Due Diligence Investigation for the Protection of Aboriginal Objects

Proposed Construction of Conservation Fencing and Associated Infrastructure, Pilliga State Forest

A report prepared for
Australian Wildlife Conservancy
on behalf of NSW Office of Environment and Heritage

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INTRODUCTION

The NSW Government and Australian Wildlife Conservancy (AWC) have signed an historic Extinct Mammal Agreement (EMA) under which AWC will deliver scientific and land management services in the Pilliga State Conservation Area (SCA). The project area is located within the northern portion of the Pilliga SCA around 46km southwest of Narrabri and within the Narrabri Shire.

The EMA ("A project to reintroduce locally extinct mammals", Agreement number: OEH – 677 -2014) gives effect to a commitment under the NSW Government's Saving our Species policy. Central to the EMA is a requirement for AWC, on behalf of the NSW Government, to establish a large feral predator-free (fenced) area into which mammal species listed as extinct in NSW will be reintroduced.

EnviroKey Pty Ltd (EnviroKey) has been engaged by AWC to prepare a Review of Environmental Factors (REF) for the proposed construction and operation of the conservation fencing and associated infrastructure (CFAI).

AWC have engaged On Site Cultural Heritage Management Pty Ltd (On Site CHM) to undertake and prepare an Aboriginal heritage assessment consistent with the requirements of the *Due Diligence Code of Practice for the Protection of Aboriginal Objects* and provide advice about the potential of the proposal to *harm* Aboriginal places and objects pursuant to the *National Parks and Wildlife Act 1974.*

OBJECTIVES

The objectives of this assessment are:

- Conduct an Aboriginal heritage investigation and provide specialist advice about the potential of the proposal to *harm* Aboriginal objects consistent with the requirements of the *Due Diligence Code of Practice for the Protection of Aboriginal Objects*
- Provide a report consistent with the requirements under the *National Parks and Wildlife Act 1974*, providing recommendations about the management of Aboriginal places and objects that may be affected by the proposal.

The *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* sets out reasonable and practicable steps which individuals and organisations need to take in order to:

- Identify whether or not Aboriginal objects are, or are likely to be, present in an area;
- Determine whether or not their activities are likely to harm Aboriginal objects (if present); and
- Determine whether further assessment or an AHIP application is required.

ABORIGINAL CONSULTATION

AWC undertook consultation with the Wee Waa and Pilliga Local Aboriginal Land Councils (LALC) as part of this assessment. Representatives from both Land Councils participated in the field survey for this assessment. These parties were also provided with a draft of this report for review and comment.

SCOPE OF WORKS

The requirement for a due diligence assessment of this proposal arises from the following factors:

- The proposed works will disturb the ground surface (on land that is not disturbed land);
- The AHIMS database or other relevant databases record previously identified places near the proposal; and
- The activity or proposal occurs in areas where certain landscape features may indicate the presence of Aboriginal objects (the proposal occurs within the Pilliga forest).

The following scope of works was undertaken with the above factors in mind. The scope of this assessment has included a due diligence process consisting of:

Desktop Study

- Conduct relevant register searches, such as the AHIMS database
- Review relevant background environmental research
- Review the existing framework and landform model set out in the Aboriginal Cultural Heritage Assessment (after Purcell 2002).
- Assess the integrity of the land with regard to current and previous land use and how that might affect the archaeological potential of the project area
- Provide an assessment of the archaeological potential of the project area

Field Investigation

- Undertake archaeological investigations across the proposed project area consistent with the ***Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW*** to identify Aboriginal places and objects protected under the NPW Act
- Where appropriate, identify areas of potential archaeological deposit where Aboriginal objects may occur in a subsurface context and may not be visible on the surface
- Detailed recording of identified Aboriginal objects and places

Reporting

- Preparation of report in accordance with OEH guidelines describing the results of the investigation and processes above
- Preliminary Assessment of significance for identified Aboriginal places and objects (as appropriate)
- Provide appropriate recommendations regarding the management of Aboriginal places and objects including requirements for further works and or AHIPs
- Prepare detailed mapping as necessary identifying the location of the Aboriginal sites or sensitive areas of high potential
- Preparation of AHIMS site cards for any new sites discovered

REGIONAL ARCHAEOLGOCAL STUDIES

Purcell (2001) undertook an Aboriginal site survey of the Pilliga State Forests, including the current study area and areas now reserved as Pilliga National Park and the East and West State Conservation Areas.

The object of the study was to distinguish the pattern of site distribution and the extent of Aboriginal land-use across a variety of landforms. To this end, it utilised a landscape sampling methodology to effectively cover the large study area. These landforms were identified and mapped using a geomorphological study and 13 separate landform categories were identified within the Pilliga State Forest. These landforms were grouped into two classes: alluvium and elevated.

The survey program recorded a total of 145 sites across the Pilliga. Purcell (2001) found that the majority of all recorded sites were located with the alluvial group landforms, with only roughly a fifth occurring in the elevated group landforms. Aboriginal sites were more densely distributed in the alluvial group landforms and were particularly associated with water sources such as intermittent creeks, drainage lines, depressions, and chains of ponds. Broad sandy banks along major creeks were also noted to have the potential to contain burials.

In elevated group landforms, sites were far more sparsely distributed, but still associated most commonly with water sources. Overall, approximately 90% of sites recorded within the Pilliga State Forest during this survey were located within 200-300m of water (Purcell, 2001).

SURVEY AND RESULTS

A total of 39.6 kilometres of survey were conducted for the proposed fence line and operations base. The survey traversed 100% of the linear length of the proposed fence line was conducted with representatives of the Pilliga and Wee Waa Local Aboriginal Land Council
The survey located three Aboriginal objects or sites occurring at two locations within the project area and within proximity to the proposed fence line. Aboriginal sites located included

a single grindstone fragment and two cultural modified trees. No specific areas of Potential Archaeological Deposit (PAD) were identified or discernible.

CONCLUSIONS

All of the sites located during this survey were found to occur within the Alluvial Landforms group and this tends to support the findings of Purcell (2001). Two (PF1 & 2, 66%) of the three sites occurred within the Modern Holocene channels & floodplains landform. This result is pronounced given survey of this landform unit represented only 11.9% of the total current survey. The remaining site (the historic scar tree) occurred within the Alluvium 2: Sequences of Terraces / alluvial plains landform. Survey of this landform unit represented 53.3 % of the total current survey.

The findings of Purcell (2001) provide the predictive framework for assessing the archaeological sensitivity of the Pilliga landscape. This allows an understanding to be reached about whether a given landform is *likely* to contain Aboriginal objects or sites. Using the findings of Purcell (2001), the ratio of site distribution for landforms has been applied to the current proposal and associated landforms to understand the potential to harm Aboriginal objects. Our analysis shows that two landforms were assessed as having a moderate to high potential to contain Aboriginal sites, which combined represent only 13.7% of the proposal area. These landforms have been subject to intensive survey as part of the current study and were found to contain two of the three sites located during this survey.

MANAGEMENT RECOMMENDATIONS

The following management recommendations are based on the above conclusions and are in accordance with Step 4 of the *Due Diligence Code* (2010:13). Step 4 states that where either desktop assessment or visual inspection indicates that there are (or are likely to be) Aboriginal objects in the area of the proposed activity, more detailed investigation and impact assessment will be required.

Where the desktop assessment or visual inspection does not indicate that there are (or are likely to be) Aboriginal objects, you can proceed with caution without an AHIP application.

On the basis of this assessment for Aboriginal objects and their protection under the *NSW National Parks and Wildlife Act* it is recommended that:

1. This proposal does not require any further assessment relevant to Aboriginal sites or objects protected under the *NSW National Parks and Wildlife Act.* Areas assessed as having a moderate to high potential, (or *likely*) to contain Aboriginal sites or objects have been subject to intensive archaeological survey as part of this study. The remainder of the proposal area is assessed as having a moderate, low to moderate or low potential to

contain Aboriginal sites or objects. It has also been subject to intensive archaeological survey. No further survey or assessment is therefore required.

2. All of the sites (PF 1 – 3) located during this survey are approximately 15 metres from the proposed fence line and should be avoided during the works. All of these sites have been flagged and visited by AWC personnel to understand their relationship to the proposal. AWC should implement appropriate management strategies to ensure these places are not inadvertently disturbed and appropriately managed during the construction and operation of the project. Management strategies discussed with LALC representatives in the field included temporary fencing or flagging during high risk activities. The location of these sites and management buffers should also be clearly identified on relevant construction plans. The development and implementation of management strategies should include further consultation with Aboriginal representatives as appropriate.

3. On the provision of Recommendation 2, no Aboriginal Heritage Impact Permit (AHIP) or supporting Aboriginal Cultural Heritage Assessment (ACHA) is required to undertake the proposed works.

4. None of the AHIMS Sites located within the immediate vicinity of the proposal will be impacted by the proposed works and therefore no AHIP or supporting ACHA is required to undertake the proposed works.

5. AWC and their contractors are aware that in the event that Aboriginal objects are discovered during the proposed works, all works in that area should cease and the AWC should contact the Office of Environment and Heritage, an Aboriginal LALC representative or a qualified archaeologist to seek some determination of the discovery and how to proceed.

6. In the unlikely event that skeletal remains are discovered during earthworks, all works should cease and protocols consistent with Requirement 25 in the *Code of Practise for Archaeological Investigation of Aboriginal Objects in NSW* be implemented.

While the undertaking of this due diligence assessment acts as a defence against harming or disturbing Aboriginal objects without an AHIP, the undertaking of this assessment alone does not negate the need for an AHIP should Aboriginal objects be disturbed.

Investigations for an AHIP require preparation of an ACHA and must also be supported by Aboriginal consultation in accordance with the process outlined in the *Aboriginal cultural heritage consultation requirements for proponents.*

1.0 INTRODUCTION AND OBJECTIVES

The NSW Government and Australian Wildlife Conservancy (AWC) have signed an historic Extinct Mammal Agreement (EMA) under which AWC will deliver scientific and land management services in the Pilliga State Conservation Area (SCA). The project area is located within the northern portion of the Pilliga SCA around 46km southwest of Narrabri and within the Narrabri Shire (**Figure 1**).

The EMA ("A project to reintroduce locally extinct mammals", Agreement number: OEH – 677 -2014) gives effect to a commitment under the NSW Government's Saving our Species policy. Central to the EMA is a requirement for AWC, on behalf of the NSW Government, to establish a large feral predator-free (fenced) area into which mammal species listed as extinct in NSW will be reintroduced.

EnviroKey Pty Ltd (EnviroKey) has been engaged by AWC to prepare a Review of Environmental Factors (REF) for the proposed construction and operation of the conservation fencing and associated infrastructure This report references information contained within that REF.

AWC have engaged On Site Cultural Heritage Management Pty Ltd (On Site CHM) to undertake and prepare an Aboriginal heritage assessment consistent with the requirements of the *Due Diligence Code of Practice for the Protection of Aboriginal Objects* and provide advice about the potential of the proposal to *harm* Aboriginal places and objects pursuant to the *National Parks and Wildlife Act 1974.*

1.1 OBJECTIVES OF THE ASSESSMENT

The objectives of this assessment are:

- Conduct an Aboriginal heritage investigation and provide specialist advice about the potential of the proposal to *harm* Aboriginal objects consistent with the requirements of the *Due Diligence Code of Practice for the Protection of Aboriginal Objects*
- Prepare a report consistent with the requirements under the *National Parks and Wildlife Act 1974*, that provides recommendations about the management of Aboriginal places and objects that may be affected by the proposal.

This advice will determine whether the proposal has the potential to *harm* Aboriginal objects.

This assessment of harm will be conducted within the parameters of the comprehensive existing Aboriginal Cultural Heritage Assessment for the Brigalow Belt South Bioregion (Purcell 2001) which covers the Pilliga SCA.

The assessment of Pilliga State Forests was carried out to determine areas of Aboriginal cultural sensitivity, including least sensitive areas. Landforms were identified and mapped by geomorphological investigation and sampled as part of a field survey. Twelve landform categories were identified in the Pilliga State Forest. Aboriginal sites occurred with greater frequency in association with alluvium landforms which are dominated by creeks, chains of ponds, flood plains, swamps and creek terraces.

The current study and archaeological survey across the landscape will interpret the results against this model.

1.2 PROJECT DESCRIPTION

According to the REF (EnviroKey 2017:2), the proposal would include the following components:

- The construction of a 32.1 kilometre feral predator-proof fence enclosing an area of 5,822 hectares in the Pilliga SCA. The conservation fence will require a 12 - 15 metre wide track to be cleared (up to 6 - 7.5 metre wide on each side of the fence), resulting in the removal of up to 48 hectares of native vegetation.
- Management of this area including the removal of feral animals, the establishment of a network of internal tracks and the implementation of some changes to fire management in relation to the area.
- The reintroduction of at least six threatened mammal species: Greater Bilby, Western Barred Bandicoot, Bridled Nail tail Wallaby, Brush-tailed Bettong, Plains Mouse and Western Quoll between March 2019 and April 2021.
- The establishment of an associated operations base (housing, infrastructure, services, etc) in the Pilliga SCA, with a footprint of approximately 13.5 hectares outside the feral-free area.
- Establishment of a new management trail about 8.2 kilometres long.

Figures 2 and **3** provide details of the location and specifications of the different elements of the proposed works.

Figure 1: Regional setting of the project area (EnviroKey 2017:3)

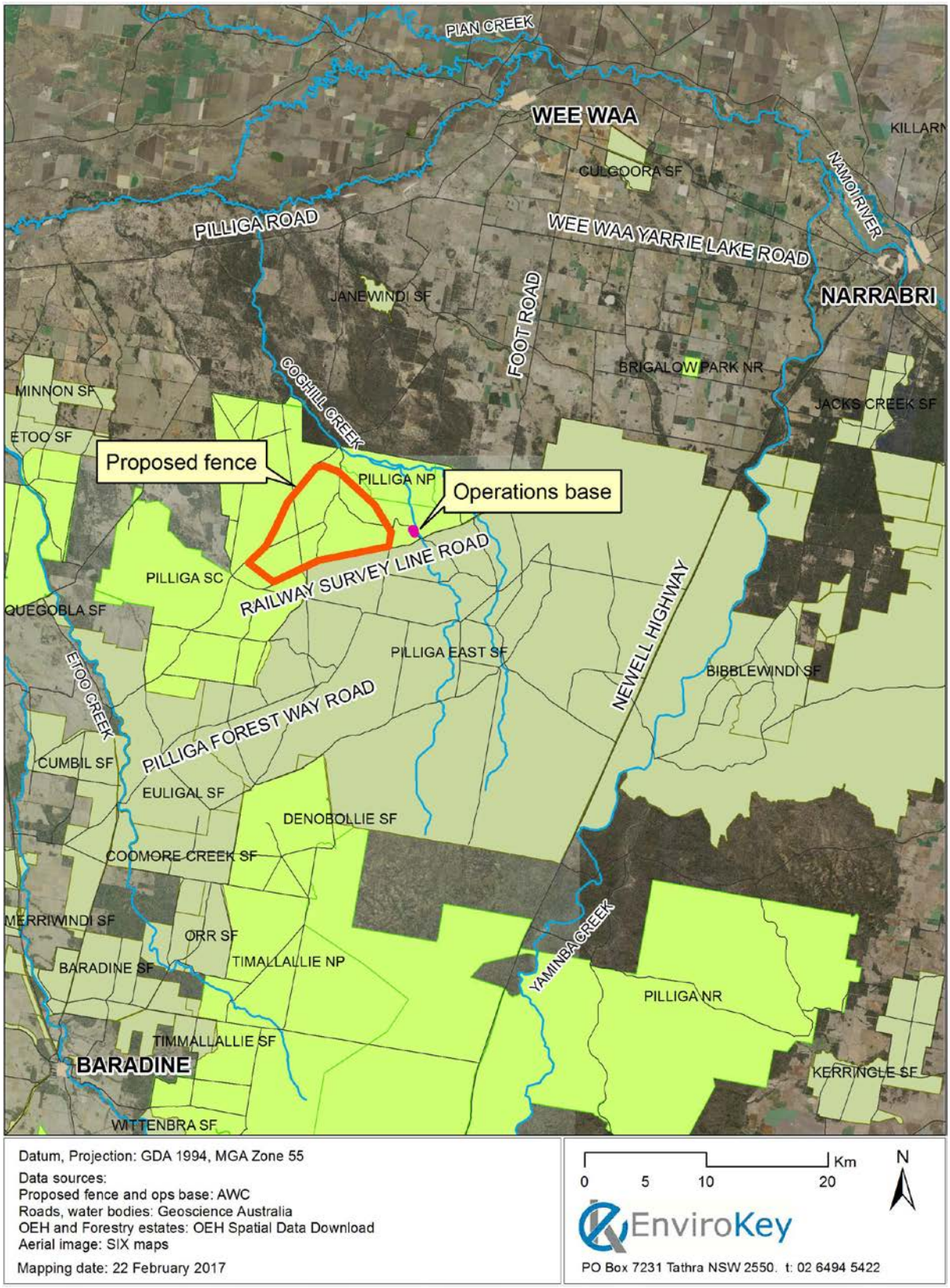


Figure 2: Location of the proposal (conservation fencing and operations base) (EnviroKey 2017:4)

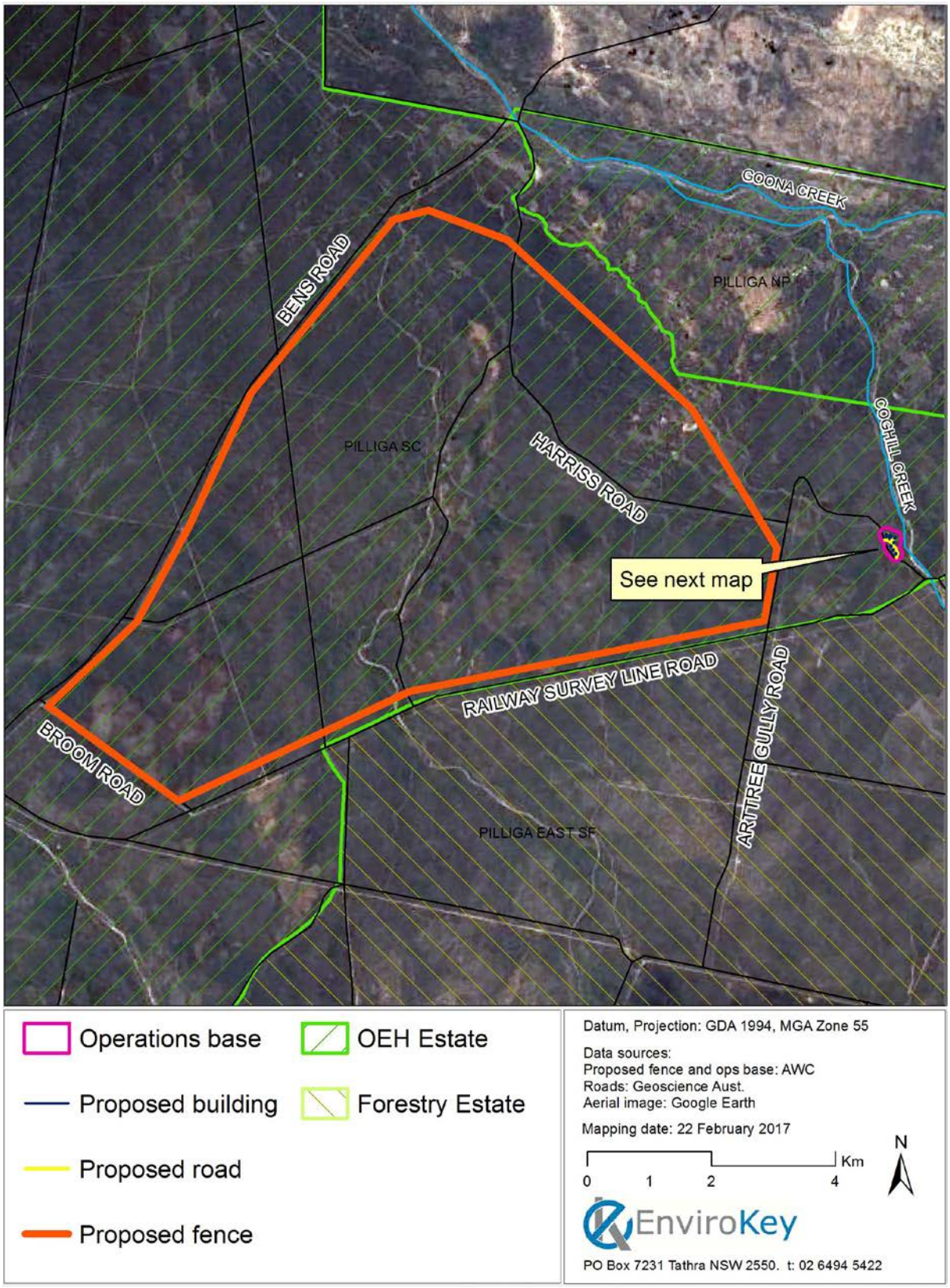
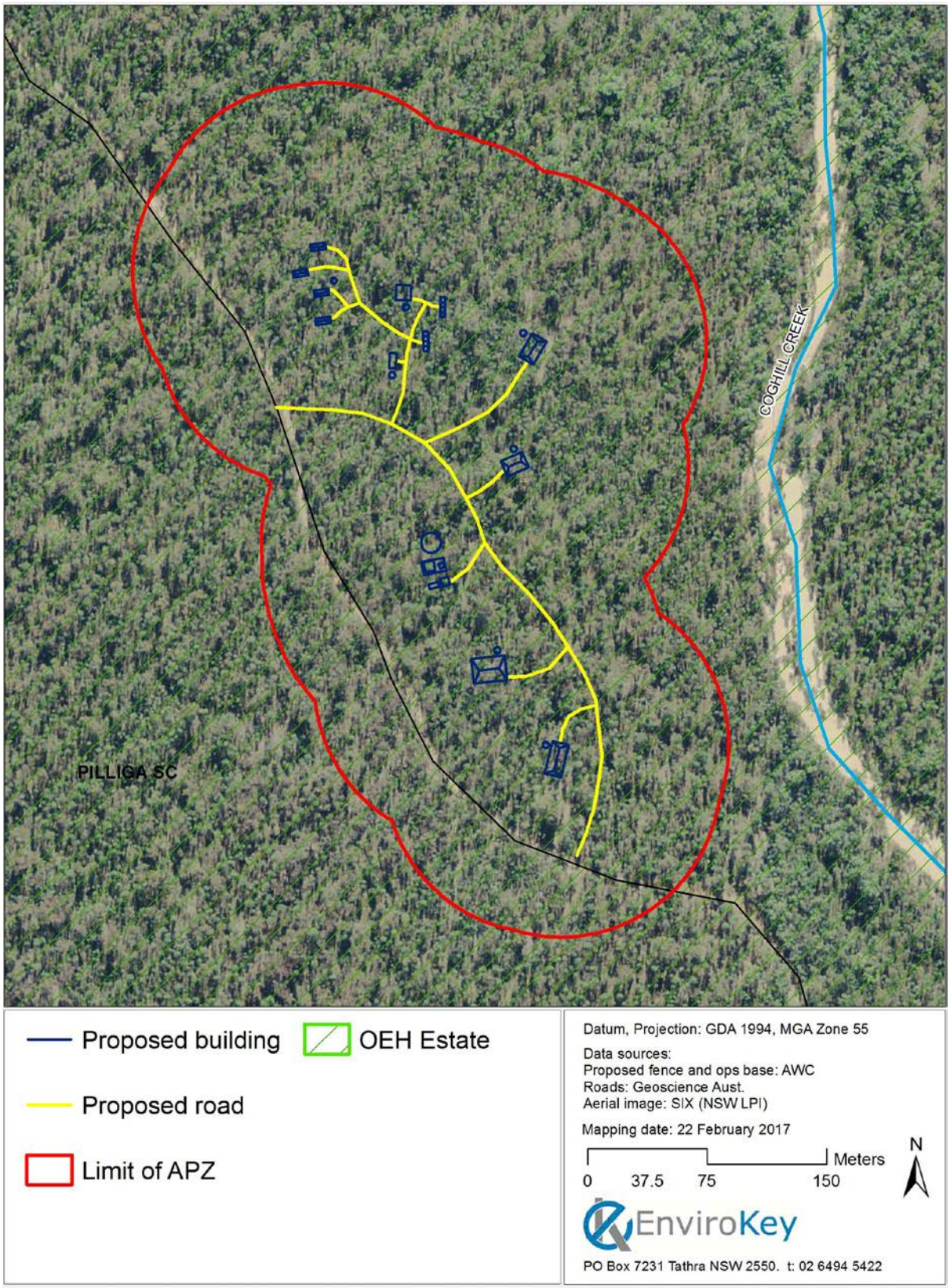


Figure 3: Detail of the proposed works in the operations base study area (EnviroKey 2017:5)



2.0 PROTECTION OF ABORIGINAL HERITAGE

2.1 STATUTORY FRAMEWORK FOR THE PROTECTION OF ABORIGINAL HERITAGE

Primary protection of Aboriginal heritage in NSW is established at the State level under the *NSW National Parks and Wildlife Act 1974* (NPW Act) and to a lesser extent the *NSW Heritage Act 1977*. The Director General of the Office of Environment and Heritage NSW (OEH and formerly DECCW) is responsible for protecting and conserving Aboriginal objects and declared Aboriginal places in NSW.

Aboriginal objects are defined in the NPW Act as any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises NSW, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.

Aboriginal places are defined in the NPW Act as a place declared under s.84 of the NPW Act that, in the opinion of the Minister, is or was of special significance to Aboriginal culture. Such areas need not contain any Aboriginal objects but can only be gazetted with the approval of the Minister.

Part 6 of the NPW Act provides specific protection for Aboriginal objects and declared Aboriginal places by establishing offences of ***harm***. *Harm* is defined to mean destroying, defacing, damaging or moving an object from the land. There are a number of defences and exemptions to the offence of harming an Aboriginal object or place.

Aboriginal heritage may also be protected under Commonwealth and Local Government legislation being the *Environment Protection and Biodiversity Conservation Act* and *Local Environmental Plans* respectively.

2.2 AVOIDING HARM TO ABORIGINAL OBJECTS

A number of policies or guidelines are relevant to assist proponents in avoiding *harming* Aboriginal objects in NSW. These policies are listed below in order of their consideration within a planning context or assessment of a given proposal or activity. From this perspective, the Due Diligence Code represents the minimum level of formal assessment prescribed in policy:

- *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (DECCW, 2010)*
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (DECCW, 2010)*
- *Aboriginal cultural heritage consultation requirements for proponents (DECCW, 2010)*
- *Guide to investigation, assessing and reporting on Aboriginal cultural heritage in NSW.*

The *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* sets out reasonable and practicable steps which individuals and organisations need to take in order to:

- Identify whether or not Aboriginal objects are, or are likely to be, present in an area;
- Determine whether or not their activities are likely to harm Aboriginal objects (if present); and
- Determine whether further assessment or an Aboriginal Heritage Impact Permit (AHIP) application is required.

Section 8 of the Due Diligence Code provides a generic due diligence process to be addressed by proponents to determine the above. The basic sequential steps of the due diligence process require the proponent or their agent to consider the proposed activity or proposal and review whether:

1. The activity or proposal will disturb the ground surface;
2. The AHIMS database or other relevant databases record previously identified places;
3. The activity or proposal occurs in areas where certain landscape features may indicate the presence of Aboriginal objects (on land that is not disturbed);
4. Harm to Aboriginal objects or disturbance of the landscape feature can be avoided;
5. Desktop assessment and visual assessment is required; and
6. Further investigation and impact assessment is required.

Several of these steps will commonly require more specialised assessment and interpretation, but especially Step 3 which is further discussed below.

The Due Diligence Code (2010:12) discusses the common association between certain landscape features and the presence of Aboriginal objects as a result of Aboriginal people's use of those features. The Code defines the following landscape features (on land that is not disturbed land) and distance thresholds as indicating the likely presence of Aboriginal objects:

- within 200m of waters, or
- located within a sand dune system, or
- located on a ridge top, ridge line or headland, or
- located within 200m below or above a cliff face, or
- within 20m of or in a cave, rock shelter, or a cave mouth.

Consequently, if the proposal or activity is within the defined proximity thresholds to one of these landscape features (on land that is not disturbed) then the code considers that there is a probability that Aboriginal objects will occur within the area or are *likely* to occur.

Due diligence may also be addressed through other forms of assessment providing they meet the basic requirements set out above. A REF or other assessment under the *Environmental Planning and Assessment Act 1979* (EP&A Act) may also meet the requirements of the Due Diligence Code of Practice.

While the undertaking of a due diligence process or equal assessment process acts as a defence against harming or disturbing Aboriginal objects without an AHIP, the undertaking of these activities does not negate the need for an AHIP should Aboriginal objects be disturbed.

An application for an AHIP must be supported by a consultation process set out in the ***Aboriginal cultural heritage consultation requirements for proponents 2010*** and an Aboriginal Cultural Heritage assessment that meets the *Guide to investigation, assessing and reporting on Aboriginal Cultural heritage in NSW.*

The ***Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW*** also provides standards and methods for how this investigation has been conducted and reported.

2.3 ABORIGINAL CONSULTATION

Section 5 of the *Due Diligence Code* states that consultation with the Aboriginal community is not a formal requirement of the due diligence process. However, proponents may wish to consider undertaking consultation if it will assist in informing decision-making (Due Diligence COP 2010: 3).

AWC is undertaking Aboriginal consultation for this project. Following direction from AWC On Site CHM undertook consultation with the Wee Waa and Pilliga Local Aboriginal Land Councils (LALC) as part of this assessment. Representatives from both Land Councils participated in the fieldwork survey undertaken as part of this assessment. These parties were also provided with a draft of this report for review and comment.

A Native Title search of the project area was also undertaken. The results of this Native Title search are included in **Appendix 1.** AWC should also consult with the identified parties.

2.4 MANAGEMENT ARRANGEMENTS OF PILLIGA NATIONAL PARK AND SCA

Pilliga National Park and Pilliga SCA were reserved on the 1 December 2005 with the former being 11,120 hectares in size and the latter 33,386 hectares. Prior to 2005 these areas were start forest tenure. Pilliga National Park is separated into two portions 21km apart with the western block being known as the Etoo section (formerly part of Etoo and Quegobla State Forests) and the eastern block as the Giligai section. This block is contiguous with the Pilliga SCA (**Figure 2**). Formerly it was managed as the Giligai Flora Reserve and excluded from logging. The project area is located within the Pilliga SCA to the southwest of the Gilgai section of Pilliga National Park.

The Giligai section of Pilliga National Park and the Pilliga SCA are defined and managed differently by NPWS and OEH under the NPW Act. Under this Act Pilliga National Park is a Community Conservation Area Zone 1 and Pilliga SCA a Community Conservation Area Zone 2.

These two zones area defined in the Statement of Managerial Intent (SMI) for Pilliga National Park as below (OEH, 2015:1-2). This SMI is currently being updated by OEH with a draft having been publically exhibited between the 7 July and 7 August 2017 (OEH NPWS, 2017).

Zone 1 community conservation areas are reserved as national parks under the NPW Act to protect and conserve areas containing outstanding or representative ecosystems, natural or cultural features or landscapes, or phenomena that provide opportunities for public appreciation, inspiration, and sustainable visitor or tourist use and enjoyment. Under the NPW Act (section 30E), Zone 1 community conservation areas are managed to:

- conserve biodiversity, maintain ecosystem functions, protect geological and geomorphological features and natural phenomena and maintain natural landscapes;
- conserve places, objects, features and landscapes of cultural value;
- protect the ecological integrity of one or more ecosystems for present and future generations;
- promote public appreciation and understanding of the park's natural and cultural values;
- provide for sustainable visitor or tourist use and enjoyment that is compatible with conservation of natural and cultural values;
- provide for sustainable use (including adaptive reuse) of any buildings or structures or modified natural areas having regard to conservation of natural and cultural values; and
- provide for appropriate research and monitoring.

The primary purpose of Zone 1 community conservation areas is to conserve nature and cultural heritage. In doing so, opportunities are provided for appropriate and sustainable recreation.

Zone 3 community conservation areas are reserved as state conservation areas under the NPW Act to protect and conserve areas that:

- contain significant or representative ecosystems, landforms or natural phenomena or places of cultural significance;
- are capable of providing opportunities for sustainable visitor or tourist use and enjoyment, the sustainable use of buildings and structures, or research; and
- are capable of providing opportunities for uses permitted under other provisions of the NPW Act.

Under the NPW Act (section 30G), Zone 3 community conservation areas are managed to:

- conserve biodiversity, maintain ecosystem functions, protect natural phenomena and maintain natural landscapes;
- conserve places, objects and features of cultural value;
- provide for the undertaking of uses permitted under other provisions of the NPW Act (including uses permitted under section 47J such as mineral exploration and mining),

having regard to the conservation of the natural and cultural values of the state conservation area;

- provide for sustainable visitor or tourist use and enjoyment that is compatible with conservation of the area's natural and cultural values and with uses permitted in the area;
- provide for sustainable use (including adaptive reuse) of any buildings or structures or modified natural areas having regard to conservation of the area's natural and cultural values and with other uses permitted in the area; and
- provide for appropriate research and monitoring.

Land is reserved as a state conservation area where mineral values preclude reservation as another category. The NPW Act requires a review of the classification of state conservation areas every five years in consultation with the Minister administering the Mining Act 1992.

The Draft SMI recognises the Pilliga Outwash to be the traditional country of the Gamilaroi People (also known as the Gomeroi and Gamilaraay People). It outlines three objectives for Aboriginal culture and heritage within the Pilliga Outwash Parks (OEH NPWS, 2017:32):

- Understanding of Aboriginal cultural heritage is improved.
- Gamilaroi Aboriginal people have ongoing connection with Country and opportunities to participate in management of Aboriginal cultural heritage in the parks.
- Aboriginal cultural heritage is protected and impacts minimised.

These three objectives are to be met by three management directions (OEH NPWS, 2017:34):

- Aboriginal cultural heritage values will be investigated as part of the prior planning for works proposed in the parks.
- Aboriginal people will be consulted and invited to be involved in managing Aboriginal sites and other Aboriginal cultural heritage values in the parks.
- NPWS will support initiatives aimed at allowing members of the Aboriginal community to access Country for cultural purposes.

The Draft SMI also outlines two objectives for Shared Cultural Heritage which incorporates post-contact Aboriginal cultural heritage (OEH NPWS, 2017:34):

1. Significance historic features are appropriately conserved and managed.
2. Historic heritage sites are recorded and interpreted where appropriate.

To meet these two objectives, four management directions are outlined (OEH NPWS, 2017:37):

1. Shared heritage items will be maintained and managed in accordance with their assessed level of significance.
2. NPWS will support the listing of sections of the Pilliga Dog Proof Fence on the State Heritage Register.

3. Non-intrusive works may be undertaken where necessary to protect cultural heritage items from further deterioration, ensure the safety of visitors, protect wildlife or prevent damage to park values.
4. Interpretation materials will be developed to contribute to visitor understanding of the past history of the parks including the Pilliga Dog Proof Fence and other significant shared historic items.

2.4.1 Aboriginal Cultural Values

The current Draft SMI for the Pilliga Outwash Parks recognises this area to be the traditional Country of the Gamilaroi (Gomeroi/Gamilaraay) People. Pilliga National Park and Pilliga SCA are located within the administrative areas of Wee Waa, Narrabri, and Pilliga LALCs. The parks are currently part of an extensive Native Title Claim by the Gomeroi People (NC11/6-1) (OEH, 2014:2). The project area crosses lands within both the Wee Waa and Pilliga LALCs. A search of the Native Title Register is provided at **Appendix 1**.

The SMI for Pilliga National Park and Pilliga SCA defines these areas as having the following Aboriginal cultural values (OEH, 2014:4):

> *The parks of the Pilliga forest are of spiritual significance and contemporary importance to the Aboriginal community. A variety of Aboriginal sites are recorded within the parks mainly associated with areas of water (e.g. rivers and creeks) and in low-lying country where suitable trees and camp sites are present. Aboriginal sites recorded include artefacts in open scatters, marked trees, grinding grooves, habitation structures and grave sites.*

Key management directions identified in the SMI that are relevant to these Aboriginal cultural values, or heritage management in general, are (OEH, 2014:5-6):

- Further research into the natural and cultural values of the parks will continue to be supported and encouraged in consultation with the Aboriginal community and the wider local community, to promote use of the parks for cultural activities.
- Where resources permit, known sites will be assessed to determine their historic significance and develop conservation strategies.
- Law enforcement programs will be implemented to discourage illegal activities within the parks.
- The Dog-proof Fence Conservation Management Strategy will be implemented, aiming to conserve example sections of the fence.
- All management activities will be preceded by the preparation of an environmental assessment or heritage assessment where this is a requirement of NPWS policy or legislation.

- Non-intrusive works may be undertaken where necessary to protect cultural heritage items from further deterioration, to ensure the safety of visitors, to protect wildlife or to prevent damage to park assets.

The Draft SMI (OEH NPWS, 2017:32) outlines that the Pilliga Outwash Parks has the following broad cultural significance for Aboriginal people:

> *Aboriginal communities have an association and connection to the land. The land, water, plants and animals within a landscape are central to Aboriginal spirituality and contribute to Aboriginal identity. Aboriginal communities associate natural resources with the use and enjoyment of foods and medicines, caring for the land, passing on cultural knowledge, kinship systems and strengthening social bonds. Aboriginal heritage and connection to nature are inseparable and need to be managed in an integrated manner across the landscape.*

Aboriginal people's use of the Pilliga Outwash was focussed on, and dictated to a point, by the availability of water in this relatively dry landscape. Aboriginal communities have noted that traditionally meeting places were always at water sources. Along the intermittently flowing streams of the Pilliga Outwash chains of ponds were places were water was available for prolonged periods. Wetlands and billabongs, where present, also provided a wealth of food resources for Aboriginal people due to the animal and plant life they fostered, as well as how they attracted larger mammals. Aboriginal occupation of different areas of the Pilliga Outwash was, therefore, dictated by water availability, but could extend for prolonged periods under favourable conditions (OEH NPWS, 2017:33).

The distribution of Aboriginal sites in the Pilliga Outwash parks reflects this use of the landscape. The most common sites, stone artefacts and modified trees, are concentrated along the course of ephemeral creeks, such as Etoo, Tinegie, Mollieroi, and Rocky Creeks in the north Pilliga of which the latter flows through the study area. Less common Aboriginal sites include grinding grooves, waterholes, early dwelling structures, and graves. All Aboriginal sites are highly values by the Gamilaroi People as physical evidence of their traditional use of their Country. NPWS recognise that not all known sites in the Pilliga Outwash parks have been formally recorded and that there is a high likelihood of additional sites being present (OEH NPWS, 2017:34).

3.0 SCOPE OF WORKS

This assessment is being conducted in accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW*.

3.1 RATIONALE

The requirement for a due diligence assessment of this proposal arises from the following factors outlined above in **Section 2.2**:

- The proposed works will disturb the ground surface (on land that is not disturbed land);
- The AHIMS database or other relevant databases record previously identified places near the proposal; and
- The activity or proposal occurs in areas where certain landscape features may indicate the presence of Aboriginal objects (the proposal occurs within the Pilliga forest).

The following scope of works was undertaken with the above factors in mind. The scope of this assessment has included a due diligence process consisting of:

Desktop Study

- Conduct relevant register searches, such as the AHIMS database
- Review relevant background environmental research
- Review the existing framework and landform model set out in the Aboriginal Cultural Heritage Assessment (after Purcell 2002).
- Assess the integrity of the land with regard to current and previous land use and how that might affect the archaeological potential of the project area
- Provide an assessment of the archaeological potential of the project area

Field Investigation

- Undertake archaeological investigations across the proposed project area consistent with the ***Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW*** to identify Aboriginal places and objects protected under the NPW Act
- Where appropriate, identify areas of potential archaeological deposit where Aboriginal objects may occur in a subsurface context and may not be visible on the surface
- Detailed recording of identified Aboriginal objects and places

Reporting

- Preparation of report in accordance with OEH guidelines describing the results of the investigation and processes above
- Preliminary Assessment of significance for identified Aboriginal places and objects (as appropriate)
- Provide appropriate recommendations regarding the management of Aboriginal places and objects including requirements for further works and or AHIPs

- Prepare detailed mapping as necessary identifying the location of the Aboriginal sites or sensitive areas of high potential
- Preparation of AHIMS site cards for any new sites discovered

4.0 LANDSCAPE CONTEXT

According to the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010: 8), the purpose of reviewing the landscape context is to assist in the determination or prediction of:

- the potential of the landscape, over time, to have accumulated and preserved objects;
- the ways Aboriginal people have used the landscape in the past, with reference to the presence of resource areas, surfaces for art, other focal points for activities and settlement, and
- the likely distribution of the material traces of Aboriginal land use based on the above.

Consideration of the landscape is essential to the definition and interpretation of Aboriginal land use across a landscape. The landscape will provide clues as to those areas of land that may have been more intensively used by Aboriginal people in the past, and also provide the context within which the material remains of past Aboriginal occupation may be preserved and detectable (DECCW 2010:8).

4.1 ENVIRONMENTAL DESCRIPTION OF PROJECT AREA

According to the landscape classification system described by Mitchell (2002) the project area falls within three landscapes: the Barradine Alluvial Plains, Barradine – Coghill Channels and Floodplains, and Coghill Alluvial Plains of the Pilliga outwash meso-ecosystem and Brigalow Belt South Bioregion (**Figure 4**).

Mitchell (2002a:14) describes a meso-ecosystem as groups of ecosystems representing larger natural entities based on topography and geology. A description of these landscapes after Mitchell (2002) is provided below.

4.1.1 Brigalow Belt South Bioregion – Pilliga Outwash Meso-Ecosystem

Baradine - Coghill Channels and Floodplains (Bcf)

Sandy incised channels and distributary streams on Quaternary alluvium in fans of Coghill and Baradine Creeks flowing from the sandstones of the Pilliga forest. General elevation 170 to 210m, local relief 10m. Deep texture-contrast soils with harsh clay subsoils, grey clay with gilgai and uniform deep yellow sands. Sediments and soils become finer down valley merging with the Coghill Alluvial Plains ecosystem. Gallery woodland dominated by river red gum (*Eucalyptus camaldulensis*) along the channels. Other species including; bimble box (*Eucalyptus populnea*), Pilliga box (*Eucalyptus pilligaensis*), Blakely's red gum (*Eucalyptus blakelyi*), white cypress pine (*Callitris glaucophylla*) and red ironbark (*Eucalyptus sideroxylon*) and occasional silver-leaved ironbark (*Eucalyptus melanophloia*).

Baradine Alluvial Floodplains (Bdp)

Similar to Baradine - Coghill Channels and Floodplains Ecosystem with slightly more western influence in the vegetation. Floors and channels on Quaternary alluvial fans derived from Jurassic quartz sandstone. Long shallow slopes of alluvial fans, broken by abandoned stream channels, patches of heavy grey clay and incised sandy bed streams. General elevation 280 to 160m, local relief 5 to 15m. Deep texture-contrast soils with harsh clay subsoils, grey clay with gilgai and linear strings of uniform deep yellow sands (sand monkeys). Limited areas of source bordering dune on the eastern side of the main streams. Sediments and soils become finer down fan merging with the Coghill Alluvial Plains ecosystem. Gallery woodland dominated by Baradine red gum (*Eucalyptus dealbata*) and river red gum (*Eucalyptus camaldulensis*) along the channels. Other species include; bimble box (*Eucalyptus populnea*), Pilliga box (*Eucalyptus pilligaensis*), Blakely's red gum (*Eucalyptus blakelyi*), white cypress pine (*Callitris glaucophylla*), red ironbark (*Eucalyptus sideroxylon*) and silver-leaved ironbark (*Eucalyptus melanophloia*). Belah (*Casuarina cristata*), yarran (*Acacia homalophylla*), budda (*Eremophila mitchellii*), wilga (*Geijera parviflora*), whitewood (*Atalaya hemiglauca*), warrior bush (*Apophyllum anomalum*) and rosewood (*Alectryon oleifolium*) on heavier soils.

Coghill Alluvial plains (Cap)

Distal parts of the Quaternary alluvial fans largely derived from Jurassic quartz sandstone on streams draining from the Pilliga forests. Long gentle slopes broken by sandy abandoned stream channels (sand monkeys), patches of heavy grey clay, and contemporary incised stream channels. General elevation 200 to 280m, local relief 5 to 9m. Deep texture-contrast soils with harsh clay subsoils, grey clay with gilgai. Open forest of white cypress pine (*Callitris glaucophylla*), bimble box (*Eucalyptus populnea*), Pilliga box (*Eucalyptus pilligaensis*), Blakely's red gum (*Eucalyptus blakelyi*), and red ironbark (*Eucalyptus sideroxylon*). Brown bloodwood (*Corymbia trachyphloia*) and grass trees (*Xanthorrhoea sp.*) on sand monkeys. Patches of bull oak (*Allocasuarina luehmannii*) or brigalow (*Acacia harpophylla*) on gilgai in heavy clay. Baradine red gum (*Eucalyptus dealbata*) and river red gum (*Eucalyptus camaldulensis*) in creek lines.

4.2 LANDFORMS OF THE PROJECT AREA

A total of 13 landforms were identified in the Pilliga State Forest during the Aboriginal Cultural Heritage Assessment and Field Survey.

The Pilliga group of low lying landforms include modern channels and floodplains, three varieties of terraces and alluvial plains, paleochannels, sand monkeys, claypans and gilgai. The grouped elevated landforms include colluvium, soil mantled slopes, rocky ground and aeolian sand sheets.

The classification systems differ slightly between the Stage 1 and 2 approaches. More detailed descriptions of each landform are included with the geomorphology report (Purcell 2001). The relevance of these landforms to this study is discussed in **Section 5.3.**

Figure 4: Mitchell Landscapes of the project area

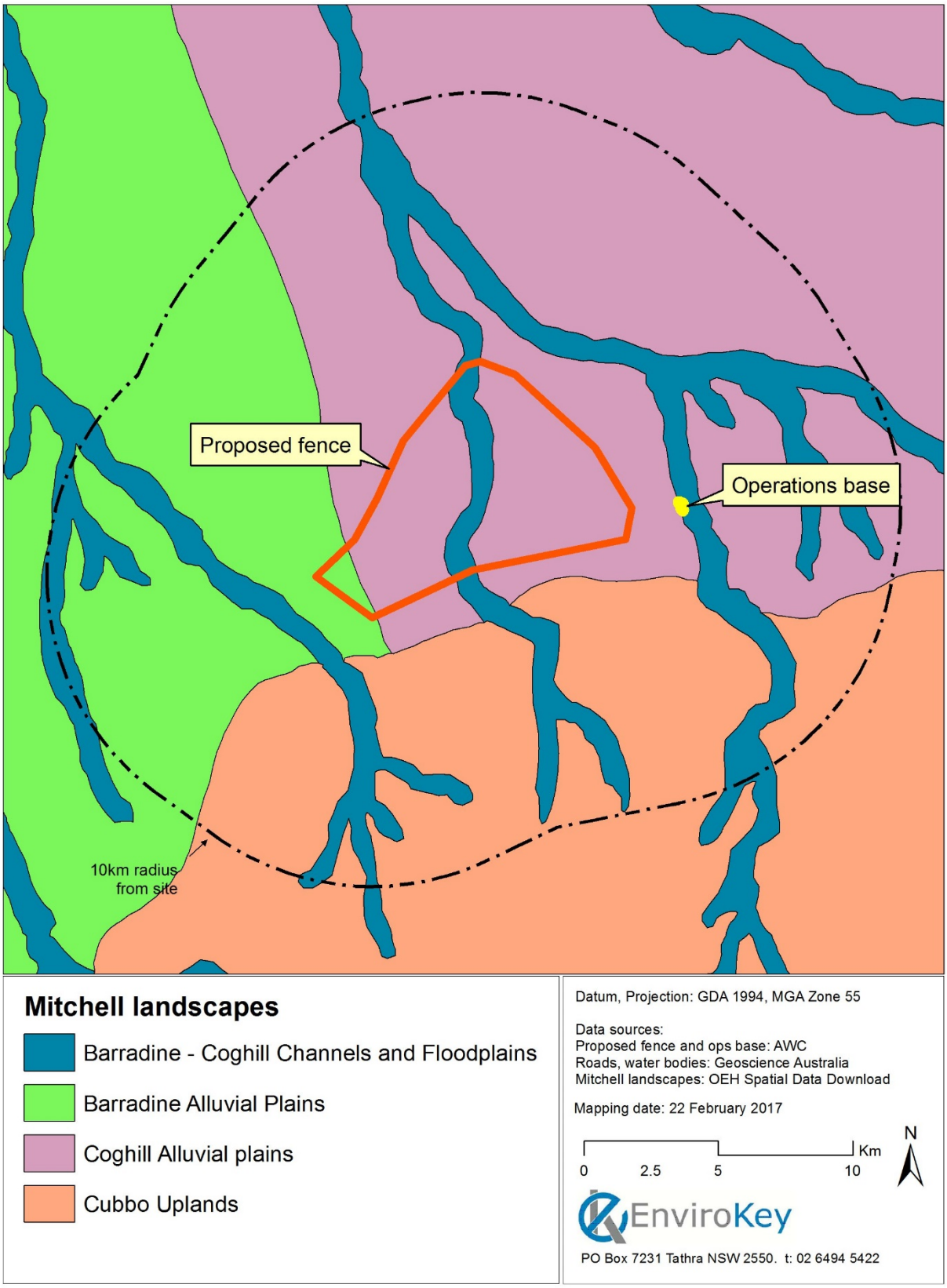
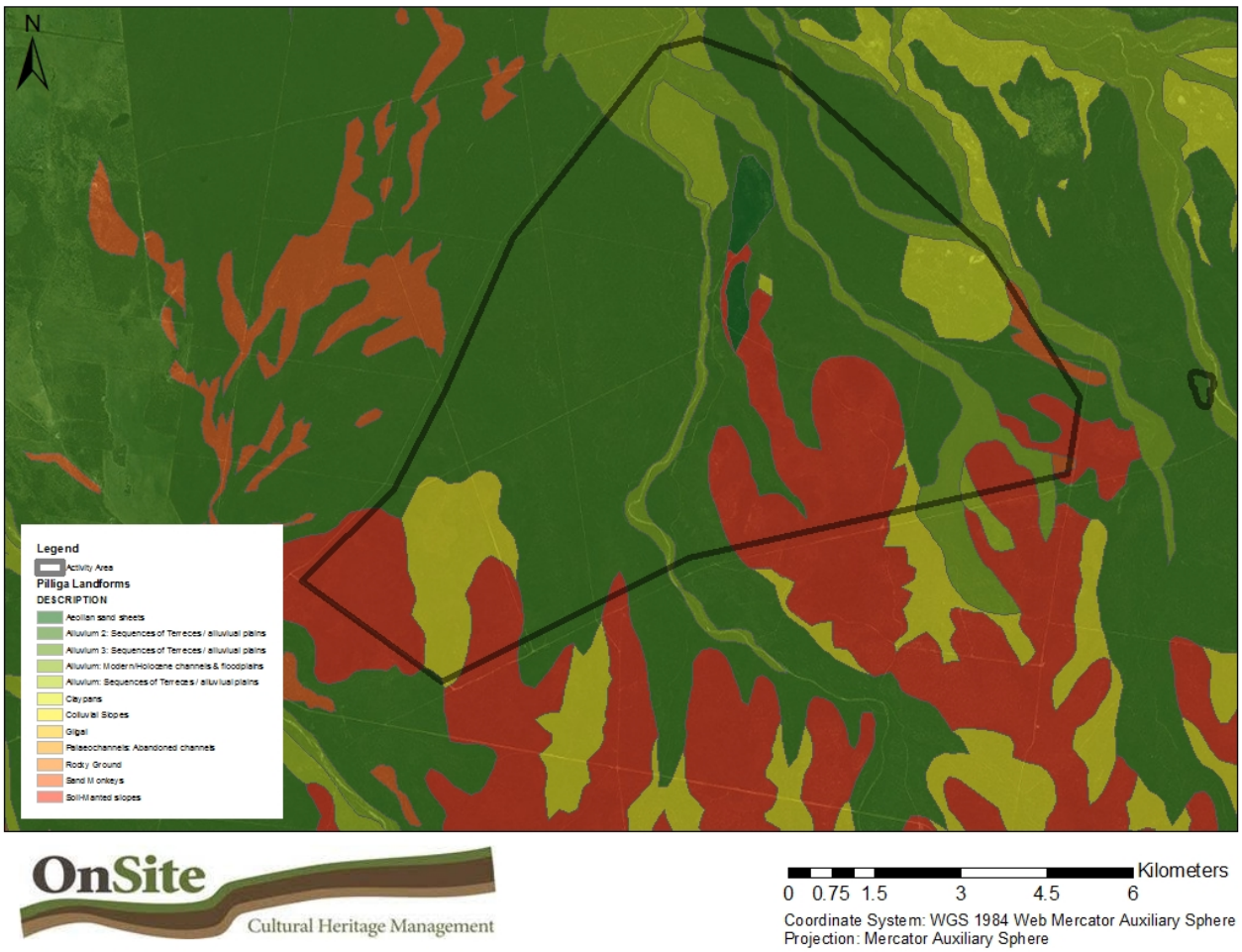


Figure 5: Landforms of the project area (after Purcell 2001)



4.3 GENERAL DESCRIPTION OF THE PROJECT AREA

The project area is part of the Pilliga forests which form the largest continuous extent of remnant vegetation in NSW, west of the Great Dividing Range. White Cypress Pine (*Callitris glaucophylla)* is the most widespread tree in the Pilliga forests. It is found in various associations (vegetation types) with other trees including Narrow-leaved Ironbark (*Eucalyptus creba)*, Bull Oak (*Allocasuarina luehmannii)*, several species of Red Gum (including Blakely's Red Gum (*Eucalyptus blakelyi)* and River Red Gum (*Eucalyptus camaldulensis*), Rough-barked Apple (*Angophora floribunda)*, Pilliga Box (*Eucalyptus pilligaensis)* and Poplar Box (*Eucalyptus populnea)*. To the east of the project area, Black Cypress Pine (*Callitris endlicheri)* becomes more common where it is often associated with heathy formations, including Brown Bloodwood (*Corymbia trachyphloia)* and Broad-leaved Ironbark (*Eucalyptus fibrosa)*. Broombush (*Melalueca spp.*) forms a distinctive, minor vegetation type in the north project area (EnviroKey, 2017:69).

The conservation fencing study area is crossed by several (second order) creeks of the Rocky Creek catchment which flows to the north into Coghill Creek. The operations base study area is located on the upper catchment of Coghill Creek which flows into the Namoi River approximately 24km to the north.

4.4 LAND-USE HISTORY

The first recorded European exploration of the Pilliga region occurred during Oxley and Evans journey from the Macquarie River to Port Macquarie in 1818. They arrived at Mount Bullaway on 8 August 1818 and from this vantage point observed the Warrumbungle Range and Pilliga Scrub. Over the following weeks they struggled across the Pilliga as they headed east towards the coast. This party was followed by a number of private exploration parties by pastoralists or their agents over the following years travelling north from Bathurst and east from the Hunter Valley. This resulted in the gradual settlement of the Pilliga/Coonabarabran area during the 1820s and 1830s by pastoralists and squatters seeking new lands and their own personal fortunes (Christison, 2006:29-30, 37).

Accounts by the early European settlers of the region detail that Aboriginal land management practices had created an open scattered woodland environment across the Pilliga region. This was also partly the result of the presence of a seed eating Kangaroo rat. Early European stories recount that it was possibly to gallop across the Pilliga on moonlight nights. The arrival of sheep and cattle across the Pilliga region during the 1830s resulted in rapid and considerable environmental change to this open woodland environment. This stopped the tradition of regular burning off by Aboriginal people and sheep and cattle quickly completely consumed many grasses, displacing the indigenous seed eating kangaroo rats, resulting in changes to the soil structure and chemistry. This provided the perfect conditions for the re-colonisation of the area by Eucalyptus and Cypress which had previously been confined to the rocky outcrops and ridges. By the 1880s the Pilliga had become a pine forest with ironbark beginning to reassert itself and grazing had been mostly driven out. This process was completed by the arrival of the rabbit plague across the region in 1891 (Christison, 2006:6-7, 30-31).

During the period from the 1840s to the 1860s it is recorded that a syndicate of Jewish businessmen held four pastoral runs across the Pilliga region. This syndicate acted as absentee owners, employing resident overseers to manage their runs and livestock of around 6,500 sheep. Aboriginal people are known to have been employed (or illegally forced into service) as a reliable workforce on local pastoral stations and runs throughout this period. Remnant Aboriginal groups may have also used remote parts of the Pilliga Forest for occupation once they were pushed to the fringes of their former territories by the European invasion and settlement of the area (Christison, 2006:14, 58).

The reforestation of the Pilliga region encouraged the growth of a timber industry in the area from the 1870s onwards. Initially saw milling was conducted using pit-sawing techniques, but with the expansion of the industry and advances in technology steam powered sawmills were established both within the forest and on its fringes. The operation of the forestry industry resulted in the development of small, somewhat transient, but thriving, communities in the Pilliga that moved as sawmilling operations shifted to different areas. The products created by these operations included house frames, weatherboard cladding, and floorboards from

Cypress and railway sleepers, fence posts, and bridge components from hardwoods. They were railed out of the region from train stations at Gwabegar, Kenebri, Baradine, Coonabarabran, and Ulamambri. The Pilliga sleeper cutting industry was encouraged by the development of this railway system in the 1920s and 1930s. It later had another boom period in the 1950s. The Pilliga sleeper cutters lived a transient existence within the forest as they travelled around, carrying minimal supplies and foraging and hunting as they went, and establishing short-term camps to harvest the hardwood resources (Christison, 2006:31-32, 46).

Aboriginal people played an important role in the Pilliga forestry industry. From contact up until the 1950s they continued to live, camp, and travel in the forest in association with this industry. They were a constant source of labour and knowledge for the timber mills in the region and, as such, have contributed significantly to the economic development of the region. For local Aboriginal people, the Pilliga is a culturally highly significant place that provided a means to make a living or survive using traditional bush skills, while also maintaining cultural connections to the land and passing on traditional skills, knowledge, and stories. During this period Government policy was aimed at discouraging Aboriginal people from speaking their language or continuing traditional cultural practices. Timber cutting allowed them to resist these policies in the seclusion of the forest making it a place of refuge, especially during the period of the stolen generations. Wooleybah Sawmill, located in the Pilliga West state forest, was an important place where a local Aboriginal community was located from the 1930s to when the mill closed in the late 1990s. This mill was the unusual location of a community of Aboriginal and non-Aboriginal families who lived and worked together in a harmonious manner. It is highly likely that other mills within the Pilliga also employed Aboriginal people, or were associated with them, including those possibly in the study area (Rocky Creek Mill). Today, forests are valued by Aboriginal people as places where social, economic, and spiritual activities took place in the traditional, historic, and contemporary time periods and as areas where skills, knowledge, and traditions can be handed down (Wooleybah Sawmill and Settlement SHR listing).

In 1907 the Pilliga Scrub was dedicated to forestry with the establishment of the Pilliga East Block and Pilliga West Block. From this time onwards the management of the forest was increasing under the purview of government commissions or departments, especially from 1916 when the Forestry Commission was established. Soon afterwards a survey was undertaken to facilitate access to the various forest resources. In the Pilliga West Forest (where the best pine resources where) this resulted in the establishment of a series of four kilometre square grids and the development of roads along the associated lines. Assumedly a similar, but less regular, system was established in the Pilliga East Forest to access its resources based on the modern arrangement of roads in the area. Baradine, to the northwest of Coonabarabran, became the centre for the forestry industry and in 1937 a Forestry Office was established there (Christison, 2006:31).

The 1930s were a period of improvement in the forest management of the Pilliga associated with the tenure of Ben Harris as District Forester. This resulted in the construction of ground tanks to provide water sources across the forest for working animals, as well as lookout towers to spot fires during the summer. The period after WWII was a particular era of expansion of the Pilliga forestry industry. This was associated with the post-war migration to Australia by refugees from nations including Poland, Yugoslavia, and Ukraine. As there was plenty of forestry work available at the time, many migrants soon moved out to the area after their arrival in Sydney – where there was little work to be found (Christison, 2006:19, 31).

Over time with the changes in the economics of the forestry industry and the exhaustion of the resources of different area the timber mills shifted around and gradually moved towards the forest fringes and small surrounding townships. For instance, the large Rocky Creek sawmill was transported closer to Kenebri and became the foundation of what is now known as Underwood's Mill. The mills in the forest were finally driven out by a series of severe bush fires in 1951. During its operation the forestry industry helped the local townships such as Baradine, Kenebri, and Gwabegar to thrive. In particular Gwabegar was an important township due to the transport corridor that the railway created through which supplies for the industry and its products travelled (Christison, 2006:32).

5.0 HERITAGE REGISTERS AND ARCHAEOLOGICAL BACKGROUND

5.1 HERITAGE REGISTER LISTINGS

Heritage registers and inventories are lists of identified items of heritage significance. These registers are searched for any listed heritage items that occur within or in close proximity to the proposal.

The *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (Requirement 1b) requires searches of the following registers and databases as part of any due diligence process or Aboriginal assessment:

1. The Australian Heritage database – *Environment Protection and Biodiversity Conservation Act.*
2. NSW State Heritage Register and Inventory - *NSW Heritage Act 1977.*
3. Aboriginal Heritage Information Management System (AHIMS) – *National Parks and Wildlife Act 1974.*

They may contain information about both Aboriginal or historic (non-Aboriginal) places and objects. These registers may also provide information on comparable sites that can be used to assist in the evaluation of the relative significance of the site.

Registers and inventories relevant to this study are:

- The Narrabri Shire Local Environmental Plan (LEP) 2012;
- The OEH Historic Heritage Information Management System (HHIMS);
- NSW State Heritage Register;
- NSW State Heritage Inventory;
- The Australian Heritage Database; and
- AHIMS.

A summary of inventory search results is provided in **Table 5.1**. The results of these searches are discussed further below.

On Site CHM (2017) has also undertaken a desktop historic assessment for this project to understand whether the project will potentially impact on historic heritage values.

Table 5.1 - Summary of inventory search results and heritage listings

Heritage Register	Within or partially within project area	Within immediate proximity to project area
Narrabri LEP 2012	No	No
HHIMS Database	Yes	Yes
State Heritage Register	No	No
State Heritage Inventory	No	No
Australian Heritage Database	No	Possibly
AHIMS Database	Yes	Yes

5.1.1 Local Environmental Plan (Narrabri 2012)

Local Environmental Plans (LEPs) provide a framework for development controls in their local area. Heritage schedules within an LEP provide for the identification and protection of heritage items. The proposal is within the Narrabri LGA and a search of the LEP for the Pilliga National Park and Pilliga SCA area shows that there are no heritage items within proximity to the project area listed in Schedule 5 of the Narrabri LEP.

5.1.2 HHIMS Database

The HHIMS Database is a register of historic items present on lands managed by OEH. The majority of these sites are within national parks and reserves. This database allows OEH to meet its obligations under Section 170 of the *NSW Heritage Act 1977*.

Unfortunately, the HHIMS database does not provide data for SCAs managed by OEH, only national parks. Despite this several historic places (that may be of European, Aboriginal, or shared cultural significance) are known to exist in the Pilliga SCA (and National Park) (OEH, 2015:4). These include:

- The Pilliga dog-proof fence (this has been identified as having State heritage significance);
- Rocky Creek mill site;
- Survey marker trees;
- Old telephone line poles;
- Sleeper cutter camps;
- Graves;
- Ironbarks Crossing mill site; and
- Sutherlands Well.

These identified sites are identified in the SMI for Pilliga National Park and Pilliga SCA as being of cultural value (OEH, 2014:4). There are reportedly other known sites in the Pilliga that have not been assessed for their historic significance and there is a good likelihood of there being other unrecorded sites (OEH, 2014:5).

The proposed fence location plan for this proposed development identifies two historic sites inside the study area and another two along the eastern section of the Gilgai section of Pilliga National Park (**Figure 6**). Map 25 of the REF identifies these sites as 'Rocky Mill Grave-site' and 'Rocky Mill Outhouse' (EnviroKey 2017: 104). It is possible that the two sites within the centre of the conservation fencing study area are part of the Rocky Creek Mill site, but this is unconfirmed.

The Pilliga dog-proof fence is not identified on this plan, but is located along the northern border (along dog-proof fence road). This item is an extensive one of a currently unknown length. A management strategy has been developed by OEH to guide the future management and other conservation works on this item. In 2014 an identified management direction for the Pilliga National Park and SCA was for the Dog-proof Fence Conservation Management Strategy to be implemented with the goal of conserving example sections of this item (OEH, 2014:6).

A number of mills in the Pilliga Forest have been researched and recorded by Sue Rosen Associates including Ironbark Crossing Mill site (located to the south of the study area), Wombo Sawmill (located in Pilliga West SCA), and Ironbark Lagoon Sawmill (located in the Pilliga West SCA). These studies are an indication of the extensiveness of the former milling operations in the Pilliga Forest.

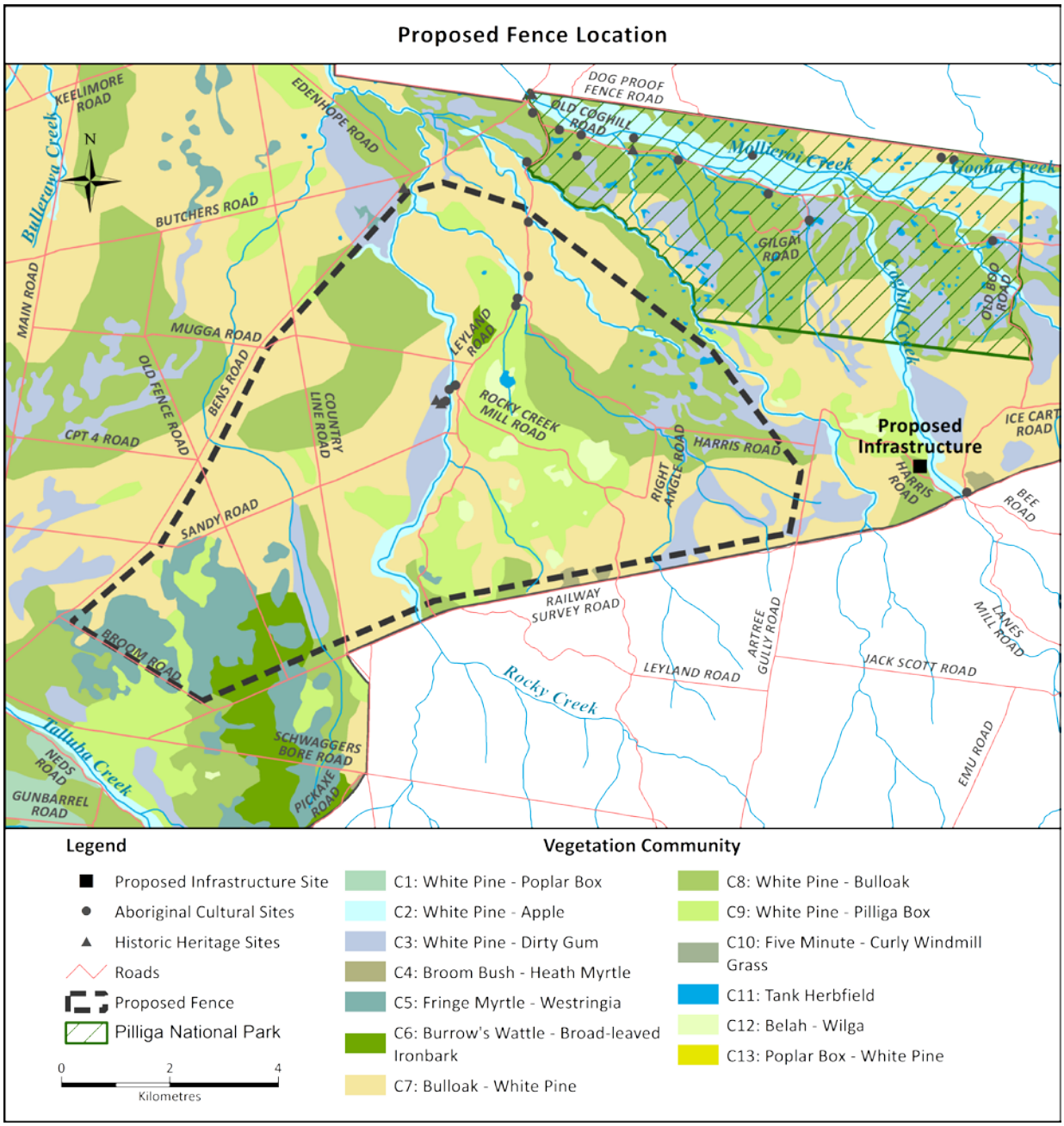
5.1.3 State Heritage Register and State Heritage Inventory

The State Heritage Register (SHR) is managed by the NSW Heritage Council and comprises a list of heritage items of particular importance to the people of NSW. Items appearing on the SHR are considered significant to the State and are afforded statutory protection.

The State Heritage Inventory (SHI) is a listing of heritage items within NSW and is also managed by the NSW Heritage Council. It comprises a database of heritage items listed by Local Government and State Agencies across NSW as the result of heritage studies. Items listed on the SHI are considered locally significant and subject to protection through local government processes.

A search of the SHR and SHI for the Pilliga National Park and Pilliga SCA area shows that there are no heritage items within proximity to the project area that will be affected by the proposal. Details of the SHI search are included in **Appendix 2.**

Figure 6: Proposed Fence Location plan



5.1.4 The Australian Heritage Database

The Australian Heritage Council is an independent agency within the Department of the Environment. The Council is the principal adviser to the Australian Government on heritage matters. The Council assesses nominations for the National Heritage List, the Commonwealth Heritage List and is also responsible for the Australian Heritage Database (AHD). The database includes:

- places in the World Heritage List;
- places in the National Heritage List;
- places in the Commonwealth Heritage list;
- places in the Register of the National Estate;
- places in the List of Overseas Places of Historic Significance to Australia; and
- places under consideration (nominated or assessed), or that may have been considered for any one of these lists.

A comprehensive search of the Australian Heritage Database for the Pilliga National Park and Pilliga SCA area showed that there are no listed places definitely within or near the project area that will be affected by the proposal. However, there are two items that are listed on the Register of the National Estate (RNE) that have uncertain boundaries or locations that may in fact be located near the study area (**Table 5.2**). These are discussed further below. Details of the AHD search are included in **Appendix 2.**

Table 5.2: Summary of AHD heritage listings and details revealed by inventory searches

Name	Heritage Listing	Heritage Significance	Statutory Requirements
Pilliga Nature Reserve (1980 Boundary)	RNE (#400)	Natural	None
Indigenous Place, Pilliga (Indigenous)	RNE (#14792)	N/A	None

5.1.5 Register of the National Estate (Non-Statutory Archive)

The RNE is a non-statutory archive of information about more than 13,000 heritage places listed by the former Australian Heritage Commission between 1975 and 2007.

Pilliga Nature Reserve (as defined by its 1980 boundary) is listed as a natural place (#400) on this register. The nature reserve is located to the south of the study area within the greater Pilliga Forrest. It is likely a considerably distance from the study area, but it is unknown what exactly the 1980 boundary of this nature reserve comprised.

The statement of significance demonstrates that this listing recognises the natural (flora and fauna) significance of the reserve:

> *The Pilliga Nature Reserve is a sufficiently large representative sample of the sandstone woodland ecosystem Pilliga Scrub over a viable area and acts as a significant natural faunal refuge in a region that has been highly modified. There is a significant species diversity in the area, with seventy three species of birds, sixteen species of mammals and twenty five reptile species being recorded. These include the nationally endangered MALLEE FOWL (LEIPOA OCELLATA) as well as*

other fauna species that are listed as vulnerable and rare in New South Wales under Schedule Twelve of the New South Wales National Parks and Wildlife Act, such as the koala (PHASCOLARCTOS CINEREUS), glossy black cockatoo (CALYPTORHYNCUS MAGNIFICUS), turquoise parrot (NEOPHEMA PULCHELLA), and the pale headed snake (HOPLECEPHALUS BITORQUATUS). The area is an important research site as scientific studies and research is carried out by the National Parks and Wildlife Service and tertiary institutions from time to time.

A listing (#14792) also exists for an Indigenous Place in the Pilliga, but no further information on its precise location, significance, or cultural heritage values is available.

5.2 ABORIGINAL HERITAGE INFORMATION MANAGEMENT SYSTEM (AHIMS)

A search of the Aboriginal Heritage Information Management System or AHIMS register was undertaken for a 40 EW x 40 NS kilometre area (1600 km^2) encompassing the study area. **Table 5.3** below shows the grid coordinates for the AHIMS register search.

Table 5.3: Minimum and maximum grid references employed for AHIMS register search

	Minimum	Maximum
Easting	**55 700000**	**55 740000**
Northing	**6599000**	**6639000**

The AHIMS Database search shows 55 Aboriginal sites have been previously recorded within this search area. The subject land is not within, either partly or wholly, an area that has been declared an Aboriginal place. **Table 5.4** shows that sites containing stone artefacts and modified trees are the most frequently recorded site feature.

Table 5.4: Site features recorded at AHIMS Sites.

Site features	Site features	Site features (%)
Artefact	39	70.9%
Burial	1	1.8%
Grinding Grooves	1	1.8%
Habitation Structure	2	3.6%
Hearth	3	5.5%
Modified Tree (Carved or Scarred)	7	12.7%
Water Hole	2	3.6%
TOTALS	**55**	**100.0%**

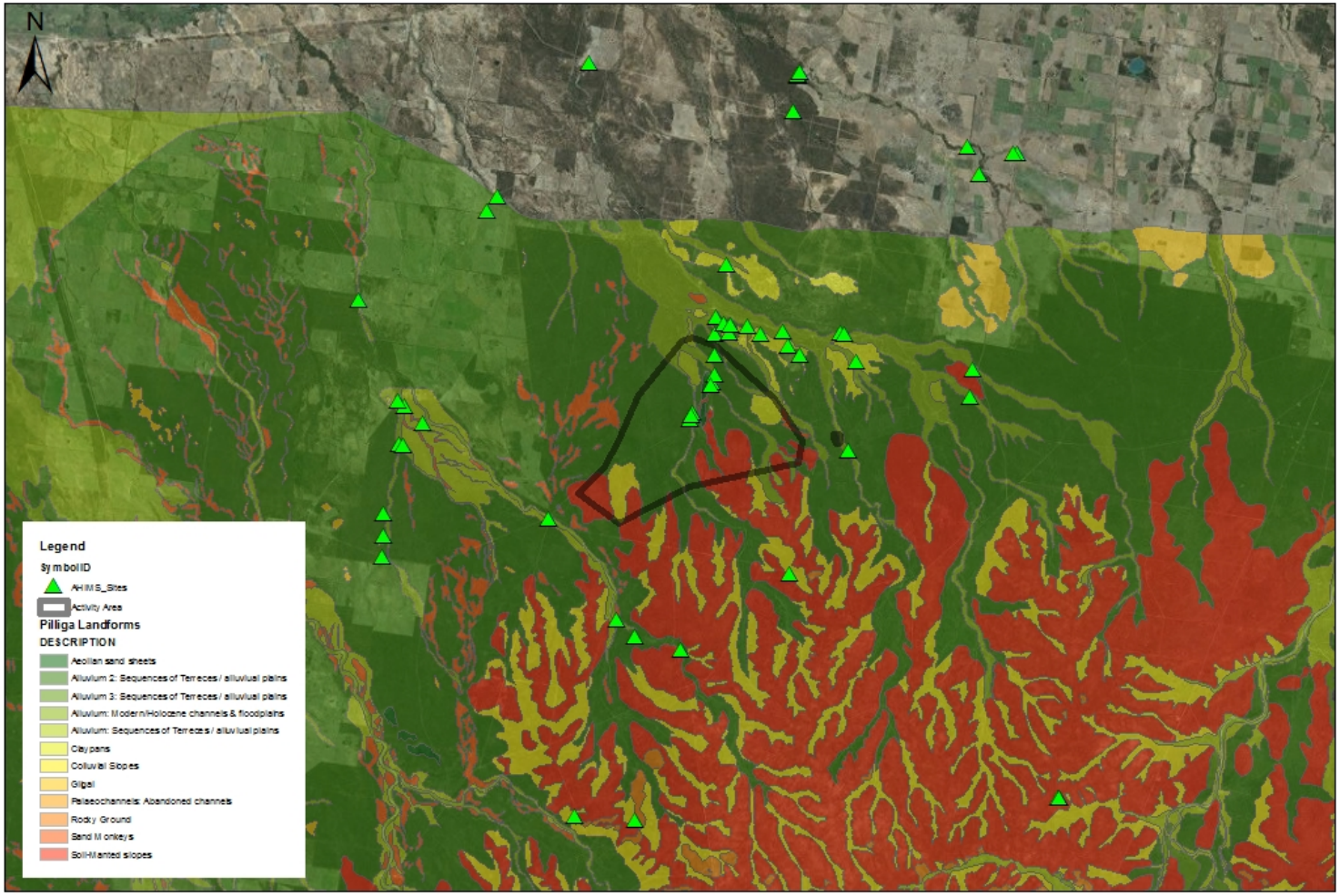
Table 5.5 and **Figure 7** shows the distribution of AHIMS sites according to landform.

Table 5.5 shows that the majority of sites (58.2%) occur within the Alluvial Landform Group (after Purcell 2001). The distribution and pattern of sites according to landform is discussed further below in **Section 5.3**. Results of the AHIMS site register search are provided in **Appendix 3.**

Table 5.5: AHIMS Sites according to landforms (after Purcell 2001).

LANDFORM	AHIMS Sites	AHIMS Sites (%)
Alluvium 2: Sequences of Terraces / alluvial plains	17	30.9%
Alluvium: Modern/Holocene channels & floodplains	14	25.5%
Alluvium: Sequences of Terraces / alluvial plains	1	1.8%
Aeolian sand sheets	2	3.6%
Claypans	4	7.3%
Colluvial Slopes	2	3.6%
Sand Monkeys	1	1.8%
Soil-Mantled slopes	4	7.3%
Outside model	10	18.2%
TOTALS	**55**	**100.0%**

Figure 7: Previously recorded AHIMS Sites and landforms after Purcell (2001).



5.3 REGIONAL ARCHAEOLOGY STUDIES

Purcell, 2001

Purcell (2001) undertook an Aboriginal site survey of the Goonoo and Pilliga State Forests. As this survey was undertaken prior to 2005 the area of the Pilliga State Forest included within this study contained the areas now reserved as Pilliga National Park and the East and West SCAs.

The object of this study was to distinguish the pattern of site distribution and the extent of Aboriginal land-use across a variety of landforms. To this end, it utilised a landscape sampling methodology to effectively cover the large study area. These landforms were identified and mapped using a geomorphological study. Within the Pilliga State Forest, 13 separate landform categories were identified. These landforms were grouped into two classes: alluvium and elevated. The alluvium group comprises the low lying areas of the forest and the elevated group the higher contoured regions. In the Pilliga the alluvial group landforms included modern channels and floodplains, three varieties of terraces and alluvial plains, paleochannels, sand monkeys, claypans, and gilgai. The elevated group landforms include colluvium, soil mantled slopes, rocky ground, and aeolian sand sheets. All of these landforms were noted to be associated with water sources of various types (Purcell, 2001:28, 30).

Previous studies in the Pilliga had identified a number of site types including open artefact scatters, isolated artefacts, axe grinding grooves, rock shelters, burials, scarred trees, and art sites. Open artefact scatters are the dominant site type in the region, with isolated artefacts also being common due to the nature of forestry landscapes and the limited visibility of the forest floor. Raw material for stone artefacts is thought to be sourced from pebbles found in river beds or eroding from conglomerates associated with sandstone. Utilised stone types included quartz, hornsfel, quartzite, and chert. In some areas outcrops of silcrete, quartzite, and mudstone are also thought to have been exploited. Axe grinding grooves are common in areas where watercourses have exposed sandstone. Rock shelters are present in limited numbers depending on the geology of specific areas. A few Aboriginal burials are known to exist and it is recorded in oral tradition that Aboriginal skeletal remains were found somewhere in the Pilliga in the 1920s along a sandy creek. Scarred trees are common in the Pilliga particularly in proximity to water sources. Art sites, comprising engraving, painted motifs, and stencils exist in some numbers, particular within sandstone rock shelters. However, little research has been conducted on these sites and, as a result, the art sequence for the region is poorly understood (Purcell, 2001:12-15).

Due to the dense forest floor cover and lack of archaeological visibility graded vehicle tracks used for forestry activities were used as survey transects during the survey. Other off-track

areas, such as cleared area used for apiaries, exposed ground, disused quarries, and borrow pits, were also investigated were possible to expand the scope of the survey. This method was considered suitable as much of the vehicle track networks within the Goonoo and Pilliga State Forests form grid patterns due to the former management of the area by the Forestry Commission. Throughout the survey landform features of interest (such as creeks or other watercourses) were sampled from varied distances and approaches to determine the distribution of sites and artefacts from these landforms (Purcell, 2001:22).

Each of the sites identified during this survey was recorded using a GPS and the following site data recorded:

- Site aspect;
- Distance from water;
- The number and type of cultural plant species present;
- Type of site;
- Site contents;
- Environment setting; and
- Degree of disturbance.

Isolated artefacts encountered during the survey were recorded as sites on the basis that they were likely part of an extensive area of sparsely distributed artefacts. Due to the focus of this study, only basic artefact attributes were recorded including artefact type, raw materials, and dimensions. Information recorded for scarred trees included species, dimensions of scar, scar type, and distance of the tree from water. Time and fund restraints resulted in artefact information not being analysed or included in the initial phase of the study, nor a detailed comparison of site types, etc. (Purcell, 2001:22-24).

The participation of Aboriginal representatives during the survey allowed the significance of the recorded sites to be recorded and areas known to have been of cultural important to be sampled. Aboriginal Elders affiliated with the Pilliga area identified several areas of cultural importance, of which many were associated with water holes (chains of ponds), which allowed them to be sampled during the survey. A bora ground site known to have existed near Iron Bark Lagoon in Pilliga West SF was also investigated, but no trace of this site was found due to poor ground visibility and disturbance (Purcell, 2001:37).

The survey resulted in an area of 96.1 hectares being sampled, constituting 0.03% of the total area of the Pilliga State Forest (approximately 400,000 hectares in size). A total of 145 sites were recorded in the sampled area (**Table 5.6**). At the time this increased the number of known sites in the Pilliga to 261. There were an unspecified number of sites recorded that were of European and Aboriginal cultural heritage that were not discussed further in the report and are not listed on **Table 5.6**. Sites were identified through a sample of 116 transects that ranged from 1080m² to 47500m² in size across each of the 13 identified

landforms. Ground visibility across these transects ranged between 0% and 70% with the average effective coverage being 25.2%. The eastern and central areas of the forest, which are dominated by higher contoured landforms, were found to have higher effective coverages than the western forests where effective coverage was often quite low. The main factors found to influence effective courage were forest vegetation, micro topographic features (such as puffy clay, litter dams, rilling, gullying, and stony lag), and the method and frequency of road grading (Purcell, 2001:28, 35-36).

Table 5.6: Number and types of sites recorded in the Pilliga State Forest (Purcell 2001:29)

Site Type (n=145)	Artefact Scatter	Isolated Find	Scarred Tree	Burial	Grinding Grooves	Shelter with deposit	Stone arrangement
No.	63	47	27	2	3	2	1

Artefact types recorded included 'tool implements used for small and heavy use activities, seed processing tools and waste material from tool production'. This diversity of tool types was argued by Purcell (2001:29) to indicate the range and variety of activites undertaken by past Aboriginal people in the forest. The majority of recorded sites contained low frequencies of artefacts, with the clear majority being isolated artefacts or containing ten or less artefacts (**Table 5.7**). The few largest sites contained less than 250 artefacts. This was in contast to previous studies (Koetigg, 1986; Roberts, 1991) that recorded sites with estimated artefact frequencies in the thousands. This situation was interpreted by Purcell (2001:29) to be the result of drier conditions prior to these surveys that increased surface exposures and ground visibility. No comprehensive list of the raw materials recorded by the survey is provided by Purcell, but it appears to have included chert, silcrete, quartzite, and quartz. Conglomerate pebbles in the area are predominately quartz suggesting that most raw materials were being transported into the Pillga, most likely from the Warrumbungles, although the Namoi River gravels and Mt Kaputar Range are other possible sources (Purcell, 2001:39).

Table 5.7: Frequency of artefact counts from recorded artefacts scatters (Purcel, 2001:29)

	Isolated Artefact	2-10	11-50	51-99	100-250
Frequency	47	34	20	5	3

The survey found that across the Pilliga State Forest 54.82% of its area consisted of alluvial group landforms and 45.49% of the elevated group landforms (**Table 5.8**). However, the majority of all recorded sites (208) were located with the alluvial group landforms, with only roughly a fifth occurring in the elevated group landforms (42). Aboriginal sites were more densely distributed in the alluvial group landforms and were particularly associated with water sources such as intermittent creeks, drainage lines, depressions, and chains of ponds.

Broad sandy banks along major creeks were also noted to have the potential to contain burials. In elevated group landforms, sites were far more sparsely distributed, but still associated most commonly with water sources. These water sources comprise intermittent, rain fed drainage lines that drain into the larger creeks. Rocky ground within this landform group was found to contain a diversity of sites including art sites, rock shelters with deposits, burials, and artefact scatters. Overall, approximately 90% of sites recorded within the Pilliga State Forest during this survey were located within 200-300m of water (**Table 5.9**) (Purcell, 2001:31, 34).

Table 5.8: Percentage of landforms in the Pilliga State Forest along with frequency and distribution of all recorded sites (Purcell, 2001:31)

	Landform	Hectares	% of total area	Site Frequency and % of total sites	Ratio of site distrubution per landform area (km²)
Alluvial Landforms	Alluvium: modern channels & floodplains sequence of terraces/alluvial plains 2 sequence of terraces/alluvial plains 3 sequences of terraces/alluvial plains	15 532 16 566 164 690 756	3.95 4.22 41.91 0.19	42 (16.0%) 27 (10.3%) 134 (52%) -	1:3.6 1:6.1 1:12.2 -
	Paleochannels: Abandoned channels	341	0.09	2 (0.8%)	1:7
	Gilgai	677	0.17	-	-
	Sand Monkeys	14 355	3.95	2 (0.8%)	1:71.7
	Claypans	1 336	0.34	1 (0.4%)	1:1.3
	Aeolian	251	0.06	-	-
	Colluvial slopes	47 342	12.05	26 (10.0%)	1:18.2
	Soil mantled slopes	119 333	30.37	16 (6.2%)	1:74.5
	Rocky ground	11 813	3.01	10 (4.0%)	1:11.81
	Total	**392 992**	**100**	**260**	

Table 5.9: Distance of Pilliga sites from water (Purcell, 2001:32)

Distance from Water	Site Frequency	Site Type
<50m	65	Artefact scatter (45) Isolated find (20)
51-99m	13	Artefact scatter (8) Isolated find (5)
100-150m	5	Artefact scatter (3) Isolated find (2)
151-200m	6	Artefact scatter (3) Isolated find (3)
201-300m	7	Artefact scatter (5) Isolated find (2)
301-400m	1	Artefact scatter Isolated find (1)
401-500m	1	Artefact scatter (1) Isolated find
501-600m	3	Artefact scatter Isolated find (3)
701-800m	1	Artefact scatter Isolated find
1-2km	4	Artefact scatter Isolated find (4)

Despite the low percentage of sampled area, Purcell (2001:1) considered the results to be an indicative sample of Aboriginal site distribution throughout Pilliga State Forest. He argued that the results strongly indicated that Aboriginal sites occur in all the identified landform categories, but in varied frequencies, with most sites being associated with watered localities. However, sites are most strongly associated with alluvium landforms with more than 70% of sites occurring in these areas. This is likely a result of these creek lines draining into major river catchments and, therefore, providing travelling routes linking a majority of environments. Otherwise, rocky ground landforms contain a small amount, but great variety of site types (such as ochre sites, art sites, camp sites, and grinding grooves), including a range of art sites. This range of sites offers a distinct contrast to the types of sites found within the alluvial landforms that typically comprise artefact scatters. Therefore, there appears to be different social and cultural activities occurring in these different landforms (Purcell, 2001:39).

The project also gathered information on native plant species of cultural importance to Aboriginal people. Within both Goonoo and Pilliga State Forests a total of 38 plant species were identified that were known to have Aboriginal usage of both a traditional and contemporary nature. All of these species were found in the Pillaga and were distributed across all the landform categories (Purcell, 2001:39).

6.0 SURVEY AND RESULTS

6.1 SURVEY

Gerard Niemoeller and Tanya Erofeev of On Site CHM and Aboriginal LALC representatives conducted an archaeological pedestrian survey of the proposed fence line and infrastructure site between 9th and 14th of May 2017. The survey area spans across lands of both the Wee Waa LALC and the Pilliga LALC. LALC representatives participating in the survey are shown below:

Wee Waa LALC - Clifford Toomey, Teresa Wenner and Debbie Combo
Pilliga LALC - Sheryl Barnes/Nicholls and Zanita Hedges

The project area was inspected via a series of pedestrian transects conducted along the proposed fence lines. This involved survey participants walking approximately 6 metres apart in parallel lines. The presence of at least 3 participants on any day allowed complete coverage of the proposed 15 metre wide proposed corridor for the fence line to be achieved.

The survey focussed on areas of exposure that could reveal archaeological materials and this methodology sometimes resulted in a meandering transect. Observations and results are discussed below.

6.2 RESULTS

A total of 39.6 kilometres of survey were conducted for the proposed fence line and operations base. Proposed internal access tracks were since added to the project scope and these are being assessed independently of this assessment. The survey traversed 100% of the linear length of the proposed fence line. A summary of survey attributes recorded for this survey is shown in **Table 6.1**.

Table 6.1 - Summary of survey attributes.

Total Transects length (m)	Survey Coverage (m^2) (based on transect width of 15 metres)
39,600	**594,000**

The survey located three Aboriginal objects or sites occurring at two locations within the project area. Aboriginal sites or objects located included a single grindstone fragment, and two cultural modified trees. No specific areas of Potential Archaeological Deposit (PAD) were identified or discernible.

Visibility across the survey was highly variable and ranged from 0 – 100%. Higher range visibility was observed on vehicle tracks. Off these tracks the maximum visibility observed was 70%.

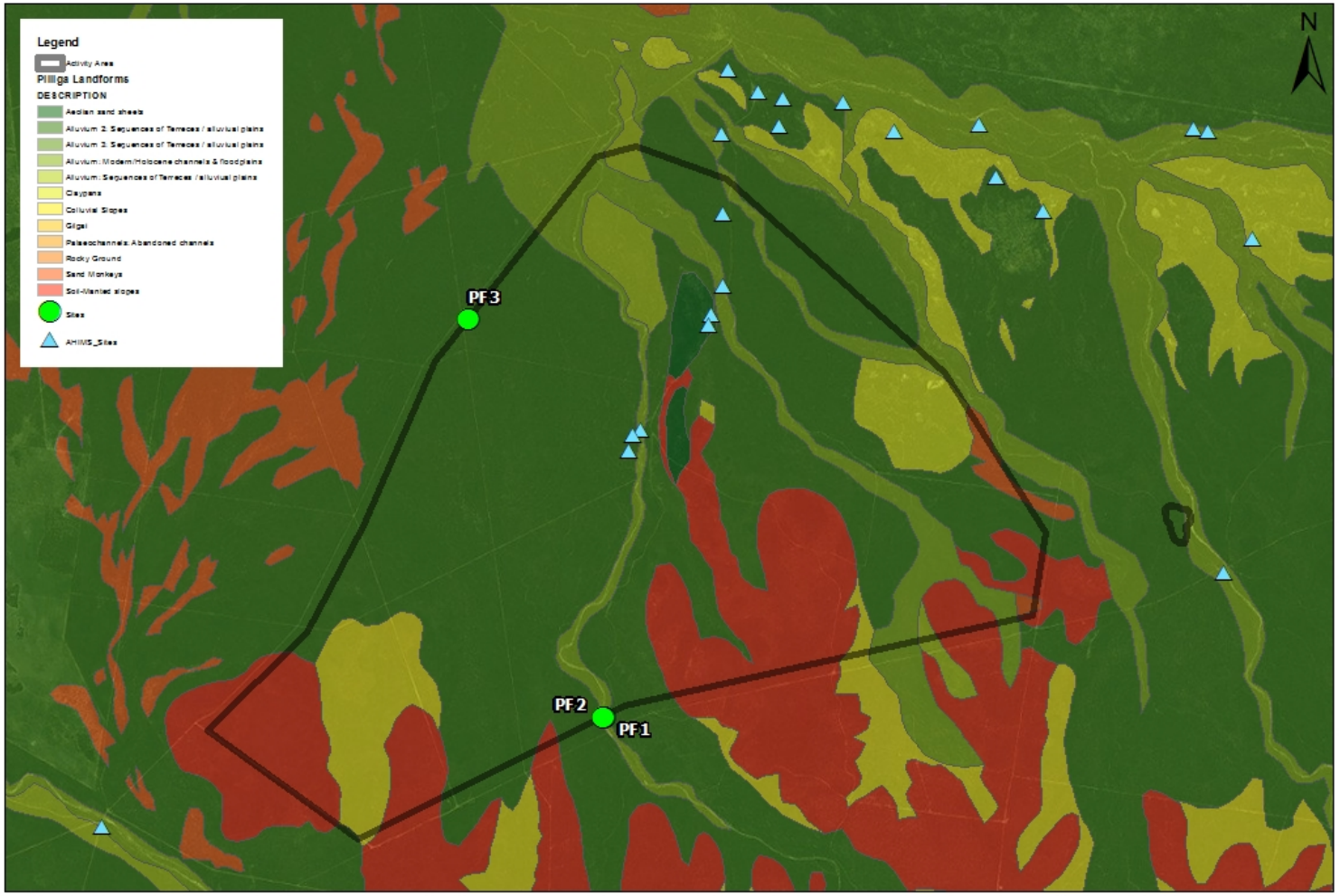
Average visibility across all of the survey transects was 15% (within a range of 5-25%). Detailed descriptions of recorded sites are provided below. Sites PF 1 and PF 2 are within close proximity to each other.

Table 6.2 shows the proportion of landforms (after Purcell 2001) surveyed during this study. The results are compared with Purcell in **Section 7.0.** The distribution of recording sites according to landforms is shown in **Figure 8**.

Table 6.2 - Summary of proportion of landforms surveyed during this survey. Alluvial Landforms are shown in light blue.

	LANDFORM	SURVEY OF EACH LANDFORM (KM)	% OF LANDFORM REPRESENTED IN SURVEY	SITES	SITE NAME
ALLUVIAL	Alluvium 2: Sequences of Terraces / alluvial plains	21.1	53.3	1	PF3
	Alluvium: Modern/Holocene channels & floodplains	4.7	11.9	2	PF1, PF2
	Alluvium: Sequences of Terraces / alluvial plains	0.9	2.3		
	Soil-Mantled slopes	10	25.3		
	Claypans	0.7	1.8		
	Colluvial Slopes	0.8	2.0		
	Sand Monkeys	1.4	3.5		
	TOTAL	**39.6**	**100.0**	**3**	

Figure 8: Sites PF 1 -3 recorded during this study and previously recorded AHIMS Sites and landforms after Purcell (2001).



This section has been removed to ensure the location of Aboriginal heritage sites remains confidential.

6.3.4 HISTORIC SITES

Several historic sites and objects were also located during this survey. The interpretation and management of these sites relevant to the *NSW Heritage Act 1977* is described in further detail in a separate historic desktop assessment report (On Site CHM 2017).

7.0 DISCUSSION

The Purcell (2001) survey found that across the Pilliga State Forest, 54.8% of its area consisted of alluvial group landforms and 45.49% elevated group landforms. He found that the majority of all recorded sites (208) were located with the alluvial group landforms, with only roughly a fifth occurring in the elevated group landforms (42). Aboriginal sites were more densely distributed in the alluvial group landforms and were particularly associated with water sources such as intermittent creeks, drainage lines, depressions, and chains of ponds. In elevated group landforms, Aboriginal sites were far more sparsely distributed, but still associated most commonly with water sources. Overall, approximately 90% of sites recorded within the Pilliga State Forest during this survey were located within 200-300m of water and 61% of these sites were recorded less than 50 metres from water (Purcell, 2001:31, 34).

Purcell (2001) argued that the results of the Pilliga State Forest Survey were sufficient to predict where Aboriginal sites are likely to occur. He suggested that whilst Aboriginal sites occurred in all identified landform categories, most sites were associated with watered localities. Sites were found to be most strongly associated with alluvium landforms, with more than 70% of sites occurring in these areas. Purcell (2001) suggested that this is likely a result of these creek lines draining into major river catchments and, therefore, providing travelling routes linking a majority of environments. Within the Alluvial Landform group, the Alluvium: Modern/Holocene channels & floodplains landform contained the highest densities of site (1 site / per 3.6 kms^2) (See **Table 6.8**).

The limited results of the current survey support these findings where 100 % of sites were found to occur within the Alluvial Landforms group. Two (PF1 & 2, 66%) of the three sites also occurred within the Modern Holocene channels & floodplains landform. This result is pronounced given survey of this landform unit represented only 11.9% of the total current survey. The remaining site (the historic scar tree) occurred within the Alluvium 2: Sequences of Terraces / alluvial plains landform. Survey of this landform unit represented 53.3 % of the total current survey.

7.1 DUE DILIGENCE DISCUSSION

The requirement for this due diligence assessment was outlined in **Section 3.1** and is triggered by:

- The proposed works will disturb the ground surface (on land that is not disturbed land);
- The AHIMS database or other relevant databases record previously identified places near the proposal; and
- The activity or proposal occurs in areas where certain landscape features may indicate the presence of Aboriginal objects (the proposal occurs within the Pilliga forest).

These factors in relation to the proposed project are considered below.

Step 2b of the *Due Diligence Code of Practice for the Protection of Aboriginal Objects* (2010:12) requires the consideration of whether the project area contains landscape features that indicate the *likely* existence of Aboriginal objects on land that is not *disturbed*.

Likely and *disturbed* are the key concepts to understand in interpreting the results of this assessment and against the policy. These concepts and the project area are discussed below.

Disturbed Land

The Due Diligence Code (2010:18) defines *disturbed land* as the subject of a human activity that has changed the land's surface, being changes that remain clear and observable. Examples of disturbed land include ploughing, construction of rural infrastructure (such as dams and fences), construction of roads, trails and tracks (including fire trails and tracks and walking tracks), clearing vegetation, construction of buildings and the erection of other structures, construction or installation of utilities and other similar services (such as above or below ground electrical infrastructure, water or sewerage pipelines, stormwater drainage and other similar infrastructure) and construction of earthworks (Due Diligence Code 2010:18).

The project area is recognised for its conservation values and relative to much of the surrounding country, has a good level of integrity. The subject land is not considered *disturbed land* within the meaning of the Code.

Likely

Likely is not defined within the Due Diligence Code but is defined by the Merriam-Webster Dictionary "as having a high probability of occurring or being true**:** very probable".

The likelihood or probability equates to what is also known as the degree of archaeological sensitivity or potential. An index of likelihood has been devised and is presented below.

Archaeological Sensitivity	**Likelihood or Probability**
High	Very likely
Moderate to High	Likely
Moderate	Maybe likely
Low to Moderate	Unlikely
Low	Very unlikely

For the purposes of interpreting the Due Diligence Code then areas of 'moderate to high' and 'high' archaeological sensitivity/potential are those areas considered *likely* to contain Aboriginal objects.

As discussed above the findings of Purcell (2001) provide the predictive framework for assessing the archaeological sensitivity of the Pilliga landscape. This allows an understanding to be reached about whether a given landform is *likely* to contain Aboriginal objects or sites. The results of this survey also support the findings of the Purcell (2001) survey.

Using the findings of Purcell (2001), the ratio of site distribution for landforms has been applied to the current proposal and associated landforms to understand the potential to harm Aboriginal objects.

Table 7.1 - Proportion of landforms surveyed during this survey and ratio of site distribution after Purcell (2001)

	LANDFORM	SURVEY OF EACH LANDFORM (KM)	% OF LANDFORM REPRESENTED IN SURVEY	RATIO OF SITE DISTRUBUTION PER LANDFORM AREA (KM^2) AFTER PURCELL (2001)	ASSESSED ARCHAEOLOGICAL SENSITIVITY
Alluvial	Alluvium: Modern/Holocene channels & floodplains	4.7	11.9	1:3.6	Moderate to High
	Alluvium: Sequences of Terraces / alluvial plains	0.9	2.3	1:6.1	Moderate
	Alluvium 2: Sequences of Terraces / alluvial plains	21.1	53.3	1:12.2	Moderate
	Soil-Mantled slopes	10	25.3	1:74.5	Low
	Claypans	0.7	1.8	1:1.3	Moderate to High
	Colluvial Slopes	0.8	2.0	1:18.2	Low to Moderate
	Sand Monkeys	1.4	3.5	1:71.7	Low
	TOTAL	**39.6**	**100.0**		

Table 7.1 shows that the only two landforms were assessed as having a moderate to high potential to contain Aboriginal sites, which combined represent only 13.7% of the proposal area.

These represented landforms have been subject to intensive survey as part of this study and were found to contain two of the three sites located during this survey.

8.0 CONCLUSIONS AND MANAGEMENT RECOMMENDATIONS

8.1 CONCLUSIONS

AWC have engaged On Site CHM to undertake and prepare an Aboriginal heritage assessment consistent with the requirements of the *Due Diligence Code of Practice for the Protection of Aboriginal Objects* and provide advice about the potential of the proposal to *harm* Aboriginal places and objects pursuant to the *National Parks and Wildlife Act 1974.*

This assessment has concluded that:

- Only two of the landforms classifications (after Purcell 2001) present within the proposal area have been assessed as having a moderate to high potential (or likely) to contain Aboriginal sites or objects.
- The two landforms (Alluvium: Modern/Holocene channels & floodplains and Claypans) likely to contain Aboriginal sites or objects represent only 13.7% of the proposal area.
- The areas assessed as *likely* have been subject to intensive archaeological survey as part of the current survey. All other landform areas of the proposal have been assessed as being of moderate, low to moderate or low potential to contain Aboriginal sites or objects. These areas have also been subject to intensive archaeological survey.
- A total of three Aboriginal objects at two locations were located as part of the current survey. Two of these sites (% 66 - PF1 and PF2) were located within the Alluvium: Modern/Holocene channels & floodplains landform, an area assessed as *likely* to contain Aboriginal objects. The remaining site PF 3 is a historic scar tree located in a landform that was assessed as *maybe likely* to contain Aboriginal objects (Alluvium 2: Sequences of Terraces / alluvial plains).
- All of the three located sites were located within the Alluvial landform groups and support the findings of Purcell (2001).
- Sites (PF 1 – 3) located during this survey are approximately 15 metres from the proposed fence line and can be avoided during the proposed works.
- None of the AHIMS Sites located within the immediate vicinity of the proposal will be impacted by the proposed works.

8.2 MANAGEMENT RECOMMENDATIONS

8.2.1 Aboriginal Heritage - *NSW National Parks and Wildlife Act 1974*

The following management recommendations are based on the above conclusions and are in accordance with Step 4 of the *Due Diligence Code* (2010:13). Step 4 states that where either desktop assessment or visual inspection indicates that there are (or are likely to be) Aboriginal objects in the area of the proposed activity, more detailed investigation and impact assessment will be required.

Where the desktop assessment or visual inspection does not indicate that there are (or are likely to be) Aboriginal objects, you can proceed with caution without an AHIP application.

On the basis of this assessment for Aboriginal objects and their protection under the *NSW National Parks and Wildlife Act* it is recommended that:

1. This proposal does not require any further assessment relevant to Aboriginal sites or objects protected under the *NSW National Parks and Wildlife Act.* Areas assessed as having a moderate to high potential, (or *likely*) to contain Aboriginal sites or objects have been subject to intensive archaeological survey as part of this study. The remainder of the proposal area is assessed as having a moderate, low to moderate or low potential to contain Aboriginal sites or objects. It has also been subject to intensive archaeological survey. No further survey or assessment is therefore required.

2. All of the sites (PF 1 – 3) located during this survey are approximately 15 metres from the proposed fence line and should be avoided during the works. All of these sites have been flagged and visited by AWC personnel to understand their relationship to the proposal. AWC should implement appropriate management strategies to ensure these places are not inadvertently disturbed and appropriately managed during the construction and operation of the project. Management strategies discussed with LALC representatives in the field included temporary fencing or flagging during high risk activities. The location of these sites and management buffers should also be clearly identified on relevant construction plans. The development and implementation of management strategies should include further consultation with Aboriginal representatives as appropriate.

3. On the provision of Recommendation 2, no Aboriginal Heritage Impact Permit (AHIP) or supporting Aboriginal Cultural Heritage Assessment (ACHA) is required to undertake the proposed works.

4. None of the AHIMS Sites located within the immediate vicinity of the proposal will be impacted by the proposed works and therefore no AHIP or supporting ACHA is required to undertake the proposed works.

5. AWC and their contractors are aware that in the event that Aboriginal objects are discovered during the proposed works, all works in that area should cease and the AWC should contact the Office of Environment and Heritage, an Aboriginal LALC representative or a qualified archaeologist to seek some determination of the discovery and how to proceed.

6. In the unlikely event that skeletal remains are discovered during earthworks, all works should cease and protocols consistent with Requirement 25 in the *Code of Practise for Archaeological Investigation of Aboriginal Objects in NSW* be implemented.

While the undertaking of this due diligence assessment acts as a defence against harming or disturbing Aboriginal objects without an AHIP, the undertaking of this assessment alone does not negate the need for an AHIP should Aboriginal objects be discovered or disturbed.

Investigations for an AHIP require preparation of an ACHA and must also be supported by Aboriginal consultation in accordance with the process outlined in the *Aboriginal cultural heritage consultation requirements for proponents.*

9.0 REFERENCES

Christison, R. 2006. *Thematic History of the Former Coonabarabran Shire.* Warrumbungle Shire Council.

Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales. NSW Office of Environment and Heritage policy document.

Due Diligence Code of Practice for the Protection of Aboriginal Objects. NSW 2010. NSW Office of Environment and Heritage policy document

EnviroKey and Australian Wildlife Conservancy (2017) Review of Environmental Factors: Proposed construction and operation of conservation fencing and associated infrastructure in the Pilliga State Conservation Area. A report prepared by EnviroKey and Australian Wildlife Conservancy on behalf of NSW Office of Environment & Heritage.

Koetigg, M. 1986. *Aboriginal sites in the Dubbo city area*. Report in conjunction with planning study undertaken by Cameron McNamara.

Mitchell, P. 2002 Descriptions for NSW (Mitchell) Landscapes Version 2 Based on descriptions compiled by Dr. Peter Mitchell for DECCW

Mitchell, P. 2002a NSW Landscapes Mapping: Background and Methodology. Prepared by Dr. Peter Mitchell for DECCW.

NSW National Parks and Wildlife Service. 2002. *Pilliga Nature Reserve Plan of Management.* Available online @ http://www.environment.nsw.gov.au/parkmanagement/ParkManagementPlans.htm

Office of Environment and Heritage (OEH). 2014. *Statement of Management Intent: Pilliga National Park and Pilliga State Conservation Area: Community Conservation Area Zone 1 and Zone 3.* Available online @ http://www.environment.nsw.gov.au/parkmanagement/StatementsOfManagementIntent.htm

Office of Environment and Heritage (OEH) National Parks and Wildlife Service (NPWS). 2017. *Pilliga Outwash Parks Draft Statement of Management Intent.* Available online @ http://www.environment.nsw.gov.au/resources/parkmanagement/SMI/pilliga-outwash-parks-draft-statement-management-intent-170274.pdf

On Site CHM 2017 Historic Desktop assessment. Proposed Construction of Conservation Fencing and Associated Infrastructure, Pilliga State Forest. Report prepared for AWC.

Purcell, P. 2001. *Aboriginal Cultural Heritage Field Survey of the Goonoo and Pilliga State Forests: A report for the Resources and Conservation Directorate as part of Stage 1 assessment for the Brigalow Belt South bioregion*. Office of Environment and Heritage.

Roberts, C. 1991. *Investigation of the Aboriginal archaeological resources of the Pilliga Forests*. Unpublished report to the Forestry Commission of NSW.

Wooleybah Sawmill and Settlement SHR Listing. http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=5053936

APPENDIX 1

National Native Title Tribunal

Overlap Analysis Report

Disclaimer
This information product has been created to assist in understanding the spatial characteristics and relationships of this native title matter and is intended as a guide only. Spatial data used has been sourced from the relevant custodians in each jurisdiction, and/or the Tribunal, and is referenced to the GDA94 datum.

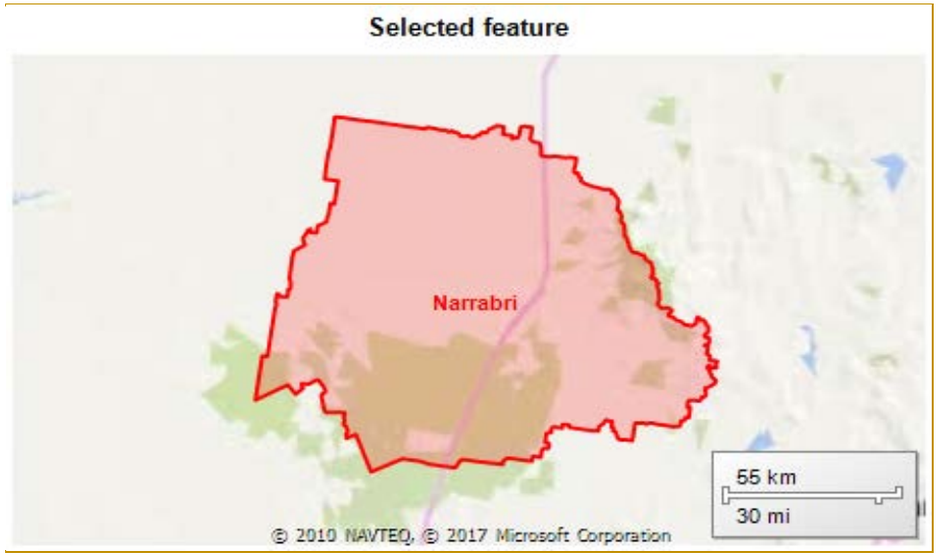
While the Native Title Registrar **(Registrar)** has exercised due care in ensuring the accuracy of the information provided, it is provided for general information only and on the understanding that neither the Native Title Registrar nor the Commonwealth of Australia (Commonwealth) is providing professional advice. Appropriate professional advice relevant to your circumstances should be sought rather than relying on the information provided. In addition, you must exercise your own judgment and carefully evaluate the information provided for accuracy, currency, completeness and relevance for the purpose for which it is to be used.
As the interpretation of any particular native title determination area provided is based upon the best information available to the Registrar at the time of creation, any effective analysis must include reference to **both** the relevant determination of native title made by the Federal Court of Australia and the entry made in relation to that determination on the National Native Title Register maintained by the Registrar.

Please note:

- Calculated areas may not be the same as the legal area of a parcel.
- Where shown, NNTT Tenure Class for a non freehold parcel refers to a tenure grouping derived for the purposes of the Tribunal, and does not necessarily represent the jurisdictional tenure type.
- Overlap results are returned only for the currently active jurisdiction.

Selected feature

Name	Narrabri
Full name	Narrabri Shire Council
As at	1/08/2016
Calculated area SqKm	13,014.8883



Overlap details

Schedule of Native Title Determination Applications

Overlap Tribunal ID	Name	FC No	Date Lodged	RT Status	Area sq km(calculated)	Overlap Area sq km (calculated)
NC2011/006	Gomeroi People	NSD2308/2011	20/12/2011	Accepted for registration	111,319.2488	13,014.8883

Register of Native Title Claims

Overlap Tribunal ID	Name	FC No	Date Lodged	RT Status	Combined	Area sq km(calculated)	Overlap Area sq km (calculated)
NC2011/006	Gomeroi People	NSD2308/2011	20/12/2011	Accepted for registration	N	111,319.2488	13,014.8883

Native Title Determinations

No overlap found

Native Title Determination Outcomes

No overlap found

Indigenous Land Use Agreements

No overlap found

RATSIB areas

Name	Organisation	RATSIB Status	Area sq km(calculated)	Overlap Area sq km (calculated)
New South Wales	NTSCORP Limited	NTSP	1,723,577.6107	13,014.8883

APPENDIX 2

Search for NSW heritage

Return to search page where you can refine/broaden your search.

Statutory listed items

Information and items listed in the State Heritage Inventory come from a number of sources. This means that there may be several entries for the same heritage item in the database. For clarity, the search results have been divided into three sections.

- **Section 1** - contains Aboriginal Places declared by the **Minister for the Environment** under the National Parks and Wildlife Act. This information is provided by the Heritage Division.
- **Section 2** - contains heritage items listed by the **Heritage Council of NSW** under the NSW Heritage Act. This includes listing on the State Heritage Register, an Interim Heritage Order or protected under section 136 of the NSW Heritage Act. This information is provided by the Heritage Division.
- **Section 3** - contains items listed by **local councils** on Local Environmental Plans under the Environmental Planning and Assessment Act, 1979 and **State government agencies** under s.170 of the Heritage Act. This information is provided by local councils and State government agencies.

Section 1. Aboriginal Places listed under the National Parks and Wildlife Act.

Your search did not return any matching results.

Section 2. Items listed under the NSW Heritage Act.

Your search returned 1 record.

Publications

Funding

About the Heritage Division

Item name	Address	Suburb	LGA	SHR
Narrabri Gaol and Residence	Bowen Street	Narrabri	Narrabri	00344

Section 3. Items listed by Local Government and State Agencies.

Your search returned 42 records.

Item name	Address	Suburb	LGA	Information source
A B Meppem and Co.	Railway Parade	Bellata	Narrabri	GAZ
Bank of New South Wales	104 Maitland Street	Narrabri	Narrabri	GAZ
Bellata Police Station and Official Residence	Railway Parade (Newell Highway)	Bellata	Narrabri	SGOV
Boggabri Railway Station	Oakham Street	Boggabri	Narrabri	SGOV
Bullawa Creek Area		Narrabri, 18km N-E of	Narrabri	GAZ
Cemetery		Woolabrar	Narrabri	GAZ
Club House Hotel	8 Maitland Street	Narrabri	Narrabri	GAZ
Cotton Seed Collection	Myallvale Wee Waa Road	Narrabri	Narrabri	SGOV
Courthouse	Rose Street	Wee Waa	Narrabri	GAZ
Courthouse Group	Barwan Street	Narrabri	Narrabri	GAZ
Dobiken Homestead	Collarenebri Road		Narrabri	GAZ
Drildool Private Cemetery Wee Waa Map	Bugilbone Road	Wee Waa	Narrabri	GAZ

Gallipoli House	Bowen Street	Narrabri	Narrabri	GAZ
Gunidgera Creek Regulator	Gunidgera Creek / Namoi River	Wee Waa	Narrabri	SGOV
Gunidgera Weir	Gunidgera Creek/Namoi River	Wee Waa	Narrabri	SGOV
Iron Bridge over Namoi River near Boggabri	Regional Road 357	Boggabri	Narrabri	SGOV
Knights Regulator And Block Dam	Gunidgera Creek / Gunidgera Cutting	Wee Waa	Narrabri	SGOV
L S Rowe and Station Agents	Railway Parade	Woolabrar	Narrabri	GAZ
Maitland Street Group	Maitland Street	Narrabri	Narrabri	GAZ
Mollee Weir	Namoi River	Narrabri	Narrabri	SGOV
Nandewar Hotel	Railway Parade	Bellata	Narrabri	GAZ
Narrabri Agricultural Cotton Research Institute	Myallvale, Wee Waa Road	Narrabri	Narrabri	SGOV
Narrabri Courthouse and Court Offices	Maitland Street	Narrabri	Narrabri	SGOV
Narrabri Creek Bridge	Newell Highway	Narrabri	Narrabri	SGOV
Narrabri Field Service Centre	1 Logan Street	Narrabri	Narrabri	SGOV
Narrabri Fire Station	2 Doyle Street	Narrabri	Narrabri	SGOV
Narrabri Official Residence 1	1A Denison Street	Narrabri	Narrabri	SGOV
Narrabri Official Residence 2	50 Maitland Street	Narrabri	Narrabri	SGOV
Narrabri Post Office & Quarters	140 Maitland Street	Narrabri	Narrabri	GAZ

Narrabri Railway Station	Bowen Street	Narrabri	Narrabri	SGOV
Narrabri West Railway Station & Residence		Narrabri	Narrabri	GAZ
Old Cubaroo Private Cemetery Wee Waa Map		(not given)	Narrabri	GAZ
Oldhams Smallgoods	Railway Parade	Bellata	Narrabri	GAZ
Pilliga Police Station and Official Residence	Dangar Street, Corner Gordon Street	Pilliga	Narrabri	SGOV
Police Station	Railway Parade	Bellata	Narrabri	GAZ
Post Office	Railway Parade	Bellata	Narrabri	GAZ
Public School	Barwan Street	Narrabri	Narrabri	GAZ
St. Cyprian's Anglican Church		Narrabri	Narrabri	GAZ
Wee Waa Courthouse	Rose Street and Nelson Street	Wee Waa	Narrabri	SGOV
Wee Waa Official Residence 3	122 Rose Street	Wee Waa	Narrabri	SGOV
Weeta Waa		(not given)	Narrabri	GAZ
Wild Willows	35,36	(not given)	Narrabri	GAZ

There was a total of 43 records matching your search criteria.

Key:
LGA = Local Government Area
GAZ= NSW Government Gazette (statutory listings prior to 1997), HGA = Heritage Grant Application, HS = Heritage Study, LGOV = Local Government, SGOV = State Government Agency.
Note: While the Heritage Division seeks to keep the Inventory up to date, it is reliant on State agencies and local councils to provide their data. Always check with the relevant State agency or local council for the most up-to-date information.

REGIONAL INFORMATION

- Metropolitan Sydney
- Central Coast
- Central West and Orana
- Far West
- Hunter
- Illawarra
- Murray-Murrumbidgee
- New England-North West
- North Coast
- South East and Tablelands

POLICY AND LAW

- Legislation
- Policies
- Reviews
- Public registers
- Prosecution guidelines
- Changes in law
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Search Results

new search edit search

12 results found.

Collins Park Grandstand Tibbereena St	Narrabri, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Indigenous Place	Bullawa Creek, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Indigenous Place	Bunna Bunna via Rowena, NSW, Australia	(Indicative Place) Register of the National Estate (Non-statutory archive)
Indigenous Place	Pilliga, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Mount Kaputar National Park Narrabri Bingara Rd	Narrabri, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Narrabri Gaol (former) Barwan St	Narrabri, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Narrabri Post Office and former Telegraph Office 138-140 Maitland St	Narrabri, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Narrabri Post Office and former Telegraph Office 138-140 Maitland St	Narrabri, NSW, Australia	(Listed place) Commonwealth Heritage List
Narrabri Public School 90 Barwan St	Narrabri, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Pilliga Nature Reserve (1980 boundary) Newell Hwy	Coonabarabran, NSW,	(Registered)

	Australia	Register of the National Estate (Non-statutory archive)
Police Residence 50 Maitland St	Narrabri, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)
Wee Waa Courthouse Rose St	Wee Waa, NSW, Australia	(Registered) Register of the National Estate (Non-statutory archive)

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Place Details

new search edit search

Send Feedback

Pilliga Nature Reserve (1980 boundary), Newell Hwy, Coonabarabran, NSW, Australia

Photographs	None
List	Register of the National Estate (Non-statutory archive)
Class	Natural
Legal Status	Registered (21/10/1980)
Place ID	400
Place File No	1/03/201/0008

Statement of Significance

The Pilliga Nature Reserve is a sufficiently large representative sample of the sandstone woodland ecosystem Pilliga Scrub over a viable area and acts as a significant natural faunal refuge in a region that has been highly modified. There is a significant species diversity in the area, with seventy three species of birds, sixteen species of mammals and twenty five reptile species being recorded. These include the nationally endangered MALLEE FOWL (LEIPOA OCELLATA) as well as other fauna species that are listed as vulnerable and rare in New South Wales under Schedule Twelve of the New South Wales National Parks and Wildlife Act, such as the koala (PHASCOLARCTOS CINEREUS), glossy black cockatoo (CALYPTORHYNCUS MAGNIFICUS), turquoise parrot (NEOPHEMA PULCHELLA), and the pale headed snake (HOPLECEPHALUS BITORQUATUS). The area is an important research site as scientific studies and research is carried out by the National Parks and Wildlife Service and tertiary institutions from time to time.

Official Values Not Available

Description

The reserve is on a generally level to slightly undulating plain at approximately 210m above sea level (ASL). A range of hills rises 15m-30m above the surrounding country to the east and forms the divide between the eastern and western drainage. The reserve is dissected by two creeks which are the main drainage channels. Borah and Yaminba Creeks flow north to join the Namoi River. Jurassic sandstones outcrop frequently in the reserve where exposed by river action. Clarence sandstones and conglomerates outcrop in the eastern section of the area with a small percentage of the land surface consisting of exposed rock. Most of the area is covered by brown or grey solonetz and solodic soils. The Pilliga is a heterogenous scrub woodland community. Tree canopy is discontinuous with a clumped distribution. Ground flora of several grass species (Poa and enagostis) and ephemerals is sparse. Codominants in the area are black cypress pine (CALLITRIS ENDLICHERI) and narrow leaved ironbark (EUCALYPTUS CREBA). Also in the area are boxes (EUCALYPTUS sp.), gums, angophoras (ANGOPHORA sp.) and bloodwoods (EUCALYPTUS sp.). Shrubs are dominated by species of ACACIA and LEPTOSPERMUM. Ironbark, particularly broad leaved ironbark (E. FIBROSA) occurs along the stony ridgelines with hill red gum (E. DEALBATA) and cypress pine. Blakely's red gum (E. BLAKELYI) and apple (ANGOPHORA FLORIBUNDA) occurs along drainage lines and deep sandy areas while smooth barked apple (A. COSTATA) appears on deep flat sandy areas in the north. The dominant shrub layer consists of sifton bush (CASSINIA ARCUATA) throughout the reserve. LEPTOSPERMUM species occur in less extensive stands while EPACRIDACEAE in association with FAGACEAE occur on deep soil under a canopy of smooth barked apple and white gum (E. ROSSII). Birds recorded in the area include emus (DROMAIUS NOVAEHOLLANDIAE), white browed babbler (POMATOSTOMUS SUPERCILIOSUS), bronze wing pigeon (PHAPS CHALCOPTERA), crimson rosella (PLATYCERCUS ELEGANS), eastern rosella (PLATYCERCUS EXIMIUS), magpie (GYMNORHINA TIBICEN), currawong (STREPERA GRACULINA), chough (CORCORAX MELANORHAMPHOS), kookaburra (DACELO GIGAS) and forest kingfisher (halcyon MACLEAYII). A breeding pair of

peregrine falcons (FALCO PEREGRINUS) has also been recorded in the area. Mammals recorded in the area include yellow footed antichinus (ANTICHINUS FLAVIPES) and the new holland mouse (PSEUDOMYS NOVAEHOLLANDIAE). Large but dispersed populations of grey kangaroo (MACROPUS fuliginosis) have been observed in the area, with the possibility of red kangaroos (MACROPUS RUFUS) in the western section of the reserve. Other species in the area include koala (PHASCOLARCTUS CINEREUS) and echidna (TACHYGLOSSUS ACULEATUS).

History Not Available

Condition and Integrity

Scientific studies and research is carried out by the National Parks and Wildlife Service and tertiary institutions from time to time. Approved bee keeping site; leases are used periodically by apiarists. (1990)

Location

About 69,595ha, Newell Highway and Kerringle Road, 20km north of Coonabarabran.

Bibliography

Bayliss P (1976) Small Mammal Trapping - Pilliga Nature Reserve. NPWS Unpub 2/9/76.

Bustard RM (1968) The reptiles of Merriwindi SF, Pilliga West northern NSW. Herpetologica 24:131-140.

Holme L (1990) Vegetation and Fuel Sampling in Pilliga Nature Reserve. NPWS Feb Unpub.

Morris A (1975) Preliminary List of Flora for the Pilliga Nature Reserve. NPWS Unpub.

Morris A (?) Bird List for Pilliga Nature Reserve. NSW National Parks and Wildlife Service Unpublished report.

Morris A (1981) Peregrine Falcon conservation. Australian Ranger Bulletin 1(2):39. Letter.

NSW National Parks and Wildlife Service unpublished report.

Smith A (ed) (1982) Survey Report: The Fauna of Pilliga East State Forest and Adjacent Brigalow. Dept of Ecosystem Management Uni of New England. Unpub.

Werner T (nd) Proposed Pilliga Nature Reserve. NPWS Unpub.

Report Produced Sat Mar 4 15:36:37 2017

APPENDIX 3

AHIMS Web Services (AWS)
Search Result

Purchase Order/Reference : A061P

Client Service ID : 272285

Onsite Cultural Heritage Management - Narooma

Date: 19 March 2017

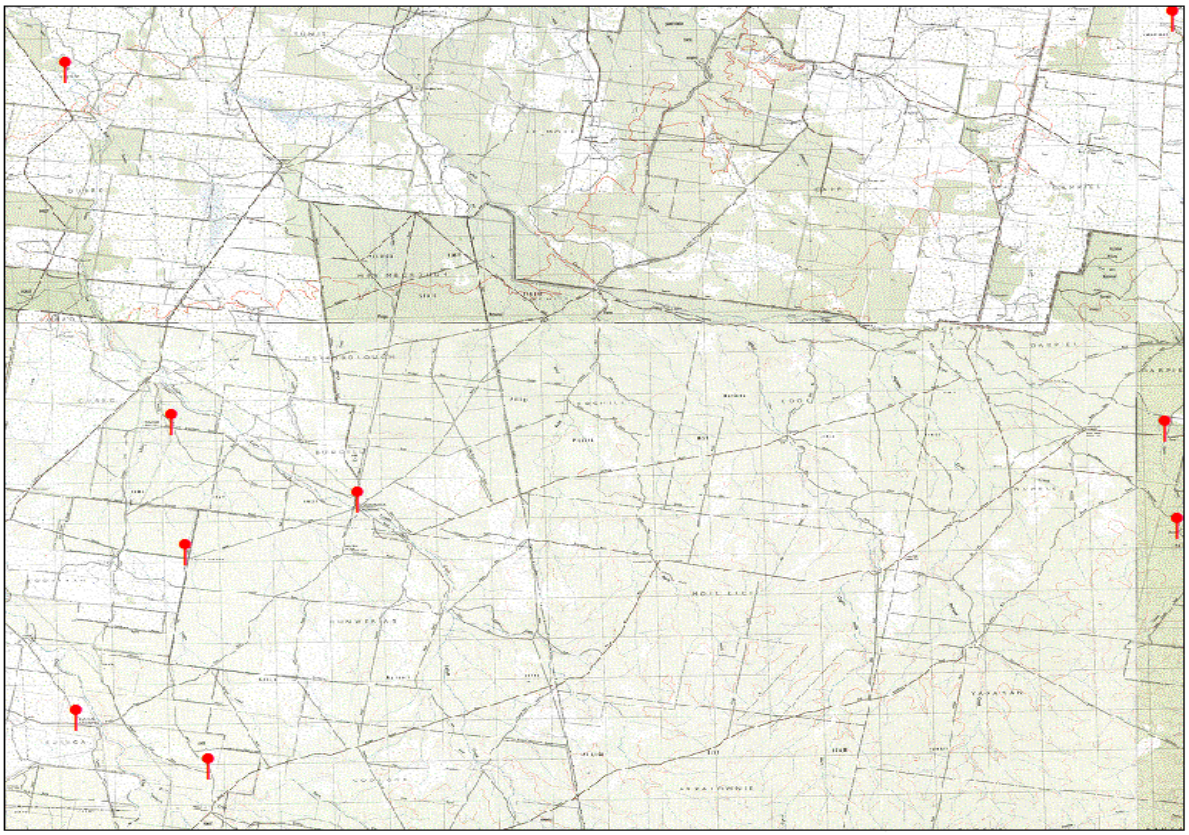
PO Box 574
Narooma New South Wales 2546
Attention: Gerard Niemoeller

Email: gerard@onsitechm.com.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Datum :GDA, Zone : 55, Eastings : 700000 - 740000, Northings : 6599000 - 6639000 with a Buffer of 0 meters, conducted by Gerard Niemoeller on 19 March 2017.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

55	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (http://www.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date .Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

3 Marist Place, Parramatta NSW 2150
Locked Bag 5020 Parramatta NSW 2220
Tel: (02) 9585 6380 Fax: (02) 9873 8599

ABN 30 841 387 271
Email: ahims@environment.nsw.gov.au
Web: www.environment.nsw.gov.au

This section has been removed to ensure the location of Aboriginal heritage sites remains confidential.

Cultural Heritage Assessment of Proposed New Road in Pilliga SCA

Craig Trindall Consulting Pty Ltd (CTC Pty Ltd), Narrabri

(trindallconsulting@gmail.com)

September 2017

Background

The Australian Wildlife Conservancy (AWC) plans to establish a native wildlife sanctuary within the area known as the Pilliga State Conservation Area (SCA). A major component of the works schedule will be to construct a 33 km perimeter fence as well as create a new 8 km internal road. The primary party responsible for undertaking the Cultural Heritage Assessment (CHA) for the Review of Environmental Factors (REF) for the activity is OnSite Cultural Heritage Management (OCHM).

OCHM completed the field survey of the external boundary fence with representatives from the Wee Waa and Pilliga Local Aboriginal Land Councils (LALCs) but they were unable to complete the CHA of the proposed new internal road. Craig Trindall Consulting Pty Ltd was then engaged to undertake the field survey of the 8 km where the proposed new internal road will be constructed.

Cultural Heritage Review and Results

A desktop analysis of the area was undertaken by OCHM. A search of the NSW Office of Environment (OEH) Aboriginal Heritage Information Management System (AHIMS) database was conducted and published materials associated with the area were reviewed.

The AHIMS search showed that there are sites recorded within the boundary of the proposed perimeter fence line, however, there are no recorded Aboriginal sites of significance identified within 1 km of the proposed new internal road.

The aim of this field survey was to identify any physical objects of cultural significance along the proposed route of the new road (Figure 1) and assess if the proposed activity will have any form of impact on any such cultural values within the activity line. The field survey was conducted on Friday the 1st of September 2017 on a clear day with very little clouding. Care was taken to look for areas containing rocky outcrops, old growth timber, large boulders, overhangs, scalded areas, and clusters of native grasses and vegetation.

Ground visibility was generally very poor due to the amount of foliage present on the surface. The scrub was relatively thick except in small patches where a fire had been through in the last 2 years. In general there is very little old growth timber present. There are substantial numbers of native plants that are utilised for food, medicinal and tool-making purposes within the general vicinity of the impact zone (that being a 5 metre corridor), however, the plant species present represent only a very small sample of those that are abundantly available in healthy clusters throughout the Pilliga SCA.

There was only one Aboriginal site of significance identified on or in the near vicinity of the proposed new trail during the survey. This was in the form of a culturally modified tree (Figure 2, location details in Appendix 1). 13 trees that presented with scarring on or near the activity line were identified as not being modified by humans and were not considered further (see Appendix 2).

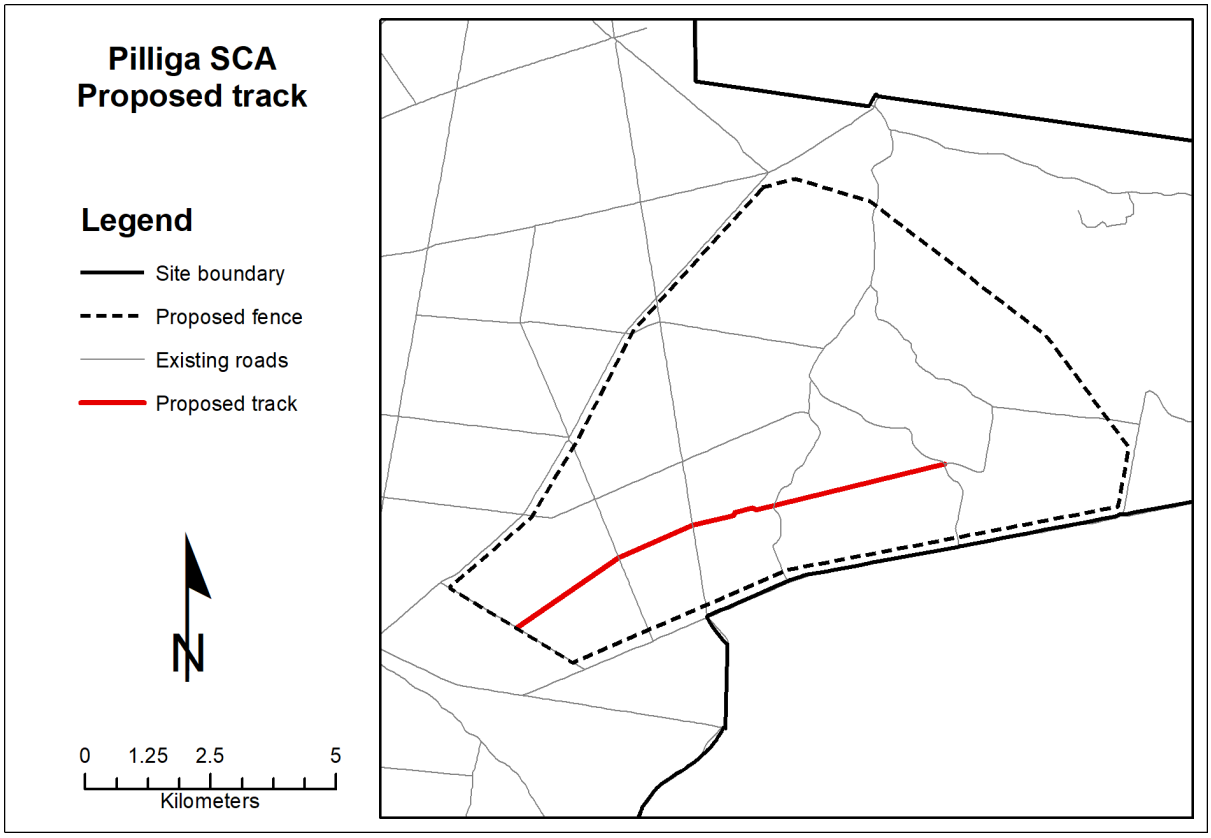


Figure 1: Route of proposed track that was surveyed

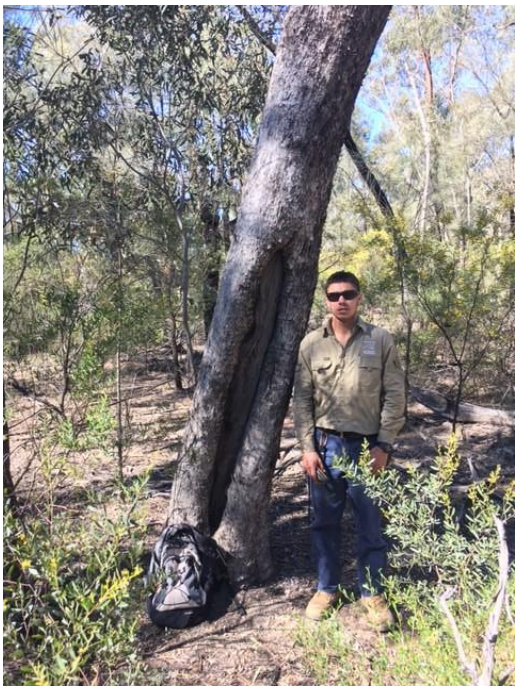


Figure 2: Culturally modified tree (Tree no. 10)

Recommendations

It is in the opinion of the CTC Pty Ltd that the proposed activity will have zero to minimal impact on the cultural values of the area should the proposed activity footprint not come within 10-

15 m of the identified tree. In order to ensure that the tree remains in situ it is recommended that:

- The tree is relocated and flagged with identifiable marking tape to alert AWC staff (or any external contractors) that the tree is a culturally significant site
- A management plan is devised to ensure that the tree will not be damaged either during the construction of the road or any other activity undertaken by AWC or its contractors
- The AWC staff engaged in the construction of the new road be given appropriate guidance and/or training in the identification of Aboriginal cultural heritage material
- That any external contractor(s) who should be engaged in the proposed activity to undertake any earthworks be made aware of the types of cultural heritage materials that they may encounter while undertaking their activity
- That any external contractor(s) who should be engaged in the proposed activity be advised of the appropriate course of action should they encounter/discover/uncover any objects of cultural heritage significance
- That work is to cease immediately and the Field Work Supervisor is to be notified as soon as possible should any other objects of cultural heritage significance be identified during the construction of the new internal track.
- The person in charge is then to seek advice and/or assistance from local Aboriginal stakeholders on how best to proceed

There is a section where the proposed road follows the centre of an existing creek bed E 717885 and N 6617381 on Rocky Creek and I strongly recommend that the road be moved up onto the western/north western bank. Care will also need to be taken where the proposed road crosses other smaller ephemeral creeks within the forest.

Table 3 – Creek crossings

GPS Coordinates	Creek no. (and name if known)	Photograph provided in Appendix 3
717885 / 6617381	026 Rocky Creek	Yes
717701 / 6617317	027 Rocky Creek	Yes

Appendix 1 – Location of cultural site

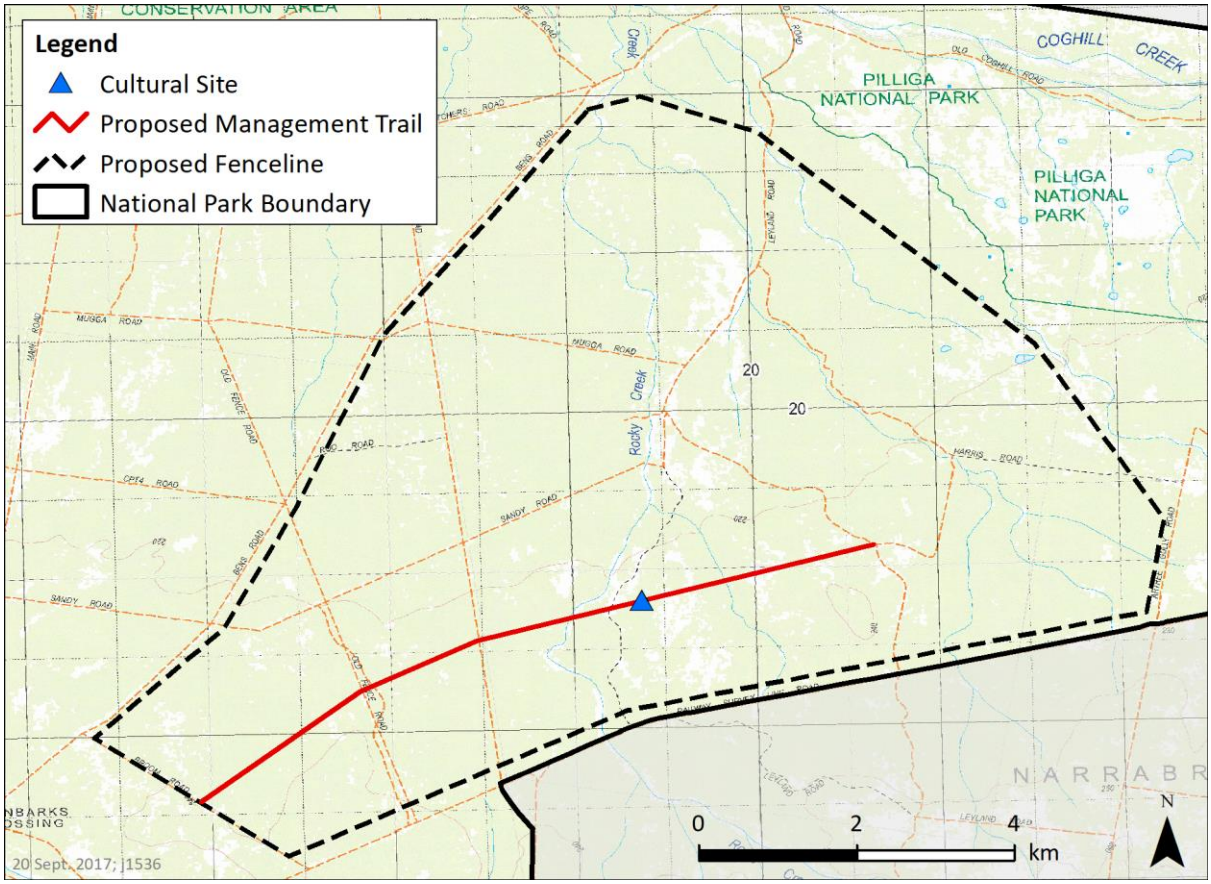


Figure 3: Location of scarred tree identified as having been culturally modified

Table 1 – Scarred tree identified as being culturally modified

GPS Coordinates ***UTM UPS 55 J***	***Tree no.***	***Photograph provided***
The coordinate of this site has been removed to ensure its location remains confidential	10	Yes, Figure 2

Appendix 2 – Scarred trees not culturally modified

Table 2 – Scarred trees not culturally modified

GPS Coordinates ***UTM UPS 55 J***	***Tree no.***	***Photograph provided in Appendix 2***
715869 / 6616610	1	Yes
715906 / 6616630	2	Yes
715972 / 6616657	3	Yes
715999 / 6616684	4	Yes
719565 / 6617805	5	Yes
719564 / 6617805	6	Yes
719088 / 6617672	7	Yes
718906 / 6617639	8	Yes
718844 / 6617623	9	Yes
718105 / 6617430	11	Yes
717820 / 6617370	12	Yes
717718 / 6617327	13	Yes

Tree1

Tree 2

Tree 3

Tree 4

Tree 5

Tree 6

Tree 7

Tree 8

Tree 9

Tree 11

Tree 12

Tree 13

Appendix 3 – Photographs of creek bed where road is proposed to go

Rocky Creek

Rocky Creek