New South Wales Archaeology Pty Ltd ACN 106044366

Revised Report
Proposed Hard Rock Quarry, 278 Springs Road, Rock Flat, via Cooma
Aboriginal Cultural Heritage Assessment Report

Date: 9 September 2018
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Local Government Area: Snowy Monaro Regional Council

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SUMMARY

This summary presents an overview of the legislative context, proposed development, subject area, study aims, conclusions and recommendations.

This report is a revised document prepared further to a request from NSW Office of Environment and Heritage (NSW OEH) to address certain matters.

The National Parks and Wildlife Act 1974 (NPW Act) is the primary legislation for the protection of some aspects of Aboriginal cultural heritage in NSW. One of the objectives of the NPW Act is:

> *… the conservation of objects, places or features (including biological diversity) of cultural value within the landscape, including but not limited to: (i) places, objects and features of significance to Aboriginal people … (s.2A(1)(b)).*

Part 6 of the NPW Act is administered by OEH and provides specific protection for Aboriginal objects and declared Aboriginal places by establishing offences of harm. Harm is defined to mean destroying, defacing or damaging an Aboriginal object or declared Aboriginal place, or moving an object from the land. Anyone proposing to carry out an activity that may harm an Aboriginal object or declared Aboriginal place must investigate, assess and report on harm that may be caused by the activity they propose.

SQ Licenses Pty Ltd and Schmidt Quarries (the proponent) propose to extract and process up to 4.6 million tonnes of rock from the project site encompassed by Lots 62, 76, 78, 106 & 120 in DP 750540 278, Springs Road, Rock Flat, some 15 kilometres southeast of Cooma. New South Wales Archaeology Pty Ltd has been commissioned to undertake an Aboriginal Cultural Heritage Assessment in relation to this proposal.

This assessment has been conducted in accordance with the NSW Office of Environment and Heritage's (NSW OEH 2011) *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* and *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (NSW DECCW 2010a).

A process of Aboriginal community consultation has been undertaken in accordance with the guidelines as set out in OEH's *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW DECCW 2010b). There are eight Registered Aboriginal Parties (RAPs) in the process of consultation for the project.

The study has sought to identify and record Aboriginal cultural areas, objects or places, to assess the archaeological status of the proposal area, and to formulate management recommendations based on the results of community consultation, background research, field survey and impact assessment.

An original search of the NSW OEH Aboriginal Heritage Management Information System (AHIMS) was conducted for this project (AHIMS Reference: 292605). One Aboriginal object site is listed in the search and is some distance outside and to the south of the subject area. An updated AHIMS search was conducted on 22 May 2018 (AHIMS Reference: 346532). Two additional AHIMS sites are listed and these are located to the south of the proposed access road for the project: AHIMS #62-2-0433 and #62-2-0434.

An initial field survey for Aboriginal areas, objects and places was conducted in 2017. The subject area was found to have sustained low/moderate impacts as the result of previous agricultural land use. No Aboriginal objects were recorded. Generally, the subject area has been found to be of very low to low archaeological sensitivity and potential. A subsequent field inspection was conducted in respect of the OEH request for further information, at which time the two new AHIMS sites (#62-2-0433 and #62-2-0434) were relocated.

No historic features or values were identified during the assessment.

As a result of the assessment the following conclusions are made:

- There are no identified heritage constraints in regard to the proposal. The subject area is assessed to be of very low heritage potential and significance.
- No further heritage investigations are required.
- Two Aboriginal object sites are known to be present adjacent to the activity area. These are located south of a section of the proposed access road and would not be impacted as a result of the activity. An AHIP is not required.
- It is recommended that the two Aboriginal object sites are identified to the proponent in the field prior to the construction of the access road so as to ensure that inadvertent impacts do not occur during construction. A temporary fence or barrier should be installed to delineate a no-go zone.

Acknowledgments:

Archaeological evidence confirms that Aboriginal people have had a long and continuous association with the region for thousands of years. We would in particular like to acknowledge and pay our respects to the traditional owners of the country which is encompassed by the proposal.

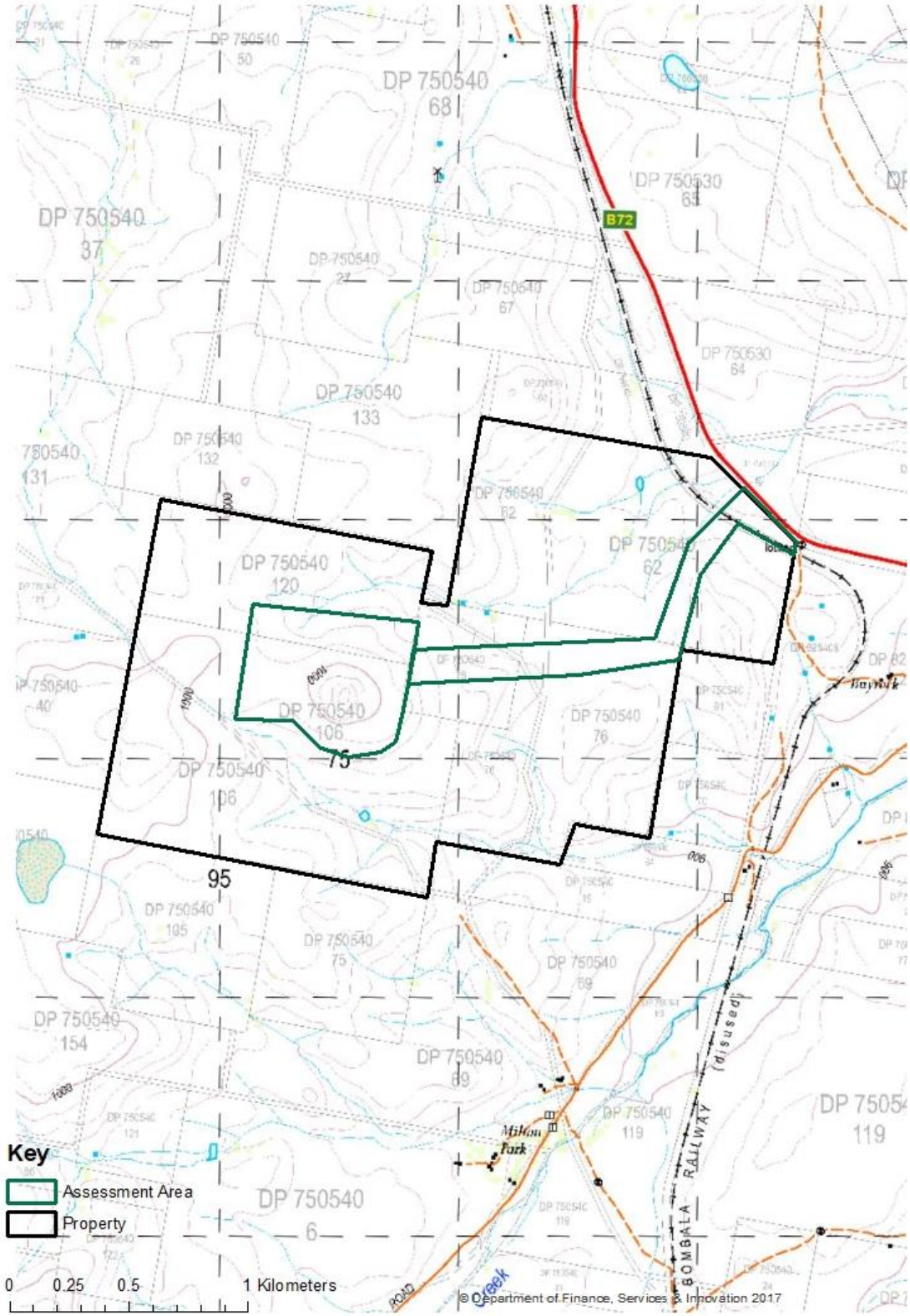

Figure 1 Location of the subject area. Note. The assessment area fully encompasses the proposed impact area.

1. INTRODUCTION

This revised document describes the Aboriginal cultural heritage assessment undertaken in respect of a proposed hard rock quarry at Rock Flat, via Cooma NSW (Figure 1). SQ Licenses Pty Ltd and Schmidt Quarries propose to establish the hard rock quarry at 278 Springs Road, Rock Flat and to extract up to 280,000 tonnes per annum, with a total resource of approximately 4.6 million tonnes.

The subject area is located on the western side of the Monaro Highway, approximately 15 kilometres south of Cooma.

The project is designated local development under Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act). The NSW Department of Planning and Environment has issued the Secretary's Environmental Assessment Requirements (EAR 1129) for the preparation of an Environmental Impact Statement (EIS). Heritage is identified as a Key Issue requiring:

> *An assessment of the potential impacts on Aboriginal heritage (Cultural and archaeological), including evidence of appropriate consultation with relevant Aboriginal communities/parties and documentation of the views of these stakeholders regarding the likely impact of the development on their cultural heritage; and*
> *Identification of historic heritage in the vicinity of the development and an assessment of the likelihood and significance of impacts on heritage items, having regard to the relevant policies and guidelines.*

The objective of the cultural heritage assessment is to prepare an ACHAR which would form a component of an Environmental Impact Assessment (EIS).

This revised report has been prepared in respect of an OEH request for further information. The following matters are addressed:

- The assessment area vis-à-vis the site area defined in the EIS: The proposed activity area is located wholly within the assessment area;
- Two Aboriginal object sites located by OEH: These are identified and located outside proposed impact areas;
- Aboriginal consultation: Aboriginal consultation is updated in this revised report;
- The predictive model of site distribution in the area: The predictive model relevant to the area is described in further detail;
- Management: Management recommendations are updated.

The content and format of the report is set out in accordance with the NSW OEH (2011) *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* document. The report aims to document:

- The Aboriginal objects and declared Aboriginal places (as relevant) located within the area of the proposed activity;
- The cultural heritage values, including the significance of the Aboriginal objects and declared Aboriginal places that exist across the whole area that will be affected by the proposed activity, and the significance of these values for the Aboriginal people who have a cultural association with the land, as relevant;
- How the requirements for consultation with Aboriginal people have been met (as specified in clause 80C of the NPW Regulation);
- The views of those Aboriginal people regarding the likely impact of the proposed activity on their cultural heritage (if relevant);
- The actual or likely harm posed to the Aboriginal objects or declared Aboriginal places from the proposed activity, with reference to the cultural heritage values identified;
- Any practical measures that may be taken to protect and conserve those Aboriginal objects or declared Aboriginal places (if relevant); *and*
- Any practical measures that may be taken to avoid or mitigate any actual or likely harm, alternatives to harm, or, if this is not possible, to manage (minimise) harm (if relevant).

This project has been undertaken by Julie Dibden (Australian National University: BA with Honours; PhD) and Andrew Pearce (BA Archaeology and Paleoanthropology), NSW Archaeology Pty Ltd. Field assistance was provided by Eric Naylor, Merrimans Local Aboriginal Land Council. A second site visit was conducted on 25 May 2018 by Julie Dibden and Andrew Pearce.

2. DESCRIPTION OF THE AREA

In this section, background and relevant contextual information is compiled, analysed and synthesized. The purpose of presenting this material is to gain an initial understanding of the cultural landscape; the following topics are addressed (*cf.* OEH 2011: 5):

- The physical setting or landscape;
- History of peoples living on that land; *and*
- Material evidence of Aboriginal land use.

2.1 The Physical Setting or Landscape

Aboriginal people have occupied NSW for more than 42,000 years (Bowler *et al.* 2003). Evidence and cultural meanings relating to occupation are present throughout the landscape (NSW OEH 2011: iii).

A consideration of landscape is particularly valuable in archaeological modelling for the purposes of characterising and predicting the nature of Aboriginal occupation across the land. In Aboriginal society, landscape could be both the embodiment of Ancestral Beings and the basis of a social geography and economic and technological endeavour. The various features and elements of the landscape are/were physical places that are known and understood within the context of social and cultural practice.

Given that the natural resources that Aboriginal people harvested and utilised were not evenly distributed across landscapes, Aboriginal occupation and the archaeological manifestations of that occupation will not be uniform across space. Therefore, the examination of environmental context is valuable for predicting the type and nature of archaeological sites which might be expected to occur. Factors that typically inform the archaeological potential of landscape include the presence or absence of water, animal and plant foods, stone and other resources, the nature of the terrain and the cultural meanings associated with a place.

Additionally, geomorphological and humanly activated processes need to be defined as these will influence the degree to which material evidence may be visible and/or conserved. Land which is heavily grassed and geomorphologically stable will prevent the detection of archaeological material, while places which have suffered disturbance may no longer retain artefacts or stratified deposits. A consideration of such factors is necessary in assessing site significance and formulating mitigation and management recommendations. The following information describes the landscape context of the subject area.

The subject area property consists of Lots 62, 76, 78 106 and 120 of DP 750540 in the Parish of Gladstone, County of Beresford, in the local government area of the Snowy

Monaro Regional Council. It is located approximately 15 kilometres southeast of Cooma. The location is shown on Figure 1.

The area is situated on the Monaro and is part of the Eastern Uplands of southeastern Australia (Jennings and Mabbutt 1977). The Eastern Uplands consists of a wide plateau which extends from the coastal escarpment on the east, to the slopes of its western side. The landscape has low relative relief, lies generally below 600m altitude and slopes generally less that 5º. About 20% of the Uplands contains steeper hills and ranges, and the subject area falls generally within this latter description.

The Monaro is an area of high tablelands and mountains; it is bounded on the north by the Namadgi ranges, on the west by the alpine watershed, the east by the Kybeyan and Gourock escarpment and the south by the Victorian border (Flood 1980). Four distinct natural environments have been defined by Costin (1954); the alpine, sub-alpine, montane and tableland. The proposal area is situated within the latter. The tableland is generally located at elevations between 610 - 915m (Flood 1980).

The area has a strongly seasonal thermal climate (Jennings and Mabbutt 1977). In summer, hot days are followed by temperate nights, while in winter days are cool to cold and the nights cold and frosty with temperatures regularly falling below 0 degrees C. Each winter brings some light snow falls over most of the district which can be heavier on higher ground (Plowman 2007). Average rainfall annual is 688mm (Flood 1980). Flood (1980) draws attention to the phenomena of cold air drainage, frost and wind as affecting human occupation in the region. High winds and frost occur frequently; Flood (1980) argues that, in particular, the combination of cold temperature with wet winds was probably more significant in regard to human occupation than cold in itself.

In terms of the broader-scale landscape, the subject area comprises a summit which falls away steeply before gradients ease on surrounding simple slopes. Thereafter the gradient further lessens to encompass an area of undulating upland flat, before again falling away gently nearer to the highway. The ground surface over the site generally falls from west to east. It is situated to the west of Spring Creek, which flows into Rock Flat Creek in an area to the east of the proposal area. There is no reliable water near the site although first order open depressions commence drainage at the site (Figure 1).

The geology of the site is basalt, with the hill proposed for extraction comprising a volcanic neck (plug/dyke) - See Figure 2. Cobbles are scattered copiously across most of the subject area and there is some low quality quartz present.

The site is vegetated with grasses, tussock, some shrubs (at elevation), thistle and other weeds, and is currently used for grazing (Plates 1 & 2). The great majority of the original vegetation structure has been altered through clearance and subsequent farming. No trees remain in the subject area. The local landscape has a history of European land use extending from the earlier-mid part of the 1800s and principally comprising the grazing of

livestock, clearing and timber getting (Dearling 2004; Plowman 2007). The subject area itself has experienced extensive clearance and grazing management over many years.

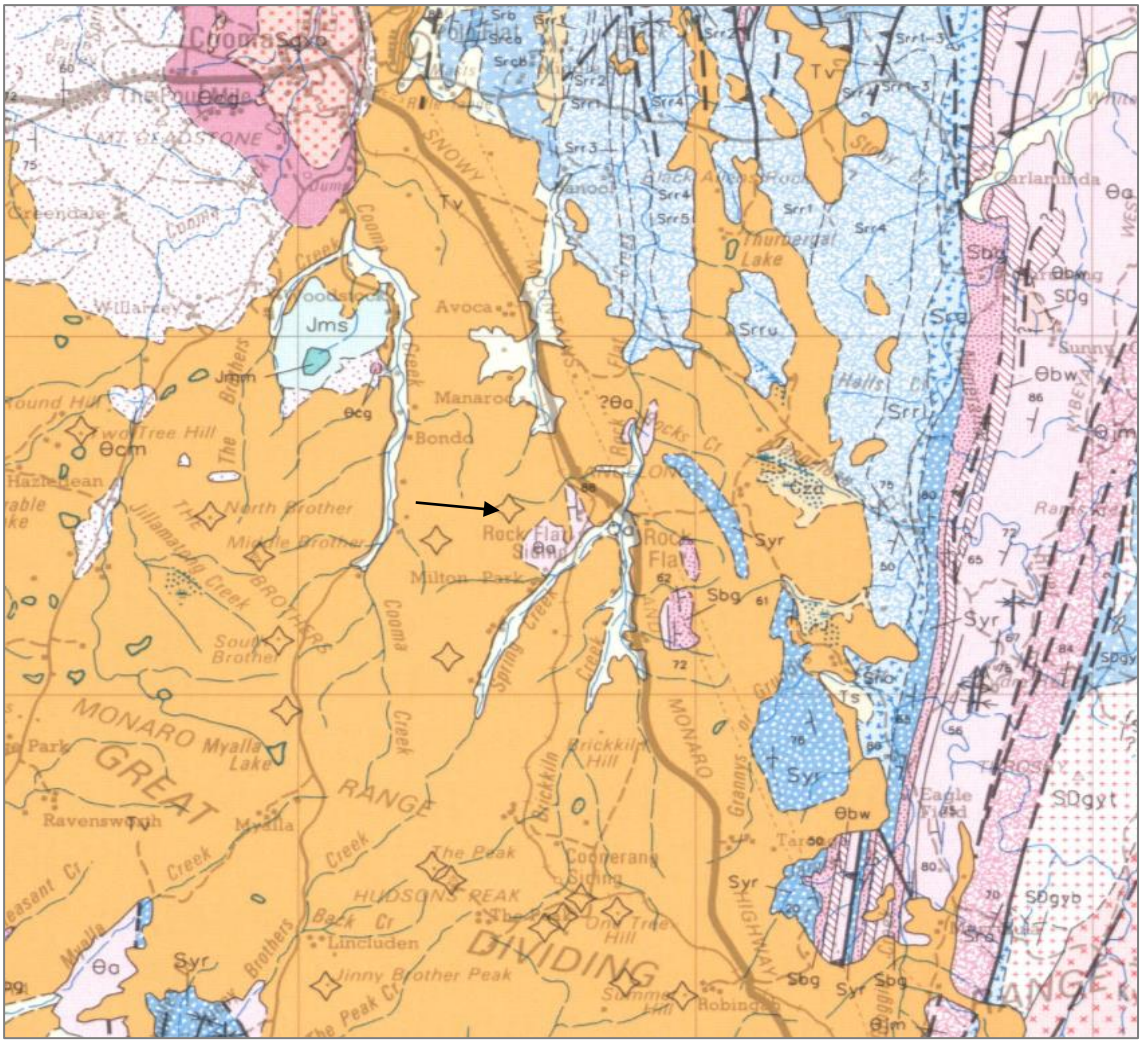

Figure 2 The geological mapping for the local area with the volcanic neck indicated.

Plate 1 The subject area. Photo taken from base of the dyke, looking 50°.

Plate 2 Looking 270° from Survey Unit 5.

2.2 History of Peoples Living on the Land

Aboriginal people have occupied Australia for at least 40,000 years and possibly as long as 60,000 (Mulvaney and Kamminga 1999: 2). By 35,000 years before present (BP), all major environmental zones in Australia, including periglacial environments of Tasmania, were occupied (Mulvaney and Kamminga 1999: 114).

At the time of early occupation, Australia experienced moderate temperatures. However, between 25,000 and 12,000 years BP (the Last Glacial Maximum), dry and either intensely hot or cold temperatures prevailed (Mulvaney and Kamminga 1999: 114). At this time the mean monthly temperatures on land were 6-10ºC lower; in southern Australia coldness, drought and winds acted to change the vegetation structure from forests to grass and shrublands (Mulvaney and Kamminga 1999: 115-116).

During the Last Glacial Maximum at about 24-22,000 years ago, sea levels fell to about 130 metres below present and, accordingly, the continent was correspondingly larger. With the cessation of glacial conditions temperatures rose with a concomitant rise in sea levels. By c. 6,000 BP, sea levels had more or less stabilised to their current position. With the changes in climate during the Holocene, Aboriginal occupants had to deal not only with reduced landmass, but changing hydrological systems and vegetation; forests again inhabited the grass and shrublands of the Late Glacial Maximum. As Mulvaney and Kamminga (1999: 120) have remarked:

> When humans arrived on Sahul's shores and dispersed across the continent, they faced a continual series of environmental challenges that persisted throughout the Pleistocene. The adaptability and endurance in colonising Sahul[1] is one of humankinds' inspiring epics.

Aborigines have lived in the Cooma-Monaro district and its environs for at least 21,000 years (Flood *et al*. 1987). In the south-eastern highlands the Birrigai rock-shelter has provided dates of occupation from 21,000±200 years BP (Flood *et al*. 1987: 16). During the Pleistocene the environment of the region would have been cold steppe grassland with vegetated shrubs and scattered groups of Eucalypts located in protected positions (Mulvaney and Kamminga 1999). Between 23,000 and 15,000 years ago harsh conditions prevailed and the mountain peaks were glaciated above 1900 metres; periglacial conditions were present to at least 1000 metres above sea level. The alpine zone was a cold desert with scattered fields of perennial *Plantago* herb fields which may have provided some bulbs and tubers for human consumption (Mulvaney and Kamminga 1999). Over time, the Aboriginal people experienced and adapted to steady and considerable changes in conditions associated with gradual climatic warming, including the alteration of vegetation and variation in the distribution of wildlife (Young 2000).

As far as possible, an ethnographic and historical review of Aboriginal life in the region will be outlined below. However, our understanding of Aboriginal people in this area, and the historical dimension of the colonial encounter has been reconstructed from scant records produced during a context of death and dispossession (Swain 1993: 115); it is sketchy and severely limited. Stanner (1977) has described the colonial and post-colonial past as a 'history of indifference', and this portrays both the substantive situation which prevailed and the general lack of regard for this history. For a considerable period of time after Europeans arrived in Australia, no concerted ethnographic investigations were undertaken to learn about the society and culture of Aboriginal people. As a result, in trying to reconstruct the complex traditional cultures of Aboriginal groups, investigators of today are necessarily required to piece together, as best as possible, fragmentary information derived from the incidental annotations of disparate early observers. As elsewhere, this applies also

[1] Sahul is the name given to the single Pleistocene era continent which combined Australia with New Guinea and Tasmania.

to the Aboriginal peoples who occupied the country that included the subject area. Knowledge and understanding of Aboriginal social life and organisation in south-eastern New South Wales at the time of European occupation is minimal. Fundamental details relating to kinship, clan, territorial and religious organisation is, by and large, unknown.

At the time of European contact, the major part of what is now called the Monaro was inhabited by at least 500 Ngarigo speaking Aborigines (Helms 1895: 388). This group exploited the resources of the riverine, grassland and open forests of the region, including those located in the environs of the subject area. Their choice of camp-site was influenced by several factors, and from archaeological evidence, Flood (1980: 158) indicates that in this region camp-sites will be typically found within one kilometre of reliable water sources, most usually within 100 metres from water, though never at the water's edge.

The Ngarigo people maintained social relationships with neighbouring groups including Ngunnawal, Djilamatang, Jamathang and coastal groups including the Yuin (Howitt 1904). Some information is recorded about the nature of Aboriginal occupation of the region during the early period of European occupation. The literature which does exist has presented a biased view of Aboriginal life within the mountains which is focused particularly on Bogong Moth exploitation. Indeed, the ethnohistoric literature has implied to some readers that seasonal exploitation of the moth was the major reason for Aboriginal usage of the Alpine region (Flood 1980).

Flood (1973, 1980) was heavily influenced by the extant ethnohistoric literature which focused on moth exploitation in her seminal study of the region. She constructed a hypothesis of seasonal usage of the highlands based on the exploitation of the moth. The moth, she argued, was important as an economic food source and its exploitation may have been causal as the impetus for the initial usage of the highlands. Flood (1980) suggested that the Ngarigo people occupied low altitude valleys (< than 600 m) in winter, moving into higher areas in summer primarily for the purpose of exploiting the Bogong Moth. She argued that the occupation pattern which resulted from the exploitation of moths is one in which a series of camps extended from the lowest valleys below 300 m up to the alpine treeline zone at 1830 m.

A contrary viewpoint to Flood's (1980) model has been provided by Chapman (1977) who argued that there was no evidence which pointed to the moth as being a staple food source; Chapman argued that the importance of the moth as a food resource has been over emphasized by early commentators. She argued that in addition to the lack of evidence that the moth was a reliable food source, moths lack the nutritional value to act as a staple and that the moth, in any case was primarily consumed by men. Chapman (1977) instead argued that the significance of moth exploitation was that it fostered social cohesion within the region. Likewise, Kamminga *et al.* (1989) have argued that the large inter tribal gatherings which were associated with moth exploitation acted to mediate and foster political and social linkages between the different language and tribal groups which came together during these occasions.

Researchers such as Bowdler (1981), Cooke (1988), Gott (1982) and Kamminga *et al.* (1989) have drawn attention to a variety of vegetable products available locally which are likely to have been utilized as food resources. Bowdler (1981) has argued that the importance of the moth was more ideological than economic and that the yam daisy would have provided a more reliable food source.

A model of seasonal usage of the high country nevertheless continues to have currency within the literature. The seasonal migration to higher altitudes in summer months is accepted (*cf.* Navin 1991). During winter small groups of Aboriginal people would have occupied the lower montane valleys and the adjacent tablelands (Mulvaney and Kamminga 1999: 298). The region would have opened up considerably however, in summer. It was during this time that people from other areas gathered to perform inter-tribal ceremonies (Mulvaney and Kamminga 1999: 299). Although ceremonial activities are not known to have taken place in the subject area, nevertheless these affiliated groups moved through various corridors in order to congregate in the Alps, and while making their way through country they may have traversed the region where the survey area is situated (*cf.* Howitt 1904; Payten 1949; Flood 1980).

White settlers began to move into the Monaro region during the early 1800s. European settlement ultimately resulted in the alienation of Aboriginal people from their traditional lands and changes in regard to cultural and economic relationships with country. In the local area Aboriginal people worked as shepherds and sheep washers on Bibbenluke Station in the mid 1800s (Dawson 1996).

Much of the impetus for early exploration in NSW was driven by the need for new land for grazing (*cf.* Andrews 1998). In 1823, a group of experienced explorers gathered at the Throsby property at Bong Bong, Moss Vale to prepare for their next expedition. The men in question were Charles Throsby, Captain Mark Currie, Major John Ovens, Throsby's overseer Joseph Wild and an Aboriginal guide. Together they set out to explore the land south of Lake George, which had been partially explored in previous years by Throsby and Wild, who had discovered the Queanbeyan River and the Murrumbidgee. The party attempted to follow the Murrumbidgee south but upon encountering rugged terrain they elected to travel a few kilometres to the east through a chain of clear downs that is thought to correspond to the Michelago, Colinton and Bredbo valleys. It was during this part of the journey that they came across an Aboriginal tribe near Billilingra. After overcoming some apparent initial fear of the newcomers the Aboriginal people engaged in conversation with the assistance of the guide accompanying Throsby's party, and amongst other things they informed the explorers that the area of the rolling downs was the 'Monaroo'. The group continued on and crossed a river they presumed to be the Murrumbidgee but that is thought to have more likely been the Numeralla and made it to an area in the vicinity of present day Bunyan before having to turn back on account of their limited supplies. They named the treeless rolling downs 'Brisbane Downs' after the governor of the time, however, the Aboriginal name proved the more popular name in time (Neal 1976: 5-6; Plowman 2007: 6, 8-9).

European settlement of the area began in the late 1820s as various farmers made the decision to take their chances with squatting. The Limits of Location at that time ended at Michelago, so all settlement to the south was technically illegal. Census records from 1828 indicate that there were already 20 new settlers on the Monaro, although there is some confusion regarding this number since the people listed were all servants living on the Limestone Plains. Nevertheless, Richard Brooks is known to have had stock and men at Gegedzerick near Berridale in 1827. In 1832 William Glanville came to the area to work for Joseph Ward at Wambrook and he reported that at that time there was a hut at Cooma (Kuma) belonging to Cooper and Levy and that Coolringdon, Gegedzerick and Wambrook were the only stations to the west of this. Two years later, John Lhotsky relayed information from Mr Bath, the manager of Kuma Station, that R. Campbell had been established at Waterholes, near Michelago for seven years, Richard Brooks had been at Jijedery (Gegedzerick) for six years, Cooper and Levy had been at Cooma for five years and Dr Reid had been at Bunyan for a similar period of time (Neal 1976; Plowman 2007: 10).

When John Lhotsky travelled through the region in 1834, he considered himself 'surrounded by absolute anarchy and lawlessness' (cited in Andrews 1998). At that time the majority of men living on the Monaro during the 1830s were assigned servants either serving their sentence, ticket of leave, or freed and in employment (Andrews 1998). The theft and resale of livestock was common practice.

Lhotsky's description of the landscape noted that it was a remarkable though inexplicable fact that the plains were 'altogether destitute of trees'. He observed that there was a surprising number of travellers on the roads that he was continually being interrupted. 'There is a greater traffic and motion on Menoro, than our Legislature may believe'. At Bunyan he met with a Dr Reid who suggested a visit to Mr Bath, the manager of Kuma Station. The encounters with Reid and Bath and the subsequent inspection of the Rock Flat Spring provided Lhotsky with a lot of material for his journal but unfortunately at that date the manuscript abruptly ends with the balance appearing to be lost, even though his expedition continued on, heading south (Ploughman 2007).

2.3 Material Evidence

A revised search of the NSW OEH Aboriginal Heritage Information Management System (AHIMS) was conducted on 22 May 2018 (AHIMS client service ID: 346532). The search area measures 66 square kilometres, with a buffer of 50 meters, and is encompassed by the following co-ordinates at Datum GDA, Zone 55 - Eastings: 690000 - 701000, Northings: 5972000 - 5978000. Three Aboriginal object sites are in the AHIMS search area (Table 1; Figure 3).

Searches have been conducted of the NSW State Heritage Inventory and the Australian Heritage database. No Aboriginal heritage sites are listed on these as being in the activity area.

OEH has raised the matter of whether there is a potential Aboriginal Place in the proposal area. We have been unable to find any information in regard to an Aboriginal Place nomination for the area, however, it is considered highly unlikely given that neither the landowner nor the local Aboriginal Land Council are aware of it.

Table 1 AHIMS Site search.

Site ID	Site name	Datum	Zone	Easting	Northing	Context	Site features
62-2-0236	EGP 2-26	AGD	55	698260	5975190	Open site	Artefact : 2
62-2-0433	RFQ1	GDA	55	695861	5975351	Open site	Artefact : 2
62-2-0434	RFQ2	GDA	55	695895	5975317	Open site	Artefact : 1

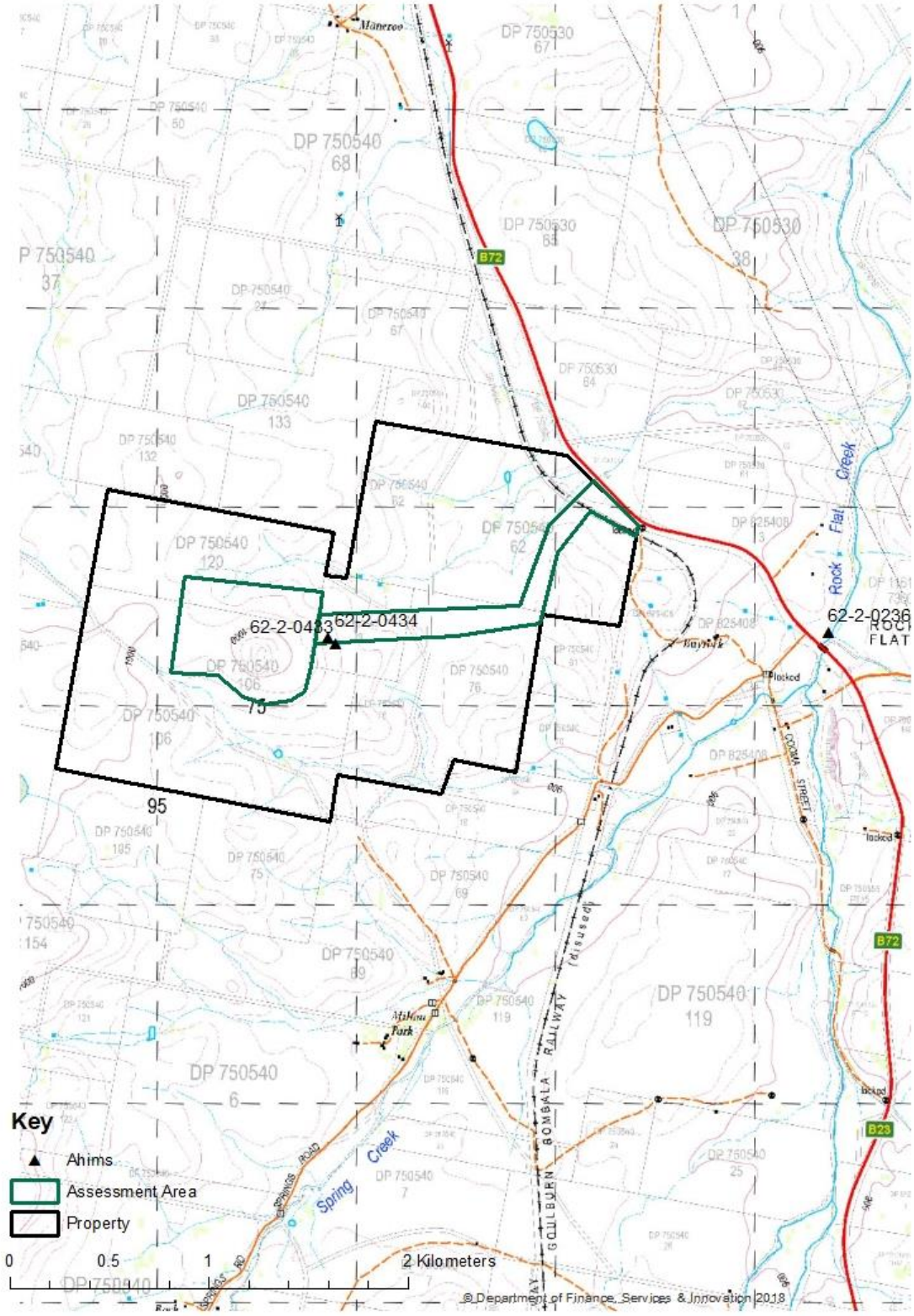

Figure 3 Location of the registered Aboriginal object sites identified in the search of the NSW OEH AHIMS in respect of proposed activity area.

2.3.1 Previous Archaeological Work

While archaeological studies conducted within the local area have been limited in number, a greater number of studies have been carried out within the broader region. The following discussion includes archaeological work and its results conducted within the wider Monaro area.

On the tablelands around Cooma, Flood (1980) recorded two artefact scatters which she described as being indications of transitory camp sites. One was positioned on a slope beside Cooma Creek, south of Cooma, while the other was recorded on a slope above Rock Flat in association with a quartzite deposit and mineral spring. Flood's (1980: 181) survey on the Monaro Tablelands was 'rather uneven', however, she argued that the site distribution patterns were significant. Flood (1980) found that few sites were recorded on the treeless parts of the tablelands and explained this as being due to the unfavourable nature of such an environment. Flood (1980) suggested that the location of sites in the area indicated an intention to exploit local raw material such as quartzite and basalt and could also be '…in the nature of transit camps'.

Djekic (1982) recorded twelve sites while surveying the route for a proposed transmission line between Cooma and Jindabyne. These sites comprised six scarred trees, four artefact scatters and two isolated artefact finds.

Lance and Hughes (1983) surveyed an area of c. six hectares in the northern area of the Cooma township for the proposed site of the Snowy Mountains Hydro-Electric Authority head office. Visibility was limited and no sites were found. However, Lance, formerly a Cooma resident, noted his previous observation of artefact scatters on slopes one kilometre from Cooma Creek near North Cooma, comprised of quartz and quartzite flakes and flaked pieces.

Paton (1985) recorded fourteen artefact scatters, six isolated finds and one stone quarry while surveying for the proposed Cooma-Royalla 132 kV transmission line north of Cooma. One extensive site recorded covered an area of 1,000 sq. metres; artefact density is calculated to have been in the order of one artefact per two square metres. Paton (1985) attributed the location and size of these sites to their aspect and proximity to the nearby Numeralla River.

In 1991 two burials were found in an alluvial terrace north-east of Bunyan. The skeletal remains were dated to about 6,000 years BP and were accompanied by grave goods, including 327 pierced macropod teeth from Eastern Grey, Red Neck and Swamp Wallabies, as well as 450 grams of red ochre (Feary and Pardoe 1992). Stone artefacts, including hammerstones and bone implements, were also found at the site.

Navin (1994) conducted a survey for a proposed Cooma sewerage augmentation program. This survey included planned pumping stations at Cooma North, Central Cooma, Cooma South and Polo Flat, as well as several kilometres of linking mains and a four hectare area beside Cooma Creek known as 'The Glen'. The survey located three Aboriginal sites adjacent to Cooma Creek, two of which were small low density artefact scatters. The third site located on basal spur slopes on the western side of the ridgeline at 'The Glen', contained '… numerous concentrations of surface artefacts of varying density, surface area and artefact rock type' (Navin 1994:12). These included flakes, cores and flaked pieces of vein and crystal quartz, silcrete, volcanics and chert. Subsequent subsurface testing revealed a similar assemblage of raw materials present in the deposit (English and Gay 1994).

Kuskie, Navin and Officer (1995) surveyed the proposed route of the Eastern Gas Pipeline. On the Monaro section of their study area 101 sites were recorded. Several artefact scatters were located in the local area of the proposed development, including the site listed on the AHIMS search. It was concluded that sites were situated on elevated, relatively level ground adjacent to a permanent water source, that larger sites occurred in proximity to major fluvial corridors or in areas where high quality quartz occurred and that sites tended to be situated in elevated contexts away from cold air drainage and tend to be found on north facing slopes.

An archaeological survey of a proposed pine plantation location in cleared, open farmland south-west of Countegany was undertaken by Stone (2000). This area is on the upper watersheds of Hindmarsh Creek and Dirty Waterhole Creek. Two small artefact scatters were recorded during the survey. Site 'Countegany 1' (62-2-0325) was located in association with a low sandy rise directly adjacent to Dirty Waterhole Creek. It contained seven stone artefacts, all flakes of quartz and silcrete. Site 'Countegany 2' (62-2-0324) was recorded on a low granite ridge fronting Hindmarsh Creek. It contained an unspecified number of flakes and a core of quartz, silcrete, chert and quartzite (Stone 2000). It was noted that the locations were most likely originally ribbon gum forest fronting the creek corridors (Stone 2000). From this information it may be deduced that these sites were associated with ecotonal positions in the landscape, in these cases between forest/woodland and second to third order riparian corridors.

Dibden and Mason (2003 pers observ.) recorded a sparse artefact scatter on the top of the cliff and extending southwards over a large area on the eastern side of Lambie Gorge.

Dibden (2003) conducted an assessment of a proposed subdivision site at West Cooma. The landforms comprised simple northward faces slopes at some distance from water. No Aboriginal artefacts were recorded. This result was argued to be in keeping with the relevant predictive model of site location.

Carter (2003) recorded an isolated find while surveying an area of ca. 2.5 hectares for a proposed subdivision of Lot 4 DP 845442, North Cooma. Carter (2003) assessed the study area to be of low potential generally.

A 2003 survey of Portion 319 of 31 ha in Yallakool Road did not locate any Aboriginal sites (Saunders 2003a). Areas of archaeological sensitivity associated with a creek and a drainage line were identified on the basis of topographic modelling but were too disturbed to have retained any archaeological potential.

Saunders (2003b) surveyed an area of 4.047 hectares at North Cooma in response to a subdivision proposal, finding an extensive Aboriginal artefact scatter, comprised predominantly of chert and silcrete, in multiple exposures. The area surveyed was a low gradient footslope land element, and the Effective Survey Coverage was estimated to have been 2.8%.

Surface artefact salvage and subsurface testing subsequently recovered a total of 71 artefacts. Eighty two percent were recovered from the surface and 18% from the test pits (Saunders 2004a). The artefacts comprised flakes, flaked pieces, a blade and a chip. The raw material was mainly silcrete, with a small amount of chert and quartz.

Saunders (2004b) surveyed a proposed 27.8 ha subdivision in Yallakool Road, Cooma. The proposal area was situated mainly on the moderate to steep slopes of a major spur off the Tillabudgery ridgeline, but also included areas of low gradient basal slope near a minor tributary of Cooma Creek. No sites were found despite many areas of bare, partly eroded ground.

In 2004 Dearling carried out preliminary level archaeological assessments within eight northern Monaro nature reserves (Coornatha NR, Dangelong NR, Good Good NR, Kybeyan NR, Mt Clifforf NR, Numeralla NR, Undoo NR and Wadjan NR) and two state conservation areas (Kybeyan SCA and Macanally SCA). Based on environmental and topographic attributes, Dearling rated each study area's potential for prehistoric Aboriginal utilisation and subsequent archaeological signature; more rugged settings affording only periodic or sporadic water sources were generally seen as having low potential and most were most likely utilised during ephemeral, low intensity hunter-gatherer visitation, whereas zones with gentler terrain and more reliable water were attributed variable or higher potential (Dearling 2004). These assessments were based on a preliminary predictive model created on the basis of previous archaeological findings made in the broader region (Dearling 2004: 13-14), specifically:

- Sites will generally be found in association with low gradient or flat areas along major ridges, particularly at ridge junctions and connective points with subsidiary ridge features such as spurs, in saddles or on shoulders;

- Larger sites tend to occur on elevated terraces or basal slopes of spurs and knolls adjacent to permanent or ephemeral water sources, particularly above areas of cold air drainage;
- Near riverine corridors Aboriginal sites will be found on low gradient ground adjacent to but elevated above river channels (eg. low ridges, spurs, knolls and crests);
- Artefact scatters exhibiting higher artefact counts and greatest density will occur closer to permanent watercourses; and
- 'Major sites' will be found at or near spur termini above river valleys.

Subsequent survey of the nature reserves and state conservation areas resulted in the recording of 22 Aboriginal sites including 13 artefact scatters and nine isolated finds, containing a total of 167 artefacts; one 'probable' Aboriginal scarred tree was also noted in Good Good NR (Dearling 2004: 122, 202). In general accordance with the predictive model, it was found that more rugged terrain with less reliable water sources (eg. Coornatha NR, Mt Clifford NR, Numeralla NR and elevated components of Dangelong NR) exhibited little archaeology aside from occasional small, low density artefact scatters (Dearling 2004: 19-20, 39). In these elevated areas, features such as major ridge lines were seen as examples of locations most likely to exhibit small sites with low artefact counts and densities (Dearling 2004: 122). Conversely, most finds were made near more substantial watercourses on locally elevated and well-drained features (eg. river and creek banks, basal slopes and slightly elevated crests in Kybeyan SCA, Dangelong NR and Kybeyan NR) with highest site/assemblage complexity being apparent within or close to ecological boundaries (Dearling 2004: 41, 57-58, 95 122). The highest artefact density was apparent in Good Good Nature Reserve where the low gradient spur and ridge system adjacent to Cowra Creek was seen to be a particularly attractive zone for Aboriginal occupation (Dearling 2004: 46, 122).

Saunders (2005a) located a small disturbed artefact scatter in a proposed 1.21 ha residential subdivision in Kiah Avenue, Cooma. Four stone artefacts were recorded on gently inclined lower slopes approximately 150m from Cooma Back Creek. The artefacts comprised three flakes and a core. Recorded stone types were chert, quartz and quartzite. Saunders concluded that the artefacts probably originated in Kiah Avenue and were outliers of a larger scatter situated on a less disturbed basal slope closer to the creek.

Saunders (2005b) also surveyed a proposed residential subdivision of 12.5 hectares in Kiah Avenue. The proposal area was situated on the eastern slopes of a spur emanating from Mt Gladstone and terminating at Cooma Back Creek. Slope gradient was variable, ranging from approximately 20%, mainly at upper elevations, to approximately 5%. Five small low density stone artefact scatters were recorded. The artefacts comprised

flakes, flaked pieces and a core. Raw materials were quartz, volcanic, silcrete and quartzite. All the sites were all highly disturbed.

Dibden (2009b) was commissioned by Lawrie Carlson, CSD Engineering, to undertake an Aboriginal archaeological assessment in relation to the proposed replacement of a water reservoir at Church Hill, located in North Cooma, NSW. The proposal area was situated on an elevated area about one kilometer to the east of Cooma Creek. The area was a gently sloping crest with a gradient ranging between 0 - 7°. Eleven stone artefacts were recorded in five different exposures across the landform. Effective Survey Coverage encountered during the survey was low, however, numerous soil exposures were present. The area was assessed to be of low archaeological potential due to the high degree of prior impacts and the relatively low density of artefact distribution over that area. The Aboriginal objects recorded were assessed to be of low archaeological significance.

Numerous studies have been conducted south of the subject area. Lewis (1976) conducted a survey of an area of the Lower Snowy River measuring 100 kilometres. The northern boundary of that survey area is situated c. three kilometres below Dalgety. Lewis recorded over 56 sites within the survey area focused on the margins of the Snowy River. Lewis found that sites were present on *any* flat or gently sloping area situated above the flood level. Often sites were found where creeks joined the Snowy River. The majority of sites recorded by Lewis comprised stone artefact scatters. The main source of raw material encountered was found to be river pebbles.

Geering (1981) systematically surveyed an area along the Lower Snowy River, finding a high density of Aboriginal sites which she described as being 'continuous from Dalgety to the Victorian border'. In all, 142 sites were located including 119 open campsites, 21 scarred trees and two stone arrangements. The open campsites ranged in the number of stone artefacts they contained, from three to 367, with about 33% of the scatters comprised of less than 10 artefacts and 18% comprised of more than 100 artefacts. It should be noted, however, that quartz pieces were not included in the artefact count; this is likely to have lessened overall artefact numbers.

Geering (1981) noted that the majority of open campsites located consisted of 'extensive scatters of artefacts with an average density of *only* one or two artefacts per square metre'. All campsites were located on gently sloping or flat ground above the flood level; most level areas along the river were found to contain artefacts. Geering (1981) indicates that the majority of the 21 scarred trees recorded could quite possibly have been the product of Non-Indigenous activity and expresses similar reservations with regard to the two stone arrangements. The findings of high site density are described as being atypical in the Southern Uplands, suggesting that the Lower Snowy River valley and its major tributaries were 'a favoured location for Aboriginal occupation'. Geering (1981) notes however, that given the absence of surveys conducted in the surrounding hills it is not

possible to consider whether or not occupation was focused exclusively on the river corridor.

Lewis (1985) conducted a surface survey of Portion 72 Dalgety in response to a proposed tourist development. The survey area is situated on the east side of the Snowy River immediately south of Dalgety township. Lewis located one artefact scatter which extended along the river bank for a distance of 200 metres. The site consisted of flakes, cores and pebble artefacts including three choppers and one possible hammerstone. The stone materials in the artefact assemblage included silcrete and quartzite. Some artefacts possessed pebble cortex and Lewis (1985) indicated that some raw materials present had been sourced from the Snowy River.

Grinbergs (1992) investigated the prehistory of the Highlands, focusing on the valleys and ranges adjoining the Lower Snowy River, for the purposes of a B.A. Honours thesis. The study area was bounded by the Snowy River and the Suggan Buggan and Ingeegoodbee Rivers and encompassed some 165 sq km. The field survey was principally conducted on areas of exposure provided by vehicle access tracks. In total, 22 open stone artefact scatters and one stone arrangement was identified. The conclusions drawn from analysis of the findings challenge notions of a limited seasonal exploitation of high altitude resources and, instead, Grinbergs (1992) proposed a more complex scenario of occupation and resource exploitation of the region. This proposal suggested a dynamic system of movement and resource exploitation between Lower Altitude, Upper Altitude and High Altitude occupation zones, which took place on a year round basis.

In a survey covering some 124 hectares, Stone (1998) recorded three open artefact scatters on spur crests and ridgelines some 200 metres west of the Undowah River. In addition, one possible Aboriginal scarred tree was noted.

Stone and Duncan (1999) surveyed 1,193 hectares in this area and recorded three Aboriginal scarred trees on the crest of a hill, with one open artefact scatter recorded within 10 metres of Bennetts Creek.

Stone (2000) surveyed an additional 875 hectares in an area near Ando. A total of six open artefact scatters were recorded, three on high ridgelines above a creek, two adjacent to the Undowah River, and one in an elevated area above the river. In all three of these surveys, open artefact scatters were found to be comprised of varying percentages of chert, silcrete and quartz, with some minor representation of quartzite.

Dibden (2005) conducted an assessment of simple slopes located on either side of Native Dog Creek, 22 kilometres south of Nimmitabel. The survey was hampered by low exposure and ground visibility. No sites were recorded, however, given the topographic and broader environmental context, the area was assessed to be of low archaeological potential.

Surveying for a proposed sawmill complex just to the south of Bombala, in an area of 96 hectares, Stone (2001) recorded two open artefact scatters, both situated on ridgelines overlooking watercourses.

A total of 56 Aboriginal object locales were recorded in the Boco Rock Wind Farm site during the assessment conducted for the development application (Dibden 2009a). The majority of these were low or very low density stone artefact distributions located within Survey Units assessed to be of low archaeological potential and sensitivity. A small number of Aboriginal object locales were assessed to be of low/moderate or moderate archaeological significance.

Stone artefacts were found in all environmental contexts surveyed except for flats beside the Maclaughlin River. Generally, plateau and ridge crest landforms were found to contain sparse and isolated stone artefact distributions only, and in many Survey Units on such landforms, no artefacts were found at all. More consistent artefact distribution was found on lower elevation landforms including crests and slopes which fall away from the plateau, or otherwise, are situated above but in close proximity to the Maclaughlin River. This pattern of artefact density and distribution is generally consistent with the predictive model of site type and location applicable to the area.

Artefacts were not recorded in half of the Survey Units (#21). It was predicted that stone artefacts are likely to be present in most, if not all these Survey Units, however, it was assessed that artefact density would be low, very low or negligible.

As noted above, no artefacts were recorded on flats situated in Survey Units adjacent to the Maclaughlin River. This result is in keeping with the predictive model of site type and location relevant to the local area in which it is considered that camp site locations in the vicinity of reliable water are likely to have been on elevated landforms above cold air drainage. While it is unlikely that there are no artefacts in flat landforms, the survey results suggest that artefact density is likely to be very low in flats; effective survey coverage was consistently and considerably higher in flats than elsewhere in the study area.

Approximately half of the artefact recordings consisted of either single stone artefacts (#26: 46%) or otherwise very low numbers (26 locales consist of between 2 and 10 artefacts). The results were assessed to be a reflection of the low artefact density present in the landforms in which they are situated.

The majority of artefacts recorded were flakes, flake portions, flaked pieces and cores made from a range of materials including quartz, silcrete, chert, quartzite and volcanics. The majority of artefacts were made from milky quartz with a minor presence of translucent quartz. Quartz is locally available in pebble form in the Maclaughlin River and also in terrestrial exposures in shale bedrock. All cortex on quartz artefacts was

found to be of pebble form. The dominance of this material is likely to be a reflection of the local availability of this stone. It is noted that the majority of the Survey Units are situated on basalt bedrock and autochthonous quartz was found to be generally absent. Accordingly, the majority of fractured quartz found was considered likely to be artefactual.

Silcrete in many different colours and textures was recorded. Silcrete artefacts possessed both terrestrial and pebble cortex indicating that this material has come from a variety of regional sources. A distinctive, fine grained silcrete with brown and grey mottles was recorded; this same or very similar material has been observed in assemblages at Jindabyne (pers. observation). Other materials were found in very minor frequencies.

As already noted, the majority of artefacts recorded were representative of flaking debitage. The majority of artefacts are the result of hard hammer percussion flaking; however, a small number of bipolar flaked artefacts were also observed.

In addition to flaking debitage, a number of other artefact types or implements were recorded including a silcrete retouched artefact, three amorphous flaked pieces with evidence of usewear (possible scrapers) two hammerstones, an anvil and a large chopper. These implements were found in all landform contexts.

A subsequent program of salvage excavation was undertaken at the Boco Rock Wind Farm in 2016 (Dibden 2017a). This excavation revealed the subsurface presence of stone artefacts across the three topographic contexts sampled and, in particular, moderate densities in two of the sites. Site SU19/L2, on top of the high, exposed ridge crest of Sherwin's Range is located at c. 2.5 kilometres from any water and there is no protection from the weather. Site SU13/L5 is located at between 1 and 2 kilometres from water and was also exposed. None of the sites fit easily within previous occupation and predicted site locational models.

The salvage program revealed the incidence of significant artefact densities in landforms situated at considerable distance from water and in exposed and potentially hostile environmental contexts. This finding is a considerable archaeological revelation and provides an important counter narrative to previous occupation models in which Aboriginal habitation is seen to be tethered to riparian zones or otherwise sheltered from the prevailing weather. Rather, it is likely that Aboriginal people experienced the Monaro landscape in a manner and in ways which we, at some distance, at least in time, cannot readily comprehend.

In addition, a new retouched artefact type has been identified, hitherto unknown in southeastern Australia. These highly standardised, tiny and delicate, triangular shaped microliths were made from a range of materials and found in all three sites. Their function is not known with any certainty at this time, however, they are likely to have

been a variety of spear barb. As such, they are likely to have been elements of men's subsistence equipment and, accordingly, provide a nuanced and gendered perspective to the archaeological record.

Dibden (2017b) conducted an assessment of a proposal to construct an access track and conduct the drilling of up to 10 bore holes within the Rock Lodge prospect at Myalla. Twelve Aboriginal object locales of very low density, highly disturbed artefact distributions were recorded on simple slopes and a crest landform near Jinny Brother Creek.

2.3.2 Predictive Model of Aboriginal Site Distribution

Based on the above review and a consideration of the elevation, geology, hydrology and topography of the study area, the type of Aboriginal objects known to occur in the region and the potential for their presence within the subject area are listed as follows.

Stone Artefacts

Stones artefacts are located either on the surface and/or in subsurface contexts. The detection of artefact scatters depends on ground surface factors and whether or not the potential archaeological bearing soil profile is visible. Prior ground disturbance, vegetation cover and sediment/gravel deposition can act to obscure artefact scatter presence. The raw materials used for artefact manufacture will commonly be silcrete, chert, quartzite, quartz and volcanics. Within the local area, stone artefacts will be widely distributed across the landscape in a virtual continuum, but with significant variations in density in relation to different environmental factors. Artefact density and site complexity will be greater near reliable water and the confluence of resource zones.

Given the environmental context of a summit grading into simple slopes and then a level area located at significant distance from potable water, it is assessed that archaeological evidence in the form of stone artefacts would be present in very low density, if at all. This prediction is somewhat at odds with certain findings in nearby areas, but only superficially. In the local area, it is likely that higher artefact densities reflecting higher levels of landuse are likely to be situated in close proximity to higher order streams rather that 1st order drainage contexts such as encountered in the activity area. In contexts situated away from reliable water, higher artefact densities may be expected to occur on micro topographic landforms which provide a relatively levels area and shelter, none of which occur in the activity area.

Grinding Grooves

Grinding grooves are found in rock surfaces and result from the manufacture and maintenance of ground edge tools. Given the absence of sandstone exposures, grinding groove sites are unlikely to be present.

Burial/interment sites

Burial/interment sites have been recorded within the wider region. On the Monaro they include human remains buried in excavated ground contexts (eg. Helms 1895: 404-406; Feary 1996), placed in limestone caves (eg. Spate 1997: 39) and deposited in standing hollow trees (eg. Helms 1895: 399; Flood 1980: 120). This site type is rarely located during field survey. There is, however, little potential for burials to be present in the subject area given the underlying geology, paucity of very old hollow trees and lack of soil cover of any significant depth across the study area.

Rock Shelter Sites

Rock shelters sites are unlikely to be present in the subject area given the absence of vertical stone outcrops.

Scarred and Carved Trees

Scarred and carved trees result from either domestic or ceremonial bark removal. Carved trees associated with burial grounds and other ceremonial places have been recorded in the wider region. In an Aboriginal land use context this site type would most likely have been situated on flat or low gradient landform units in areas suitable for either habitation and/or ceremonial purposes.

Bark removal by European people through the entire historic period and by natural processes such as fire blistering and branch fall make the identification of scarring from a causal point of view very difficult. Accordingly, given the propensity for trees to bear scarring from natural causes, their positive identification is impossible unless culturally specific variables such as stone hatchet cut marks or incised designs are evident and rigorous criteria with regard to tree species/age/size and specific characteristics with regard to regrowth is adopted.

Nevertheless, the likelihood of trees bearing cultural scarring remaining extant and in situ is low given events such as land clearance and bushfires. Generally scarred trees will only survive if they have been carefully protected (such as the trees associated with Yuranigh's grave at Molong where successive generations of European landholders have actively cared for them).

The subject area is has been comprehensively cleared and this site type is unlikely to be present.

Stone Quarry and Procurement Sites

A lithic quarry is the location of an exploited stone source (Hiscock & Mitchell 1993:32). Sites will only be located where exposures of a stone type suitable for use in artefact manufacture occur. Comber (1988) recorded numerous quartz quarries on the Monaro.

The bedrock geology which underlies the subject area is basalt. Basalt was used by Aboriginal people for the manufacture of certain tool types including hatchet heads and grinding implements. Basalt grinding implements were generally made from broad flattish coarse-grained stone, while hatchet heads were fashioned from either pebbles or large flakes struck from rock outcrops. The best basaltic raw materials for hatchet manufacture, selected for their suitability for use in cutting, scraping, pounding and chopping, occur in relatively few places and were extracted from specific quarry locations (Mulvaney & Kamminga 1999). Given that most surface exposures of basalt are of a quality poorly suited for tool manufacture, a stone quarry is unlikely to be recorded during the current survey, although it is possible.

Ceremonial Places and Sacred Geography

Burbung and ceremonial sites are places which were used for ritual and ceremonial purposes. Possibly the most significant ceremonial practices were those which were concerned with initiation and other rites of passage such as those associated with death. Sites associated with these ceremonies are burbung grounds and burial sites. Additionally, secret rituals were undertaken by individuals such as clever men. These rituals were commonly undertaken in 'natural' locations such as water holes.

In addition to site specific types and locales, Aboriginal people invested the landscape with meaning and significance; this is commonly referred to as a sacred geography. Natural features are those physical places which are intimately associated with spirits or the dwelling/activity places of certain mythical beings (*cf.* Knight 2001; Boot 2002). Boot (2002) refers to the sacred and secular meaning of landscape to Aboriginal people which has '… legitimated their occupation as the guardians of the places created by their spiritual ancestors'.

Knight's (2001) Masters research conducted in the area of the Weddin Mountains, examined the cultural construction and social practice of inhabiting a sacred landscape. This approach is a departure from a consideration of the land and its resources as being a determinant of behaviour, to one in which land is regarded as a *text;* – within this conception, land and its individual features, are redolent with meanings and significances which are religiously and ritually centred, rather than economically based.

Knight's (*cf.* 2001:1) work was possible in great measure by the historical record which explicitly defines Weddin as a site of ritual significance. However, the research was additionally driven by a theoretical approach to 'cultural landscapes'. Landscape is redefined away from considerations of its material features which provide a backdrop to human activity, towards a view that a landscape *is rather*, a conceptual entity. According to this view the natural world does not exist outside of its conceptual or cognitive apprehension. The landscape becomes known within a naming process or narrative; thus the landscape is brought into being and understanding – within this process: - '…

explanatory parables…' such as legends and mythology are the embodiment of the landscape narrative (Knight 2001: 6).

These narratives are relative to a particular culture, and it is this which makes an archaeological investigation of the cultural landscape such a thorny one. At distance in time and cultural geography, and especially in the absence of specific ethnographic information, how can the archaeologist attempt to investigate and know these narratives? Knight (2001: 11) employed the concept of the landscape as *mentifact,* whereby archaeological interpretation is concerned with the reconstruction of the landscape as a reflection of prehistoric cosmologies. He argued that this can be reconstructed by exploring the systematic relationships between sites and their topographic setting. This is defined as an *inherent* approach as it is concerned with the role of landscape in both everyday and sacred life. This view is concerned with an integration of the sacred and profane rather than their existence as separate categories of social life: - where "Cult activity may have existed as an inextricably 'embedded' component of daily life, where significant locations and ritual aspects of material culture were thoroughly incorporated into secular ranges and uses" (Knight 2001:13). In this regard, Knight (2001: 14) correctly points out that no dichotomy between the material and ideational world existed within Aboriginal life.

Knight (2001: 15) argued that the notion of sacred space is of central concern within an inherent perspective on interpreting cultural landscape. Within human cosmologies, locales within the landscape are constructed as being sacred space; this process of the construction of sacred space has been termed *hierophany* by Eliade (1961 in Knight 2001: 15). However, while Knight (2001: 15) suggests that physical entities such as stones, trees, or topographic features such as mountains, caves and rocky outcrops may be subject to such processes of transformation or construction, in reality, in Aboriginal society any natural feature of less obvious significance can and should be included within this listing. Aboriginal constructions of heirophany can include the most insignificant landscape features and objects of less fixed temporal existence such as animals and plants. While the outside observer readily 'sees' and apprehends mountains and rocky features, more subtle elements of the natural world are easily passed 'unseen'. This point is one which suggests that the personal cultural geography of the archaeologist can severely impact upon the interpretation of the sacred landscape (*cf.* also, Boot 2002: 288). Knight (2001) does acknowledge this by illustrating the issue with reference to the example of "Jump Up Rock" situated north of Weddin. This place is only understood to have been an important landscape feature by recourse to prior knowledge regarding the meaning of the site name; the hill itself is insignificant and therefore not readily apprehended through an outsiders gaze as being of special significance.

Knight (2001: 16) refers to the issue of peculiarities of form (e.g. shape, colour, size or texture) and natural distinctiveness (e.g. isolated mountains or rocky features within a plains context) as being an important distinguishing feature of sacred locales. Knight

(2001: 16) argues that the construction of sacred space in such a manner is particularly relevant to people for whom the natural domain is the dwelling place of/or the manifestation of their deities. Knight (2001: 16) again draws from Eliade (1964) to suggest that it is at the sacred place that the three fundamental cosmological worlds, the everyday, the upper and underworld may converge; typically the upper world will be associated as a point of 'access' with tall things such as trees while the underworld will be associated with pools and caves. Eliade contends that places where all three worlds can possibly connect, the *axis mundi*, are of a heightened order of sacredness. Hierophanies are therefore natural features which are ascribed sacredness. Additionally, Knight (2001: 17) refers to their ability to provide a landscape based opportunity for people to commune with other worldly deities and associated power because they may constitute spatial access between worlds via ritual.

Guided by these theoretical considerations, Knight (2001: 20) engaged with Bradley's (cited in Knight 2001) model of the 'archaeology of natural places' in order to provide guidance for investigating the cultural landscape. In this view, natural places can be explored archaeologically in order to determine the nature of their role in human cosmologies by attending to four archaeological categories: - Votive offerings, rock art, production sites and monuments. This model was developed within a European context, with its attendant biases of concepts and archaeological categories; clearly not all concepts, some of which are clearly Eurocentric, will be applicable in Australia. However, while not all of these data sets may be expected to be found within the Australian context, corresponding cultural landscape themes, human belief systems and site patterning are to a large degree readily discernible within ethnographies, historical documentation, extant Aboriginal societies and the archaeological record.

Knight (2001) gives consideration to the types of natural places which might be ascribed sacred significance. These include mountains, woodlands and groves, springs, pools and lagoons, rock outcrops and caves and sinkholes. He argues that Aboriginal cosmology is expressed via the natural landscape and sacred places were those which were directly related to the Dreaming. He says that these sacred sites typically are those which are remarkable or important physiographically such as caves, rocks and so on.

Some local places on the Monaro are known in respect of their sacredness; these include the Green Hills stone arrangement (Flood 1980: 146-150), the initiation ridge line near Bunyan (Knight and Boot 2010) and the 'teaching place' landscape in the Badja forest (Grinbergs and Knight 1995: 34, 53). However, none of these places occurs in direct or close proximity to the proposal area.

Contact Sites

These sites are those which contain evidence of Aboriginal occupation during the period of early European occupation. Evidence of this period of 'contact' could potentially be

Aboriginal flaked glass, burials with historic grave goods or markers, and debris from 'fringe camps' where Aborigines who were employed by, or traded with the white community, may have lived or camped. The most likely location for contact period occupation sites would be places adjacent to permanent water and located in relative proximity to centres of European occupation such as towns and homesteads. The potential for such sites to be in the subject area is unlikely.

2.3.3 Field Survey – Methodology

The methodological approach adopted in this assessment attends particularly to location and relationality as a means of contextualising the material evidence of cultural practice across space. Given the nature of the physiography, different places within the region are likely to have been utilised for different purposes, and also by different categories of people. Landscape is more than a set of 'objective' topographic features. Landscapes are constructed out of cultural and social engagement; they are '... topographies of the social and cultural as much as they are physical contours' (David & Thomas 2008: 35). The conceptual approach to understanding landscape in this assessment is based on a concern with experience, occupation and bodily practice (cf. Thomas 2008: 305). The location of material evidence in different environmental and topographic contexts across the study area has the potential to be informative of different activities and social contexts. Landform and environmental elements, as measurable empirical space, will be employed methodologically to explore landuse, occupation and the nature of both recorded and unseen (ie subsurface) material evidence. Given the large space encompassed by the subject area, this methodology allows for the identification, at a fine level of spatial resolution, of elements representative of the patterns of social life and how these may vary over space.

The archaeological survey entailed a wide-ranging pedestrian survey undertaken by two people, Andrew Pearce, NSW Archaeology Pty Ltd and Eric Naylor, Sites Officer, Merrimans LALC. The survey was aimed at locating Aboriginal objects, areas and places. An assessment was also made of prior land disturbance, survey coverage variables (ground exposure and archaeological visibility) and the potential archaeological sensitivity of the land.

The field survey was designed to assess the archaeological sensitivity of the entire subject area. Survey Units are broad polygon areas defined according to landform element. The survey methodology entailed walking across individual Survey Units. The field survey was particularly focused on any areas of ground surface exposure that may have been present within each Survey Unit. Each Survey Unit was surveyed until the entire area had been systematically inspected. This methodology enabled direct visual inspection of as much of the ground surface of the area as practicable.

The approach to recording in the current study has been a 'nonsite' methodology: the elementary unit recorded is an artefact rather than a site (*cf* Dunnell 1993; Shott 1995). The rationale behind this approach is that artefacts may be directly observed however 'sites' are a construction within an interpretative process. Given that it can be expected that full archaeological visibility will not be encountered during the survey the process of identifying site boundaries (if they exist at all) will not be possible.

The density and nature of the artefact distribution will vary across the landscape in accordance with a number of behavioural factors which resulted in artefact discard. While cultural factors will have informed the nature of land use, and the resultant artefact discard, environmental variables are those which can be utilised archaeologically in order to analyse the variability in artefact density and nature across the landscape. Accordingly, in this study while the artefact is the elementary unit recorded it is the Survey Unit which is utilised as a framework of recording, analysis, and management (*cf* Wandsnider and Camilli 1992). The subject area has been divided into six Survey Units each of which have been defined according to landform elements.

The data collected during this field assessment forms the basis for the documentation of survey results outlined in the section below.

Survey Unit Variables

Landscape variables utilised are conventional categories taken from the *Australian Soil and Land Survey Field Handbook* (McDonald *et al*. 1998).

Survey Coverage Variables

Survey Coverage Variables are a measure of ground surveyed during the study and the type of archaeological visibility present within that surveyed area. Survey coverage variables provide a measure with which to assess the effectiveness of the survey so as to provide an informed basis for the formulation of management strategies.

Specifically, an analysis of survey coverage is necessary in order to determine whether or not the opportunity to observe stone artefacts in or on the ground was achieved during the survey. In the event that it is determined that ground exposures provided a minimal opportunity to record stone artefacts, it may be necessary to undertake archaeological test excavation for determining whether or not stone artefacts are present. Conversely, if ground exposures encountered provided an ideal opportunity to record the presence of stone artefacts, the survey results may be considered to be adequate and, accordingly, no further archaeological work may be required.

Two variables were used to measure ground surface visibility during the study; the area of ground exposure encountered, and the quality and type of ground visibility

(archaeological visibility) within those exposures. The survey coverage variables estimated during the survey are defined as follows:

> *Ground Exposure* (GE) – an estimate of the area of exposures of bare ground; *and*
>
> *Archaeology Visibility* (AV) – an estimate of the average levels of potential archaeological surface visibility within those exposures of bare ground. Archaeological visibility is generally less than ground exposure as it is dependent on adequate breaching of the bare ground surface which provides a view of the subsurface soil context. Based on subsurface test excavation results conducted in a range of different soil types across New South Wales it is understood that artefacts are primarily situated 10 - 30 cm below the ground surface; reasonable archaeological visibility therefore requires breaching of the ground surface to at least a depth of 10 cm.

Based on the two visibility variables as defined above, an estimate (Net Effective Exposure – NEE) of the archaeological potential of exposure area within a survey unit has been calculated. The Effective Survey Coverage (ESC) calculation is a percentage estimate of the proportion of the Survey Unit which provided the potential to view archaeological material.

2.3.4 Field Survey – Results

In accordance with the OEH Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (DECCW 2010a), the purpose of a field survey is to record the material traces and evidence of Aboriginal land use that are:

- Visible at or on the ground surface, or
- Exposed in section or visible as features (e.g. rock shelters with rock-art),

and to identify those areas where it can be inferred that, although not visible, material traces have a high likelihood of being present under the ground surface (DECCW 2010a: 12).

Survey Coverage and Observations

A comprehensive field survey was conducted on 1 December 2017 with a second undertaken on the 25 May 2018. During the field survey, effective survey coverage (ESC) was generally quite low. Survey coverage is described and summarised in Table 2 below. The subject area consists of six Survey Units which have been delineated based on changes of landform element, aspect and gradient. The survey area encompassed <u>all</u> areas of proposed impact (see Figures 4 and 5 – note the grid lines are in 500m increments in Figure 5).

The entire area of proposed impacts has undergone moderate levels of prior disturbance associated with grazing, land clearance, fencing and track use. Arising from these human activities, notable subsequent erosion from wind and water has also taken place. This previous landuse and its cumulative effects are assessed to have caused moderate levels of impact to almost all ground surfaces where impacts are proposed, and to any Aboriginal objects which may once have been present in those areas.

Cobbles of varying sizes occur extensively across the site. Generally, these are larger closer to the summit, and decrease in size with distance from this prominence. Ground exposures inspected included areas of animal marks and tracks, erosional exposures and patches of bare earth. Broad areas of ground exposure were infrequent, and ground exposures measured approximately a total of 23363 square metres in area. Of that ground exposure area, archaeological visibility inspected (the potential artefact bearing soil profile) was moderate. Archaeological visibility is estimated to have been c. 11,015 square metres (NEE). Effective Survey Coverage is calculated to have been 1.8% of the proposal area.

Two stone artefact sites are in the subject area. The ESC encountered during the field survey is low and less than adequate for the purposes of determining the archaeological status and potential of the subject area based on the field inspection results alone. Accordingly, recourse to the predictive model is necessary in order to consider the nature of the archaeological sensitivity of the subject site. In this regard, all Survey Units are assessed to be of low archaeological potential and sensitivity.

Table 2 Survey Coverage.

SU	Landform	Area sq m	GE %	GE sq m	AV %	NEE sq m	ESC %	Predicted artefact density
SU1 (Plate 3)	Summit. Very steep gradient and open aspect. General disturbance resulting from grazing, and extensive water and wind erosion.	196961	2%	3939	20%	788	0.4	Very low/ negligible
SU2 (Plate 4)	Saddle. Very gentle gradient. General disturbance resulting from grazing, and extensive water and wind erosion.	97777	2%	1956	20%	391	0.4	Very low
SU3 (Plate 5)	Simple slope. Moderate to slightly steep gradient. General disturbance resulting from grazing, and extensive water and	36033	2%	721	20%	144	0.4	Very low/ Negligible

SU	Landform	Area sq m	GE %	GE sq m	AV %	NEE sq m	ESC %	Predicted artefact density
	wind erosion.							
SU4 (Plate 6)	Simple slope. Moderate to slightly steep gradient. General disturbance resulting from grazing, vehicle tracks, and extensive water and wind erosion.	91082	10%	9108	80%	7287	8	Very low/ Negligible
SU5 (Plate 7)	Undulating flat. Very gentle gradient. General disturbance resulting from grazing, vehicle tracks, and water and wind erosion.	130055	5%	6503	30%	1951	1.5	Very low
SU6	Simple slope. Moderate gradient. General disturbance resulting from railway line construction, grazing, and water and wind erosion.	56854	2%	1137	40%	455	0.8	Very low/ negligible
Total		608762		23363		11015	1.8	

Two Aboriginal object locales are located in Survey Unit 4 (Figure 4) and are described as follows:

RFQ1 Two artefacts were observed on the northeast side of a farm track (Plate 9). The artefacts are described as:

- Cream silcrete flake measuring 34 x 25 x 10mm;
- Cream flake fragment with damage that is superficially like usewear but likely to be caused by vehicles, and the like, measuring 26 x 21 x 10mm.

The artefacts are on a simple slope with a north-northeasterly aspect and a gentle gradient. The land is highly eroded to basalt bedrock. The site is very rocky with extensive cobbles and shatter which comprise some 50% of the ground surface. The soils are silty, thin loams and the subsurface potential of the area is limited. Ground exposure is estimated to be c. 40% with archaeological visibility within that exposure being 70%. The geomorphological context is erosional.

RFQ2 One artefact was observed adjacent to a farm track (Plate 10). The artefact is described as:

- Grey tuff (with weathered patination) amorphous core measuring 92 x 53 x 26 mm.

The artefact is on a simple slope with a north-northeasterly aspect and a gentle gradient. The land is highly eroded to basalt bedrock. The site is very rocky with extensive cobbles and shatter which comprise some 50% of the ground surface. The soils are silty, thin loams and the subsurface potential of the area is limited. Ground exposure is estimated to be c. 30% with archaeological visibility within that exposure being 80%. The geomorphological context is erosional.

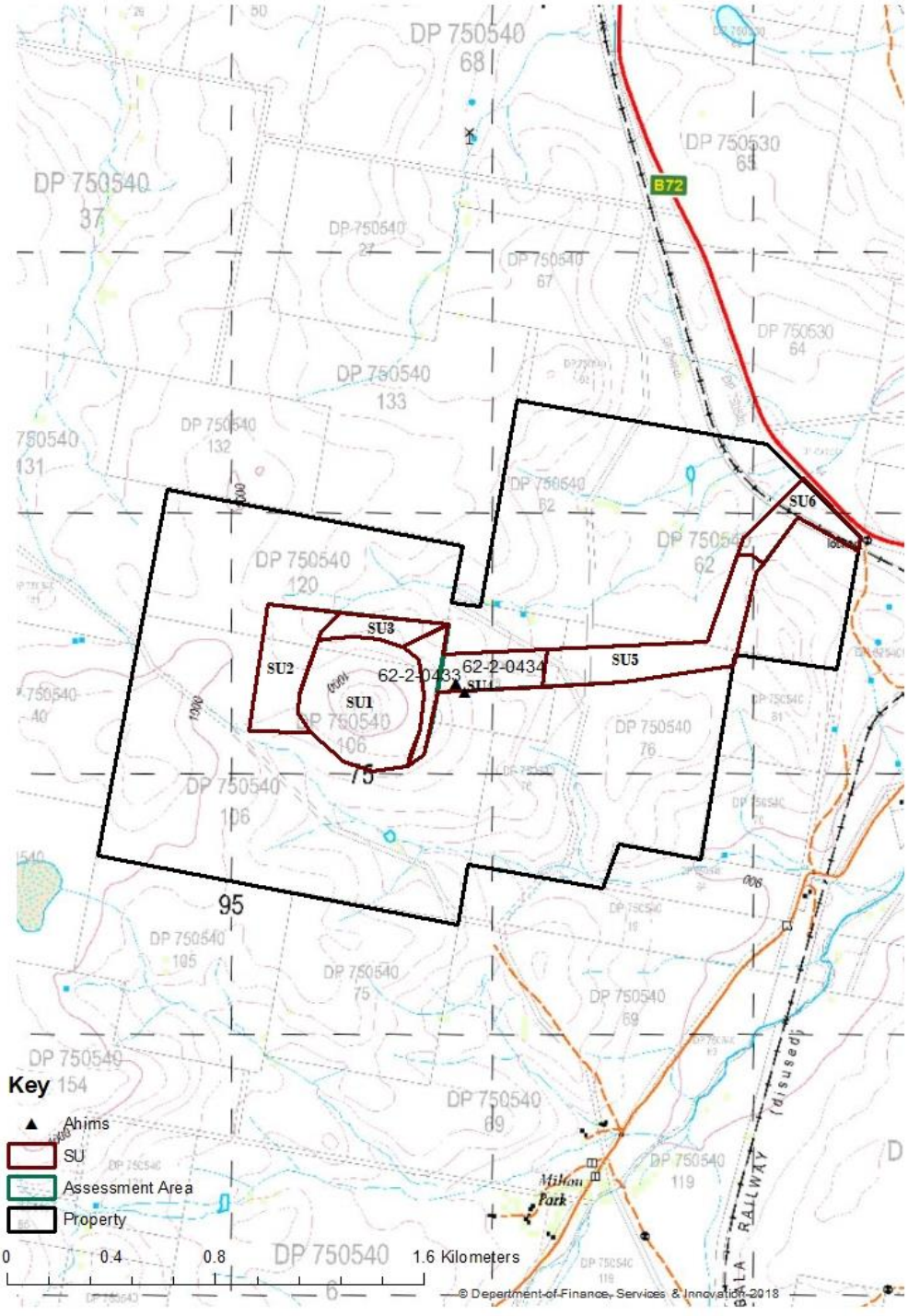

Figure 4 Location of Survey Units in the subject area.

Plate 3 Survey Unit 1 taken from the first minor break of slope, looking to 120°.

Plate 4 Survey Unit 2; looking 270°.

Plate 5 Survey Unit 3; looking 340°.

Plate 6 Survey Unit 4; looking 240°, showing sheep track and grazing exposures.

Plate 7 Survey Unit 5; looking 0°, showing sheep track exposures.

Plate 8 Survey Unit 6; looking 90°, showing train track and associated disturbance across the Survey Unit to its left.

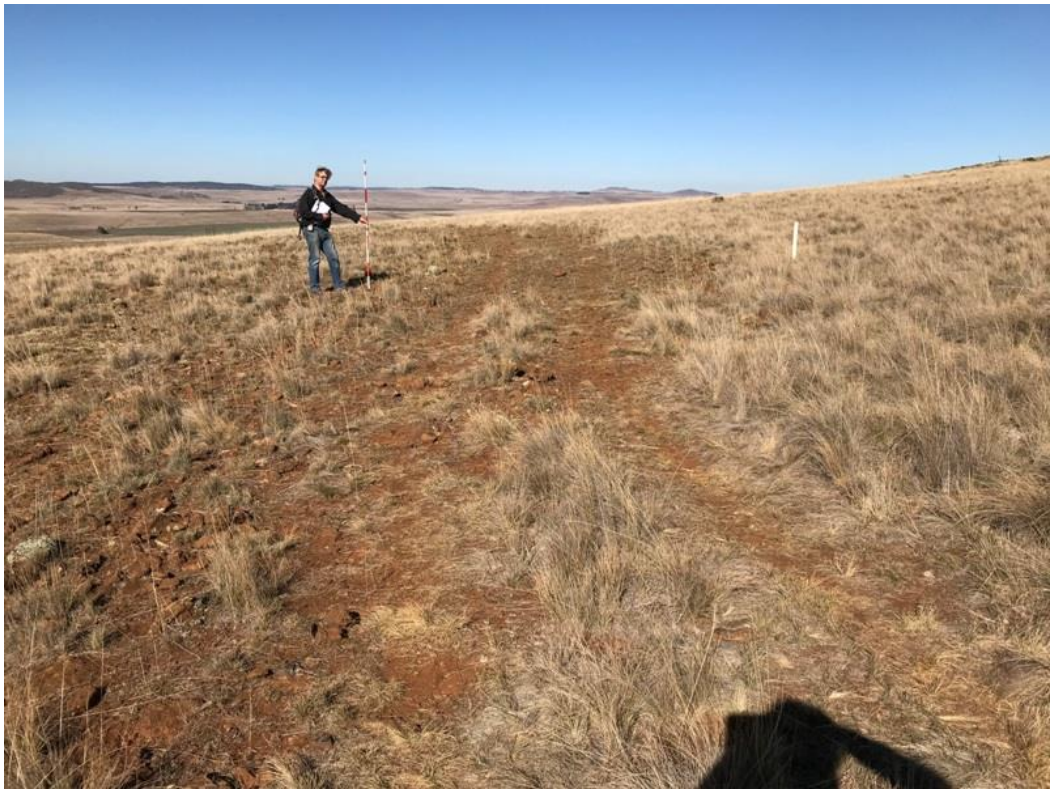

Plate 9 FRQ1 looking 160°.

Plate 10 FRQ2 looking 80°.

3. CONSULTATION PROCESS

A formal process of Aboriginal community consultation has been undertaken as a component of this assessment in accordance with the guidelines as set out in the NSW OEH's *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW DECCW 2010b).

3.1 Consultation

In order to identify, notify and register Aboriginal people who may hold cultural knowledge relevant to determining the cultural significant of Aboriginal objects and/or places in the subject area, the following procedure was implemented (Appendix 2). The consultation log is presented below in a textual account.

Correspondence dated 31 July 2017 was sent to:

- NSW OEH Queanbeyan office;
- Merrimans Local Aboriginal Land Council;
- the Office of the Registrar, Aboriginal Land Rights Act 1983;
- the National Native Title Tribunal, requesting a list of registered native title claimants, native title holders and registered Indigenous Land Use Agreements;
- Native Title Services Corporation Limited (NTSCORP Limited);
- Cooma-Monaro Shire Council;
- Cooma Local Land Services.

In addition, an advertisement was placed with the local paper (Cooma-Monaro Express) and appeared in the 23 August 2017 edition.

In accordance with NSW OEH list of relevant parties for the area, further correspondence dated 23 August 2017 was sent to those groups/individuals listed.

The Office of the Registrar Aboriginal Land Rights Act 1983 responded (8 August 2017) indicating that the Register of Aboriginal Owners lists the Registered Aboriginal Owners for Biamanga and Gulaga National Parks, pursuant to Division 3 of the Aboriginal Land Rights Act 1983 (ALRA). We note that these groups do not have jurisdiction of the freehold land in questions and we did not consult with these groups. In addition, we were referred to Merrimans Local Aboriginal Land Council. The National Native Title Tribunal responded via email dated 31 July 2017 indicating that there were no Native Title applications, Determinations of Native Title or Indigenous Land Use Agreements over the area.

There are eight Registered Aboriginal Parties in the process of consultation for the project:

Bega LALC;
Cherie Carrol Cherie Carroll Turrise Elder Ngunnawal;
Cullendulla;
Goobah;
Biamanga;
Marurramarang;
Murra Bidgee Mullangari Ngunnawal;
Muragadi.

In accordance with Section 4.2 and 4.3 of the *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW DECCW 2010b) guidelines, information with regard to the project, proposed consultation process and assessment methodology was furnished to the RAP's for comment on 7 September 2017.

The following response has been received:

Glen Freeman, Koomurri, emailed a response on 9/9/17:

> *As the Highway was always a part of the old Ngunawal walking track leading to Queanbeyan of our ancestors we are always interested in any project in the region. As such we have no issues with the methodology for the proposed project and look forward to working with you on it.*

A response was emailed to Glen on 30/9/17, as follows:

> Thanks for your email. The proposed quarry is south of Cooma. It is in Ngarigo country, I believe. I'm wondering if you are thinking of somewhere else.

Glen Freeman, Koomurri, emailed a response on 30/9/17:

> *Oops! Yes I was and as it's Ngarigo country Knac's policy is never to work on other people's country so we respectfully decline to take any further part in this project, thanks for the clarification.*
> *Regards.*
> *Glen*

Wally Bell, Buru Ngunawal Aboriginal Corporation, emailed a response on 20/9/17:

> *Thanks for the notification but this is outside our boundary.*

Four groups emailed support for the study methods and assessment process: Biamanga, Cullendulla, Goobah and Murramarang (emails dated 5 October 2017).

Mr Eric Naylor, Merrimans Local Aboriginal Land Council, assisted with the field survey.

A draft copy of this report was provided to RAPS for review. No responses were received.

4. SUMMARY AND ANALYSIS OF BACKGROUND INFORMATION

In previous sections, the results of the background research, survey and consultation has been outlined. The purpose of this section of the ACHAR is to explain the results.

It is noted that no information about Aboriginal places, areas or objects has been identified as a result of the formal process of Aboriginal consultation which has been undertaken (as specified in clause 80C of the NPW Regulation).

Aboriginal object sites are listed on AHIMS as being present in the subject area. These are very low density artefact distributions.

In an Aboriginal land use context, the subject area would have been a forest resource environment. The area contains low biodiversity values and a source of potable water is absent. At its nearest point, the subject area is located more than a kilometre away from the semi-reliable waters available at Rock Flat Creek. For this reason, the area is predicted to have been utilised for sporadic Aboriginal occupation associated with hunting and gathering forays conducted away from base camp locations. It is predicted that the material evidence of such occupation would be a very low density to negligible distribution of artefacts.

The ESC encountered during the field survey is low and considered to be less than adequate for the purposes of determining the archaeological status and potential of the subject area by way of visual inspection. However, as noted above, it is predicted that artefact distribution would be very low to negligible.

Subsurface test excavation is not warranted and there are no information gaps which are of a significant magnitude to warrant any further consideration.

5. CULTURAL HERITAGE VALUES AND STATEMENT OF SIGNIFICANCE

The information provided in this report and the assessment of significance of Aboriginal objects provides the basis for the proponent to make informed decisions regarding management and mitigation which should be undertaken in respect of proposed impacts.

5.1 Significance Assessment Criteria

The NPWS (1997) defines significance as relating to the meaning of sites: "meaning is to do with the values people put on things, places, sites, land". The following significance assessment criteria is derived from the relevant aspects of ICOMOS Burra Charter and NSW Department of Urban Affairs and Planning's 'State Heritage Inventory Evaluation Criteria and Management Guidelines'.

Aboriginal sites are assessed under the following categories of significance:

- cultural value to contemporary Aboriginal people,
- archaeological value,
- aesthetic value,
- representativeness, and
- educational value.

Aboriginal cultural significance

The Aboriginal community will value a place in accordance with a variety of factors including contemporary associations and beliefs and historical relationships. Most heritage evidence is valued by Aboriginal people given its symbolic embodiment and physical relationship with their ancestral past.

Archaeological value

The assessment of archaeological value involves determining the potential of a place to provide information which is of value in scientific analysis and the resolution of potential archaeological research questions. Relevant research topics may be defined and addressed within the academy, the context of cultural heritage management or Aboriginal communities. Increasingly, research issues are being constructed with reference to the broader landscape rather than focusing specifically on individual site locales. In order to assess scientific value, sites are evaluated in terms of nature of the evidence, whether or not they contain undisturbed artefactual material, occur within a context which enables the testing of certain propositions, are very old or contain significant time depth, contain large artefactual assemblages or material diversity, have unusual characteristics, are of

good preservation, or are a part of a larger site complex. Increasingly, a range of site types, including low density artefact distributions, are regarded to be just as important as high density sites for providing research opportunities.

In order to assess the criteria of archaeological significance further, and also to consider the criteria of rarity, consideration can be given to the distribution of stone artefacts across the continent. There are two estimates of the quantity of accumulated stone artefacts in Australia (Wright 1983:118; Kamminga 1991:14; 2002). Wright estimated an average of 500,000 débitage items and 24,000 finished tools per square kilometre, which equates to a total of about 180 billion finished stone tools and four trillion stone débitage items in Australia. Kamminga's estimates, which were determined from a different set of variables, provide a conservative estimate of 200 billion stone tools and 40 million tonnes of flaking débitage (see Kamminga 1991:14; 2002). These two estimates are similar, and suggest that the actual number of stone tools and items of flaking débitage in Australia is in the trillions. The stone artefacts distributed in the proposed activity area cannot, therefore, be considered to be rare.

The vast majority of stone artefacts found in Australia comprise flaking debris (termed débitage) from stone tool making. While it can be reasonably inferred from a range of ethnographic and archaeological evidence that discarded stone artefacts and flaking debris was not valued by the maker, in certain circumstances these objects may to varying degrees have archaeological research potential and/or Aboriginal social value. However, only in very exceptional circumstances is archaeological research potential high for particular open context sites such as those encountered in the subject area (Kamminga, J. pers. comm. June 2009).

Representativeness

Representative value is the degree to which a "class of sites are conserved and whether the particular site being assessed should be conserved in order to ensure that we retain a representative sample of the archaeological record as a whole" (NPWS 1997). Factors defined by NPWS (1997) for assessing sites in terms of representativeness include defining variability, knowing what is already conserved and considering the connectivity of sites.

Educational value

The educational value of cultural heritage is dependent on the potential for interpretation to a general visitor audience, compatible Aboriginal values, a resistant site fabric, and feasible site access and management resources.

Aesthetic value

Aesthetic value relates to aspects of sensory perception. This value is culturally contingent.

5.2 Significance Value of the Aboriginal Object Sites in the Study Area

The Aboriginal objects present in the subject area are very low density artefact distributions in eroded contexts; their archaeological value is low. The majority of the subject area is assessed to be of very low archaeological value primarily because of the predicted very low to negligible distribution of stone artefacts. As a result of the process of Aboriginal consultation, no cultural values have been identified.

6. THE PROPOSED ACTIVITY

In this section, the nature and extent of the proposed activity and any potential harm to Aboriginal areas, objects and/or places is identified.

6.1 Proposed Impacts

Schmidt Quarries proposes to establish the hard rock quarry at 278 Springs Road, Rock Flat and to extract a maximum of 4.6 million tonnes of basalt over a period of 25 years at a rate of up to 280,000 tonnes of rock per annum.

Testing of the rock located on the project site has indicated that it is of sufficiently high quality so as to be suitable to satisfy Australian Standards requirements for engineering purposes. Accordingly, the establishment of the quarry will assist in meeting the regional demand for volcanic rock products well into the future. The proposed quarry is well positioned to service various roads and associated projects to the north and to the south (Outline Planning Consultants Pty. Limited 2017).

The land proposed for quarrying will also contain associated operational facilities including stockpiles, bunds, sediment basins and a crushing plant, which in total is referred to as the quarry site. The proposed development will entail the construction of the working quarry area which will include sedimentation dams, preparation of the plant site, establishment of the quarry face and facilities (that being an office, crushers, weigh bridge, workshops, and the like) and the construction of the internal quarry road extending from the Monaro Highway. Thereafter landscaping is proposed to mitigate the visual impact of the quarry as seen from the highway (Outline Planning Consultants Pty Limited 2017).

6.2 Type of Harm

The location of the Aboriginal object sites in respect of the proposed impact areas is shown in Figure 5. The works would not cause harm to any known Aboriginal areas, places or objects.

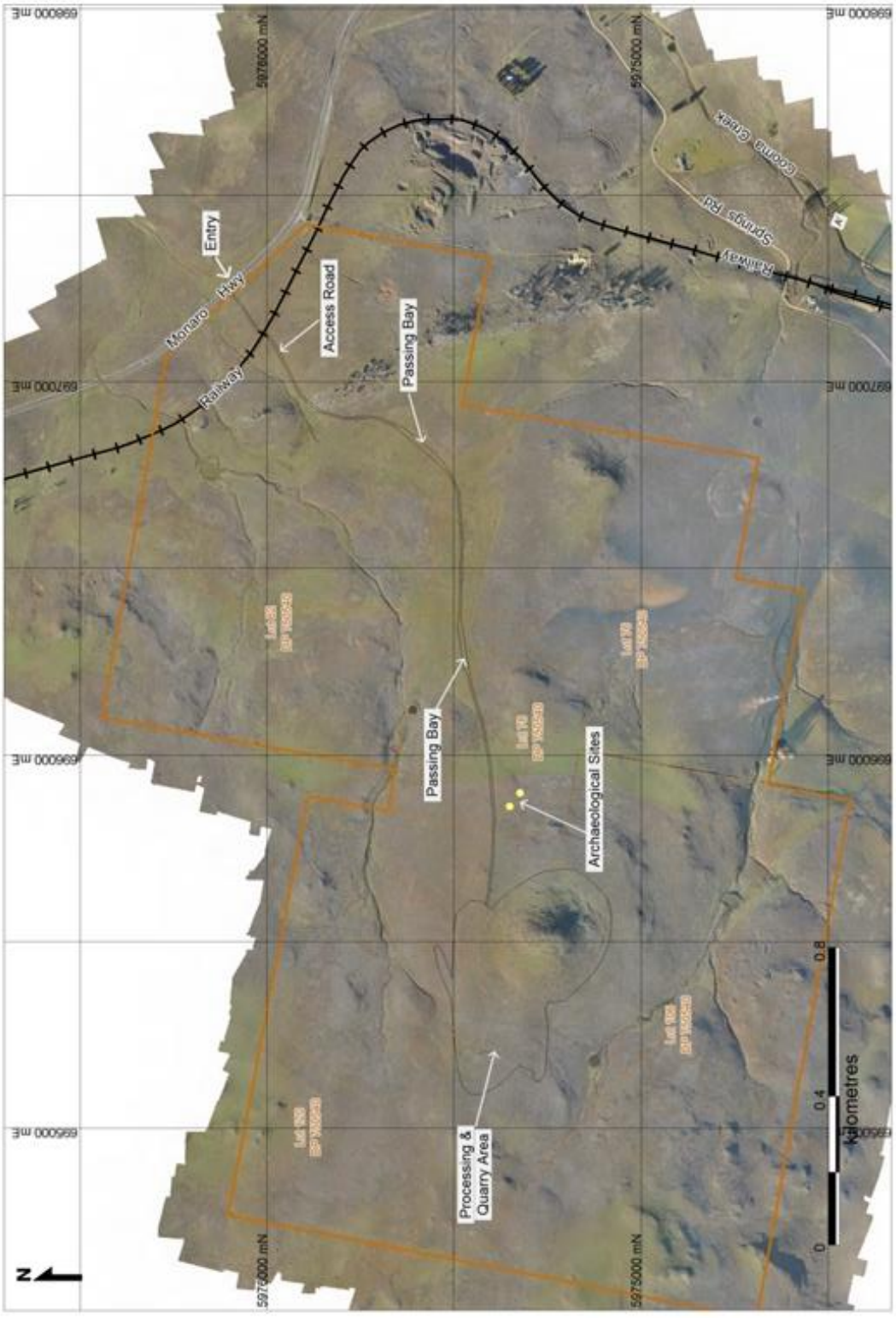

Figure 5 Location of the Aboriginal object sites in respect of the proposed impact areas.

7. AVOIDING AND/OR MINIMISING HARM

Ecologically Sustainable Development (ESD) is defined in the Protection of the Environment Administration Act 1991. Section 6(2) of that Act states that ESD requires the effective integration of economic and environmental considerations in decision-making processes and that ESD can be achieved through the implementation of:

(a) the precautionary principle,

(b) inter-generational equity,

(c) conservation of biological diversity and ecological integrity,

(d) improved valuation, pricing and incentive mechanisms.

The principles of ecologically sustainable development and the matter of cumulative harm have been considered for this project. The proposed impacts will occupy a comparatively small disturbance area. Given the low levels of prior, existing and potential future impacts in the local and regional context in which the proposed activity area is situated, the majority of cultural values, including archaeological, which attach to comparable landforms (elements and units) and the broader landscape remain intact across the region.

The two Aboriginal object sites known to be present are located outside the proposed impact area.

7.1 Management and Mitigation Strategies

Further Investigation

The field survey has been focused on recording artefactual material present on visible ground surfaces. Further archaeological investigation would entail subsurface excavation undertaken as test pits for the purposes of identifying the presence of artefact bearing soil deposits and their nature, extent, integrity and significance. Further archaeological investigation in the form of subsurface test excavation can be appropriate in certain situations. These generally arise when a proposed development is expected to involve ground disturbance in areas which are assessed to have potential to contain high density artefactual material and when the Effective Survey Coverage achieved during a survey of a project area is low due to ground cover, vegetation etc.

No areas of the proposal area have been identified which warrant further archaeological investigation in order to formulate appropriate management and mitigation strategies. No Aboriginal objects or survey units with potential conservation value have been identified to have a high probability of being present in the subject area. Accordingly,

test excavation conducted under OEH's *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010: 24) is not necessary.

Conservation

Conservation is a suitable management option in any situation, however, it is not always feasible to achieve. Such a strategy is generally adopted in relation to sites which are assessed to be of high cultural and scientific significance but can be adopted in relation to any site type. In the case at hand, the development of a conservation strategy is not relevant given the absence of known Aboriginal objects and the predicted low archaeological potential of the subject area.

The two Aboriginal object sites known to be present are located outside the proposed impact area. It is recommended that active avoidance strategies are implemented to ensure they are not inadvertently impacted during construction of the access road.

Mitigated Impacts

Mitigated impact usually takes the form of partial impacts only (i.e. conservation of part of an Aboriginal site or Survey Unit) and/or salvage in the form of further research and archaeological analysis prior to impacts. Such a management strategy is generally appropriate when Aboriginal objects are assessed to be of moderate or high significance to the scientific and/or Aboriginal community and when avoidance of impacts and hence full conservation is not feasible. Salvage can include the surface collection or subsurface excavation of Aboriginal objects and subsequent research and analysis. In the case at hand, the development of a mitigated impact strategy is not required given the absence of known Aboriginal objects and the predicted low archaeological potential in the impact area.

Unmitigated Impacts

Unmitigated impact to Aboriginal objects can be given consideration when they are assessed to be of low archaeological and cultural significance and otherwise in situations where conservation is simply not feasible. Unmitigated impacts is appropriate in regard to the proposed activities.

Monitoring

Monitoring during construction for the purposes of identifying cultural material that may be uncovered during earth disturbance can be implemented as a management strategy. However, monitoring is a reactive rather than proactive strategy, and as such, is not an ideal management tool in cultural heritage management. Monitoring for artefacts is not a widely accepted method of management because sites of significance can be destroyed as monitoring is taking place and because it can result in lengthy and costly delays to development works if significant cultural material is uncovered. In the

case at hand, the development of a monitoring strategy is not considered necessary or appropriate.

8. STATUTORY INFORMATION

The NPW Act provides statutory protection for all Aboriginal objects and Aboriginal Places.

An 'Aboriginal object' is defined as

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

An Aboriginal place is an area declared by the Minister to be an Aboriginal place for the purposes of the Act (s84), being a place that in the opinion of the Minister *is or was of special significance with respect to Aboriginal culture.*

Part 6 of the National Parks and Wildlife Act 1974 (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. One of the defences is that the harm is carried out under an Aboriginal Heritage Impact Permit (AHIP).

Two Aboriginal object sites are located near to but outside the proposed impact area. The two Aboriginal object sites would not be impacted and, accordingly, a s90 AHIP is not required.

9. RECOMMENDATIONS

The recommendations are made on the basis of:

- A consideration of the relevant legislation (see Section 8 Statutory Information).
- The results of the investigation as documented in this report.
- Consideration of the type of development proposed and the nature of proposed impacts.
- The discussion is Section 7 regarding impact mitigation and management.

The following recommendations are made:

1. There are no identified cultural and/or archaeological heritage constraints in regard to the proposed works.

2. No further archaeological investigations are required in respect of the proposal.

3. Two Aboriginal object sites are located near to but outside the proposed impact area. The two Aboriginal object sites would not be impacted and, accordingly, a s90 AHIP is not required.

4. It is recommended that the two sites are identified to the proponent in the field prior to the construction of the access road so as to ensure that inadvertent impacts do not occur during construction. A temporary barrier should be installed to delineate a no-go zone during construction of the access road.

5. If Aboriginal objects are found while undertaking the activity the proponent must stop work and notify the NSW OEH; an AHIP may need to be sought.

6. If human skeletal remains are found the proponent must stop work immediately, secure the area to prevent unauthorized access and contact the NSW Police and OEH.

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GLOSSARY

Aboriginal object - A statutory term, meaning: '… 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' (s.5 NPW Act).

Declared Aboriginal place - A statutory term, meaning any place declared to be an Aboriginal place (under s.84 of the NPW Act) by the Minister administering the NPW Act, by order published in the NSW Government Gazette, because the Minister is of the opinion that the place is or was of special significance with respect to Aboriginal culture. It may or may not contain Aboriginal objects.

Development area - Area proposed to be impacted as part of a specified activity or development proposal.

Harm - A statutory term meaning '… any act or omission that destroys, defaces, damages an object or place or, in relation to an object – moves the object from the land on which it had been situated' (s.5 NPW Act).

Place - An area of cultural value to Aboriginal people in the area (whether or not it is an Aboriginal place declared under s.84 of the Act).

Proponent - A person proposing an activity that may harm Aboriginal objects or declared Aboriginal places and who may apply for an AHIP under the NPW Act.

Proposed activity - The activity or works being proposed.

Subject area - The area that is the subject of archaeological investigation. Ordinarily this would include the area that is being considered for development approval, inclusive of the proposed development footprint and all associated land parcels. In this instance, the subject area is defined as the quarry footprint in which proposed impacts would take place.

APPENDIX 1 ABORIGINAL CONSULTATION

Example of a letter of notification

New South Wales Archaeology Pty Limited ABN 53106044366

PO Box 2135
Central Tilba NSW 2546
Ph 02 44737947
Mob. 0427074901
www.nswarchaeology.com.au

31 July 2017
The Chairperson
Merrimans Local Aboriginal Land Council
13 Umbarra Road
Wallaga Lake NSW 2546

Dear Anne

Re Proposed Hard Rock Quarry 278 Springs Road, Rock Flat via Cooma

Schmidt Quarries proposes to extract and process a maximum of 3.75 million tonnes of rock from the project site at 278 Springs Road, Rock Flat via Cooma. NSW Archaeology Pty Ltd is undertaking consultation with Aboriginal people on behalf of the proponent according to the requirements stipulated in the former NSW DECCW Aboriginal cultural heritage consultation requirements for proponents, 2010**.** The purpose of Aboriginal community consultation is to assist the proponent in understanding Aboriginal peoples views and concerns about the project, and to understand cultural values present in the area, and to assist the NSW Office of Environment and Heritage (OEH) in a determination of an AHIP application if required, or otherwise, general terms of approval**.**

We are seeking to identify Aboriginal persons who hold cultural knowledge relevant to this project area and who may wish to register an interest. Those who choose to register will have the opportunity to provide culturally appropriate information and to comment on the cultural heritage significance of Aboriginal objects and the area. If you are aware of Aboriginal people or groups who you believe may wish to register an interest please provide contact details to NSW Archaeology Pty Ltd on behalf of the proponent before the 14 August 2017.

Yours faithfully

Dr Julie Dibden
New South Wales Archaeology Pty Limited

Advertisement

Example of second letter of notification

New South Wales Archaeology Pty Limited ABN 53106044366

PO Box 2135
Central Tilba NSW 2546
Ph 02 44737947
Mob. 0427074901
www.nswarchaeology.com.au

23 August 2017
The Chairperson
Bega Local Aboriginal Land Council
PO Box 11
Bega NSW 2550

Dear Sir/Madam

Re Proposed Hard Rock Quarry 278 Springs Road, Rock Flat via Cooma

Schmidt Quarries (David Schmidt - Schmidt Quarries - 12 Bass Street, Queanbeyan NSW 2620) proposes to extract and process a maximum of 3.75 million tonnes of rock from the project site at 278 Springs Road, Rock Flat via Cooma. As a part of that process, NSW Archaeology Pty Ltd is undertaking consultation with Aboriginal people on behalf of the proponent according to the requirements stipulated in the former NSW DECCW Aboriginal cultural heritage consultation requirements for proponents, 2010. The purpose of Aboriginal community consultation is to assist the proponent in understanding Aboriginal peoples views and concerns about the project, and to understand cultural values present in the area, and to assist the NSW Office of Environment and Heritage (OEH) in a determination of an AHIP application, if required.

Aboriginal people with cultural knowledge relevant to determining the significance of Aboriginal objects and/or places in the area are invited to register an interest in the process of community consultation. OEH provided your details to us and indicated that you may have an interest in the area. If you wish to register in a process of community consultation with the proponent please notify: Julie Dibden, NSW Archaeology PL, PO Box 2135 Central Tilba NSW 2546, before 7 September 2017. Please note that if you do register an interest your details will be forwarded to the OEH and the relevant Local Aboriginal Land Councils unless you specify that you do not want your details released.

Yours faithfully

Dr Julie Dibden
New South Wales Archaeology Pty Limited

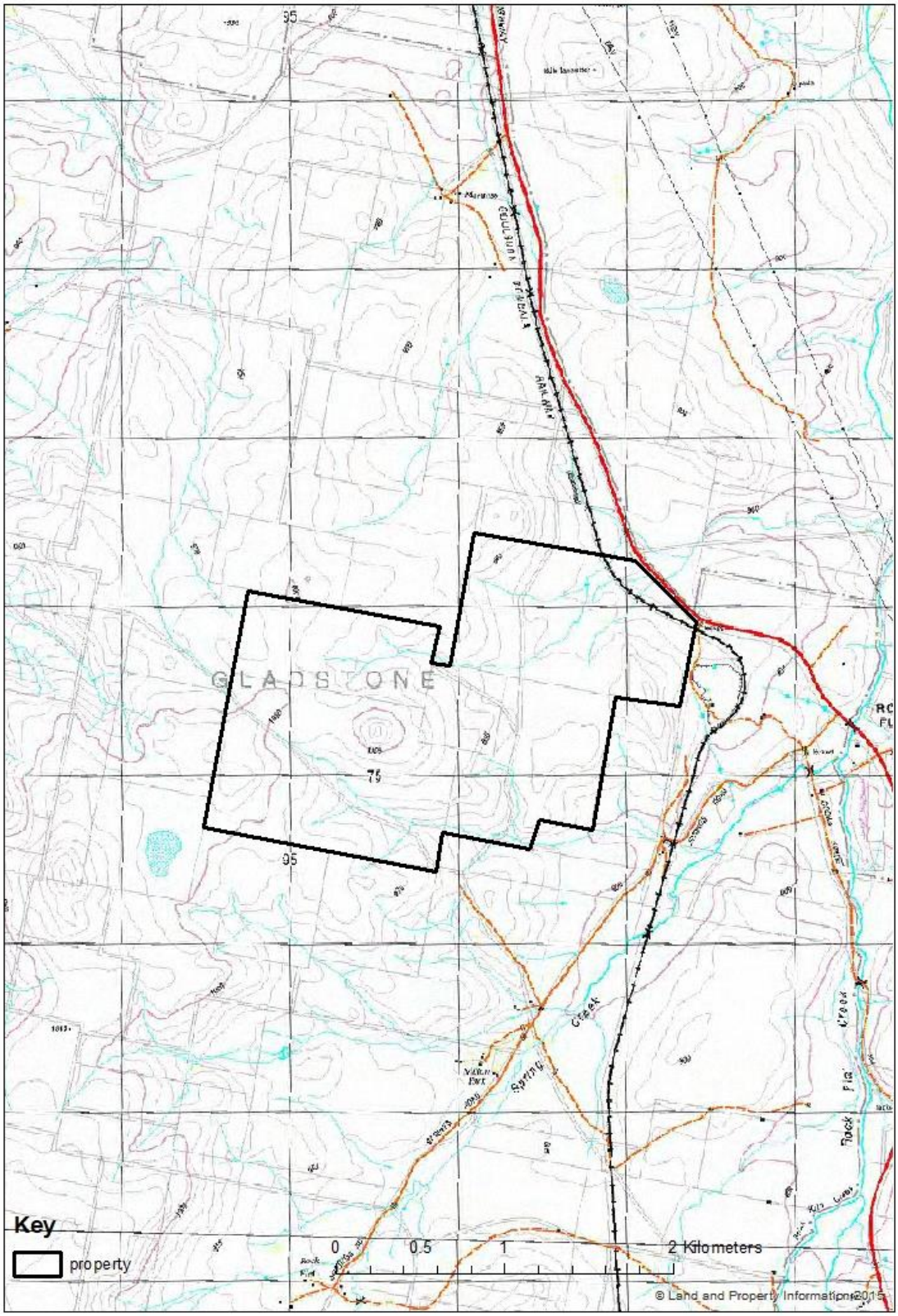
Project information, proposed consultation process and methodology documents

PROJECT DESCRIPTION AND PROPOSED CULTURAL HERITAGE ASSESSMENT AND CONSULTATION PROCESS
THE PROPOSED ACTIVITY

NSW Archaeology Pty Ltd has been commissioned to conduct a formal process of Aboriginal Consultation in relation to the proposed Hard Rock Quarry at 278 Springs Road, Rock Flat via Cooma (the Project). The project area is within the Merrimans Local Aboriginal Land Council boundary. It is 15km south of Cooma on the Monaro Highway.

Schmidt Quarries proposes to extract and process a maximum of 3.75 million tonnes of rock from the project site. NSW Archaeology Pty Ltd is undertaking consultation with Aboriginal people on behalf of the proponent. This would be conducted in accordance with the requirements stipulated in the former NSW DECCW *Aboriginal cultural heritage consultation requirements for proponents, 2010*. The purpose of Aboriginal community consultation is to assist the proponent in understanding Aboriginal people's views and concerns about the project, and to understand cultural values present in the area, and to assist the NSW Office of Environment and Heritage (OEH) in a determination of an AHIP application, if required, or otherwise, general terms of approval.

Please review the following information which sets out the proposed cultural heritage and assessment process for your review and consideration.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© Land and Property Information 2015

PROPOSED CULTURAL HERITAGE ASSESSMENT PROCESS

This document is being provided to Registered Aboriginal Parties (RAPs) for the purposes of agreeing on outcomes relating to the assessment process.

The cultural heritage assessment process for this project would be conducted in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (NSW DECCW). The NSW Office of Environment and Heritage - OEH (formally DECCW) manages Aboriginal cultural heritage in NSW in accordance with the National Parks and Wildlife Act 1974. Part 6 of the Act provides specific protection for Aboriginal objects and Aboriginal places by administering offences for harming them without authorisation. When an activity is likely to impact Aboriginal objects or declared Aboriginal Places, approval of the OEH is required, issued in the form of an Aboriginal Heritage Impact Permit (AHIP) or where relevant, General Terms of Approval.

NSW OEH requires effective consultation with Aboriginal people because it recognises that:

- Aboriginal people should have the right to maintain culture, language, knowledge and identity;
- Aboriginal people should have the right to directly participate in matters that may affect their heritage; and
- Aboriginal people are the primary determinants of the cultural significance of their heritage.

The purpose of the NSW OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents document (NSW DECCW 2010) is to facilitate positive Aboriginal cultural heritage outcomes by:

- affording an opportunity for Aboriginal people who hold cultural knowledge relevant to determining the significance of Aboriginal object(s) and/or place(s) in the proposed project area to be involved in consultation so that information about cultural significance can be provided to NSW OEH to inform decisions regarding applications for an AHIP or General Terms of Approval; and
- providing Aboriginal people who hold cultural knowledge relevant to determining the significance of Aboriginal object(s) and/or place(s) in the proposed project area with the opportunity to participate in decision-making regarding the management of their cultural heritage by providing proponents with information regarding cultural significance and inputting into management options (NSW DECCW 2010).

The ACHCRP requirements outline four main consultation stages to be implemented during consultation undertaken with Aboriginal people (these are outlined below). In summary, the consultation process involves getting the views of, and information from, Aboriginal people and reporting these.

To fulfil the consultation requirements, NSW Archaeology Pty Ltd, on behalf of the proponent, proposes to implement the following procedure:

Stage 1 Notification of project proposal and registration of interest.
This stage is already underway, and the aim is to identify, notify and register Aboriginal people who hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the proposal area.

- NSW Archaeology, on behalf of the proponent, has sought to identify the names of Aboriginal people who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places. An advertisement has been placed in the local paper and letters have been written to various agencies.

- As we receive registrations of interest, NSW Archaeology is making a record of the names of each Aboriginal person or group who has registered an interest. Unless it is specified by a registered Aboriginal party that they do not want their names released, the list of names will be provided to OEH and the Local Aboriginal Land Councils.

- Where an Aboriginal organization representing Aboriginal people who hold cultural knowledge has registered an interest, a contact person for that organization must be nominated. We rely on that organization to make these arrangements. Where Aboriginal cultural knowledge holders have appointed a representative to act on their behalf, this information must be provided in writing to NSW Archaeology Pty Ltd.

Stage 2 Presentation of information about the proposed project
The aim of this stage is to provide registered Aboriginal parties with information about the scope of the proposed project and the proposed cultural heritage assessment process. This will entail:

- The proponent has engaged NSW Archaeology Pty Ltd to conduct the consultation process. It is therefore the role of Julie Dibden, NSW Archaeology Pty Ltd, to co-ordinate the assessment process. Aboriginal parties are invited to define their role, function and responsibility in this process.

- All registered Aboriginal parties are invited to identify, raise and discuss any cultural concerns, perspectives and assessment requirements (if any). In this regard registered Aboriginal parties should contact Julie Dibden, and this may be done in writing or by telephone.
- Provision of project information and the proposed cultural heritage process is provided to registered Aboriginal parties as per this document and the accompanying *Methodology* document.
- If further information is required regarding the proposal this will be provided to Aboriginal parties upon request. If necessary, additional information about the project may entail a project site visit.
- A record will be made that the proposed project information has been submitted. A record of any agreed outcomes and any contentious issues that may require further discussion to establish mutual resolution (if applicable) will be kept and a record will be provided to registered Aboriginal parties.
- All comments and feedback regarding the Consultation Process and Project Methodology should be provided to NSW Archaeology within 28 days.

Stage 3 Gathering information about cultural significance
The aim of stage 3 is to facilitate a process whereby Aboriginal parties can contribute to culturally appropriate information gathering and the project methodology, provide information that will enable the cultural significance of Aboriginal objects and/or places in the proposal area to be determined, and to have input into the development of cultural heritage management options.

- A proposed methodology for the cultural heritage assessment will be provided to registered Aboriginal parties for review. Any comments regarding the methodology should be provided to Julie Dibden, NSW Archaeology Pty Ltd, within 28 days. Any protocols that registered Aboriginal parties wish to be adopted into the information gathering process and assessment methodology, and any other matters, should be provided in writing or may be sought by the consultant.
- As a part of consultation, NSW Archaeology Pty Ltd, on behalf of the proponent, seeks cultural information from registered Aboriginal parties to identify whether there are any Aboriginal objects or places of cultural value to Aboriginal people in the proposal area and if so, to uncover knowledge about their context to reveal their meaning and significance. Registered Aboriginal parties who wish to contribute to this process should contact Julie Dibden (within 28 days) so that appropriate arrangements regarding collecting cultural knowledge can be made.

- If any information obtained is sensitive, appropriate protocols will be developed and implemented for sourcing and holding sensitive information.
- Registered Aboriginal parties are invited to identify, raise and discuss any cultural concerns, perspectives and assessment requirements by telephone or in writing to Julie Dibden, NSW Archaeology, within 28 days.
- All feedback received from registered Aboriginal parties will be documented in the Aboriginal cultural heritage assessment report as appropriate.

Stage 4 Review of Draft Cultural Heritage Assessment Report
The aim of this stage is to prepare and finalise an Aboriginal cultural heritage assessment report with input from registered Aboriginal parties.

- A draft report will be compiled.
- The draft report will be provided to registered Aboriginal parties for review and comment.
- Any comments regarding the report should be provided to Julie Dibden, NSW, within 28 days.

After considering comments the report will be finalised and copies will be provided to registered Aboriginal parties. The final report will include copies of any submissions made and the proponents response to any submissions.

PROPOSED METHODOLOGY FOR THE INDIGENOUS HERITAGE (CULTURAL AND ARCHAEOLOGICAL) ASSESSMENT

NSW Archaeology Pty Ltd has been commissioned to conduct a formal process of Aboriginal Consultation in relation to the proposed Hard Rock Quarry at 278 Springs Road, Rock Flat via Cooma (the Project). The project area is within the Merrimans Local Aboriginal Land Council boundary. It is 15km south of Cooma on the Monaro Highway.

Schmidt Quarries proposes to extract and process a maximum of 3.75 million tonnes of rock from the project site.

NSW Archaeology Pty Ltd is undertaking consultation with Aboriginal people on behalf of the proponent according to the requirements stipulated in the former NSW DECCW Aboriginal cultural heritage consultation requirements for proponents, 2010.

NSW Archaeology Pty Ltd is a consultancy specialising in Indigenous cultural heritage management and aims to prepare assessments of a high standard to satisfy all stakeholders including the local Aboriginal community and the NSW Office of Environment and Heritage – OEH.

The project will be conducted in accordance with the requirements of the OEH *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* and the *DECCW 2010 Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*. In addition, the study is being undertaken following the requirements for *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRP) (NSW DECCW 2010).

In accordance with the process as outlined in *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRP) (NSW DECCW 2010), this methodology is being provided to all Aboriginal groups/individuals who have registered an interest in this process of consultation. The purpose of providing registered stakeholders with this methodology is for stakeholders to review and provide feedback to the consultant, including identification of issues/areas of cultural significance that might affect the methodology. Stakeholders are invited to make a written response to this proposed methodology within 28 days.

The methodology which is proposed to be implemented during this project is set out below.

It is proposed that the assessment of cultural heritage values of the project area will entail the following aspects as defined in the OEH *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW*:

Review of background information: Definition and mapping of the physical landscape; reviewing historic values via recourse to written and oral histories and existing heritage data bases; and define the material evidence of Aboriginal land use via review of previous research, development of predictive model and a field inspection and survey (the latter to be documented in a survey report). Any information received from registered Aboriginal parties will be used in this process. Registered Aboriginal parties are invited to inform Julie Dibden regarding areas, objects and places of cultural value in the proposed activity area.

Initiate ongoing consultation in accordance with the OEH's Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010. Information is sought from registered Aboriginal parties on whether there are any Aboriginal areas, objects or places of cultural value to Aboriginal people in the proposed activity area.

Identify and assess the cultural heritage values: Upon receipt of information that would enable the cultural significance of Aboriginal areas, objects and/or places in the proposed activity area to be determined, the range of social, historical, scientific and aesthetic values present across the study area would be identified, mapped, and assessed as to why they are important.

Assess harm of the proposed activity: Identification of the nature of the proposed activity and any potential harm to Aboriginal areas, objects and/or places. This would take into consideration the principles of ecologically sustainable development (ESD) if relevant.

Develop harm avoidance and/or minimisation strategies: Registered stakeholders would be invited to have input into the development of cultural heritage management options. The development of avoidance and/or minimisation strategies if required would commence in the field, and be developed further within an Aboriginal cultural heritage assessment report.

Documentation of Findings: An Aboriginal cultural heritage assessment report would be prepared. The report would be prepared in accordance with the report outline as set out in OEH's *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW*.

A draft copy of the report will be provided to all Aboriginal groups or individuals who register an interest in this project for review and comment.

Upon review of this proposed methodology, registered stakeholders are invited to make submissions relating to the information gathering and assessment methodology, and any matters such as issues/areas of cultural significance that might affect, inform or refine the

assessment methodology, to Julie Dibden within 28 days. All feedback received will be documented in the cultural heritage assessment report, which will include copies of submissions received and the proponent's response to issues raised.