G.6 ABORIGINAL CULTURAL HERITAGE AND HISTORIC (EUROPEAN) HERITAGE

RYE PARK WIND FARM MODIFICATION

Aboriginal Cultural Heritage Assessment

April 2020

Project Number: 19-143

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DOCUMENT VERIFICATION

Project Title:	Aboriginal Cultural Heritage Assessment
Project Number:	19-143
Project File Name:	19-143 Rye Park Wind Farm ACHA

Revision	Date	Prepared by	Reviewed by	Approved by
Draft	23/01/2020	Bronwyn Partell ad Chelsea Jones	Kirsten Bradley	
Draft	14/02/2020	Bronwyn Partell	Matthew Barber	
Draft v.2	24/02/2020	Bronwyn Partell	Matthew Barber	Marita Giles
Draft v.3	06/03/2020	Bronwyn Partell	Matthew Barber	
Draft v.4	01/04/2020	Bronwyn Partell	Marita Giles	

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ACHA	Aboriginal Cultural Heritage Assessment
AFT	Artefact Scatter
AHIMS	Aboriginal heritage information management system
ASL	Above sea level
BCD	NSW Biodiversity and Conservation Division (formerly Office of Environment and Heritage (OEH) within the Department of Planning, Industry and Environment (DPIE)
CEMP	Construction environmental management plan
DECCW	Department of Environment, Climate Change and Water was previously responsible for heritage matters in NSW before becoming the Office of Environment and Heritage in 2011
DP&I	Formally (NSW) Department of Planning and Infrastructure now DPIE
DPIE	Department of Planning, Industry and Environment
EIA	Environmental impact assessment
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cwth)
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
ESD	Ecologically Sustainable Development
ha	hectares
Heritage Act	*Heritage Act 1977* (NSW)
IBRA	Interim Biogeographic Regionalisation of Australia
IF	Isolated Find
ISEPP	*State Environmental Planning Policy (Infrastructure) 2007* (NSW)
km	kilometres
LALC	Local Aboriginal Land Council
LEP	Local Environment Plan
m	metres
NPW Act	*National Parks And Wildlife Act 1974* (NSW)
NSW	New South Wales
OEH	(NSW) Office of Environment and Heritage
PAD	Potential Archaeological Deposit
RAP	Registered Aboriginal Party
RPWF	Rye Park Wind Farm
REF	Review of Environmental Factors
SEARs	The Secretary of the Department of Planning and Environment Environmental Assessment Requirements
SEPP	State Environmental Planning Policy (NSW)
SSD	State Significant Development

EXECUTIVE SUMMARY

INTRODUCTION

NGH Pty Ltd (NGH) was contracted by Rye Park Renewable Energy Pty Ltd to undertake an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed modification application for the State Significant Development (SSD) project, the Rye Park Wind Farm (RPWF) (Development Consent SSD 6693).

The NSW Minister of Planning approved the construction and operation of the RPWF on the 22 May 2017. The RPWF is located 10 km north-east of the township of Yass and 17 km east of the township of Boorowa intersecting the Yass, Upper Lachlan and Hilltop Local Government Areas (LGA). The RPWF represents an important contribution to renewable energy generation in NSW.

The proponent is proposing to modify the existing approval to increase the turbine tip height from 157m to 200m and reduce the number of turbines from 92 to 80. The indicative design of the modified RPWF includes additional site infrastructure, works and activities beyond that approved in the Conditions of Consent (CoC) for the RPWF. Any proposed works or activities in areas beyond (as well as removal of areas) that were approved in the CoC for the project must be sufficiently assessed prior to the submission of a modification application, this includes the assessment of Aboriginal cultural heritage. The modification application must be approved by the Department of Planning, Industry and Environment (DPIE) prior to any works or activities commencing beyond that approved in the CoC for any SSD Project.

The proposal involves the modification to the approved development consent for the Rye Park Wind Farm, which includes the selection of a preferred transport route into the site The project area has been subject to two previous archaeological investigations associated with the original development application, undertaken by NSW Archaeology in 2013 and 2015. Further archaeological investigations are required in the form of an ACHA as the proposal involves development works with the potential to impact Aboriginal object across areas that were not surveyed during the previous investigations.

PROJECT PROPOSAL

The main features of the modification include:

- The widening of surrounding external roads to facilitate the construction and ongoing maintenance of the wind farm, as noted in the CoC;
- The construction of new internal roads/access tracks;
- The installation of an overhead cable 132kV transmission line, approximately 3.2km;
- The installation of an overhead 33kV transmission line for approximately 8km; and
- The installation of a underground cabling.

The modification proposal will include the following changes to the approved development:

1. Modifications to the turbine parameters:
    a. Increase in maximum tip height of wind turbines; and
    b. A reduction in the overall number of wind turbines.
2. Modifications to the proposed wind farm site, internal tracks and connection infrastructure:
    a. An increase in the average width, and decrease in the total length of internal tracks;
    b. A decrease in the total length of the transmission route;
    c. A decrease in the total length of underground cabling; and
    d. A decrease in number of operations and maintenance buildings and collector substations
3. Transport route upgrades:

a. Selection of a preferred construction transport route for Heavy and Over Dimensional vehicles during construction.
b. Inclusion of a maximum clearance limit for Box Gum Woodland, specifically related to the upgrade of public roads.

ABORIGINAL CONSULTATION

The consultation with Aboriginal stakeholders was in accordance with clause *80C of the National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010* and the OEH guidelines, *Aboriginal cultural heritage consultation requirements for proponents 2010*.

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

As a result of this process, five groups registered their interest in the proposal:

- Onerwal LALC;
- Buru Ngunawal Aboriginal Corporation;
- Gundungurra Aboriginal Heritage Association Inc;
- Carl and Tina Brown; and
- Gunjeewong Cultural Heritage Aboriginal Corporation.

No other party registered their interest, including the entities and individuals recommended by the NSW Biodiversity and Conservation Division (BCD).

The fieldwork was organised and two registered parties (Onerwal LALC and the Buru Ngunawal Aboriginal Corporation) were asked to participate in the fieldwork. The fieldwork was carried over multiple days between 24.09.2019 to 27.09.2019 and 30.09.2019 to 03.10.2019.

A copy of the draft report has been provided to all the registered parties for comment **on 8 April 2020**. Their responses are due by 8 May 2020 and will be included within the finalised report.

ARCHAEOLOGICAL CONTEXT

Two prior archaeological investigations have occurred within the project area, with this investigation targeting the areas of proposed development that were not assessed during the NSW Archaeology 2013 and 2015 investigations (Dibden, 2013 & 2015).

SURVEY RESULTS

The combined allotments that make the Rye Park Wind Farm cover a total area of approximately 13,528ha, while the development envelope for the modification proposal covers only 1,303ha of this area. The survey area covers approximately 414ha including the external road widening, covering only areas of the proposed modification that were not previously subject to archaeological investigations. The survey had an effective survey of 8.11% across the 16 landform types surveyed. The full breakdown of survey coverage is outlined in Table 4-1. Overall, it is considered that the surface survey of the Rye Park Wind Farm modification proposal area had sufficient and effective survey coverage. The results identified are considered a true reflection of the nature of the Aboriginal archaeological record present within the proposal area.

There were three archaeological site types identified during the field survey, artefact scatters and isolated finds of stone stools, as well as Potential Archaeological Deposits (PADs) indicating the potential for artefacts to be remaining below the surface. A total of 26 archaeological sites were recorded, featuring 67 stone artefacts located on the ground surface at 24 locations, as well as 8 areas of PAD.

POTENTIAL IMPACTS

The current and previous archaeological investigations of the proposal area have clearly identified that there are Aboriginal archaeological sites present within the proposal area. With the current proposed works, it is not possible to avoid harm to all of the sites described in Section 4.3. The proposed level of disturbance, and subsequently harm to the Aboriginal objects, differs across the proposal area in association with the works required. The highest level of impact will be resultant from the proposed underground cabling, which will cause partial destruction to all of the 10 Aboriginal archaeological sites (refer to Table 7-1 in Section 7.4 below) within these areas that were recorded during these investigations, with the areas of potential harm/destruction limited to the exact alignment of the underground cabling. The level of harm consequent from the proposed overhead 132kV transmission line is difficult to assess, as the positioning of the poles (the aspects that create ground disturbance) can be adjusted (to some degree), however an average would place the poles approximately 200-300m apart with a ground disturbance depth of approximately 1m and area of approximately 400m² for each pole location, with five sites facing potential harm. The internal civil works proposed to upgrade and maintain tracks throughout the wind farm would result in the grading and clearing of surface material, meaning that the six sites within this footprint would face total destruction. This is considered a direct impact on the sites and the Aboriginal objects by the development in its present form.

In reference to the proponent's proposal and the archaeology recorded, there would potentially be a moderate level of impact upon the archaeology and in-turn a high level of harm would be placed upon the sites within the impact areas. The type and degree of harm proposed to the recorded sites is outlined in Table 6-1. The proposed modifications to the RPWF development envelope would result in a similar to moderately increased level of harm in comparison to the previously approved development envelope.

RECOMMENDATIONS

The recommendations are based on the following information and considerations:

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

It is recommended that:

1. The archaeological sites have presented a low-density concentration of surface artefacts. The sites within the proposal area have been assessed to hold a low to moderate scientific value, in particular the higher density site AFT 6 + PAD. Based on the assessment of the sites and in consideration of discussions with the Aboriginal representatives during the fieldwork, it is not considered necessary to prevent all development of the proposal area, or for total avoidance of the Aboriginal heritage sites identified within the proposed works corridors.
2. The proposed modification works should avoid the locations of the below sites where possible, and if not possible to avoid, refer to recommendations 4 and 5;

Site Name	AHIMS Site ID	Site Type
AFT 1 + PAD	TBA	Potential Archaeological Deposit + Artefact Scatter
AFT 2 + PAD	TBA	Potential Archaeological Deposit + Artefact Scatter
AFT 3 + PAD	TBA	Potential Archaeological Deposit + Artefact Scatter
AFT 4 + PAD	TBA	Potential Archaeological Deposit + Artefact Scatter
AFT 5 + PAD	TBA	Potential Archaeological Deposit + Artefact Scatter
AFT 6	TBA	Artefact Scatter
PAD 1	N/A	Potential Archaeological Deposit
SU3/L1	51-4-0203	Isolated Artefact
SU3/L2	51-4-0207	Artefact Scatter
Flakney Creek	51-4-0058	Isolated Artefact

3. The proposed modification works should avoid the locations of the below areas of historic archaeological potential, if not possible to avoid refer to recommendation 6;

Survey Unit / Location	Site Description	Recommended Buffer Distance
SU64 / L1	Historical structure platform, fire place brick and stone, 2m x 2m	20m
SU64/ L1	Post hole	20m
SU78 / L1	Possible historic stone hearth with intervening platform	20m
SU78 / L1	Second possible historic hearth, potentially connected to the above stone hearth	20m
SU77 / L3	Old house structure	20m
SU75 / L1	Sheep dip likely connected to old homestead on opposite site of creek, concrete , wood, metal	20m
SU75 / L2	Possible crutching shed with post holes evident 20 x 10m	20m

4. Prior to development works commencing, subsurface testing and salvage excavation (Appendix D and Appendix E) will be required across areas identified as PAD where ground disturbance cannot be avoided. These include the locations of identified PADs, and any PAD sites listed in recommendation two that cannot be avoided;

Site Name	AHIMS Site ID	Site Type
AFT 2 + PAD	TBA	Artefact Scatter + Potential Archaeological Deposit
AFT 3 + PAD	TBA	Artefact Scatter + Potential Archaeological Deposit
AFT 4 + PAD	TBA	Artefact Scatter + Potential Archaeological Deposit
PAD 1	N/A	Potential Archaeological Deposit
SU30/L2	51-1-0153	Artefact Scatter + Potential Archaeological Deposit

5. Prior to development works commencing, all surface artefacts (IF and AFT sites) facing potential harm are collected during a salvage program, by a qualified archaeologist and RAP representatives, in accordance with the Conditions of Consent. Any artefacts collected would be reburied in consultation with the Aboriginal community and would be in line with Requirement 26 of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW.* All AHIMS site cards must be updated to reflect that salvage has been undertaken and to record the reburial locations of artefacts. This includes any sites listed in recommendation two that cannot be avoided, as well as the artefacts described in Section 5.3.2 of this report as:

Site Name	AHIMS Site ID	Site Type
AFT 1	TBA	Artefact Scatter
AFT 2	TBA	Artefact Scatter
AFT 4	TBA	Artefact Scatter
AFT 5	TBA	Artefact Scatter
IF1	TBA	Isolated Artefact
IF2	TBA	Isolated Artefact
IF3	TBA	Isolated Artefact
IF4	TBA	Isolated Artefact
IF5	TBA	Isolated Artefact
IF6	TBA	Isolated Artefact
IF7	TBA	Isolated Artefact
IF8	TBA	Isolated Artefact
IF9	TBA	Isolated Artefact

IF10	TBA	Isolated Artefact
IF12	TBA	Isolated Artefact
IF13	TBA	Isolated Artefact
SU4/L1	51-4-0284	Isolated Artefact
SU18/L1	51-4-0285	Isolated Artefact
SU21/L1	51-4-0287	Isolated Artefact
SU23/L3	51-4-289	Isolated Artefact
SU28/L2	51-1-0150	Isolated Artefact
SU29/L1	51-1-0151	Isolated Artefact
SU33/L1	51-4-0341	Artefact Scatter
SU33/L2	51-4-0342	Artefact Scatter
SU33/L4	51-4-0344	Artefact Scatter
SU33/L5	51-4-0345	Isolated Artefact
SU33/L6	51-4-0346	Artefact Scatter
SU34/L1	51-4-0347	Isolated Artefact
SU42/L1	51-4-0349	Isolated Artefact

6. Any identified areas of historical archaeological potential that cannot be avoided should be subject to further investigations in the form of a Statement of Heritage Impact and/or an Archaeological Assessment.
7. The unsurveyed area across Lot 152 of Deposited Plan 754136 and into Lot 1 Deposited Plan 222985 will require a pedestrian survey involving salvage of any surface artefacts and an assessment of subsurface potential, including any further archaeological investigations required if subsurface potential is identified.
8. Site SU17/L1 identified in the 2013 (Dibden) survey of the project area should be avoided with a 10m buffer or have the construction of underground cabling across the site utilize underboring at a depth below 1m to avoid any potential subsurface deposit. If this methodology is not possible, archaeological test excavations will be required before construction can commence.
9. If any objects suspected of being Aboriginal in origin are located in areas that fall outside the Modified Conditions of Consent (Development Consent SSD 6693), work must stop, and BCD notified.
10. In the unlikely event that human remains are discovered during the development works, all work must cease in the immediate vicinity. BCD, the local police and the RAPs should be notified. Further assessment would be undertaken to determine if the remains were Aboriginal or non-Aboriginal.
11. Further archaeological assessment would be required if the proposed activity extends beyond the area of the current or previous investigation, as per Condition 25 of the CoC and the Archaeological Management Plan (2004 draft v4). This would include consultation with the registered Aboriginal parties and may include further field survey and subsurface testing.

1 INTRODUCTION

NGH Pty Ltd (NGH) was contracted by Rye Park Renewable Energy Pty Ltd (Rye Park Renewable Energy) to undertake an Aboriginal Cultural Heritage Assessment for the proposed modification works to the existing and operational Rye Park Wind Farm (RPWF).

Rye Park Renewable Energy Pty Ltd received planning approval on the 22 May 2017 for the construction and operation of the RPWF. The RPWF is located 10 km north-east of the township of Yass and 17 km east of the township of Boorowa intersecting the Yass, Upper Lachlan and Hilltops Local Government Areas (LGA). As a State Significant Development, the Rye Park Wind Farm represents an important contribution to renewable energy generation in NSW. The subject land comprises of multiple cadastral allotments, and a total area of approximately 13,528 ha within the wind farm boundary (Figure 1-1).

1.1 PROJECT MODIFICATION PROPOSAL

Rye Park Renewable Energy propose to submit a modification to the approved development footprint (SSD 6693) for the Rye Park Wind Farm, with an overview of the proposed modifications highlighted in Figure 1-2, and additional maps provided in Appendix G. This heritage assessment is targeted to areas of the proposed modification works that were not covered in prior heritage assessments, as outlined in Figure 1-3, with further detailed maps provided in Appendix G. The proposed modification includes:

The main features of the modification include:

- The widening of surrounding external roads to facilitate the construction and ongoing maintenance of the wind farm, as noted in the CoC;
- The construction of new internal roads/access tracks;
- The installation of an overhead cable 132kV transmission line, approximately 3.2km;
- The installation of an overhead 33kV transmission line for approximately 8km; and
- The installation of a underground cabling.

The modification proposal will include the following changes to the approved development:

4. Modifications to the turbine parameters:
    a. Increase in maximum tip height of wind turbines; and
    b. A reduction in the overall number of wind turbines.
5. Modifications to the proposed wind farm site, internal tracks and connection infrastructure:
    a. An increase in the average width, and decrease in the total length of internal tracks;
    b. A decrease in the total length of the transmission route;
    c. A decrease in the total length of underground cabling; and
    d. A decrease in number of operations and maintenance buildings and collector substations
6. Transport route upgrades:
    a. Selection of a preferred construction transport route for Heavy and Over Dimensional vehicles during construction.
    b. Inclusion of a maximum clearance limit for Box Gum Woodland, specifically related to the upgrade of public roads.

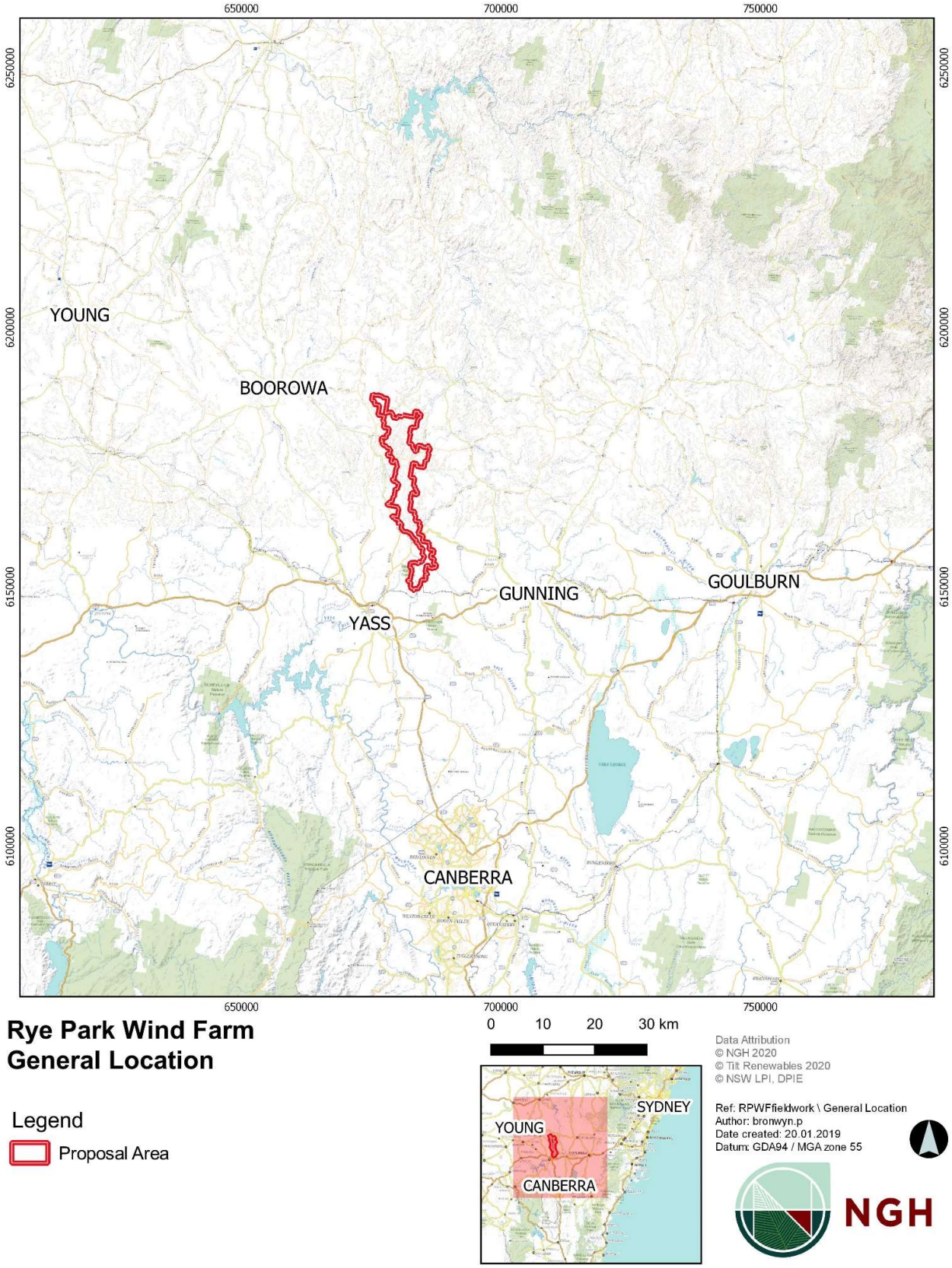


Figure 1-1. Rye Park Wind Farm General Location.

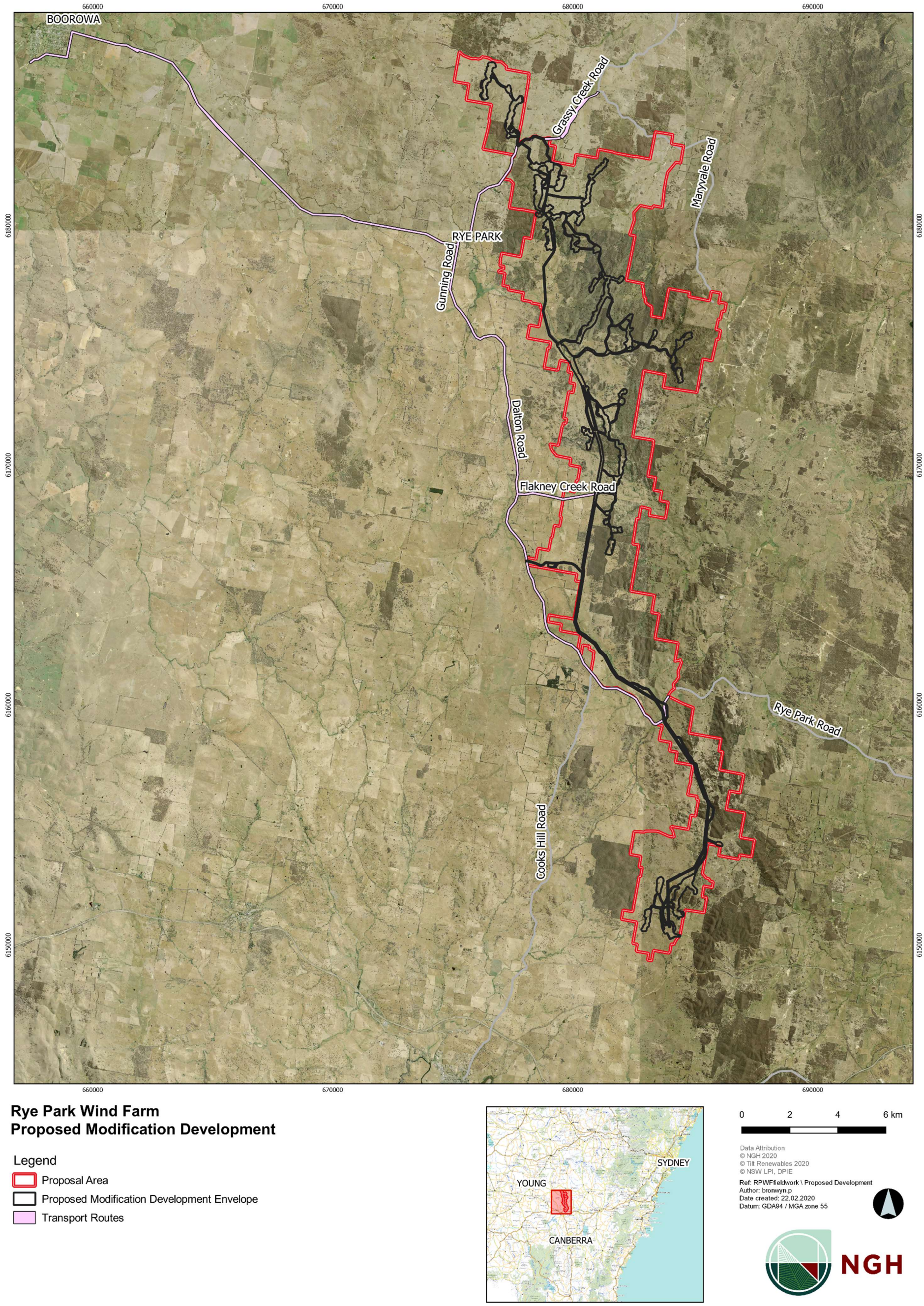


Figure 1-2. Rye Park Wind Farm Modification Development Footprint.

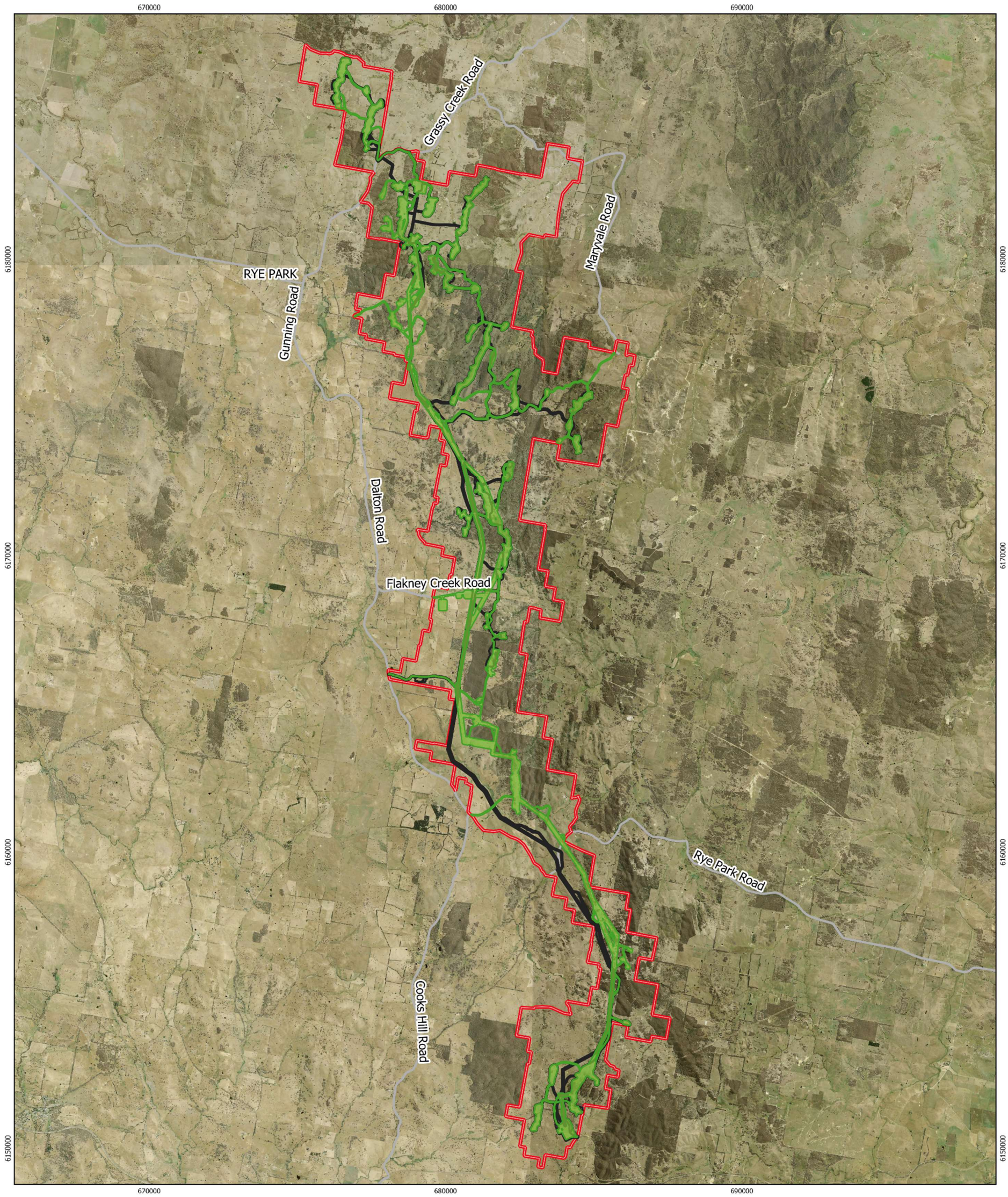


Figure 1-3. Rye Park Wind Farm Approved vs. Modified Development Envelope.

1.2 DEVELOPMENT CONTEXT

Rye Park Wind Farm received planning approval for the construction and operation of the wind farm on the 22 May 2017 (Development Consent SSD 6693). The Rye Park Wind Farm is a State Significant Development and represents an important contribution to renewable energy generation in NSW. At the time of determination, the project was owned by Rye Park Wind Farm Pty Ltd, a wholly owned subsidiary of Epuron Pty Ltd. Subsequently, Rye Park Wind Farm became a wholly owned subsidiary of Tilt Renewables.

An Aboriginal Heritage Management Plan (AHMP) was developed (see AHMP 2017 draft v4) to comply with Condition 25 of the Conditions of Consent (CoC),. Within the AHMP Section 5.1 notes that if there are any layout changes that fall outside the assessed project area, these will require further study. Section 5.6 notes that if any areas are to be impacted that have not been surveyed for the presence of Aboriginal sites, Rye Park Renewable Energy Pty Ltd will contact the project archaeologist, BCD and the RAPs. Recommendation 6 in the AHMP also notes that the project archaeologist should be consulted in respect to any changes which may be made is respect of the Approved Project layout. Further field survey assessment and/or impact mitigation measures may need to be implemented. Following the CoC being issued, a modification to the approved project is now being sought which includes changes to the ground disturbance due to revised underground cabling, overhead transmission line routes and internal access tracks.

Additionally, the Schedule of Land in the CoC for the Project notes that the Project site includes any land which is required for the road upgrades as specified in Appendix 6 of the CoC. The roads listed in Appendix 6 of the CoC for upgrade are noted verbatim in Appendix F for reference. No heritage assessment of these areas was undertaken as part of the original heritage assessments in 2013 and 2015. Additional field survey is required to assess the impact of the proposed works to the project layout and the road widening corridor, as these areas were not assessed during the previous heritage investigations.

1.3 PROJECT PERSONNEL

The assessment was undertaken by archaeologists Matthew Barber, Kirsten Bradley, Chelsea Jones and Bronwyn Partell of NGH, including Aboriginal community consultation, survey and report preparation. Matthew Barber and Kirsten Bradley of NGH reviewed to report for quality assurance purposes.

Further detail and an outline of the consultation process is provided in Section 2 below. Consultation with the Aboriginal community was undertaken following the process outlined in OEH's *Aboriginal cultural heritage consultation requirements for proponents 2010.* Five Aboriginal groups registered their interest in the proposal. These groups were:

- Onerwal LALC;
- Buru Ngunawal Aboriginal Corporation;
- Gundungurra Aboriginal Heritage Association Inc;
- Carl and Tina Brown; and
- Gunjeewong Cultural Heritage Aboriginal Corporation.

Representative from the RAPs who participated in the fieldwork in September to October 2019 were:

- Buru Ngunawal Clan.
- Onerwal LALC.

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

1.4 REPORT FORMAT

As the changes to the proposal will require a Modification to be submitted for assessment to the Department of Planning, Industry and Environment (DPIE). For consistency, we have assumed that an Aboriginal Cultural Heritage Assessment (ACHA) is required, as per the original development Secretary's Environmental Assessment Requirements (SEARs) and have further assumed that the external road upgrade would also be captured in an ACHA, after initial desktop assessment. Advice provided from OEH (now BCD) regarding the proposed modifications confirmed that BCD view the additional assessment required as a continuation of the original project and continued consultation with the Registered Aboriginal Parties (RAPs) for the Rye Park Wind Farm is sufficient in this instance and new advisement for the Modification is not required.

For the purposes of this assessment of the wind farm, we have prepared the report in accordance with the following:

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

The purpose of this ACHA Report is therefore to provide an assessment of the Aboriginal cultural values associated with the transmission line routes and transport route modification areas, to assess the cultural and scientific significance of any Aboriginal heritage sites and to assess any changes to the Aboriginal heritage impacts between the approved development and previously assessed areas. This conforms to the intention of the original SEARs and modification to the assessment submitted by DPIE.

The objectives of this assessment is to:

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

2 ABORIGINAL CONSULTATION PROCESS

It has been confirmed by BCD that the additional assessment required for the modification areas is considered as a continuation of the Rye Park Wind Farm project. Consequently, continued consultation with the previously Registered Aboriginal Parties (RAPs) for the Rye Park Wind Farm is considered adequate in this instance.

The consultation process began in 2012 for the Aboriginal Cultural Heritage Assessment Report (ACHAR) (Dibden, 2013). Consultation with Aboriginal stakeholders was undertaken in accordance with the guidelines set out in the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (NSW DEC July 2005) and OEH's *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW DECCW 2010b).

As a result of this process, five Aboriginal groups registered their interest in the project as listed below;

- Onerwal LALC;
- Buru Ngunawal Aboriginal Corporation;
- Gundungurra Aboriginal Heritage Association Inc;
- Carl and Tina Brown; and
- Gunjeewong Cultural Heritage Aboriginal Corporation.

NGH has consulted with the Aboriginal community throughout the modification assessment, in line with the OEH *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.* To date this has included the following steps:

- Confirmation from BCD that continued consultation for the RAPs for the Rye Park Wind Farm is considered adequate in this instance on the 5th of July 2019; and
- Notification of the proposed modifications and need for additional survey to the Registered Aboriginal Parties on the 15th August 2019.
- The methodology was provided to the RAPs for comment on 22nd August 2019, with no comments received in reply.
- Fieldwork was completed with participation from representatives of the Onerwal LALC and Buru Ngunawal Aboriginal Corporation.

We are now providing this draft Aboriginal Cultural Heritage Assessment Report for comment to the RAPs for the Rye Park Wind Farm project. **Responses are due 4th May 2020.**

The final report will incorporate information provided by the Aboriginal community and a copy will be provided to each party for their records.

2.1 ABORIGINAL COMMUNITY FEEDBACK

Community consultation occurred throughout the project. The draft report was provided to each of the Registered Aboriginal Parties (RAPs) and feedback was sought on the recommendations, assessment and other relevant issues. **(This document – comments will be updated when received).**

3 LEGISLATIVE CONTEXT

Aboriginal heritage is primarily protected under the NSW *National Parks and Wildlife Act 1974* (NPW Act) and as subsequently amended in 2010 with the introduction of the *National Parks and Wildlife Amendment (Aboriginal Objects and Places) Regulation 2010*. The aim of the NPW Act includes:

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

An Aboriginal object is defined as:

> Any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with the occupation of that area by persons on non-Aboriginal extraction and includes Aboriginal remains.

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

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

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

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

Section 90 of the Act requires that an Aboriginal Heritage Impact be granted if an Aboriginal object is to be harmed. Section 85A of the NPW Act allows for an Aboriginal person or organisation to have Aboriginal objects transferred to them for safe keeping. This must be done in association with a Care Agreement between the BCD (formerly OEH) and the Aboriginal person or organisation, with the Care Agreement Application Form sent to the relevant BCD regional office.

The *Environmental Planning and Assessment Act 1979* (EP&A Act) is legislation for the management of development in NSW. It sets up a planning structure that requires developers (individuals or companies) to consider the environmental impacts of new projects. Under this Act, cultural heritage is considered to be a part of the environment. This Act requires that Aboriginal cultural heritage and the possible impacts to Aboriginal heritage that development may have are formally considered in land-use planning and development approval processes.

Under Section 89J of the EP&A Act, the requirement for an AHIP (under Section 90 of the NPW Act) is not applicable for Major Project (transitional) or State Significant Development. The Rye Park Wind Farm is classified as a State Significant Development (SSD) and is authorised by a development consent granted under the EP&A Act. Conditions of Consent are applicable to the authorised development.

4 BACKGROUND INFORMATION

4.1 REVIEW OF LANDSCAPE CONTEXT

4.1.1 Geology, Topography

The landscape context assessment is based on several classifications that have been made at a national and regional level for Australia. The national Interim Biogeographic Regionalisation of Australia (IBRA) system identifies the proposal area as located within the NSW New England Tableland Bioregion (DE&E 2016). The dominant IBRA subregions affected by the proposal are the South Western slopes (west of project area) and South East Highlands Bioregions (east of project area).

The South Western bioregion geology comprises the western fall of the Great Dividing Range to the edge of the Riverina bioregion. It lies in the eastern area of the Lachlan Fold Belt characterised by Cambrian to Early Carboniferous north trended folded bodies. Granite are common as central basins or hills with quartzite appearing along form lines of hills. The Upper Slopes subregion geology is characterised by and undulating ranges and granite basins with sporadic occurrences of basalt caps. Soils comprise alluvial sands, loams and clays with yellow colouration of lower slope soils contrasting with the red colouration of upper slope soils. Steep Slopes are characterised by stony shallow soils (DE&E 2016).

The South East Highlands bioregion geology comprises the plateau and ranges of the Great Dividing Range and extends to the Great Escarpment to the east. The highlands form part of the Lachlan Fold Belt also and are characterised by metamorphose Ordovician to Devonian shales, and sandstones. These are interspersed with granite bodies. The Murrumbateman subregion is characterised by undulating plateau land formations with chains and ponds weaved throughout the hills and peaks of the area. Soils comprise dark organic and clay loams along the valley floors; leached topsoils of yellow and brown colouration (DE&E 2016).

The New England Geological Map (1:500 000 1973/333) indicates the geology underlying the proposal area consists of Permian and Carboniferous Geological sequences as shown in Figure 3-1 and detailed below. The northern component of the Proposal Area is within the Dummy Creek Conglomerate (Pd) and the southern component in the Sandon Beds Formation (cs).

- **Pd Dummy Creek conglomerate:** comprising pebble conglomerate, coarse sandstone and massive mudstone
- **Cs Sandon Beds:** comprising greywacke, claystone, chert, jasper and black volcanic.

The proposal area comprises of two main Mitchell Landscapes; Boorowa Volcanics (Bov) transecting the area in a north-west south-east direction; and Dalton Hills (Dah) covering the north east corner of the proposal area. The Mitchell Landscape descriptions are provided in Table 3-1 below and shown in Figure 3-2.

Table 4-1 Description of the Mitchell Landscape relevant to the proposal (DECC 2002)

Mitchell Landscape
Boorowa Volcanics (Bov)
"Undulating low hills and rocky rises on Silurian dacite, crystal tuff, andesite and minor sandstone, general elevation 550 to 650m, with peaks to 780m. Red and yellow gradational earths, and yellow structured loams, thin stony loams within rock outcrops. Grassy woodland of yellow box (*Eucalyptus melliodora*), grey box (*Eucalyptus microcarpa*), Blakely's red gum (*Eucalyptus blakelyii*), red stringy bark (*Eucalyptus macrorhyncha*) and occasional kurrajong (*Brachychiton populneus*). "(DECC 2002)

Mitchell Landscape
Dalton Hills (Dah)
"Linear ranges and undulating hills on steep dipping, folded Ordovician quartzose greywacke, slate, chert, phyllite. Dendritic to rectangular drainage network, general elevation 500 to 700m, local relief <100m. Texture-contrast soils dominant. Red on upper slopes grading to harsh yellow clay subsoils with hard setting A horizons on lower slopes. Yellow box (*Eucalyptus melliodora),* white box (*Eucalyptus albens*), grey box (*Eucalyptus microcarpa*), red stringybark (*Eucalyptus macrorhyncha*), scribbly gum (*Eucalyptus rossii*) and grassy woodlands originally dominated by kangaroo grass (*Themeda triandra*) now extensively modified by grazing and cultivation. River oak (*Casuarina cunninghamiana*) along most streams with river red gum (*Eucalyptus camaldulensis*) appearing in the north. "(DECC 2002)

4.1.2 Historic Land Use

European settlement of the Yass Valley area followed relatively rapidly after Hume and Hovell travelled through the area in 1824.The proposal area for the Rye Park Wind Farm has a long history of intensive agricultural and pastoral use. Much of the area has been utilised for grazing, with some areas of crop production across the lower flats, since European settlement in the mid 1800's. The proposal area is located within the County of King, across the Parishes of Opton, Blakney, Rugby and Ware. Parish maps dating back to 1900 provide an indication of the historical land use across the area. The proposal area was occupied from at least 1900, with the parish maps showing a combination of private land grants, as well as multiple lots owned by the Rural Bank of NSW. The area forms a portion of the Argyle, Camden and King Gold Fields (proclaimed 29th November 1881). The land use of the proposal area is indicated to be largely utilised for farming purposes (both agricultural and stock farming). The historic land holdings across the proposal area highlight a relatively unchanged land use since the early 1900s, with many land grants remaining within the same family lineage, (i.e. Southwell, Medway, Pearsall, and Moorby). Historical farming practices have resulted in modifications to the natural landscape through the creation of paddocks and fields, and most predominantly through the construction of dams and modification to waterways. Within the boundaries of the Rye Park Wind Farm there are some small patches of Crown Land that have remained largely undisturbed through historical activities. The areas of less disturbance are generally found on the elevated ridge lines and steep hill country of the proposal area, although large portions have been subject to extensive vegetation clearing. The 1900 County of King, Parish of Opton map also identifies a parcel of land to the west of the proposal area that has been reserved for the use of Aborigines (Notified 21st December 1901).

The location of the Rye Park Wind Farm has been subject to landscape modification and moderate impacts from the dominant land use of farming for over 100 years. Overall, the proposal area would be categorised as highly disturbed due to consistent farming practices over many decades, which was predominantly grazing but also including ripping and ploughing in lower flats. Additionally, there are several rough (unsealed) tracks running through the proposal area, as well as existing services and connections. The proposal area also includes the transport route modifications, which are across areas that have been subject to disturbance and high levels of impact as a result of the road construction.

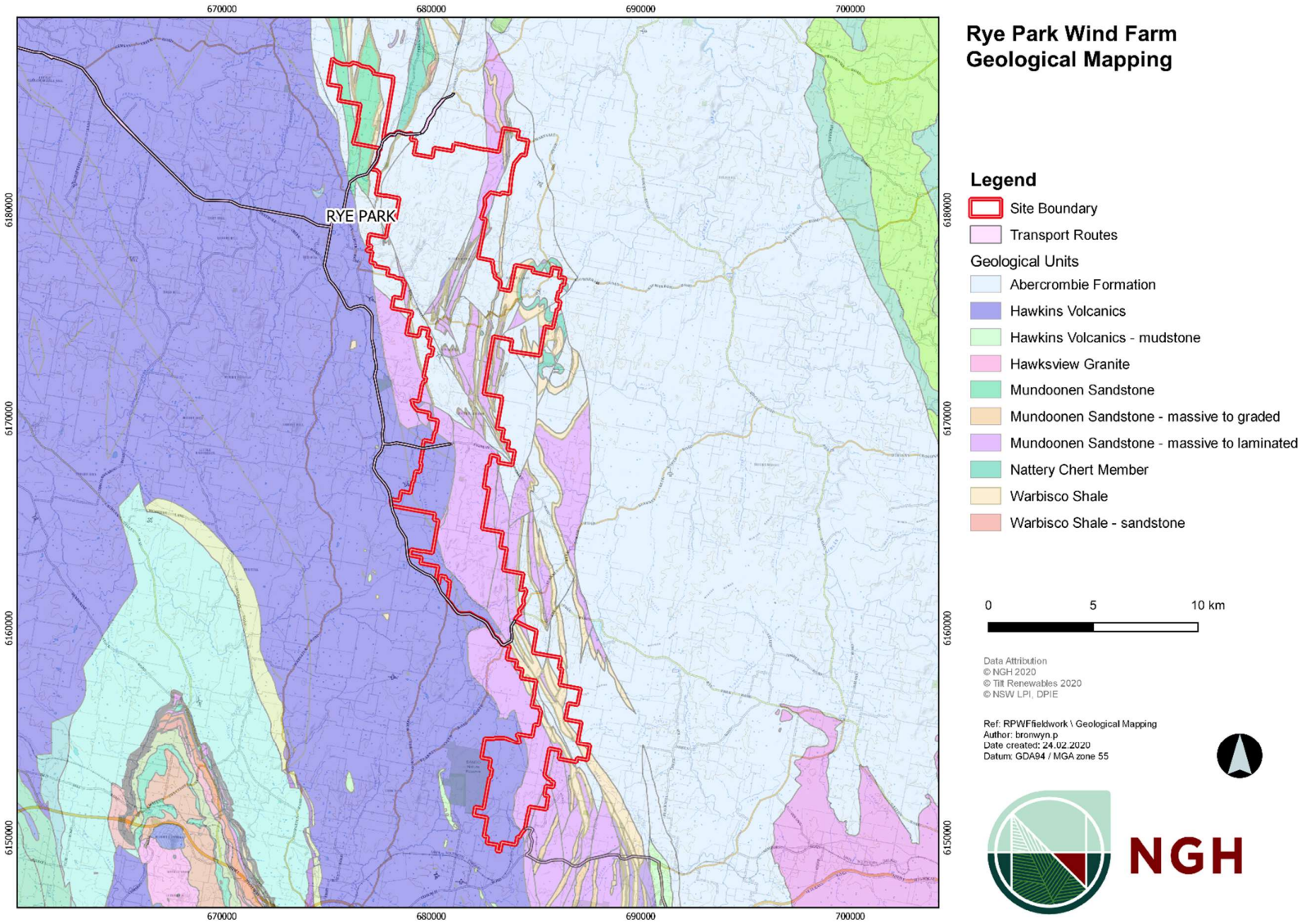
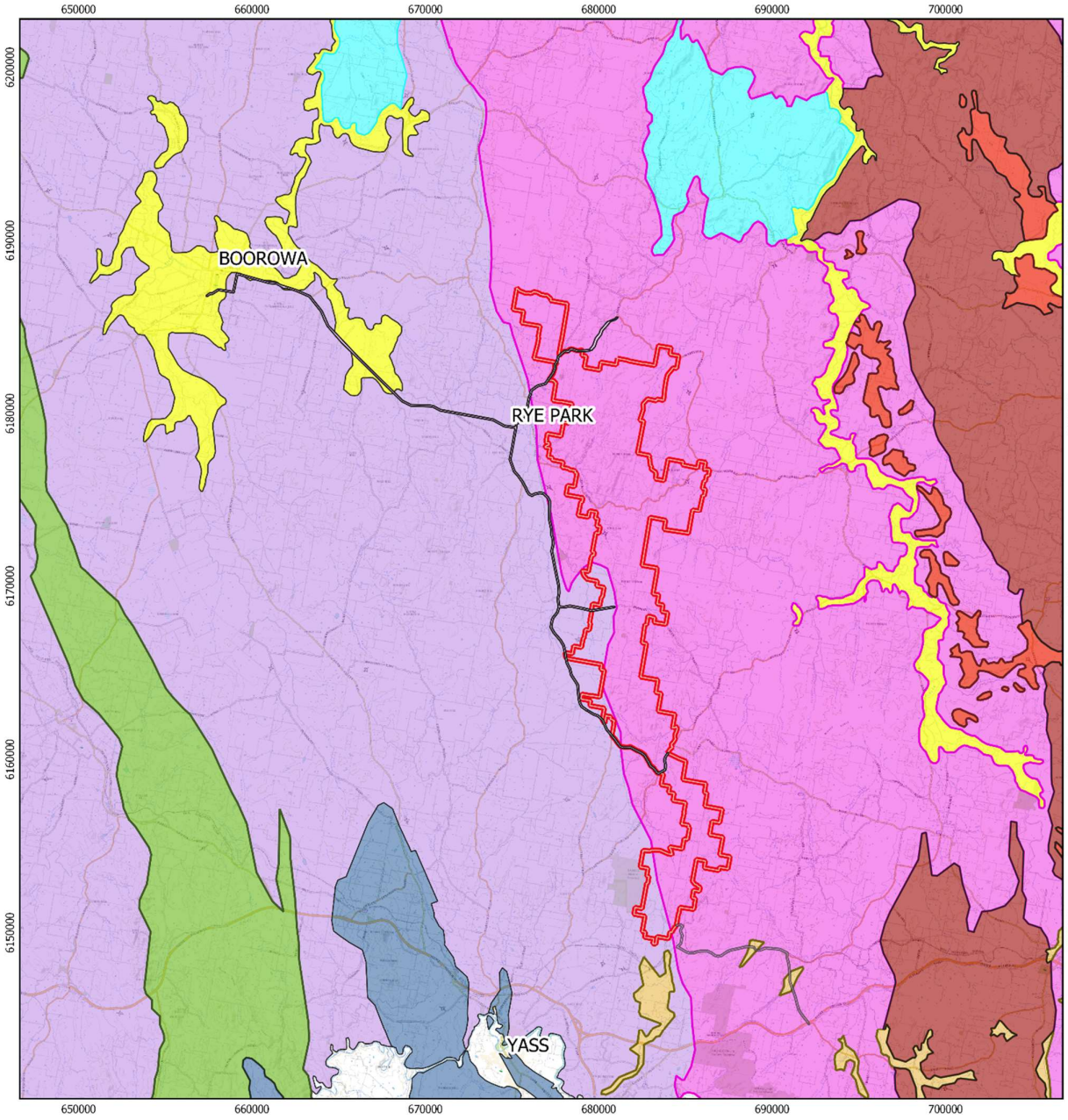


Figure 4-1. Geological mapping of the proposal area.



Rye Park Wind Farm
Mitchell Landscapes

Legend

- Site Boundary
- Transport Routes

Mitchell Landscapes

- Boorowa Volcanics
- Breadalbane Swamps and Lagoons
- Burrinjuck Ridges
- Crookwell Basalts and Sands
- Dalton Hills
- Gunning Hills
- Marilba Range
- Upper Lachlan Channels and Floodplains
- Wyangla Hills

Ref: RPWFfieldwork \ Mitchell Landscapes
Author: bronwyn.p
Date created: 24.02.2020
Datum: GDA94 / MGA zone 55

0 5 10 km

NGH

Figure 4-2. Mitchell Landscapes in relation to the proposal area.

4.2 REVIEW OF ABORIGINAL ARCHAEOLOGICAL CONTEXT

4.2.1 Ethnohistoric Setting

There are several ethnographic recordings of Aboriginal life in the NSW Southern Tablelands region from the 1800s that focus on the prevalence of Aboriginal people around waterways in the region. It is however important to consider that the Aboriginal people alive at the time of such observations were survivors of serious epidemics of infectious disease such as smallpox, bought by Europeans, that greatly affected the population sizes and distribution of people within the landscape. Consequently, European records may not necessarily reflect pre-contact population distributions and traditional ways of life (Dowling 1997, Littleton and Allen 2007).

The dispossession from traditional lands and acts of violence against the Aboriginal people caused great social upheaval meaning that access to traditional resource gathering and hunting areas, religious life, marriage links and sacred ceremonial sites were disrupted or destroyed. Despite this, Aboriginal people continued to maintain their connections to sites and the landscape in a variety of ways. The Aboriginal people of the region continue to have a strong connection to their land.

Tribal Boundaries

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

Early mapping of tribal boundaries by Tindale (1940; 1974) and subsequent mapping by Horton (1994) identified the Rye Park Wind Farm proposal area as within the Ngun(n)awal language group. It should be noted however that today not all Aboriginal groups agree with the mapped boundaries presented in Tindale and other publications.

These borders were not static, they were most likely fluid, expanding and contracting over time to the movements of smaller family or clan groups. These boundaries ebbed and flowed through contact with neighbours, the seasons and periods of drought and abundance. The close proximity to each other also meant that people likely spoke multiple languages and dialects (Howitt 1904, Tindale 1974, MacDonald 1983, Horton 1994).

Social Structures

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

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

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

Aboriginal population declined due to disease such as small pox and influenza as well as dispossession from traditional lands and acts of violence against the Aboriginal people which meant that there was great social upheaval and partial disintegration of the traditional way of life. This meant that access to traditional resource gathering and hunting areas, religious life and marriage links and access to sacred ceremonial sites were disrupted or destroyed. However, despite these disruptions, Aboriginal people continued to maintain their connections to sites and the land.

Material culture

Accounts of the material culture of Aboriginal people in the Murray Darling Basin region have been detailed extensively by Oxley (1820), Bennet (1834) and later Beveridge (1883) and include descriptions of tools kits, weapons and clothing.

Shelters were generally small and appear to have been widely utilised by families while moving around the landscape (Kabaila 1999:120). Their frames were constructed of boughs and sapling branches pulled tightly together, tied with leaves, bark or grass and forming a semi-circular structure (Kabaila 1999). Small campfires would sometimes be placed at the entrance of these shelters for heating and cooking. Evidence of these hearths is often found on elevated flats near water sources.

Bennet (1834) detailed the manufacture of possum and kangaroo skin coats using mussel shell scrapers to render the skin pliable. Kangaroo tail sinew made into thread and bone awls were used to stitch the skins into cloaks, many of which had ornamental patterns scratched onto the inner side. The kangaroo sinew was also recorded as used to create head ornaments in the form of hair nets stained with ochre or pipeclay for both men and women (Bennet 1834). Both Oxley (1820) and Bennet (1834) observed that both sexes had the *septum naris* perforated in which a bone, straw or stick was worn. The adult men were also missing an upper incisor attributed to a marker of initiation (Oxley 1820, Bennet 1834) .

A range of tools and weaponry were recorded including spear throwers, parrying shields, broad shields, clubs, shovels, axes and varieties of throwing sticks (Oxley 1820, Bennet 1834, White 1986) as well as trapping nets made from plant fibre cord (Beveridge 1883).

Digging sticks were used by women to collect vegetable foods and ‘grub shovels’ or small wooden spades were described by Eyre (1845) as being used to dig up grubs, ants and Mallee roots. Skin bags and bark troughs were used to carry water and baskets were made from grasses, rushes and netting (Beveridge 1889, Lawrence 1967). Beverage (1883) describes a wooden trough placed over coals for cooking and ‘flints, mussel shells, kangaroo bones and split reeds were used in cutting and skinning foods’ (Lawrence 1967, p. 86). Grindstones and pestles were used to pound roots and mill seed and along the larger waterways the deliberate cultivation and harvesting of wild millets was recorded (Mitchell 1839, Allen 1974).

In an archaeological context, few of these items would survive, particularly in an open site context. Anything made from bark and timber and animal skins would decay quickly in an open environment. However, other items, in particular those made of stone would survive where they were made, placed or dropped. Shell material may also survive in an archaeological context. Sources of raw materials, such as the extraction of wood or bark would leave scars on the trees that are archaeologically visible, although few trees of sufficient age survive in the modern context.

4.2.2 AHIMS Search

The Aboriginal Heritage Information Management System (AHIMS) provides a database of previously recorded Aboriginal heritage sites. A search provides basic information about any sites previously identified within a search area. However, a register search is not conclusive evidence of the presence or absence of Aboriginal heritage sites, as it requires that an area has been inspected and details of any sites located have been provided to AHIMS to add to the register. As a starting point, the search will indicate whether any sites are known within or adjacent to the investigation area. On 13 September 2019, two extensive searches of the AHIMS database were undertaken over an area of approximately 20km x 20km centred over the proposal area, using the following parameters:

Search 1:
Client Service ID: 449505
From: Lat -34.7366, Long 148.6617
To : Lat -34.3977, Long 149.1991
Buffer: 50m
Aboriginal sites: 92
Aboriginal Places: 0

Search 2:
Client Service ID: 449468
From: Lat -34.8334, Long 148.8029
To: Lat -34.5727, Long 149.2162
Buffer: 50m
Aboriginal Sites: 99
Aboriginal Places: 0

A total of 191 sites were detected across both searches, however one site has been destroyed. Table 3-2 below shows the site types previously recorded in the region. Figure 3-2 shows the location of AHIMS sites in relation to the proposal area, whilst Figure 3-3 shows the location of registered AHIMS sites within the proposal area.

Table 4-2 Breakdown of previously recorded Aboriginal sites in the region.

Site Type	Number
Artefact	159
Modified Tree	14
PAD	9
Burial	3
Hearth	3
Grinding Groove	2
Burial + Artefact	1
TOTAL	**191**

There are a number of previously recorded AHIMS sites located within the proposal area. These sites are the result of the prior archaeological investigations for the Rye Park Wind Farm and are outlined in Table 3-3 below. These results show a clear overrepresentation of stone artefact site types, which can be largely attributed to the durability of the stone used.

Table 4-3 Sites recorded during initial survey and addendum survey of the Rye Park Wind Farm (NSW Archaeology 2013a & 2015) .

AHIMS	Site Name	Comments	Survey recorded
51-5-0203	SU3/L1	1 artefact on an existing farm track on a narrow ridge crest with a gentle gradient. The artefact was a grey silcrete broken flake.	Initial survey 2013
51-5-0207	SU3/L2	2 artefacts on an existing farm track in on a narrow ridge crest. Artefacts were a grey broken flake and a brown medial silcrete flake.	Initial survey 2013
51-4-0284	SU4/L1	1 artefact on ridge crest. The artefact was a proximal flake manufactured from tuff.	Initial survey 2013
51-5-0204	SU6/L1	1 artefact on ridge crest adjacent to track . Artefact was a black chert flake.	Initial survey 2013
51-5-0205	SU7/L1	1 artefact in large erosion scour on a saddle of a ridge crest. The artefact was a silcrete flake.	Initial survey 2013
51-5-0206	SU8/L1	1 artefact in a sheep track on a broad ridge crest. The artefact was a volcanic broken flake.	Initial survey 2013
51-4-0286	SU15/L1	2 artefacts in an erosion scour adjacent to a minor drainage line. Artefact were a silcrete broken flake and a silcrete core.	Initial survey 2013
51-4-0285	SU18/L1	1 artefact on a moderate gradient simple slope. The artefact was a tuff flake.	Initial survey 2013
51-4-0287	SU21/L1	1 artefact on a narrow ridge crest. The artefact was a quartz blade flake.	Initial survey 2013
51-1-0117	SU23/L1	1 artefact on a farm track on a ridge crest. The artefact was a broken flake of quartz.	Initial survey 2013
51-4-0288	SU23/L2	2 artefacts adjacent to a minor drainage line. The artefacts were both quartz flakes.	Initial survey 2013
51-4-0289	SU23/L3	1 artefact on a farm track on a ridge crest. The artefact was a tuff flake.	Initial survey 2013
51-1-0118	SU24/L1	5 artefacts on a farm track in on a crest over an area approximately 50m x 2 m. The artefacts were a grey silcrete broken flake, three brown silcrete flakes and brown silcrete flaked piece.	Initial survey 2013
N/A	SU17/L1	Possible quartz stone procurement area.	Initial survey 2013
N/A	SU17/L2	Possible quartz stone procurement area.	Initial survey 2013
N/A	SU27/L1	Possible quartz stone procurement area	Initial survey 2013
51-1-0149	SU28/L1	4 artefacts in an erosion scour adjacent to a farm track. The landform is a drainage lline/flat. The artefacts were all	Additional survey 2015

AHIMS	Site Name	Comments	Survey recorded
		manufactured from chert and typologies included a core fragment, two flakes and a flaked piece.	
51-1-0150	SU28/L2	1 artefact in a bare earth exposure adjacent to a farm road on a slight saddle on a crest. The artefact was a chert core fragment.	Additional survey 2015
51-1-0151	SU29/L1	1 artefact on the edge of a farm road on a simple slope. The artefact was a silcrete core fragment.	Additional survey 2015
51-1-0152	SU30/L1	23 artefacts and subsurface deposit (PAD) in erosion scours on the north side of a farm track and west of a creek. The landform was a drainage depression/flat. The artefacts were manufactured from silcrete, quartz and chert and typologies recorded included 12 flakes, 7 flake fragments, 3 broken flakes and a core. Tt was estimated that another 120 were visible.	Additional survey 2015
51-1-0153	SU30/L2	22 artefacts and subsurface deposit (PAD) in erosion scours. The site is on the south side of a farm road, opposite SU30/L1 and west of a creek. The landform is a drainage depression/flat landform. All artefacts are flaking debitage of quartz and chert.	Additional survey 2015
51-1-0154	SU30/L3	64 artefacts and subsurface deposit (PAD) in erosion scours. An additional 30 artefacts were counted in a 3 x 3 m area which contained a knapping event. The site is on the south side of a farm road, on the east side of the creek. The landform is a simple slope landform with a very gentle gradient. The majority of artefacts are flaking debitage of quartz and Additional survey 2015. Four retouched artefacts were also recorded.	Additional survey 2015
51-4-0341	SU33/L1	9 artefacts on a farm track. The landform is a crest/simple slope with a gentle gradient. The artefacts are dark grey chert and silcrete flaking debitage. They are possible representative of two dispersed knapping events	Additional survey 2015
51-4-0342	SU33/L2	2 artefacts on a 2m long section of farm track. The landform is a simple slope with a very gentle gradient. The artefacts are tuff and quartz flaking debitage.	Additional survey 2015
51-4-0343	SU33/L3	11 artefacts in an erosion scour adjacent to a drainage line. The artefacts are all quartz flaking debitage and may be part of a related knapping event. Potential Archaeological Deposit recorded.	Additional survey 2015
51-4-0344	SU33/L4	3 artefacts on a 0.5 m long section of farm track. The landform is a simple slope with a very gentle gradient. The artefacts are silcrete flaking debitage, and likely to be part of a single knapping event.	Additional survey 2015
51-4-0345	SU33/L5	1 artefact on a farm track. The landform is a simple slope with a very gentle gradient. The artefact is a silcrete core.	Additional survey 2015
51-4-0346	SU33/L6	8 artefacts on a section of farm track. The landform is a simple slope with a gentle gradient. The artefacts are primarily quartz debitage.	Additional survey 2015

AHIMS	Site Name	Comments	Survey recorded
51-4-0347	SU34/L1	1 artefact on an old overgrown track in regrowth forest. The landform is a crest with a gentle gradient. The artefact is a tuff flake.	Additional survey 2015
51-5-0263	SU37/L1	3 artefacts on a section of farm track. The landform is a crest with a gentle gradient. The artefacts were milky quartz lithic fragments.	Additional survey 2015
51-5-0264	SU.37/L2	17 artefacts on a farm track, table drain and bare earth. The landform is a simple slope with a gentle gradient	Additional survey 2015
51-5-0267	SU37/L3	1 artefact on a farm track. The landform is a low crest with a gentle gradient. The artefact is a chert blade core fragment.	Additional survey 2015
51-5-0348	SU40/L1	1 artefact in an erosion feature. The landform is a simple slope with a very gentle gradient. The artefact is a milky quartz compression flake.	Additional survey 2015
51-5-0349	SU42/L1	1 artefact on the edge of Flakeny Creek Road. The landform is a simple slope with a very low crest of very gentle gradient. The artefact is a rhyolite compression flake	Additional survey 2015
51-5-0266	SU47/L1	1 artefact in a large erosion scour. The landform is a in a drainage depression. The artefact is a silcrete flake.	Additional survey 2015
51-5-0267	SU47/L2	4 artefacts in bare earth patches were recorded across a large area on a basal simple slope.	Additional survey 2015

4.2.3 Other Register Searches

There are no historic heritage listings of Commonwealth, National, or NSW State Significance within the proposal area for the Rye Park Wind Farm. The proposal area falls between three Local Government Areas (LGAs); Hilltops LGA, Upper Lachlan LGA and Yass Valley LGA. The locally significant historic heritage listings within the vicinity of the proposal area are listed between two Local Environment Plans (LEPs); Yass Valley LEP (2013) and the Upper Lachlan LEP (2010). There are four heritage items of local significance within 5 km of the proposal area, as outlined in Table 3-4 and shown in Figure 3-5. No current historic heritage listings will be impacted upon as a result of the proposed works.

Table 4-4 Historic Heritage listing of local significance within 5km of the proposal area.

LEP	ID	Site Name	Distance to Proposal Area
Yass Valley LEP (2013)	A297	Coolalie Limestone kilns and quarry	830m south-west
Yass Valley LEP (2013)	A298	Coolalie Settlement Site (former)	1.2km south
Yass Valley LEP (2013)	I001	Blackburn (Homestead, garden and outbuildings)	3.2km west
Upper Lachlan LEP (2010)	I094	Mundoonen Nature Reserve	4.3km south-east

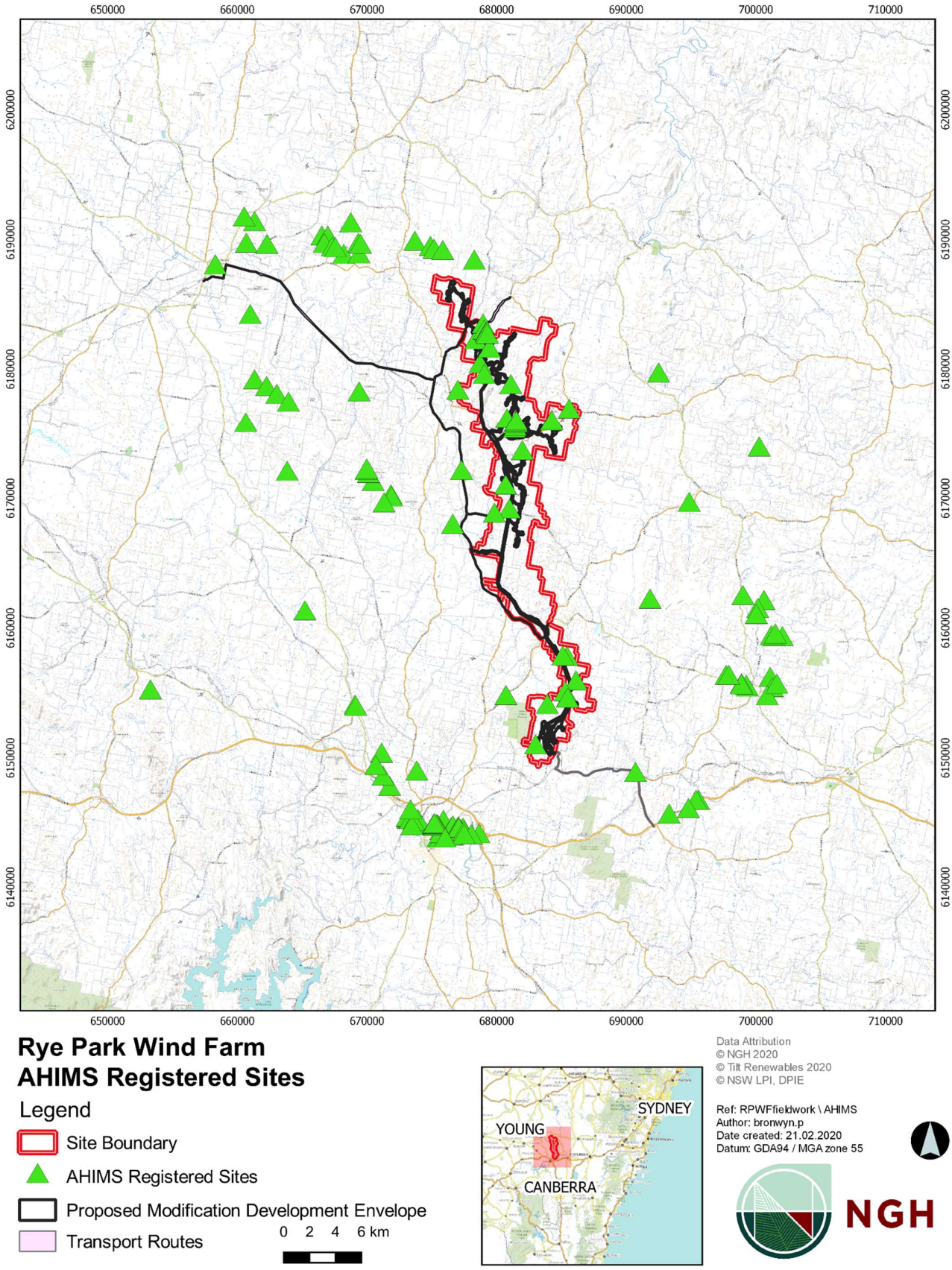


Figure 4-3. Location of known sites recorded with AHIMS in relation to the proposal area.

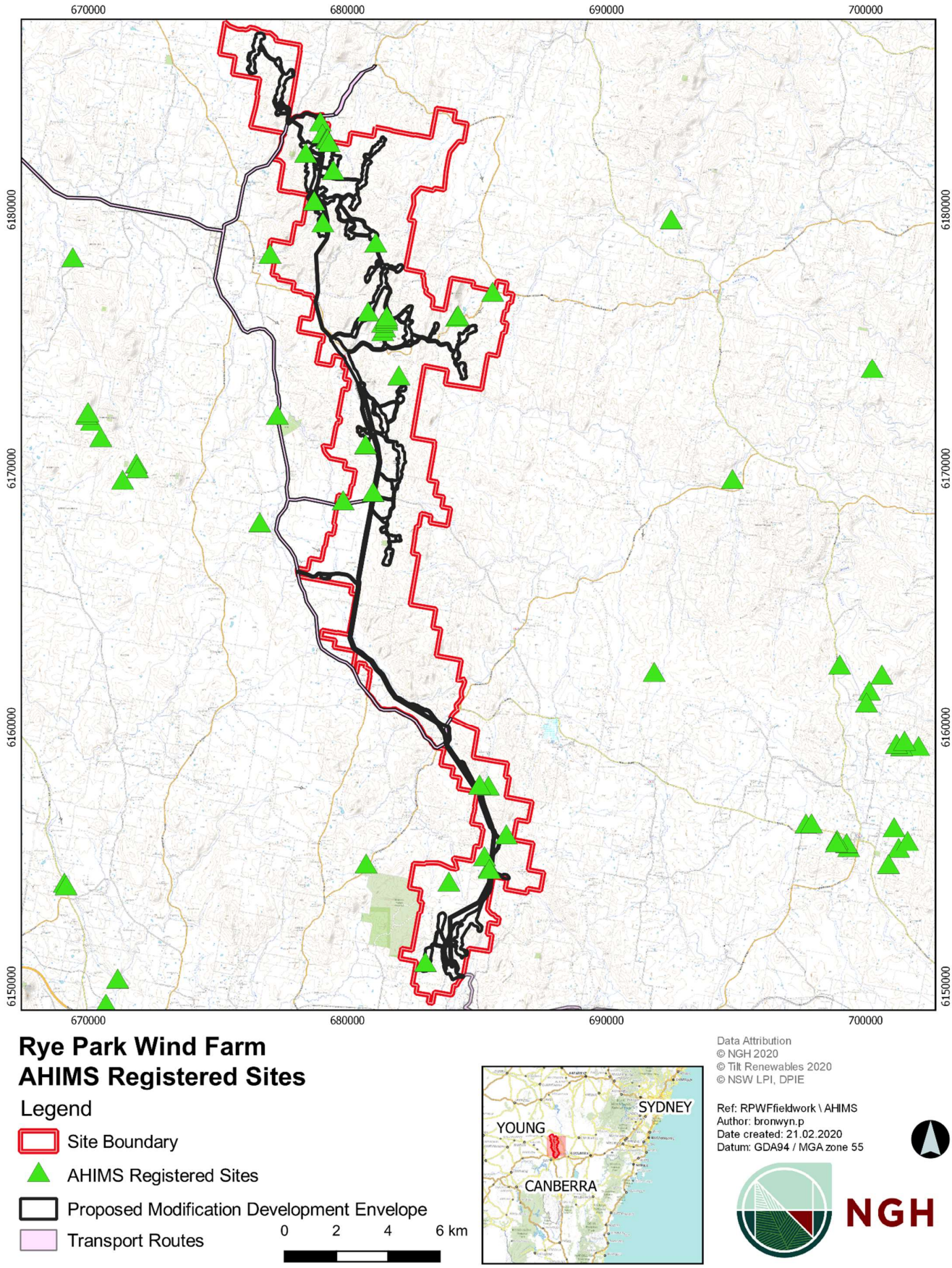


Figure 4-4. Close-up location of known sites recorded with AHIMS in relation to the proposal area.

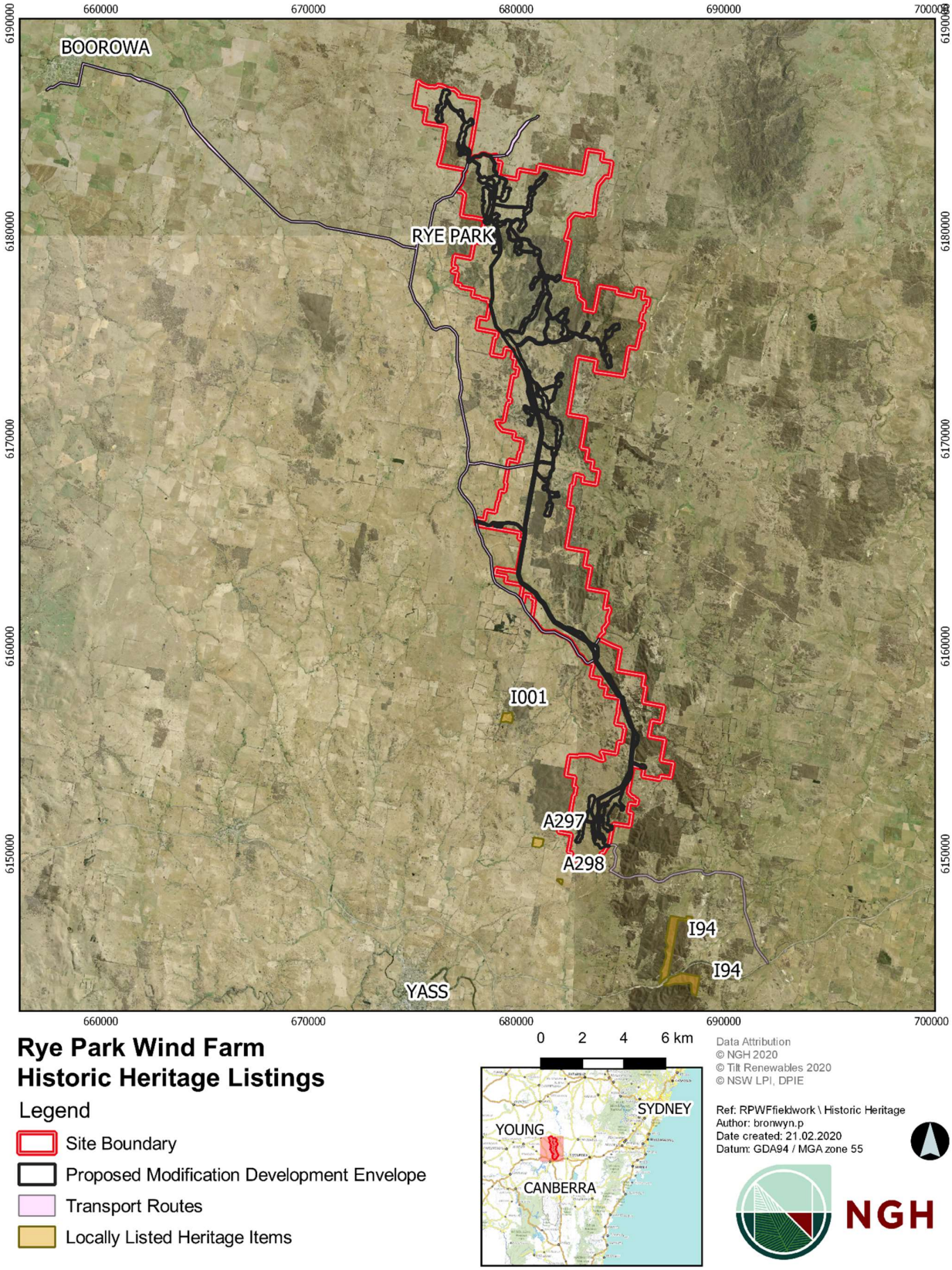


Figure 4-5. Locally significant historic heritage items within 5km of the proposal area.

4.2.4 Previous archaeological studies for Rye Park Wind Farm

Prior to the heritage assessments being undertaken for the Rye Park Wind Farm (Dibden 2013a & 2015) there have been no previous archaeological studies conducted within the project area and few had been undertaken within the immediate local area. A summary of the heritage assessments undertaken to date within the Rye Park Wind Farm are summarised below.

In 2013 Dibden (2013a) conducted an Aboriginal heritage assessment for proposed development footprint for the Rye Park Wind Farm as shown in Figure 3-6. It was initially proposed that the wind farm would consist of up to 128 wind turbine generators.

The wind farm site was noted to extend in a north/south alignment for approximately 40 kms along a series of contiguous ridgelines and hilltop. The landforms in the wind farm area were noted by Dibden to be very rocky with low outcrops common, particularly on crests and hillslopes where bedrock was present. The soils on the ridgelines were highly eroded and the excessively rocky nature of the ridge crests across the areas was remarked to likely have made these landforms unfavourable camp locations for Aboriginal people. While no major rivers flow through the Rye Park Wind Farm project area, there are numerous lower order creeks which while not necessarily being places of abundant water are likely to have provided Aboriginal people with a reasonably reliable local water source.

Over the course of the survey Dibden (2013a) noted that the project area had been subject to high levels of disturbance associated with agriculture and that land clearing and farming practises had impacted the entire area. A total of 70 km of linear impact areas were surveyed covering approximately 352 ha with 105 ha noted to be subject to physical inspection during the survey. Majority of the area surveyed was elevated ridge crests. A total of thirteen Aboriginal object locales as detailed in Table 3 were recorded during the initial field survey of the Rye Park Wind Farm, ten of which were isolated stone artefacts. In addition, three quartz outcrops were recorded which may have been used as stone procurement areas by Aboriginal people. The four sites recorded with more than one artefact all had very low densities ranging between 2-5 artefacts. The wind turbine ridges were assessed to contain very low artefact density and the results were assessed to accurately reflect the archaeology of the area given the distance from water.

In 2015 Dibden conducted additional survey for an addendum Aboriginal Cultural Heritage Assessment for the Rye Park Wind Farm following changes to the proposed layout in the detailed design as shown in Figure 3-7. Additional consultation was undertaken with the RAPs and review of a new AHIMS search noted that the majority of the 13 sites previously identified are now located outside the development footprint. In the additional assessment approximately 40 kms of linear impact areas were surveyed covering approximately 198 ha. The ground visibility was noted to be relatively high on crests and simple slopes however the lower valleys had poor visibility and were generally covered with pasture. Over the course of the additional survey a total of 20 Aboriginal object locales were recorded which are detailed in Table 3-3 (section 3.2.2).

The additional survey supported the modelling established during the initial survey which concluded that:

- The high ridge crests on which the turbines are proposed have low archaeological sensitivity, potential and significance.
- Valleys near water courses have some archaeological sensitivity, heritage value and significance.
- Artefact density is likely to be higher in open valleys and artefacts can be expected to be distributed across discrete landforms, especially close to streams.

- The proposed wind farm setting generally has low archaeological and cultural potential and sensitivity. The exception to this is flats and basal simple slopes adjacent and close to higher order streams (Dibden 2015).

The recommendations from the two assessments previously undertaken in the Rye Park Wind Farm project area are summarised below.

- The mitigation measures, if any, as noted in the assessments should be observed.
- A program of archaeological excavation be conducted in Aboriginal Artefact locales SU30/L1, SU30/L2, SU30/L3 and SU33/L3 as a form of impact mitigation to off-set overall development impacts.
- If the proposed work extended beyond the assessment area additional archaeological assessment may be required.
- A Cultural Heritage Management Plan should be developed (completed, see Dibden 2017a)
- Personnel working on site should receive Aboriginal Cultural Heritage Awareness Training.
- Cultural heritage should be included in any environmental audits undertaken (Dibden 2013a & 2015).

In the Development Consent, Consent condition 24 outlined the protection of Aboriginal Heritage Items for the approved project. Within this condition there are three points (a, b and c) outlining the management and mitigation requirements regarding Aboriginal Heritage. The details of these points outline the identified sites where impact (direct or indirect) was to be avoided, where impact is to be minimised, and also where detailed archaeological test excavations and salvage of PADs is required if impact cannot be avoided.

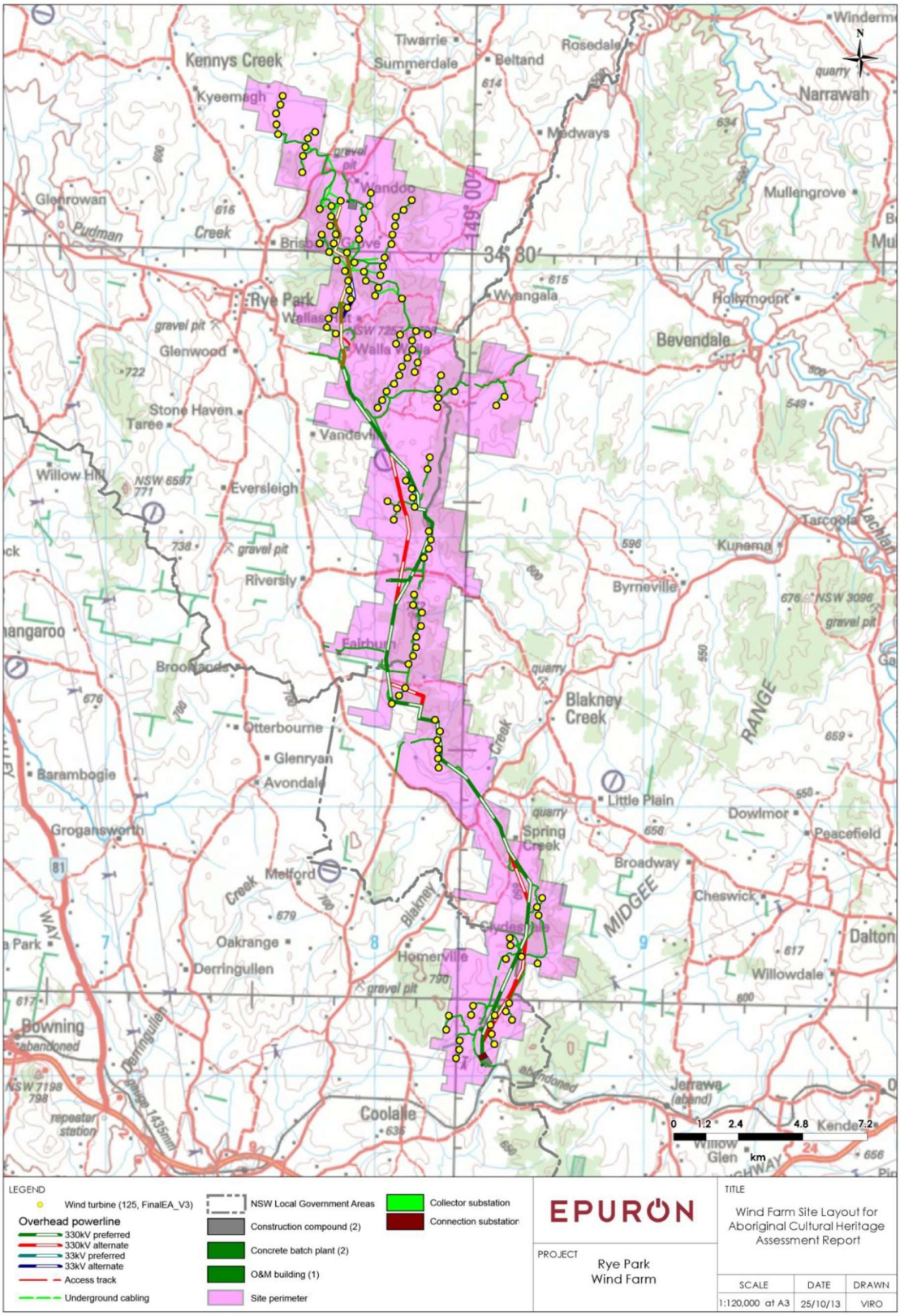


Figure 4-6. Project area and layout during the initial assessment conducted in 2013 (NSW Archaeology 2013a).

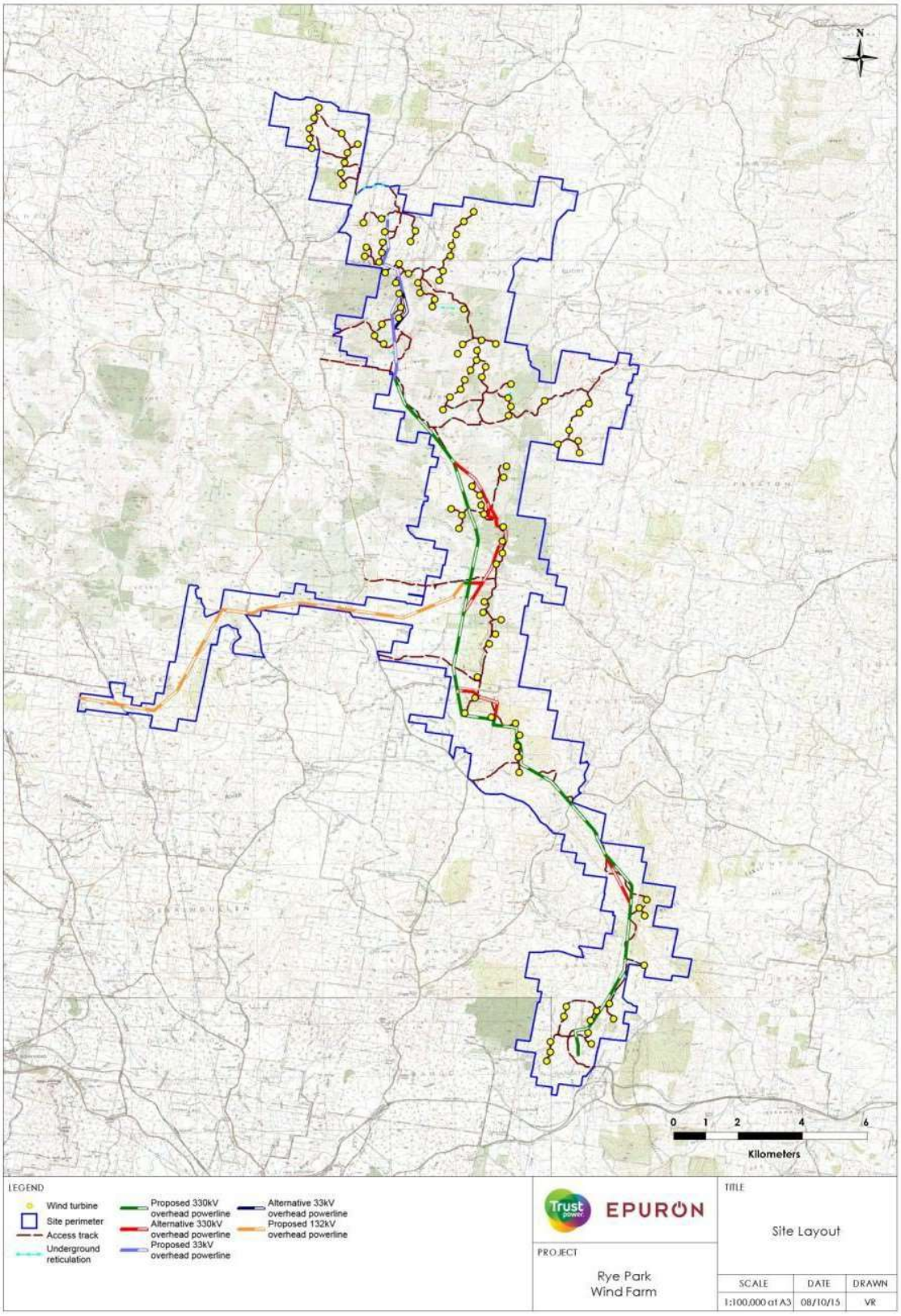


Figure 4-7. Project area and layout during the additional assessment conducted in 2015 (NSW Archaeology2015).

4.2.5 Previous archaeological studies in Region for Wind Farms

Several archaeological studies have been conducted in the wider regional area for wind farms located on similar landform to the Rye Park Wind Farm which are summarised below.

Crookwell 1, 2 and 3 Wind Farms

A number of surveys have been undertaken for the Crookwell 1, 2 and 3 Wind Farms, approximately 14 km south-east of Crookwell. During the initial survey for the proposed development of the Crookwell 1 Wind Farm a single artefact scatter was recorded with 20 quartz flakes and subsurface testing was recommended to be undertaken due to the low visibility of the area. A subsequent assessment was undertaken by Jo McDonald in 1997 for the Crookwell 1 Wind Farm with 52 subsurface artefacts recovered which were concentrated on a ridge line. In 1998 McDonald completed further subsurface testing and salvage excavations for the Crookwell 1 Wind Farm and recovered 2,154 artefacts from 25 test pits which were 1 m x 1 m in size. The majority of the artefact were recovered in the top 10 cm of deposit. It was concluded that Aboriginal occupation of the area focused on the ridgelines which generally represented single periods of occupation and use of the ridgelines as travel pathways (as cited in Past Traces 2017).

Heritage assessments for Crookwell 2 Wind Farm have been undertaken since 2004 when Biosis recorded 25 sites located predominantly on high ridgelines, spur lines and crests. A subsequent subsurface testing program was undertaken by Biosis in 2005 and an additional 28 sites were identified. Following the proposed modification of the Crookwell 2 Wind Farm development footprint additional testing was undertaken in 2010 by Biosis. Biosis noted that Aboriginal occupation of the Crookwell 2 Wind Farm area was focused on ridgelines and low level spur lines and gradual slopes (as cited in Past Traces 2017). In 2017 Past Traces undertook an assessment for an additional modification to the Crookwell 2 Wind Farm and summarised the model of site occupation as:

- Sites tend to occur on ridge lines, open high slopes and saddles and may also occur near creek lines or at the confluence of drainage lines.
- Sites will most likely consist of stone artefacts.
- Artefacts are generally manufactured from quartz and silcrete which are commonly available in the local area.
- Sites can range from in size and density with larger sites generally located along ridgelines (Past Traces 2017:9-10).

In 2018 Past Traces undertook a monitoring and salvage program of work at the Crookwell 2 Wind Farm following approval of a Modification application. During the monitoring and salvage excavation program a number of artefacts were recovered. The artefacts were manufactured predominantly from silcrete and quartz with lesser numbers of quartzite, volcanic, chert and tuff. The artefacts recovered were predominantly flakes, broken flakes, flaked pieces and cores with some formal tools also recorded (Past Traces 2018).

The initial survey for the Crookwell 3 Wind Farm was undertaken by ERM in 2014 with ten sites recorded predominantly flats and crest landforms. An additional 16 sites and 11 areas of potential archaeological deposit (PADs) were also recorded. Following subsurface testing eight of the PADs were identified to have subsurface artefacts. The common lithology recorded were quartz and silcrete (as cited in Past Traces 2018).

Gunning Wind Farm

In 2003 Jo McDonald undertook the survey for the Gunning Wind Farm, located in the Cullerin Ranges. A total of eight sites including four artefact scatters and three isolated finds were recorded. The majority

of the sites were recorded near creek lines on flat or gently sloping lower slopes. The artefacts were recorded to be manufactured from quartz with a lesser number of quartzite, silcrete and a red agate. Crest landforms were noted to have moderate potential and subsurface testing of these landforms was recommended. In 2005, Austral Archaeology completed the subsurface test excavation program at the Gunning Wind Farm with grader scrapes undertaken across six of the crests where turbines were proposed to be constructed. No artefacts were recovered from these works and the potential of crest landforms was reassessed to be low (as cited by Dibden 2013a).

Taralga Wind Farm

In 2004 OzArk Environment and Heritage Management conducted an assessment for the proposed Taralga Wind Farm, approximately 2 km east of Taralga. The proposed development footprint was situated across ridge crests, slopes and drainage depressions. A total of six sites with artefacts and a modified tree were recorded. The artefacts were manufactured from rhyolite, quartz, silcrete and volcanic material. The majority of the sites recorded were noted to be located near a water source (as cited in Diben 2006a).

Woodlawn Wind Farm

In 2004 Reeves and Thomson undertook the survey for the Woodlawn Wind Farm approximately nine kilometres west of Tarago. The proposal area was a former open cut mine and the majority of the proposed footprint was situated along a steep ridge of the Turallo Range. A total of 15 sites were recorded including eight isolated fines and seven low density artefact scatters. The sites were recorded on crests, slopes and near drainage depressions. The artefacts were manufactured from rhyolite, silcrete, volcanic, tuff and quartz. The development footprint was assessed to have low archaeological potential and it was noted that the range was likely utilised for low levels of Aboriginal occupation and may have been a used as a pathway between resource area (as cited in ERM 2015).

Conroys Gap Wind Farm

In 2006 NSW Archaeology (Dibden 2006) prepared an Aboriginal Archaeological Assessment for the Conroys Gap Wind Farm, south-west of Yass. The survey focused on the proposed areas of impact and a total of 22 artefacts were recorded across nine locales within the proposal area. The sites were predominantly recorded on ridge crests with a few sites also recorded on simple slopes and near a drainage depression. The artefacts consisted of flakes, broken flakes and flaked pieces predominantly manufactured from silcrete and rhyolite with lesser numbers of volcanic, chert and quartz artefacts. It was noted that the absence of water sources and the limited resources in the area likely indicated that the area was not subject to intensive or sustained Aboriginal occupation. The low density sites recorded were likely a reflection of the use of back country and short term occupation as people moved through country. The proposal area was assessed to be of low or very low archaeological potential and sensitivity due to the steep gradients, distance from reliable water and low biodiversity values (Dibden 2006a).

Cullerin Wind Farm

In 2006 NSW Archaeology (Dibden 2006b) prepared an Aboriginal Archaeological Assessment for the Cullerin Wind Farm, east of Gunning and north of Yass. The survey identified four locales with low density artefact distributions which were located on ridge, crest and knoll landforms. A total of 31 artefacts were recorded across the four locales identified. Quartz and silcrete were the predominant materials recorded with lesser numbers of chert and quartzite. The low density of sites and artefacts recorded were noted to likely be reflective of the lack of reliable fresh water sources and limited resources available in the area.

Gullen Range Wind Farm

In 2007 NSW Archaeology (Dibden 2007) prepared an Aboriginal Archaeological Assessment for the Gullen Range Wind Farm, approximately six kilometres south of Crookwell. The proposed development footprint included four areas referred to as Kialla, Bannister, Pomeroy and Gurnundah. A total of 10 artefacts were recorded across six artefact locales within the Kialla area. A total of 34 stone artefacts were recorded at 10 locales within the Bannister area. A total of 33 artefacts were recorded at seven locales within the Gurrundah area. A total of 118 artefacts were recorded at 27 locales within the Pomeroy area. The higher number of artefacts recorded in the Pomeroy area were likely due to the increased visibility and when one considered average artefact density it was noted that the area in general has a very low artefact density similar to the other areas assessed which indicated that the four areas assessed likely have low levels of Aboriginal occupation. The landforms with sites included ridge crests, spur crests, simple slopes and drainage depressions. The artefacts recorded were flakes, broken flakes, flaked pieces, cores and core fragment. The artefacts were manufactured from silcrete, chert, quartz, volcanic, rhyolite and quartzite (Dibden 2007).

Yass Valley Wind Farm (now Coppabella Wind Farm)

In 2009 NSW Archaeology prepared an Aboriginal Archaeological Assessment for the Yass Valley Wind Farm (Dibden 2009). A modification assessment was also prepared by NSW Archaeology in 2017 (Dibden 2017b). During the initial survey a total of 70 sites were recorded which were predominantly low density artefact scatters. The survey for the modification identified an additional 12 sites. The site locales recorded were predominantly situated along deflated and eroded soil profiles on crests. Given the relatively large areas of exposure and the low density of artefacts recorded, it was concluded that artefact density in the Coppabella Hills was generally very low. Several areas were predicted to contain subsurface artefacts in low/moderate density including several ridge saddles with testing recommend to be undertaken as part of salvage works prior to development (Dibden 2017b).

Collector Wind Farm

In 2012 NSW Archaeology undertook an Aboriginal Archaeological Assessment for the Collector Wind Farm. Five low density stone artefact scatters and four possible scarred trees were recorded. The five stone artefact sites were generally recorded on crest landforms with a lesser number on simple slopes. The stone artefacts recorded were predominantly manufactured from silcrete with lesser numbers of chert, quarts and volcanic materials (as cited in ERM 2015).

Bango Wind Farm

In 2013 NSW Archaeology (Dibden 2013b) undertook an Aboriginal Cultural Heritage Assessment for the Bango Wind Farm. The assessment included the survey of approximately 93 km of proposed linear impacts within the project footprint. A total of 56 artefacts were recorded from 14 Aboriginal object locales during the survey. The sites recorded which were predominantly characterised by low density artefact scatters with flakes or flake fragments manufactured from volcanic and silcrete. The sites were recorded on saddle, crest and upper slope landforms (Dibden 2013b).

Biala Wind Farm

In 2015 ERM undertook an Aboriginal Cultural Heritage Assessment for the Biala Wind Farm. The survey identified 21 sites and an area of potential archaeological deposit. The sites predominately consisted of artefact scatters and isolated finds with a single modified tree was also recorded. The artefacts were recorded to be manufactured from silcrete, quartz, mudstone and quartzite. The typologies recorded included flakes, broken flakes, flaked pieces, cores and a broken hammerstone. Sites were generally recorded near a water source on flat or gently sloping areas or on crest landforms.

Sites with a higher density of artefacts were noted to be recorded on flat to gently sloping terrain adjacent to water courses (ERM 2015).

4.2.6 Other Previous archaeological studies in Region

Several other archaeological studies have also been conducted in the wider region which are summarised below.

In 1977 Clark excavated three open artefact scatters at Waterhole Flat Creek, approximately 9 km east of Boorowa. The artefacts recovered were predominantly manufactured from quartz with a lesser number of silcrete, rhyodacite and chert artefacts. The artefact types recovered included cores, bipolar and adze flakes, scrapers, backed blades, anvils, grinding stones and choppers (as cited in Dibden 2013a).

Silcox (1991) recorded five open artefact scatters approximately a kilometre from Boorowa near the confluence of Castles Creek and Boorowa River. The sites were located in exposures on river terraces and the predominate raw materials was noted to be quartz (as cited in Dibden 2013a).

In 1980 Witter conducted an archaeological assessment for the natural gas pipeline route between Canberra and Dalton which crossed the Yass River and its hilly surrounds. The survey identified a total of 43 sites including 32 isolated finds and 11 open campsites. The artefacts recorded were predominantly quartz. Subsequent to the survey Witter conducted excavation at one site and the surface collection of six sites. It was noted that backed blades were the dominant artefact type recorded. Silcrete was the dominant lithology recorded with lesser numbers of volcanic and quartz material (as cited in Dibden 2013a).

In 1983 Koettig and Silcox surveyed the route of the proposed freeway bypass near Yass. A total of eight artefact scatters and 50 isolated finds were recorded within the project area which was 14 km in length and 200 m wide. Seven of the artefact scatters were recorded on low ridges and slopes with other artefact scatter recorded on a creek flat. All of the artefact scatters were noted to be recorded within 200 metres of a watercourse (as cited in Dibden 2013a).

A number of transmission line surveys where undertaken in 1983 including Witter and Hughes who surveyed Stage 1 of the Murrumburrah to Yass and Murrumburrah to Wagga Wagga transmission lines during which they identified four artefact scatters, 13 isolated artefacts and a possible modified tree. The artefact scatters were large open camp sites with the dominate lithology quartz. During the survey of Stage 2 of the Murrumburrah to Yass Transmission line in 1983, Packard and Hughes identified another eight isolated finds, five artefact scatters and two possible modified trees. Quartz was the most common lithic material recorded with lesser number of volcanic and chert artefacts. The sites recorded were generally noted to be in ploughed paddocks near creeks (as cited in Dibden 2013a).

In 1986 Koettig assessed a proposed water pipeline between Bowning and Yass. The survey identified two scarred trees near a permanent water source and two low density artefact scatters. A total of six artefacts were recorded from the two sites with stone artefacts. A single area of PAD was recorded on relatively flat ground which consisted of a series of spurs separated by shallow drainage channels which extended to Derringullen Creek. A subsurface testing program was subsequently undertaken across the PAD area which recorded a very low density of subsurface artefacts consist with the surface assemblages recorded (as cited in Dibden 2013a).

In 1988 Silcox and Koettig undertook the survey and subsurface testing of six kilometres for the proposed Barton Highway extension at Yass. The survey identified an artefact scatter and five isolated finds with two additional sites with surface artefacts recorded during the excavation component of the assessment. The excavations recovered very low density artefactual material with the density of subsurface artefacts recovered ranging between 2.3/m^3 to 12/m^3. The artefacts recorded included

flakes, flakes pieced, a core and a backed blade. The majority of the assemblage was manufactured from silcrete with lesser numbers of quartz, mudstone, volcanic and chert (as cited in Dibden 2013a).

In 1993 a survey for the proposed optic fibre cable route between Canberra and Orange was undertaken by Robert Paton Archaeological Studies. A section of this route extended from Boorowa to Cowra. The survey identified four open sites comprising predominantly quartz material in disturbed contexts close to waterways (as cited in Dibden 2013a).

NGH (2019) undertook an Aboriginal Due Diligence Assessment for the proposed Galong Road upgrade in Boorowa. The survey inspected the entire 14.8km extent of the proposed road upgrades. One isolated artefact was identified during the survey. This included a quartz artefact (Galong Rd IF1) which was recorded along a ridge line. Additionally, four areas of PAD were identified on elevated flat ground terraces north and south of Limestone Creek. The areas to the east of the existing road have already been partially disturbed, particularly around PAD 3, for installation of the road and road reserve. PADs 3 and 4 sit on the edge of a large depression extending to the east of the creek line. PADs 1 and 2 to the west of Galong Road were relatively intact and extend along the creek line outside of the current assessment area. The depth of the deposit in these areas could not be determined due to the presence of thick vegetation. There was very low ground surface visibility in these areas, between 0% and 5%, with a soil profile of a light brown fine sandy loam. Despite the PAD areas not being associated with any surface artefacts, further heritage investigation is deemed necessary in these areas. The remainder of the Galong Road corridor and reserves were moderately disturbed and there is a low likelihood that unexpected Aboriginal objects will be located outside of these areas of archaeological potential.

4.2.7 Summary of Aboriginal Land Use

The distribution of Aboriginal stone artefacts across the landscape highlight the widespread occupation of the land. These sites are located at both elevated and low flood-prone locations, indicating potential movement across the landscape. It is evident that the proposal area features areas of archaeological potential throughout the differing landforms.

4.2.8 Archaeological Site Location Model

The Aboriginal site modelling for the region to date suggests that there is a strong association between the presence of potential resources for Aboriginal use and the presence of archaeological sites. Areas directly associated with water and or elevated ground appear to have the greatest potential for identification of Aboriginal cultural material. There are exceptions to this however, and relatively low-lying floodplain areas also have potential for the identification of isolated artefacts or campsites.

Based on the results of the previous archaeological investigations in the general area, and through extrapolation of sites from the 20km² area, it is possible to provide the following model of site location in relation to the proposal area.

Isolated Artefacts – are present across the entire landscape, in varying densities. As Aboriginal people traversed the entire landscape for thousands of years, such finds can occur anywhere and indicate the presence of isolated activity, dropped or discarded artefacts from hunting or gathering expeditions or the ephemeral presence of short-term camps. This feature has been recorded previously within the current proposal area and other isolated finds could occur. This feature is therefore likely to occur.

Hearths/Ovens – are identified by burnt clay used for heat retainers. Some are recorded in the district in association with resource locations. However, they could occur either independently or in association with other Aboriginal cultural features such as artefact scatters. Hearths are generally considered to be limited, one-off use or reused a few times and are smaller concentrations. Ovens are considered to represent larger features, often extending over a larger area and can include other material such as bone. No such sites have been recorded in the area and therefore such sites are less likely to occur.

Stone artefact scatters – representing camp sites or flaking and maintenance activity can occur across the landscape, usually in association with some form of resource or landscape. Water bodies, such as rivers, ephemeral creeks or clay pans can also be a focus of Aboriginal occupation. This feature has been recorded previously within the current proposal area and low density artefact scatters are likely to occur.

Burials – are generally found within mound sites, in elevated sandy contexts or in association with rivers and major creeks or coastal sand bodies. No such sites have been recorded in the area and therefore such sites are less likely to occur.

Scarred Trees – these require the presence of old growth trees and are likely to be concentrated along major waterways and around swampy areas. There are patches of remnant vegetation within and adjacent to the proposal area, given the land use history this site type is less likely to occur but still has potential to be located within the proposal area.

Stone resources – are areas where people used natural stone resources as a source material for flaking. This requires geologically suitable material outcropping to be accessible. The proposal area contains only small natural outcroppings stone, with no large sources of suitable material, therefore while there is potential within the proposal area this feature is unlikely to occur.

Shell Middens – are the agglomeration of shell material disposed of after consumption. Such places are found along the edges of significant waterways, swamps and billabongs in inland contexts and beaches, lagoons, estuaries, lakes and headlands in coastal contexts. The proposal area is intersected by waterways, however these would not currently be considered significant making it unlikely for shell midden sites to occur.

In summary, there are landforms within the proposal area directly associated with water and or elevated ground which have the greatest potential for the identification of Aboriginal cultural material. Nonetheless, given that Aboriginal people have lived in the region for tens of thousands of years, there is potential for archaeological evidence to occur throughout the area, this is most likely to be in the form of stone artefacts.

4.2.9 Comment on Existing Information

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

Within the current proposal area there have been two previous archaeological investigations. The information relating to site patterns, their age and geomorphic context is little understood. The robustness of the AHIMS survey results are therefore considered to be low for the present investigation. There are likely to be many sites that exist that have yet to be identified. Past land use activity has moderately disturbed the archaeological record and there are likely to be places that retain *in situ* archaeological material.

With regard to the limitations of the information available, archaeologists rely on Aboriginal parties to divulge information about places with cultural or spiritual significance in situations where non archaeological sites may be threatened by development. To date, we have not been told of any such places within the proposal area, however, there is always the potential for such places to exist, but concerning the current proposed works area, no such places or values have been identified.

5 ARCHAEOLOGICAL INVESTIGATION RESULTS

5.1 SURVEY STRATEGY

The fieldwork was carried over multiple days between 24.09.2019 to 27.09.2019, 30.09.2019 to 03.10.2019, and 07.02.2020. Two RAP groups (Onerwal LALC and the Buru Ngunawal Aboriginal Corporation) were asked to participate in the fieldwork. NGH archaeologists Matthew Barber, Kirsten Bradley, Bronwyn Partell, Emily Dillon and Tom Knight also conducted the field survey.

The survey strategy covered areas of the proposed development footprint that have not previously been subject to heritage assessment. This survey was targeted to these sections as per the requirements of the CoC, noting that the previous survey of the area had been conducted in 2015 (with a prior survey also in 2013) and that, besides the wind farm, the subject land has consistently been used for farming and rural residential purposes since.

The strategy therefore was to walk a series of transects across the landscape to achieve maximum coverage. Transects were spaced evenly with the survey team spread apart at a range from 5m to 30m intervals, walking in parallel lines. The nature of this targeted survey meant that the areas walked were of differing dimensions, with some sections covered more intensively due to the irregular size of the survey area. The differing contexts also made it necessary to adjust the survey strategy as required, with the road reserve areas being of vastly differing dimensions along the proposed route. The team were, however, able to walk in parallel lines, at a similar pace, allowing for maximum survey coverage and maximum opportunity to identify any heritage objects. The survey team consisted of two to four people which allowed for a 20 to 80-meter-wide tract of the proposal area to be surveyed with each transect, depending on the number of people participating per transect. At the end of each transect, the team would reposition along a new transect line at the same spacing and walk back on the same compass bearing (if possible), or alternatively continue following the proposed development footprint and/or reposition at another location within the proposal area. Any mature trees within the proposal area were also inspected for any evidence of Aboriginal scarring (c.f Long 2005).

We believe that the survey strategy was comprehensive and the most effective way to identify the presence of Aboriginal heritage objects and sites. Discussions were held in the field between the archaeologists and the Aboriginal community representatives from the Onerwal LALC and Buru Ngunawal Aboriginal Corporation, to ensure all were satisfied and agreed with the spacing, coverage and methodology.

The proposal area covered multiple landforms, with some transitioning changes and some drastic, immediate changes during the transect. Following the previous investigations conducted in 2013 and 2015, the survey units will follow on from NSW Archaeology's naming convention. The same continuation of the naming convention will be used when describing the archaeological sites recorded during the survey.

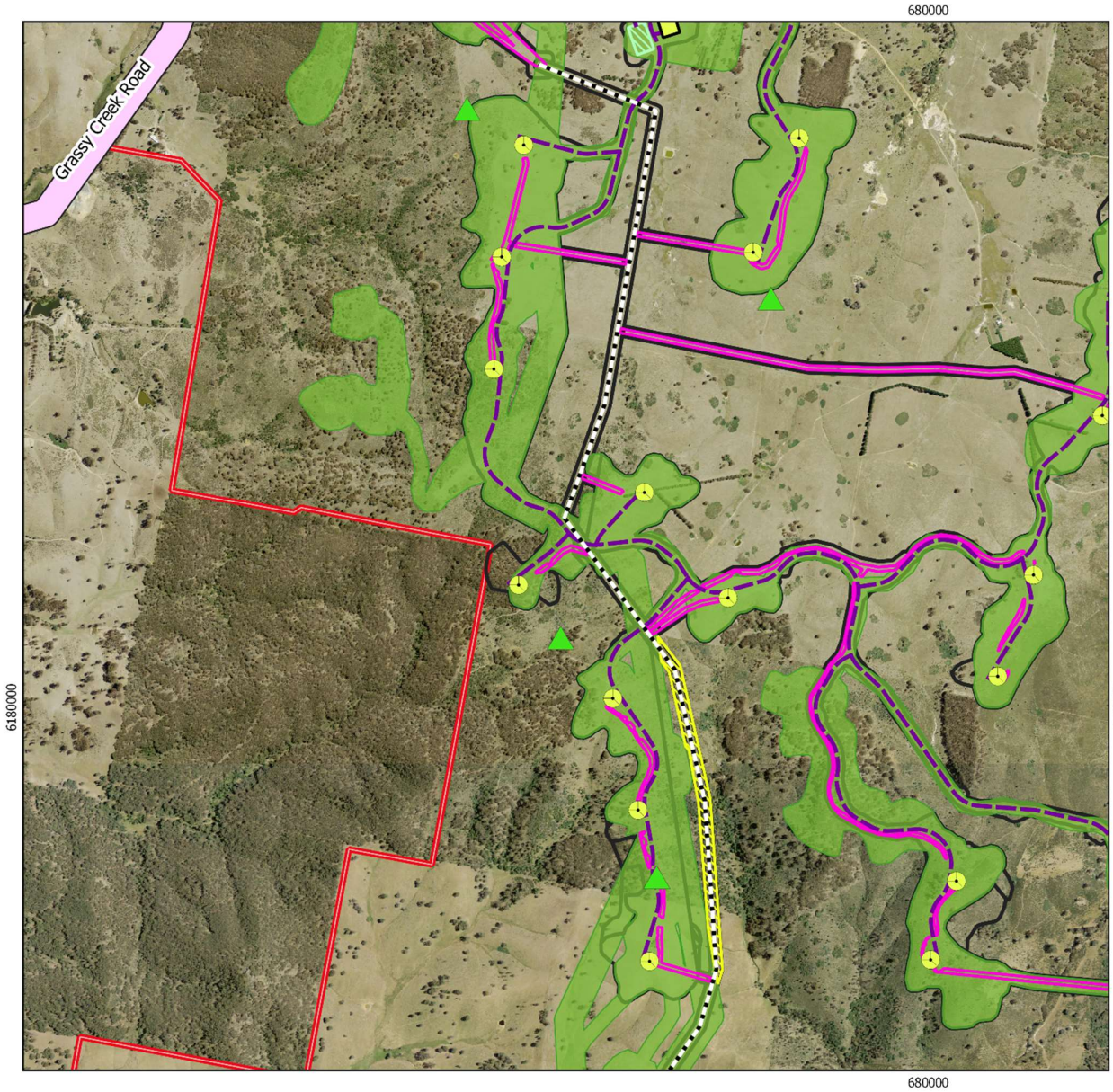
The survey of the proposal area was undertaken by two archaeologists from NGH with two representatives from the Aboriginal community on the 24.09.2019 to 27.09.2019 and 30.09.2019 to 03.10.2019, except for the 27.09.2019 and 07.02.2020 when no representatives were available to attend. Notes were made about visibility, photos taken, and any possible Aboriginal objects or features identified were inspected, assessed and recorded if deemed to be Aboriginal in origin.

5.1.1 Unsurveyed Area

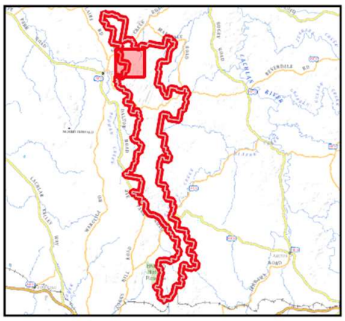
The additional field survey undertaken in February 2020 was required to assess potential alternate options for the modification works and a large laydown area. During this survey it was not possible to gain access to one landowners property to complete the assessment and therefore, a section of the proposed Modification remains unsurveyed.

The unsurveyed portion of the modification proposal is in the northwest of the RPWF project area and consists of a linear easement route for a 33kV overhead powerline. The powerline is approximately 1.2 km in length and 20 m in width, with a 20m construction buffer giving a total width of 40m. The proposed route runs roughly north-south across Lot 152 of Deposited Plan 754136, with the southern 230 m stretch extending into Lot 1 Deposited Plan 222985. This new alignment is adjacent to a section that was surveyed during the original assessments for the RPWF (Dibden, 2013 & 2015), where two identified Aboriginal sites (AHIMS 51-4-0288 and 51-4-0289) were recorded. Both sites are registered as stone artefacts, one artefact scatter and one isolated find.

The two sites were found across differing landforms, with the first and larger of the two sites located approximately 350m west along a drainage line within a gully surrounded by steep hill country. The second of these sites was recorded on a hill crest along a ridgeline formation approximately 165m west of the unsurveyed area. The newly proposed overhead power easement (and unsurveyed area) runs to the west of a ridgeline on the side slopes and associated landforms, traversing across multiple landforms including one gradually inclined and another two steeply incised gullies with drainage lines, a small area of ridgeline in the north, and the remainder being undulating ground of varying steepness. The area can be generally characterised as gentle to moderate inclines towards the centre of the area, with steeper landforms at both the southern and northern ends. The desktop assessment indicates that the area is largely undisturbed through historic land use practices with satellite imagery indicating the potential for mature vegetation (and culturally modified trees), as well as stone artefact site types, both more likely to occur of flatter ridge and spur crests as well as creek and gully flats. Figure 4-1 provides the location of this area that will require survey before construction works are to commence.



Rye Park Wind Farm
Area Not Surveyed



Legend

- Site Boundary
- Area Not Surveyed
- Proposed Modification Development Envelope
- 33kV Overhead Transmission Line
- Access Tracks
- Underground Cable Disturbance Area
- Turbine Locations
- Transport Routes

0 250 500 750 m

Data Attribution
© NGH 2020
© Tilt Renewables 2020
© NSW LPI, DPIE

Ref: RPWFfieldwork \ Area Not Surveyed
Author: bronwyn.p
Date created: 21.02.2020
Datum: GDA94 / MGA zone 55

NGH

Figure 5-1. Location of unsurveyed area requiring field survey and surface salvage prior to any ground disturbing activities.

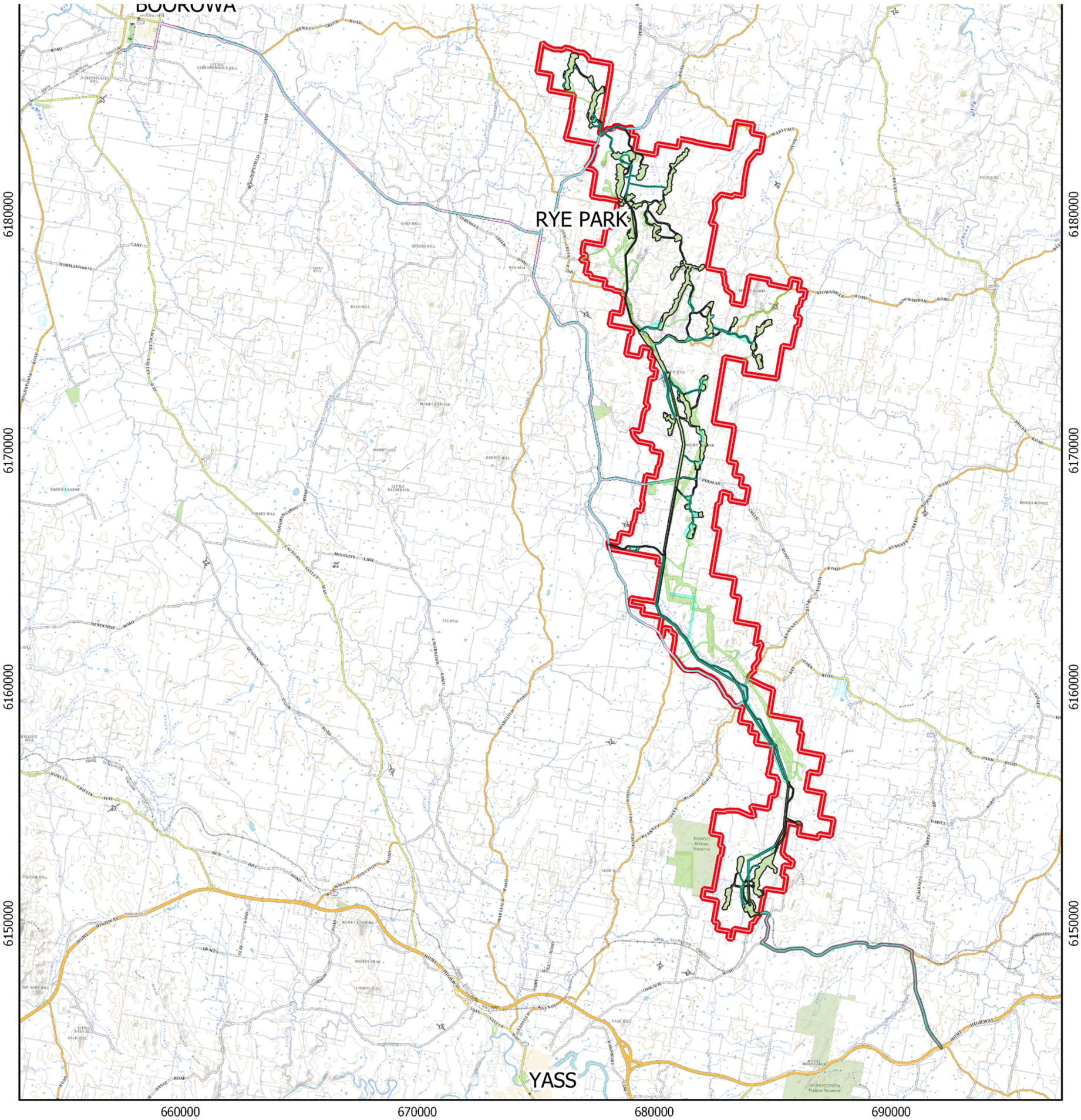


Figure 5-2. Rye Park Wind Farm Modification Proposal Survey Area.

5.2 SURVEY COVERAGE

The survey was impeded by average to poor visibility across the proposal area, with a wide range from 0% to a highest of 90-100% in areas where rough tracks provided full surface exposure. The average visibility across landforms, however, was 20%. Bare ground around the existing tracks within the proposal area also contributed to the effectiveness of the visibility and the survey coverage. Soils within the proposal area range from a light yellow/white to orange silty clay-based matrix with high lithic inclusions that is common across most landforms, to a fine sandy silt associated with intersecting waterways. Table 5-1 below shows the calculations of effective survey coverage and Figure 5-1 shows the areas covered during the field survey, as well as the areas previously surveyed within the RPWF. Plates 5-1 to 5-8 show examples of the transects landforms and visibility for the proposal area. The modification works area was split into survey units (following from Dibden's 2013 & 2015 assessments of the RPWF), with 130 survey units completed during the fieldwork program. Of these 130 survey units there were, however, 25 survey units that were not walked using pedestrian survey methods because after a discussion with the RAPs participating in the survey, it was determined that some sections of the surrounding roadways (transport routes) were highly disturbed and did not warrant survey.

The site boundary of the Rye Park Wind Farm covers a total of approximately 13,528 ha, while the modification proposal covers only 1,303 ha of this area. The survey area covers approximately 414 ha including the external transport routes, covering those areas of the proposed modification that were not previously subject to archaeological investigations. The survey was conducted using four participants for most days, with a minimum of two participants each day. Between the survey participants, over the course of the field survey, approximately 82.7 5km of transects were walked across the proposal area. Allowing for an effective view width of 5 m each person this equates to a total surface area examined of 413.88 hectares. However, allowing for the visibility restrictions, the survey unit is reduced to 193.815 ha with an effective survey of 8.11% across the 16 landform types surveyed. The full breakdown of survey coverage is outlined in Table 5-1.

Overall, it is considered that the surface survey of the Rye Park Wind Farm modification proposal area had sufficient and effective survey coverage. The results identified are considered a true reflection of the nature of the Aboriginal archaeological record present within the proposal area.

Plate 5-1 Area of roadway expansion with disturbed road verge.

Plate 5-2. Area of roadway expansion with disturbed road verge near drainage line, facing west.

Plate 5-3 Area of roadway expansion with current unsealed road and moderately disturbed road.

Plate 5-4. Roadside survey showing low visibility across a modified landform with a large cut left to the right of the image.

Plate 5-5. Ground exposure amongst low growing grasses showing yellow-orange silty clays with gravel inclusions at 35% visibility.

Plate 5-6. Typical sloping landform, view facing north east.

Plate 5-7. Typical soil profile and exposure type throughout the proposal area. Light yellow to cream coloured silty clay with gravel inclusions.

Plate 5-8. Typical landscape of the proposal area, view facing north.

Table 5-1 Transect information.

Survey unit/ Landscape unit/Topography	Number of Survey Transects	Exposure type	Survey Unit Area ha	Surveyed area (length m x width m)	Surveyed Area m^2	Archaeological Visibility	Effective coverage (area x visibility) m^2	Survey unit surveyed (ha)	Percentage of survey unit effectively surveyed	Survey result
Road Verge Disturbed	23	Disturbed areas along the road verge that were walked.	729.2ha	12,937 x 10 10,145 x 20	332,270	25% average	83,067.5	83	11.38%	
Road Verge with creek crossing	8	Flat to lightly undulating road verge with creek crossing, yellow to light orange silty clay with high level of stone inclusions.	76.26ha	1,938 x 15 906 x 10	38,130	15% average	5,719.5	5.7	7.47%	**PAD + AFT 1**
Road Verge Undulating	10	Flat to lightly undulating road verge, landscape modified through road construction. Yellow to whiteish silty clays with high stone inclusions – sandstone outcroppings with quartz veins.	90ha	3,601 x 10	36,010	30% average	10,803	10.8	12%	**PAD 3** **IF 1** **IF 2** **IF 3** **IF 12** **PAD + AFT 5**
Sloping	31	Yellow to orange silty clays with high levels of stone inclusions. Degrading bedrock visible in patches of erosion.	105.5ha	417 X 5 2,586 X 10 1,443 X 15 189 X 20	53,370	20% average	10,674	10.67	10.19%	**PAD + AFT 3** **AFT 3** **AFT 6** **IF 4** **IF 9** **IF 10**

Survey unit/ Landscape unit/Topography	Number of Survey Transects	Exposure type	Survey Unit Area ha	Surveyed area (length m x width m)	Surveyed Area m²	Archaeological Visibility	Effective coverage (area x visibility) m²	Survey unit surveyed (ha)	Percentage of survey unit effectively surveyed	Survey result
Slope and Creek Flat	14	A gravelly yellow silty clay loam. Exposures along and around tracks running across the landform.	104.2ha	643 x 10 981 x 20	26,050m²	25% average	6,512.5	6.5	6.23%	**PAD + AFT 2** **PAD + AFT 4** **IF 13**
Slope and Spur	16	Within close vicinity to creek / drainage lines, steep slopes into flatter surfaces, predominantly adjacent to crests. Low to moderate potential.	212.85ha	339 x 5 538 x 10 1,834 x 15 1,087 x 20	56,325m²	27% average	15,207.75	15.2	7.14%	**AFT 1**
Slope and Crest	8	Silty soil, more silty on lower slopes. Exposures of bedrock on crest. Moderate potential.	45.4ha	757 x 15	11,355m²	10% average	1,135.5	1.1	2.4	**AFT 2**
Slope, Crest, Spur and Saddle	12	Slope with regrowth vegetation, 30% exposure visibility.	143.9ha	285 x 10 1,779 x 15 1064 x 20	50,815m²	27.5% average	13,974.125	13.98	9.7%	
Slope, Spur and Saddle	6	Exposure from tracks leaving bare ground. Yellow to white silty clay with stone inclusions.	67.84ha	598 x 20 500 x 10	16,960m²	15% average	2,544	2.54	3.74%	

Survey unit/ Landscape unit/Topography	Number of Survey Transects	Exposure type	Survey Unit Area ha	Surveyed area (length m x width m)	Surveyed Area m^2	Archaeological Visibility	Effective coverage (area x visibility) m^2	Survey unit surveyed (ha)	Percentage of survey unit effectively surveyed	Survey result
Slope, Creek flat, Crest and Spur	12	Clayish silt with a bit of sandy content closer to creek lines.	316.9ha	5,518 x 10 2,237 x 20	99,920m²	15% average	14,988m²	14.99	4.73%	
Creek Bank and Flat	3	Very grassy paddock with flat above creek line, very grassy with a fine grey sandy silt soil, high potential	6.2ha	249 x 10m	2,490m²	10% average	249m²	0.25	4%	**PAD 1**
Basal Slope and Creek Bank	4	Silty, gravelly clay with some areas of exposed bedrock, low to moderate potential	12.2ha	152m x 20m	3,040m²	25% average	760m²	0.76	6.2%	
Sloping Gully	4	Soil profile contains clay and high stone content. Generally low potential.	15.6ha	623 x 10m	6,230m	15% average	934.5m²	9.345	6%	**PAD 2**
Slope and Ridge Line	8	Quartz outcropping exposed along ridge line, no evidence of stone tool production.	246.93ha	1,716 x 20 3,655 x 15m	89,145m²	10% average	8,914.5m²	8.9	3.6%	

Survey unit/ Landscape unit/Topography	Number of Survey Transects	Exposure type	Survey Unit Area ha	Surveyed area (length m x width m)	Surveyed Area m^2	Archaeological Visibility	Effective coverage (area x visibility) m^2	Survey unit surveyed (ha)	Percentage of survey unit effectively surveyed	Survey result
Slope, Spur, adjacent to drainage line	4	Exposures from animal tracks and small patches of erosion, adjacent to drainage lines. Soil is predominantly clay with high level of gravel inclusions, generally low potential.	55.48ha	2,774 x 10m	27,740 m²	17.5% average	4,161m²	4.1	7.39%	**IF 11** **IF 8**
Slope, Spur, Saddle and Creek/Drainage Line	8	Exposures from tracks and eroded areas of bare ground. Yellow to orange silty clay.	159.6ha	1995 x 20m	39,900m²	15%	5,985m²	5.98	3.89%	**AFT 4** **AFT 5** **IF 5** **IF 6** **IF 7**
TOTAL = 16	**TOTAL = 171**		**TOTAL = 2,388.06ha**		**TOTAL = 889,750 m²**	**AVERAGE = 18.88%**	**TOTAL = 185,629.9 m²**	**TOTAL = 193.815ha**	**TOTAL = 8.11%**	**TOTAL = 26**

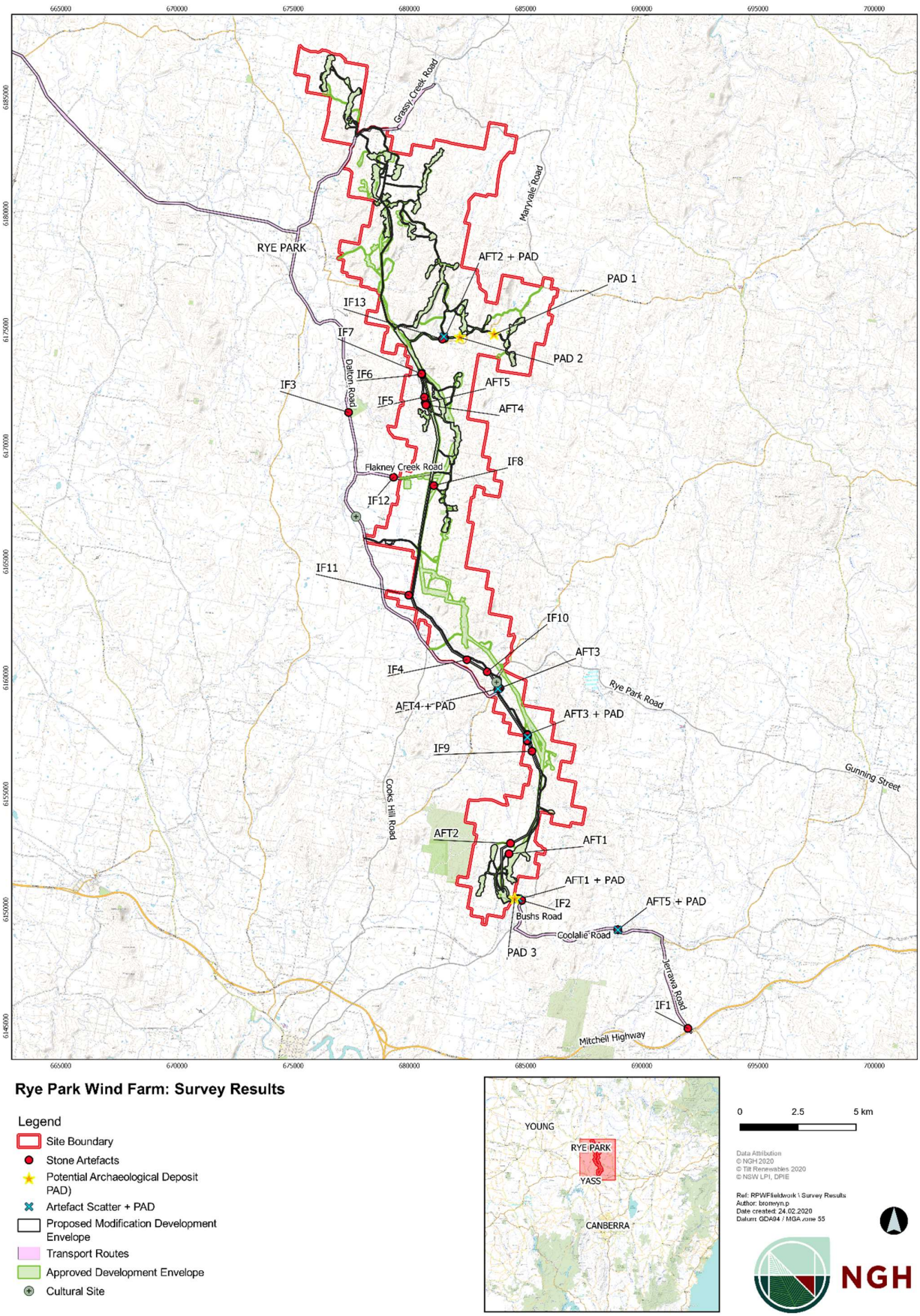


Figure 5-3. Rye Park Wind Farm Modification Proposal survey results.

5.3 SURVEY RESULTS

A total of 27 archaeological sites were recorded, featuring 67 stone artefacts located on the ground surface at 24 locations, as well as 8 areas of PAD. There were three site types recorded within the Rye Park Wind Farm survey area, with some sites representing more than one site type;

1. **Artefact Scatter** – this site type is characterised by two or more Aboriginal stone tools/implements located within an immediate vicinity on the same landform.
2. **Isolated Find** – this site type is characterised by a single Aboriginal stone tool/implement located on the ground surface.
3. **Potential Archaeological Deposit (PAD)** – this site type is characterised by an assessment of subsurface potential, i.e. the likelihood that Aboriginal objects may remain preserved within an archaeological deposit below the ground surface.

Figure 5-3 highlights the location of these recorded archaeological sites. Table 5-2 highlights the sites recorded during the survey, and the landforms on which each site was located.

Site ID	AHIMS number	Site Type	Landform
AFT 1 + PAD	TBA	Artefact Scatter with Potential Archaeological Deposit	Undulating valley flat close to water source
AFT 2 + PAD		Artefact Scatter with Potential Archaeological Deposit	Along the banks and associated flats of a creek line
AFT 3 + PAD		Artefact Scatter with Potential Archaeological Deposit	Flat adjacent to creek line
AFT 4 + PAD		Artefact Scatter with Potential Archaeological Deposit	Creek banks and flat adjacent to creek line
AFT 5 + PAD		Artefact Scatter with Potential Archaeological Deposit	Basal slope, undulating flat
AFT 1		Artefact Scatter	Gently sloping/undulating
AFT 2		Artefact Scatter	Gently sloping/undulating
AFT 3		Artefact Scatter	Gently sloping/undulating
AFT 4		Artefact Scatter	Gently sloping/undulating
AFT 5		Artefact Scatter	Gently sloping/undulating
AFT 6		Artefact Scatter	Very gently undulating flat
IF 1		Isolated Find	Flat adjacent to creek line
IF 2		Isolated Find	Lightly undulating / gentle slope
IF 3		Isolated Find	Lightly undulating / gentle slope
IF 4		Isolated Find	Saddle
IF 5		Isolated Find	Flat adjacent to creek line
IF 6		Isolated Find	Flat adjacent to creek line
IF 7		Isolated Find	Flat adjacent to creek line

IF 8		Isolated Find	Edge of spur near drainage line
IF 9		Isolated Find	Gentle slope near creek line
IF 10		Isolated Find	Spur (shoulder)
IF 11		Isolated Find	Gentle Slope
IF 12		Isolated Find	Low-lying flat
IF 13		Isolated Find	Shallow saddle
PAD 1	N/A	Potential Archaeological Deposit	Flats adjacent to creek line
PAD 2	N/A	Potential Archaeological Deposit	Valley flat
PAD 3	N/a	Potential Archaeological Deposit	Elevated flat / lightly sloping

5.3.1 Artefact Scatter (AFT)

An artefact scatter (AFT) is a surface deposit that contains more than one Aboriginal stone artefact. These artefacts and their diagnostic features have been recorded, as well as the relevant contextual information for each site (topography, soil type, and visibility). An assessment of the subsurface potential was also made to determine if the site was also a Potential Archaeological Deposit (PAD). Throughout the course of the survey, 10 artefact scatters were recorded. The majority of these contained below 5 artefacts while one site contained 50+, highlighting a generally low density of archaeological material identified within the current survey area. Four of the identified AFTs were also assessed as being Potential Archaeological Deposits, meaning the area has potential for intact deposits containing archaeological material to remain below the ground surface.

AFT 1 + PAD (AHIMS TBA)

AFT 1 + PAD is a low-density surface scatter with 10 visible artefacts recorded during the survey. The site is located along a gently undulating landform forming a small valley-like depression sloping towards a creek line. The artefacts were located on either side of a dirt track running over the creek line. The surface scatter extends along both sides of the creek and has been identified as holding subsurface potential. The surface artefacts were identified in areas of exposure, seemingly eroding from within the topsoil A horizon deposit, a creamy yellow silty clay with high levels of stone inclusions (gravels). The recorded features of visible surface artefacts are outlined in Appendix B, and Plates 4-9 and 4-10 highlight the context of the site.

Plate 5-9. AFT 1 + PAD context facing south.

Plate 5-10. AFT 1 + PAD context facing north.

AFT 2 + PAD (AHIMS TBA)

AFT 2 + PAD is a low density surface scatter with 5 visible surface artefacts recorded during the survey. The site is located along the banks and associated flats of a creek line. The site covers an area adjacent to a fork or dividing point in the creek path. The surface scatter extends along the southern side of the creek and has been identified as holding subsurface potential. This site shows moderate signs of erosion along the creek banks, but some deposit appears intact, with one area appearing to have 10+ artefacts held within the eroding deposit. The surface artefacts were identified in areas of exposure, seemingly eroding from the topsoil A horizon deposit of a creamy yellow silty clay. The recorded features of visible surface artefacts are outlined in Appendix B, and Plates 4-11 and 4-12 highlight the context of the site.

Plate 5-11. AFT 2 + PAD context facing north west looking towards the site.

Plate 5-12. AFT 2 + PAD context facing north west across flat.

AFT 3 + PAD (AHIMS TBA)

AFT 3 + PAD is a moderate density surface scatter with 50+ visible artefacts recorded during the survey. The site is located across a partially disturbed area close to a creek line. The area had a visibility of 30%, with the artefacts spread across approximately 23m x 7m. The surface scatter has been identified as holding subsurface potential with the artefacts identified in areas of exposure, eroding from within the topsoil A horizon deposit. An intersecting track has left areas of bare ground highlighting the light yellow to cream coloured silty clay with stone (gravels) inclusions. The recorded features of visible surface artefacts are outlined in Appendix B, and Plates 4-13 and 4-14 highlight the context of the site.

Plate 5-13. AFT 3 + PAD context facing north east.

Plate 5-14. Possible axe blank. Lichen on surface indicates extended duration exposed to the elements.

AFT 4 + PAD (AHIMS TBA)

AFT 4 + PAD is a low density surface scatter with 3 visible artefacts recorded during the survey. The site is located on a basal slope to flat landform adjacent to a creek line. The area had a visibility of 30%, with the artefacts spread across approximately 13m x 8m. The surface scatter has been identified as holding subsurface potential with one artefact seemingly *in situ* within the creek bank. This archaeological site is a possible flaking floor consisting of 50+ stone artefacts from a range of materials including chert, tuff, silcrete and quartz. The surface artefacts are a representation of both flakes and flaked pieces (debitage). The surface artefacts identified in areas of exposure, seemingly eroding from within the topsoil A horizon deposit. The full recorded features of visible surface artefacts are outlined in Appendix B, and Plates 4-15 and 4-16 highlight the context of the site.

Plate 5-15. AFT 4 + PAD context facing north east.

Plate 5-16. Profile of creek bank showing subsurface potential.

AFT 5 + PAD (AHIMS TBA)

AFT 5 + PAD is a low density surface scatter with 2 visible artefacts recorded during the survey. The site is located adjacent to the roadway along Coolalie Road, in an area of undulating topography along a flattened area at the base of a moderate slope. The area had a visibility of 40% and has been identified as holding subsurface potential. The soil profile is a yellow to white silty clay, with a sandstone outcropping bearing veins of quartz occurring on the slope downwards towards the site. This outcropping is, however, very friable and plated (possibly from waterlogging). The quartz deposits are in small vein formations within the sandstone and there was no observed physical evidence to indicate

that the site was used for stone procurement and tool production. The full recorded features of visible surface artefacts are outlined in Appendix B, and Plates 4-17 and 4-18 highlight the context of the site.

Plate 5-17. AFT + PAD context facing south.

Plate 5-18. AFT 5 + PAD, surface artefacts.

AFT 1 (AHIMS TBA)

AFT 1 is a low density surface scatter with 4 visible artefacts recorded during the survey. The site is located adjacent to a dirt track intersecting the proposal area. The area had a visibility of 35%. The full recorded features of visible surface artefacts are outlined in Appendix B, and Plate 4-19 highlights the context of the site.

Plate 5-19. AFT1 context, facing north.

AFT 2 (AHIMS TBA)

AFT 2 is a low density surface scatter with 3 visible artefacts recorded during the survey. The site is located adjacent to a dirt track intersecting the proposal area. The area had a visibility of 15%, with the surface artefacts identified in areas of exposure. The full recorded features of visible surface artefacts are outlined in Appendix B, and Plate 4-20 highlights the context of the site.

Plate 5-20. AFT2 context, facing east.

AFT 3 (AHIMS TBA)

AFT 3 is a low density surface scatter with 5 visible artefacts recorded during the survey. The site is located in an area with planted trees at the edge of a slope, with a cattle path intersecting the area providing exposure. The area had a visibility of 20%. The full recorded features of visible surface artefacts are outlined in Appendix B, and Plates 4-21 and 4-22 highlight the context of the site.

Plate 5-21. AFT 3 context, facing south from cattle track.

Plate 5-22. Quartz artefact.

AFT 4 (AHIMS TBA)

AFT 4 is a low-density surface scatter with 2 visible artefacts recorded during the survey. The site is located in an area with 20% visibility. The full recorded features of visible surface artefacts are outlined in Appendix B, and Plates 4-23 and 4-24 highlight the context of the site.

Plate 5-23. AFT 4 context, facing north.

Plate 5-24. Surface artefact: Chert distal fragment with feather termination.

AFT 5 (AHIMS TBA)

AFT 5 is a low-density surface scatter with 3 visible artefacts recorded during the survey. The site is located along the edge of a spur line near the initiation of a slope. The area had a visibility of 30%, with the artefacts spread across approximately 18m x 5m. The full recorded features of visible surface artefacts are outlined in Appendix B, and Plates 4-25 and 4-26 highlight the context of the site.

Plate 5-25. AFT 5 context, facing south.

Plate 5-26. Surface artefact: milky white quartz flake.

AFT 6 (AHIMS TBA)

AFT 6 is a low-density surface scatter with 6 visible artefacts recorded during the survey. The site is located in a cleared area across an undulating flat landform, with the artefacts visible in areas of exposure from animal tracks. The area had a visibility of 30%, with the artefacts spread across approximately 12m x 12m. Table 4-11 outlines the recorded features of visible surface artefacts and Plates 4-27 and 4-28 highlight the context of the site. The full recorded features of visible surface artefacts are outlined in Appendix B.

Plate 5-27. Surface artefact: grey silcrete flake.

Plate 5-28. AFT 6 context, facing south.

5.3.2 Isolated Find (IF)

An Isolated Find (IF) is one single Aboriginal stone artefact, predominantly recorded on the ground surface. There were 13 isolated finds identified during the survey, with the artefacts and their diagnostic features recorded, as well as the relevant contextual information for each site (topography, soil type, and visibility). An assessment of the subsurface potential was also made to determine if the site was also a Potential Archaeological Deposit (PAD).

IF1 (AHIMS TBA)

IF 1 was located in an area of 10% visibility across a flat landform associated with a creek/drainage system running north and east of the artefact location. The artefact was located within the road reserve, in an area of exposure adjacent to a rough animal/small vehicle track. No potential for subsurface material was identified at this location. The recorded artefact is a cream/grey silcrete flake that has been broken with a focal platform and feather termination. The dimensions of the flake measure 17mm length x 21mm width x 3mm thickness. The full recorded features of visible surface artefacts are outlined in Appendix B.

Plate 5-29. IF1 context, facing north.

Plate 5-30. IF1, cream/grey silcrete flake.

IF2 (AHIMS TBA)

IF 2 was located on an undulating landform, in a disturbed area with 25% visibility. No potential for subsurface material was identified at this location. The recorded artefact is a milky white quartz flake

that has been broken with a crushed platform surface, focal platform and feather termination. The dimensions of the flake measure 21mm length x 8mm width x 4mm thickness. The full recorded features of visible surface artefacts are outlined in Appendix B.

Plate 5-31. Surface artefact: milky white quartz flake.

Plate 5-32. IF2 context, facing west.

IF3 (AHIMS TBA)

IF 3 was located on a gently sloping landform, in an area of 15% visibility on edge of a road cutting. No potential for subsurface material was identified at this location. The recorded artefact is a white-grey silcrete flake. The full recorded features of visible surface artefacts are outlined in Appendix B, with plates 4-33 and 4-34 providing visual recordings of the artefact and site context.

Plate 5-33. Surface artefact: white/grey silcrete flake.

Plate 5-34. IF3 context, facing south.

IF4 (AHIMS TBA)

IF 4 was located on a saddle, in an area of exposure with 10% visibility. No potential for subsurface material was identified at this location. The recorded artefact is a grey silcrete flaked piece with a crushed platform surface, focal platform and feather termination. The full recorded features of visible surface artefacts are outlined in Appendix B, with plates 4-35 and 4-36 providing visual recordings of the artefact and site context.

Plate 5-35. IF4 site context, facing south-west.

Plate 5-36. IF2: grey Silcrete flaked piece.

IF5 (AHIMS TBA)

IF 5 was located on the flats adjacent to a creek line in an area of exposure with 20% visibility. No potential for subsurface material was identified at this location. The recorded artefact is a milky quartz flake with a flake scar platform surface, focal platform and feather termination. The reduction stage is tertiary with no cortex visible. The dimensions of the flake measure 28mm length x 12mm width x 5mm thickness. The full recorded features of visible surface artefacts are outlined in Appendix B, with plates 4-37 and 4-38 providing visual recordings of the artefact and site context.

Plate 5-37. IF5 site context, facing south.

Plate 5-38. IF5: white milky quartz flake.

IF6 (AHIMS TBA)

IF 6 was located on a dirt track adjacent to a creek line in an area of exposure with 15% visibility. No potential for subsurface material was identified at this location. The recorded artefact is a milky quartz flake with a crushed platform surface, focal platform and feather termination. The reduction stage is tertiary with no cortex visible. The dimensions of the flake measure 20mm length x 16mm width x 3mm thickness. The full recorded features of visible surface artefacts are outlined in Appendix B, with plates 4-39 and 4-40 providing visual recordings of the artefact and site context.

Plate 5-39. IF 6 site context, facing north-east.

Plate 5-40. IF6: white milky quartz flake.

IF7 (AHIMS TBA)

IF 7 was located on a dirt track adjacent to a creek line in an area of exposure with 30% visibility. No potential for subsurface material was identified at this location. The recorded artefact is a milky quartz flake with a flake scar platform surface, broad platform and feather termination. The reduction stage is tertiary with no cortex visible. The dimensions of the flake measure 25mm length x 14mm width x 8mm thickness. The full recorded features of visible surface artefacts are outlined in Appendix B, with plates 4-41 and 4-42 providing visual recordings of the artefact and site context.

Plate 5-41. IF7 site context, facing west.

Plate 5-42. IF7: white milky quartz flake.

IF8 (AHIMS TBA)

IF 8 was located on the edge of a spur near a drainage line, in an area of exposure with 25% visibility. No potential for subsurface material was identified at this location. The recorded artefact is a silcrete flake with a flake scar platform surface, focal platform and feather termination. The reduction stage is tertiary with no cortex visible. The dimensions of the flake measure 62mm length x 32mm width x 11mm thickness. The full recorded features of visible surface artefacts are outlined in Appendix B, with plates 4-43 and 4-44 providing visual recordings of the artefact and site context.

Plate 5-43. IF8 site context, facing north.

Plate 5-44. IF8: white/grey silcrete flake.

IF9 (AHIMS TBA)

IF 9 was located on a gentle slope near a creek line, in an area with 10% visibility. No potential for subsurface material was identified at this location. The recorded artefact is a tuff flake with a flake scar platform surface, broad platform and feather termination. The reduction stage is tertiary with no cortex visible. The dimensions of the flake measure 50mm length x 42mm width x 11mm thickness. The full recorded features of visible surface artefacts are outlined in Appendix B, with plates 4-45 and 4-46 providing visual recordings of the artefact and site context.

Plate 5-45. IF9 site context, facing south.

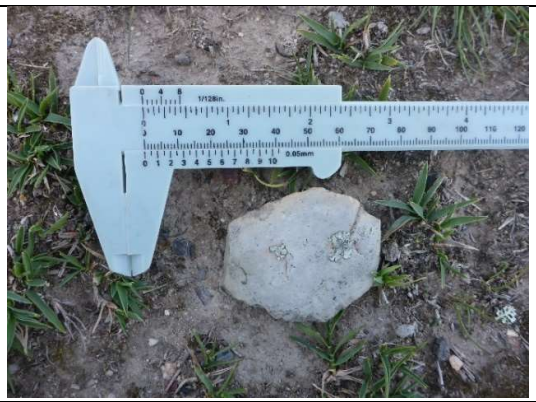


Plate 5-46. IF9: light grey tuff flake.

IF10 (AHIMS TBA)

IF 10 was located on the shoulder of a spur, in an area of exposure from an animal track with 15% visibility. No potential for subsurface material was identified at this location. The recorded artefact is a grey silcrete proximal fragment with a flake scar platform surface, broad platform and feather termination. The reduction stage is tertiary with no cortex visible. The dimensions of the flake measure 15mm length x 15mm width x 7mm thickness. The full recorded features of visible surface artefacts are outlined in Appendix B, with plates 4-47 and 4-48 providing visual recordings of the artefact and site context.

Plate 5-47. IF10 site context, facing south.

Plate 5-48. IF10: grey silcrete proximal fragment.

IF11 (AHIMS TBA)

IF 11 was located on a sloping landform in an area of exposure from an animal track with 20% visibility. The light grey silty clay shows no signs of potential for subsurface material across the location. The recorded artefact is a grey silcrete proximal fragment with a flake scar platform surface, focal platform and absent termination. The reduction stage is tertiary with no cortex visible. The dimensions of the flake measure 22mm length x 10mm width x 5mm thickness. The full recorded features of visible surface artefacts are outlined in Appendix B, with plates 4-49 and 4-50 providing visual recordings of the artefact and site context.

Plate 5-49. IF11 context, facing south-east.

Plate 5-50. Surface artefact: grey silcrete proximal fragment.

IF12 (AHIMS TBA)

IF 12 was located on the side of an unsealed dirt road, across a low-lying flat landform, in an area of exposure with 25% visibility. The soil profile was a yellow/orange gravel heavy clay, with no potential for subsurface material at this location. The full recorded features of visible surface artefacts are outlined in Appendix B, with plate 4-showing the site context.

Plate 5-51. IF 12 context, facing west.

IF13 (AHIMS TBA)

IF 13 was located on a shallow saddle landform, across a spur crest elevated above flats, in an area of exposure with 15% visibility. The soil profile was a very gravel heavy clay, with no potential for subsurface material was identified at this location. The recorded artefact is a white quartz split flake with a tertiary reduction stage. The dimensions of the flake measure 23mm length x 10mm width x 7mm thickness. The full recorded features of visible surface artefacts are outlined in Appendix B, with plates 4-52 and 4-53 providing visual recordings of the artefact and site context.

Plate 5-52. IF13 context, facing north west

Plate 5-53. IF 13 context, facing north.

5.3.3 Potential Archaeological Deposit (PAD)

A Potential Archaeological Deposit (PAD) is an area that has potential for intact deposits containing archaeological material to remain below the ground surface. The relevant contextual information for each site (topography, soil type, and visibility) has been recorded. Throughout the course of the survey, 8 PADs were recorded, with 5 of these also containing surface artefacts (as described above in Section 4.3.1). The remaining 3 PADs represent areas of potential subsurface deposit, as described below.

PAD 1

PAD 1 was recorded at the junction of three creek/drainage lines, in an area bound by these waterways on all except the southern side. The area presented an average visibility of 20% with yellow to creamy white silty clays showing in areas of exposure. No surface artefacts were identified at this location, with the PAD a reflection of potential archaeological material remaining below the ground surface. Plates 4-54 and 4-55 provide a visual site context.

Plate 5-54. PAD 1 context, facing northeast.

Plate 5-55. PAD 1 context, facing southwest.

PAD 2

PAD 2 is located in a large sheltered area, a relatively flattened area formed in a small depression that is protected from the wind by the surrounding elevated ground. This naturally protected landform would be sheltered from extreme weather to some degree and is approximately 50m from the edge of a creek line. The soil profile is the same yellow to cream coloured silty clay that is common across the proposal area, with a visibility of 15%. There were no surface artefacts recorded at this location, with the PAD reflecting potential archaeological material remaining below the ground surface. Plates 4-56 and 4-57 provide a visual site context.

Plate 5-56. PAD 2 context, facing north-east.

Plate 5-57. PAD 2 context facing south-west.

PAD 3

PAD 3 is located across an elevated flat with a gentle incline, elevated above the location of PAD + AFT 1. Adjacent to a dirt track, the area presented a soil profile of orange-yellow silty clay with a high level of stone inclusions and a visibility ranging from 10% in the areas with a denser turfed grass cover to 25% in the areas within closer proximity to the unsealed roadway. There were no surface artefacts recorded at this location, with the PAD reflecting potential archaeological material remaining below the ground surface. Plates 4-58 and 4-59 provide a visual site context.

Plate 5-58. PAD 2 context facing north, PAD located in the background on the elevated lower slope.

Plate 5-59. PAD 2, context view taken from the rough unsealed track to the west (PAD area begins with the remaining uncut landform to the right of the image.

5.3.4 Culturally Identified Sites

There were two sites identified by RAP representatives during the survey. While these sites are not archaeological, i.e. they have no physical characteristics or identifiable features that provide evidence of past activities, they have been identified as intangible heritage by RAPs. Intangible heritage is defined as the nonphysical aspects of cultural heritage, including oral history; folklore; music and dance; knowledge and practices featuring nature and the universe; and social practices, rituals and festivals, being those aspects of a culture that bear no physical evidence within the archaeological record.

CULTURAL SITE 1: CULTURAL TREE

One cultural tree was identified during the survey. This tree bears no markings to identify it as a scarred or culturally modified tree, however it was identified by a RAP representative as being a culturally significant site. The site has been listed in AHIMS with gender restrictions (site ID: INSERT), if more details are required please refer to the further information contact listed on the site card.

CULTURAL SITE 2: RAW MATERIAL SOURCE: QUARTZ DEPOSIT

A raw material source was identified by a RAP representative during the survey. This raw material source was an outcrop of quartz located on a flat, lightly undulating plain within close vicinity (approximately 50m) of a water source. There were no physical features to indicate stone procurement (and therefore a quarry site), however the quartz was recognised to be of a high quality. Although there were no identifiable features to characterise this as an archaeological site, the quartz deposit was identified by a RAP representative as being a potential raw material source due to the high quality of the quartz present. It was also indicated by the RAP representative that they would request the opportunity to salvage the deposit if development is to impact the locality.

Plate 5-60. Raw material source, context facing northeast.

Plate 5-61. Raw material resource: good quality quartz.

5.4 CONSIDERATION OF POTENTIAL FOR SUBSURFACE MATERIAL

Subsurface potential was considered throughout the survey, resulting in 8 areas of Potential Archaeological Deposit (PAD) being identified. The proposed works at each location of PAD is listed in Table 4-12.

Table 5-2. Potential Archaeological Deposits identified during the field survey.

PAD ID	AHIMS ID	Proposed Works	Level of potential impact
1	TBA	Underground Cabling	Total disturbance
2	TBA	Underground Cabling	Total disturbance
3	TBA	Road Widening	Partial to total disturbance
PAD + AFT 1	TBA	Road Widening	Partial to total disturbance
PAD + AFT 2	TBA	33kV Overhead transmission line	Total disturbance
PAD + AFT 3	TBA	132kV Overhead Transmission Line	Partial disturbance, may be avoidable
PAD + AFT 4	TBA	132kV Overhead Transmission Line	Partial disturbance, may be avoidable
PAD + AFT 5	TBA	Road Widening	Partial to total disturbance

5.5 HISTORIC (NON-ABORIGINAL) ARCHAEOLOGICAL POTENTIAL

The historic (non-Aboriginal) archaeological potential lies largely in the structural remains; however, the material culture of the inhabitants must also be considered. There is potential for personal belongings and artefactual evidence reflecting daily life and activities to have been preserved throughout historically inhabited areas. It is considered likely, if structures are located, that there will also be corresponding occupational deposits remaining including but not limited to;

- Floors and structural remains (floorboards, bricked or paved areas, hearth/oven structures, chimney's, heavily compacted earth)
- Underfloor deposits (the gaps between floorboards was often much greater than we see today, meaning that small items could easily fall through and create deposits underneath)
- Cesspits and rubbish collection areas
- Drainage pathways
- Roads and entrance ways
- Paths, fences, and garden beds or features
- Landscaped areas from gardens, fields and grazing areas
- Agriculture processing buildings and associated sheds/outbuildings

Potential material culture contained within the abovementioned deposits could include;

- Historical glass artefacts
- Metal (nails and structural fittings, horseshoes and accessories, military regalia and buttons, as well as smaller personal items from needles to children's toys)
- Farming tools and equipment
- Ceramics
- Clay pipes and smoking accessories
- Leather and potentially other fabric remains
- Buttons, beads and other small personal accessories

There were eight areas of historic (non-Aboriginal) archaeological potential identified during the field survey. These areas are described in Table 4-3 and shown in Plates 4-62 to 4-69.

Table 5-3. Areas of historic (non-Aboriginal) archaeological potential identified during the field survey.

Survey Unit	Notes	Subsurface Potential	Proposed Works	Potential Impact
SU64 / L1	Historical structure platform, fire place brick and stone, 2m x 2m	Moderate	33kV Overhead transmission Line	Partial to total destruction – recommend avoiding
SU64/ L1	Post hole	Moderate	33kV Overhead transmission Line	Partial to total destruction – recommend avoiding
SU78 / L1	Possible historic stone hearth with intervening platform	Moderate	132kV Overhead Transmission Line	Partial to total destruction – recommend avoiding

Survey Unit	Notes	Subsurface Potential	Proposed Works	Potential Impact
SU78 / L1	Second possible historic hearth, potentially connected to the above stone hearth	Moderate	132kV Overhead Transmission Line	Partial to total destruction – recommend avoiding
SU77 / L3	Old house structure	High	Underground cabling	Partial to total destruction – recommend avoiding
SU75 / L1	Sheep dip likely connected to old homestead on opposite site of creek, concrete, wood, metal	Moderate	Underground cabling	Partial to total destruction – recommend avoiding
SU75 / L2	Possible crutching shed with post holes evident 20 x 10m	Moderate	Underground cabling	Partial to total destruction – recommend avoiding
SU75 / L3	Remnant old agriculture equipment i.e. rims	Low	Underground cabling	Partial to total destruction

Plate 5-62. Historical structure, with remnant brick and stone fireplace.

Plate 5-63. Brick and stone fireplace.

Plate 5-64. Possible historic hearths, context facing east.

Plate 5-65. Possible historic hearth (two with adjoining stone platform).

Plate 5-66. Structural remains of historic homestead (with sheep dip in background).

Plate 5-67. Historic sheep dip, likely associated with the homestead across the creek line.

Plate 5-68. Post holes evident of a structure measuring 20m x 10m.

Plate 5-69. Agricultural equipment.

5.6 DISCUSSION

The results of the field survey have provided evidence suggestive of the Aboriginal land use practices within the region. Based on the information collected, it can be concluded that:

- Areas of PAD are more likely to remain around waterways, with the potential increasing in areas where multiple waterways intersect.
- Artefact scatters and isolated stone artefacts are located across the landscape and not limited to one specific landform type, however, are less likely to occur across areas with steeper inclines (i.e. will be limited to the moderate to gentle slopes, flats and elevated ridge/crest landforms).
- Scarred trees are unlikely but have the potential to remain in areas where there is remnant mature vegetation.
- All other site types are unlikely to occur within the proposal area.

The survey results, as detailed throughout section 5.3 above, have highlighted evidence of Aboriginal occupation across the proposal area. Through the course of the survey areas of PAD were also identified, suggesting that there is potential for intact subsurface deposits remaining. These deposits could contain further information pertaining to the Aboriginal use of the land throughout the proposal area. Areas of PAD that will be subject to harm as a result of the proposed works will require further investigations in the form of archaeological test excavations. Full recommendations are provided in Section 10. The survey results have produced a similar concentration of recorded archaeological sites

than was observed during the previous archaeological investigations. The majority of sites are similar to those previously identified within the Rye Park Wind Farm site boundary, however the current survey has resulted in the additional identification of more areas holding subsurface potential (PADs). The differing results are largely due to the differing landforms traversed within the surveys, with the Dibden (2013 & 2015) surveys largely focused on ridgelines and associated elevated ground. It was, however, noted within the 2015 survey (Dibden, 2015) that the valley flats, basal slopes and flats associated with creek lines hold archaeological potential. It was within these landform types that the areas of PAD have been identified.

6 CULTURAL HERITAGE VALUES AND STATEMENT OF SIGNIFICANCE

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

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

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

Social or Cultural Value

While the true cultural and social value of Aboriginal sites can only be determined by local Aboriginal people, as a general concept, all sites hold cultural value to the local Aboriginal community. An opportunity to identify cultural and social value was provided to all the registered Aboriginal stakeholders for this proposal through the draft reporting process.

It was clear from the conversations held in the field that all sites hold cultural value to the local Aboriginal community. There were two sites of cultural significance identified by RAP representatives during the survey.

Scientific (archaeological) Value.

As described in this report, 26 archaeological sites have been recorded within the proposed modification area for the RPWF. The research potential of the sites located during this assessment is considered to be low to moderate. The presence of the sites can and has been used to assist in the development of site modelling for the local landscape and could be used to compare with other artefact assemblages from open camp site locations.

The impact to the scientific values if the artefacts were to be impacted by the current proposal is considered moderate. The identified areas of PAD have the potential to hold intact contextual information that could provide information regarding past Aboriginal land use within the proposal area. The impact to the scientific values of isolated finds is considered low, as there were no artefacts identified that could provide any further information about Aboriginal occupation of the area other than their existence within the landscape. The identified archaeological sites range in their scientific values, with the significance for each site outlined in Table 6-1 below.

While the artefacts themselves are intrinsically interesting in terms of their base technical information, their scientific significance lies largely with their potential relation to the site AFT 3 + PAD, which could represent a large and potentially significant camping/habitation area and/or stone tool production site.

Aesthetic Value

There are no aesthetic values associated with the identified archaeological sites per se, apart from the presence of Aboriginal artefacts in the landscape. However, the close proximity of the sites to roads and existing housing structure detracts from this aesthetic setting.

Historic Value

There are no historic values associated with the identified archaeological sites. No known historical figures or events are associated with the project area.

Other Values

There are no other known heritage values associated with the project area. The area may have some educational value (not related to archaeological research) through educational material provided to the public about the Aboriginal occupation and use of the area. The presentation of educational material about the Aboriginal occupation and use of the area could be developed in consultation with the local Aboriginal community.

Table 6-1. Scientific (archaeological) Value for identified archaeological sites.

Site ID	Scientific Value
AFT 1 + PAD	Moderate, however this assessment may change depending on the results of subsurface archaeological testing.
AFT 2 + PAD	Moderate, however this assessment may change depending on the results of subsurface archaeological testing.
AFT 3 + PAD	Moderate to high, however this assessment may change depending on the results of subsurface archaeological testing.
AFT 4 + PAD	Moderate, however this assessment may change depending on the results of subsurface archaeological testing.
AFT 5+ PAD	Moderate, however this assessment may change depending on the results of subsurface archaeological testing.
AFT 1	Low, with no evidence of surface artefacts containing significant levels of residues or representing examples of rare or unexpected tool types.
AFT 2	Low, with no evidence of surface artefacts containing significant levels of residues or representing examples of rare or unexpected tool types.
AFT 3	Low, with no evidence of surface artefacts containing significant levels of residues or representing examples of rare or unexpected tool types.
AFT 4	Low, with no evidence of surface artefacts containing significant levels of residues or representing examples of rare or unexpected tool types.
AFT 5	Low, with no evidence of surface artefacts containing significant levels of residues or representing examples of rare or unexpected tool types.
AFT 6	Low, with no evidence of surface artefacts containing significant levels of residues or representing examples of rare or unexpected tool types.
IF 1	Low, with no evidence of surface artefacts containing significant levels of residues or representing examples of rare or unexpected tool types.
IF 2	Low, with no evidence of surface artefacts containing significant levels of residues or representing examples of rare or unexpected tool types.
IF 3	Low, with no evidence of surface artefacts containing significant levels of residues or representing examples of rare or unexpected tool types.
IF 4	Low, with no evidence of surface artefacts containing significant levels of residues or representing examples of rare or unexpected tool types.
IF 5	Low, with no evidence of surface artefacts containing significant levels of residues or representing examples of rare or unexpected tool types.
IF 6	Low, with no evidence of surface artefacts containing significant levels of residues or representing examples of rare or unexpected tool types.
IF 7	Low, with no evidence of surface artefacts containing significant levels of residues or representing examples of rare or unexpected tool types.
IF 8	Low, with no evidence of surface artefacts containing significant levels of residues or representing examples of rare or unexpected tool types.

IF 9	Low, with no evidence of surface artefacts containing significant levels of residues or representing examples of rare or unexpected tool types.
IF 10	Low, with no evidence of surface artefacts containing significant levels of residues or representing examples of rare or unexpected tool types.
IF 11	Low, with no evidence of surface artefacts containing significant levels of residues or representing examples of rare or unexpected tool types.
IF 12	Low, with no evidence of surface artefacts containing significant levels of residues or representing examples of rare or unexpected tool types.
IF 13	Low, with no evidence of surface artefacts containing significant levels of residues or representing examples of rare or unexpected tool types.
PAD 1	The scientific value of a Potential Archaeological Deposit cannot be determined until the deposit has been archaeologically tested.
PAD 2	The scientific value of a Potential Archaeological Deposit cannot be determined until the deposit has been archaeologically tested.
PAD 3	The scientific value of a Potential Archaeological Deposit cannot be determined until the deposit has been archaeologically tested.

7 IMPACT ASSESSMENT

7.1 HISTORY AND LANDUSE

Previous use of the land prior to the current project proposal is largely farming with a combination of grazing and agriculture, there are also a number of residential dwellings, associated structures and dirt track roads intersecting the proposal area. These previous impacts have caused significant disturbance to the ground surface at specific localities throughout the proposal area, however the majority of the area is relatively undisturbed. It is considered that the archaeological record within the proposal area has not been overtly compromised by prior land-use activities.

7.2 PROPOSED DEVELOPMENT ACTIVITY

As noted above in section 1.2, the proposal is for a modification to the SSD Rye Park Wind Farm. The proposal area has been covered partially by prior investigations in both 2013 and 2015, this survey is targeted to areas identified within the development footprint not previously assessed for heritage impacts. The proposed works are a modification to the approved Rye Park Wind Farm development proposal that would include changes to layout due to realignment of transmission lines, access tracks and underground cabling.

7.3 ASSESSMENT OF HARM

The current and previous archaeological investigations of the proposal area have clearly identified that there are Aboriginal archaeological sites present within the proposal area. With the current proposed works, it is not possible to avoid harm to all of the sites described in Section 5.3. The proposed level of disturbance, and subsequently harm to the Aboriginal objects, differs across the proposal area in association with the works required. The highest level of impact will result from the proposed 33kV

underground cabling, which will result in partial destruction to all of the 10 Aboriginal archaeological sites (refer to Table 7-1) within these areas that were recorded during these investigations. The destruction at these sites will be partial, as it will only be necessary to cause ground disturbance across the alignment of the underground cabling. It would be proposed that if these areas cannot be avoided and subsurface testing is required, then the areas to be tested will directly follow the proposed routes of disturbance in order to negate any unnecessary harm. The level of harm consequent from the proposed overhead 132kV and 33kV transmission lines is difficult to assess, as the positioning of the poles (the aspects that create ground disturbance) can be adjusted (to some degree), however an average would place the poles approximately 200-300m apart with approximately 1m depth by 400m² area of ground disturbance for each pole location, with 5 sites facing potential harm. The internal civil works proposed to upgrade and maintain tracks throughout the wind farm would result in the grading and clearing of surface material, meaning that the 6 sites within this footprint would face total destruction. This is considered a direct impact on the sites and the Aboriginal objects by the development in its present form.

In reference to the proponent's proposal and the archaeology recorded, there would potentially be a moderate level of impact upon the archaeology and in-turn a moderate to high level of harm would be placed upon the sites within the impact areas. The type and degree of harm proposed to the recorded sites is outlined in Table 7-1. While the proposed modified development will have the potential to harm archaeological sites, the identified Aboriginal objects will not be individually harmed, with the harm coming from the destruction of the archaeological context of the site. It would be proposed that all Aboriginal objects facing harm as a result of the modified development be mitigated through salvage collection and reburial in a safe location, as outlined in Section 8.3.

7.4 IMPACTS TO VALUES

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

The impact to the scientific values if the artefacts were to be impacted by the current proposal is considered moderate. The identified areas of PAD have the potential to hold intact contextual information that could provide information regarding past Aboriginal land use within the area. The impact to the scientific values of isolated finds is considered low, as there were no artefacts identified that could provide any further information other than their existence within the landscape. The surface artefact scatters range in their scientific values, with most ranging from low to moderate with the exception of site AFT 3 + PAD, which was recorded as containing 50+ surface artefacts and a potential subsurface deposit and has been assessed as holding a moderate to high level of scientific significance (as outlined in Table 6-1 above).

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

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

Table 7-1. Identified risk to known sites.

AHMIS #	Site name	Site integrity	Scientific significance	Type of harm	Degree of harm	Consequence of harm	Recommendation
TBA	AFT 1 + PAD	Good. The area appears relatively undisturbed, the land has been predominantly cleared of trees and subject to a 100+ year history of farming and has a rough dirt track intersecting the site.	Low to moderate. As the site contains a potential subsurface deposit, it is difficult to assess the scientific significance until the deposit has been subject to archaeological test excavations.	NIL	NIL	NIL	The proponent has amended the layout to avoid this site.
TBA	AFT 2 + PAD	Poor to Good. The area appears relatively undisturbed, the land has been predominantly cleared of trees and subject to a 100+ year history of farming but displays no signs of significant ground disturbances.	Low to moderate. As the site contains a potential subsurface deposit, it is difficult to assess the scientific significance until the deposit has been subject to archaeological test excavations.	Direct – the site will be intersected by both underground cabling and an access track.	Partial, only along the proposed route alignment.	Partial to total loss of value.	Archaeological test excavations will be required at this location before construction works can commence, including the salvage of all surface artefacts impacted.

AHMIS #	Site name	Site integrity	Scientific significance	Type of harm	Degree of harm	Consequence of harm	Recommendation
TBA	AFT 3 + PAD	Good. The area appears relatively undisturbed, the land has been predominantly cleared of trees and subject to a 100+ year history of farming but displays no signs of significant ground disturbances.	Low to moderate. As the site contains a potential subsurface deposit, it is difficult to assess the scientific significance until the deposit has been subject to archaeological test excavations.	Direct - 132kV overhead transmission line and access track.	Partial loss, may be avoidable	Partial to no loss of value.	The proposed works across this PAD are the overhead 132kV transmission line, and access track. If possible, avoid impact along this PAD area. If impact cannot be avoided, then archaeological test excavations will be required (including the salvage of any surface artefacts to be harmed),
TBA	AFT 4 + PAD	Poor to Good. The area appears relatively undisturbed, the land has been predominantly cleared of trees and subject to a 100+ year history of farming but displays no signs of significant ground disturbances.	Low to moderate. As the site contains a potential subsurface deposit, it is difficult to assess the scientific significance until the deposit has been subject to archaeological test excavations.	Direct – 132kV overhead transmission line	Partial loss, may be avoidable	Partial to no loss of value.	The proposed works across this PAD are the overhead 132kV transmission line, which may not require areas of impact along this PAD area. If impact cannot be avoided, then archaeological test excavations will be required (including the salvage of any surface artefacts to be harmed), will be required before construction can commence.
TBA	AFT 5 + PAD	Poor to moderate – the surrounding landscape has been modified as a result of the roadway construction.	Low, however as the site contains a potential subsurface deposit, it is difficult to assess the scientific significance until the deposit has been subject to archaeological test excavations.	NIL	NIL	NIL	The proponent has amended the layout to avoid this site.

AHMIS #	Site name	Site integrity	Scientific significance	Type of harm	Degree of harm	Consequence of harm	Recommendation
TBA	AFT 1	Poor to Good – the land has a 100+ year history of farming land use and has been predominantly cleared of vegetation, however has not been subject to significant levels of ground disturbance.	Low	Direct – underground cabling will be installed through the site area.	Total	Total Loss of Value	Salvage will be required before construction can commence..
TBA	AFT 2	Poor to Good – the land has a 100+ year history of farming land use and has been predominantly cleared of vegetation, however has not been subject to significant levels of ground disturbance	Low	Direct – 132kV overhead transmission line	Partial loss, may be avoidable	Partial to no loss of value.	The proposed works across the site is the overhead 132kV transmission line, the site may be avoidable depending on the final placement of the cleared track and overhead line support poles. If the site is to be avoided, a minimum 10m buffer zone must be adhered to. If not avoidable, salvage will be required before construction can commence.
TBA	AFT 3	Poor to Good – the land has a 100+ year history of farming land use and has been predominantly cleared of vegetation, however has not been subject to significant levels of ground disturbance	Low	NIL	NIL	NIL	The proponent has amended the layout to avoid this site.

AHMIS #	Site name	Site integrity	Scientific significance	Type of harm	Degree of harm	Consequence of harm	Recommendation
TBA	AFT 4	Poor to Good – the land has a 100+ year history of farming land use and has been predominantly cleared of vegetation, however has not been subject to significant levels of ground disturbance	Low	Direct – underground cabling will be installed through the site area.	Total	Total Loss of Value	Salvage will be required before construction can commence. Artefacts are to be reburied at a safe location within the vicinity, unless otherwise agreed by RAPs and BCD.
TBA	AFT 5	Poor to Good – the land has a 100+ year history of farming land use and has been predominantly cleared of vegetation, however has not been subject to significant levels of ground disturbance	Low	Direct – underground cabling will be installed through the site area.	Total	Total Loss of Value	Salvage will be required before construction can commence. Artefacts are to be reburied at a safe location within the vicinity, unless otherwise agreed by RAPs and BCD.
TBA	AFT 6	Poor to Good – the land has a 100+ year history of farming land use and has been predominantly cleared of vegetation, however has not been subject to significant levels of ground disturbance	Low	NIL – Laydown area should avoid this site	NIL	NIL	Recommend avoiding site with a minimum 10m buffer when organizing and using laydown area
TBA	IF 1	Poor – the surrounding landscape has been modified as a result of the roadway construction.	Low	NIL	NIL	NIL	The proponent has amended the layout to avoid this site.
TBA	IF 2	Poor – the surrounding landscape has been modified as a result of the roadway construction.	Low	NIL	NIL	NIL	The proponent has amended the layout to avoid this site.

AHMIS #	Site name	Site integrity	Scientific significance	Type of harm	Degree of harm	Consequence of harm	Recommendation
TBA	IF 3	Poor – the surrounding landscape has been modified as a result of the roadway construction.	Low	Direct – road widening	Total	Total loss of value	Salvage will be required before construction can commence.
TBA	IF 4	Poor to Good – the land has a 100+ year history of farming land use and has been predominantly cleared of vegetation, however has not been subject to significant levels of ground disturbance.	Low	Direct – 132kV overhead transmission line	Partial loss, may be avoidable	Partial to no loss of value.	The proposed works across the site is the overhead 132kV transmission line, the site may be avoidable depending on the final placement of the cleared track and overhead line support poles. If the site is to be avoided, a minimum 10m buffer zone must be adhered to. If not avoidable, salvage will be required before construction can commence.
TBA	IF 5	Poor to Good – the land has a 100+ year history of farming land use and has been predominantly cleared of vegetation, however has not been subject to significant levels of ground disturbance.	Low	Direct – underground cabling will be installed through the site area.	Total loss, however may be avoidable with 5m buffer	Total to no loss of value	It may be possible to avoid impact to this site with a 5m buffer zone in place. If impact cannot be avoided, salvage will be required before construction can commence.

AHMIS #	Site name	Site integrity	Scientific significance	Type of harm	Degree of harm	Consequence of harm	Recommendation
TBA	IF 6	Poor to Good – the land has a 100+ year history of farming land use and has been predominantly cleared of vegetation, however has not been subject to significant levels of ground disturbance.	Low	Direct – 132kV overhead transmission line	Partial loss, may be avoidable	Partial to no loss of value.	The proposed works across the site is the overhead 132kV transmission line, the site may be avoidable depending on the final placement of the cleared track and overhead line support poles. If the site is to be avoided, a minimum 10m buffer zone must be adhered to. If not avoidable, salvage will be required before construction can commence.
TBA	IF 7	Poor to Good – the land has a 100+ year history of farming land use and has been predominantly cleared of vegetation, however has not been subject to significant levels of ground disturbance.	Low	Direct – 132kV overhead transmission line	Partial loss, may be avoidable	Partial to no loss of value.	The proposed works across the site is the overhead 132kV transmission line, the site may be avoidable depending on the final placement of the cleared track and overhead line support poles. If the site is to be avoided, a minimum 10m buffer zone must be adhered to. If not avoidable, salvage will be required before construction can commence.
TBA	IF 8	Poor to Good – the land has a 100+ year history of farming land use and has been predominantly cleared of vegetation, however has not been subject to significant levels of ground disturbance.	Low	Direct – underground cabling will be installed through the site area.	Total	Total Loss of Value	Salvage will be required before construction can commence. Artefacts are to be reburied at a safe location within the vicinity, unless otherwise agreed by RAPs and BCD.

AHMIS #	Site name	Site integrity	Scientific significance	Type of harm	Degree of harm	Consequence of harm	Recommendation
TBA	IF 9	Poor to Good – the land has a 100+ year history of farming land use and has been predominantly cleared of vegetation, however has not been subject to significant levels of ground disturbance.	Low	Direct – access tracks for construction and maintenance of wind farm	Total, however may be avoidable	Partial to no loss of value.	The proposed works across the site will be the access track for the wind farm, used for construction and ongoing maintenance. If the site is to be avoided, a minimum 10m buffer zone must be adhered to. If not avoidable, salvage will be required before construction can commence.
TBA	IF 10	Poor to Good – the land has a 100+ year history of farming land use and has been predominantly cleared of vegetation, however has not been subject to significant levels of ground disturbance.	Low	Direct – 132kV overhead transmission line	Partial loss, may be avoidable	Partial to no loss of value.	The proposed works across this site is the overhead 132kV transmission line, which may not require areas of impact along this PAD area. If impact cannot be avoided, then archaeological test excavations will be required (including the salvage of any surface artefacts to be harmed), will be required before construction can commence. Artefacts are to be reburied at a safe location within the vicinity, unless otherwise agreed by RAPs and BCD.
TBA	IF 11	Poor to Good – the land has a 100+ year history of farming land use and has been predominantly cleared of vegetation, however has not been subject to significant levels of ground disturbance.	Low	NIL	NIL	NIL	Area to be avoided during construction works. Due to close proximity, a barricade should be erected to ensure no ground disturbances occur at the location.

AHMIS #	Site name	Site integrity	Scientific significance	Type of harm	Degree of harm	Consequence of harm	Recommendation
TBA	IF 12	Poor – the surrounding landscape has been modified as a result of the roadway construction.	Low	Direct – road widening	Total	Total loss of value	Salvage will be required before construction can commence. Artefacts are to be reburied at a safe location within the vicinity, unless otherwise agreed by RAPs and BCD.
TBA	IF 13	Poor to Good. The area appears relatively undisturbed, the land has been predominantly cleared of trees and subject to a 100+ year history of farming but displays no signs of significant ground disturbances.	Low	Direct – underground cabling will be installed through the site area.	Total	Total Loss of Value	Avoid site with a 10m buffer if possible. If impact is not avoidable, salvage will be required before construction can commence. Artefacts are to be reburied at a safe location within the vicinity, unless otherwise agreed by RAPs and BCD.
N/A	PAD 1	Poor to Good. The area appears relatively undisturbed, the land has been predominantly cleared of trees and subject to a 100+ year history of farming but displays no signs of significant ground disturbances.	Low to moderate. As the site is a potential subsurface deposit, it is difficult to assess the scientific significance until the deposit has been subject to archaeological test excavations.	Direct – underground cabling will be installed through the site area, with the access track for the wind farm also intersecting the PAD.	Total	Total Loss of Value	Archaeological test excavations will be required at this location before construction can commence.

AHMIS #	Site name	Site integrity	Scientific significance	Type of harm	Degree of harm	Consequence of harm	Recommendation
N/A	PAD 2	Poor to Good. The area appears relatively undisturbed, the land has been predominantly cleared of trees and subject to a 100+ year history of farming but displays no signs of significant ground disturbances.	Low to moderate. As the site is a potential subsurface deposit, it is difficult to assess the scientific significance until the deposit has been subject to archaeological test excavations.	NIL	NIL	NIL	The updated development footprint will avoid this area of PAD with no impact to occur. The area will require barricading during construction to ensure that no ground disturbing activities occur at the site.
N/A	PAD 3	Poor to Good. The area appears relatively undisturbed, the land has been predominantly cleared of trees and subject to a 100+ year history of farming but displays no signs of significant ground disturbances.	Low to moderate. As the site is a potential subsurface deposit, it is difficult to assess the scientific significance until the deposit has been subject to archaeological test excavations.	NIL	NIL	NIL	The proponent has amended the layout to avoid this site.
N/A	Cultural Site 1: Cultural Tree	Moderate – the surrounding landscape has been modified as a result of the roadway construction, although the site lies at the edge of a farmed paddock area.	Low. The site is not archaeological but has been identified as a cultural site by RAPs during survey.	NIL	NIL	NIL	The site is to be avoided with a buffer zone in place during construction / modification of the preferred transport routes.

AHMIS #	Site name	Site integrity	Scientific significance	Type of harm	Degree of harm	Consequence of harm	Recommendation
N/A	Cultural Site 2: Raw Material Resource: Quartz deposit	Good. The area appears relatively undisturbed, the land has been predominantly cleared of trees and subject to a 100+ year history of farming but displays no signs of significant ground disturbances.	Low. The site is not archaeological but has been identified as a cultural site by RAPs during survey.	NIL	NIL	NIL	The site is to be avoided with a buffer zone in place during construction / modification of the preferred transport routes.
51-4-0058	Flakeney Creek	Poor to moderate – within farmed paddocks with 100+ year land use history.	Low	Indirect – the 132kV overhead line and the underground cabling will pass within 20m of the site.	NIL	NIL	Avoid with a 10m buffer during construction.
51-4-0203	SU3/L1	Poor to moderate – within eroded area along a rough farm track inside farmed paddocks with 100+ year land use history.	Low	Indirect – the 132kV overhead line will pass within 20m of the site	NIL	NIL	Avoid with a 10m buffer during construction.
51-4-0207	SU3/L2	Poor to moderate – within eroded area along a rough farm track inside farmed paddocks with 100+ year land use history.	Low	Indirect – the 132kV overhead line will pass within 20m of the site	NIL	NIL	Avoid with a 10m buffer during construction.
51-4-0284	SU4/L1	Poor, artefact is broken and within farmed paddocks with 100+ year land use history.	Low	Direct – underground cabling will be installed through the site area.	Total	Total Loss of Value	Salvage will be required before construction can commence. Salvage excavations may be required. Artefacts are to be reburied at a safe location within the vicinity, unless otherwise agreed by RAPs and BCD.

AHMIS #	Site name	Site integrity	Scientific significance	Type of harm	Degree of harm	Consequence of harm	Recommendation
N/A	SU17/L1	Good. The area is relatively undisturbed, the land has been predominantly cleared of trees and subject to a 100+ year history of farming but displays no signs of significant ground disturbances.	Moderate	Indirect – within the footprint of disturbance for underground cabling.	Partial, harm may be avoidable.	Partial to No Loss of Values	Avoid this site with a 10m buffer, or utilize underboring across the location at a depth below 1m to avoid any potential subsurface deposit. If this methodology is not possible, archaeological test excavations will be required before construction can commence.
51-4-0285	SU18/L1	Poor to moderate – within farmed paddocks with 100+ year land use history.	Low	Direct – the site is intersected by the wind farm access track.	Total	Total Loss of Value	Salvage will be required before construction can commence. Artefacts are to be reburied at a safe location within the vicinity, unless otherwise agreed by RAPs and BCD.
51-4-0287	SU21/L1	Poor – artefact has been assessed as being out of original context.	Low	Direct – the site is intersected by the wind farm access track.	Total	Total Loss of Value	Salvage will be required before construction can commence. Artefacts are to be reburied at a safe location within the vicinity, unless otherwise agreed by RAPs and BCD.
51-4-289	SU23/L3	Poor – on a rough farm track within an area with low-lying scrub cover and high levels of soil erosion.	Low	Direct – the site is intersected by the wind farm access track and underground cabling.	Total	Total Loss of Value	Salvage will be required before construction can commence. Artefacts are to be reburied at a safe location within the vicinity, unless otherwise agreed by RAPs and BCD.

AHMIS #	Site name	Site integrity	Scientific significance	Type of harm	Degree of harm	Consequence of harm	Recommendation
51-1-0150	SU28/L2	Poor to moderate – within a cleared area with a large exposure, amongst young low growing shrubbery.	Low	Direct – the site is intersected by the wind farm access track.	Total	Total Loss of Value	Salvage will be required before construction can commence. Artefacts are to be reburied at a safe location within the vicinity, unless otherwise agreed by RAPs and BCD.
51-1-0151	SU29/L1	Poor to moderate – within a cleared area to the side of a rough farm track.	Low	Direct – the site is intersected by the wind farm access track.	Total	Total Loss of Value	Salvage will be required before construction can commence. Artefacts are to be reburied at a safe location within the vicinity, unless otherwise agreed by RAPs and BCD.
51-1-0153	SU30/L2	Moderate – within a cleared paddock with 100+ year land use history of farming practices.	Low	Direct – access track is to go through the identified area	Total	Total Loss of Value	Archaeological test excavations will be required at this location before construction can commence.
51-4-0341	SU33/L1	Poor to moderate – along a graded farm access road within a cleared paddock with 100+ year land use history of farming practices.	Low	Direct – the site is intersected by the wind farm access track.	Total	Total Loss of Value	Salvage will be required before construction can commence. Artefacts are to be reburied at a safe location within the vicinity, unless otherwise agreed by RAPs and BCD.
51-4-0342	SU33/L2	Poor to moderate – along a graded farm access road within a cleared paddock with 100+ year land use history of farming practices.	Low	Direct – the site is intersected by the wind farm access track.	Total	Total Loss of Value	Salvage will be required before construction can commence. Artefacts are to be reburied at a safe location within the vicinity, unless otherwise agreed by RAPs and BCD.

AHMIS #	Site name	Site integrity	Scientific significance	Type of harm	Degree of harm	Consequence of harm	Recommendation
51-4-0344	SU33/L4	Poor to moderate – along a graded farm access road within a cleared paddock with 100+ year land use history of farming practices.	Low	Direct – the site is intersected by the wind farm access track.	Total	Total Loss of Value	Salvage will be required before construction can commence. Artefacts are to be reburied at a safe location within the vicinity, unless otherwise agreed by RAPs and BCD.
51-4-0345	SU33/L5	Poor to moderate – along a graded farm access road within a cleared paddock with 100+ year land use history of farming practices.	Low	Direct – the site is intersected by the wind farm access track.	Total	Total Loss of Value	Salvage will be required before construction can commence. Artefacts are to be reburied at a safe location within the vicinity, unless otherwise agreed by RAPs and BCD.
51-4-0346	SU33/L6	Poor to moderate – along a graded farm access road within a cleared paddock with 100+ year land use history of farming practices.	Low	Direct – the site is intersected by the wind farm access track.	Total	Total Loss of Value	Salvage will be required before construction can commence. Artefacts are to be reburied at a safe location within the vicinity, unless otherwise agreed by RAPs and BCD.
51-4-0347	SU34/L1	Moderate – along a rough (disused) farm track.	Low	Direct – the site is intersected by the wind farm access track.	Total	Total Loss of Value	Salvage will be required before construction can commence. Artefacts are to be reburied at a safe location within the vicinity, unless otherwise agreed by RAPs and BCD.

AHMIS #	Site name	Site integrity	Scientific significance	Type of harm	Degree of harm	Consequence of harm	Recommendation
51-4-0349	SU42/L1	Poor – along the edge of a road reserve.	Low	Direct – the preferred transport route.	Total	Total Loss of Value	Salvage will be required before construction can commence. Artefacts are to be reburied at a safe location within the vicinity, unless otherwise agreed by RAPs and BCD.

8 AVOIDING OR MITIGATING HARM

8.1 CONSIDERATION OF ESD PRINCIPLES

Consideration of the principles of Ecologically Sustainable Development (ESD) and the use of the precautionary principle was undertaken when assessing the harm to the sites and the potential for mitigating impacts to the sites recorded during the survey for the proposed Rye Park Wind Farm modifications. The main consideration was the cumulative effect of the proposed impact to the sites and the wider archaeological record. The precautionary principle in relation to Aboriginal heritage implies that development proposals should be carefully evaluated to identify possible impacts and assess the risk of potential consequences.

The principle of inter-generational equity requires the present generation to ensure that the health and diversity of the archaeological record is maintained or enhanced for the benefit of future generations. We believe that the diversity of the archaeological record is not compromised by the proposed development particularly given the existing disturbed nature of the sites and that stone artefacts are the most common site type so far recorded within the local area.

8.2 CONSIDERATION OF HARM

It would not be possible to avoid all known sites due to the construction requirements of the RPWF modified project. While it is possible to avoid impact from some areas through the strategic placement of overhead powerline poles and infrastructure components, this will not be possible for all sites recorded within the proposal area. There are areas where PAD sites have been identified and cannot be avoided by ground disturbing works. These areas will require subsurface investigations prior to any works in the area that may cause potential harm.

The archaeological sites have presented a predominantly low-density concentration of artefacts. The sites within the proposal area have been assessed to hold moderate scientific value, in particular the higher density site PAD + AFT 6. Based on the assessment of the sites and in consideration of discussions with the Aboriginal representatives during the fieldwork, it is not considered necessary to prevent all development of the proposal area, or for total avoidance of the Aboriginal heritage sites identified within the proposed works corridors.

8.3 MITIGATION OF HARM

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

It is recommended that any surface artefact sites (AFT and IF) to be impacted by the development are salvaged by an archaeologist with representatives from the RAPs and removed from the areas where potential harm is to occur prior to the proposed works commencing. It is also recommended that any PAD sites to be impacted must first be subject to a subsurface testing and salvage program (see Appendix D and E). The artefacts should be collected and reburied in a safe area (in accordance with Requirement 26 of the Code), as close as possible to their original location, which will not be subject to any ground disturbance, unless otherwise requested by the RAPs.

The areas of development in the modification proposal that fall within the previously approved transport routes were surveyed in association with this assessment as they had not previously been subject to an Aboriginal heritage assessment. It has been assessed that these areas fall predominantly within

prior areas of disturbance, with the construction of the road having modified the landscape. The proposed transport route running south of the Rye Park Wind Farm area towards the Hume Highway were assessed as holding two areas of PAD that would be impacted if this transport route was to go ahead. The proponent has elected to utilise the other northern options for transport routes, mitigating any potential harm to the sites identified on the southern transport route (IF1, IF2, PAD3, AFT1 + PAD and AFT5 + PAD). The chosen routes will remain in areas where Aboriginal sites have been recorded, however the chosen route has mitigated a large portion of the proposed harm as there will only be two recorded sites, IF3 and IF12 impacted along these routes. The identified cultural tree outlined in Section 5.3.4 above also falls within this route and is to be avoided by the proposed development.

9 CONCLUSION

9.1 POTENTIAL IMPACTS OF THE APPROVED PROJECT

A summary of the combined results presented by Dibden (2013 & 2015) of the database searches and field surveys were:

- Thirty-six (36) Aboriginal object sites were located for the search area, twenty-five (25) of which were in the proposed impact area.
- One previously recorded Aboriginal site, AHIMS #51-4-0058 located along Flakney Creek Road near to the project boundary. This site was inspected during the field study completed by Dibden (2013). Artefacts were found distributed along the edge of the road. It is possible that this site could be impacted if the road were to be upgraded for site access during construction of the wind farm.
- Four areas of PAD were identified in association with surface artefacts, three faced potential impact. The SSD Condition of Consent 24 outlined a requirement to complete archaeological test and salvage excavations at these locations.
- Thirty-six Aboriginal object sites were recorded during the field survey and comprised of stone artefacts. Undetected or subsurface stone artefacts are predicted to be present in extremely low density. In addition, three quartz outcrops were recorded which may have been used as stone procurement areas by Aboriginal people.

Results of the field survey showed proposed impact areas were assessed to be of low archaeological and heritage significance primarily due to their location on very rocky ridgelines and situated away from streams and rivers. It was predicted that Aboriginal land use would have historically been related to low levels of hunting, gathering and transit through country. A low density of small stone artefacts was found to be present on the project site.

Dibden (2013 & 2015) concluded the 36 recorded Aboriginal object locales (found during field survey) were of a low-density distribution and the cultural and archaeological heritage significance is assessed to be low. Unmitigated impact was considered to appropriate. A management strategy of impact avoidance is not warranted, except in respect of the three quartz outcrops. These outcrops were identified as also containing areas of PAD associated with stone procurement activities. It was recommended that further archaeological assessment and consultation with RAPs would be required if the site is to be impacted.

In the Development Consent, Consent condition 24 outlined the protection of Aboriginal Heritage Items for the approved project. Within this condition there are three points (a, b and c) outlining the management and mitigation requirements regarding Aboriginal Heritage. The details of these points outlines the identified sites where impact (direct or indirect) was to be avoided, where impact is to be minimised, and also where detailed archaeological test excavations and salvage of PADs is required if impact cannot be avoided.

9.2 THE MODIFIED DESIGN

The results of the field survey for the modification recorded 26 archaeological sites, with 19 of these sites falling inside the wind farm site and the other nine along the proposed transport routes. There were three archaeological site types identified during the field survey, artefact scatters and isolated finds of stone stools, as well as PADs indicating the potential for artefacts to be remaining below the surface. A total of 26 archaeological sites were recorded, containing 67 stone artefacts, as well as 8 areas of PAD. Within the wind farm site there were 19 of these archaeological sites with 6 areas of PAD identified, while the remaining six archaeological sites and two areas of PAD were identified along the proposed transport route. It is not possible to avoid harm to all of the sites described in Section 4.3. The proposed level of disturbance, and subsequently harm to the Aboriginal objects, differs across the proposal area in association with the works required. There would be both indirect and direct impact on the sites and the Aboriginal objects as a result of the modified development proposal.

The proposed mitigation measures for the modified project are primarily to avoid heritage impact where the design allows for practical avoidance of identified sites. There are, however, some identified Aboriginal heritage sites and values within the project area that are unavoidable and therefore face potential harm as a result of the proposed modified development for the Rye Park Wind Farm. Section 10 outlines a series of recommendations made to mitigate and manage the Aboriginal objects within the proposed modified development envelope that will face potential harm as a result of the construction and ongoing operations of the Rye Park Wind Farm. Of the 19 Aboriginal heritage sites identified within the wind farm footprint, 16 will require further mitigation as they cannot be avoided by the proposed development modification. Surface artefact sites will require collection prior to any ground disturbing works commencing, and the four areas of identified PAD that cannot be avoided and are to be impacted will require archaeological testing prior to any ground disturbing activities. It is proposed that this testing will not be wide reaching over the entire areas delineated as PADs, and will instead be targeted to only the areas of proposed disturbance within (i.e. in areas where underground cabling is to cross a PAD, then the alignment of the cabling will be tested and salvaged, avoiding any unnecessary harm to the remaining area(s) of PAD).

The mitigation of heritage impacts for the proposed transport route is predominantly through the selection of the final route, which will not include the areas of high archaeological sensitivity identified during the field survey. Due to the heritage constraints associated with these identified sites, the preferred option for the transport route will now eliminate the roads to the south of the project area, and in doing so, impact to the identified sites along the southern route. This will leave two identified sites subject to harm. Two isolated stone artefacts (IF3 and IF12), are unavoidable and will require surface salvage before construction begins. The chosen route will also cross the location of the identified cultural site that was recorded as a Women's site by Representative Aboriginal Parties during the field survey. This site is to be avoided to mitigate any potential harm during the road widening.

In reference to the proponent's proposal and the archaeology recorded, there would potentially be a moderate level of impact upon the archaeology and in-turn a high level of harm would be placed upon the sites within the impact areas. The proposed modifications to the RPWF development envelope would result in a similar to moderately increased level of harm in comparison to the previously approved development envelope.

The recommendations from the prior assessments of the Rye Park Wind Farm (Dibden, 2013 & 2015) included an outline of the Aboriginal heritage items identified within the field survey where impact was to be avoided, minimised, and the sites where salvage excavations were to occur prior to development. These sites are summarised in Table 9-1 below, also outlining the potential impact to these sites as a result of the modified development footprint. As detailed in Table 9-1, the proposed modified development will avoid these previously identified sites.

Table 9-1. Approved development impact recommendations vs. modified development potential impacts.

Survey Unit	Item	Previous Impact Recommendation	Modified Development Potential Impact
SU15	51-4-0286 – (SU15/L1)	Avoid Impacts	This site will be avoided (no potential impacts)
SU17	SU17/L1 - (not registered in AHIMS) SU17/L2 - (not registered in AHIMS)	Avoid Impacts	SU17/L1 will face potential direct impact from underground cabling and should be avoided, if the site is to be impacted it will require further assessment and archaeological excavations, however, if it is possible to use underboring for the cabling at a depth below 1m then the site can be avoided without impact. SU17/L2 will be avoided with a 10m buffer.
SU27	SU27/L1 (not registered in AHIMS)	Avoid Impacts	SU27/L1 will be avoided with a 10m buffer.
SU3	51-5-0203 - (SU3/L1) 51-5-0207 - (SU3/L2)	Minimise Impacts	These two sites will be avoided with a 10m buffer zone in place, if possible.
SU4	51-4-0284 - (SU4/L1)	Minimise Impacts	Direct impact – underground cabling is proposed at the location
SU6	51-5-0204 - (SU6/L1)	Minimise Impacts	This site will be avoided (no potential impacts)
SU8	51-5-0206 - (SU8/L1)	Minimise Impacts	This site will be avoided (no potential impacts)
SU23	51-1-0117 - (SU23/L1) 51-4-0288 - (SU23/L2)	Minimise Impacts	Both sites will be avoided (no potential impacts)
SU24	51-1-0118 - (SU24/L1)	Minimise Impacts	This site will be avoided (no potential impacts)
SU30	51-1-0152 - (SU30/L1) 51-1-0153 - (SU30/L2) 51-1-0154 - (SU30/L3)	Undertake Salvage Excavations	SU 30/L1 (51-1-0152) will be avoided. Archaeological test excavations will occur at SU30/L2 (51-1-0153) unless the site can be avoided. SU30/L3 (51-1-0154) will be avoided
SU33	51-4-0343 - (SU333/L3)	Undertake Salvage Excavations	This site will be avoided (no potential impacts)

9.3 APPROVED VS. MODIFIED DEVELOPMENT – SITES IMPACTED

Table 9-2 below outlines a summary of the Aboriginal heritage impacts of the approved development against the proposed modified development. There were a total of 36 sites identified between the combined prior surveys (Dibden, 2013 & 2015), of which 32 sites were to be impacted by the approved development footprint, with 16 of these sites still facing potential harm and impact as a result of the proposed modification, and the remaining 18 identified sites being avoided. The 2019-2020 survey results have identified a further 26 unrecorded Aboriginal heritage sites within the wind farm area and assessed transport routes. The modified development would result in a potential impact to 40 Aboriginal sites.

The total survey area covering approximately 303ha was investigated between 2013 and 2015 for the approved development. This survey area was predominantly focused around elevated ground and ridgelines within the wind farm boundary. In comparison, the 2019-2020 survey covered an area of 414ha, with largely mixed terrain that was notably less undulating and crossing less ridgelines as the prior assessments. Within these lower lying areas, and often concentrated around water sources are the environments that the majority of the 2019-2020 archaeological sites have been recorded on. The differing landforms and depositional environments surveyed has largely attributed to the increased quantity of PAD sites recorded, as these sites in particular are more likely to be on flatter ground associated with water sources.

Table 9-2. Aboriginal heritage sites to be impacted, approved vs. modified development.

Site ID	Site Name	Impacted by approved development?	Impacted by Modified development?
51-5-0203	SU3/L1	Direct – Wind turbine generators, access track, electrical connections overhead and underground.	No impact
51-5-0207	SU3/L2	Direct – Wind turbine generators, access track, electrical connections overhead and underground.	Indirect – the 132kV overhead line will pass within 20m of the site
51-4-0284	SU4/L1	Direct – Wind turbine generators, access track, underground cabling.	Direct – underground cabling will be installed through the site area.
51-5-0204	SU6/L1	No impact	No impact
51-5-0205	SU7/L1	No impact	No impact
51-5-0206	SU8/L1	Direct – Wind turbine generators, access track, underground cabling.	No impact
51-4-0286	SU15/L1	No impact	No impact
N/A	SU17/L1	Direct – Wind turbine generators, access track, electrical connections overhead and underground.	Potential direct impact from underground cabling and should be avoided, if the site is to be impacted it will require further assessment and archaeological excavations,

			however, if it is possible to use underboring for the cabling at a depth below 1m then the site can be avoided without impact.
N/A	SU17/L2	Direct – Wind turbine generators, access track, electrical connections overhead and underground.	No impact – avoid with 20m buffer zone.
51-4-0285	SU18/L1	Direct – Wind turbine generators, access track, underground cabling.	Direct – the site is intersected by the wind farm access track.
51-4-0287	SU21/L1	Direct – Wind turbine generators, access track, underground cabling.	Direct – the site is intersected by the wind farm access track.
51-1-0117	SU23/L1	Direct – Wind turbine generators, access track, underground cabling.	No impact
51-4-0288	SU23/L2	No impact	No impact
51-4-0289	SU23/L3	Direct – Wind turbine generators, access track, underground cabling.	Direct – the site is intersected by the wind farm access track and underground cabling.
51-1-0118	SU24/L1	Direct – Wind turbine generators, access track, underground cabling.	No impact
N/A	SU27/L1	Direct – Wind turbine generators, access track, underground cabling.	No impact – avoid with 20m buffer zone.
51-1-0149	SU28/L1	Direct – access track on existing formed road.	No impact
51-1-0150	SU28/L2	Direct – access track on existing formed road.	Direct – the site is intersected by the wind farm access track.
51-1-0151	SU29/L1	Direct – access track, underground cabling, concrete batching plant, construction compound and wind turbine generators.	Direct – the site is intersected by the wind farm access track.
51-1-0152	SU30/L1	Direct – access track and construction compound.	No impact
51-1-0153	SU30/L2	Direct – access track and construction compound.	Direct – the site is intersected by the wind farm access track.
51-1-0154	SU30/L3	Direct – access track and construction compound.	No impact

51-4-0341	SU33/L1	Direct – access track	Direct – the site is intersected by the wind farm access track.
51-4-0342	SU33/L2	Direct – access track	Direct – the site is intersected by the wind farm access track.
51-4-0343	SU33/L3	Direct – access track	No impact
51-4-0344	SU33/L4	Direct – access track	Direct – the site is intersected by the wind farm access track.
51-4-0345	SU33/L5	Direct – access track	Direct – the site is intersected by the wind farm access track.
51-4-0346	SU33/L6	Direct – access track	Direct – the site is intersected by the wind farm access track.
51-4-0347	SU34/L1	Direct – Wind turbine generators, access track, underground cabling.	Direct – the site is intersected by the wind farm access track.
51-5-0263	SU37/L1	Direct – access track	No impact
51-5-0264	SU37/L2	Direct – access track	No impact
51-5-0267	SU37/L3	Direct – access track	No impact
51-5-0348	SU40/L1	Direct/possibly indirect – overhead power line	No impact
51-5-0349	SU42/L1	Direct – overhead powerline, substation, construction compound and office facilities	Direct – the site is along the preferred transport route.
51-5-0266	SU47/L1	Direct – access track and overhead powerlines	No impact
51-5-0267	SU47/L2	Direct – access track and overhead powerlines	No impact
51-4-0058	Flankney Creek	No impact	Direct – road widening
TBA	AFT 1 + PAD	No impact	No impact
TBA	AFT 2 + PAD	No impact	Indirect – the 132kV overhead line and the underground cabling will pass within 20m of the site.
TBA	AFT 3 + PAD	No impact	Indirect – the 132kV overhead line will pass within 20m of the site
TBA	AFT 4 + PAD	No impact	Indirect – the 132kV overhead line will pass within 20m of the site
TBA	AFT 5 + PAD	No impact	Direct – underground cabling will be installed through the site area.
TBA	AFT 1	No impact	Direct – the site is intersected by the wind farm access track.

TBA	AFT 2	No impact	Direct – the site is intersected by the wind farm access track.
TBA	AFT 3	No impact	Direct – the site is intersected by the wind farm access track and underground cabling.
TBA	AFT 4	No impact	Direct – the site is intersected by the wind farm access track.
TBA	AFT 5	No impact	Direct – the site is intersected by the wind farm access track.
TBA	AFT 6	No impact	Direct – access track is to go through the identified area
TBA	IF 1	No impact	Direct – the site is intersected by the wind farm access track.
TBA	IF 2	No impact	Direct – the site is intersected by the wind farm access track.
TBA	IF 3	No impact	Direct – road widening
TBA	IF 4	No impact	Direct – 132kV overhead transmission line
TBA	IF 5	No impact	Direct – underground cabling will be installed through the site area.
TBA	IF 6	No impact	Direct – 132kV overhead transmission line
TBA	IF 7	No impact	Direct – 132kV overhead transmission line
TBA	IF 8	No impact	Direct – underground cabling will be installed through the site area.
TBA	IF 9	No impact	Direct – access tracks for construction and maintenance of wind farm
TBA	IF 10	No impact	Direct – 132kV overhead transmission line
TBA	IF 11	No impact	No impact
TBA	IF 12	No impact	Direct – road widening
TBA	IF 13	No impact	Direct – underground cabling will be installed through the site area.
N/A	PAD 1	No impact	Direct – underground cabling will be installed through the site area, with the access track for the wind farm also intersecting the PAD.
N/A	PAD 2	No impact	No impact

N/A	PAD 3	No impact	No impact
TBA	Cultural Tree	No impact	No impact
N/A	Resource: Quartz deposit	No impact	No impact

10 RECOMMENDATIONS

The recommendations are based on the following information and considerations:

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

It is recommended that:

1. The archaeological sites have presented a low-density concentration of surface artefacts. The sites within the proposal area have been assessed to hold a low to moderate scientific value, in particular the higher density site AFT 6 + PAD. Based on the assessment of the sites and in consideration of discussions with the Aboriginal representatives during the fieldwork, it is not considered necessary to prevent all development of the proposal area, or for total avoidance of the Aboriginal heritage sites identified within the proposed works corridors.
2. The proposed modification works should avoid the locations of the below sites where possible, and if not possible to avoid, refer to recommendations 4 and 5;

Site Name	AHIMS Site ID	Site Type
AFT 1 + PAD	TBA	Potential Archaeological Deposit + Artefact Scatter
AFT 2 + PAD	TBA	Potential Archaeological Deposit + Artefact Scatter
AFT 3 + PAD	TBA	Potential Archaeological Deposit + Artefact Scatter
AFT 4 + PAD	TBA	Potential Archaeological Deposit + Artefact Scatter
AFT 5 + PAD	TBA	Potential Archaeological Deposit + Artefact Scatter
AFT 6	TBA	Artefact Scatter
PAD 1	N/A	Potential Archaeological Deposit
SU3/L1	51-4-0203	Isolated Artefact
SU3/L2	51-4-0207	Artefact Scatter

Flakney Creek	51-4-0058	Isolated Artefact

3. The proposed modification works should avoid the locations of the below areas of historic archaeological potential, if not possible to avoid refer to recommendation 6;

Survey Unit / Location	Site Description	Recommended Buffer Distance
SU64 / L1	Historical structure platform, fire place brick and stone, 2m x 2m	20m
SU64/ L1	Post hole	20m
SU78 / L1	Possible historic stone hearth with intervening platform	20m
SU78 / L1	Second possible historic hearth, potentially connected to the above stone hearth	20m
SU77 / L3	Old house structure	20m
SU75 / L1	Sheep dip likely connected to old homestead on opposite site of creek, concrete , wood, metal	20m
SU75 / L2	Possible crutching shed with post holes evident 20 x 10m	20m

4. Prior to development works commencing, subsurface testing and salvage excavation (Appendix D and Appendix E) will be required across areas identified as PAD where ground disturbance cannot be avoided. These include the locations of identified PADs, and any PAD sites listed in recommendation two that cannot be avoided;

Site Name	AHIMS Site ID	Site Type
AFT 2 + PAD	TBA	Artefact Scatter + Potential Archaeological Deposit
AFT 3 + PAD	TBA	Artefact Scatter + Potential Archaeological Deposit
AFT 4 + PAD	TBA	Artefact Scatter + Potential Archaeological Deposit
PAD 1	N/A	Potential Archaeological Deposit
SU30/L2	51-1-0153	Artefact Scatter + Potential Archaeological Deposit

5. Prior to development works commencing, all surface artefacts (IF and AFT sites) facing potential harm are collected during a salvage program, by a qualified archaeologist and RAP representatives, in accordance with the Conditions of Consent. Any artefacts collected would be reburied in consultation with the Aboriginal community and would be in line with Requirement 26 of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW.* All AHIMS site cards must be updated to reflect that salvage has been undertaken and to record the reburial locations of artefacts. This includes any sites listed in recommendation two that cannot be avoided, as well as the artefacts described in Section 5.3.2 of this report as:

Site Name	AHIMS Site ID	Site Type
AFT 1	TBA	Artefact Scatter
AFT 2	TBA	Artefact Scatter
AFT 4	TBA	Artefact Scatter
AFT 5	TBA	Artefact Scatter
IF3	TBA	Isolated Artefact
IF4	TBA	Isolated Artefact
IF5	TBA	Isolated Artefact
IF6	TBA	Isolated Artefact
IF7	TBA	Isolated Artefact
IF8	TBA	Isolated Artefact
IF9	TBA	Isolated Artefact
IF10	TBA	Isolated Artefact
IF12	TBA	Isolated Artefact
IF13	TBA	Isolated Artefact
SU4/L1	51-4-0284	Isolated Artefact
SU18/L1	51-4-0285	Isolated Artefact
SU21/L1	51-4-0287	Isolated Artefact
SU23/L3	51-4-289	Isolated Artefact
SU28/L2	51-1-0150	Isolated Artefact
SU29/L1	51-1-0151	Isolated Artefact
SU33/L1	51-4-0341	Artefact Scatter
SU33/L2	51-4-0342	Artefact Scatter
SU33/L4	51-4-0344	Artefact Scatter
SU33/L5	51-4-0345	Isolated Artefact
SU33/L6	51-4-0346	Artefact Scatter

SU34/L1	51-4-0347	Isolated Artefact
SU42/L1	51-4-0349	Isolated Artefact

6. Any identified areas of historical archaeological potential that cannot be avoided should be subject to further investigations in the form of a Statement of Heritage Impact and/or an Archaeological Assessment.
7. The unsurveyed area across Lot 152 of Deposited Plan 754136 and into Lot 1 Deposited Plan 222985 will require a pedestrian survey involving salvage of any surface artefacts and an assessment of subsurface potential, including any further archaeological investigations required if subsurface potential is identified.
8. Site SU17/L1 identified in the 2013 (Dibden) survey of the project area should be avoided with a 10m buffer. If the site cannot be avoided, it will require further assessment and archaeological excavations, however, if it is possible to use underboring for the cabling at a depth below 1m the site can be avoided without impact.
9. If any objects suspected of being Aboriginal in origin are located in areas that fall outside the Modified Conditions of Consent (Development Consent SSD 6693), work must stop, and BCD notified.
10. In the unlikely event that human remains are discovered during the development works, all work must cease in the immediate vicinity. BCD, the local police and the RAPs should be notified. Further assessment would be undertaken to determine if the remains were Aboriginal or non-Aboriginal.
11. Further archaeological assessment would be required if the proposed activity extends beyond the area of the current or previous investigation, as per Condition 25 of the CoC and the Archaeological Management Plan (2004 draft v4). This would include consultation with the registered Aboriginal parties and may include further field survey and subsurface testing.

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