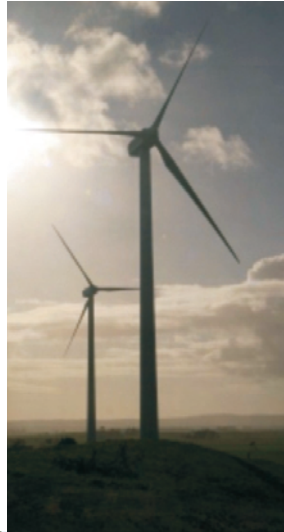


Woodlawn Wind Farm



Heritage

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Appendix



Woodlawn Wind Farm Transmission Line

ABORIGINAL ARCHAEOLOGICAL & CULTURAL HERITAGE ASSESSMENT

Final Report



Prepared by
Austral Archaeology Pty Ltd
Archaeological & Cultural Heritage Consultants

For
Woodlawn Wind Pty Ltd

January 2010
Job No: 9033

EXECUTIVE SUMMARY

Austral Archaeology Pty Ltd has been engaged by Woodlawn Wind Pty Ltd to prepare an Aboriginal Archaeological and Cultural Heritage assessment to address Indigenous Heritage concerns associated with the construction of an overhead 33kV transmission line from Woodlawn Wind Farm to Capital Wind Farm, near Tarago NSW.

This work is a continuation of an earlier phase of the Woodlawn Wind Farm development, which was assessed by Biosis (20045a, 2005b). The Woodlawn Wind Farm Transmission Line study area is to be assessed under *Part 4* of the *Environmental Planning and Assessment Act 1979*.

It is envisaged that the results of Aboriginal community consultation and the archaeological field survey will identify archaeological constraints within the Woodlawn Wind Farm Transmission Line development easement and thereby inform the production of a Review of Environmental Factors.

As this assessment is a continuation of an existing project, guidance was sought from DECCW regarding appropriate consultation. It was determined that only stakeholders previously identified for the project, namely the Buru Ngunawal Aboriginal Corporation (BNAC), the Pejar Local Aboriginal Land Council (PLALC) and the Ngunawal/Ngambri Local Aboriginal Land Council (NLALC), as well as the Native Title Claimant organisation, the Gundungurra Tribal Council Aboriginal Corporation (GTCAC), be invited to participate in the consultation process. As the Woodlawn Wind Farm Transmission Line study area is to be assessed under *Part 4* of the *EP&A Act 1979*, the consultation process has been undertaken in accordance with the DECCW *Interim Community Consultation Requirements for Applicants* (the *Part 5 Guidelines*) (DEC 2005a).

The field assessment took place over two days, on the 10th and 11th of November 2009, with the participation of representatives from BNAC, PLALC, NLALC, GTCAC and Austral Archaeology.

As a result of the field assessment, two isolated finds (WLTL-N IF 1 and WLTL-C IF 1) and three open artefact scatters (WLTL-C SITE 1, WLTL-C SITE 2 and WLTL-C SITE 3) were recorded. Seven areas of potential archaeological deposit were also identified. Two of these (WLTL-N IF 1 & PAD and WLTL-C PAD 3) were in association with surface artefact material. The remainder (WLTL-N PAD 1, WLTL-N PAD 2, WLTL-C PAD 1, WLTL-C PAD 2 and WLTL-S PAD 1) were determined based on landform characteristics alone.

The research potential of WLTL-N PAD 1, WLTL-N PAD 2, WLTL-N 1 & Associated PAD, WLTL-C PAD 1, WLTL-C PAD 2, WLTL-C IF 1, WLTL-C SITE 1 and WLTL-S PAD 1 are considered to be low. WLTL-C SITE 2 is considered to provide low to moderate archaeological potential, and WLTL-C SITE 3 and WLTL-C PAD 3 are considered to provide moderate to moderate to high research potential. The educational potential of sites WLTL-C SITE 1, WLTL-C SITE 2 and WLTL-C SITE 3, if they are viewed as surface manifestations of WLTL-C PAD 3, are described as low to moderate.

It should also be noted that the Aboriginal stakeholders consulted for this project have identified the sites and areas of potential archaeological deposit recorded during the field assessment as being of cultural significance.

This assessment concludes that all identified Aboriginal sites and areas of potential should be avoided by the proposed development. In consideration of their inherent Aboriginal cultural heritage value, should sites WLTL-N IF 1, WLTL-C IF 1, WLTL-C SITE 1, WLTL-C SITE 2 and WLTL-C SITE 3 be impacted by the proposed development then they are to be collected prior to the commencement of works. This collection would require the preparation of a Combined Section 87 / Section 90 AHIP application for submission to the DECCW under *Part 6* of the *NP&W Act 1974*.

Furthermore, WLTL-C PAD 3 and the three surface artefact sites associated with it: WLTL-C SITE 1, WLTL-C SITE 2 and WLTL-C SITE 3 are considered of sufficient research potential to warrant further investigation. Avoidance is recommended; however, should this not be possible, then a programme of archaeological test excavation should be developed for WLTL-C PAD 3. The scale and scope of the test excavation methodology to be developed for this programme should take into account the location and degree of developmental impacted expected. Where development is to impact upon WLTL-C SITE 1, WLTL-C SITE 2 and WLTL-C SITE 3 these sites are to be

collected prior to commencement of development works. These impacts would require the preparation of a Section 87 AHIP application for submission to the DECCW under *Part 6* of the *NP&W Act 1974*.

All programs of testing and collection works are dependent on the granting of the relevant AHIPs by the DECCW. All programs and methodologies are to be developed in consultation with BNAC, PLALC, NLALC and GTCAC. These conclusions have been reproduced as project recommendations.

Areas of potential WLTL-N PAD 1, WLTL-N PAD 2, WLTL-C PAD 1, WLTL-C PAD 2 and WLTL-S PAD 1 and the PAD associated with WLTL-N IF 1 have not been determined to be of sufficient significance to warrant further archaeological investigation, and no specific recommendations have been formulated concerning them. The Client should be aware however that these areas do contain an increased likelihood of containing Aboriginal archaeological material. This does represent a possible development constraint as any Aboriginal archaeological materials (i.e. artefacts) not identified in this report that are uncovered in the field are still protected by Section 90 of the *NP&W Act 1974*.

Therefore should additional Aboriginal archaeological material be uncovered during development works that is not identified or discussed in this report then it will be necessary to consult with a qualified archaeologist to determine the veracity of the find. It may be necessary to assess the significance of this material and develop appropriate management and/or mitigation strategies regarding it. In that instance it will be necessary to consult with the relevant Aboriginal stakeholders (BNAC, PLALC, NLALC and GTCAC).

Please note that a draft copy of this report has not yet been provided to the Aboriginal stakeholders for comment and review. Each organisation will be requested to provide a written submission that will be attached to the final draft of this report. Received submissions will be provided in Appendix A.1 (which will be attached to the final version of this report).

All recommendations as provided in this report take into consideration the results of cultural consultation with representatives of PLALC, NLALC, BNAC and GTCAC. Onsite discussions took place during the field assessment during which Austral Archaeology attempted to obtain stakeholder opinion regarding the management and mitigation of impacts to the Aboriginal archaeological resource.

It is in consideration of these conclusions that the following recommendations are made:

1. All Aboriginal archaeological material and areas of potential archaeological deposit identified in this assessment should be avoided if possible.
2. Should direct development impacts not be able to be avoided, a combined Section 87 / Section 90 AHIP application should be prepared to allow the collection of Aboriginal artefact sites WLTL-N IF 1, WLTL-C IF 1, WLTL-C SITE 1, WLTL-C SITE 2 and WLTL-C SITE 3. The Aboriginal stakeholders (BNAC, PLALC, NLALC, GTCAC) should be consulted and participate in any collection programme. A 'Care and Control' agreement for the artefact material present is to be developed in consultation with the Aboriginal stakeholders as part of the AHIP application.
3. Should direct development impacts not be able to be avoided, a Section 87 AHIP application, including the development of a methodology by a qualified archaeologist, should be prepared to allow the test excavation of WLTL-C PAD 3 and collection of sites WLTL-C SITE 1, WLTL-C SITE 2 and WLTL-C SITE 3. This methodology is to be developed in consultation with Woodlawn Wind Pty Ltd and the participating Aboriginal stakeholders (BNAC, PLALC, NLALC and GTCAC).
4. In the event that any Aboriginal archaeological material not identified and discussed in this assessment report is encountered, works must cease immediately to allow an archaeologist to make an assessment of the finds. The archaeologist may need to consult with the relevant Aboriginal stakeholder groups (BNAC, PLALC, NLALC and GTCAC) concerning the significance of any further Aboriginal archaeological material encountered.

As required by Section 91 of the *NP&W Act 1974 (amended)*, previously unrecorded Aboriginal artefactual material must be reported to the NSW DECCW within a reasonable timeframe.

In addition, as required by the *NSW Heritage Act 1977 (amended)*, in the event that historic relics are encountered, works must cease immediately to allow an archaeologist to make an assessment of the finds. The archaeologist may need to consult with the Heritage Branch Department of Planning concerning the significance of historic cultural material unearthed.

5. Copies of this report are to be forwarded to the Aboriginal stakeholder groups: PLALC, BNAC, GTCAC and NLALC.
6. Copies of this report and the resulting Aboriginal archaeological site cards are to be forwarded to the DECCW's AHIMS database Registrar.
7. In the event that this report is to go on public exhibition, access to some Aboriginal archaeological information should be restricted. Consultation with Austral Archaeology Pty Ltd and the relevant Aboriginal stakeholders will be necessary to determine the appropriate level of public release.

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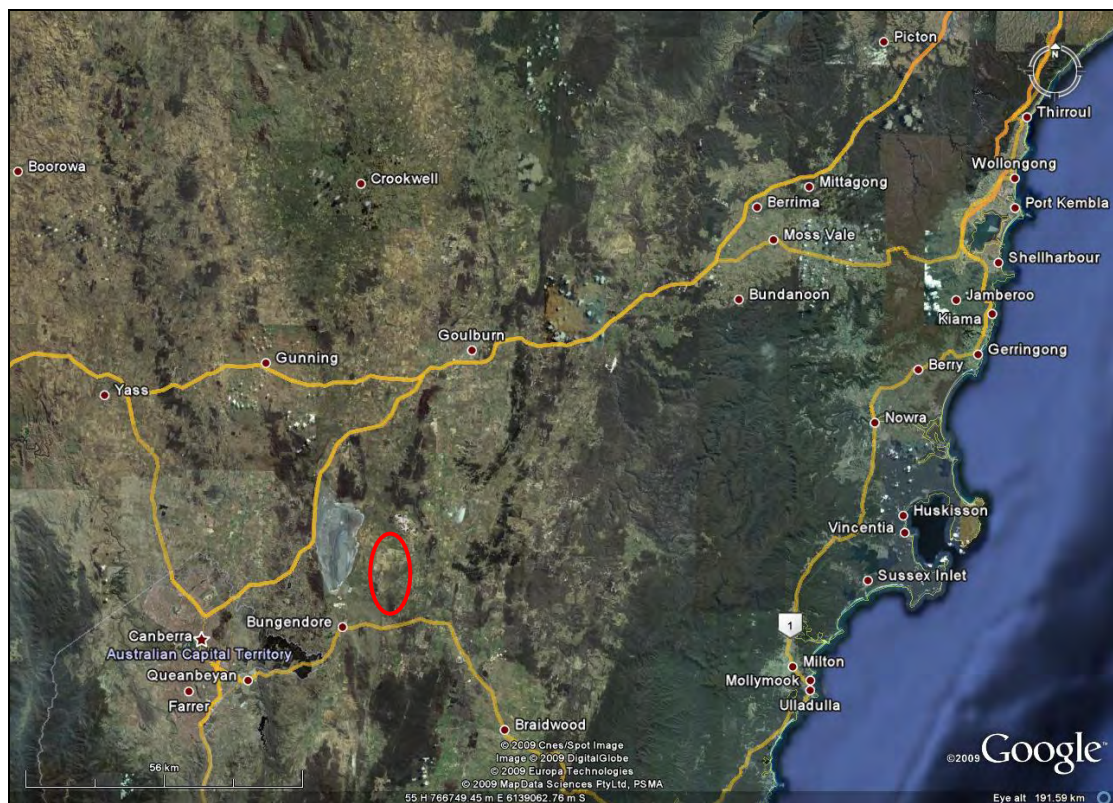
1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION

Austral Archaeology Pty Ltd has been engaged by Woodlawn Wind Pty Ltd to prepare an Aboriginal Archaeological and Cultural Heritage assessment to address Indigenous Heritage concerns associated with the construction of an overhead 33kV transmission line from Woodlawn Wind Farm to Capital Wind Farm, near Tarago NSW. A Development Application modification for the Woodlawn Wind Farm, which relates to the selection of an overhead transmission line route that was not included in earlier phases of the project, is being prepared.

This work is a continuation of an earlier phase of the Woodlawn Wind Farm development, which was assessed by Biosis (20045a, 2005b). In addition an Environmental Impact Statement produced by Woodlawn Wind Energy & URS (2004), recommended the survey of the proposed transmission line in order to identify Aboriginal heritage constraints and inform transmission line design to avoid or minimise these impacts where possible.

The development is to be considered under *Part 4* of the *EP&A Act 1979*.



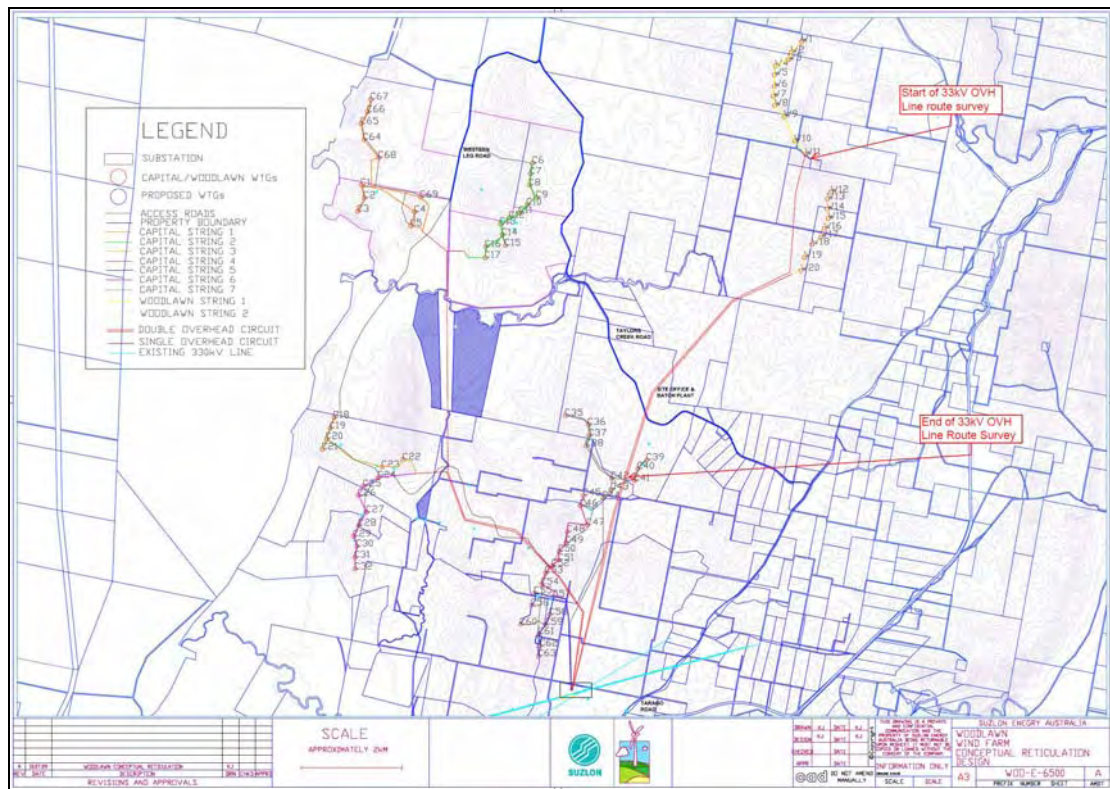
1.1 Location of the study area (circled in red) in NSW in relation to surrounding towns. Base image © Google Earth 2009.

1.2 STUDY AREA

The study area is located in the South Eastern region of NSW, within the Local Government Areas (LGA) of Palerang and Goulburn Mulwaree, and within the Pejar and Ngunnawal/Ngambri Local Aboriginal Land Council areas. The study area is approximately 260 km south west of Sydney and 35 km east of Canberra, between Lake George and Bungendore Road. The route crosses three sheep farming properties and runs in a southwest direction from the area earlier surveyed by Biosis in 2004.

The transmission line is proposed to be approximately 8 km in length and have a 30 m easement (15 m either side). Power poles are to be installed along the length of the

easement. Power pole installation is to be highly localised and as such it is unlikely that the entire easement will be impacted by the proposed development.



1.2 The Woodlawn Wind Farm Transmission Line study area in relation to existing development components. Base image © Woodlawn Wind Pty Ltd 2009.



1.3 The Woodlawn Wind Farm Transmission Line study area in relation to nearby major roads and Lake George. Base image © Department of Lands 2006. Mosaic of 1:25 000 scale topographic maps: Boro 88274S, Lake Bathurst 88274N, Lake George 87271N and Sutton 87271S.

1.3 REPORT OBJECTIVES

The focus of this study is to identify the Aboriginal archaeological and cultural heritage values present along the proposed transmission line easement, and to provide recommendations for their management and the mitigation of any potential impacts as a result of the development.

The main objectives of the assessment project as outlined in this report are as follows:

- Identify and consult with the appropriate Aboriginal stakeholders in regards to the project;
- Undertake field assessment of the entire study area in the company of Aboriginal stakeholder representatives to identify Aboriginal archaeological and cultural sites and issues, areas of potential archaeological deposit, and/or archaeologically sensitive landscapes, within the area covered by the proposed transmission line location; and
- Produce assessment and professional recommendations based on the results of the fieldwork and mapping to advise the Client on the Aboriginal archaeological and cultural values of the subject area.

In consideration of the sensitivity of site location information to the Aboriginal community, it is recommended that site location information and maps be removed from the report if it is to be put on public display. This is detailed in Recommendation 7.

1.4 STAKEHOLDER CONSULTATION

The consultation process for this project was conducted in accordance with the DECCW *Interim Community Consultation Requirements for Applicants (NP&W Act 1974: Part 6, Approvals)* (the *Part 5 Guidelines*) (DEC 2005a). The relevant Guidelines and Acts are explained in more detail in Section 2.0.

As the work is a continuation of an existing project, Aboriginal stakeholder consultation consisted of re-establishing contact and undertaking further consultation with Aboriginal stakeholders who were involved in earlier phases of this project, rather than advertising for Aboriginal community involvement as would be the case with a new project. This approach was undertaken after advice was sought from the DECCW Queanbeyan office.

The previously identified stakeholders for the Woodlawn Wind Farm project are the Buru Ngunawal Aboriginal Corporation (BNAC), Ngunnawal/Ngambri Local Aboriginal Land Council (NLALC) and Pejar Local Aboriginal Land Council (PLALC). In addition, the Native Title Claimants, the Gundungurra Tribal Council Aboriginal Corporation (GTCAC) was also invited to participate in the consultation process.

A draft copy of this report has been provided to the Aboriginal stakeholders for comment and review. Each organisation has been requested to provide a written submission for inclusion with this report. The 21-day period allowed for submission of comments has lapsed, and details of attempts to obtain stakeholder comment are included in Appendix A.2. Received submissions will be provided in Appendix A.1

All recommendations as provided in this report take into consideration the results of cultural consultation with representatives of PLALC, NLALC, BNAC and GTCAC. Onsite discussions took place during the field assessment during which Austral Archaeology attempted to obtain stakeholder opinion regarding the management and mitigation of impacts to the Aboriginal archaeological resource.

1.5 PROJECT TEAM AND ACKNOWLEDGEMENTS

This project and assessment was coordinated, conducted and written by Krissy Moore (Archaeologist) with assistance from Karyn McLeod (Senior Archaeologist). Evan Raper (Senior Archaeologist) reviewed the draft report.

Austral Archaeology would like to acknowledge the participation of the following people who have contributed to the preparation of this report:

Tyrone Bell	Buru Ngunawal Aboriginal Corporation
Shaun Brown	Gundungurra Tribal Council Aboriginal Corporation

Alex Green	Pylara Property Manager
David Griffin	Woodlawn Wind Pty Ltd
Leonie Kengike	Gundungurra Tribal Council Aboriginal Corporation
Justin Boney	Pejar Local Aboriginal Land Council
Geoff Murray	Ngunnawal/Ngambri Local Aboriginal Land Council
The staff at the Woodlawn Bioreactor	

1.6 ABBREVIATIONS

AHD	Australian Height Datum
AHIP	Aboriginal Heritage Impact Permit
AHPI	Australian Heritage Places Inventory
BNAC	Buru Ngunawal Aboriginal Corporation
Burra Charter, the	ICOMOS Australia Burra Charter 1999
DECCW	Department of Environment, Climate Change and Water
DECCW Guidelines	DECCW Interim Community Consultation Guidelines 2005
DECCW	Department of Environment and Climate Change and Water
DoP	Department of Planning
EIS	Environmental Impact Statement
EP&A Act	Environmental Planning and Assessment Act 1979
EPBC Act	Environmental Planning and Biodiversity Conservation Act 1979
GDA94	Geocentric Datum of Australia 1994
GTCAC	Gundungurra Tribal Council Aboriginal Corporation
LGA	Local Government Area
LEP	Local Environmental Plan
NLALC	Ngunnawal/Ngambri Local Aboriginal Land Council
NP&W Act	National Parks and Wildlife Act 1974, amended 2001
PLALC	Pejar Local Aboriginal Land Council
PAD	Potential Archaeological Deposit
Part 3A	Part 3A of the EP&A Act
Part 3A Guidelines	DECCW Part 3A Guidelines for Aboriginal Cultural Heritage Assessments 2005
RNE	Register of the National Estate
SHI	State Heritage Inventory (New South Wales Department of Planning Heritage Branch)
S87	Section 87 of the NP&W Act
S90	Section 90 of the NP&W Act
S91	Section 91 of the NP&W Act

2.0 LEGISLATIVE FRAMEWORK

2.1 ABORIGINAL HERITAGE LEGISLATIVE FRAMEWORK

Aboriginal archaeological and cultural heritage assessments in NSW are carried out under the auspices of a range of state and Federal Acts and Guidelines. The Acts allow for the management and protection of Aboriginal places and objects, and the Guidelines set out best practice for community consultation in accordance with the requirements of the Acts.

The following legislation is relevant to the Woodlawn Wind Farm Transmission Line study.

2.1.2 Federal Acts

- The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), which places the protection of items listed on the National Heritage List and the Register of the National Estate (RNE) as a new matter of National Environmental Significance.

The EPBC Act has not been triggered with regards to the Woodlawn Wind Farm Transmission Line study area, as no items on the NHL or RNE are known within the study area.

- The *Aboriginal and Torres Strait Islander Heritage Protection Amendment Act 1987*, which provides blanket protection for Aboriginal heritage in circumstances where such protection is not available at a State level.

The Act applies with regards to the Woodlawn Wind Farm Transmission Line study area, and may also override State and Territory provisions.

Principles for assessment and conservation management are provided by the non-statutory *ICOMOS Australia Burra Charter 1999* (the *Burra Charter 1999*).

The Aboriginal archaeological and cultural heritage assessment of the Woodlawn Wind Farm Transmission Line area has been undertaken as per the best practice heritage management requirements of the Burra Charter 1999.

2.1.3 State Acts

The following State Acts also apply in the case of the Woodlawn Wind Farm Transmission Line study area:

- The *Environmental Planning and Assessment Act 1979* (EP&A Act 1979).
 - o The *EP&A Act 1979* requires that impacts upon the environment and cultural heritage be considered prior to development approval being granted.
 - o There are three approval pathways under the *EP&A Act 1979*: approvals may be sought under *Part 3A*, *Part 4* or *Part 5* of the Act.
 - o Under *Part 3A* of the *EP&A Act 1979*, in the case of a Development Application constituting a 'Major Infrastructure' under the Act, the Proponent would not require the usual consents as per Section 87 and Section 90 of the *NP&W Act 1974*. The Planning Minister is under no obligation to accept the DECCW's advice however an Aboriginal archaeological and cultural assessment would still be required and appropriate levels of stakeholder consultation undertaken as per the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation 2005* (DEC 2005a).
 - o *Part 4* of the Act applies to all development listed as being permissible with consent under an environmental planning instrument. The assessment of a development under *Part 4* triggers *Part 5* of the Act, specifically the requirement for a Review of Environmental Factors (REF) and Aboriginal stakeholder consultation to be undertaken as per the *Interim Community Consultation Requirements for Applicants (the Part 5 Guidelines)* (DEC 2005a) under *Part 6* of the *NP&W Act 1974*.

- o *Part 5* of the Act is not strictly an approval. It applies to the undertaking of activities where consent under *Part 3A* or *Part 4* of the act is not required, but some form of statutory approval is required from a public authority, or the activity is being carried out by a public authority. The assessment of a *Part 5* project is documented in a Review of Environmental Factors (REF) and requires Aboriginal stakeholder consultation to be undertaken as per the *Interim Community Consultation Requirements for Applicants (the Part 5 Guidelines)* (DEC 2005b) under *Part 6* of the NP&W Act 1974..

It is understood that the Woodlawn Wind Farm Transmission Line area is to be assessed under Part 4 of the EP&A Act 1979, and therefore the assessment requirements of Part 5 are triggered. As a result a Review of Environmental Factors (REF) must be undertaken for the Woodlawn Wind Farm Transmission Line study area, and appropriate levels of Aboriginal community consultation are being pursued as per the relevant DECCW Guidelines (the Part 5 Guidelines, see subsection 2.1.5).

- The *National Parks and Wildlife Act 1974* amended 2001 (NP&W Act 1974).
 - o *Part 6 (Approvals)* of the NP&W Act 1974 lists the responsibilities and powers of the DECCW as the administrator of the Act.
 - o Section 87 (S87) of the NP&W Act 1974 requires the application for an Aboriginal Heritage Impact Permit (AHIP) should the Proponent seek to disturb, move, and/or take possession of an Aboriginal object or disturb land for the purpose of discovering an Aboriginal object, as would occur during a programme of Aboriginal archaeological test excavation.
 - o Section 90 (S90) of the NP&W Act 1974 provides blanket protection to all Aboriginal objects and places, known and unknown, and requires an application for an AHIP should the Proponent seek to destroy, damage or deface an Aboriginal object or Aboriginal place, as would apply when no additional archaeological investigation beyond the initial assessment is deemed necessary, or where test excavation is considered to have sufficiently characterised a site, or where Aboriginal objects are to be moved (relocation).
 - o Section 91 (S91) of the NP&W Act 1974 requires that any person who locates an Aboriginal object or place must notify the DECCW within a reasonable time, as the DECCW also administers previously unknown or unrecorded objects and places as part of its *Part 6 (Approvals)* role.

As the Woodlawn Wind Farm Transmission Line study area is to be assessed under Part 4 of the EP&A Act 1979, the DECCW is the consent authority in this instance. Therefore, Aboriginal archaeological and cultural assessment and appropriate levels of Aboriginal consultation are required, and AHIP consents from DECCW under Sections 87 and 90 of the NP&W Act 1974 are also required. Section 91 also applies, and would be triggered upon the discovery of any Aboriginal objects or places. It remains an offence under Section 91 not to notify the DECCW of such discoveries within a reasonable time.

2.1.4 Planning Instruments

The Woodlawn Wind Farm Transmission Line study also falls within the following planning instruments:

- *State Environmental Planning Policy (Major Development) 2005*

The Woodlawn Wind Farm development was declared a State Significant Development by the Minister Assisting the Minister for Infrastructure and Planning (Planning Administration) on 4 August 2004, pursuant to section 76A (7)(b) of the EP&A Act 1979 (DoP 2005b: 4).

As a result, a *Determination of a Development Application for State Significant, Designated and Integrated Development Under Section 80 of the Environmental Planning and Assessment Act 1979* was provided by the Minister of Planning. This document contained requirements for Indigenous Heritage Management, which are reproduced below:

(57) A *Cultural Heritage Management Sub Plan* must be prepared as part of the CEMP. The sub plan must incorporate the mitigation measures identified in Section

8.0 of the report entitled *Archaeological sub-surface testing of the proposed Woodlawn wind farm Tarago, New South Wales*, dated July 2005 (DoP 2005: 22).

(58) The Applicant must implement the General Terms of Approval provided by the DEC and reproduced in Attachment A to these Conditions of Consent (DoP 2005: 22).

The General Terms of Approval are as follows:

"The applicant must apply for and comply with Section 90 Consent to Destroy and Section 87 Permit to Salvage under the *National Parks and Wildlife Act 1974*, as amended, for the Aboriginal sites "WL1" (AHIMS# 57-3-0366), "WL2" (57-3-0367), "WL4" (57-3-0369), "WL5" (57-3-0370), "WL6" (57-3-0371), "WL9" (57-3-0374), "WL11" (57-3-0376), "WL12" (57-3-0377), "WL13" (57-3-0378) and "WL14" (57-3-0379) that will be impacted during the course development of the Woodlawn Wind Farm, at Lots 14, 27, 55, 89 and 94 DP 754919, Parish of Werriwa, NSW." (DoP 2005: Attachment A).

However, it is understood that the Woodlawn Wind Farm Transmission Line study area is to be assessed under *Part 4* of the *EP&A Act 1979*. Therefore the Woodlawn Wind Farm Transmission Line study area will not be considered for approval under *Part 3A* of the *EP&A Act 1979*, and therefore the *SEPP (Major Development) 2005* will not apply to the Transmission Line itself.

Therefore, it is understood that, although the Woodlawn Wind Farm project has been provided with a Determination of a Development Application from the Minister of Planning, the Woodlawn Wind Farm Transmission Line study area is not to be included within this Development Application, and therefore does not fall under the SEPP (Major Development) 2005.

- *Local Environmental Plans*

The Woodlawn Wind Farm Transmission Line study area falls within two Local Government Areas (LGAs): the Goulburn-Mulwaree LGA in the north, and the Palerang LGA in the south.

- o *Goulburn Mulwaree LEP 2009*

The Goulburn-Mulwaree LGA Local Environmental Plan (LEP) was gazetted on Friday 20th February 2009 and has been in effect since that date. The consultant has been advised by Goulburn Mulwaree council that updates to the LEP are planned and that an updated LEP may be on display by early 2010 (Massey *pers. comm.* 2009). Until that time the current Goulburn Mulwaree LEP 2009 is in force; however, it is recommended that the status of the updated LEP be checked in early 2010.

The consent authority for the purposes of the Goulburn Mulwaree LEP is the Goulburn Mulwaree Council. Although the LEP makes allowances for the protection of Aboriginal archaeological and cultural heritage, no such items as listed on the Heritage Map or Schedule 5 (Environmental Heritage) of the Goulburn Mulwaree LEP 2009 are recorded within the Woodlawn Wind Farm Transmission Line study area.

The Palerang LGA does not at present have a single consolidated LEP for the entire LGA. Rather, the Yarrowlumla LEP 2002, Tallaganda LEP 1991, Mulwaree LEP 1995, Gunning LEP 1997 and Cooma Monaro LEP 1999 (Rural) continue to apply to parts of Palerang. The Palerang Council intends to replace these LEPs with a single Palerang LEP (Palering City Council 2009). Until that time the five LEPs listed below are in force; however it is recommended that the status of the pending Palerang LEP be checked in early 2010.

The Consent authority information as stated in the individual LEPs has been listed below. However, it is understood that parts of these LEPs have been incorporated into the area of the Palerang Council (Palering City Council 2009).

- o *Yarrowlumla LEP 2002*

The consent authority for the purposes of the Yarrowlumla LEP 2002 is the Queanbeyan City Council for land within the area of the City of Queanbeyan, and Yarrowlumla Shire Council for any other land. Although the LEP makes allowances for the protection of Aboriginal archaeological and cultural heritage, no such items as listed on the Schedule 7 of the Yarrowlumla LEP 2002 are recorded within the Woodlawn Wind Farm Transmission Line study area.

o *Tallaganda LEP 1991*

The consent authority for the purposes of the Tallaganda LEP 1991 is the Palerang Council. Although the LEP makes allowances for the protection of Aboriginal archaeological and cultural heritage, no such items as listed on the Schedule 1 (Heritage Items) of the Tallaganda LEP 1991 are recorded within the Woodlawn Wind Farm Transmission Line study area.

o *Mulwaree LEP 1995*

The consent authority for the purposes of the Mulwaree LEP 1995 is the Council of the Mulwaree area. Although the LEP makes allowances for the protection of Aboriginal archaeological and cultural heritage, no such items as listed on the Schedule 1 (Heritage Items) of the Mulwaree LEP 1995 are recorded within the Woodlawn Wind Farm Transmission Line study area.

o *Gunning LEP 1997*

The consent authority for the purposes of the Goulburn LEP 1997 is the Gunning Shire Council. Although the LEP makes allowances for the protection of Aboriginal archaeological and cultural heritage, no such items as listed on the Schedule 5 (Heritage Items) of the Goulburn LEP 1997 are recorded within the Woodlawn Wind Farm Transmission Line study area.

o *Cooma Monaro LEP 1999 (Rural)*

The consent authority for the purposes of the Cooma Monaro LEP 1999 (Rural) is the Cooma Monaro Shire Council. Although the LEP makes allowances for the protection of Aboriginal archaeological and cultural heritage, no such items as listed on the Schedule 6 (Heritage Items) of the Cooma Monaro LEP 1999 (Rural) are recorded within the Woodlawn Wind Farm Transmission Line study area.

As the Woodlawn Wind Farm Transmission Line study is to form part of an application to be assessed under Part 4 of the EP&A Act 1979, the above planning instruments apply. Therefore the Councils of the relevant LGAs are the consent authorities. Although provisions for the protection of Aboriginal archaeological and cultural heritage are made within all LEPs for the Goulburn Mulwaree and Palerang LGAs, no Aboriginal heritage items are listed for the study area within the LEPs.

2.1.5 Community Consultation Guidelines

- *DECCW Interim Community Consultation Requirements for Applicants (the Part 5 Guidelines)* (DEC 2005a)

Published in December 2004 and brought into action on 1 January 2005, these guidelines set out a code of practise regarding community consultation in respects to Aboriginal heritage, for projects to be assessed under *Part 5* of the *EP&A Act*. They detail timeframes, procedures and processes regarding how to consult widely with the Aboriginal community and other interested stakeholder groups.

In reference to the Woodlawn Wind Farm Transmission Line study, the Part 5 Guidelines (DEC 2005a) apply in this instance as the Woodlawn Wind Farm project is being pursued under Part 4 of the EP&A Act. The Part 5 Guidelines (DEC 2005a) are therefore being applied. Advice was sought from the DECCW prior to the commencement of the current project. The appropriate Aboriginal stakeholders were identified with the approval of DECCW and consulted for this project. The details of the Aboriginal community consultation process are provided in Section 1.4.

2.2 SECTION SUMMARY

The Woodlawn Wind Farm Transmission Line study is to be assessed under *Part 4* of the *EP&A Act 1979*. As such, Section 87 and 90 consents under the *NP&W Act 1974*, as administered by the DECCW, are required. Aboriginal archaeological and cultural assessment inclusive of appropriate levels of Aboriginal stakeholder consultation is a requirement for projects seeking planning approval under *Part 5* of the *EP&A Act 1979*.

All works fall under the protection of the *Aboriginal and Torres Strait Islander Heritage Protection Amendment Act 1987*. Searches of the Australian Heritage Places Inventory

(AHPI, the Register of the National Estate (RNE), the National Heritage List and the NSW Heritage Office State Heritage Register (SHR) websites did not identify any recorded Aboriginal objects or places in or around the study area, and therefore the *EPBC Act* does not apply.

As the Woodlawn Wind Farm Transmission Line study area is to be assessed under *Part 5* of the *EP&A Act 1979*, the relevant local government Councils as described above are the consent authorities for development approvals as per the LEPs. DECCW is the consent authority for impacts on Aboriginal archaeological sites under Section 87 and Section 90 of the *NP&W Act 1974*.

The Woodlawn Wind Farm Transmission Line study is undertaken in accordance with the *Part 5 Guidelines* (DEC 2005a), in the interest of completing full and comprehensive consultation (inclusive of Aboriginal stakeholders) for this project.

3.0 ENVIRONMENTAL BACKGROUND

3.1 CLIMATE

The Southern Tablelands climate is characterised by temperate to cold winters with warm to hot summers. The following Bureau of Meteorology data provide an indication of the local climate of the study area. At Goulburn, 40 kilometers to the north of the study area, the maximum average temperatures range from 11.1°C in July, to 27.2°C in February, with a yearly average of 19.5°C (Bureau of Meteorology 2009).

Minimum temperatures here range from 1.4°C in July, to 13.0°C in January, the yearly average minimum being 7.5°C. Precipitation in the region consists of an annual average rainfall of between 600 and 800mm, with the Tarago area experiencing an average of around 700mm per year (Jenkins 1996: 4-5). The climate is also influenced by local factors such as rain shadows, aspect and topography, cold air drainage and frost hollows. These influences would seem to be particularly present in the terrain of the study area, resulting in frosts and localised temperatures and conditions often dependent on elevation. Whilst the area may be cold, it would certainly have been within comfortably tolerable limits for year round occupation by Aboriginal hunter-gatherer groups in the past.

At least 95% of the Palerang Council area was drought-affected during late 2002 to mid 2004, and likely beyond (The Office of the ACT Commissioner for the Environment 2004).

3.2 GEOLOGICAL CONTEXT AND SOIL LANDSCAPES

In the Woodlawn area the Late Silurian Woodlawn Volcanics can be divided into a lower sequence of crystal-rich mass-flow rhyolitic volcanoclastic rocks with discontinuous siltstone lenses, and an upper sequence of mostly flow banded rhyolite lavas. The rhyolitic volcanics are overlain by the Currawang Basalt and quartzose turbidites of the regionally extensive Covan Creek Formation. Dolerite intrusions occur throughout the area (GSNSW 1979).

The lower volcanoclastic sequence of the Woodlawn Volcanics is up to about 1 km thick and is host to the Woodlawn Pb-Zn-Cu-Ag-Au orebody. It has discontinuous limestone bodies at the base where it unconformably overlies Middle Ordovician Abercrombie Formation quartzose turbidites, the Late Ordovician Warbischo Shale and a package of siltstone with prominent sandstone layers that, lithologically, resembles the latest Ordovician Mundoonen Sandstone near Yass. The Ordovician sequence is extensively intruded by granitic sills and dykes related to the Ellenden Granite further to the south. The area is affected by numerous north to northwest trending shear zones that typically obscure stratigraphic relationships and apparently structurally thicken the lower sequence of the Woodlawn Volcanics in the vicinity of the Woodlawn Mine (GSNSW 1979).

The Woodlawn Volcanics sequence grades into the De Drack Formation to the south and east of the mine area with a thinning of the crystal-rich volcanoclastics, decrease in extent of the rhyolite lavas, and increase in the proportion of siltstone and fine-grained quartzose to tuffaceous material. This relationship suggests that the Woodlawn area is proximal to a Late Silurian volcanic centre.

Three soil landscapes have been identified as existing within the study area: Moura Creek, Hammonds Hill and Taylors Creek (Jenkins 1996). The Moura Creek is a vestigial landscape, located at the northern end of study area. It is characterized by rolling low hills with upper slope gradients of 5° - 15° and lower slope gradients of around 20° above drainage lines. Angular rock outcrops are present. The soils are derived from *in situ* weathering of the metasedimentary parent rock, and are generally extremely shallow (less than 200mm) on the hillcrests. On upper and middle slopes the soils may be up to 800mm deep, and on lower slopes and drainage lines up to 1000mm in depth. Sheet wash and gully erosion are common (Jenkins 1996: 56-59).

The Hammond Hill landscape is an erosional landscape characterized by rolling to steep hills to low hills and long slopes on granite. Soils are extremely shallow on the crests and shallow to moderately deep well drained soils on the slopes and drainage lines. Rock outcropping is common as well as seasonal waterlogging and erosion. Aeolian (wind blown) deposits of sand are also present.

The majority of the study area falls into the Taylors Creek erosional landscape. It is characterized by undulating low hills with rounded crests on granite. Extremely shallow well-drained soils and sands on the crests and shallow to moderately deep poorly drained soils on the lower slopes and drainage lines. Rock outcrops, severe gully and stream bank erosion is common as well as small patches of wind blown sand on the upper slopes.

In general terms the soil landscape units of the study area are in most cases derivative from slowly aggrading landforms. As a result, the soils are capable of containing sub-surface archaeological deposits. The very shallow soils have a lower likelihood of containing sub-surface archaeological material and any archaeological material present would most likely be visible on the ground surface or washed down slope. Pastoral activities and removal of trees has probably increased the rate of erosion dramatically resulting in increased exposure and visibility of artefacts.

3.3 HYDROLOGY

Topographically the region contains the drainage systems of Lake George, Lake Bathurst and The Morass, and also the steep hills of the Turallo Range, which form part of the Great Dividing Range. To the north and east are Crisps Creek and the Mulwaree River, to the south is Wrights Creek and the Butmaroo Creek. The major drainage system in the study area is Taylors Creek, which drains into the basin of Lake George to the west and across which the transmission line route crosses.

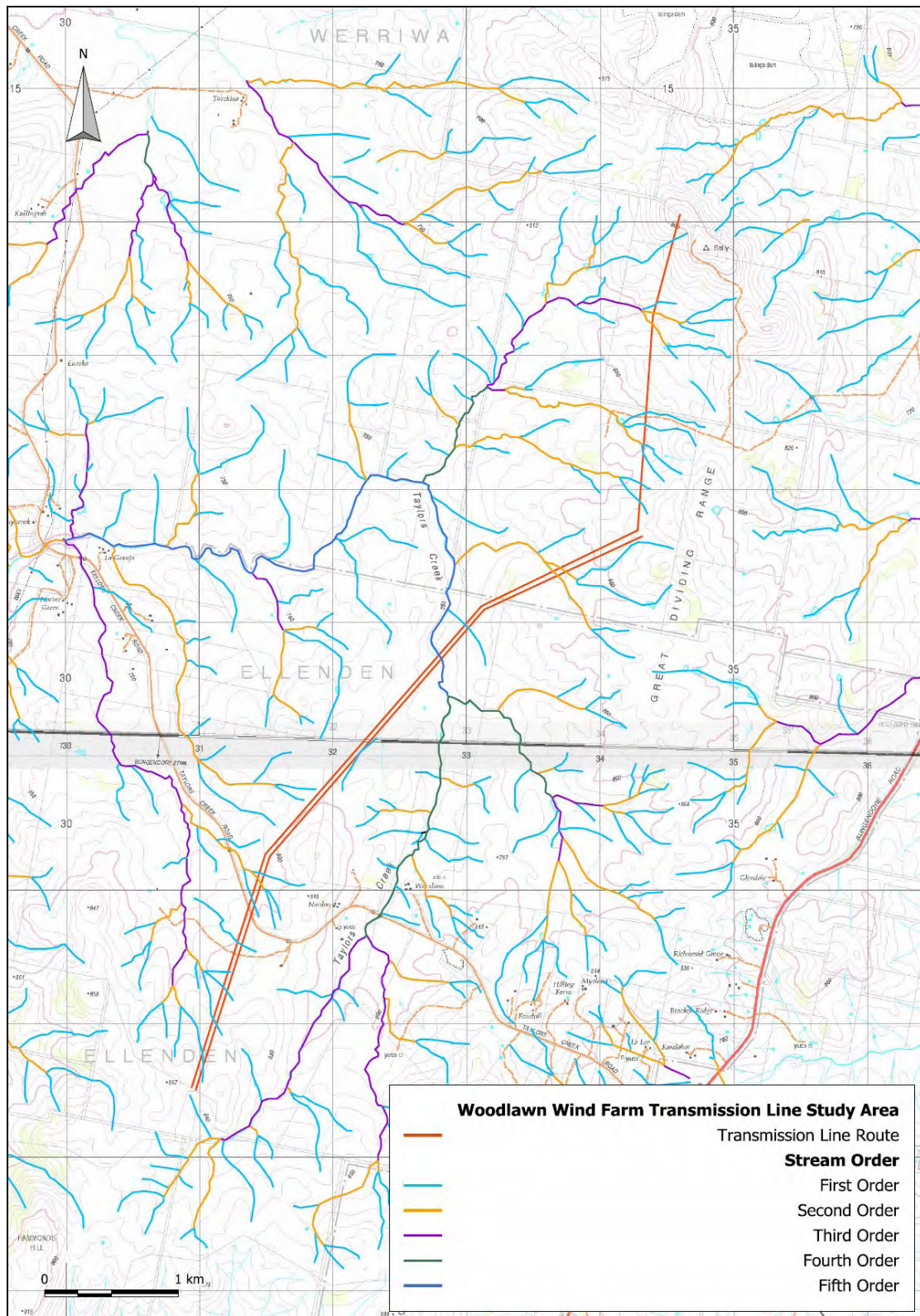
Crisps Creek, the Mulwaree River and Lake George are considered to be the closest reasonably reliable sources of water near the study area, located three, five and ten kilometers away respectively (Biosis 2005a: 40).

Turallo Range forms a watershed between the Wollondilly River Catchment to the east and the Lake George Catchment, with a pass or access route across the range located in the vicinity of the former Woodlawn Mine.

The drainage of the study area had been modified by the construction of bunds and dams along drainage channels limiting the amount of water flowing into the major creeks. The study area consists of shallow valleys between low crests with ephemeral or first order streams feeding into Taylors Creek. At the time of survey no creeks contained running water and water was only present in dams and a few small puddles in a limited number of creek beds. The area has been subject to drought conditions for several years.

As the soils of the study area are shallow and the vegetation has been extensively cleared, sheet erosion is known to occur along the slopes and gully erosion in the drainage lines. The main creek lines also experience severe bank erosion after rains.

Please note that the stream order analysis for this area is based on the hydrological information available in the 1:25 000 scale topographic maps of the study area. The large number of small streams marked on the map which have been identified as first order according to Strahler (1952) are likely to in fact be ephemeral streams and/or run-off gullies, that is, non-permanent streams. Inclusion of these streams in the stream ordering analysis may have resulted in higher values being provided to large streams within the study area.



3.1 Stream order analysis for the Woodlawn Wind Farm Transmission Line study area. Base image © Department of Lands 2006. Mosaic of 1:25 000 scale topographic maps: Boro 88274S and Lake Bathurst 88274N.

3.4 HISTORIC LAND USE

Tarago was officially founded in 1827. Located on the only road to the Queanbeyan and Canberra valley, the town was a thriving centre consisting of a number of stores, public houses and inns, a Cobb & Co. stable and a post office. For many years Tarago was a

staging post and railhead for the southern districts. Sheep and cattle production have been the mainstay of the district's development.

In more recent times, the major industry in the area was the Woodlawn Mine, which operated for about 20 years, producing copper, lead and zinc. It has now been converted to the Woodlawn Bioreactor, using the latest technology to generate green electricity by extracting landfill gas during the treatment and disposal of waste material from Sydney.

The area is characterised by a series of lightly timbered undulating hills with open valleys. It has been extensively cleared of the native woodland vegetation. The survey route is located on three properties: Woodlawn, Pylara and Nardoo. These properties contain a number of residences and associated agricultural structures such as shearing sheds and accommodation, work and storage sheds, fencing, stockyards, communications infrastructure, local sealed and unsealed roads and tracks. All three properties are working farms and sheep grazing is the primary land use.

The land use history of the study area has been one of relatively minimal impact, with the exception of the Woodlawn mine, which is located outside the study area to the northeast. The study area has been primarily utilized for pastoral activities beginning in the 1820s, however there is some evidence of small-scale agricultural land use (grain crops). Major ground disturbance is limited to drainage enhancement and water storage work in the form of creek alignment and construction of dams. The removal of the native woodlands has also resulted in accelerated and increased erosion across the study area specifically along creek lines and valleys.

Two items of movable historic heritage (obsolete farm vehicles/equipment) were observed along the survey route as well as a number of cattle yards and sheds, however these are very common rural occurrences and have negligible significance.

3.5 SECTION SUMMARY

The Woodlawn Wind Farm Transmission Line study area originates on a ridge crest and crosses over rolling hills, undulating low hills and undulating plains. Soils are vestigial or erosional, and can be very shallow on ridge crests and deeper on lower slopes. Sheet and gully erosion are known to occur. The Transmission Line study area lies within the drainage systems of Lake George, Lake Bathurst and the Morass, with Taylors Creek being the major drainage system in the area. Taylors Creek drains into the basin of Lake George to the west, although the whole region has been subject to drought conditions for several years. Historic land use impacts within the Woodlawn Wind Farm Transmission Line study area include extensive vegetation clearance, followed by construction of dams, fences, internal access tracks and farm infrastructure, in keeping with the pastoral use of the area. The landform features of the study area would have implications for both Aboriginal and European land use within the area. The implications of these factors for the archaeological potential of the study area are discussed in the following sections.

4.0 REGIONAL ABORIGINAL HISTORY

4.1 ABORIGINAL GROUPS

Archaeological evidence demonstrates that Aboriginal occupation of the south-eastern region of NSW extends back at least 20,000 years. At the end of the 18th century, when Europeans arrived in Australia, it is alleged that the main tribes in the Lake George and Molonglo Plains area were the Moolinggoolah and the Mulwaree although the district was shared with other tribes or clans. Lake George was called Weereewaa (also Weeraawa etc.). To the south of Lake George and east of Bungendore the Moolinggoolah and the Mulwaree shared the area with the Kamberri and the Parramarragoo. The tribes spoke dialects of neighbouring languages, which meant they could communicate. It is believed that the initial language of the tribes around Weereewaa was Gundungurra from the Parramarragoo people to the east and Ngunawal, the language of the Wallaballoo, developed from this. Ngarigo was spoken by the Moolinggoolah who lived in the district south east of Lake George, the Kamberri spoke Walgalu and the Mulwaree language was Gundungurra (Victoria Design & Management Pty Ltd 2008: 10).

These neighbouring groups were also linked by customs, ceremonies and kinship networks, although the Weereewaa people had a savage reputation. The number of Aboriginal people who lived in the area around the early 1800s is unknown, but it would appear to be about 500. The tribes or groups were small, quite widely scattered, very mobile and moved about according to seasons. Family groups of about 20 appeared to be responsible for a tract of country. Women generally married out of the family group (Victoria Design & Management Pty Ltd 2008: 11).

As the 19th century progressed, settlers took over the region for farming. The native survivors were pushed further away from their tribal lands and the rivers and forests where food was plentiful while the explorers and settlers exploited the open plains. Dispossession was not the only problem encountered by the Aboriginal population; exotic diseases such as venereal disease, small pox, influenza and measles were passed on by settlers, destroying whole Aboriginal families. By the turn of the 20th century it was claimed that very few members of the original tribes had survived. This is now disputed with descendants of those original occupants still living in the district and working to reinstate their local identity (Victoria Design & Management Pty Ltd 2008: 12).

4.2 RESOURCES

The landscape now consists of extensively cleared grasslands of native and introduced species and scattered Eucalypts and pine groves. The pre-pastoral landscape was composed of open woodland dominated by *E. mannifera* (brittle gum), *E. rossii* (scribbly gum), *E. viminalis* (ribbon gum), *E. dives* (broad leaf peppermint), *E. melliodora* (yellow box), *E. pauciflora* (snow gum), *Acacia dealbata* (silver wattle), *Acacia melanoxylon* (blackwood) and a ground cover of native grasses and bracken. In early winter, fence lines become clogged with the seedheads of several species of 'blowaway' grasses including *Panicum effusum* (Hairy Panic). The small seeds were once husked by hand to be ground into flour by the local Aboriginal people using grinding stones and hand mortars. Wildflowers such as native buttercups and daisies as well as a host of ground orchids were common in the area and survive today in isolated and wooded groves.

The natural vegetation would have provided the Aboriginal population with food resources, as well as raw materials for utilitarian items such as bark shelters and containers, digging sticks, fibres and basketry, tools and weapons, tool and weapon shafts and handles and gum for hafting stone implements. The traditional Ngunawal lands traverse several diverse ecological zones and high mobility would have allowed the most efficient use of the resources of the land, and allowed the population to make seasonal adaptations that made the most of the available resources.

The usual assemblage of south-eastern Australian terrestrial fauna may have been expected to occur in the vicinity of the Woodlawn study area. Important terrestrial resource species for Aboriginal hunter-gatherers in the past would have included kangaroos, wallabies and possums as well as echidnas, reptiles birds and eggs. Fresh water fish and shell fish would

have been available in the past and the remains of large bivalves were found scattered around Taylors Creek.

Lake George, Lake Bathurst, The Morass and Mulwaree River which are adjacent ecological zones to the study area would also have provided important food resources, such as fish, eels, molluscs and waterfowl. The Alpine region also provided seasonal Bogong moths (Flood 1980).

A largely intangible but presumably vital component of material culture and past land management, according to ethnographic accounts, was the use of fire. Regular burning promoted the growth and flowering of tuberous plants, such as orchids and lilies, which were abundant in the district. It is likely that these would have been frequently burnt by Aboriginal people as part of a land management strategy to manipulate plant and animal populations (Benson & Howell 1990:14).

4.3 MATERIAL CULTURE

As well as providing food resources, animal products were also used by Aboriginal hunter-gatherer groups to make a range of items, including clothing such as possum skin cloaks, with sinews and bone points or awls used for sewing. Many other fauna derived products such as feathers, teeth and bone would also have been used for non utilitarian means, like decoration and ornamentation.

Historical and ethnographic evidence suggests that the environment provided a wide variety of plants and animals which were used by the local Aboriginal populations for artefact manufacture, medicinal purposes, ceremonial items and food (Attenbrow 2002). Aboriginal people used toolkits which were likely to be fashioned largely from organic materials such as wood, bark, palm leaves, shell and bone. The use of stone does not figure prominently in many of the early European descriptions, however the presence of stone artefacts is the most common indicator of Aboriginal activity.

The geology of the region provides good quality sedimentary and volcanic stone for the production of stone tools. Aboriginal people frequently used metamorphic rock such as quartzite and hornfels as raw materials for making stone implements. Hydrothermal deposits of quartz occur in the study area and was a commonly raw material as was granite.

There is a slight possibility of Aboriginal stone quarries being present in the study area, if suitable outcrops are present. Silcrete (a silicified sedimentary rock very well suited to stone artefact manufacture) has been reported as occurring just below the ground surface to the east of Collector (Koettig 1981). Cobble beds that may also contain suitable raw materials are present in the alluvial deposits of the Mulwaree River, Crisps Creek (Navin Officer 1998: 7) and Taylors Creek.

4.4 SECTION SUMMARY

Although the language and tribal affiliations of prehistoric Aboriginal populations in the vicinity of the Woodlawn Wind Farm Transmission Line study area cannot be determined, the Aboriginal people known from the region at the time of contact were the Moolinggoolah and the Mulwaree, although the district around Lake George and the Molonglo Plains area was shared with other groups. The study area and the surrounding ecosystems would have provided a range of plant, animal and lithic resources for use by past Aboriginal people, and the terrain – particularly the ridge-line at the northern extent of the Transmission Line route, and the channel of Taylors Creek – would have provided routes for travel to and from other areas, and most likely *en route* to Lake George. The environmental features of the area, as discussed in Section 3, when considered in light of the current section on Aboriginal cultural and resource use, will provide a backdrop for consideration of the archaeological record in Section 5, and the predictive statement in Section 6.

5.0 ARCHAEOLOGICAL BACKGROUND

5.1 HERITAGE DATABASE SEARCH RESULTS

A search of National, State and local heritage databases was undertaken to establish the archaeological context of the study area. A summary of these results is presented below.

5.1.1 Aboriginal Heritage Information Management System Search Results

A search of the NSW DECCW's Aboriginal Heritage Information Management System (AHIMS) was conducted covering an area of approximately 11 km x 12 km surrounding the Woodlawn Wind Farm Transmission Line study area, between Eastings 726000 – 737000 and Northings 6106000 - 6118000. A total of 26 Aboriginal objects and places have been recorded within this area (Figure 5.1, overleaf, and Table 5.1 below).

Table 5.1 Summary of sites recorded within 10km² of the study area

Features	Total	%
Isolated find	12	46.15
Open artefact scatter	13	50.00
Open artefact scatter & PAD	1	3.85
Total	26	100.00

A sample of these sites is discussed in Section 5.2 below.

5.1.2 Other Heritage Register Search Results

Searches of the Australian Heritage Places Inventory (AHPI), the Register of the National Estate (RNE), the National Heritage List and the State Heritage Register (SHR) on the Heritage Branch website did not identify any recorded Aboriginal objects or places in or around the study area.

5.2 THE ARCHAEOLOGY OF LAKE GEORGE AND THE SOUTHERN TABLELANDS

The archaeology of the region surrounding the Woodlawn Wind Farm Transmission Line study area has been the subject of a number of research and consultancy-driven assessments over recent years. Although the area has not been as intensively assessed as other physiographic regions in New South Wales, such as the Cumberland Plain for example, this research has allowed relatively detailed models pertaining to the distribution of Aboriginal archaeological material in the region (Biosis 2005a: 14).

Dates for human occupation of the Lake George and Southern Tablelands region have been generated based on both archaeological and palynological studies.

Flood (1980) suggests that Aboriginal people have occupied the region for the last 4,000 years. Excavations by Lance (1985) and Hughes *et. al.* (1984) provide occupation dates from 800 to 6,000 years ago, and Birrigai Rockshelter in Tidbinbilla Nature Reserve, approximately 67 km to the southwest of the Woodlawn Wind Farm Transmission Line study area, shows signs of sporadic occupation from the last ice age 21,000 years ago to the mid-19th century (Flood 1996: 23). Tentative dates have also been generated for archaeological materials at 17,000 – 23,000 years BP from the ancient lake dunes around Lake George (Flood 1999: 114).

Large stone tools associated with the Core Tool and Scraper Tradition have also been found in the area, although they have not been securely dated (Flood 199: 114). This Tradition is a term used to refer to a suite of large, morphologically uniform artefacts that appear to date to between 50,000 and 5,000 years BP, being replaced after 5,000 years BP by the Small Tool or Bondaian Tradition, which consists of many and diverse types of small tools. Around 1,000 years BP, "post-Bondaian" assemblages characterised by small flakes often created by the bipolar technique, started to replace the Bondaian Tradition in most parts of eastern Australia (Biosis 2005a: 14). The final change from small tools to small flakes is not well established in

the Southern Tablelands, with recent assemblages displaying Small Tool Tradition and post-Bondaian characteristics (Flood 1980 & Packard 1986 in Biosis 2005a: 14).

Much earlier occupation dates have been proposed for Lake George (Singh *et. al.* 1891a, 1981b) based on an increase in the amount of charcoal found in Lake George sediments dated from the last interglacial period (c. 128,000 – 75,000 BP). It was inferred from this data that the increased fire activity – indicated by the higher charcoal counts, and change in vegetation to more fire resistant taxa as shown by pollen counts – was the result of human activity (Singh *et. al.* 1981b: 45-47). This conclusion was based on the basic assumption that there was a direct relationship between the incidence of charcoal in the analysed sediment and the frequency/intensity of fires (Singh *et. al.* 1981b: 25), and also on the assumption that 'fire-stick farming' by Aboriginal people as observed in the historic period was also undertaken at this extremely early date.

Wright (1986) reassessed the dates of the sediments tested by Singh *et. al.* (1981a, 1981b) and proposed that they were from 65,000 – 54,000 years BP, and therefore that the increased amount of charcoal found in the sediments of Lake George represented the arrival of humans in the local ecosystem at approximately 60,000 rather than 120,000 years BP. White (1994) and Flood (1999: 115) posit that an age of c.60,000 years BP for Aboriginal arrival in the landscape surrounding Lake George is more likely.

However, these claims for early human arrival are based entirely on pollen records. Hiscock (2008: 27) questions the assumption of a human cause for the recorded vegetation change. He argues that the warmer climate of that time would have supported both larger fuel loads and more fire-prone conditions, and that an increase in the frequency of fires does not indicate human activity. White (in Mulvaney & Kamminga 1999) has, for example, noted an similar spike in charcoal levels in sediments more than a million years old. Additionally he argues that the lack of direct evidence for human burning activities in the ancient past indicates that activities taking place in prehistory differed from those in the historic period (Hiscock 2008: 27). Mulvaney and Kamminga (1999: 143) also note that there can be no single signature of prehistoric Aboriginal burning because different vegetation communities require different burning strategies.

The most common site types in the Southern Tablelands and around Lake George are those containing stone artefacts, either open artefact scatters or isolated finds (Biosis 2005a: 14). Regional models for occupation of the region, as summarised by Biosis (2006b: 31) found that, in general, Aboriginal archaeological sites occur across all landform areas; larger sites are located within 100 m of water; drainage confluences, alluvial landforms and hilltop landforms are generally more archaeologically sensitive; and hilly landforms are generally characterised as containing background scatter of artefacts indicative of transient occupation.

5.3 PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS IN THE REGION

5.3.1 Introduction

A number of archaeological assessments have taken place in the Southern Tablelands region. Several of these have involved other Wind Farm developments. A review of the results of these assessments will likely be informative with regard to the Woodlawn Wind Farm Transmission Line study area due to the similar landforms chosen for wind farm developments.

5.3.2 The Crookwell Wind Farm

The Crookwell Wind Farm, located just south of Crookwell, approximately 70 km to the north of the Woodlawn Wind Farm Transmission Line study area, has undergone three phases of archaeological investigation. White (1996) located a single open artefact scatter consisting of 20 pieces of quartz flaking debris. The poor archaeological visibility over the study area led to test excavation being undertaken by JMCHM Pty Ltd (1997). Of the twenty-four test pits excavated, nine contained a total of 52 stone artefacts. One test pit – renamed as site CWF 1 (AHIMS 51-6-0085) – contained 32 artefacts, while the remainder contained 7 artefacts or less.

The following year, JMCHM Pty Ltd (1998) undertook detailed open area salvage excavation of CWF 1. The site consisted of 2154 stone artefacts over an area of 25 square metres, with raw materials of chalcedony (61%), silcrete (27%) and quartz (14%). Evidence for the onsite manufacture of backed artefacts was found, including two previously undescribed types of

backed artefacts, christened 'Pejar Points' and 'rectangulars'. It was concluded that the site indicated a single limited camping episode where one or a limited number of people knapped a range of raw materials (JMCHM Pty Ltd 1998: 72-73.)

5.3.3 The Gunning Wind Farm

JMCHM Pty Ltd (2003) undertook an assessment for the Gunning Wind Farm, which is located between the towns of Gunning and Goulburn, approximately 45 km north of the Woodlawn Wind Farm Transmission Line study area. This study found five open artefact scatter sites and three isolated artefacts.

As a result of the assessment, a test excavation was undertaken (Austral 2005). This test excavation consisted of a series of 15 grader scrapes over six areas, including proposed turbine locations where areas of potential archaeological deposit had been previously identified (JMCHM Pty Ltd 2003) and recorded surface sites. Other areas were targeted because of their association with known sites or because they represented environments of less disturbance. These landscapes were anticipated to have varying levels of archaeological sensitivity. As a result, no new artefacts were revealed in any of the grader scrapes, and thus no further archaeological investigation – such as test pitting – was considered necessary (Austral 2005).

In a survey of a proposed Transmission Line route within the Gunning Wind Farm development, Austral (2009a) identified 13 open artefact scatters, 9 isolated finds, 2 areas of PAD and a scarred tree. The 12 open artefact scatters and nine isolated finds produced a total of 51 recorded artefacts. In addition to these sites, three areas of archaeological sensitivity (defined in relation to areas of artefact concentration) were also identified. The most common artefacts were flakes of grey silcrete, comprising 13 artefacts of the entire assemblage. Flakes were the most common artefact type overall, comprising 30 artefacts.

There was minimal variation in artefact type or material by landform. However the sites recorded within the area of sensitivity along the ridge line contained the greatest variety in raw material type, consisting of grey silcrete with red and yellow inclusions, mudstone, grey silcrete, yellow silcrete, quartz, grey-cream-orange banded silcrete, cream silcrete and FGS (Austral 2009a: 34). The salvage and relocation of a number of the sites identified by JMCHM Pty Ltd (2003) and Austral (2005, 2009a) was undertaken (Austral 2009c). Subsequent assessments by Austral (2009c, 2009d) did not identify any archaeological sites along additional portions of the Transmission Line or at reference mast locations, although one small area of low PAD was observed (Austral 2009d).

5.3.4 The Capital Wind Farm

In surveys in 2004, Austral investigated the Capital Wind Farm development area. Six areas of PAD were identified, and in a small additional survey in 2005, two other sites were recorded to the south of the southern end of the Woodlawn Wind Farm Transmission Line study area. These were the site "Hammonds Hill 4 Isolated Find Capital Wind Farm" (AHIMS # 57-3-0393) and the "Wright Creek 1 Open Artefact Scatter & Associated PAD Capital Wind Farm" site (AHIMS # 57-2-0462).

The Hammonds Hill 4 isolated find was located on Hammonds Hill within the Great Dividing Range, and consisted of a single whole flake of grey FGS located on a track along the top of a ridge of Hammonds Hill.

The Wright Creek 1 open artefact scatter and PAD was located on a highly eroded property access roadway and in the eroding topsoil of Wrights Creek, within an area of approximately 30 m. The site consisted of a scatter of six artefacts within the eroded roadway, and one artefact on the western bank of Wrights Creek about 30 m from the road. It was considered that there was moderate to high subsurface potential for archaeological deposit.

Austral also undertook a program of subsurface investigation in 2007, for an area to the east of Lake George, directly to the south of the Woodlawn Wind Farm Transmission Line study area. Six excavation areas over 4 PAD within the footprints of four wind turbines and an electrical substation were subject to excavation. PADs to be investigated were located on varying topographical locations (i.e. on ridge crests, upper slopes and on areas associated with lower water sources) each differing in proximity to nearby Lake George.

From the 83 excavation pits a total of 348 artefacts, including 320 unretouched flakes, followed by very small numbers of cores, flakes, hammerstones, and flaked pieces, of quartz,

quartzite, silcrete and chert, were salvaged from across the four PADS. The majority (210) were retrieved from the closest wind turbine location to Lake George to be investigated. Of the six excavation areas investigated five were determined to contain no more than the general background scatter of artefacts routinely located within this landscape. The sixth showed evidence of what appeared to be a knapping floor.

5.3.4 Taylors Creek Road

Saunders (2008) undertook an archaeological assessment of Taylors Creek Road, and located two open artefact scatters near the intersection of Taylors Creek Road and Taylors Creek on Narine Green property. These sites are located approximately 3.1 km to the north and west along Taylors Creek Road, from the point where the Woodlawn Wind Farm Transmission Line study area crosses the road.

TCR 1 (Taylors Creek Road 1, AHIMS # 57-3-0413) consists of seven stone artefacts exposed in a 6 m x 2 m area on a highly disturbed sandy deposit along the eastern side of the Narine Green property access road. The artefacts are flakes, a blade and a flaked piece, of silcrete, quartz and quartzite. The artefacts are associated with high quality quartz fragments that may be artefactual but are without clear diagnostic features.

TCR 2 (Taylors Creek Road 2, AHIMS # 57-3-0414) consists of 10 visible flakes, a river pebble, and some associated quartz fragments on the crest of a low rise on the northern side of Taylors Creek Road. The raw materials are quartz, silcrete, quartzite and volcanic.

TCR 1 and TCR 2 are within 200 m of the site "Nardoo" (AHIMS # 57-3-0001) as recorded by Flood (1980). The site was described as containing large numbers of stone artefacts including backed blades (Flood 1980). Saunders (2008) considers it likely that these three sites are part of the same complex present in localised sand deposits near Taylors Creek.

5.4 THE ARCHAEOLOGICAL INVESTIGATION OF WOODLAWN WIND FARM

The Woodlawn Wind Farm development itself has also been subject to several phases of archaeological investigation.

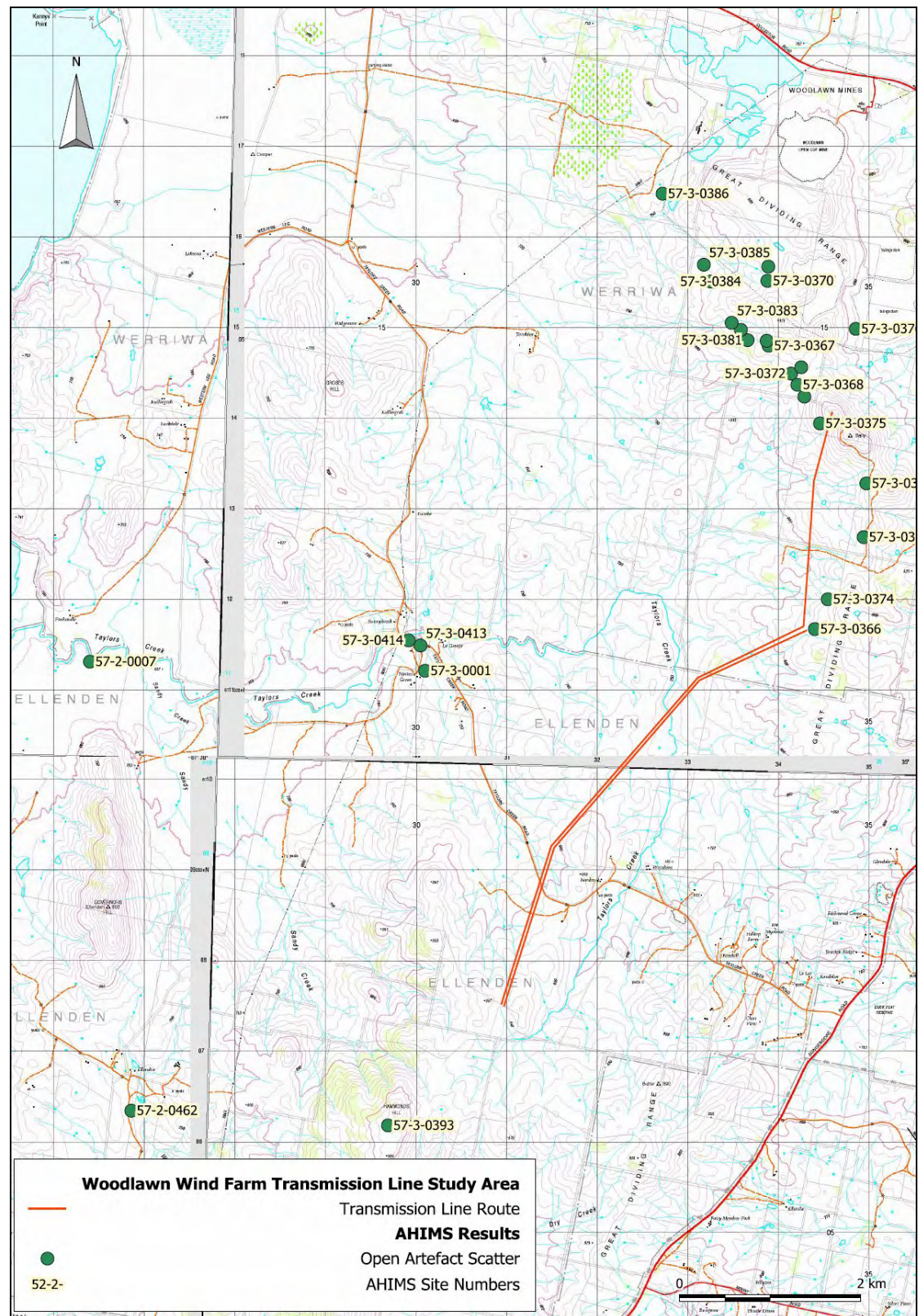
Navin Officer Pty Ltd (1998) surveyed a small spur feature to the south of the Woodlawn Mines, and the area around Crisps Creek and the Mulwaree River. The spur feature lies within the northern section of the Woodlawn Wind Farm area surveyed by Biosis in 2004. No archaeological material was located in that area and it was concluded that any sites would have been destroyed by severe ground disturbance. Three artefact scatters and an isolated find were located near Crisps Creek and the Mulwaree River, in alluvial terrace deposits or on lower slopes.

Biosis (2005a) undertook a survey of the of the Woodlawn Wind Farm area, consisting of the proposed Wind Turbine Generator locations along the ridge line from which the Woodlawn Wind Farm Transmission Line study area originates before heading south. As a result, a total of 21 Aboriginal archaeological sites were recorded, as shown in Figure 5.2. These consisted of 10 isolated finds and 11 open artefact scatters. Of these, all except one (WL 19, AHIMS # 57-3-0384) were identified as being of Low to Moderate archaeological significance.

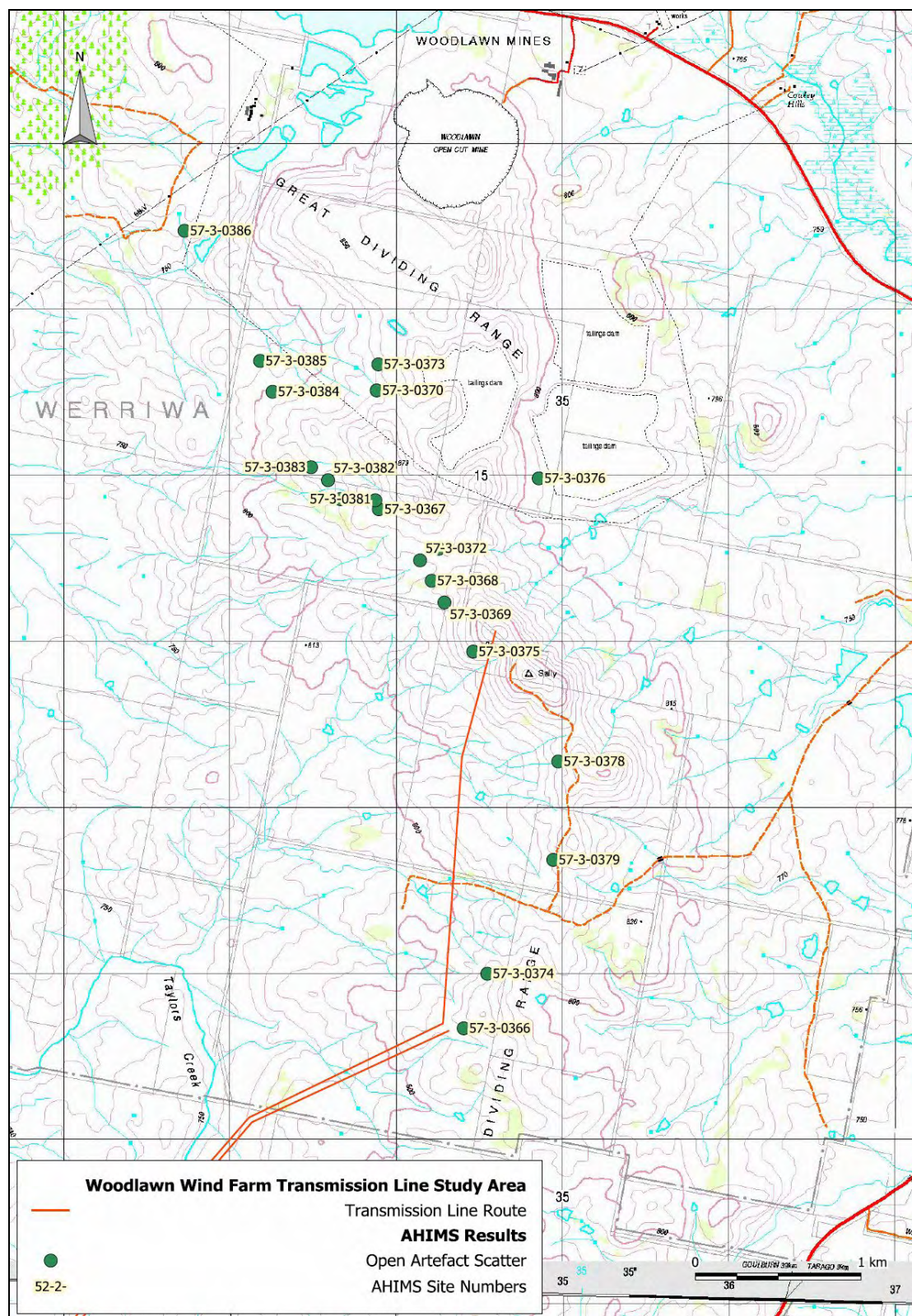
WL 19, consisting of an artefact scatter and artefacts visible in the section, was considered as being of High archaeological significance. WL 19 was located in the section of a drainage line, in a large open depression. The site was described as being a discrete occurrence of over 70 quartz artefacts in the section, and eroding out of the section of the drainage line. Biosis (2004: 37) noted that the quartz appeared to show excellent flaking characteristics and that the majority of the artefacts found showed full flake characteristics, some with notable elongation. The site was considered to be an intact archaeological deposit due to the discrete occurrence of the flakes within 1.0 m, and at the same depth in the deposit (Biosis 2005a: 37).

The survey conditions were described as "very favourable", and all of the sites recorded by Biosis (2005a) were stone artefact sites, in keeping with predictive models for the area. The number of sites was high but the contents were not considered to be remarkable in light of the archaeological record of the region. It was argued that the result demonstrated "a hitherto not recognised continuous distribution of artefacts across the landscape, and higher frequencies

of generally larger sites than the previously recorded sites, which have all been very small artefact scatters," (Biosis 2005a: 38).



5.1 AHIMS search results near the Woodlawn Wind Farm Transmission Line study area. Base image © Department of Lands 2006. Mosaic of 1:25 000 scale topographic maps: Boro 88274S, Lake Bathurst 88274N, Lake George 87271N and Sutton 87271S.



5.2 Previous site recordings for the Woodlawn Wind Farm study. Base image © Department of Lands 2006. 1:25 000 scale topographic map: Lake Bathurst 88274N

It was further interpreted that the results of the Woodlawn Wind Farm assessment represented “background scatter” across the landscape. Based on these findings, it was stated that “the apparent background scatter of artefacts and appearance of higher artefact density sites as “one off” episodes suggests that there was never any particularly focussed Aboriginal activity in the study area. Rather the Woodlawn ridge probably witnessed transient visits as Aboriginal people passed along, or over this section of the Turallo Range travelling

between larger resource areas such as the Lake George and Wollondilly River systems" (Biosis 2005a: 39). The Environmental Impact Statement (EIS) for the Woodlawn Wind Farm found that sites were most likely to occur on lower slopes, alluvial landforms, and also potentially on the crests of ridgelines. The likelihood of finding sites other than stone artefact scatters was considered low because the area was described as highly denuded, characterised by shallow rocky soils and had undergone clearance in the past (Woodlawn WindEnergy & URS 2005: 12.8).

Five of the recorded sites – namely WL 3 (AHIMS # 57-3-0368), WL 12 (AHIMS # 57-3-0377), WL 15 (AHIMS # 57-3-0380), WL 16 (AHIMS # 57-3-0381) and WL 19 (AHIMS # 57-3-0384) – were considered to have higher potential for subsurface artefacts (Biosis 2005b).

The following year a program of subsurface testing was undertaken to characterise the archaeological potential of sites that would be impacted by the proposed development, and to test the boundaries of those archaeological sites that were within close proximity to the proposed development (Biosis 2005b). As a result, 204 spade probes were excavated to depths between 50 mm to 300 mm. Eight artefacts were recovered from eight separate locations during the subsurface testing program; in all cases, the artefacts were located in close proximity to surface artefacts. Biosis (2005b: 26) draws attention to the fact that no subsurface artefacts were recovered from any of the slope landform categories, despite the presence of several surface sites, which is taken to suggest pronounced erosion of the Woodlawn slopes.

5.5 SECTION SUMMARY

A search of the AHIMS register has shown that 26 Aboriginal archaeological sites have been recorded within an area of 11 km x 12 km around the Woodlawn Wind Farm Transmission Line study area.

The recorded sites are all stone artefact sites, consisting of 13 open artefact scatters (50%), 12 isolated finds (46.15%), and one open artefact scatter with associated potential archaeological deposit (3.85%).

Searches of other registers (the AHPI, RNE, SHR, National Heritage List, and the relevant LEPs) did not identify any other Aboriginal places or objects in the study area.

This information shall be used to produce a predictive statement regarding the archaeological potential of the study area.