Hill on the Barrier Highway. One open artefact site was identified comprising an extensive artefact scatter of thousands of artefacts distributed over an area of approximately 800 m along the banks of Thackaringa Creek. It was suggested that due to the high artefact numbers and density that Thackaringa Creek formed a focal point for Aboriginal people in the region. Identified artefacts consisted of almost exclusively quartz but also small numbers of silcrete artefacts. At least one knapping floor was noted. Artefact types included flakes, cores, and associated debitage, as well as millstones. No hearths or ovens were identified.

In 1998, Sarah Martin completed an archaeological survey of the Pinnacles located west of Broken Hill. The survey was completed to support an anthropological assessment completed for the area that highlighted the Pinnacles as important cultural place for Aboriginal people forming a key part of the Bronzewing Pigeon Story. A total of 11 Aboriginal sites comprising open artefact scatters and quarries were recorded in and around the Pinnacles with one site alone estimated to contain around 300,000 artefacts. Ovens were also associated with a number of the sites. Artefacts comprised cores, flakes and flake debitage, blades, a variety of tools, grinding dishes, mortars. The majority of artefact were manufactured from quartz. The sites were concentrated in two main areas, along Pine Creek and Stirling Vale Creek.

In 2001, Louise Gay completed an archaeological survey for the construction of a mineral separation plant on the south-west outskirts of Broken Hill. A total of 16 Aboriginal sites comprising eight quartz quarry sites and eight open artefact sites were identified. Quartz quarry sites comprised outcrops or reefs of quartz where some evidence of use was identified. An average of 10 to 25 artefacts were recorded at most of the sites with the exception of quartz quarries AS3 and As16 which showed a higher intensity of quarrying with 50-100 artefacts noted. All sites comprised quartz artefacts with only one artefact of silcrete identified. Types included flakes, cores, core tools, flake tools and flake debitage. All of the open artefact scatter sites were located adjacent to watercourses with one featuring an exposed "oven". Gay suggested that based on their contents the sites represent short-term transit camps associated with the extraction of stone material from the quartz outcrops and/or travel between the Broken Hill area and the Pinnacles to the southwest.

In 2007, Time Capsule Earth completed an archaeological survey of two areas proposed for quarrying located approximately 20-30 kms southwest of Broken Hill. A total of 18 Aboriginal sites were recorded

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during the survey comprising 16 open artefact sites and two hearths/ovens. The majority of artefacts were manufactured from quartz with small numbers of silcrete and unidentifiable local materials also present. Artefact types included flakes, cores, retouched tools, hammerstones and a grinding set (dish and bowl).

In 2008, Dibden was engaged to complete an Aboriginal and historic heritage assessment for a proposed wind farm located in Silverton, 20 km northwest of Broken Hill. Archaeological survey completed across the project area resulted in the identification of 262 Aboriginal sites (or locales the term Dibden uses). The majority of sites comprised of distributions of predominately quartz artefacts (n = 166) with quartz outcrops with evidence of exploitation SPA's also present (n = 78). In addition, 14 stone artefact sites with heat retaining hearths, three isolated artefacts and one stone arrangement was identified. Sites generally comprised very low to low density quartz artefact distributions on elevated landforms. Alongside quartz, other artefact raw materials included chert, silcrete, quartzite and various other volcanics. Artefact types included flakes and flake debitage items, cores, scrapers, Bondi points, adzes. Non-flaked artefacts recorded included mortars and hammerstones. Several slabs of schist were recorded as possible grinding slabs. The majority of sites were located on crests (n = 221), followed by simple slopes (n = 33), open depressions (n = 6), ridges (n = 1) and flats (n = 1). Dibden (2008) suggests that the site patterning results are largely driven by the nature of the project area – that is, the majority of land surveyed comprises crests and elevated terrain suitable for the placement of wind turbines.

In 2013, Ozark Environmental & Heritage completed an archaeological survey for the expansion of a hard rock quarry in Broken Hill. A total of four Aboriginal sites were recorded comprising three open artefact sites and one quartz quarry. The three open artefact sites were located on lower slopes while the quarry was located on a middle to upper slope. Artefacts were manufactured from both quartz and quartzite with the exception of an axe/adze manufactured from an unknown volcanic material. Artefact types included flakes and flake debitage.

In 2014, Ozark Environmental & Heritage was engaged to complete an Aboriginal heritage assessment for a proposed 200 ha solar farm located approximately 5 km west of Broken Hill city with a 22 kV transmission line running into the Broken Hill substation. Archaeological survey completed for the project resulted in the identification of 14 Aboriginal sites consisting of 11 isolated artefact sites and three open artefact scatters. The majority of sites were identified within areas defined by Ozark Environmental & Heritage (2014) as "bare alluvial fan washout areas associated with the narrowly incised ephemeral drainage channels". Artefact raw material types included silcrete, chert and quartz, with silcrete the dominant material. Artefact types included flake and flake debitage items, cores, and retouched flakes. Ozark Environmental & Heritage (2014) concluded that the distribution of sites across the project area and their clustering around ephemeral drainage channels was a product of both a lack of available water locally as well as geomorphic processes exposing artefacts in these contexts.



6.3 Archaeological Predictions

A review of the existing archaeological and environmental context of the Project Area suggests that material evidence of past Aboriginal activity within the area is likely to be restricted to flaked stone artefacts and/or heat retainer hearths in surface contexts. Accordingly, key predictions for the Project Area's Aboriginal archaeological record are as follows:

- Considering the extent of past disturbances, identified stone artefacts encountered within the Project Area would likely be in disturbed contexts and not *in-situ*
- If present, stone artefacts would most often comprise surface distributions and might be associated with other archaeological remains, including heat retaining hearths
- Stone artefacts are most likely to be identified on eroded land surfaces adjacent to creeks, including ephemeral drainage lines, where levels of visibility are typically higher
- If present, Aboriginal archaeological materials within the Project Area will be of mid-to-late Holocene antiquity (~7000 BP to the present day)
- The dominant raw material for flaked stone artefact production within the Project Area will be quartz, with silcrete the second most common material
- Flaked stone objects will be dominated by flake debitage items (*sensu* Andrefsky, 2005), with formed objects (i.e., cores and retouched flakes) comparatively poorly represented
- Formal retouched tool types will be poorly represented in stone artefact assemblages.

7.0 Archaeological Survey

7.1 Survey

7.1.1 Aim and Objectives

The aim of the archaeological survey was to identify, record and map Aboriginal heritage values within the Project Area. These values include both the tangible evidence of past Aboriginal activity (i.e., archaeological evidence) as well as intangible cultural values. To achieve these aims, the following specific survey objectives were developed:

- To comprehensively survey, by pedestrian transects, land within the Site and transmission line corridor portions of the Project Area
- To identify and record Aboriginal archaeological objects within the Project Area
- To provide data that will assist with the development of an appropriate management strategy for the known and potential Aboriginal archaeological values of the Project Area.

7.1.2 Methodology

A field team of two AECOM heritage specialists and RAP representatives completed the archaeological survey within the Site and the transmission line corridor on Wednesday 20 January 2021 (**Table 6**). The survey was not undertaken within the TransGrid Broken Hill Substation due to the extent of past disturbances. All survey was conducted on foot, with five transects completed across the Project Area. Participants in the survey were spaced roughly at 10 m intervals during the survey. The location of each transect completed during the survey, including start and end points, was recorded using a handheld differential GPS unit, with associated transect data (e.g., GSV and GI ratings) entered directly into the same unit upon the completion of each transect.

Organisation	Representative	Position	Date
AECOM	Geordie Oakes	Archaeologist	20-Jan-21
AECOM	Andrew McLaren	Archaeologist	20-Jan-21
Wilyakali Aboriginal Corporation	Dulcie O'Donnell	Site officer	20-Jan-21
Wilyakali Aboriginal Corporation	Bernie O'Donnell	Site officer	20-Jan-21
BHLALC	Ricky Mann	Site officer	20-Jan-21
Barkanndji #8 Native Title Determinants	Gerald Quayle	Site officer	20-Jan-21

Table 6 Survey field team

7.2 Survey Results

7.2.1 Survey Coverage and Effective Coverage

As indicated in **Section 7.1.2** and shown on **Figure** 19, a total of five pedestrian transects were completed over the Project Area. Recorded transect data indicate that a total survey coverage of approximately 1.08 ha, representing around 43.2% of the Project Area, was achieved. When considering these results, it is noted that the TransGrid Broken Hill Substation comprising approximately 0.91 ha or 36.4% of the Project Area, occupying land that is grossly disturbed and not surveyed as part of the assessment.

Effective coverage estimates for each transect completed during survey, shown in **Table 7** were excellent, all exceeding 70%. Ground Surface Visibility (GSV) across the Project Area was generally excellent, ranging from 72-81% due to a general lack of vegetation cover. Areas of enhanced GSV comprised access tracks and graded areas lacked vegetation. Areas of restricted visibility included locations used for storage of equipment, vehicles and other materials such as wood, batteries, drums, jerry cans, vehicle parts and scrap metal. Calculation of the total effective coverage achieved for the

Survey Unit	Landform Unit	Survey Unit Area (ha)	Visibility %	Exposure %	Effective coverage (ha)	Effective coverage %
Transect 1	Leve/gently inclined slope	0.21	0.9	0.8	0.1512	72
Transect 2	Leve/gently inclined slope	0.15	0.9	0.9	0.1215	81
Transect 3	Leve/gently inclined slope	0.21	0.9	0.9	0.1701	81
Transect 4	Leve/gently inclined slope	0.15	0.9	0.8	0.108	72
Transect 5	Leve/gently inclined slope	0.36	0.9	0.9	0.2916	81
Total	-	1.08	-	-	0.08	78

current survey indicates that around 78% (approximately 0.8 ha) of the Project Area could be effectively surveyed for surface Aboriginal archaeological materials.

7.2.2 Findings

No Aboriginal archaeological sites or areas of PAD were identified during survey. Vegetation comprised low-lying native *Sclerolaena* (Copper-burr) and *Maireana* (Bluebush) species, in addition to various weeds indicating the Project area had been subject to vegetation clearance.

RAPs identified two lithic items they considered might potentially be artefacts (**Plate 3** and **Plate 4**). While neither item satisfied technical criteria for identification as a stone artefact, as a precautionary measure, both were moved by attending RAP field representatives to locations nearby where ground surface impacts would not occur (**Figure 2**0).



Overall, survey within the Project Area identified a predominately disturbed landscape where topsoils have been graded and levelled (**Plate 5** and **Plate 6**). RAPs present during the survey likewise suggested that land within the Project Area has been subject to significant historic disturbances. Based on an observation of historic disturbances and landscape variables, the subsurface sensitivity of the Project Area was assessed as low.







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8.0 Significance Assessment

8.1 Principles of Assessment

Heritage sites hold value for different communities in a variety of different ways. All sites are not equally significant and thus not equally worthy of conservation and management (Pearson & Sullivan 1995: 17). One of the primary responsibilities of cultural heritage practitioners, therefore, is to determine which sites are worthy of preservation and management (and why) and, conversely, which are not (and why) (Smith & Burke 2007: 227). This process is known as *the assessment of cultural significance* and, as highlighted by Pearson and Sullivan (1995: 127), incorporates two interrelated and interdependent components. The first involves identifying, through documentary, physical or oral evidence, the elements that make a heritage site significant, as well as the type(s) of significance it manifests. The second involves determining the degree of value that the site holds for society (i.e., its cultural significance) (Pearson & Sullivan 1995: 126).

In Australia, the primary guide to the assessment of cultural significance is the *Australian ICOMOS Charter for Places of Cultural Significance* (1999), informally known as *The Burra Charter*, which defines cultural significance as the "aesthetic, historic, scientific, social or spiritual value for past, present or future generations" of a site or place (ICOMOS 1999: 2). Under the Burra Charter model, the cultural significance of a heritage site or place is assessed in terms of its aesthetic, historic, scientific and social values, none of which are mutually exclusive (**Table 8**). Establishing cultural significance under the Burra Charter model involves assessing all information relevant to an understanding of the site and its fabric (i.e., its *physical* make-up) (ICOMOS 1999: 12). The assessment of cultural significance and the preparation of a statement of cultural significance are critical prerequisites to making decisions about the management of any heritage site or place (ICOMOS 1999: 11).

With respect to Aboriginal heritage, it is possible to identify two major streams in the overall significance assessment process: the assessment of *scientific value(s)* by archaeologists and the assessment of *social (or cultural) value(s)* by Aboriginal people. Each is considered separately below.

Value	Definition
Aesthetic	"Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. Such criteria may include consideration of the form, scale, colour, texture and material of the fabric; the smells and sounds associated with the place and its use" (ICOMOS 1999: 12).
Historic	"Historic value encompasses the history of aesthetics, science and society[a] place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase or activity. It may have historic value as the site of an important event" (ICOMOS 1999: 12).
Scientific	"The scientific or research value of a place will depend on the importance of the data involved, on its rarity, quality or representativeness, and on the degree to which the place may contribute further substantial information" (ICOMOS 1999:12).
Social	"Social value embraces the qualities for which a place has become a focus of spiritual, political, national or other cultural sentiment to a majority or minority group" (ICOMOS 1999: 12).

Table 8	Values relevant to determining cultural significance, as defined by The Burra Charter (ICOMOS 1999).
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8.2 Scientific Value

Scientific value refers to the importance of a place in terms of its rarity, representativeness and the extent to which it may contribute further information (i.e., its research potential) (OEH 2011: 9).

8.2.1 Rarity and Representativeness

Rarity and *representativeness* are related concepts. Rarity refers to the relative uniqueness of a site within its local and regional context. The scientific significance of a site is assessed as higher if it is

unique or rare within either context. Conversely, it is considered to be of lower significance if it is common in one or both. The concept of representativeness, meanwhile, refers to the question of whether or not a site is "a good example of its type, illustrating clearly the attributes of its significance" (Burke & Smith 2004: 247). Representativeness is an important criterion as one of the primary goals of cultural heritage management is to preserve for future generations a representative sample of all archaeological site types in their full range of environmental contexts.

In common with rarity, assessments of representativeness within a region are dependent on the state of current knowledge concerning the number and type of archaeological sites present within that region². This is a critical point, for as suggested by Kuskie (2000) and others (e.g., Bowdler 1981; Godwin 2011; Pearson & Sullivan 1995), the absence across most of Australia of regional-scale quantitative data for Aboriginal sites and places represents a major constraint in assessments of representativeness and rarity. As stressed by Bowdler (1981), detailed regional-scale assessments of the Aboriginal archaeological record of Australia are required to address this issue.

8.2.2 Research Potential

Research potential can be defined as the potential of an archaeological site to address what Bowdler (1981: 129) has referred to as "timely and specific research questions". These questions may relate to any number of issues concerning past human lifeways and environments and, as suggested by Bowdler's quote, will inevitably reflect current trends or problems in academic research (Burke & Smith 2004: 249). For their part, Bowdler and Bickford (1984: 23-4) suggest that the research potential of an archaeological site can be determined by answering the following series of questions:

- 1. Can the site contribute knowledge which no other resource can?
- 2. Can the site contribute knowledge which no other such site can?
- 3. Is this knowledge relevant to general questions about human history or other substantiative subjects?

Several criteria can be used to assess the research potential of an archaeological site. Particularly important in the context of Aboriginal archaeology are the intactness or integrity of the site in question, its complexity and its potential for archaeological deposit (NPWS 1997: 7). The connectedness of the site to other sites or natural landscape features may also be relevant.

Integrity refers to the extent to which a site has been disturbed by natural and/or anthropogenic phenomena and includes both the state of preservation of particular remains (e.g., animal bones, plant remains) and, where applicable, stratigraphic integrity. Assessments of archaeological integrity are predicated on the notion that undisturbed or minimally disturbed sites are likely to yield higher quality archaeological and/or environmental data than those whose integrity has been significantly compromised by natural and/or anthropogenic phenomena. Establishing levels of preservation or integrity in the context of a surface survey is difficult. Nonetheless, useful rating schemes are available for 'open' sites (Coutts & Witter 1977: 34) and scarred trees (Long 2003).

The *complexity* of a site refers primarily to the nature or character of the artefactual materials or features that constitute it but also includes site structure (e.g., the physical size of the site, spatial patterning in observed cultural materials). In the case of open artefact sites, for example, the principal criteria used to assess complexity are the site's size (i.e., number of artefacts and/or spatial extent), the presence, range and frequency of artefact and raw material types, and the presence of features such as hearths.

Potential for archaeological deposit refers to the potential of a site to contain subsurface archaeological evidence which may, through controlled excavation and analysis, assist in answering questions that are of contemporary archaeological interest. Assessing subsurface potential in the absence of subsurface investigation is difficult. Nonetheless, consideration of a range of factors, including the integrity of the site, the complexity of extant surface evidence, the nature of the local geomorphology (as established through surface observations and documentary research) and the results of previous archaeological excavations in the area, will help inform assessment of this criterion.

² There is, of course, a temporal fluidity to this criterion (i.e., as knowledge of the Aboriginal archaeology of a region increases, assessed levels of representativeness may change, a point of equal relevance to rarity).

Connectedness concerns the relationship between archaeological sites within a given area and may be expressed through a combination of factors such as site location, type and contents. It may, for example, be possible to establish a connection between a stone quarry and hatchet found nearby. Demonstrating connectedness archaeologically, however, is far from straightforward, especially when dealing with surface evidence alone. Ultimately, this difficulty rests with the need to demonstrate contemporaneity between sites that may have been created hundreds, if not thousands, of years apart. As Shiner (2008: 13) has observed, "much of the surface archaeological record documents the accumulation of materials from multiple behavioural episodes occurring over long periods of discontinuous time". Contemporaneity, then, needs to be demonstrated not assumed.

8.2.3 Identification Process for Current Assessment

For the current assessment, information on the scientific values of the Project Area has been obtained through a review of existing environmental and archaeological data for the Project Area, as detailed in **Sections 4.0**, **5.0** and **6.0**, and archaeological survey across the Project Area described in **Section 7.2**.

8.2.4 Assessment of Scientific Significance

No Aboriginal objects were identified during the archaeological survey. The potential for subsurface archaeological deposit was assessed as low due to historical disturbances. As such, no assessment of significance is required.

8.3 Social Value

Social or cultural value refers to the spiritual, traditional, historic and contemporary associations and attachments a place or area has for Aboriginal people and can only be identified through consultation with Aboriginal people (OEH 2011: 8).

No social or cultural values were identified by RAPs or through the assessment process that are relevant to the Project Area:

8.4 Historic Value

Historic value refers to the associations that a place has with a historically important person, event, phase or activity in an Aboriginal community (OEH 2011: 9). Historic values can but will not necessarily be represented by physical evidence.

Although situated within a broader landscape of high historical significance for contemporary Wilyakali people, the Project Area itself is assessed as having low historical significance. No evidence of postcontact Aboriginal occupation has been identified within the Project area. In addition, no historical records or oral histories specific to the use of the site by Aboriginal people have been identified as part of this assessment.

8.5 Aesthetic Value

Aesthetic value refers to the sensory, scenic, architectural and creative aspects of a place and is manifested through a range of physical and non-physical attributes (OEH 2011: 9).

The Project Area is assessed as having low aesthetic significance as the natural landscape of the subject properties has been extensively altered by historical and contemporary land use practices.

8.6 Cultural Value

Social or cultural value refers to the spiritual, traditional, historic and contemporary associations and attachments a place or area has for Aboriginal people and can only be identified through consultation with Aboriginal people (OEH 2011: 8).

No confirmed Aboriginal objects or specific cultural values were identified by RAPs during the assessment.

8.7 Statement of Significance

While no specific cultural values or confirmed Aboriginal object were identified within the Project Area, RAPs noted that all artefacts are important for their contribution to information about how Wilyakali people moved, lived and demarcated the landscape.

Although situated within a broader landscape of cultural significance for contemporary Wilyakali people, the Project Area itself is assessed as having low historical significance. No evidence of postcontact Aboriginal occupation has been identified within the Project Area. In addition, no historical records or oral histories specific to the use of the site by Aboriginal people have been identified as part of this assessment. The Project area is likewise considered to have low aesthetic significance on the grounds that the natural environment of the subject properties has been extensively modified by historical land use practices with RAPs noting how disturbed the site is.

9.0 Impact Assessment

A description of the activities proposed by the Project is provided in **Section 1.1.** This ACHAR has determined that the majority of land within the Project Area identified is predominately a disturbed landscape where topsoils have been graded and levelled. RAPs present during the survey likewise suggested that land within the Project Area has been subject to significant historic disturbances.

No Aboriginal archaeological sites or areas of PAD were identified during survey. RAPs identified two lithic items they considered might potentially be artefacts. While neither item satisfied technical criteria for identification as a stone artefact, as a precautionary measure, both were moved outside of areas of potential ground surface disturbance by attending RAP field representatives. Neither lithic item would be impacted by the Project.

Moreover, no specific cultural values were identified by RAPs relevant to the Project Area.

10.0 Management Recommendations

The following management recommendations are made regarding the identified Aboriginal heritage values of the Project Area, with recommendations made on the basis of:

- A review of previous archaeological investigations completed within and surrounding the Project Area
- The results of the archaeological survey as described in Section 7.0
- The significance and impact assessments detailed in Sections 8.0 and 9.0
- Consultation with RAPs.

10.1 Statutory Requirements

As indicated in **Section 1.0**, this ACHAR forms part of an EIS, which is being prepared to support a Development Application for the Project in accordance with Part 4 of the EP&A Act.

10.2 Recommendations

The recommendations for the management of the Project Area include:

- No Aboriginal heritage constraints have been identified within the Project Area. As such, no further investigation works or reporting are considered warranted
- As a precaution, temporary fencing should be erected around the two lithic items identified by RAPs (Lithic item 1 539897E 6461017N GDA Zone 54, Lithic item 2 539833E 6460989N GDA Zone 54) prior to works in the area
- If Aboriginal cultural heritage material is identified at any point during the Project, the standard procedure, outlined in **Section 10.3**, should be followed.

10.3 Unanticipated Finds Protocol

Management of Previously Unrecorded Aboriginal Objects

- 1. All works must cease immediately in the area to prevent any further impacts to the site
- 2. Notify the Project Manager
- 3. Engage a suitably qualified archaeologist and RAP representative to determine the nature, extent and significance of the site and provide appropriate management advice. Management action(s) will vary according to the type of evidence identified, its significance (both scientific and cultural) and the nature of potential impacts
- 4. Prepare and submit an AHIMS site card for the site.

Human Skeletal Remains

In the event that potential human skeletal remains are identified at any point during the life of the development, the following standard procedure (NSW Police Force 2015; NSW Health 2013) should be followed:

- 1. all work in the vicinity of the remains should cease immediately
- 2. the location should be cordoned off work can continue outside of this area as long as there is no risk of interference to the remains or the assessment of the remains
- where it is reasonably obvious from the remains that they are human, the Project Manager (or a delegate) should inform the NSW Police by telephone (prior to seeking advice from a forensic specialist)
- 4. where uncertainty over the origin (i.e., human or non-human) of the remains exists, a physical or forensic anthropologist should be commissioned to inspect the exposed remains in situ and make

a determination of origin, ancestry (Aboriginal or non-Aboriginal) and antiquity (pre-contact, historic or modern)

- 5. if the remains are identified as modern and human, notify NSW Police
- 6. if the remains are identified as pre-contact or historic Aboriginal, notify Heritage NSW using their Environment Line (131 555)
- 7. if the remains are identified as historic (non-Aboriginal), notify the NSW Heritage Division.

An Aboriginal community representative must be present where it is reasonably suspected burials or human remains may be encountered. If human remains are unexpectedly encountered and they are thought to be Aboriginal, the Aboriginal community must be notified immediately.

Recording of Aboriginal ancestral remains must be undertaken by, or be conducted under the direct supervision of, a specialist physical anthropologist or other suitably qualified person.

Archaeological reporting of Aboriginal ancestral remains must be undertaken by, or reviewed by, a specialist physical anthropologist or other suitably qualified person, with the intent of using respectful and appropriate language and treating the ancestral remains as the remains of Aboriginal people rather than as scientific specimens.

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Appendix A

Agency Letters

AECOM Imagine it Delivered AECOM Australia Pty Ltd +61 2 8934 0000 tel Level 21, 420 George Street +61 2 8934 0001 fax Sydney NSW 2000 ABN 20 093 846 925 PO Box Q410 QVB Post Office NSW 1230 Australia www.aecom.com 11 November 2020 The Register Office of the Registrar, Aboriginal Land Rights Act 1983 PO Box 112 Glebe NSW 2037 Dear Sir/Madam. Request for Relevant Aboriginal Stakeholder Information for Broken Hill Battery Energy Storage Project, located in The Broken Hill LGA, NSW I am writing to inform you that AECOM Australia Pty Ltd (AECOM) has been commissioned by AGL Energy Limited (AGL) to undertake an Aboriginal cultural heritage assessment for the construction of a battery storage facility of approximately 50 megawatts (MW) and up to 100 megawatt-hour (MWh) in capacity at Broken Hill (the Project, Figure 1). The Broken Hill Battery Energy Storage System (BESS) would provide reliable supply of electricity to Broken Hill in the event of line failure and provide efficient grid support for the region. The proposed Project will provide storage and firming capacity to the National Energy Market (NEM) as well as additional services to assist grid stability including frequency control ancillary services. AECOM has been commissioned to complete an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the project. The Proponent for the Project is AGL Energy Limited (Level 24, 200 George Street, Sydney NSW 2000). The project contact at AGL is Natalie Leighton (NLeighton@agl.com.au). The purpose of this letter is to request from you, in accordance with cl 80C(2)(a) of the National Parks and Wildlife Regulation 2009 and Section 4.1.2 of Heritage NSW's Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW 2010), the name and contact details of Aboriginal individuals and/or organisations whom you consider may hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects/places in the study area, and who may be interested in being consulted. Should you have information regarding the above or have any questions, please don't hesitate to contact: **Geordie Oakes** c/- AECOM Australia Pty Ltd PO Box Q410, QVB Post Office, Sydney, NSW 1230 Ph: +61 2 8934 0610 Fax: +61 2 8934 0001 Email: Geordie.Oakes@aecom.com Kind regards, Geordie Oakes Archaeologist Geordie.Oakes@aecom.com Direct Dial: +61 2 8934 0610 Direct Fax: +61 2 8934 0001



	AECOM Australia Pty Ltd Level 21, 420 George Street Sydney NSW 2000 PO Box Q410 QVB Post Office NSW 1230 Australia www.aecom.com	+61 2 8934 0000 tel +61 2 8934 0001 fax ABN 20 093 846 925
11 November 2020		
Heritage Advisor Broken Hill Council PO Box 448 Broken Hill, NSW 2880		
Dear Sir/Madam,		
Request for Relevant Aboriginal Stake Project, located in The Broken Hill LGA		Battery Energy Storage
I am writing to inform you that AECOM Au Limited (AGL) to undertake an Aboriginal storage facility of approximately 50 megas Broken Hill (the Project, Figure 1).	cultural heritage assessment for the	construction of a battery
The Broken Hill Battery Energy Storage S Hill in the event of line failure and provide provide storage and firming capacity to th assist grid stability including frequency co complete an Aboriginal Cultural Heritage	efficient grid support for the region. e National Energy Market (NEM) as ntrol ancillary services. AECOM has	The proposed Project will well as additional services to been commissioned to
The Proponent for the Project is AGL Ene project contact at AGL is Natalie Leighton		Street, Sydney NSW 2000). Th
The purpose of this letter is to request from Wildlife Regulation 2009 and Section 4.1. Requirements for Proponents 2010 (DEC and/or organisations whom you consider significance of Aboriginal objects/places in	2 of Heritage NSW's <i>Aboriginal Cult</i> CW 2010), the name and contact de may hold cultural knowledge relevar	ural Heritage Consultation etails of Aboriginal individuals at to determining the cultural
Should you have information regarding the	e above or have any questions, plea	ase don't hesitate to contact:
PC	Geordie Oakes c/- AECOM Australia Pty Ltd D Box Q410, QVB Post Office, Sydney, NSW 1230 Ph: +61 2 8934 0610 Fax: +61 2 8934 0001 iil: Geordie.Oakes@aecom.com	
Kind regards,		
4. Casi		
Geordie Oakes Archaeologist Geordie.Oakes@aecom.com		
Direct Dial: +61 2 8934 0610 Direct Fax: +61 2 8934 0001		



AECOM Imagine it Delivered AECOM Australia Pty Ltd +61 2 8934 0000 tel Level 21, 420 George Street +61 2 8934 0001 fax Sydney NSW 2000 ABN 20 093 846 925 PO Box Q410 QVB Post Office NSW 1230 Australia www.aecom.com 11 November 2020 Archaeologist Heritage NSW (North West) PO Box 2111 Dubbo NSW 2830 Dear Sir/Madam, Request for Relevant Aboriginal Stakeholder Information for Broken Hill Battery Energy Storage Project, located in The Broken Hill LGA, NSW I am writing to inform you that AECOM Australia Pty Ltd (AECOM) has been commissioned by AGL Energy Limited (AGL) to undertake an Aboriginal cultural heritage assessment for the construction of a battery storage facility of approximately 50 megawatts (MW) and up to 100 megawatt-hour (MWh) in capacity at Broken Hill (the Project, Figure 1). The Broken Hill Battery Energy Storage System (BESS) would provide reliable supply of electricity to Broken Hill in the event of line failure and provide efficient grid support for the region. The proposed Project will provide storage and firming capacity to the National Energy Market (NEM) as well as additional services to assist grid stability including frequency control ancillary services. AECOM has been commissioned to complete an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the project. The Proponent for the Project is AGL Energy Limited (Level 24, 200 George Street, Sydney NSW 2000). The project contact at AGL is Natalie Leighton (NLeighton@agl.com.au). The purpose of this letter is to request from you, in accordance with cl 80C(2)(a) of the National Parks and Wildlife Regulation 2009 and Section 4.1.2 of Heritage NSW's Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW 2010), the name and contact details of Aboriginal individuals and/or organisations whom you consider may hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects/places in the study area, and who may be interested in being consulted. Should you have information regarding the above or have any questions, please don't hesitate to contact: Geordie Oakes c/- AECOM Australia Pty Ltd PO Box Q410, QVB Post Office, Sydney, NSW 1230 Ph: +61 2 8934 0610 Fax: +61 2 8934 0001 Email: Geordie.Oakes@aecom.com Kind regards, Geordie Oakes Archaeologist Geordie.Oakes@aecom.com Direct Dial: +61 2 8934 0610 Direct Fax: +61 2 8934 0001


	AECOM Australia Pty Ltd Level 21, 420 George Street Sydney NSW 2000	+61 2 8934 0000 tel +61 2 8934 0001 fax ABN 20 093 846 925
	PO Box Q410 QVB Post Office NSW 1230 Australia www.aecom.com	
11 November 2020		
National Native Title Tribunal New South Wales – Sydney (GPO Box 9973 Sydney NSW 2000		
Dear Sir/Madam,		
Request for Relevant Aboriginal Sta Project, located in The Broken Hill L		Battery Energy Storage
I am writing to inform you that AECOM Limited (AGL) to undertake an Aborigir storage facility of approximately 50 me Broken Hill (the Project, Figure 1).	Australia Pty Ltd (AECOM) has been on a cultural heritage assessment for the	construction of a battery
The Broken Hill Battery Energy Storage Hill in the event of line failure and provi provide storage and firming capacity to assist grid stability including frequency complete an Aboriginal Cultural Heritage	de efficient grid support for the region. the National Energy Market (NEM) as control ancillary services. AECOM has	The proposed Project will well as additional services to seen commissioned to
The Proponent for the Project is AGL E project contact at AGL is Natalie Leight		Street, Sydney NSW 2000). Th
The purpose of this letter is to request a Wildlife Regulation 2009 and Section 4 Requirements for Proponents 2010 (DI holders and registered Indigenous Land	.1.2 of Heritage NSW's Aboriginal Cult ECCW 2010), for a list of registered na	ural Heritage Consultation
Should you have information regarding	the above or have any questions, plea	ase don't hesitate to contact:
	Geordie Oakes c/- AECOM Australia Pty Ltd PO Box Q410, QVB Post Office, Sydney, NSW 1230 Ph: +61 2 8934 0610 Fax: +61 2 8934 0001 mail: Geordie.Oakes@aecom.com	
Kind regards,		
4. Cast		
Geordie Oakes Archaeologist Geordie.Oakes@aecom.com		
Direct Dial: +61 2 8934 0610 Direct Fax: +61 2 8934 0001		



AECOM Imagine it. Delivered. AECOM Australia Pty Ltd +61 2 8934 0000 tel Level 21, 420 George Street +61 2 8934 0001 fax Sydney NSW 2000 ABN 20 093 846 925 PO Box Q410 QVB Post Office NSW 1230 Australia www.aecom.com 11 November 2020 Native Title Services Corporation Limited (NTSCorp Ltd) PO Box 2105 Strawberry Hills NSW 2012 Dear Sir/Madam Request for Relevant Aboriginal Stakeholder Information for Broken Hill Battery Energy Storage Project, located in The Broken Hill LGA, NSW I am writing to inform you that AECOM Australia Pty Ltd (AECOM) has been commissioned by AGL Energy Limited (AGL) to undertake an Aboriginal cultural heritage assessment for the construction of a battery storage facility of approximately 50 megawatts (MW) and up to 100 megawatt-hour (MWh) in capacity at Broken Hill (the Project, Figure 1). The Broken Hill Battery Energy Storage System (BESS) would provide reliable supply of electricity to Broken Hill in the event of line failure and provide efficient grid support for the region. The proposed Project will provide storage and firming capacity to the National Energy Market (NEM) as well as additional services to assist grid stability including frequency control ancillary services. AECOM has been commissioned to complete an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the project. The Proponent for the Project is AGL Energy Limited (Level 24, 200 George Street, Sydney NSW 2000). The project contact at AGL is Natalie Leighton (NLeighton@agl.com.au). The purpose of this letter is to request from you, in accordance with cl 80C(2)(a) of the National Parks and Wildlife Regulation 2009 and Section 4.1.2 of Heritage NSW's Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW 2010), the name and contact details of Aboriginal individuals and/or organisations whom you consider may hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects/places in the study area, and who may be interested in being consulted. Should you have information regarding the above or have any questions, please don't hesitate to contact: Geordie Oakes c/- AECOM Australia Pty Ltd PO Box Q410, QVB Post Office, Sydney, NSW 1230 Ph: +61 2 8934 0610 Fax: +61 2 8934 0001 Email: Geordie.Oakes@aecom.com Kind regards, Geordie Oakes Archaeologist Geordie.Oakes@aecom.com Direct Dial: +61 2 8934 0610 Direct Fax: +61 2 8934 0001







AECOM Imagine it. Delivered. AECOM Australia Pty Ltd +61 2 8934 0000 tel Level 21, 420 George Street +61 2 8934 0001 fax Sydney NSW 2000 ABN 20 093 846 925 PO Box Q410 QVB Post Office NSW 1230 Australia www.aecom.com 11 November 2020 Western Local Land Service PO Box 279 Broken Hill 2880 Dear Sir/Madam, Request for Relevant Aboriginal Stakeholder Information for Broken Hill Battery Energy Storage Project, located in The Broken Hill LGA, NSW I am writing to inform you that AECOM Australia Pty Ltd (AECOM) has been commissioned by AGL Energy Limited (AGL) to undertake an Aboriginal cultural heritage assessment for the construction of a battery storage facility of approximately 50 megawatts (MW) and up to 100 megawatt-hour (MWh) in capacity at Broken Hill (the Project, Figure 1). The Broken Hill Battery Energy Storage System (BESS) would provide reliable supply of electricity to Broken Hill in the event of line failure and provide efficient grid support for the region. The proposed Project will provide storage and firming capacity to the National Energy Market (NEM) as well as additional services to assist grid stability including frequency control ancillary services. AECOM has been commissioned to complete an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the project. The Proponent for the Project is AGL Energy Limited (Level 24, 200 George Street, Sydney NSW 2000). The project contact at AGL is Natalie Leighton (NLeighton@agl.com.au). The purpose of this letter is to request from you, in accordance with cl 80C(2)(a) of the National Parks and Wildlife Regulation 2009 and Section 4.1.2 of Heritage NSW's Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW 2010), the name and contact details of Aboriginal individuals and/or organisations whom you consider may hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects/places in the study area, and who may be interested in being consulted. Should you have information regarding the above or have any questions, please don't hesitate to contact: Geordie Oakes c/- AECOM Australia Pty Ltd PO Box Q410, QVB Post Office, Sydney, NSW 1230 Ph: +61 2 8934 0610 Fax: +61 2 8934 0001 Email: Geordie.Oakes@aecom.com Kind regards, Geordie Oakes Archaeologist Geordie.Oakes@aecom.com Direct Dial: +61 2 8934 0610 Direct Fax: +61 2 8934 0001



Appendix B

Agency Responses



interest in the project; provide proponents 2010".	News/Title	Address
Organisation/Affiliation	Name/Title	Address
Badger Bates Broken Hill LALC	Chairperson	107 Gaffney Lane, Broken Hill NSW 2880 PO Box 392, Broken Hill NSW 2880
Chair, Mutawintji Board of Management	Ms Kim O'Donnell	C/- Brett Norman, Area Manager NPWS Broken Hill Area Office PO Box 788, Broken Hill NSW 2880
Corroboree Aboriginal Corporation	Marilyn Carroll- Johnson, Director	PO Box 3340, ROUSE HILL NSW 2155
Menindee Aboriginal Elders Council		C/- Steve Millington, Regional Manager NPWS Far West Region PO Box 788, Broken Hill 2880
Mutawintji LALC	Chairperson	PO Box 36, Wilcannia NSW 2836
Wilyakali Aboriginal Corporation		84 Oxide Street, Broken Hill NSW 2880



Broken Hill Local	gistered Aboriginal Interests Government Area	
Organisation/ Individual Name	Address	Contact Details
Wilyakali Aboriginal Corporation	Maureen & Dulcie O'Donnell 84 Oxide St BROKEN HILL NSW 2880	
Pappin Family Aboriginal Corporation	2 Alfred Close MILDURA VIC 3500	Mobile: 0400 634 994
Gary Pappin	PO Box 243 BALRANALD NSW 2715	Mobile: 0424 625 636
Wakool Indigenous Corporation	Cynthja Pappin PO Box 243 BALRANALD NSW 2715	Mobile: 0400 634 994 Email: <u>info@wakool.com.au</u>
Barkandji #8 Native Title Determinants	NTSCorp PO Box 2105 STRAWBERRY HILLS NSW 2012	Phone: 02 9310 3188 Email: <u>information@ntscorp.com.au</u>

2

From: Sent: To: Subject:	Tracey Stephens <tracey.stephens@brokenhill.nsw.gov.au> Thursday, 19 November 2020 10:54 AM Oakes, Geordie [EXTERNAL] Aboriginal Stakeholder Information for Broken Hill Battery Energy Storage</tracey.stephens@brokenhill.nsw.gov.au>
Aboriginal Stakeholde	er Information for Broken Hill Battery Energy Storage
Reference is made to Hill.	your correspondence to Council requesting contacts for Aboriginal groups in Broken
Please be advised:	
Traditional owner for contacted first in all ir	Wilyakali country is Maureen O'Donnell (0427 1850 283). Maureen should be nstances.
The Local Aboriginal I The NSW Aboriginal Lo The Dept. of Aborigin	
The Aboriginal Comm donna.cruickshank@ł	nunity Working Party can be contacted by emailing nealth.nsw.gov.au
Denise Hampton	RAP working group who may be of assistance are: Denise.hampton@health.nsw.gov.au Cory.Paulson@health.nsw.gov.au
I hope that this assists	
Regards, Tracey.	
Tracey Stephens	
Town Planner 240 Blende Street PO Box 448 Broken Hill NSW 2880 Phone 08 8080 3313 Tracey.Stephens@bro www.brokenhill.nsw.g	
BROKE	

From:	James MacLeod <jmacleod@ntscorp.com.au></jmacleod@ntscorp.com.au>
Sent:	Monday, 16 November 2020 5:45 PM
To:	Oakes, Geordie
Cc:	Derek Hardman; Gerald Quayle
Subject:	[EXTERNAL] Broken Hill battery energy storage project
Attachments:	20201116142704271.pdf
Dear Geordie	
	Native Title Group Aboriginal Corporation RNTBC (ICN 4740) as a RAP for this orporation is the representative native title entity for the area affected by this project.
Kind regards James	
James MacLeod Senior	Solicitor
ntscorp	
	ige that our office is situated on the country of the Gadigal People of the Dharug Nation. We also pect to their Elders past and present.
'm working from home. The	best way to contact me is on my mobile or by email.
f 02 9310 4177 m 0498 980 212 <mark>∋ jmacleod@ntscorp.com.au w</mark> _evel 1, 44-70 Rosehill Street, F	v <u>www.nlscorp.com.au</u> Redfern, NSW 2016 Australia
NTSCORP is committed to Aboriginal businesses where the purchase of goods and so	possible through
or distribution is prohibited and may	why for the addressee. It is confidential and may be legally privileged. If you are not the intended recipient, any disclosure, copying, be unlawful. By opening any attachment, you agree that NTSCORP Limited (NTSCORP) will not be liable for any loss resulting ews in this message are those of the individual sender, except where the sender expressly and with authority, states them to be the
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Appendix C

Newspaper Advertisement

Appendix C Newspaper Advertisement



Appendix D

Heritage NSW and LALC RAP Notification

AECOM tragred. Delivered	Lavel 21, 42 Sydney NSV PO Box Q41	IG Iffice NSW 123	el +61 2 5934 0001 fam ABN 20 093 846 925
25 January 2021			
Archaeologist Heritage NSW Department of Premier and Cabine PO Box 844 Parramatta	et		
To Whom it May Concern,			
RE: Notification of Registration of Aborig Storage Project, Broken Hill, NSW	jinal Parties (RAPs	s) for the E	Broken Hill Battery Energy
In accordance with Section 4.1.8 of Heritage Requirements for Proponents 2010, please organisations and individuals who have regi Cultural Heritage Assessment being underta Hill Battery Energy Storage Project, Broken	find enclosed for yo stered an interest in aken by AECOM Au	ur records being con	a list of the Aboriginal sulted for an Aboriginal
As was stated in the letters of invitation issu	od to Abariainal are	minations	and to divide using a second second
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u have been identified by Heritage NSW as an Aborginal person or organisation with the potential to hold outural interdig memorant to determining the significance of Aborginal objects and places within the Project Area. Outsiding A ACCOM is mining you to participate in community, consultation for this project. Interdig the Coll is mining you to participate in community, sconsultation for this project. Second Callses in the Aborginal Participate in community consultation for this project. Second Callses interdig the Coll is mining you to participate in community of the Coll is place OH 10, CVB Post OH 10, December 2020. The interdig the Collice of Environment and Heritage is Aborginal Parts and Matthe Regulation 2009 and then 41, 1 of the Other of Environment and Heritage is Aborginal Heritage Engath Permit and to assist the coord capital of the intege INSW in his or her consideration and the minimation of the application. Sector General of Heritage INSW in his or her consideration and the intege in the application. Sector General OH Heritage INSW in his or her consideration and the intege in the part Permit and to assist the consideration of the integers an interest in consideration of the application. Sector General OH Heritage INSW in his or her consideration and the integer with the foreign of the application. Sector General OH Heritage INSW in his or her consideration and the integer of the application in Broken Hill Local Aborginal Land Council, unless you specify that you do not want your details released the application in the application is application in the apole of applic	The Proponent for the Project is AGL Energy I		Street, Sydney NSW 2000). The project	e .
General of Heritage NSW in the or her consideration and determination of the application. See all 2003 of the transmission of the application of t	You have been identified by Heritage NSW as knowledge relevant to determining the significa	an Aboriginal person or organ ance of Aboriginal objects and	places within the Project Area.	· .
OF AECOM Australia Pry Lid PO Bios C410. UVE Prov Chice. Sychew, NSW 1230 Pr. CH10313009 Fac: +61 2 8934 0001 Email: georde callso geocom.com Exai: egistrations must be received by 110 December 2020. is notification is given to accordance with of 800 (2)(b) of the Alatonal Parks and Wolffe Regulation 2009 and disn 41 3 of the Office of Environment and Heritage a Acorginal Cultural Heritage Consultation Mapping	To register your interest to be consulted about		e following:	
Fait = 61 2 8034 0001 Email: georde calles gacom.com be involved in the consultation process, registrations must be received by 18 December 2020, is notification is given in accordance with of 800 (2)(b) of the Matorial Paris and Wattle Regulation 2008 and dan 4.1.3, of the Office of Environment and Heritage's Aborginal Columal Mentage Consultation Registrements from posed applicant in the preparation of an application for an Aborginal Parisa the Matorial Parisa cord General of Heritage NSW in this or her consideration, and determination of the application. Interview of Heritage NSW in this or her consideration, your details will be forwarded to Heritage NSW and Broken Hill Local Aborginal Land Council, unless you specify that you do not wrant your details released, it regards, where Ogeneral Dates States Gacom, com end Dates 12 2634 0610	PÓ	A AECOM Australia Pty Ltd Box Q410, QVB Post Office. Sydney, NSW 1230		
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hadologist ordie, Oakes@aecom.com en Dat -81 2 6634.0610	Kind regards.			
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AECOM Imagnett Delivered AECOM Australia Pty Ltd Level 21, 420 George Street +61 2 5934 0000 +61 2 5934 0001 her Sydney NSW 2000 ABN 20 093 846 925 PO Box Q410 **OVE Post Office NSW 1230** Australia www.sectore 25 January 2021 Broken Hill LALC 84 Oxide Street Broken Hill NSW 2880 To Whom it May Concern, RE: Notification of Registration of Aboriginal Parties (RAPs) for the Broken Hill Battery Energy Storage Project, Broken Hill, NSW In accordance with Section 4.1.6 of Heritage NSW's Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010, please find enclosed for your records a list of the Aboriginal organisations and individuals who have registered an interest in being consulted for an Aboriginal Cultural Heritage Assessment being undertaken by AECOM Australia Pty Ltd (AECOM) for the Broken Hill Battery Energy Storage Project, Broken Hill, NSW. As was stated in the letters of invitation issued to Aboriginal organisations and individuals requesting registrations of interest sent out on 3 December 2020, the official registration period for this project closed on 18 December 2020. A copy of the invitation is attached to this letter as well as the newspaper advertisement requesting stakeholders. A total of four Aboriginal organisations registered an interest in the project. Summary information on all RAPs, including registration dates, is provided in Table 1. In accordance with Section 4.1.5 of the Consultation Requirements, AECOM provides the opportunity for Registered Aboriginal Parties (RAPs) to withhold their details from being forwarded on to the Local Aboriginal Land Council and/or Heritage NSW, and respects the wishes of RAPs to withhold their details at their discretion. No RAPs requested that their details be withheld in regard to this project. Table 1 Registered Aboriginal Parties Organisation Date of Method **Contact Person** registration Cally Doyle 11-Dec-20 Email Cally Doyle Maureen O'Donnell Wilyakali Aboriginal Corporation 18-Dec-20 Phone Broken Hill LALC 24-Nov-20 Phone Joanne O'Donnell Barkanndji #8 Native Title Determinants 11-Jan-21 Phone Derek Hardman Yours faithfully, Geordie Oakes Principal Heritage Specialist

> geordie.oakes@aecom.com Direct Dial: +64 2 89340610 Direct Fax: +64 2 89340001



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03 December 2020	and place line
Barkanndij #8 Native Tite Determi CEO 27 South Street Broken Hill NSW 2880	nants.
Dear SinMadam.	
RE: Aberiginal community consultation f Hill LGA, NSW	or Broken Hill Battery Energy Storage Project, located in The Broken
(AGL) to undertake an Aboriginal cultural he	ralia Pty Ltd (AECOM) has been commissioned by AGL Energy Limited intage assessment for the construction of a battery storage facility of a 100 megawati-hour (MWh) in capacity at Broken Hill (the Project, Figure
The Broken Hill Battery Energy Storage Sys the event of line failure and provide efficient firming capacity to the National Energy Mark	Amer (BESS) would provide reliable supply of electricity to Broken Hill in grid support for the region. The proposed Project Will provide storage and use (NEM) as well as additional services to assist grid stability including I has been commissioned to complete an Aborginal Cultural Hentage
	y Limited (Level 24, 200 George Street, Sydney NSW 2000) The project
You have been identified by Hentage NSW : knowledge relevant to determining the signif	as an Aborginal person or organisation with the potential to fold cultural ficance of Aborginal objects and places within the Project Area. Indrate in community consultation for this project.
To register your interest to be consulted abo	
	Geordie Cakes of AECOM Matoslas Pip Ltd PO Box Q410, QVB Post Office, Sydney, NSW 1230 Pris Genost 3500
E	Fas: +61 2 5934 0001 nail:georde.calas@aecom.com
This notification is given in accordance with section 4.1.3 of the Office of Environment ar Proponents 2010 (DECCW, 2010). The purp proposed applicant in the preparation of an a	egistrations must be received by 18 December 2020. c) IIOC (2(b)) of the Alaborat Parks and Woldfe Regulation 2009 and of Heritage's Aborginal Cultural Heritage Consultation Regulatements for ose of community consultation with Aboriginal people is to assist the application for an Aborginal Heritage Impact Permit and to assist the ser consideration and determination of the application.
Please be advised that if you register an inte	erest in consultation, your details will be forwarded to Hentage NSW and al, unless you specify that you do not want your details released.
Kind regards.	
6 Pass	
Geordie Oakes Archaeologist	
Geordie Oakes@aecom.com Direct Dial: +61 2 8934 0610	
Direct Fax: +61 2 8934 0001	



Appendix E

Draft Assessment Methodology

AECOM Inagree to Delivered AECOM Australia Pty Ltd 161 2 5934 0000 Jul Level 21, 420 George Street 161 2 8934 0001 Am Sydney NSW 2000 ABN 20 093 846 925 PO Box Q410 QVB Post Office NSW 1230 Australia -----21 December 2020 Dear RAP. RE: Proposed Aboriginal Cultural Heritage Assessment Methodology for the Broken Hill Battery Energy Storage Project, Broken Hill, NSW AECOM Australia Pty Ltd (AECOM) has been commissioned by AGL Energy Limited (AGL) to undertake an Aboriginal cultural heritage assessment for the construction of a battery storage facility of approximately 50 megawatts (MW) and up to 100 megawatt-hour (MWh) in capacity at Broken Hill in New South Wales (NSW). Please find enclosed for your review the proposed assessment methodology being completed for the project. This draft assessment methodology details the proposed approach to the assessment and is being provided to all Registered Aboriginal Parties (RAPs) in accordance with Sections 4.3.1 and 4.3.2 of Heritage NSW's Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010). A brief review of existing environmental and archaeological data for the study area is also provided to give context for the proposed assessment methodology. All comments on the proposed methodology must be received by COB 19 January 2021. Comments can be provided in writing or by phone. Comments on the cultural values of the study area can be provided along with your comments on the proposed methodology at any stage up until the end of the draft assessment review period. Geordie Oakes c/- AECOM Australia Pty Ltd PO Box Q410, QVB Post Office. Sydney, NSW 1230 Ph: 0410513509 Fax: +61 2 8934 0001 Email: geordie.oakes@aecom.com We look forward to your participation in the assessment of this project. Yours faithfully Geordie Oakes Principal Heritage Specialist geordie.oakes@aecom.com Direct Dial: 0410 513 509 Direct Fax: +64 2 89340001 a 6064/00510153400_34/01415_mm + Definitions 2006_12_21_mm adag/dab19121_ag max max + NED and





3.0 The Study Area

The study area for this assessment, shown on Figure 1, comprises the proposed location for the battery facility as well as an overhead transmission line corridor between the battery site and the existing TransGrid Substation. Occupying Lots 57 and 58 on DP258288, and Part Lot 7302 on DP1181129, the site is generally located at 74 and 80 Pinnacles Place, northern Broken Hill. Combined, these areas produce a study area of 1.2 hectares (ha). The battery site comprises a cleared area with access tracks that is currently used as a storage area for equipment, vehicles and other materials. Meanwhile, the transmission line corridor is generally undisturbed and not being currently used with the exception of disturbed land directly adjacent to the substation and an access road.

It is noted that Lots 57 and 58 on DP258288 are freehold land whilst Lot 7302 on DP1181129 is freehold land that is owned by NSW government and is classified as Crown reserve. The parcel of Crown reserve, where only the transmission line is proposed, is subject to Local Aboriginal Land Claim number #40469 as well as an undetermined Native Title Claim by the Barkandji Malyangapa People (NP2020/001). It is noted the AGL has undertaken consultation with Broken Hill Local Aboriginal Land Council (BLALC) and the NSWLALC over the land claim.

4.0 AHIMS Database

The Aboriginal Heritage Information Management System (AHIMS) database, administered by Heritage NSW, contains records of all Aboriginal objects reported to the Director General of the Department of Premier and Cabinet in accordance with Section 88A of the National Parks and Wildlife Act 1974. It also contains information about Aboriginal places, which have been declared by the Minister to have special significance with respect to Aboriginal culture. Previously recorded Aboriginal objects and declared Aboriginal places are known as 'Aboriginal sites'.

A search of the AHIMS database undertaken on 15 December 2020 for a 10 x 10 km area centred on the study area resulted in the identification of 50 Aboriginal sites, comprising 40 open artefact sites (i.e., isolated artefacts and artefact scatters), seven stone guarries (two with associated artefacts), two hearths and one resource and gathering site (Table 1).

Consideration of the location of previously recorded Aboriginal sites indicates that none are located wholly or partially within the study area with the closest site – open artefact site "Kanandah 1" (AHIMS #23-4-0640) located 390 metres (m) to the south.

Table 1 Site search results (10 x 10 km area)

Site Type	Count	%
Open artefact site (i.e., isolated artefacts and artefact scatters)	40	80
Stone quarry	7	14
Hearths	2	4
Resource and gathering site	1	2
Total	50	100

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AECOM Imagine it. Delivered 5.0 Methodology In accordance with Heritage NSW's Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010b), the approach that AECOM intends to adopt for undertaking the assessment includes the following key components: A. Background research: B. Archaeological survey and potential test excavation of the study area: C. Consultation with Registered Aboriginal Parties (RAPs) in order to identify the Aboriginal cultural heritage values of the study area; and D. Preparation of an ACHAR for the study area detailing the results of the above. Appropriate management/mitigation measures for the identified Aboriginal heritage values of the study area will be provided in this report. The proposed methodologies for each of these components are detailed in the sections below. A. Background Research The following tasks will be undertaken for the background research component of the assessment: Search of Heritage NSW's AHIMS database; A review of associated site cards and reports to clarify site contents, extents and statuses; A review of the landscape context of the study area, with a particular emphasis on its implications for the nature and distribution of Aboriginal archaeological materials; A review of relevant archaeological and ethnohistoric information for the study area and environs; and Preparation of a predictive model for the Aboriginal archaeological record of the study area. B. Archaeological Survey and Test Excavation. AECOM proposes to undertake a "full coverage" archaeological survey across the study area. The survey will be undertaken by a combined field team of two AECOM archaeologists and an appropriate number of RAP field representatives. While vehicles may be used to transport the survey team between survey localities, all survey will be completed on foot. Linear transects of variable length and width, depending on ground conditions and occupational health and safety (OH&S) considerations are proposed. The location of all transects completed during the survey, including their start and end points, will be recorded using one of two handheld differential GPS units, with associated transect data (e.g., levels of visibility and exposure, disturbance factors) entered directly into the same unit upon the completion of each transect. If deemed warranted, based on an assessment of landscape variables, disturbance and discussions with RAPs, a program of archaeological test excavation will be completed across areas of sensitivity within the study area. For the current assessment, it is proposed that areas of identified subsurface archaeological sensitivity, including archaeological features such as hearths, be sampled with test pits placed on a 20 m grid. Test pits will be hand excavated in 0.25 m² (50 x 50cm) units and will be dry sieved through a 5 mm mesh to a maximum depth of 1.2 m All subsurface testing will be carried out in accordance with Requirement 16a, Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010b). Results from the data will be used in conjunction with survey results to inform management recommendations included in an AAR prepared in accordance with Requirement 11 of the Code of Practice. Aboriginal objects recovered during subsurface testing will be curated in accordance with Requirement 28 of the Code of Practice. All Aboriginal archaeological sites identified during the survey will be recorded to the standard required by the Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (DECCW 2010b). For each site located, individual artefact locations will be captured by differential GPS. As with that recorded for individual survey transects, attribute data for all identified flaked stone artefacts will be entered directly into a GPS unit using AECOM's standard digital open site recording form. All sites 1207

AECOM Imagine IL Delivered will be comprehensively photographed following artefact recording and registered on Heritage NSW's AHIMS database. **C.** Cultural Values RAP representatives are in the best position to provide information on the Aboriginal social/cultural heritage values of a given area. During the assessment process, AECOM archaeologists will consult with RAPs regarding the cultural heritage values of objects and places in the study area. This will include: · A request (with this draft methodology) for any initial comments regarding the Aboriginal cultural heritage values of the study area; · The provision of this information package, including draft assessment methodology to all RAPs for comment prior to fieldwork: RAP participation in field survey: Discussion of cultural heritage values with RAPs during the field survey and generally throughout the process until the end of the draft ACHAR review period; and Provision of draft ACHAR to all RAPs for comment prior to finalisation. The identification of cultural values will include places of social, spiritual and cultural value, historic places with cultural significance, and potential places/areas of historic, social, spiritual and/or cultural significance As noted in Heritage NSW's Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW, 2010a), some information obtained from registered Aboriginal parties may be sensitive or have restricted public access. AECOM, in consultation with relevant RAPs, will develop appropriate protocols for sensitive or restricted information, including: 1. Cultural restrictions on access to the material. Cultural restrictions on communication of the material. 3. Cultural restrictions on the location of the material. 4. Cultural recommendations on handling the material. Any other contextual information.
 The names and contact details of persons authorised within the relevant Aboriginal group to make decisions concerning the Aboriginal material and the degree of authorisation. 7. Details of any consent given in accordance with customary law. Level of confidentiality to be accorded to the material. 8. 9. Access and use, by the registered Aboriginal parties, of the cultural information in the material. It is noted that the purpose of community consultation with Aboriginal people is to assist AECOM and AGL in the preparation of an application for an Aboriginal Heritage Impact Permit (although such a permit is not expected to be necessary given the Project will be assessed as an SSD [Section 3]), and to assist the "Director-General" (DECCW, 2010) in his or her consideration and determination of the application. D. Preparation of an ACHAR AECOM will prepare an ACHAR for the Project detailing the results of the above archaeological survey and consultation with RAPs. The ACHAR will provide appropriate management and mitigation measures for the study area's Aboriginal heritage values. RAPs will have the opportunity to comment on management and mitigation options proposed in the ACHAR prior to finalisation. Specifically, the ACHAR will include the following: A description of the Aboriginal objects and declared Aboriginal places located within the study . A description of the cultural heritage values, including the significance of the Aboriginal objects and declared Aboriginal places, that exist across the whole area that will be affected by the proposed activity and the significance of these values for the Aboriginal people who have a cultural association with the land; 207

AECOM Imagine it. How the requirements for consultation with Aboriginal people have been met (as specified in clause 80C of the NPW Regulation); The views of those Aboriginal people regarding the likely impact of the proposed activity on their . cultural heritage (if any submissions have been received as a part of the consultation requirements, the report must include a copy of each submission and your response); Actual or likely harm posed to the Aboriginal objects or declared Aboriginal places from the proposed activity, with reference to the cultural heritage values identified any practical measures that may be taken to protect and conserve those Aboriginal objects or declared Aboriginal places: and Any practical measures that may be taken to avoid or mitigate any actual or likely harm. alternatives to harm or, if this is not possible, to manage (minimise) harm. 6.0 Project Timeline Current indicative timelines for the ACHAR are: Collation of culturally significant information – ongoing throughout process until the end of the draft ACHAR review period. Provision of comment on this draft methodology – 21 December 2020. Archaeological survey – January 2021. Provision of a draft ACHAR report to each RAP for review and comment – early 2021. · Period for comment on the draft ACHAR report - a minimum of 28 days following provision of the draft report to the RAPs. Preparation of a final ACHAR report in consideration of comments received from the RAPs March 2021. The above timelines are preliminary only and are subject to change. RAPs will be notified of dates for field surveys and the due date for provision of comments on the draft ACHAR report once available. 7.0 References NSW Department of Environment Climate Change & Water. (2010a). Aboriginal Cultural Heritage Consultation Requirements for Proponents. Department of Environment, Climate Change and Water. NSW Department of Environment Climate Change & Water. (2010b). Code of Practice for Archaeological Investigation of Aborginal Objects in New South Wales. Department of Environment, Climate Change and Water. 1000

Appendix F

Consultation Log

Date	Group	Stakeholder Representative	Correspondence/Comments	AECOM Response
11/11/2020		Age	ency Letters Sent Out	
16/11/2020	NTS Corp	James McLeod	Please register Barkandji Native Title Group Aboriginal Corporation RNTBC (ICN 4740) as a RAP for this project. The Barkandji Corporation is the representative native title entity for the area affected by this project.	None required
19/11/2020	Broken Hill Council	Tracey Stephens	Council responded with a list of contacts	None required
20/11/2020	Local Land Services	Guy Gibbs	LLS responded "It is recommended by LLS Western that you contact the following Aboriginal Community groups regarding cultural heritage matters within the project area. Broken Hill LALC – 84 Oxide Street, Broken Hill NSW 2880. Phone (08) 80877310"	None required
24/11/2020	Broken Hill LALC	Representative	Called to register the LALC's interest in the project. Also, wanted to confirm that they was aware of the agreement between AGLM and the LALC. They also advised that there are two Traditional Owner groups in the area.	None required
3/12/2020	Heritage NSW	-	Provided the contact details for seven groups and individuals that may have an interest in registering for consultation. A second response was provided by Heritage NSW on 3 December 2020, with a further five names, some of which were previously provided.	None required
11/11/2020	Office of Registrar	-	Did not respond	None required
11/11/2020	NNTT	-	Did not respond	None required
3/12/2020		ROI req	uest sent to stakeholders	
7/12/2020	Barkanndji #8 Native Title Determinants	Derek Hardman	Email sent to Barkaanji with EOI	None required
11/12/2020		Cally Doyle	Registered by Kristy Bennett	None required
18/12/2020	Broken Hill LALC	Represenative	Geordie called the representative to get contact details for local RAP groups. Received details for Maureen O'Donnel and Barkannji Native Title Group	None required
18/12/2020	Wilyakali Aboriginal Corporation	Maureen O'Donnell	Geordie spoke with Maureen to see if she was interested in registering for the project. Maureen stated she would like to register. Also updated contact details	None required

Date	Group	Stakeholder Representative	Correspondence/Comments	AECOM Response
18/12/2020	Barkanndji #8 Native Title Determinants	Derek Hardman	Left message on Derek's phone to contact Geordie	None required
22/12/2020		Met	nodology sent to RAPs	
11/01/2021	Broken Hill LALC	Representative	Geordie called the representative to arrange a field officer for the site inspection. Representative advised to call another contact at the LALC office	None required
11/01/2021	Broken Hill LALC	Office	Geordie called the LALC office to arrange site officers. Contact not available. Left msg to return call.	None required
11/01/2021	Barkanndji #8 Native Title Determinants	Derek Hardman	Left message on Derek's phone to contact Geordie regarding site visit. Derek called back and said he'd have someone available and to email him the details. Also stated he knew of the additional NNTT claim that had been submitted but was not connected to it and didn't know the applicant.	None required
11/01/2021	Wilyakali Aboriginal Corporation	Maureen O'Donnell	Geordie spoke to Maureen regarding site visit. Maureen said she would send a man and woman on the 20th.	None required
13/01/2021	Barkanndji #8 Native Title Determinants	Derek Hardman	Emailed site visit information	None required
13/01/2021	Broken Hill LALC	Contact nominated by represenative	Emailed site visit information	None required
10/03/2021		А	CHAR sent to RAPs	
18/03/2021	Wilyakali Aboriginal Corporation	Maureen O'Donnell	Maureen left a message for Geordie to call regarding the report. Geordie returned the call but was asked to call back later.	None required
8/04/2021	Wilyakali Aboriginal Corporation	Maureen O'Donnell	Geordie followed up with Maureen to see if she had any comments. Maureen said she had been unwell and hadn't seen the report. Asked for it to be resent. Also stated she'd call Dulcie to see if the site works went ok. Geordie said the closing date for comments were today and he would send a final of the report when available.	None required
8/04/2021	Broken Hill LALC	Representative	Darran Jordan (AECOM) called the representative to see if there were any comments. No issues were raised or comments provided.	None required
8/04/2021	Barkanndji #8 Native Title Determinants	Derek Hardman	Geordie called Derek to see if there were any comments but phone was not answered. Geordie left a message.	None required