Fraser Earthmoving Construction Pty Ltd

ABN: 84 476 527 814

Part 9a
Aboriginal and Historic Cultural Heritage Due Diligence Assessment

for the

Howlong Sand and Gravel Expansion Project

State Significant Development 17_8804

Prepared by

Advanced Environmental Systems Pty Ltd

March 2020

This page has intentionally been left blank

Aboriginal and Historic Cultural Heritage Due Diligence Assessment

for The

Howlong Sand and Gravel Expansion Project

SSD 17_8804

March 2020

ADVANCED ENVIRONMENTAL SYSTEMS
CREATING A SUSTAINABLE FUTURE

Phone: (03) 5482 5882 or 0412 151 225 Email: info@environmentalsystems.com.au

Web: www.environmentalsystems.com.au

CONSULTANT DETAILS	
Name of Company	Advanced Environmental Systems Pty Ltd
Nominated Individual	Mr. Peter Clinnick (B. Ag. Sci. Hons. MASSSI)
Archaeologist	Dr Tim Stone (B. A. Hons., M. Sc., PhD)
Dates of Assessment	9 February 2018
Phone Number	(03) 5482 5882

SITE -OWNER DETAILS	
Owner	Fraser Earthmoving Construction Pty Ltd
Address of Site	4343 Riverina Highway, Howlong NSW 2643
Name of Project Manager	Greg Fraser
Email	gregfraser@fraserearthmoving.com
Phone Number	0407 337 376
Council	Federation

Disclaimer

This report has been prepared based on the information available to AES – Advanced Environmental Systems at the time and represents to the best of AES's knowledge and the client's intentions at the time of printing of the document. The assessment of potential issues and impacts and conclusions drawn reflect our best judgment, based on that information. Although all possible care is taken, AES – Advanced Environmental Systems Pty Ltd, together with its employees accepts no responsibility for any resultant errors contained herein and any damage or loss, howsoever caused, and suffered by any individual or corporation.

Copyright Notice: This work is copyright. Apart from any use permitted under the Copyright Act 1968, no part may be reproduced by any process, nor may any other exclusive right be exercised, without the permission of the author as indicted in the assessor details above.

Table of Contents

Figures

Tables

Aboriginal and Historic Cultural Heritage Due Diligence Assessment for Howlong Sand and Gravel Quarry Expansion, NSW (SSD 17_8804)

Executive Summary

Fraser Earthmoving Construction Pty Ltd (FEC) proposes to increase production by redeveloping the existing Howlong Sand and Gravel Quarry located on the Murray River floodplain, 25 km west of Albury in southern NSW. Key components of the proposed staged development are:

- Expanding the existing quarry to extract and process up to 300,000 tonnes per annum (Tpa) of sand and gravel for up to 30 years;
- Use of associated site infrastructure and amenities;
- Transporting material off-site via the site access, track and public roads; and
- Progressively rehabilitating the site.

The study area for the assessment is defined as the land within property boundary to the south of the Black Swam anabranch. The proposed development area is dominated by scroll bar topography of the Coonambidgal Formation. Access from the Riverina Highway is across the older Shepparton Formation, which has been terraced. No Aboriginal or historic cultural heritage sites had been located previously in the study area, according to the Aboriginal Heritage Information Management System (AHIMS) site database kept by the Office of Environment and Heritage (OEH) and State and Local heritage registers.

An archaeological survey of the study area was undertaken on 9 February 2018 by archaeologist Dr Tim Stone with the assistance of Sam Kirby and Troy McGrath from the Albury and District Local Aboriginal Land Council. AES soil scientist Peter Clinnick also participated in the field survey. The survey focused on those parts of the study area proposed for development or upgrade. The methods employed were consistent with standard archaeological practice and the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010) and the Guide for Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011).

One Aboriginal site was located. The site (Howlong 1) is an open campsite represented by a scatter of eight quartz artefacts on the surface of a riverine source-bordering dune. The dune straddles the boundary of the study area more than 200 m north of the Stage 4 area of the proposed development. The site is unlikely to be disturbed by development. The study area was also investigated for evidence of historic heritage, but no historic sites were identified.

Albury and District Local Aboriginal Land Council representatives were consulted about the proposed quarry redevelopment and participated in the field survey. The Aboriginal stakeholders have no objections to the proposed development proceeding providing that Howlong 1 is not disturbed. There are no Aboriginal land claims over the land.

Based on the results of this assessment, it is recommended that:

- The proposed development presents a very low risk to Aboriginal and historic cultural heritage sites and values.
- Particular care should be taken to avoid any harm to the quartz artefact scatter Howlong 1. The site is protected under section 86 of the *National Parks and Wildlife Act* 1974. It is an offence under this Act to damage identified sites of Aboriginal cultural heritage value.
- In the unlikely event that unidentified Aboriginal or historic cultural heritage sites or items are encountered during the course of development, all works likely to affect the cultural material must cease immediately and the NSW BCD's Environment Line (Tel: 131 555) or the Heritage Council (Tel: 02 9873 8599) consulted about an appropriate course of action prior to work recommencing. It is an offence under the relevant acts to disturb or destroy Aboriginal or historical cultural heritage sites without written consent of the NSW BCD.
- If human skeleton remains are encountered during the course of the development activity, all work must immediately cease in the vicinity of the remains and the area cordoned off. The NSW local police must be contacted who will make an initial assessment as to whether the remains are a part of a crime scene or possible Aboriginal remains. If the remains are thought to be Aboriginal, the developer (FEC) must contact BCD's Enviroline on 131 555. A BCD Officer will determine if the remains are Aboriginal or not and a management plan must be developed in consultation with the relevant Aboriginal stakeholders. Works must not recommence at that location until written authorisation has been provided by BCD.

These measures would be described in an Aboriginal and Historic Heritage Management Contingency Plan (**Appendix 5**) that would be incorporated into the Howlong Sand and Gravel Environmental Management Strategy.

Aboriginal and Historic Cultural Heritage Due Diligence Assessment for Howlong Sand and Gravel Quarry Expansion, NSW (SSD 17_8804)

1. Introduction

Fraser Earthmoving Construction Pty Ltd (FEC) proposes to redevelop the existing Howlong Sand and Gravel Quarry located on the Murray River floodplain, 25 km west of Albury in southern NSW (**Figure 1**). The quarry is specifically located at 4343 Riverina Highway, Howlong extending over the following land parcels: Lot 173 DP 753744, Lot 174 DP 753744, Lot 174A DP 753744, Lot 231 DP 753744, Lot 1 DP 1039973, Lot 1 DP 798291, Lot 3 DP 113703 and Lot 4 DP 113703.

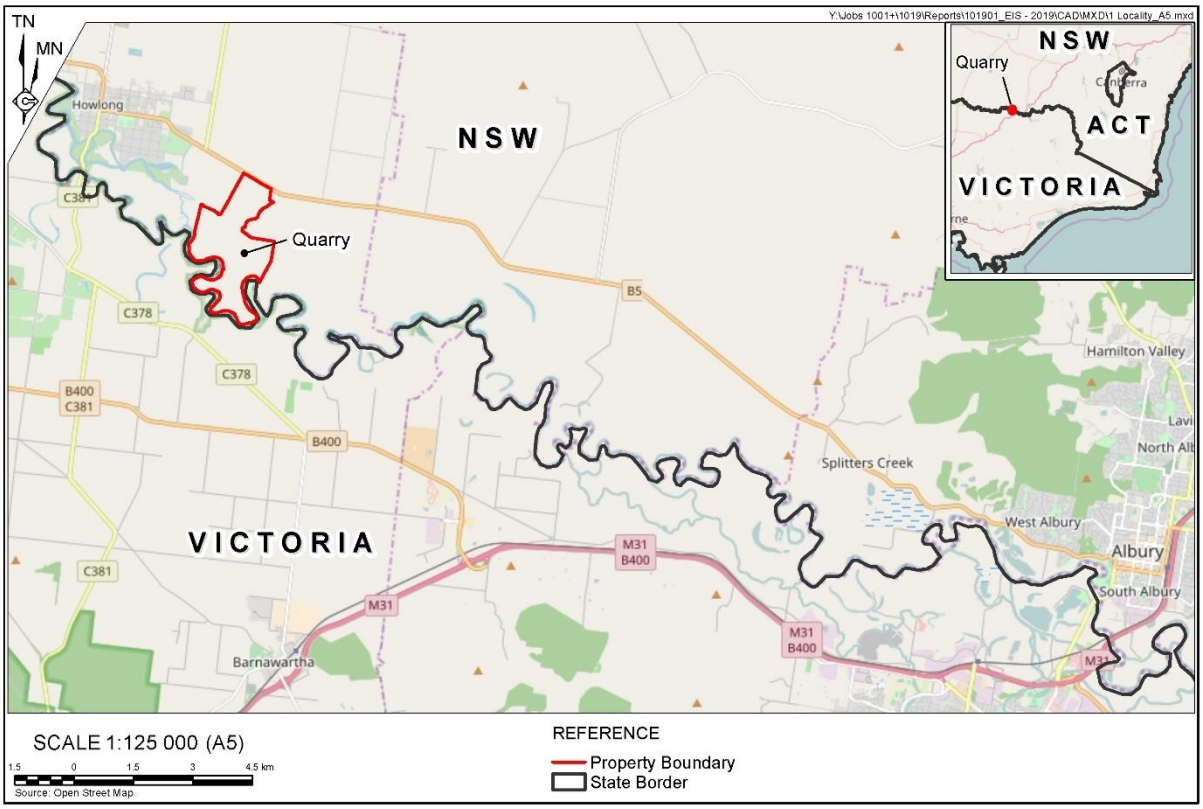


Figure 1 Location of Howlong Sand and Gravel Quarry in a regional context

The quarry has been operating for at least 50 years, with up to 30,000tpa of sand and gravel extracted in accordance with Environment Protection Licence 254. Prior to quarrying, the land was used for grazing and cropping. The process water produced by quarry operations is reused for the irrigation of pasture and crops.

The proposed Quarry Site layout is presented in **Figure 2**. Key components of the proposed development are:

- Expanding the existing quarry to extract and process up to 300,000 tpa of sand and gravel for up to 30 years;
- Use of associated site infrastructure and amenities;
- Transporting material off-site via public roads; and
- Progressively rehabilitating the site.

The proposed extraction activities would be undertaken in four stages, commencing with Stage 1 and Stage that have been extracted under existing operations. The Stage 3 extraction area has been disturbed for the existing operations but not extracted. Stage 4 is an expansion of existing vegetation disturbance but is located wholly within an irrigated Lucerne paddock. A 100 m buffer area between the Quarry extraction and the Murray River would be maintained where existing operations have occurred within this buffer, the land would be rehabilitated. The Stage 2 extraction area would also be developed then rehabilitated. Stage 3 will be used as a processing and storage area, with a future pit on the southern side of this stage. Stage 4, currently under pivot irrigation, is also a future pit that will be developed at a later date.

Site preparation works will include:

- Earthworks to construct levee banks; and
- Stripping and stockpiling of topsoil.

Additionally, new site access from the Riverina Highway will be constructed and remedial works undertaken on the Black Swan Anabranch bridge (safety rails etc). A weighbridge is to be installed on the works site.

1.1 Aims of this investigation

As part of the Environmental Impact Statement for the proposed Howlong Sand and Gravel Quarry Expansion, Advanced Environmental Systems (AES) was engaged by FEC to address any Aboriginal and historic cultural heritage issues as part of the Secretary's Environmental Assessment Requirements (SEARs) which were issued 7th November 2017. The specific heritage requirements of the SEARs document are as follows:

- *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*

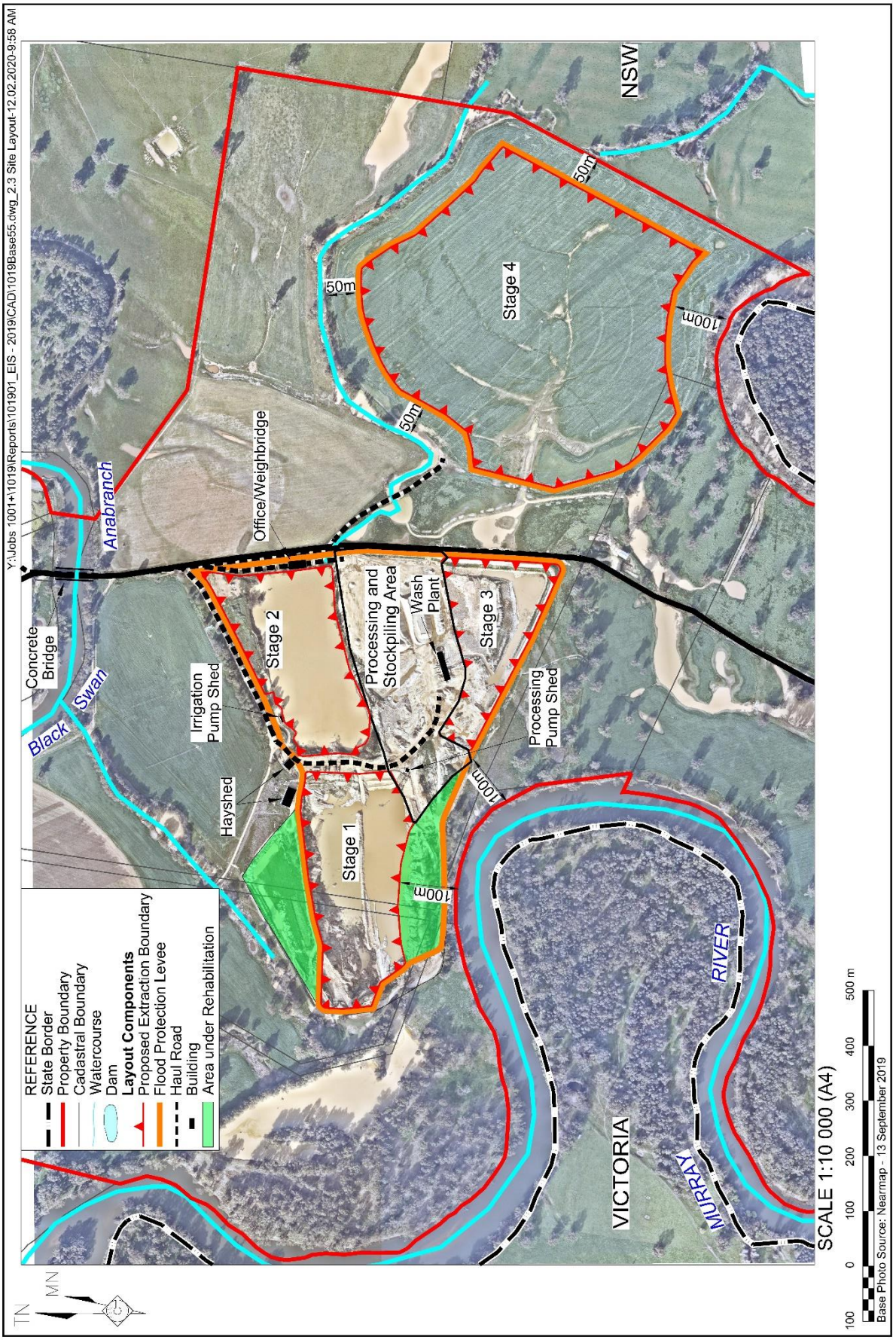


Figure 2 Layout of proposed development

- *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 listed in Attachment 1; (these include The Burra Charter (The Australia ICOMOS charter for places of cultural significance) Draft Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation (DP&E) Aboriginal Cultural Heritage Consultation Requirements for Proponents (OEH) Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (OEH) Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH) NSW Heritage Manual (OEH) Statements of Heritage Impact (OEH) Corowa LEP 2012).*

Accordingly, AES engaged archaeologist Dr Tim Stone to investigate the potential impacts of quarry redevelopment activities on any known or newly identified Aboriginal and historic cultural heritage sites.

The investigation aims were to:

- Locate and record any Aboriginal or historic cultural heritage sites that may be impacted by the proposed development;
- Recommend measures to mitigate any potential damage to Aboriginal or historic sites; and
- Consult with Aboriginal stakeholders to ascertain their views on the proposed development.

Preparation of this assessment involved collation of relevant archaeological and environmental information (including a Aboriginal Heritage Information Management System [AHIMS] site database search, (**Appendix 1**) and the use of aerial imagery to identify landforms with Aboriginal or historic cultural potential. Particular emphasis was placed on identifying predictive models of Aboriginal site location applicable to the study area from archaeological investigations previously undertaken in the region.

An archaeological field survey of the proposed development area was undertaken on 9 February 2018. The participants were archaeologist Tim Stone and soil scientist Peter Clinnick (AES) accompanied by Sam Kirby and Troy McGrath from the Albury and District Local Aboriginal Land Council.

2. Statutory Protection and the Burra Charter

All registered and unregistered Aboriginal archaeological sites in New South Wales are protected by the State *National Parks and Wildlife Act* 1974, *National Parks and Wildlife Amendment Act* 2001 and the *Environmental Planning and Assessment Act* 1979. These Acts prohibit the wilful destruction or disturbance of any cultural heritage site, place or object, whether on private or public land. These places are considered to have significance according to the guidelines of the *Australian ICOMOS Charter for the Conservation of Places of Cultural Significance* (the Burra Charter).

The Biodiversity and Conservation Division (BCD) of the Department of Planning, Industry and Environment is the NSW State Government agency that administers these Acts as they pertain to the Aboriginal cultural heritage of NSW. The Heritage Council of NSW is responsible for the protection of historic sites.

2.1 National Parks and Wildlife Act 1974

In NSW, the *National Parks and Wildlife Act* 1974 provides legislative protection for all Aboriginal cultural heritage places and objects. Section 86 of the *National Parks and Wildlife Act* 1974 sets out a number of offences concerning 'harm' or desecration to an Aboriginal place or object. Harm means any act or omission that:

- Destroys, defaces or damages a place or object;
- Moves an object from the land on which it has been situated; or
- Causes or permits a place or object to be harmed.

There are two types of offences for harming an Aboriginal place or object:

- An offence of harming or desecrating an object which a person knows is an Aboriginal object (a 'knowing offence'); and
- An offence of harming a place or object whether or not a person knows it is an Aboriginal place or object (a 'strict liability offence').

The maximum penalty for the knowing offence is $550,000 or $275,000 (depending on whether there are aggravating circumstances) and one or two years' gaol for an individual. For a corporation, the maximum penalty for the knowing offence is $1.1 million. The maximum penalty for the strict liability offence in the case of an Aboriginal object is $110,000 or $55,000 (depending whether there are aggravating circumstances) for an individual or $220,000 for a corporation. The maximum penalty for harming an Aboriginal place is $550,000 and two years' gaol for an individual and $1.1 million for a corporation.

Section 87 *National Parks and Wildlife Act* 1974 provides several defences and exemptions for both types of offence. For example, a person who exercises due diligence in determining that their actions will not harm Aboriginal objects has a defence against prosecution for the strict liability offence if they later unknowingly harm an object. Accordingly, BCD has a code of practice to assist individuals and organisations who choose to exercise due diligence. This Aboriginal and Historical Cultural Heritage Report conforms to this *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW 2010).

It is also a defence if a person holds a current Aboriginal Heritage Impact Permit (AHIP) under section 90 of the *National Parks and Wildlife Act* 1974 and complies with the conditions of the AHIP. In addition to the defences in the *National Parks and Wildlife* Act 1974, the general defence of 'honest and reasonable mistake' also applies to the strict liability offence.

2.2 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act* 1979 also recognises the need to protect the cultural and natural heritage of NSW. It complements the *National Parks and Wildlife Act* 1974 in that it provides for planning before development and it obliges the developer to consult persons with relevant expertise or experience (Bowdler 1983:14). The heritage scope of this legislation is wider than that of the *National Parks and Wildlife Act* 1974 and sites of significance to contemporary communities are included.

Under Section 4.41 of the EP&A Act, a development that is a State significant development does not require an AHIP as long as that development is carried out in accordance with the development consent for that development.

2.3 Aboriginal Land Rights Act 1983

Aboriginal Land Councils constituted under the Aboriginal Land Rights Act in NSW can claim land as compensation for historic dispossession of land and to support Aboriginal communities' social and economic development. The right to claim land was introduced in 1983 when the Aboriginal Land Rights Act 1983 (ALRA) became law in NSW.

2.4 Heritage Act 1977

Historical sites in NSW are protected by the *Heritage Act* 1977. The act is designed to conserve places or items of historic, scientific, cultural, archaeological, natural or aesthetic significance to local communities or to the State. Items of particular importance are listed on the State Heritage Register. The Heritage Council of NSW is responsible for ensuring that listed sites are protected. Major changes to a heritage site require the approval of the Heritage Council.

2.5 Australia ICOMOS Charter for the Conservation of Places of Cultural Significance

The *Australia ICOMOS Charter for the Conservation of Places of Cultural Significance* (Burra Charter) was adopted at a conference at the historic mining town of Burra, South Australia, in 1979 (latest update 1999). This charter defines the procedures and basic principles to be followed in the preservation of all types of sites (e.g. Aboriginal shell middens, ancient campsites represented by scatters of stone artefacts, historic road and rail bridges). These places are considered to have cultural significance either to Aboriginal people or to Australians in general. Cultural significance is a term used to encompass all the meanings and values that a particular place may have to people, beyond its utilitarian value. It refers to ‘aesthetic, historical, scientific or social value for past or present generations, or for its likely value to future generations’ (Marquis-Kyle and Walker 1992:73).

Under the guidelines of The Burra Charter any Aboriginal sites found in the area proposed for sand and gravel extraction will have social value. According to the charter, social value is defined as:

> *… the qualities for which a place has become a focus of spiritual, political, national, or other cultural sentiment to a majority or minority group (Marquis-Kyle and Walker 1992:73)*

Some sites found in the study area may also have scientific value. This is assessed according to each particular site's research or scientific potential to provide information about past Aboriginal culture, the environment, or human behaviour generally.

> *According to The Burra Charter: The scientific or research value of a place will depend upon the importance of the data involved or its rarity, quality or representativeness and on the degree to which the place may contribute further substantial information (Marquis-Kyle and Walker 1992:73).*

While the scientific or research value of a place may vary, the Albury and District Local Aboriginal Land Council considers all Aboriginal archaeological sites to be significant. The Aboriginal people of the area have a very ancient and unique traditional culture and these sites are important to them because they are a link to their ancestral lands and help to keep their traditional culture alive.

2.6 Corowa Local Environment Plan (LEP) 2012

Although the study area is located within the Federation Council, this Council is still operating under the Corowa LEP 2012 which provides protection for local heritage items. Schedule 5 of the LEP lists items of local heritage significance.

3. Types of Sites

The types of cultural heritage sites previously recorded on the Murray River and which might therefore be expected to occur on the river near the Howlong area are described below.

Open campsites

Open campsites are one of the most commonly occurring types of Aboriginal sites in the region. These sites are represented by scatters of stone artefacts exposed on the ground surface. The remains of fire hearths may also be associated with the artefacts. In rare instances, open campsites which were used over a long period of time may accumulate sediments and become stratified. That is, there may be several layers of occupation buried one on top of the other.

Open campsites are almost invariably located near permanent or semi-permanent water sources. Local topography is also important in that campsites tend to occur on level, well-drained ground elevated above the local water source. In the Howlong area, they are concentrated along the Murray River and its tributaries (in particular, on terraces and dunes) and around the margins of lakes and wetlands.

Quarry sites

Quarries are locations where Aboriginal people obtained raw material for their stone tools or ochre for their art and decoration. Materials commonly used for making flaked stone tools include chert, silcrete, quartz and quartzite. In the Howlong area, these materials were probably obtained by trade, if not available from local sources.

Freshwater shell middens

Shell middens are deposits of shell and other food remains accumulated by Aboriginal people as food refuse. In inland NSW these middens typically comprise shells of the freshwater lacustrine mussel *Velesunio ambiguus* or the freshwater riverine mussel *Alathyria jacksoni*. Freshwater middens are most frequently found as thin layers or small patches of shell and often contain stone or bone artefacts and evidence of cooking. Such sites are known on the Murray River.

Earth mounds

Earth mounds may have been used by Aboriginal people as cooking ovens or as campsites. They are common in the eastern part of the Murray Basin and in the Western District of Victoria. Originally they appear to have ranged from three to 35 metres in diameter and from 0.5 to 2 metres in height. Today, however, they may be difficult to recognise because of the effects of ploughing, grazing and burrowing of rabbits. Earth oven material, stone artefacts, food refuse and the remains of hut foundations have been exposed in excavated earth mounds.

Carved trees

These are trees on which Aboriginal people have cut designs through the bark onto the wood beneath. They are thought to have once had a wide distribution in southeastern Australia but because of age and widespread tree clearance few remain today. Ethnohistoric records indicate that some carved trees were associated with burials whilst others may have been sacred or totemic sites.

Scarred trees

Slabs of bark were cut from trees by Aboriginal people and used for a variety of purposes including roofing shelters and constructing canoes, shields and containers. Scars also resulted from the cutting of toe holds for climbing trees to obtain honey or to capture animals, such as possums. The classification of scarred trees as natural, European or Aboriginal is often problematic, however, if the scar is Aboriginal in origin the tree will most likely be more than 150 years old.

Burial grounds

Aboriginal burial grounds may consist of a single interment or a suite of burials. In the drier parts of western NSW skeletal material is regularly found eroding from sand deposits but in the hill slopes of the Great Dividing Range burial sites are rare because conditions for the preservation of bone are usually poor. Knowledge of Aboriginal burial grounds is best sought from local Aboriginal communities.

Stone arrangements, ceremonial grounds and natural sacred sites

Stone arrangements range from simple cairns or piles of rock to more elaborate arrangements such as stone circles or standing slabs of rock held upright by stones around the base. Some stone arrangements were used in ceremonial activities whilst others may represent sacred or totemic sites. Other sites associated with the religious side of Aboriginal life are those now called 'sacred, natural or mythological sites'. These are natural features such as rock outcrops, waterholes or mountains which may be associated with initiation ceremonies or the activities of ancestral creators.

Historic sites

Historic sites along the Murray River relate mostly to the arrival of European agriculturalists and associated industries last century, and the development of shipping along the river. Old homesteads and associated structures such as work sheds, barns and wells are examples. Small bridges made from wood or stone and old railway sidings may also be encountered.

Shipping sites comprise the wrecks of old paddle steamers, historic wharves and jetties, ferry and punt landings, shipbuilding yards, custom houses, locks and weirs and lighthouses. Less conspicuous sites include historic mileage markers and navigation markers which are also of historical interest.

4. Environmental Setting

Howlong is located on the Riverine Plain which is a part of the Murray Basin formed since uplift of the Eastern Australian Highlands some 60 million years ago (Mackay and Eastburn, 1990). The older surface sediments of the Riverine Plain comprise the Shepparton Formation. These sediments comprise alluvial sand, silt and clay and represent the last phase of the in-filling of the Murray Basin. The part of the Murray River valley proposed for quarry expansion consists largely of a broad, scroll-patterned floodplain (**Figure 3**). Access from the Riverina Highway is from a high terrace (Shepparton Formation) onto the younger, inset floodplain (Coonambidgal Formation).

Figure 3 Farm track crossing uppermost terrace with scroll bar topography

The relative age of the two formations is shown by their contrasting soil profiles. The Shepparton Formation has a strong red/brown earth, which suggests that its surface is upwards of 45,000 years old (Stone, 2006). The Coonambidgal Formation scroll bars being quarried have a weak red/brown earth, which is also weakly podsolised (**Figure 4**). These are comparable to 'Kotupna' deposits near Echuca dated by Stone (2006) to the Last Glacial Maximum (18-21,000 years ago) and younger.

Figure 4 Weak red/brown earth soil profile exposed in Stage 1 quarry

Riverine source-bordering dunes are also a feature of the Coonambidgal Formation between Albury and Howlong. These comprise fine sand deflated from point bar and channel deposits during periods of low river flow. Their formation is on the eastern side of palaeochannels in response to prevailing westerly winds (Bowler, 1978). Stone (2006) showed that dune formation is highly episodic and caused by extreme climatic change. Any on the Coonambidgal Formation would be 18-21,000 years old.

European land use practices since the 1830s have significantly altered the hydrology and topography of the floodplain in the study area. The Black Swan Anabranch between the proposed quarry activities and uppermost terrace appears to have been dredged because it has a relatively straight planform (**Figure 2**). Billabongs have been excavated to trap silt and supply water for historic quarry operations.

Artificial levees have been constructed on the surface of the scroll bar topography to protect the quarry from flooding. A network of haul roads (including bridge) and farm roads has also been constructed. Where not subject to quarrying, the floodplain is under irrigated crop production or fallow.

Most of the original vegetation was cleared in the early period of European settlement. Mature River Red gums (*Eucalyptus camaldulensis*) are present on the floodplain, although most trees in the redevelopment footprint are juvenile regrowth.

5. Ethnohistory

The ethnohistorical record of the Albury-Wodonga region is generally poor and little is known about the Aboriginal communities who occupied the area at the time of contact with Europeans. The first British visitors were the explorers Hume and Hovell who sighted the Murray River in 1824. Although they were impressed by the forests and the abundance of fish and bird life, they wrote little about the Aborigines (in Andrews, 1988). The only evidence of Aboriginal activity they saw around Albury was ‘smoke’ (in Jones, 1991).

According to Tindale (1974), the original inhabitants of the Albury-Wodonga region north of the Murray River were the Jeithi people. Their neighbours to the south included the Kwatkwat and Duduroa groups. With the spread of European pastoralism in the 1830s it would appear that the Jeithi were displaced, not only by settlers, but also by Wiradjuri Aborigines who had lost their lands further to the north (Jones, 1991). These Aboriginal communities continued to live traditionally in the area until the 1860s, but in ever decreasing numbers. Ultimately, they succumbed to violence, dispossession and disease.

Despite these profound historical changes, Aboriginal people still maintain a significant presence in the Albury-Wodonga region. The rural city and surrounds is largely a resettlement area for Aboriginal people from other parts of the country. While few of these people trace their ancestry directly to the Albury-Wodonga region they do have strong links with the land and a genuine concern for the protection of cultural heritage sites in the local area. For this reason, it is important that local Aboriginal people continue to be consulted with regard to local land management decisions.

6. Previous Archaeological Investigations

Previous archaeological studies along the Murray River valley have demonstrated Aboriginal occupation dating back at least 20,000 years. The oldest archaeological site in the region is to the west at Kow Swamp, approximately 260 km west of the study area, where human remains were unearthed by irrigation works in 1968 (Thorne and Macumber, 1972). Known as the Kow Swamp people, these remains represent the largest single population of late Pleistocene humans in the world (Flood, 1999). Using optically stimulated luminescence dating methods, Stone and Cupper (2003) suggest that the Kow Swamp people lived on the old lake shore of Kow Swamp at the height of the Last Glacial Maximum (18-21,000 years ago) and developed robust physical features in response to extreme glacial conditions (see also Stone, 2004).

Cohuna ~20 km northwest of Kow Swamp is the site of one of the earliest fossil human discoveries ever made in Australia. In 1925, a mineralized human cranium (the Cohuna Cranium) was uncovered during the excavation of an irrigation channel on the northern edge of Kow Swamp. Macumber and Thorne (1975) described the cranium as once that of a large, heavily-built male of robust type. Apparently, it is one of the Kow Swamp people and presumably also dates to ~20,000 years ago.

Bowdler (1976) investigated a burial site at ‘Roseleigh' about half-way between Howlong and Albury, which had been exposed by sand mining operations in a dune bordering the Murray River. The site comprised the remains of three individuals, which she reburied in the deposit. A low density quartz artefact scatter was also recorded in the uppermost layers of the dune. Paton and Hughes (1984) re-examined the site locating a fourth individual in an eroding spoil heap and more quartz artefacts.

The regional archaeological record began to emerge in the late 1970s and early 1980s under the auspices of the Albury-Wodonga Development Corporation. Witter (1978) investigated Baranduda southeast of Wodonga and Thurgoona east of Albury. At Baranduda, a total of 12 Aboriginal sites and 62 isolated artefacts were recorded. Nine of the sites were open campsites represented by scatters of stone artefacts. Most of these sites were located along the edge of a high terrace of the Kiewa River. The remaining three sites were scarred trees located on higher ground bordering the terrace.

Witter's (1978) test excavation of two of the Baranduda campsites and analysis of surface collections showed that quartz debitage comprises 95% of the artefact assemblages. Other components include quartz backed blades and bipolar artefacts and flakes with retouch or use/wear. The only non-quartz artefacts recorded were fragments of polished stone axes and pieces of sandstone grinding implements. Faunal remains representing fish, turtle and marsupials were also identified. One site contained a large amount of charcoal suggesting a hearth. Witter believed that the sites had formed within the last 6-7,000 years because geometric microliths are among the artefacts present.

Three open campsites were located by Witter (1978) at Thurgoona on elevated ground overlooking the Murray River. Two were very similar to the Baranduda sites being dominated by quartz debitage. The third was a low density scatter of quartz artefacts that included a pair of heavy-duty ground stone implements. Closer to the river, Witter (1978) located another quartz scatter at the base of a hill, a scarred tree and a lens of quartz artefacts and animal bones exposed in a floodplain section.

McIntyre (1977) and Crosby (1978) located sites near Thurgoona around the site of the ANP paper mill. These sites comprised scatters of quartz artefacts and scarred trees. Subsequent investigation of this area by Smith and Upcher (1992) located ten quartz artefact scatters and six scarred trees distributed along North Mile Creek. Eleven isolated finds were also made including one silcrete artefact. One of these sites (M3) was excavated by archaeologist Dirk Spenneman who apparently obtained charcoal ages for it ranging from 1,200 to 2,600 years ago (Stone and Paton, 1994).

West of Wodonga, in the valley of Felled Timber Creek, Crosby (1980) located a total of 11 quartz artefact scatters. Five were located along an elevated ridgeline and six adjacent to the creek line. Presland (1980) collected artefacts from the surfaces of eight of these sites and excavated one of them. His analysis of the artefact assemblages produced results similar to those obtained by Witter (1978). However, in Presland's sample quartzite fragments were identified (see also Presland, 1981, 1982).

Archaeological surveys have also been undertaken in the Albury-Wodonga region for linear developments such as power lines and roads. Hughes (1978) located three scatters of quartz artefacts and 17 scarred trees between Jindera and Dederang. Property-owners had collected two edge-ground axes from one of the quartz artefact sites. Djekic's (1978) survey between Wagga Wagga and Albury located one quartz artefact scatter and six scarred trees south of Culcairn.

Ferguson (1992) located a total of 11 quartz artefact scatters and 12 isolated finds to the north and northwest of Albury. Two of the sites each contained a quartz backed microlith. The isolated finds included a hammer stone, anvil stone, edge-ground axe and fragment of grindstone. Paton (1993, 1993a) located five quartz artefact scatters, two isolated quartz finds and six scarred trees to the south and east of Albury. One of the stone artefact sites had a fine-grained volcanic flake.

Some of the more significant archaeological sites in the Albury-Wodonga region are located in the ranges southeast of Wodonga. McConnell (1981) located a stone arrangement at Castle Creek some 25 km south east of the study area. This consisted of a group of small granite boulders arranged around a quartz reef. At one end of the reef a 'plaited' tree was recorded. Another stone arrangement is thought to be present on Mount Lady Franklin, but has yet to be confirmed.

Further back in the hills, Gunn (1983) located a rock shelter with art at Mudgegonga. Gunn's limited excavation of the rock shelter deposit recovered burnt bone fragments, some recent bird vertebra, a kangaroo tooth and six quartz flakes. Radiocarbon dates obtained on charcoal from the site placed its occupation between 690 and 3,445 years ago. A similar site has been discovered nearby along with three previously unknown art sites. These highly significant sites have since been registered with Aboriginal Victoria.

Closer to Howlong, Navin *et al.* (1995) located eight Aboriginal sites along the part of the Wagga Wagga to Wodonga gas pipeline route that crossed the Murray River about a kilometre upstream of the study area (see AHIMS search, **Appendix 1**). Six of these sites are small, low density quartz artefact scatters or isolated quartz artefacts and two are scarred trees. The campsites were located on an elevated terrace of the Murray River and at the margins of Lesters Lagoon.

The archaeological study most relevant to the current study area is Stone and Paton's (1994) investigation of the Albury City Council's sewage treatment site on the Murray River floodplain west of Albury. Their study used geomorphology to predict then locate Aboriginal occupation sites across similar fluvial landforms as those found in the current study area. Five quartz artefact scatters and two isolated quartz artefacts were located on terrace edges, with the larger sites (n = 3) on the older terraces. The two smaller sites were located on younger Coonambidgal Formation scroll bar topography and the two isolated artefacts on the margins of the Cooks Lagoon palaeochannel.

6.1 Aboriginal sites in the study area

According to the AHIMS site database administered by OEH, no Aboriginal sites have been located previously in the proposed quarry redevelopment study area. However, eight Aboriginal sites are known within ~3 km of the study area (see AHIMS search, **Appendix 1**). These eight sites are those located by Navin *et al.* (1995), described above. The closest site to the study area has AHIMS site number 60-3-0048 and is located on farmed scroll bar topography 900 m east of the Howlong Sand and Gravel Quarry Stage 4 investigation area. The site consists of eight quartz artefacts and a 'meta/sed' core recorded on the bank of a flood channel. The proposed quarry activities are too far from this site to cause any impact.

6.2 Historic sites in the study area

The NSW State Heritage Register and State Heritage Inventory contain items listed by the Heritage Council under the *Heritage Act* 1977. The Environmental Heritage Schedule 5 of the Corowa Local Environmental Plan 2012 also lists historical heritage sites within the Corowa (now Federation) Shire. A search of these registers conducted did not reveal any historic cultural sites within the study area or in close proximity.

7. A Predictive Statement

The results of previous archaeological investigations undertaken in the Albury-Wodonga region suggest that the sites most likely to be encountered in the proposed quarry redevelopment study area will be open campsites represented by scatters of stone artefacts. These artefact assemblages are likely to be dominated by quartz flakes, although flakes made from silcrete, quartzite and fine-grained metasediments might also occur. Other artefact types that might be present include geometric microliths, hammer and anvil stones and edge-ground axe-heads. However, some of the more easily recognisable artefact types, such as stone axes, might now be rare because of amateur collectors.

Open campsites are most frequently located on gentle slopes adjacent to rivers, creeks and wetlands. In the Murray River valley between Albury and Howlong such sites are commonplace along the margins of river terraces and on slopes adjacent to natural flood channels. In the current study area, open campsites are most likely to be located on the uppermost Shepparton Formation surface, on the edges of any younger terraces on the floodplain or on the margins of palaeochannels/billabongs.

Scarred trees are another common site type in the region and these might be present anywhere in the landscape where very old stands of native vegetation have survived. Burials are also possible and if present most likely in riverine source-bordering dune sand.

Other site types such as axe-head grinding grooves, quarries and rock shelter sites are far less likely in the study area because suitable geological formations are lacking.

While predictive studies can identify areas in which sites associated with economic or subsistence activities are likely to be present e.g. open campsites, other sites may fall outside this framework. Sites associated with ritual activities were often located at topographically distinct or unique features, which cannot be identified from examination of maps or other records. For this reason it is essential that Aboriginal communities be consulted so that sites of significance to them can be identified.

8. Aboriginal Community Consultation

Aboriginal consultation is regulated under Clause 80C of the *National Parks and Wildlife Regulation 2009* which outlines a four stage Aboriginal consultation process that stipulates specific timeframes for components of each stage. Stage 1 is currently being completed before the EIS approval and subsequent stages will be undertaken, if required, during the assessment phase of the EIS.

The stages are outlined as follows:

Stage 1 – Identifying Aboriginal Stakeholders to be listed as Registered Aboriginal Parties (RAPs)

This stage requires that Aboriginal people who hold cultural information are identified, notified and invited to register an expression of interest in the assessment. This identification process should draw on reasonable resources of information including: the Registrar (*Aboriginal Land Rights Act,* 1983), the relevant OEH Environment Protection Regulation Group (EPRG) Regional Office, the Local Aboriginal Land Council(s), the National Native Title Tribunal, the Native Title Services Corporation Limited, the relevant Catchment Management Authority and the relevant local council(s). The identification process should also include an advertisement placed in a local newspaper circulating in the general location of the Project Area. Aboriginal organisations and/or individuals identified should be notified of the project and invited to register an expression of interest (EoI) for Aboriginal consultation. Once a list of Aboriginal community stakeholders has been compiled from the expression of interest process, they need to be consulted in accordance with Stages 2, 3 and 4 of the ACHCRs.

In accordance with Stage 1 of the ACHCRs, on 24 May 2018 letters were sent to the Albury OEH Office, the Registrar of Aboriginal Owners NSW, the Native Title Tribunal, Native Title Services Corporation Limited, the Federation Council and the Murray Local Land Services requesting the identification of interested Aboriginal groups. An advertisement was placed in the Southern Riverina News inviting expressions of interest from Aboriginal stakeholders.

The Albury and District Local Aboriginal Land Council was identified as the Aboriginal stakeholder for the proposed development (**Table 1**)

Table 1 Registered Aboriginal Stakeholders

Aboriginal Stakeholder	Contact	Date of Expression of Interest
Albury and District Local Aboriginal Land Council	Sam Kirby Troy McGrath	19-04-2018

Stage 2 – Providing project information

Stage 2 requires that project information is provided to Aboriginal community stakeholders by the proponent. Relevant project information may include an outline of the project activities, proposed impact areas and environmental assessment process. The presentation of the project information should be documented and include any agreed outcomes with the Aboriginal community stakeholders. In some instances, depending on the nature, scale and complexity of the project, the proponent may create the opportunity for Aboriginal stakeholders to visit the project site and/or conduct additional project information sessions.

A ground survey of the proposed development site was undertaken on 9 February 2018 by archaeologist Tim Stone with the assistance of Sam Kirby and Troy McGrath from the Albury and District Local Aboriginal Land Council.

Stage 3 – Gathering cultural significance

This stage provides the opportunity to gather information regarding cultural significance of the proposed development site. The aim is to facilitate a process by which Aboriginal community stakeholders can have input into the heritage assessment methodology and management options, and provide information on the cultural significance of Aboriginal objects or places. The proponent must provide a proposed methodology for the cultural heritage assessment and allow a minimum of 28 days to respond. If needed, protocols for the appropriate handling of culturally sensitive information may need to be developed with the Aboriginal community stakeholders. The proponent must also seek the views of the Aboriginal community stakeholders on potential management options for Aboriginal objects or places.

Stage 4 – Draft Report

Stage 4 requires that the proponent prepare a draft cultural heritage assessment report and provide a copy to the registered Aboriginal stakeholders for comment. A minimum of 28 days must be provided for the RAPs to comment on the draft report. To finalise the report, the proponent must consider the submissions made by the RAPs and include the proponent's response to each submission. The finalised report must be provided to the RAPs and the relevant Local Aboriginal Land Council.

The draft Aboriginal and Historic Cultural Due Diligence Assessment for Howlong Sand and Gravel Quarry Expansion SSD 17_8804 (Tim Stone, 2018) was sent to Sam Kirby from the Albury and District Local Aboriginal Land Council for review. The Aboriginal stakeholders responded to the report on and have no objections to the proposed development providing that the Howlong 1 artefact scatter on the dune is not disturbed during the course of the development.

Issues Raised

There were no specific cultural heritage issues raised from Aboriginal consultation. The only recommendation made by the Albury and District Local Aboriginal Council was to avoid disturbance to the recorded Howlong 1 artefact scatter during the proposed development works (see **Appendix 3**).

9. Field Methodology

In accordance with standard archaeological practice and the requirements set out in the Code of Practice for Archaeological Investigation of Aboriginal objects in New South Wales (DECCW 2010) and the Guide for Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011), a project design and survey methodology was prepared as a key component of the cultural heritage due diligence assessment.

9.1 Logistics

Fieldwork was undertaken on 9 February 2018 by archaeologist Tim Stone with the assistance of Sam Kirby and Troy McGrath from the Albury and District Local Aboriginal Land Council. AES soil scientist Peter Clinnick also participated in the field survey.

9.2 Survey methods

The survey focused on those parts of the study area proposed for development or upgrade.

The archaeologist, soil scientist and Aboriginal representatives inspected the entire study area either by walking transects on average 50 m apart or viewing it from a vehicle. Within the 386 ha study area, the surveyors targeted ground exposed by poor grass or crop growth, eroded/disturbed areas and quarried subsurface sections. Ground surface visibility was very good (30 %).

Figure 5 shows the survey area and the transects that were traversed by foot. The team examined the ground surface along these survey lines for archaeological traces such as stone artefacts and also mature eucalypt trees for any evidence of Aboriginal scarring.

The surface survey transects were designed to achieve two main results. Firstly, to intensively inspect all parts of the study area that will be impacted by the proposed development. These areas included all of Stages 1-4 and road corridors proposed for upgrade. The second main aim was to determine the patterning of Aboriginal (and any historic) archaeological sites across the study area.

9.3 Coverage analysis

The survey area corresponds to the 386 ha study area (**Figures 5** and **6**). Survey team members walked on average 50 m apart on transects through those parts of the study area to be impacted. With four team members, this amounted to 26,000 m in distance walked and as each team member was able to closely inspect four metres of ground either side, this amounts to 104,000 m² surveyed.

Actual survey coverage, therefore, amounts to 2.7 % of the overall study area. Effective coverage was much less at 0.9 %, based on ground surface visibility of 30 %.

Although these figures may seem low, they are in fact a significant proportion of the study area to be impacted, more so given the fact that each surveyor could view (though not intensively) up to 50 m from the surveyed lines and thus were able to target features likely to expose sites.

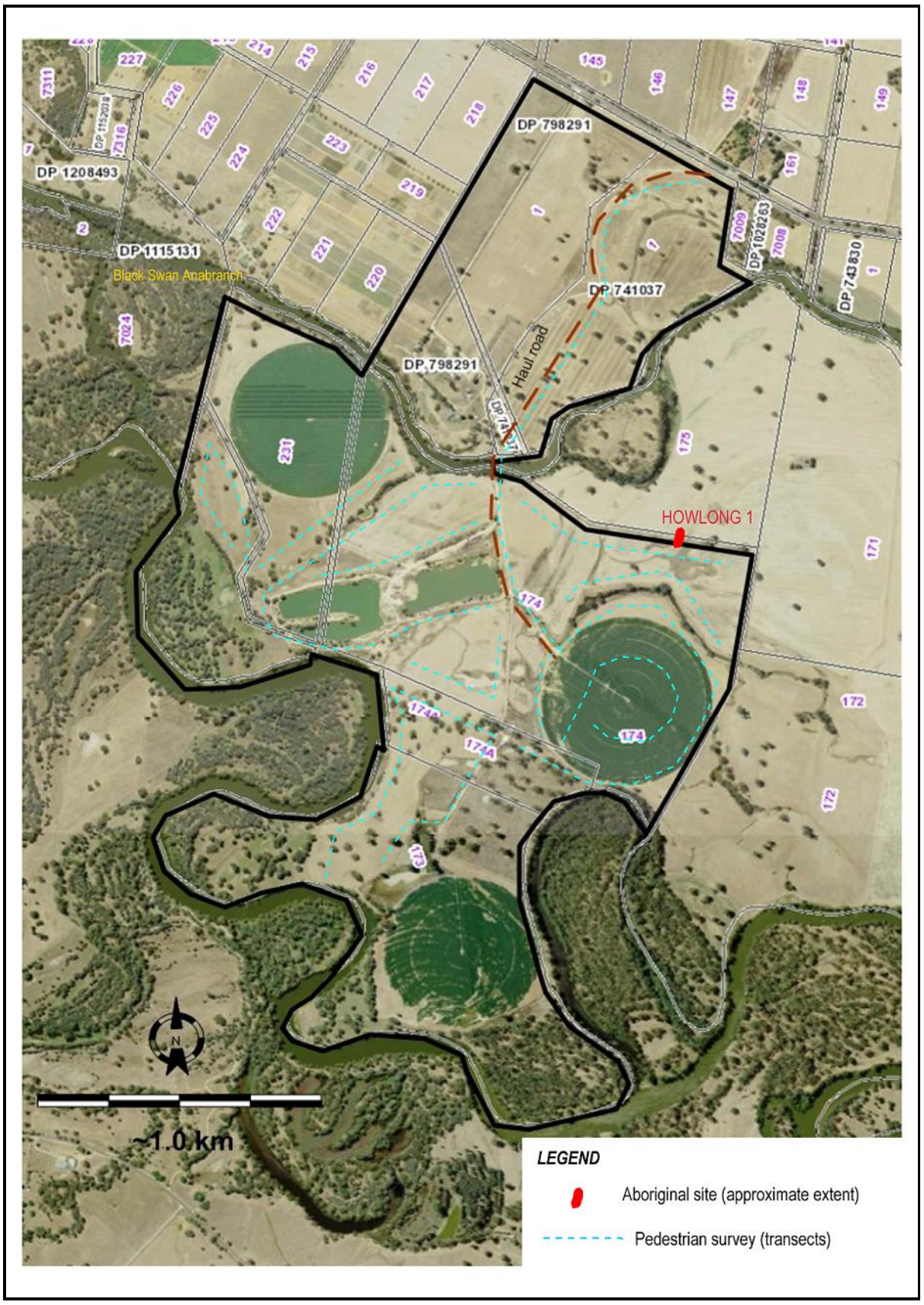


Figure 5 Results of the field survey including location of Howlong 1.

Figure 6 Howlong 1 quartz artefact scatter on dune. View to south

9.4 Access to survey area and weather conditions

Access was available to the entire study area. Weather conditions during the survey were fine.

10. Results and Discussion

10.1 Aboriginal cultural heritage sites in the study area

One Aboriginal site was located (**Figure 5** and **6**). The site is an open campsite represented by a scatter of quartz artefacts on the surface of a riverine source-bordering dune (Howlong 1). The dune straddles the boundary of the study area more than 200 m north of the Stage 4 investigation area. The distribution of artefacts follows the north south orientation of the dune crest over a distance of 70 m. Eight artefacts were recorded, all flakes or flaked pieces <2 cm (**Figure 7**). The site is described in sufficient detail for it to be recorded within the AHIMS database within **Appendix 2**. As Howlong 1 would not be disturbed by the Project, an assessment of significance of the site is not required.

No Aboriginal sites were located on the Coonambidgal scroll bar topography that the Late Quaternary dune originated from or in any of the subsurface sections inspected (**Figure 2**). Nor were any located on the uppermost Shepparton Formation beside the access road to the quarry.

Unexpectedly, the terrace sequence in the study area consisted only of the uppermost Shepparton Formation terrace and a lowermost terrace adjoining the modern point bar sequence. No intermediate terraces were recorded (cf. Stone and Paton, 1994), which most likely explains why no Aboriginal occupation was located on the generally featureless scroll bar topography.

Finally, no Aboriginal scarred trees were located in the study area, although many of the mature river red gums inspected clearly had natural scars on their trunks.

10.2 Historical heritage sites in the proposed activity area

No historic sites were located in the area surveyed. The historical archaeological potential of the study area is very low, with no obvious above-ground historical features such as ruins or marked trees. Accordingly, there is no requirement for detailed historical assessment or specific site related management recommendations.

Figure 7 Small quartz flake representative of the Howlong 1 artefact assemblage

10.3 Aboriginal concerns

Aboriginal people living in southern NSW are concerned about any development that might impact upon Aboriginal sites in the region. Sam Kirby of the Albury and District Local Aboriginal Land Council was contacted about the proposed quarry redevelopment and he agreed to meet with the AES team and inspect the study area along with fellow Land Council member Troy McGrath.

The Aboriginal stakeholders have no objections to the proposed development providing that the Howlong 1 artefact scatter on the dune is not disturbed during the course of development (**Figure 5**).

The right to claim land was introduced in 1983 when the Aboriginal Land Rights Act 1983 became law in NSW. A search of the register of Aboriginal owners indicated that there were no claims to land across the development site or nearby (**Appendix 4**).

11. Recommendations

Based on the results of this assessment, it is recommended that:

- The proposed development presents a very low risk to Aboriginal and historic cultural heritage sites and values.
- Particular care should be taken to avoid any harm to the quartz artefact scatter Howlong 1. The site is protected under section 86 of the *National Parks and Wildlife Act* 1974. It is an offence under this Act to damage identified sites of Aboriginal cultural heritage value. It is understood that this area is to be fenced off to avoid impact in the future.
- In the unlikely event that unidentified Aboriginal or historic cultural heritage sites or items are encountered during the course of development, all works likely to affect the cultural material must cease immediately and the NSW BCD's Environment Line (tel: 131 555) or the Heritage Council (tel: 02 9873 8599) consulted about an appropriate course of action prior to work recommencing. It is an offence under the relevant acts to disturb or destroy Aboriginal or historical cultural heritage sites without written consent of the NSW BCD.
- If human skeleton remains are encountered during the course of the development activity, all work must immediately cease in the vicinity of the remains and the area cordoned off. The NSW local police must be contacted who will make an initial assessment as to whether the remains are a part of a crime scene or possible Aboriginal remains. If the remains are thought to be Aboriginal, the developer (FEC) must contact BCD's Enviroline on 131 555. A BCD Officer will determine if the remains are Aboriginal or not and a management plan must be developed in consultation with the relevant Aboriginal stakeholders. Works must not recommence at that location until written authorisation has been provided by BCD.

These measures would be described in an Aboriginal and Historic Heritage Contingency Plan (**Appendix 5**) that would be incorporated into the Howlong Sand and Gravel Environmental Management Strategy.

12. Bibliography

Andrews, A. 1988. *The History of Albury*: 1824-1895. Renwick Pride Pty. Ltd, Albury

Bowdler, S. 1976. *Report on the 'Roseleigh' sand dune, near Albury*, NSW. A report to the NSW National Parks and Wildlife Service

Bowler, J. 1978. Quaternary climate and tectonics in the evolution of the Riverine Plain. In Davies, J. L. and Williams, M. A. J. (eds.) *Landform Evolution in Australia*, Australian National University Press, Canberra. pp.70-112.

Bowler, J. and Thorne, A. 1976. Human remains from Lake Mungo: discovery and excavation of Lake Mungo III. In R.L. Kirk and A.G. Thorne (eds.) *The Origin of the Australians,* Australian Institute of Aboriginal Studies Press, Canberra.

Crosby, E. 1978. *A site survey in the Albury area*. A report to the NSW. Development Corporation. An unpublished report.

DECCW 2010. *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*. NSW Department of Environment, Climate Change and Water, Sydney.

Djekic, A. 1978*. Report for the National Parks and Wildlife Service of NSW on an archaeological survey of the Wagga Wagga to Albury transmission line.* A report to the NSW National Parks and Wildlife Service.

Ferguson, W. 1992. A*rchaeological survey of the proposed Albury-Wodonga Hume Highway external bypass.* A report to the Roads and Traffic Authority, New South Wales Flood, J. M. 1999. *Archaeology of the Dreamtime*. (Harper Collins: Sydney).

Gunn, R. 1983*. Mundgegonga rock art sites*. Unpublished report to the Victoria Archaeological Survey.

Hughes, P. 1978. *An archaeological survey of the route of the Jindera to Dederang transmission line.* A report to the State Electricity, Commission of Victoria.

Jones, H.C. 1991. *Albury Heritage*. VIP Printing, Melbourne.

Macumber, P. G. and Thorne, A. G. 1975. The Cohuna Cranium site: a re-appraisal. *Archaeology and Physical Anthropology in Oceania* 10, 67-72.

Mackay, N. and Eastburn, D. (eds.) 1990. *The Murray,* Murray Darling Basin Commission, Canberra.

Marquis-Kyle, P. and Walker, M. 1992. *The Illustrated Burra Charter*. Australian ICOMOS, Sydney.

McConnell, A. 1981*. Report on the field trip to the Wodonga and Kiewa Valley region*, 9-10 June 1981. An unpublished report.

McIntyre, M. 1977. *Archaeological survey of Australian Newsprint Mills site at Albury-Wodonga*. A report to the NSW National Parks and Wildlife Service.

Navin, K., Officer, K. and Tracey, M. (1995). *Preliminary Cultural Heritage Assessment Wodonga to Wagga Wagga Natural Gas Pipeline EIS*. Report to Sinclair Knight Merz.

NPWS. 1997. *Standards for Archaeological Practice in Aboriginal Heritage Management.*

Paton, R. 1993. *An archaeological investigation of several short optical fibre cable routes in northeast Victoria*. A report to Dames and Moore Pty. Ltd.

Paton, R. 1993a. *An archaeological investigation of two short optical fibre cable routes in southern NSW.* A report to Dames and Moore Pty. Ltd.

Paton, R. and Hughes, P. 1984*. An archaeological investigation of the Roseleigh sand dune, Albury, NSW.* A report to the NSW National Parks and Wildlife Service.

Presland, G. 1980. *An archaeological survey of the proposed Wodonga golf course.* A report to the Albury-Wodonga Development Corporation.

Presland, G. 1981. *An archaeological survey of tree planting areas in the Albury-Wodonga region.* Victoria Archaeological Survey Occasional Reports Series 3.

Presland, G. 1982. *Report of an archaeological survey of three proposed housing estates in the Albury-Wodonga region*. Victoria Archaeological Survey.

Smith, L. and Upcher, C. 1992*. Archaeological survey for Aboriginal sites of 'Maryvale', Albury NSW*. A Report to Gutteridge Haskins and Davey Pty. Ltd.

Stone, T. and Cupper, M. 2003. Last Glacial Maximum ages for robust humans at Kow Swamp, southern Australia*. Journal of Human Evolution* 45, 99-111.

Stone, T. 2004. Robust and gracile. *Australasian Science* 25, 18-20.

Stone, T. 2006. Late Quaternary rivers and lakes of the Cadell Tilt Block region, Murray Basin, southeastern Australia*.* Unpublished PhD thesis, The University of Melbourne.

Stone, T. and Paton, R. 1994. An archaeological investigation of a proposed sewage treatment site and associated water reclamation areas near Albury, N.S.W. A report to the Albury City Council.

Thorne, A. G. and Macumber, P. G. 1972. Discoveries of late Pleistocene man at Kow Swamp, Australia. *Nature* 238, 316-319.Webb, S. 1984. Intensification, population and social change in south-eastern Australia: the skeletal evidence. *Aboriginal History,* 8:154-172.

Tindale, N.B. 1974. *Aboriginal Tribes of Australia: their terrain, environmental controls, distribution, limits and proper names*. University of California, Berkeley, CA.

Witter, D. 1978. *Archaeological study of Baranduda and Thurgoona.* A report to the Albury-Wodonga Development Corporation.

Appendix 1 AHIMS search

Office of Environment & Heritage
NSW GOVERNMENT

AHIMS Web Services (AWS)
Search Result

Purchase Order/Reference : 001
Client Service ID : 324700

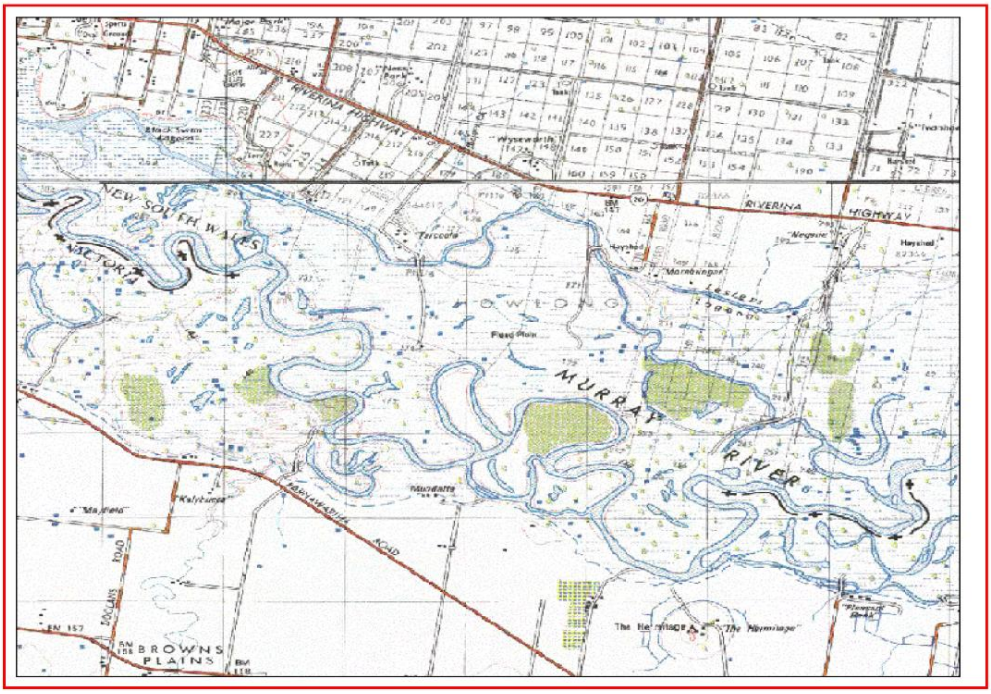
Tim Stone Pty. Ltd.
6 Waterview Street
Seaforth New South Wales 2092
Attention: Tim Stone
Email: tstoneheritage@gmail.com

Date: 29 January 2018

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lat, Long From : -36.0431, 146.6276 - Lat, Long To : -35.9892, 146.713 with a Buffer of 50 meters, conducted by Tim Stone on 29 January 2018.

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



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

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

Office of Environment & Heritage
NSW GOVERNMENT

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 001
Client Service ID : 324700

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
55-6-0019	WW16;Whittaker Lane;	AGD	55	472220	6017030	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	98638
	Contact	**Recorders**	Mr.Kelvin Officer					**Permits**		
60-3-0048	WW2_Morebringer 1;	AGD	55	471420	6014140	Open site	Valid	Artefact : -	Open Camp Site	98639,98640
	Contact	**Recorders**	Kerry Navin,Mr.Kelvin Officer					**Permits**		
60-3-0049	WW1 Negari 1;	AGD	55	471490	6012800	Open site	Valid	Artefact : -	Open Camp Site	98639,98640
	Contact	**Recorders**	Mr.Kelvin Officer					**Permits**		
60-3-0050	WWIF2;	AGD	55	472120	6012950	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	**Recorders**	Kerry Navin,Mr.Kelvin Officer					**Permits**		
60-3-0051	WWIF1	AGD	55	471880	6014750	Open site	Valid	Artefact : -	Isolated Find	
	Contact	**Recorders**	Kerry Navin,Mr.Kelvin Officer					**Permits**		
60-3-0052	WW4 Lesters lagoon 2;	AGD	55	472280	6014510	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	98639,98640
	Contact	**Recorders**	Kerry Navin,Mr.Kelvin Officer					**Permits**		
60-3-0053	WW3 Lesters Lagoon 1;	AGD	55	471750	6014800	Open site	Valid	Artefact : -	Open Camp Site	98637,98639,98640
	Contact	**Recorders**	Kerry Navin,Mr.Kelvin Officer					**Permits**		
60-3-0105	Negari Mt	AGD	55	471372	6013135	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact T Russell	**Recorders**	Mr.Dean Freeman					**Permits**		

Report generated by AHIMS Web Service on 29/01/2018 for Tim Stone for the following area at Lat, Long From : -36.0431, 146.6276 - Lat, Long To : -35.9892, 146.713 with a Buffer of 50 meters. Additional Info : Due Diligence Assessment. Number of Aboriginal sites and Aboriginal objects found is 8

This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

Appendix 2 Site description - Howlong 1

Site Type: Open campsite represented by scatter of stone artefacts.

Location: The site is located ~4 km south east of Howlong. Access is by vehicle along the Riverina Highway. Turn south at 4343 Riverina Highway, Howlong and continue south along farm road for ~1.5 km to Black Swam Anabranch bridge. Cross bridge and take sharp left to follow farm road ~700 m to the site. Stone artefacts are exposed on dune crest either side of the fence line along road.

Grid Reference: MGA GDA 94 Zone 55 470393E 6015022N

Environmental Setting: The site is located on the crest of a north south orientated riverine source-bordering dune overlooking a flood channel formed between two scroll bars on the Murray River floodplain. The dune is composed of fine sand and most likely formed at the height of the LGM 18-21, 000 years ago. Rubefaction of the dune sand since that time has given it a light reddish brown colour.

Site Aspect: South East

Site Size: Artefacts were recorded along the ~20 m wide crest of the dune for a distance of ~70 m.

Visibility: Ground surface visibility was high (>30%) along the dune crest because of burrowing by rabbits and patchy grass growth.

Site Contents: A total of eight artefacts were recorded across the ~1,400 m^2 area giving a figure for surface artefact density of 1/175 m^2, which is quite low. The assemblage consists entirely of flakes and flaked pieces <2cm struck from quartz and quartz debitage.

Site Condition: The site has been impacted by clearing of the original native vegetation, grazing by stock and rabbits, burrowing and erosion. Farm track and fence line construction has truncated the site.

Management Considerations: The site is located more than 200 m north of the proposed Stage 4 quarry expansion area on the opposite side of a dividing flood channel and is unlikely to be harmed.

Appendix 3 Aboriginal Consultation Reply

Albury & District Local Aboriginal Land Council
- 917 Chenery Street Glenroy
- Po Box 22 Lavington 2641 -
lalc-albury@outlook.com - 6025 6075

Albury & District Local Aboriginal Land Council

Advanced Environmental Systems
(03) 5482 5882 or 0412 151 225
Email: aes@echuca.net.au
Web: www.environmentalsystems.com.au

Dear Tim & Peter,

Thank you for your consultation regarding the Howlong Gravel Quarry proposed site development.

The Albury & District Local Aboriginal Land Council (A&D LALC) has identified part of the site and items it contains to be culturally sensitive in nature. However further study will not be advised given the cultural site location is outside the proposed work site.

Albury & District LALC has read and will support the: Aboriginal and Historic Cultural Heritage Due Diligence Assessment for Howlong Sand and Gravel Quarry Expansion SSD 17_8804.

The A&D LALC sees no issues with the continuation of this project. However if culturally sensitive items are discovered during any stage of the project the A&D LALC is to be consulted immediately.

A&D LALC maintains this information to be true and correct at the time of issue, any future concerns regarding the site(s) in question can be directed to the CEO of the A&D LALC.

Kind Regards,
Sam Kirby
CEO Albury & District LALC

Appendix 4 Aboriginal Land Rights Registrar's Reply

OFFICE OF THE REGISTRAR
ABORIGINAL LAND RIGHTS ACT 1983 (NSW)

6 June 2018

Peter Clinnick
Advanced Environmental Systems
Suite 2, 75 Hume Street
ECHUCA VIC 3564

Dear Charlotte

Re: Request - Search for Registered Aboriginal Owners

I refer to your letter dated 28 May 2018 regarding an Aboriginal Cultural Heritage Assessment of the proposed expansion of the Howlong Quarry located within the Howlong area, NSW.

I have searched the Register of Aboriginal Owners and the project area described does not have Registered Aboriginal Owners pursuant to Division 3 of the *Aboriginal Land Rights Act 1983*.

I suggest that you contact Albury & District Local Aboriginal Land Council on 02 6025 7075. They may be able to assist you in identifying other Aboriginal stakeholders for this project.

Yours sincerely

Jodie Rikiti
Administration Officer
Office of the Registrar, ALRA

Address: Level 3, 2 – 10 Wentworth Street, PARRAMATTA NSW 2150
Post: P.O Box 5068, PARRAMATTA NSW 2124
Phone: 02 8633 1266

Appendix 5 Aboriginal and Historic Heritage Management Contingency Plan

The following Aboriginal and Historic Heritage Management Contingency Plan will be incorporated into the Environmental Management Strategy (EMS) for the Howlong Sand and Gravel Quarry development. It is to be used in junction with the recommendations made within this report for management of known heritage sites and unexpected finds within the development area.

Heritage Issue	Stage of Works	Task
Heritage induction	Prior	It is recommended that all relevant personnel, contractors and subcontractors are made aware of the legal obligations for Aboriginal cultural heritage under the *National Parks and Wildlife Act 1974* through an on-site toolbox talk or induction.
Avoidance of Aboriginal site Howlong 1	During	Particular care should be taken to avoid any harm to the quartz artefact scatter Howlong 1. The site is protected under section 86 of the *National Parks and Wildlife Act 1974*.

Unexpected Find Protocol

Action / Observation	Notification / Reporting	Timing
Identification		
Material observed, and work ceased in the vicinity of the object.	Quarry Manager notified.	Immediately upon identification.
A 10m buffer area around the artefact is cordoned off to prevent access.	None	Immediately upon identification.
Skeletal Remains		
Material is human remains	Notification given via phone to: • NSW Police • BCD • DPIE	Immediately upon identification.
Commission an archaeologist to assess remains in consultation with Registered Aboriginal Stakeholders	Notification given via phone/letter/email to Registered Aboriginal Stakeholders.	Once remains are identified as of Aboriginal origin.
	Management strategy and reporting prepared in consultation with BCD and Registered Aboriginal Stakeholders if remains are of Aboriginal origin.	As agreed with relevant parties.

Artefactual Material		
Material is artefactual	Notification given via phone to the BCD and DPIE	Immediately upon identification.
Commission an archaeologist to undertake an assessment of the material in consultation with the Registered Aboriginal Stakeholders.	Notification given via phone/letter/email to Registered Aboriginal Stakeholders	Once material is confirmed to be of Aboriginal origin.
	Outcomes to be notified to the BCD and DPIE	To be confirmed with BCD.
Implement recommendations of assessment in consultation with the Registered Aboriginal Stakeholders	Documentation to be prepared by archaeologist describing the outcomes of assessment. Outcomes to be notified to the BCD and DPIE	To be confirmed with authorities and Registered Aboriginal Stakeholders.
Re-Commence Extraction Works		
Approval in writing is given by the NSW Police or BCD to recommence works in the affected area.	Notification given to the following groups. • Registered Aboriginal Parties. • BCD • DPIE	Once outcomes of management strategies or assessment are resolved, or material is formally identified to not be artefactual.

This page has intentionally been left blank