Report for HASSELL

An archaeological desktop study for 275 Racecourse Road Sunbury Masterplan

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ACKNOWLEDGMENTS

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- Pru Smith (Hassell)
- Megan Goulding (Wurundjeri Land Tribe and Compensation Cultural Heritage Council Incorporated.)
- Cheryl Kift, Maria Pham (Biosis Research Pty. Ltd.)

ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>AAV</td>
<td>Aboriginal Affairs Victoria (DVC)</td>
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<tr>
<td>AHC</td>
<td>Australian Heritage Commission</td>
</tr>
<tr>
<td>AMG</td>
<td>Australian Map Grid</td>
</tr>
<tr>
<td>ATSIC</td>
<td>Aboriginal and Torres Strait Islander Commission</td>
</tr>
<tr>
<td>BP</td>
<td>Before Present</td>
</tr>
<tr>
<td>DCNR</td>
<td>former Department of Conservation and Natural Resources</td>
</tr>
<tr>
<td>DNRE</td>
<td>former Department of Natural Resources and Environment</td>
</tr>
<tr>
<td>DSE</td>
<td>Department of Sustainability and Environment</td>
</tr>
<tr>
<td>DOI</td>
<td>Department of Infrastructure</td>
</tr>
<tr>
<td>DPI</td>
<td>Department of Primary Industries</td>
</tr>
<tr>
<td>DVC</td>
<td>Department for Victorian Communities</td>
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<tr>
<td>HV</td>
<td>Heritage Victoria (DSE)</td>
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<tr>
<td>ICOMOS</td>
<td>International Council on Monuments and Sites</td>
</tr>
<tr>
<td>LCC</td>
<td>Land Conservation Council</td>
</tr>
<tr>
<td>NT</td>
<td>National Trust (Victoria)</td>
</tr>
<tr>
<td>RNE</td>
<td>Register of the National Estate</td>
</tr>
<tr>
<td>VAS</td>
<td>Victoria Archaeological Survey (now part of AAV and Heritage Victoria)</td>
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<tr>
<td>VHI</td>
<td>Victorian Heritage Inventory</td>
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<tr>
<td>VHR</td>
<td>Victorian Heritage Register</td>
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SUMMARY

This report presents the results of an archaeological desktop investigation carried out for Hassell on behalf of the City of Hume, who are preparing a Master Plan for land on Racecourse Road Sunbury. The study area comprises a 50.44 ha site located on the east side of Racecourse Road Sunbury.

Biosis Research Pty. Ltd. has been commissioned to conduct a preliminary desktop assessment of the cultural heritage values of the study area. The purpose of the study is to provide Hassell and the City of Hume with cultural heritage advice to aid in determining potential constraints for future planning and development.

Aboriginal Sites

Four Aboriginal archaeological sites have been recorded within or immediately adjacent to the study area. Numerous sites have been recorded nearby in areas previously subject to development, many of which are associated with landforms similar to those present within the study area. However detailed ground survey is likely to reveal many more archaeological sites in the study area in association with the areas of archaeological potential.

Areas of Aboriginal Archaeological Potential

The following areas of potential were identified for Aboriginal archaeological sites within the study area (also see Figure 3)

- The undisturbed areas within 200m either side of Kismet Creek, the unnamed creek to the north of the study area and other tributaries, may have relatively extensive stone artefact scatter sites.

- The open elevated rise located across the main part of the study area may have low density stone artefact scatter sites.

- The areas of plain and valley slope may have Aboriginal scarred trees where suitable mature native trees survive (i.e. greater than 150 years old), with some potential for surface and sub-surface artefact deposits in low densities.

- Plains and valleys may also have potential for ceremonial sites such as earth ring mounds, although these will be difficult to detect.
Non-Aboriginal Historical Archaeological Sites and areas of archaeological potential

There are no historic places or historical archaeological sites listed on the Victorian Heritage Register the Victorian Heritage Inventory, the Hume Planning Scheme Heritage Overlay, National Trust Register, Commonwealth or National Heritage Lists or Register of the National Estate within the study area.

There are unlikely to be any surviving historic buildings within the study area, although there is potential for historic archaeological sites in several locations in the study area.

Management Recommendations

• The City of Hume is encouraged to liaise early and often with indigenous communities and local community groups during the feasibility stage of the project.

• Kismet Creek, being a named waterway under the Geographic Places Names Act, is therefore an area of Cultural Heritage Sensitivity according to the Aboriginal Heritage Act, and therefore the preparation of a Cultural Heritage Management Plan would be mandatory for any activity requiring a statutory planning authority. Also, works or activities within 50 m of any recorded Aboriginal archaeological sites would also require a Cultural Heritage Management Plan.

• It is recommended that early in any planning process for the subject land, a detailed field survey and archaeological subsurface testing program is carried out to determine the cultural heritage values of the study area, and in particular, determine if further Aboriginal archaeological sites are present. This work would preferably be undertaken several months ahead of any development to allow for appropriate consultation and negotiation with stakeholders.
1.0  INTRODUCTION

1.1  Project Background

Biosis Research Pty. Ltd. has been commissioned to conduct a preliminary desktop assessment of the cultural heritage values of the study area. The purpose of the study is to provide Hassell and the City of Hume with cultural heritage advice to aid in determining potential constraints for future planning and development.

1.2  Study Area

The study area comprises a 50.44 ha site located on the east side of Racecourse Road Sunbury. The assessment refers to a wider masterplan area and considers how it is impacted by, and integrated with, a broader study area bounded Spavin Drive, Sambell, Winilba, Emu and Racecourse Roads and by existing residential development to the south. The site and study area is shown in Figure 1.

1.3  Aims

The major objectives are to:

- identify any sensitive archaeological or historical values within the study area from confirmed sources.

- state, if any sensitive archaeological or historical values are known or are likely to be encountered.

- provide an appraisal of any implications for the project arising from relevant legislation or government policy.

1.4  Authorship

Gary Vines carried out the report writing. Cheryl Kift undertook additional background research and assisted with production of the report. Robert Fitzgerald compiled all the figures. Project management was undertaken by Gary Vines, and the report was edited by Taryn Debney.
2.0 ENVIRONMENTAL BACKGROUND

This section provides a brief overview of the natural environment, including geology, landforms, flora, fauna, and climate of the study area. The discussion focuses on those elements of the natural environment that may have influenced past human behaviour and archaeological site distribution patterns.

The study area lies near the northern edge of the volcanic plain which extends to the north and west of Melbourne. It is also on the eastern end of the Coimadai Fault where Upper Ordovician Sedimentary rocks are uplifted about 300 metres higher than the surrounding landscape.

Silurian and Ordovician sediments form the basal rocks, which are overlain in most places by newer basalt flows dating between 2.5 and 5 million years (Rosengren 1986). Nearby eruption points include Mt. Holden, Red Rock, Sunbury Hill, and O’Brien Hill. Other hills and ridges extending between the Gap and Emu Bottom, (including the hill on which the ring is situated) are exposures of the Ordovician sediments on the edge of the fault line.

From various eruption points viscous lava flowed over the older terrain, filling valleys and forming an undulating landscape of stony rises, and relatively flat plains. The volcanic rocks weathered to heavy clay soils, and creeks and rivers cut down through the basalt to form deep, steeply-sided valleys, often with the older sedimentary rocks exposed in the valley sides. The immediate landscape is characterised by prominent hill slopes and incised valleys.

Where lava overlays both the Ordovician and Silurian sediments, conditions exist for the formation of silcrete, a fine grained stone which was extensively utilised by Aborigines for tool making.

The predominant vegetation for this landscape unit at contact would have been tussock grassland (McDougall 1987), which would have contained staple plant foods such as Microseris lanceolata (the Yam Daisy), and game including kangaroos and emus (du Cros 1989a). Basalt and silcrete outcrops provided fine-grained stone suitable for artefact manufacture.

The study area includes part of the upper catchment of Jackson's Creek, which is a tributary of the Maribyrnong River (see Figure 1). Kismet Creek runs past the site to the south west and feeds into Jackson’s Creek. Some alluvial material has built up on either side of the creek, as the volcanic terrain was incised and silt was redeposited.

Pre-settlement vegetation along the creek may have included River Red Gums (Eucalyptus camaldulensis) and other riverine species.
Suitable stone for artefact manufacture was available in the vicinity of the study area from zones of silicification between the basalt and underlying sedimentary layers exposed by the down-cutting along the Upper Maribyrnong Valley and adjacent water-courses. Several silcrete stone sources, which show evidence of Aboriginal utilisation, have been located near Sunbury Hill to the south and on Jackson’s Creek (du Cros 1993). Some quartz and quartzite stone would have been available as river pebbles for use in artefact manufacture.

2.1 Aboriginal History

Knowledge of Aboriginal people who inhabited the area around Melbourne prior to European settlement comes from occasional accounts by early settlers, official records maintained by the colonial government initially based in Sydney, and by recordings of ethnographic accounts such as Howitt, Matthews, Thomas and the Protector of Aborigines George Augustus Robinson.

The evidence of Aboriginal clans, tribes and their languages and customs has been compiled and summarised for Victoria by Barwick, (1984), Clarke (1990) and others. This forms the basis of the identification of Aboriginal groups in the study area.

Robinson recorded the Marin balug clan (also variously spelt Mare.in.bul.luc, Marin bulluk, marin ballug, Marringbulluk, Mare.in bulluc, Mare.rin.er bul.luc) at George Evans’ ‘Buttlejork’ station at Emu Bottom three miles north of Sunbury on Jackson’s Creek, in 1840 and refers to the country as ‘Tare re wait’ or ‘Tarehewait’. They are also described as inhabiting the country near Ebden’s station at Mt. Macedon, near Sunbury, and between the Saltwater River (Maribyrnong/Jackson’s Creek) and Kororoit Creek, with “…their headquarters about Sunbury”. E. S. Parker, the Assistant Protector of Aborigines, established a station for supplying food and blankets to Aborigines at the Tarrawait depot in 1839-40. This was also known as ‘Jackson’s Creek (temporary) Protectorate Station' (AAV Aboriginal Historic Places Inventory No. 5.1-7).

Their name derives from ‘Mare.ing.alk’ meaning ‘is at the big water’ (the Saltwater or Maribyrnong River) and ‘ballug’ meaning ‘people’. Therefore Marin balug = ‘big water people’ (Barwick 1984; Robinson in Clarke 1990:384).

The clan was patrilineal and followed the Waa (crow) moiety system (Barwick 1984:121). Clan leaders were known as 'Ngurungaeta', and two recognised leaders of the Marin-Balug clan were Bungarim (1800 - 1848) who was the 'guardian' of the Mt William stone axe quarry (also spelt Bungirey, and whose name was recorded as Bungarie on Batman's 1835 treaty) and his son Marmbul (ca. 1822 - September 1848) (Barwick 1984:122).
Thomas recorded the mourning of his wife at the death of Bungirey and described him as "an old Mount Macedon black, of a great family". Bungarim is also referred to by Smyth (1876: 139).

The Marin balug were one of about seven clans who made up the Woiwurung Language Group. Several language groups or ‘Wurrungs’ formed a loose coalition which shared cultural, language, social and economic ties and were known as the Kulin Nation. The ‘wurrungs’ could be distinguished by their distinctive language or dialect; ‘woi’ meaning ‘no’ and ‘wurrung’ meaning ‘tongue’ or ‘lip’. Therefore Woi wurrung = no lip speaking people, possibly referring to the way they made the language sounds with their mouths. The Woiwurrung, Djab wurrung, Duang wurrung, Bunwurrung and Ngurai-illum wurrung were all dialects of one languages (Barwick 1984: 100-109; Clarke 1990: 369, 379-84).

When John Aitken settled near Sunbury (Mt. Aitken) he soon had contact with local Aboriginal people. He wrote in 1853:

*The Mount Macedon tribe of natives came to my tent soon after my arrival at Mount Aitken. I did all in my power to conciliate them, by giving them rations of rice, sugar, flour, &c. while they remained about the place.*

*The number of the tribe, as near as I could guess, was about 100-men, women, and children. I consider that this tribe was more savage than the Western Port tribe, a neighbour of mine, (Mr. Franks) and his servant being murdered while serving out food to them. Two of Mr Gellibrand’s men were killed soon after by the same tribe. I had great reason to be thankful that I succeeded in saving myself and shepherds from sharing a similar fate* (Bride 1983: 47-50).

An early account of the Sunbury Area describes Aborigines harvesting large quantities of Murnong, the starch rich tuber which formed a staple part of the Victorian Aboriginal diet (Batey 1907; Frankel 1991:112).

John Page, an early settler of the Sunbury District recalled having seen a large group of Aboriginal men passing near his station and assumed that the lack of women and children with them meant that they were on their way to a 'tribal' fight. He saw:

*upwards of two hundred of them ... all fully armed with the weapons those people use. There were no lubras or piccaninnies with them so it was likely they were on their way to fight another tribe somewhere* (Page in Batey 1907: 12)

It is also possible, however, that they may have been travelling towards the location of a ceremony/meeting involving men only, as it is known that boundaries between the territories of language groups, or between the smaller clan estates, may have been gathering places for inter-clan or Kulin meetings. Batey also recorded that George Evans of Emu Bottom in Sunbury was invited
by Aboriginal people to witness a corroboree near his homestead (Batey 1907: 150).

E. S. Parker, the Assistant Protector of Aborigines, established a station for supplying food and blankets to Aborigines near Sunbury in 1839-40. This was known as the Tarrawait depot and also as ‘Jackson’s Creek (temporary) Protectorate Station’. It is likely that this site was chosen because of the established gathering point here for Aborigines, but was also influenced by Parker’s reluctance to move too far from Melbourne. In 1840 he shifted the protectorate station to the Loddon, and later to Franklinford near Daylesford (Christie 1979:86-100).

While there is a small amount of direct evidence of Aboriginal people in the Sunbury area in the nineteenth century, there has been no historical or ethnographic record found of any reference directly to the Sunbury earth rings. Nor is there any documented account of activities such as ceremonies or initiations that can be associated directly with the rings even though the area is known to have been an important meeting place and site for corroborees. Present day Aboriginal informants relate that the sites have cultural importance to the descendants of Woiwurrung Aboriginal people.

2.2 European History

John Aitken, with George Evans and brothers Samuel and William Jackson, were the first to pioneer the settlement of the Sunbury area, and were among the first white settlers in the Prot Phillip district. The four had staked out their pastoral runs in 1836, taking advantage of the vast areas of native grasslands and ready supply of water from Jackson’s Creek. Their knowledge of the area may have derived in part from early explorations by Fleming and Grimes in 1802-3 (who charted the lower reaches of the Maribyrnong River); Hume and Hovell who passed through near Sunbury in December 1824, and John Batman, who had made a brief visit the previous year.

Evans’ and Aitken’s grazing leases probably abutted each other near the site of the present study area. These did not have formal boundaries and were progressively reduced as land in the vicinity was subdivided and sold at Auction. Much of the land in the Sunbury area was purchased by WJT Clarke in 1851 under the Special Survey of 28,000 acres which also gave him grazing rights for an almost equal area of Crown land. Evans was able to retain his homestead block under the pre-emptive rights provisions of the Land Acts, but sold out in 1852. Clarke’s land was subsequently sold off and subdivided in the late nineteenth and early twentieth centuries.
Clarke’s Grand Son, Rupert Clarke established the Kismet Park property on Racecourse Road. The Federation style homestead was built in 1910 for Sir Rupert Clarke, and was first used to breed racehorses.

Rupert continued the pastoral pursuits of the family, mostly in Queensland, but the Sunbury landholdings were progressively reduced through subdivision selling off. He ran Kismet Park in conjunction with Bolinda Vale and other properties in the area, although Kismet focussed on race-horse breeding.

While the pastoral lands have been subdivided, the Kismet Park homestead survives and is located about 1 km south of the present study area. It was renovated in the 60s and has since been used as a reception venue (The Weekend Australian magazine 7-8 June 1997).

Plate 1: Geological Survey of Victoria c1860, Sheet 7 NE

From 1864, until their disbandment in 1883, Victorian volunteer military units would gather at Sunbury and at other Victorian venues (including the You Yangs and Hobsons Bay at Cheltenham) to conduct their annual Easter encampment. In 1864 ‘Big’ Clarke (as he was known) offered the Victorian Volunteer Forces a large section of his land as a venue for the next Easter encampment. Here, in the valley of Jacksons Creek near Sunbury, (in an area now known as Rupertwood), nearly two and a half thousand volunteer military personnel and up to fifteen thousand civilian spectators would gather for the six day event. The volunteers
erected up to 400 tents in neat military rows in the valley, which surrounded by hills, formed a natural amphitheatre from which the civilian spectators could look down onto. The volunteers conducted drill exercises, exhibitions of horsemanship and displays and demonstrations in the use of small arms and the larger horse drawn guns of the day, all to the enjoyment of the thousands of civilian spectators. Military bands performed concerts during the evenings and on one of the nights, the crowds were treated to a four hour fireworks display. As the popularity of this event grew, crowd control became a problem, with the onlookers often mingling too freely with the military demonstrations. To remedy this, the visiting public were requested to restrict themselves onto a plateau on the eastern side of the valley, (providing space for 20,000 spectators) which provided a grand vista of the valley below. To assist the visitors, railway workers built a timber bridge over Jacksons Creek and cut a zig zag pathway along the ascent to the viewing area above. The zig zag path at Cannon Gully is still visible today.

The tradition of military maneuvers at Sunbury continued into the twentieth century, with the 1903 encampment taking place on the future Racecourse land (Australian War Memorial Picture details P03749.007).
Plate 3: Clarke’s Special survey, (National Library of Australia)
The Racecourse Road study area was originally part of Clarke’s special survey, with Evans Emu Bottom Pre-emptive right holding immediately to the north. Racecourse road itself takes its name from the horse racing track established in the early 20th century, although the road also provided the only access to Evans property. A telegraph line ran from the track to the Rupertswood siding, probably to signal racing results to Melbourne (Ordnance Survey Plan, Australian Section Imperial General Staff, Sunbury 1 inch to 1 mile Sunbury Sheet. 1936).

The racecourse was located on the eastern part of the present study area immediately west of Racecourse Road. It is shown in a number of maps in the early 20th century but did not appear to last after World War Two.

The Sunbury Racing Club formally dates from the 1890s, and was on Rupertswood's grounds’ with facilities (including a stand) funded by WJ Clarke. It seems to have been established on an early private racecourse by Clarke. It would appear that whatever buildings that were erected on the racecourse, were either fairly insubstantial structures or temporary shelters and tents at the time of Plate 4: Part of Plan of Parish of Buttlejork, County of Bourke Atlas 1892
particular race meetings. There does not appear to have been any specific works to form the racecourse itself, other than a post and rail fence.

There are photos of the racecourse in the Council’s George Evans Museum collection and also a very early painting of a horse race at Emu Bottom, which may even be the site of Clarke’s subsequent racecourse. (Moloney, D. ‘Horses, Hounds and Hares’ Environmental History, Shire of Bulla Heritage Study)

Plate 5: Sunbury Race Meeting near Rupertswood, SL NSW  d1_20342.jpg

Plate 6: Sunbury Race Meeting 1875. Picture Victoria A/S13/06/74/41 b49891
Plate 7: 1916 Ordnance Survey Sunbury Sheet
2.3 Previous Archaeological Work

The most recent archaeological survey, and the closest study to the present site, was undertaken for a proposed residential development on the east side of Racecourse Road (Murphy and Dugay-Grist 2007a). This survey relocated a number of previously recorded Aboriginal sites and recorded a further 13 new sites, as well as determining that previously recorded isolated artefacts actually were part of much more extensive artefact scatter sites. The study concluded that all the undisturbed land within 200 metres of the Jacksons Creek, on the creek banks of tributaries the sides of hills and on the bluffs above the valley were sensitive for Aboriginal sites.

To the south of the present study area, a desktop study along the Kismet and Blind Creek drainage scheme areas (Murphy and Dugay-Grist 2007b), identified these creek lines as both being highly sensitive for Aboriginal sites, with artefact scatters and scarred trees in areas where development had not occurred, and mature native trees survived.
A program of sub-surface testing on Blind Creek (Bell & Rhodes 2003) had identified a number of artefact sites, and two silcrete quarries along the creek and the escarpment slopes.

A number of other archaeological surveys have been conducted in residential development sites to the west of the Racecourse Road land. In 2000-01 a survey on the ‘Sanctuary’ development which north of Riddell Road identified two Aboriginal sites, an isolated artefact on top of a hill (AAV 7822/1273) and a scatter of stone artefacts on a small creek (7822/1274) (Marshall & Webb 2001). A further site was also recorded outside the Sanctuary property on a north branch of Kismet Creek and appears to be located within the Canterbury Hills Estate (AAV 7822/1275).

The survey of the Woodbourne Hills estate located one Aboriginal site, an isolated artefact (AAV7822/1064) found north of Kismet Creek (Marshall & Walsh 1999). The Bundanoon Park property to the west of the present study area was partially surveyed as part of the large-scale archaeological study for the Shire of Bulla (Sutherland and Richards 1994). During this survey the Sunbury Ring 4 site was re-recorded (AAV7822/143) and one other site was identified in the area. This was an isolated artefact on the south side of Kismet Creek about 500 metres south east of the earth ring (AAV 7822/686).

Several other archaeological surveys have been undertaken in the Sunbury area. A survey of pre- and post-contact/historic archaeological and heritage sites was conducted by du Cros and Associates in December 1991 (du Cros and Associates 1992) for the then Caloola Training Centre located on the south side of Sunbury township. In the preliminary survey du Cros and Associates (1992) recorded a total of seven Aboriginal sites or pre-contact sites and eight post contact sites. Four areas of archaeological sensitivity were also delineated and were subsequently examined by sub-surface testing (du Cros 1995). This study determined that areas where Aboriginal archaeological sites might occur include the following:

- within 150 m of water courses along the creek lines, and
- on high ground, particularly around rocky summits of large hills or knolls (du Cros 1992: 16).

Two separate surveys were conducted for Telecom Optical Fibre Cable routes, one from Sunbury to Bulla (Clarke 1993a) and another from Sunbury to Toolern Vale (Clark 1993b). These studies identified several areas of potential for Aboriginal sites, stating they are likely to ‘…occur near streams, especially those that had permanent water supply and were deeply incised into the windy basalt plain’ (Clark 1993b: 17). Other factors influencing site location identified by Clark (1993a: 13) include:

- Larger sites and numbers of sites are likely to occur:
• On well drained ground which is level or slightly sloping,
• Near food or raw material resource zones such as swamps, river flats and the
junctons of larger streams,
• On the flood plains of major steams such as Jackson’s Creek and Emu
Creek,
• on spurs overlooking river meanders;
• Quarries will occur where suitable stone is available;
• Grinding grooves will occur where sandstone beds outcrop;
• Scarred trees will occur where suitable stands of large thick parked trees
such as red gum or box remain close to waterways;
• Greater numbers of sites (and larger sites) are generally found on undulating
or flatter land. On hills and uplands, sites are generally smaller and more
scattered. They tend to be found on ridges and spurs (which were used as
access routes). Aboriginal archaeological sites in these areas were formed
buy small groups moving through the upland areas, in contrast to the more
permanent campsites that occur, for instance, on flood plains (Clark 1993a:
13).

A shire-wide study of Aboriginal cultural heritage was carried out by Sutherland
and Richards in 1994 which concentrated on proposed development areas. The
survey was designed to identify any patterns in site location, distribution and
density. A total of 66 square kilometres was assessed, with archaeological survey
covering two square kilometres. During the field survey twenty new artefact
surface scatters were recorded including the two artefact scatters within the
present study area.

Further afield, significant archaeological sites have been found on the
Maribyrnong River at Keilor, where Aboriginal burials considered to be 8,000
years old were found in 1946, and the Dry Creek excavation discovered an
Aboriginal skull, dating to about 15,000 years old and artefacts in sediments
deposited 25,000 years ago. These sites contributed to our understanding of the
great antiquity of Aboriginal occupation in Australia.

Aboriginal archaeological sites, in the basalt plains environment, are most
heavily concentrated within 100 metres of permanent water. The major rivers and
creeks provide the only permanent water that is reliable in summer and so
Jackson’s Creek, (and its nearby tributaries Deep Creek and Emu Creek) and
Kororoit Creek to the west, all have large numbers of sites along their banks.

One of the distinctive characteristics of the Aboriginal archaeology of the
Sunbury area is presence of the unique group of five ceremonial earth rings.
These sites are all in elevated locations near the top of escarpments, and have
been identified by archaeologists and local informants over an extended period
from the 1970s. It has not been established if there is any ethnographic, historical
or traditional knowledge of the rings dating back before the 1970s, so they are particularly enigmatic.

The following table lists the Aboriginal Archaeological sites located within five kilometres of the study area.

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<td>7822-0098</td>
<td>Sunbury Ring G</td>
<td>Aboriginal Place Earth Feature</td>
<td>Excavated by David Frankel 1979</td>
<td>300230</td>
<td>5840120</td>
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<tr>
<td>7822-0099</td>
<td>Sunbury Ring N</td>
<td>Aboriginal Place Earth Feature</td>
<td></td>
<td>300380</td>
<td>5840170</td>
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<tr>
<td>7822-0143</td>
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<tr>
<td>7822-0485</td>
<td>G-DR5</td>
<td>Artefact Scatter</td>
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<td>Reservoir Road 1</td>
<td>Aboriginal Place Earth Feature</td>
<td>The fifth earth ring</td>
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<tr>
<td>7822-0573</td>
<td>Caloola 2</td>
<td>Artefact Scatter</td>
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<tr>
<td>7822-0574</td>
<td>Caloola 3</td>
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<td>7822-0575</td>
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<tr>
<td>7822-0577</td>
<td>Caloola 6</td>
<td>Quarry/Stone Source Artefact Scatter</td>
<td>Coarse grained silcrete outcrops similar to that at Kismet Creek</td>
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</tr>
<tr>
<td>7822-0578</td>
<td>Caloola 7</td>
<td>Artefact Scatter</td>
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<tr>
<td>7822-0589</td>
<td>Holly Green mound</td>
<td>Natural feature</td>
<td>Excavated in 1930s and determined to be a natural geological feature</td>
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<tr>
<td>7822-0686</td>
<td>Bundanoon 1</td>
<td>Artefact Scatter</td>
<td>On south branch of Kismet Creek in Canterbury Hills Estate</td>
<td>297230</td>
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<tr>
<td>7822-0690</td>
<td>Emu Bottom 1</td>
<td>Artefact Scatter</td>
<td></td>
<td>300050</td>
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<tr>
<td>7822-0693</td>
<td>Green Gables 1</td>
<td>Earth Feature Artefact Scatter</td>
<td>On Blind Creek</td>
<td>300520</td>
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<tr>
<td>7822-0694</td>
<td>Goonawarra 2</td>
<td>Artefact Scatter</td>
<td></td>
<td>300450</td>
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<tr>
<td>7822-0695</td>
<td>McMahon 1</td>
<td>Artefact Scatter</td>
<td></td>
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</tr>
<tr>
<td>7822-0696</td>
<td>McMahon 2</td>
<td>Artefact Scatter</td>
<td></td>
<td>300080</td>
<td>5838430</td>
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<tr>
<td>7822-0697</td>
<td>Salesian 1</td>
<td>Artefact Scatter</td>
<td></td>
<td>300550</td>
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<tr>
<td>7822-0698</td>
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<td>Artefact Scatter</td>
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<tr>
<td>7822-0699</td>
<td>Salesian 3</td>
<td>Artefact Scatter</td>
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<td>Salesian 4</td>
<td>Artefact Scatter</td>
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<tr>
<td>7822-0701</td>
<td>Sherwood 1</td>
<td>Scarred Tree</td>
<td>Close to earth ring 0097</td>
<td>299800</td>
<td>5839800</td>
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<tr>
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<td>Sun 1</td>
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<td></td>
<td>298900</td>
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<tr>
<td>7822-0703</td>
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<td>Artefact Scatter</td>
<td></td>
<td>298700</td>
<td>5840980</td>
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<td>7822-0798</td>
<td>NW-1</td>
<td>Artefact Scatter</td>
<td></td>
<td>300290</td>
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<tr>
<td>7822-0799</td>
<td>NW-2</td>
<td>Artefact Scatter</td>
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<td>5842800</td>
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<tr>
<td>7822-0823</td>
<td>Jackson’s Hill 1</td>
<td>Artefact Scatter</td>
<td></td>
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<tr>
<td>7822-0824</td>
<td>Jackson’s Hill 2</td>
<td>Quarry/Stone Source</td>
<td>Coarse grained silcrete outcrops similar to that at Kismet Creek</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7822-0825</td>
<td>Jackson’s Hill 3</td>
<td>Artefact Scatter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7822-1052</td>
<td>Salesian College</td>
<td>Scarred Tree</td>
<td>Near site of reported Aboriginal meeting place and burials</td>
<td>299950</td>
<td>5839250</td>
</tr>
<tr>
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<td>Spavin Dam</td>
<td>Scarred Tree</td>
<td></td>
<td>298660</td>
<td>5840520</td>
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<tr>
<td>7822-1061</td>
<td>Salesian 5</td>
<td>Artefact Scatter</td>
<td>Close to earth ring 0098</td>
<td>300230</td>
<td>5840260</td>
</tr>
<tr>
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<td>Salesian 6</td>
<td>Scarred Tree</td>
<td>Close to earth ring 0098</td>
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<td>5840250</td>
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<tr>
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<td>Spavin Dam 2</td>
<td>Scarred Tree</td>
<td></td>
<td>298700</td>
<td>5840300</td>
</tr>
<tr>
<td>7822-1273</td>
<td>The Sanctuary 1A</td>
<td>Artefact Scatter</td>
<td></td>
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<td>5842460</td>
</tr>
<tr>
<td>7822-1274</td>
<td>JCT The Sanctuary</td>
<td>Artefact Scatter</td>
<td></td>
<td>298020</td>
<td>5842930</td>
</tr>
<tr>
<td>7822-1275</td>
<td>Kismet Creek</td>
<td>Earth Feature</td>
<td>Possibly within Canterbury Hills Estate property</td>
<td>297160</td>
<td>5841400</td>
</tr>
</tbody>
</table>

BIOSSIS RESEARCH
Table 1: Previously recorded Aboriginal archaeological sites within or near the study area.
2.3.1 **Sunbury Rings**

Investigations of the Sunbury earth rings have been undertaken in the last 30 years. Three earth ring sites were investigated in detail by David Frankel of La Trobe University, Division of Prehistory in 1979. This very thorough investigation involved ethnographic, historic and archaeological research and was conducted: ‘…with a view to demonstrating whether or not they were of Aboriginal construction, and in order to define more clearly their nature and method of manufacture’ (Frankel 1982: 89).

Research did not discover any historical and ethnographic accounts of the use of the Sunbury earth rings by Aboriginal people. Nor was there any record found of European awareness of them in the nineteenth century. This is despite the fact that there is relatively good documentation of the first phase of European settlement in the area, with first hand accounts from Aitken (Bride 1983: 47-50) and Evans (Batey 1907). They were not mentioned by any of the principal nineteenth century ethnographers who documented Aboriginal culture in Victoria (Matthews, Howitt, Smythe, Parker, etc.).

One of the rings was partially excavated by Frankel (Ring G AAV7822/098). The excavation revealed a clear structure, which showed that the soil had been scraped off the base of the ring to expose the bedrock and piled around the rim to form the bank of the circle. This low mound is between two and three metres wide and stands about 20-40 cm higher than the base of the circle, or 10-30 cm higher than the natural soil (Frankel 1991: 109-10, Fig 9.10). Two stone cairns were also identified during the excavation. One was located in the centre of the ring and was interpreted as the collapsed remains of a cairn which may have originally stood about 40 cm high. The second Cairn was smaller and less well defined and measured about a metre in diameter. This was located just outside the rim of the circle to the south.

Sunbury Ring 4 was recorded in 1984 by Victoria Archaeological survey staff member Kim Thompson.

A fifth Aboriginal earth ring was recorded in the Sunbury area in 1990 by Gabrielle Brennan of the VAS. This is located south west of the present site, off Reservoir Road. It was reported in the local newspapers when a housing subdivision was proposed in the area and subsequently investigated by David Frankel. His report identified it as a roughly circular depression between 20 and 30 cm in depth and about 20 metres in diameter set on a sloping hillside (Frankel 1993).

The rings are all of a similar form, being on sloping land, roughly circular and between 15 and 25 metres in diameter. They are all formed by scraping up the
soil in the circle and piling it around the edge, creating a height difference of about 20-40cm between the top of the ring and the base.

Other archaeological sites have been subsequently recorded in areas close to the rings. An artefact scatter (AAV7822/1061) and a scarred tree (AAV7822/1062) are located within 20 metres of Ring G (AAV7822/98), while another scarred tree (AAV7822/701) is located immediately adjacent to Ring AA (AAV7822/97). Numerous artefact scatters, as well as stone quarries and scarred trees have been recorded near the Sunbury Ring 4 site.

The Register of the National Estate (RNE) maintained by the Australian Heritage Commission includes a registration listing for the “Sunbury Indigenous Place” which refers to the Aboriginal earth rings (RNE No. 005573, registered 25/3/1986).

2.3.2 Sites close to the study area

Several Aboriginal Archaeological sites are located in the vicinity of the study area, i.e. within 1km. They are shown in Figure 2 and include:

- Isolated artefact (AAV7822/686), located on the southern tributary of Kismet Creek about 400 metres south east of the ring;
- Surface Scatter AAV7822/692 located on Blind Creek south of the study area and on the opposite side of Riddell Road;
- Surface Scatter AAV7822/1064, located on a hillside 500 m to the north, and;
- Artefact Exposure AAV7822/1275, located on bank of tributary of Kismet Creek 300 m. north of the ring.

These are also shown in Figure 2.

2.3.3 Aboriginal historic places

Heritage Services Branch of Aboriginal Affairs Victoria maintains an Aboriginal Historic Places Register, which records details of places where historical evidence refers to Aboriginal activity or places of importance. This register includes three listings for Historic Aboriginal places near the Sunbury Earth Rings.

Mt Tophet Burials, Inventory No. 9.2-12

The Mt Tophet Burials are identified as having been located near The Gap. These were reported by Carmel Schaffer, whose father Francis Millet had owned
the Mt. Tophen (sic) property, and had told her that he remembered three Aboriginal graves located on the corner of Napier and Regent Street near Raglan Street. Ms Schaffer said that the graves were un-marked and she believed that they are now located under a house.

**Mt. Tophen (sic) Meeting Place, Inventory No. 4.2-8**

Carmel Schaffer is also the informant for this site, which was reported as located on the hillside near Kororoit Creek (evidently on the slopes of Mt. Aitken). She was told by her father, that his father referred to Aboriginal people gathering at Mt. Tophen (sic – probably referring to Mt. Tophet) for ceremonies. She remembered seeing the remains of hearths at the site which she believes took advantage of shelters among rocks and caves on the hillside on Kororoit Creek to the west. An inspection was made by AAV Heritage Branch staff Rochelle Johnston and Kevin Murray in 1998 where one stone artefact and numerous bottle glass fragments were recorded.

**Jackson’s Station, Inventory No. 5.1-7**

E. S. Parker, the Assistant Protector of Aborigines, established a station for supplying food and blankets to Aborigines at the Tarrawait depot in 1839-40. This was also known as ‘Jackson’s Creek (temporary) Protectorate Station’. This is believed to have been located on the River near the Jackson’s Brothers’ Squatting run. The location for this depot was probably chosen because of the proximity of the Jackson Brother’s early pastoral run and because this was already an important meeting place for Aboriginal people.

### 2.4 Discussion

The five earth rings in the Sunbury area are exceptional Aboriginal cultural and archaeological sites in Victoria. Only one other similar site is known to exist elsewhere in Victoria. This is a somewhat larger earth ring near Creswick where a strong local tradition associates the site with an Aboriginal ceremonial ground (Mr. J. Sewell in Frankel 1993: Massola 1971: 91). One other site near Colac and recorded by Massola (1971) can no longer be traced.

The following site prediction models for Aboriginal and non-Aboriginal sites are used to assist in identifying areas of archaeological potential within the study area.
2.4.1 Aboriginal Archaeological Site Prediction Model

The purpose of the following site prediction model is to collate existing information on the local archaeology in order to target areas which might have archaeological values during the field survey. The site prediction model below was developed prior to the field survey and speculates about what sites types might occur and where they might be found. This model should only be considered predictive, and read in conjunction with the survey results to identify which areas are considered to be of potential archaeological sensitivity.

The distribution of previously recorded sites show densities of sites on the Merri, Darebin, Moonee Ponds, Jackson’s and Deep Creek, and the Plenty River. As Vines has observed (1996) the artefact scatters which are recorded on both banks often appear as continuous linear concentrations which reflect the extensive use of the landscape and mobility.

The previous studies in the region of the study area show that certain landforms are more likely to have Aboriginal archaeological sites located on or near them. Waterways are particularly common areas in which Aboriginal sites have been identified in previous studies. Waterways provided abundant plant and animal resources for Aboriginal people. For this reason, camp sites in the form of surface artefact scatters, or stratified sites/exposures in banks are often located on adjacent terraces, on higher ground near waterways, and at the confluence of waterways. The presence of a major, permanent watercourse such as Merri Creek within three kilometres of the study area, and a section of Edgars Creek running through the study area, is likely to influence the incidence, density and types of sites present in the study area. It is important to note that Ellender has observed that sites containing stone artefacts can be expected to extend up to 300 metres from a perennial watercourse and 200 metres from a seasonal watercourse (Ellender 1999).

High frequencies of sites are recorded on promontories overlooking the Plenty River, Merri Creek and the Darebin Creek, which would have provided excellent vantage points, dry ground during winter and shady protected areas during the heat of summer. The stony rises which occur in the study area would similarly have offered excellent views of the surrounding region, and provided high, dry, sheltered ground for campsites during winter or summer. These stony rises would have offered excellent travelling during winter across a landscape which can become extremely boggy and waterlogged during winter.

The basalt plains in general that occur in the study area would also have provided a rich resource base. These outcrops can form small, shallow
depressions which become swampy in winter, and would have attracted water birds and offered potable water. However, the low-lying woodlands would have been extremely damp underfoot during winter, and hot and dry during summer (Ellender 1989:11).

A number of properties in the study area feature open woodland dominated by mature river red gums. Some of the red gums within urban areas of the City of Whittlesea have been estimated to be between 200 – 800 years of age (City of Whittlesea Red Gum Policy n.d.:1). It is possible that some of these trees will feature cultural scarring.

Sites would most likely be found within these landscapes in areas least affected by post-contact land use. One might expect that a higher proportion of sites will be located closer to water, not only because water is a necessary resource but because land at greater distances from water courses is more likely to have suffered more intensively from agricultural and pastoral practices. This applies to stone artefact scatters and isolated artefacts, as well as scarred trees. Many of the properties are likely to have been ‘improved’ by clearing the ground of loose basalt floaters and incorporated into drystone walls, removing native vegetation and grazing with cattle and sheep. These properties are less likely to contain sites which are in situ (original context) due to such post-depositional disturbance. Further, the basalt plains have been subjected to intense scrutiny by stone artefact collectors and local farmers, particularly along waterways, and the more obvious stone artefacts such as grindstones, hammerstones, ground edge axes and worked tools will now be in personal collections.

It is possible that the grasslands that characterise the study area might reflect fire-stick farming practices by the Wurundjeri willam. They, like many Aboriginal groups, used fire to burn off the dry understorey to keep the country open and to attract new fresh growth to attract the animals they wished to hunt. Kohen asks the questions “So, did Aborigines have an important role to play in Australian vegetation?…in the last 5000 years, almost certainly, at least in some areas where the Aboriginal population was relatively large, creating a mosaic of vegetation associations” (1995: 42). Grasslands which are typical of those regularly fired by Aboriginal people would contain fire-responsive species, of which kangaroo grass is one. Established grassland reserves already exist in the Merri Creek valley at Cooper Street, Epping, Craigieburn East Road, Craigieburn, and at Bald Hill.

Areas identified as being of potential archaeological sensitivity for Aboriginal sites in the study area are described in Table 2.

<table>
<thead>
<tr>
<th>Stony outcrops</th>
<th>Volcanic plain – elevated</th>
<th>Adjacent to watercourses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scarred trees</td>
<td>Scarred trees</td>
<td>Scarred Trees</td>
</tr>
<tr>
<td>Surface artefact scatters</td>
<td>Occasional artefact scatters</td>
<td>Surface artefact scatters</td>
</tr>
</tbody>
</table>
### 2.4.2 Implications to the Study Area

The most frequently occurring site types in the region, and local area, are surface artefact scatters and scarred trees. Previous work has demonstrated that the recorded sites correlate with certain landscape features, and many of the sites discussed in this report occur within the same landscape units as those present within the study area. The main landscape features that appear to have a demonstrable relationship with archaeological material are shown to be elevated landforms in close proximity to water sources, such as the top of valley slopes overlooking creek lines.

There are few creek lines or other bodies of water within the study area, although tributaries of Kismet Creek and Jacksons Creek rise to the edge of the escarpment which bounds the study are. Such locations also contain archaeological sites in nearby contexts. As such any works conducted in the study area have the potential to impact on Aboriginal archaeological sites.

The presence of the Sunbury earth rings in similar landscape contexts to the present study area, and within about 2-3 km, suggests there is also a possibility of such sites occurring in the study area.

Based on this information these topographic features should be regarded as having some archaeological potential, though the degree of potential would need to be verified through on-ground detailed field survey. Areas that have sustained high levels of ground disturbance, such as ploughing or construction of buildings, will have reduced archaeological potential; however sites are still likely to be present in disturbed contexts. Areas that have remained unaffected by post-contact land use activities will have a much higher probability of featuring intact, in situ sites.

Based on the above data, the development in the study area has some risk of disturbing archaeological materials, particularly in association with the topographic features and soil units identified above. Thus the development will require the further management of archaeological issues, principally through further investigation of the study area, prior to the proposed development taking place.

<table>
<thead>
<tr>
<th>Isolated artefacts</th>
<th>Occasional Isolated artefacts</th>
<th>Subsurface remains in alluvial terraces</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>-</td>
<td>Possible silcrete quarries</td>
</tr>
<tr>
<td>-</td>
<td>-</td>
<td>Possible burials</td>
</tr>
</tbody>
</table>

**Table 2:** Areas of potential archaeological sensitivity for Aboriginal sites
In summary, based on the site prediction model the areas with archaeological potential for Aboriginal archaeological sites are as follows (Figure 3)

- The undisturbed areas within 200m either side of Kismet Creek, the unnamed creek to the north of the study area, and other tributaries, may have relatively extensive stone artefact scatter sites.

- The open elevated rise located across the main part of the study area may have low density stone artefact scatter sites.

- The areas of plain and valley slope may have Aboriginal scarred trees where suitable mature native trees survive (i.e. greater than 150 years old), with some potential for surface and sub-surface artefact deposits in low densities.

- Plains and valley sides may also have potential for ceremonial sites such as earth ring mounds, although these will be difficult to detect.

2.4.3 Non-Aboriginal Historical Archaeological Site Prediction Model

In regard to the non-Aboriginal historical archaeology, a site prediction model and assessment of archaeological potential for non-Aboriginal historical archaeological sites can be made using the information outlined earlier.

The study area has retained its rural character apart from suburban subdivision around its periphery, and any sites present within its boundaries are likely to reflect the regional occupations of farming, quarrying and pastoral activities. Farming complexes such as house structures, outbuildings, wells, dumps and stock pens may be present, as well as former access tracks and fencing.

Lack of formed roads in this early period resulted in site choices for homesteads based on proximity to water as a priority. Therefore farm sites are often well back from the present roads. From the late nineteenth century, the work of the District Roads Boards, and the increasing prosperity of local farmers, and therefore the increase of the rate base, meant that roads were constructed and farmers had money to build new, larger houses. These tended to be located on the property edges adjacent to the made roads. Subdivision of farms in the late nineteenth and early twentieth centuries resulted in new farm complexes, often built on the property boundaries for convenient road access.

Basalt quarrying is an activity historically associated with the Sunbury area, and depending on the amount of rock required and the quarrying operation, various types of removal methods might be exhibited across the study area.
3.0 ARCHAEOLOGICAL SURVEY

3.1 Methods

Before the field survey the Aboriginal Affairs site registry was searched to assess whether any sites had previously been recorded in the study area and in nearby areas and allow a site prediction model to be formulated.

A brief field survey was undertaken by the consultant to determine the condition of previously recorded sites and assess potential areas for further archaeological evidence and any areas of Aboriginal archaeological sensitivity be defined within the study area.

The survey team consisted of Gary Vines (Biosis Research Pty. Ltd.) and Wade Garvey (Wurundjeri Land Tribe Compensation and Cultural Heritage Council Inc.) The survey was conducted on the 3rd January 2008. Conditions were generally hot and windy, however, the weather did not hamper the survey team.

The study area was surveyed on foot. The two participants covered as much of the property as possible using an opportunistic survey method. All areas of ground exposure were inspected.

Details of field conditions, ground surface visibility, vegetation cover and the degree of and agents of disturbance were recorded during the ground survey.

3.1.1 Constraints to survey

3.1.1.1 Ground Surface Visibility

There are a number of factors that hinder the identification of Aboriginal archaeological sites. One of these is ground surface visibility. The study area contained a number of paddocks that contained high thick grass cover. This thick vegetation meant that ground surface visibility was very poor. Only cattle tracks, gully erosion, fence lines, base of trees and vehicle tracts provided limited ground surface visibility of up to 80%.

3.1.1.2 Disturbance

Disturbance in an area can also influence whether or not sites are found. Disturbance can remove sites completely or uncover them. Disturbance in the study area includes vegetation removal, construction of housing development, basalt boulder removal, fence lines and cattle hoof erosion on track.
3.1.1.3 Estimate of effective coverage

An estimate of effective coverage was calculated for two major landform units. The study area contained Hills/Ridges and Steep Slope/Gullies. The extent to which ground visibility has affected the survey findings can be measured by an estimate of effective coverage (see Table 3). Usually one person can view a five metre wide area whilst walking in a straight line. This will give an idea of the actual amount of ground surface visibility could actually be viewed during the survey. In the entire study area, the estimate of effective coverage was less than 1% of the study area. That is 1% of the ground surface of the entire study area was effectively surveyed. The remaining 99 % was not effectively surveyed due to a number of factors, but mainly thick grass cover. The survey team was spread apart from one another to cover as much of the study area as possible, however, visibility was so poor that obvious areas of visible ground surface were focussed upon. Poor ground surface visibility and time constraints meant that very little of the study area could be effectively surveyed.

<table>
<thead>
<tr>
<th>Area</th>
<th>Exposure (% within study area)</th>
<th>Visibility (%)</th>
<th>est. of effective coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hills/Ridges</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approx. 1,562,500</td>
<td>Fence lines 10%</td>
<td>Fence lines 60%</td>
<td>459 square metres</td>
</tr>
<tr>
<td>square metres total</td>
<td>Tracks 5%</td>
<td>Tracks 60%</td>
<td>effectively surveyed</td>
</tr>
<tr>
<td>(3,600 square</td>
<td>Pasture 75%</td>
<td>Pasture 0%</td>
<td>or less than 1% of total</td>
</tr>
<tr>
<td>metres surveyed)</td>
<td>Base of trees 2%</td>
<td>Base of trees 20%</td>
<td>area</td>
</tr>
<tr>
<td></td>
<td>Rocky outcrops 5%</td>
<td>Rocky outcrops 30%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Basalt Removal 3%</td>
<td>Basalt Removal 60%</td>
<td></td>
</tr>
<tr>
<td>Slope/Eroded Gullies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approx. 1,562,500</td>
<td>Fence lines 5%</td>
<td>Fence lines 80%</td>
<td>1,507 square metres</td>
</tr>
<tr>
<td>square metres total</td>
<td>Tracks 10%</td>
<td>Tracks 60%</td>
<td>effectively surveyed</td>
</tr>
<tr>
<td>(4,200 square</td>
<td>Pasture 63%</td>
<td>Pasture 0%</td>
<td>or less than 1% of total</td>
</tr>
<tr>
<td>metres surveyed)</td>
<td>Water Erosion 15%</td>
<td>Water Erosion 70%</td>
<td>area</td>
</tr>
<tr>
<td></td>
<td>Base of trees 2%</td>
<td>Base of trees 20%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rocky outcrops 5%</td>
<td>Rocky outcrops 30%</td>
<td></td>
</tr>
</tbody>
</table>

Table 3: Survey Coverage.

3.2 Archaeological Survey Results

One new Aboriginal archaeological site was recorded during the field assessment, which comprised a single stone flake (AAV7822-###).

Racecourse Road Isolated Artefact 1 (AAV7822-###)

Type: Isolated Artefact Occurrence

Location: on 3m wide track/fire break about 350 metres south east of the southern end of Winilba Road at grid reference 299123 5840970.

Contents: single silcrete waste flake
Description: This site was identified on the surface of an eroded track about 100m south east of the previously recorded artefact scatter, in an area of thin pasture. The track appears to be part of a regularly ploughed or ripped firebreak which has caused significant disturbance to the soil, adjoining pasture has also been ploughed in the past but was heavily grassed at the time of the survey.
4.0 LEGISLATIVE FRAMEWORK

4.1 Aboriginal Heritage

On May 28 2007 the new Aboriginal cultural heritage legislation was proclaimed (Aboriginal Heritage Act 2006 and Aboriginal Heritage regulations 2007). Requirements under this legislation for assessment and permit processes are set out in the Act and Regulations.

Specifically, the Act requires that a Cultural Heritage Permit is obtained if an Aboriginal archaeological site is to be disturbed (Division 4 Section 36).

There are two existing Aboriginal archaeological sites recorded within the present study area.

The Act also sets out requirements for preparation of a Cultural Heritage Management Plan (CHMP), where an activity may potentially impact Aboriginal cultural heritage places (Part 4 division 1) with three matters triggering the need for a CHMP, namely:

- the CHMP is mandatory where the Regulations require the preparation of the plan (Section 46), or
- the Minister directs the preparation of a plan under Section 48, or
- a plan is required in reference to the preparation of and EES under Section 49 of the Aboriginal Heritage Act.

There has been no determination by the Minister that a CHMP is required, and there is not a requirement for and EES in relation to the present study area.

The Regulations define when a CHMP is required according to specific criteria (Regulation 6), namely:

*A cultural heritage management plan is required for an activity if—*

(a) *all or part of the activity area for the activity is an area of cultural heritage sensitivity: and*

(b) *all of part of the activity is a high impact activity.*

As there is no current proposed development plan for the study area, A CHMP could not be prepared at this stage. However, future development such as, residential subdivision, construction of roads or services, etc, would constitute high impact activities, and so would require a CHMP to be prepared.
Areas of cultural heritage sensitivity, which might be considered relevant to the present study area include:

- within 50 metres of registered cultural heritage places (Regulation 22)
- Land within 200 metres of a waterway or a prior waterway (Regulations 23 and 24)

There are two registered cultural heritage places in the study area (AAV7822-0703 & 0702). Other Aboriginal sites are located in the vicinity.

Part of the study does appear to be located within 200 m of a waterway (Kismet Creek) which is located about 200 metres to the south. The other tributary of Jackson’s Creek to the north, is also within 200 m of the study area, but does not appear to be a “Named Waterway” as defined in the Aboriginal Heritage Act. Therefore at least part of the study area falls within an “area of cultural heritage sensitivity” according to Regulation 23 (1).

However, Regulation 23 (2) states “If part of the land specified under subregulation 23 (1) has been subject to significant ground disturbance, that part is not an area of cultural heritage sensitivity. The study area has been disturbed by past land uses such as clearing and ploughing. However, these are is not considered to be significant ground disturbance under the Aboriginal Heritage Act.

4.2 Historical Legislative Requirements

The Victorian Heritage Act 1995 details the statutory requirements for protecting historic buildings and gardens, historic places and objects, historical archaeological sites, and historic shipwrecks. The Act is administered by Heritage Victoria, Department of Sustainability and Environment.

The Victorian Heritage Register was established under Section 18 of the Heritage Act (1995). Heritage places on the Heritage Register are assessed as having State-level cultural heritage significance. A permit may be required for particular works or activities associated with a registered place or object. Permit applications must be submitted to the Executive Director who will consider the application and decide on the matter. Should the applicant or owner object to the decision of the Executive Director, an appeal can be made to the Heritage Council.

The Heritage Inventory was established under Section 120 of the Heritage Act (1995). The Heritage Inventory includes historical archaeological sites, places and relics in Victoria older than 50 years, regardless of their level of cultural heritage significance. A Consent is required for any works or activities, including
excavation, associated with an archaeological site. Under the Heritage Act it is an
offence to damage or disturb relics and archaeological sites, whether or not they
are on the Heritage Inventory, without obtaining permission from the Executive
Director.

Heritage Victoria also maintains a database of D-listed Sites. These are sites that
may be of local historical interest but are not considered to have archaeological
significance. They are differentiated from the Heritage Inventory sites by the
prefix ‘D’. There is no requirement to obtain permission to disturb a D-listed
site, though it is requested that notice should be given to Heritage Victoria after a
site is destroyed in order to update their records. It should be noted that D-listed
sites may be covered by other heritage or planning constraints, such as Heritage
Overlays.

There are no sites within the study area listed on the Heritage Inventory, the
Victorian Heritage Register or any other statutory heritage register. There does
not appear to be any buildings of potential historical value in the study area.
However, there is potential for historical archaeological sites to survive in the
study area.
5.0 MANAGEMENT ISSUES AND RECOMMENDATIONS

5.1 Introduction

Cultural heritage places provide us with evidence of past human activity. Heritage places may be confined to a small area, or represented by a complex of features, including a cultural landscape. The nature of human activity is that the places used in the past are affected by the actions of the present, particularly urban expansion and agricultural processes. This means cultural heritage places are a diminishing resource.

Cultural heritage places are valuable, not only for the scientific records of the past they provide, but also for their social significance. Many Aboriginal places, for example, have a special significance to Aboriginal communities as places where traditional life has continued and places that may have sacred or symbolic significance.

Many heritage places may also be outstanding examples of artistic and creative achievement. Heritage places are valuable to Australians – and the rest of the world – as they not only provide a link with a culturally rich past, but they can contribute to recreational and community life.

Heritage places may also have economic potential (Pearson and Sullivan 1995: 15). These values should, where possible, be protected and handed on to future generations. We all have some degree of social, spiritual, ethical – and legal – obligation to see that this happens.

5.2 Aboriginal Sites

Five Aboriginal archaeological sites have been recorded within the larger study area. Three of these are within the subject land of Lot B study area (AAV 7822-702, 703 and newly identified site Racecourse Rd IA1). Numerous Aboriginal sites have been recorded nearby, on landscape features similar to those present in the study area. A detailed ground survey is likely to find archaeological sites in the area in association with the areas of archaeological potential identified in 2.4.2 and Figure 3.

5.2.1 Areas of Archaeological Potential

The following areas of potential were identified for Aboriginal archaeological sites within the study area (also see Figure 3):
• The undisturbed areas within 200m either side of Kismet Creek, the unnamed creek to the north of the study area and other tributaries, may have relatively extensive stone artefact scatter sites.

• The open elevated rise located across the main part of the study area may have low density stone artefact scatter sites.

• The areas of plain and valley slope may have Aboriginal scarred trees where suitable mature native trees survive (i.e. greater than 150 years old), with some potential for surface and sub-surface artefact deposits in low densities. Plains and valleys may also have potential for ceremonial sites such as earth ring mounds, although these will be difficult to detect.

5.3 Historical Archaeological Sites

No historical archaeological sites or historic buildings have been recorded within the study area.

5.3.1 Areas of Archaeological Potential

There is only a low potential for historic archaeological sites in the study area. If such places survive they are likely in the following contexts:

• Possible historic farm sites defined by remnant exotic vegetation demolition debris or scattered artefacts,

• Small quarries along the creek banks and the edge of escarpments where basalt naturally outcrops,

• Water holes and soaks potentially used by the first wave of explorers and squatters to camp and water stock (these sites have a very low potential),

• Features and isolated artefacts associated with the former racecourse (again such sites have low potential).

5.4 Management Recommendations

• The City of Hume is encouraged to liaise early and often with indigenous communities and local community groups during the feasibility stage of the project.

• Kismet Creek, being a named waterway under the Geographic Places Names Act, is therefore an area of Cultural Heritage Sensitivity according to the Aboriginal Heritage Act, and therefore the preparation of a Cultural Heritage Management Plan would be mandatory for any activity requiring a statutory
planning authority. Also, works or activities within 50 m of any recorded Aboriginal archaeological sites would also require a Cultural Heritage Management Plan.

- It is recommended that early in any planning process for the subject land, a detailed field survey and archaeological subsurface testing program is carried out to determine the cultural heritage values of the study area, and in particular, determine if further Aboriginal archaeological sites are present. This work would preferably be undertaken several months ahead of any development to allow for appropriate consultation and negotiation with stakeholders.
APPENDICES
A1.1 Introduction

Assessing the significance of a cultural heritage place is undertaken to make decisions about the best way to protect and manage that particular heritage place. The category and significance of a heritage place will also determine if it is to be given statutory protection. The statutory issues that affect heritage places are discussed in detail in Appendix 2.

Places that are assessed as having National heritage significance can be added to the Commonwealth Register of the National Estate, those of State significance to the Victorian Heritage Register. Aboriginal Affairs Victoria maintains a register of known Aboriginal sites, and Heritage Victoria lists all known historical archaeological sites on the Victorian Heritage Inventory. A heritage place can also be protected under a planning scheme administered by local government. The National Trust maintains a list of significant heritage places, and local historical societies and Aboriginal communities will often have substantial knowledge about local heritage places.

Assessment of the significance of a heritage place can be complex and include a range of heritage values. The cultural heritage values of a site or place are broadly defined in the Burra Charter – the set of guidelines on cultural heritage management and practice prepared by Australia ICOMOS (International Council on Monuments and Sites) – as the ‘aesthetic, historic, scientific or social values for past, present or future generations’ (Marquis-Kyle and Walker 1992: 21). Various government agencies, including the Australian Heritage Commission and Heritage Victoria, have developed formal criteria for assessing heritage significance. These have been included at the end of this appendix and used in this report as applicable. Many Aboriginal sites also have significance to a specific Aboriginal community – this is discussed in a separate section below.

The primary criterion used to assess archaeological sites is scientific significance. This is based on the capacity of archaeological relics and sites to provide us with historical, cultural or social information. The following evaluation will assess the scientific significance of the archaeological sites recorded during this project. The scientific significance assessment methodology outlined below is based on scores for research potential (divided into site contents and site condition) and for representativeness. This system is refined and derived from Bowdler (1981) and Sullivan and Bowdler (1984).

A1.2 Criteria for significance assessment – archaeological sites

i) Scientific significance assessment: historical archaeological sites and Aboriginal artefact scatters and isolated artefacts

Scientific significance is assessed by examining the research potential and representativeness of archaeological sites.

Research potential is assessed by examining site contents and site condition. Site contents refers to all cultural materials and organic remains associated with human activity at a site. Site contents also refers to the site structure – the size of the site, the patterning of cultural materials within the site, the presence of any stratified deposits and the rarity of particular artefact types. As the site contents criterion is not applicable to scarred trees, the assessment of scarred trees is outlined separately below. Site condition refers to the degree of disturbance to the contents of a site at the time it was recorded.

The site contents ratings used for archaeological sites are:
0  No cultural material remaining.
1  Site contains a small number (e.g. 0–10 artefacts) or limited range of cultural materials with no evident stratification.
2  Site contains:
   (a) a larger number, but limited range of cultural materials; and/or
   (b) some intact stratified deposit remains; and/or
   (c) rare or unusual example(s) of a particular artefact type.
3  Site contains:
   (a) a large number and diverse range of cultural materials; and/or
   (b) largely intact stratified deposit; and/or
   (c) surface spatial patterning of cultural materials that still reflect the way in which the cultural materials were deposited.

The site condition ratings used for archaeological sites are:
0  Site destroyed.
1  Site in a deteriorated condition with a high degree of disturbance; some cultural materials remaining.
2  Site in a fair to good condition, but with some disturbance.
3  Site in an excellent condition with little or no disturbance. For surface artefact scatters this may mean that the spatial patterning of cultural materials still reflects the way in which the cultural materials were laid down.

Representativeness refers to the regional distribution of a particular site type. Representativeness is assessed by whether the site is common, occasional, or rare in a given region. Assessments of representativeness are subjectively biased by current knowledge of the distribution and number of archaeological sites in a region. This varies from place to place depending on the extent of archaeological research. Consequently, a site that is assigned low significance values for contents and condition, but a high significance value for representativeness, can only be regarded as significant in terms of knowledge of the regional archaeology. Any such site should be subject to re-assessment as more archaeological research is undertaken.

Assessment of representativeness also takes into account the contents and condition of a site. For example, in any region there may only be a limited number of sites of any type that have suffered minimal disturbance. Such sites would therefore be given a high significance rating for representativeness, although they may occur commonly within the region.

The representativeness ratings used for archaeological sites are:
1  common occurrence
2  occasional occurrence
3  rare occurrence

Overall scientific significance ratings for sites, based on a cumulative score for site contents, site integrity and representativeness are:
1-3  low scientific significance
4-6  moderate scientific significance
7-9  high scientific significance

ii) Scientific significance assessment: scarred trees

The scientific significance assessment for scarred trees varies from the significance assessment outlined above because a scarred tree has no site contents rating (a tree either is, or is not, a scarred tree). Although scarred trees are a site type usually
associated with traditional Aboriginal cultural activity, there are examples of scarred trees associated with non-Aboriginal activity (survey blazes for example).

The site condition ratings used for scarred trees are:
1. poorly preserved tree scar
2. partly preserved tree scar
3. well preserved example of a scarred tree

Representativeness refers to the regional distribution of scarred trees. Representativeness is assessed on whether the site is common, occasional or rare in a given region. Representativeness should take into account the type and condition of the scar(s)/tree (the tree will be in: good health, poor health, dying, dead-standing, dead-on ground or destroyed) and the tree species involved.

The representativeness ratings used for scarred trees are:
1. common occurrence
2. occasional occurrence
3. rare occurrence

Overall scientific significance ratings for scarred tree sites based on a cumulative score for site condition and representativeness are:
1-2. low scientific significance
3-4. moderate scientific significance
4-6. high scientific significance

A1.3 Aboriginal Cultural Significance

Aboriginal sites and areas of land for which a local Aboriginal community has custodianship usually have a special significance for Australian Aboriginal people.

Australian Aborigines have a very ancient and distinct traditional culture, which is very much alive. At the same time, in Australian society today they constitute a visibly oppressed and disadvantaged minority. These two elements give their heritage and history a special significance, …Aboriginal places may be important to Aboriginal people in a number of ways.

In southern Australia the vast majority of sites are prehistoric [rather than ‘sacred’ or historic]. They relate to evidence of Aboriginal occupation of the continent over 60,000 years, but they have no specific traditional significance to any particular group. They are usually as unknown to Aborigines as to others until located and identified by archaeological survey of other research.

(Pearson and Sullivan 1995: 159, 162)

All pre-contact (pre-European settlement) sites that are located in the study area are considered to be of cultural significance to the Aboriginal community. The sites are evidence of past Aboriginal occupation and use of the area, and are the main source of information about the Aboriginal past. The consultants cannot comment directly on such cultural significance – comment can only be made by the Aboriginal community. In addition, any recorded (and unrecorded) pre-contact sites are of cultural significance because they are rare or, at least, uncommon site-types. In particular, many sites in the greater Melbourne region have been destroyed as a result of land clearance and land-use practices in the historic period.

A1.4 Non-Aboriginal sites – Cultural Heritage Significance

Heritage Victoria is the State Government body responsible for protecting non-Aboriginal heritage places in Victoria, including gardens, buildings, shipwrecks and historical archaeological sites. Heritage Victoria administers the Heritage Act 1995, and has provided formal criteria for the assessment of cultural heritage significance.
The application of these criteria will determine if a heritage place meets the threshold to be considered for addition to the Victorian Heritage Register.

Although most historical archaeological sites will have application to Criterion C, which addresses scientific value (discussed in detail above), several of the other criteria may still be applicable. On the basis of these criteria, heritage places are generally accorded a significance ranking of State, Local or none. Historical archaeological sites, as with other heritage places, can be considered for addition to the Victorian Heritage Register if they are considered to have State significance. It should be noted, however, that all historical archaeological sites are included on the Victorian Heritage Inventory and are accorded statutory protection, irrespective of their level of significance.

*(Criteria adopted by the Heritage Council on 6 March 1997 pursuant to Sections 8(c) and 8(2) of the Heritage Act 1995):*

**CRITERION A.** The historical importance, association with or relationship to Victoria’s history of the place or object.

**CRITERION B.** The importance of a place or object in demonstrating rarity or uniqueness.

**CRITERION C.** The place or object’s potential to educate, illustrate or provide further scientific investigation in relation to Victoria’s cultural heritage.

**CRITERION D.** The importance of a place or object in exhibiting the principal characteristics or the representative nature of a place or object as part of a class or type of places or objects.

**CRITERION E.** The importance of the place or object in exhibiting good design or aesthetic characteristics and/or in exhibiting a richness, diversity or unusual integration of features.

**CRITERION F.** The importance of the place or object in demonstrating or being associated with scientific or technical innovations or achievements.

**CRITERION G.** The importance of the place or object in demonstrating social or cultural associations.
APPENDIX 2
A 2. Statutory Regulations

A5.1 Aboriginal Sites

State Aboriginal Heritage Act

In 2006 the Victorian Aboriginal Heritage Act 2006 was introduced, and was enacted on the 28th May 2007. This new Act replaced Part IIA of the Commonwealth Aboriginal and Torres Strait Islander Heritage Protection Act 1984 and the State Archaeological and Aboriginal Relics Preservation Act 1972. From this period Aboriginal cultural heritage in Victoria is protected through the Aboriginal Heritage Act 2006 and the Aboriginal Heritage Regulations 2007.

The key features of the Act are as follows:

Aboriginal Heritage Council

- Establishing an Aboriginal Heritage Council that contains 11 Indigenous members and registers RAPs and advises the Minister on Aboriginal heritage management.

Registered Aboriginal Parties (RAPs)

- Creating Registered Aboriginal Parties (RAPs). Local Aboriginal organisations can apply to become RAPS. The RAPS are involved in assessing all relevant CHMPs, Cultural Heritage Permits and are generally involved in heritage management at a local level;
- If a CHMP is produced, the relevant RAP must evaluate the Plan by considering a notice of intention to prepare a Plan, and advise in writing within 14 days of the notification as to whether the RAP intends to evaluate the Plan. If the RAP chooses to assess the Plan, it must consult with the sponsor on the cultural heritage assessment, recommendations, and participate in the conduct of the assessment. A decision must be made by the RAP on the approval or refusal of the Plan within 30 days of receiving the Plan. If the Plan is refused the sponsor has the right to appeal at VCAT.

Cultural Heritage Management Plans

- Requiring cultural heritage assessments in the form of Cultural Heritage Management Plans, for all projects that may have a significant cultural heritage impact;
- CHMPs are required under the Aboriginal Heritage Regulations 2007, if directed by the Minister, or if an activity is to be the subject of an Environmental Effects Statement (EES);
- CHMPs stipulate what management actions there should be where there will be an impact on Aboriginal sites from activities or developments;
- The Act prescribes in regulations the circumstances in which a CHMP is required, for certain types of development activities located in archaeologically sensitive landforms;
• The Plan must be approved by the relevant RAP where one exists, and if not the Secretary of the DVC will assess it.
• There are provisions for dispute resolution through the Victorian Civil and Administrative Claims Tribunal (VCAT).
• Decision-making authorities such as government agencies and local government will not be able to issue statutory approval for a work authority, licence or planning permit for certain activities unless an approval CHMP has first been received.

Cultural Heritage Permits

• In those cases where a CHMP is not required but an activity is still likely to impact or harm an Aboriginal heritage site, a Cultural Heritage Permit may be required.
• Permits are required for the purposes of uncovering or discovering Aboriginal cultural heritage, or where there is likely to be an impact on a cultural heritage site.
• A Permit cannot be granted for an activity that requires a CHMP.
• Permits are lodged with the Secretary of the Department of Victorian Communities (DVC), who forwards them to the relevant RAP. RAPs have 30 days to advise in writing if they agree or refuse to grant the Permit.
• Permits are granted by the Secretary of the Department of Victorian Communities (DVC). RAPs may object to the issue of a permit, in which case the Secretary of the DVC must refuse to grant a permit if the objection was raised during the 30 day consideration period.
• There is an avenue for review of refusals through VCAT.

Declarations and Cultural Heritage Agreements

• Declarations may be made under the Act by the Minister, to protect and preserve important Aboriginal cultural heritage places. Land owners and managers may enter into Cultural Heritage Agreements with RAPs to manage and protect important cultural heritage resources.

Penalties and Heritage Inspectors

• Penalties for failing to comply with the Act are substantially increased under the new Act. There are a range of enforcement provisions to provide better protection of Aboriginal sites, including penalties of up to $1 million and clear powers for Heritage Inspectors.
• The Minister appoints Inspectors in consultation with the AHC.
• Inspectors have powers of entry, search and seizure in prescribed circumstances so that the Act can be enforced.

Stop Orders and Audits

• Stop Orders can be issued by Inspectors or the Minister, in order to stop any activity that endangers or harms an Aboriginal site. Stop Orders will stay in place for 30 days while decisions are made about mitigation measures to protect the site.
• The Minister for Aboriginal Affairs may also order a person to audit their activity under specific circumstances, such as where it is suspected that the specific actions recommended in a CHMP have been contravened or the conditions of a Cultural Heritage Permit have been breached.
• When audits are ordered, a Stop Order is also ordered to prevent further risk of harm to Aboriginal cultural heritage sites.
• The audit report will be provided to the Minister, who can then amend a CHMP or the conditions of a Cultural Heritage Permit as required.

**Victorian Aboriginal Heritage Register**

• The Act establishes the Victorian Aboriginal Heritage Register which holds details on all recorded Aboriginal heritage sites in the State.

**Transitional Arrangements**

The new Act has transitional provisions to deal with the change-over from the previous to the new legislation. The following existing permits, consents and agreements will still be valid after 28th of May 2007:

- A consent granted under S.21U(4) or (5) of the Commonwealth Act;
- A consent granted by the Minister under S.21 of the State Act to damage relics;
- A consent granted by the Secretary to buy, sell or possess relics under S.26A of the State Act; and
- An Aboriginal cultural heritage agreement under S.21K of the Commonwealth Act.

A Cultural Heritage Management Plan (CHMP) will not be required for a development activity if, on the 28 May 2007:

- It has statutory authorization such as a planning permit;
- A proponent has submitted an application for a ‘statutory authorisation’ for the activity to the relevant decision maker (and see S.50 of the new Act for the definition of a ‘statutory authority’);
- All of the site information collected in an archaeological survey with respect to the activity has been submitted to AAV in accordance with S.22(5b) of the State Act; and
- A consent under S.21(u) of the Commonwealth Act is in force to do an act referred to under S.21(u) of the Commonwealth Act.

**A5.2 Non-Aboriginal Sites**

i) Victorian cultural heritage legislation

The Heritage Act 1995 details statutory responsibilities for historic buildings and gardens, historic places and objects, historical archaeological sites, and historic shipwrecks. These responsibilities are set out in Part 1 of the Act, which states that one of the main purposes of the Act is to: ‘provide for the protection and conservation of places and objects of cultural heritage significance and the registration of such places and objects’. The Act is administered by Heritage Victoria, part of the
Department of Sustainability and Environment. The Act establishes the Heritage Council, a ten-member, independent statutory authority. The Heritage Council determines which heritage places are included on the Victorian Heritage Register and acts as an appeal body.

- **The Victorian Heritage Register**

  The Victorian Heritage Register was established pursuant to Section 18 of the *Heritage Act 1995*. Heritage places included on the Heritage Register are places assessed as having cultural heritage significance at a State level. For a place to be added to the Victorian Heritage Register a nomination must be made to the Executive Director. The Executive Director will review nominations and make recommendations to the Heritage Council for inclusion on the Victorian Heritage Register. All recommendations are advertised in a relevant newspaper and the owners or any party with a substantial interest in the heritage place or object can make a submission to the Heritage Council.

  A permit may be required for particular works or activities in relation to a registered place or object. Permit applications must be submitted to the Executive Director who will consider the application and determine the matter. Should the applicant or owner object to the decision of the Executive Director, an appeal can be made to the Heritage Council.

- **The Heritage Inventory**

  The Heritage Inventory was established pursuant to Section 120 of the *Heritage Act 1995*. The Heritage Inventory includes historical archaeological sites, places and relics in Victoria, providing they are older than 50 years, and regardless of their level of cultural heritage significance.

  A Consent will be required for particular works or activities, including excavation, in relation to an archaeological site. Under the Heritage Act it is an offence to damage or disturb relics and archaeological sites, whether or not they have been included on the Heritage Inventory, without obtaining the appropriate permission from the Executive Director.

**Consents and Permits**

Depending on whether a place/site is listed on the Heritage Register or the Heritage Inventory, any proposed works will require the submission of an application for either a *Permit* (Heritage Register) or a *Consent* (Heritage Inventory). If an archaeological site has been added to the Heritage Register, this will take precedence: a Permit will be required, but not a Consent. In summary:

- A Permit is required if the site is on the Heritage Register. The assessment of the Permit application will be guided by its heritage status as a site of State significance.

- A Consent is required if the site is on the Heritage Inventory (and not on the Heritage Register). The assessment of the Consent application will be guided by the significance and integrity of the site.

Applications for Consents or Permits should be accompanied by a cheque for the prescribed fee. The cheque should be payable to the **Heritage Council**. The fees payable for particular classes of work are advised in Schedule 3 (Permits) or Schedule 5 (Consents) of *Heritage (General) Regulations 1996 (Statutory Rule No. 85/1996)*. The application should be made on the appropriate form and sent to:

  Mr Ray Tonkin  
  Executive Director  
  Heritage Victoria  
  Level 7  
  8 Nicholson Street  
  EAST MELBOURNE VIC 3002
General queries relating to either Consent or Permit applications can be directed to:

Permits Co-ordinator  
Heritage Victoria  
Level 7  
8 Nicholson Street  
EAST MELBOURNE VIC 3002  
Ph: (03) 9637 9475  
Fax: (03) 9637 9503

Consultation relating to the Heritage Inventory and to historical archaeological sites should be conducted with Heritage Victoria archaeology officers, contact details as above.  

Consultation and discussion with Heritage Victoria should be initiated well before lodging an application for a Consent or Permit to disturb or destroy a historical archaeological site.

- **Planning and Environment Act 1987**  
The Victorian Planning and Environment Act provides local governments with the power to implement heritage controls over significant buildings or places. Heritage and conservation areas and heritage places – both Aboriginal and non-Aboriginal – can be identified and listed on a particular local planning scheme (usually through inclusion in the Heritage Overlay), and protected as places of heritage significance. A planning permit may be required from the local council if a place is subject to a heritage overlay control or is individually listed in the planning scheme. It is advisable to check with the relevant local council to determine if any additional permits are required.

- **Environment Effects Act 1978 and Amendment Act 1994**  
The Victorian Environment Effects Act may have relevance with certain projects as it requires some development proposals to be assessed for their possible impact on the environment. The definition of environment includes the cultural heritage of the project area.

ii.) **Commonwealth legislation**

- **Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)**  
The Commonwealth Australian Heritage Commission Act was recently repealed and in its place amendments to the EPBC Act and the provision of an Australian Heritage Council have also been made in new legislation.  

Under the EPBC Act Amendments (No 88, 2003) two mechanisms have been created for protection of heritage places of Commonwealth or National significance. Initially places in Commonwealth ownership may be placed on the Commonwealth list with similar protection measures as under the previous AHC act. In addition the National list provides protection to places of cultural significance to Australia. By law, no one can take any action that has, will have, or is likely to have, a significant impact on any places of national heritage value, without approval. Such actions must be referred to the Australian Government Minister for the Environment and Heritage.

i) **Native Title Act 1993**  
The Commonwealth Native Title Act establishes the principles and mechanisms for the preservation of Native Title for Aboriginal people.  

Under Subdivision P of the Act, *Right to negotiate*, native title claimants can negotiate about some proposed developments over land and waters (known as ‘Future Acts’) if they have the right to negotiate. Claimants gain the right to negotiate if their native title claimant application satisfies the registration test conditions.  

The right to negotiate applies over some proposed developments or activities that may affect native title. These are known as future acts under the Native Title Act 1993. Native title claimants only
have the right to negotiate over certain types of future acts, such as mining. Activities such as exploration and prospecting on the land do not usually attract the right to negotiate.

The right to negotiate is not a right to stop projects going ahead — it is a right to have a say about how the development takes place. In some situations, the right to negotiate does not apply. In these circumstances, claimants may have the right to be notified, to be consulted, to object and to be heard by an independent umpire.

The right to negotiate is triggered when a government issues a notice to say that it intends to allow certain things to happen on land, such as granting a mining lease. This notice is called a 'section 29 notice.'

People who claim to hold native title in the area, but have not yet made a native title claimant application, have three months from the date given in the section 29 notice to file a claim if they want to have a say about the proposed development. To get the right to negotiate, the claim must be registered within a month after that.

If the right to negotiate applies, the government, the developer and the registered native title parties must negotiate 'in good faith' about the effect of the proposed development on the registered native title rights and interests of the claimants.

The parties can ask the National Native Title Tribunal to mediate during the negotiations.

If the negotiations do not result in an agreement the parties can ask the Tribunal (no sooner than six months after the notification date) to decide whether or not the future act should go ahead, or on what conditions it should go ahead.

The National Native Title Tribunal administers the future act processes under the Commonwealth legislation. The Tribunal's role includes mediating between parties, conducting inquiries and making decisions (called 'future act determinations') where parties can't reach agreements.

When the Tribunal receives a future act determination application, it must conduct an inquiry (an arbitration) in order to determine whether the future act can be done and if so whether any conditions should be imposed.

A member of the Tribunal (or a panel of three members) will be appointed to conduct the inquiry, and will initially hold a preliminary conference and set directions for the parties to provide submissions and evidence. Members who have mediated a particular matter are not usually appointed as inquiry members. Inquiry members conduct hearings, receive submissions and evidence from the parties and take into account matters set out in section 39 of the Native Title Act such as:

- the effect of the future act on the enjoyment by the native title party of their registered native title rights and interests; their way of life, culture and traditions; the development of their social, cultural and economic structures; their freedom of access to the land and freedom to conduct ceremonies and other cultural activities; and the effect of the future act on any area or site of particular (special) significance to the native title party;
- the interests, proposals, opinions or wishes of the native title party;
- the economic or other significance of the future act;
- the public interest; and
- the presence of any existing non-native title rights and interests and use of the land by other persons (for instance, pastoralists).

**A2.2 Non-Aboriginal Sites**

i) Victorian cultural heritage legislation
The Heritage Act 1995 details statutory responsibilities for historic buildings and gardens, historic places and objects, historical archaeological sites, and historic shipwrecks. These responsibilities are set out in Part 1 of the Act, which states that one of the main purposes of the Act is to: ‘provide for the protection and conservation of places and objects of cultural heritage significance and the registration of such places and objects’. The Act is administered by Heritage Victoria, part of the Department of Sustainability and Environment. The Act establishes the Heritage Council, a ten-member, independent statutory authority. The Heritage Council determines which heritage places are included on the Victorian Heritage Register and acts as an appeal body.

- The Victorian Heritage Register

The Victorian Heritage Register was established pursuant to Section 18 of the *Heritage Act 1995*. Heritage places included on the Heritage Register are places assessed as having cultural heritage significance at a State level. For a place to be added to the Victorian Heritage Register a nomination must be made to the Executive Director. The Executive Director will review nominations and make recommendations to the Heritage Council for inclusion on the Victorian Heritage Register. All recommendations are advertised in a relevant newspaper and the owners or any party with a substantial interest in the heritage place or object can make a submission to the Heritage Council.

A permit may be required for particular works or activities in relation to a registered place or object. Permit applications must be submitted to the Executive Director who will consider the application and determine the matter. Should the applicant or owner object to the decision of the Executive Director, an appeal can be made to the Heritage Council.

- The Heritage Inventory

The Heritage Inventory was established pursuant to Section 120 of the *Heritage Act 1995*. The Heritage Inventory includes historical archaeological sites, places and relics in Victoria, providing they are older than 50 years, and regardless of their level of cultural heritage significance.

A Consent will be required for particular works or activities, including excavation, in relation to an archaeological site. Under the Heritage Act it is an offence to damage or disturb relics and archaeological sites, whether or not they have been included on the Heritage Inventory, without obtaining the appropriate permission from the Executive Director.

**Consents and Permits**

Depending on whether a place/site is listed on the Heritage Register or the Heritage Inventory, any proposed works will require the submission of an application for either a Permit (Heritage Register) or a Consent (Heritage Inventory). If an archaeological site has been added to the Heritage Register, this will take precedence: a Permit will be required, but not a Consent. In summary:

- A Permit is required if the site is on the Heritage Register. The assessment of the Permit application will be guided by its heritage status as a site of State significance.
- A Consent is required if the site is on the Heritage Inventory (and not on the Heritage Register). The assessment of the Consent application will be guided by the significance and integrity of the site.

Applications for Consents or Permits should be accompanied by a cheque for the prescribed fee. The cheque should be payable to the Heritage Council. The fees payable for particular classes of work are advised in Schedule 3 (Permits) or Schedule 5 (Consents) of *Heritage (General) Regulations 1996 (Statutory Rule No. 85/1996)*. The application should be made on the appropriate form and sent to:

Mr Ray Tonkin  
Executive Director

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**BIOSIS RESEARCH**
General queries relating to either Consent or Permit applications can be directed to:

Permits Co-ordinator
Heritage Victoria
Level 22
Nauru House
80 Collins Street
MELBOURNE VIC 3000
Ph: (03) 9655 6519
Fax: (03) 9655 9720

Consultation relating to the Heritage Inventory and to historical archaeological sites should be conducted with Heritage Victoria archaeology officers, contact details as above.

Consultation and discussion with Heritage Victoria should be initiated well before lodging an application for a Consent or Permit to disturb or destroy a historical archaeological site.

- **Planning and Environment Act 1987**

The Victorian Planning and Environment Act provides local governments with the power to implement heritage controls over significant buildings or places. Heritage and conservation areas and heritage places – both Aboriginal and non-Aboriginal – can be identified and listed on a particular local planning scheme (usually through inclusion in the Heritage Overlay), and protected as places of heritage significance. A planning permit may be required from the local council if a place is subject to a heritage overlay control or is individually listed in the planning scheme. It is advisable to check with the relevant local council to determine if any additional permits are required.

- **Environment Effects Act 1978 and Amendment Act 1994**

The Victorian Environment Effects Act may have relevance with certain projects as it requires some development proposals to be assessed for their possible impact on the environment. The definition of environment includes the cultural heritage of the project area.

ii.) **Commonwealth legislation**

- **Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)**

The Commonwealth Australian Heritage Commission Act was recently repealed and in its place amendments to the EPBC Act and the provision of an Australian Heritage Council have also been made in new legislation.

Under the EPBC Act Amendments (No 88, 2003) two mechanisms have been created for protection of heritage places of Commonwealth or National significance. Initially places in Commonwealth ownership may be placed on the Commonwealth list with similar protection measures as under the previous AHC act. In addition the National list provides protection to places of cultural significance to Australia. By law, no one can take any action that has, will have, or is likely to have, a significant impact on any places of national heritage value, without approval. Such actions must be referred to the Australian Government Minister for the Environment and Heritage.
APPENDIX 3

A 3. Advice about the Discovery of Human Remains

If suspected human remains are discovered during any excavation or development work, the steps outlined below should be followed.

1. Legal requirements

The Coroner’s Act 1985 requires anyone who discovers the remains of a ‘person whose identity is unknown’ to report the discovery directly to the State Coroner’s Office or to the Victoria Police. A person who fails to report the discovery of such remains is liable to a $10,000 fine. The Coroner’s Act does not differentiate between treatment of Aboriginal and non-Aboriginal remains. The majority of burials found during development work are, therefore, likely to be subject to this reporting requirement.

In addition, Part IIA of the Aboriginal and Torres Strait Islander Heritage Protection Act 1984 requires anyone who discovers suspected Aboriginal remains in Victoria to report the discovery to the responsible Minister. The Director, Aboriginal Affairs Victoria, holds delegated authority to receive and investigate such reports.

It should be noted that the Aboriginal and Torres Strait Islander Heritage Protection Act 1984 is subordinate to the Coroner’s Act 1985 regarding the discovery of human remains. Therefore, the location at which the remains are found should be first treated as a possible crime scene, and the developer and/or contractor should not make any assumptions about the age or ethnicity of the burial.

Victoria Police Standing Orders require that an archaeologist from the Heritage Services Branch, Aboriginal Affairs Victoria, should be in attendance when suspected Aboriginal remains have been reported (Police Headquarters and the State Coroner’s Office hold after-hours contact numbers for Heritage Services Branch staff). Where it is believed the remains are Aboriginal, the Police will usually invite representatives of the local Aboriginal community to be present when the remains are assessed. This is because Aboriginal people usually have particular concerns about the treatment of Aboriginal burials and associated materials.

2. Aboriginal Affairs Victoria - suggested procedure to be followed if suspected human remains are discovered

1. If suspected human remains are discovered during development, work in the area must cease and the Police or State Coroner’s Office must be informed of the discovery without delay. The State Coroner’s Office can be contacted at any time on ph: (03) 9684 4444.

2. If there are reasonable grounds to suspect the remains are Aboriginal, the discovery should also be reported to Aboriginal Affairs Victoria on ph: (03) 9637 8000. Aboriginal Affairs Victoria will ensure that the local Aboriginal community is informed about the circumstances of the discovery.

3. Do not touch or otherwise interfere with the remains, other than to safeguard them from further disturbance.

4. Do not contact the media.
GLOSSARY AND REFERENCES
GLOSSARY

Introduction and terminology

The following list provides definitions of various terms used in this report. Many of the terms have been referenced and the sources included in the reference list at the end of this report.

There is often a degree of confusion about the use of terms such as heritage place, historical site, archaeological site and so on. The definitions of these terms, as used in this report, have been included in the glossary and their relationship outlined in Figure 1 below. The term used most consistently is heritage place and this is defined as follows:

Heritage place: A place that has aesthetic, historic, scientific or social values for past, present or future generations – ‘... this definition encompasses all cultural places with any potential present or future value as defined above’ (Pearson and Sullivan 1995:7).

For the purpose of discussion in this document ‘heritage place’ can be sub-divided into Aboriginal place and historic place (i.e. a historic place refers more particularly to non-Aboriginal sites).

Archaeological site types

The archaeological site types encountered in Australia can be divided into three main groups:

Historical archaeological site: an archaeological site formed since non-Aboriginal settlement that contains physical evidence of past human activity (for example a structure, landscape or artefact scatter).

Aboriginal historical archaeological site (or contact site): a site with a historical context such as an Aboriginal mission station or provisioning point; or a site that shows evidence of Aboriginal use of non-Aboriginal materials and ideas (for example: artefact scatter sites that have artefacts made from glass, metal or ceramics).

Aboriginal prehistoric archaeological site: a site that contains physical evidence of past Aboriginal activity, formed or used by Aboriginal people either before, or not long after, European settlement. These sites are commonly grouped as follows (further definition of each is contained in the glossary list):

- artefact scatter
- burial
- hearth
- isolated artefact
- mound
- quarry
Racecourse Road Masterplan preliminary heritage assessment

- scarred tree
- shell midden
- structures
- rock art
- rock shelter
- rock well

One of the most common artefact types that provides evidence of Aboriginal people are those made from stone. Types and categories are outlined below in Figure 2, with further definition of each in the glossary list.

Figure G2: Stone artefact types/categories.

List of definitions

**Aboriginal historical archaeological site**  
(or contact site): either a site with an historic context such as an Aboriginal mission station or provisioning point; or a site that shows evidence of Aboriginal use of European/non-Aboriginal materials and ideas (e.g. artefact scatter sites that contain artefacts made from glass, metal or ceramics).

**Aboriginal prehistoric archaeological site:** a site that contains physical evidence of past Aboriginal use, formed or used by Aboriginal people either before, or not long after, European settlement.

**Alluvial terrace:** a platform created from deposits of alluvial material along river banks.

**Angular fragment:** a piece of stone that is blocky or angular, not flake-like.

**Anvil:** a portable flat stone, usually a river pebble, used as a base for working stone. Anvils used frequently have a small circular depression in the centre where cores were held while being struck. An anvil is often a multi-functional tool also used as a grindstone and hammerstone.

**Archaeology:** the study of the remains of past human activity.

**Artefact scatter:** a surface scatter of cultural material. Aboriginal artefact scatters are defined as being the occurrence of five (5) or more items of cultural material within an area of about 100 sq. metres (AAV 1993:1)). Artefact scatters are often the only physical remains of places where people have lived camped, prepared and eaten meals and worked.

**Backed piece:** a flake or blade that has been abruptly retouched along one or more margins opposite an acute (sharp) edge. Backed pieces include backed blades and geometric microliths. They are thought to have been hafted onto wooden handles to produce composite cutting tools. Backed pieces are a feature of the ‘Australian small tool tradition’, dating from between 5000 and 1000 years ago in southern Australia (Mulvaney 1975).
Bipolar working: technique used for the reduction of stone, in particular quartz, by placing a core on an anvil and hitting it with a hammerstone.

Blade: a flake at least twice as long as it is wide.

Burial site: usually a sub-surface pit containing human remains and sometimes associated artefacts.

Burin: a stone implement roughly rectangular-shaped with a corner flaked to act as point for piercing holes in animal skins. The distinguishing feature is a narrow spall, usually struck from the distal end down the lateral margin of a blade, but sometimes across the end of a flake (McCarthy 1976:38).

Contact site: see ‘Aboriginal historical archaeological site’.

Core: an artefact from which flakes have been detached using a hammerstone. Core types include single platform, multi-platform and bipolar forms.

Cortex: original or natural (unflaked) surface of a stone.

Edge-ground implement: a tool, such as an axe or adze, which has usually been flaked to a rough shape and then ground against another stone to produce a sharp edge.

Edge modification: irregular small flake scaring along one or more margins of a flake, flaked piece or core, which is the result of utilisation/retouch or natural edge damage.

Flake: a stone piece removed from a core by percussion (striking it) or pressure. It is identified by the presence of a striking platform and bulb of percussion, not usually found on a naturally shattered stone.

Flaked piece: a piece of stone with definite flake surfaces, which cannot be classified as a flake or core.

Formal tool: an artefact that has been shaped by flaking, including retouch, or grinding to a predetermined form for use as a tool. Formal tools include scrapers, backed pieces and axes.

Gilgai soils: soils with an undulating surface, presenting as a pattern of mounds and depressions. A possible cause is the alternation of swelling and cracking of clay during periods of wet and dry conditions.

Grindstones: upper (handstone) and lower (basal) stones used to grind plants for food and medicine and/or ochre for painting. A handstone sometimes doubles as a hammerstone and/or anvil.

Hammerstone: a piece of stone, often a creek/river pebble/cobble, which has been used to detach flakes from a core by percussion. During flaking, the edges of the hammerstone become ‘bruised’ or crushed by impact with the core.

Hearth: usually a sub-surface feature found eroding from a river or creek bank or a sand dune - it indicates a place where Aboriginal people cooked food. The remains of a hearth are usually identifiable by the presence of charcoal and sometimes clay balls (like brick fragments) and hearth stones. Remains of burnt bone or shell are sometimes preserved within a hearth.

Heat treatment: the thermal alteration of stone (including silcrete) by stone workers to improve its flaking qualities (see Flenniken and White 1983).

Heritage Place: A place with aesthetic, historic, scientific or social values for past, present or future generations – ‘...this definition encompasses all cultural places with any potential present or future value as defined above’ (Pearson and Sullivan 1995:7).

Historic place: a place that has some significance or noted association in history.

Historical archaeological site: an archaeological site formed since non-Aboriginal settlement that contains physical evidence of past human activity (for example a structure, landscape or artefact scatter).

Isolated artefact: the occurrence of less than five items of cultural material within an area of about 100 sq. metres (AAV 1993:1j). It/they can be evidence of a
short-lived (or one-off) activity location, the result of an artefact being lost or discarded during travel, or evidence of an artefact scatter that is otherwise obscured by poor ground visibility.

**Manuport:** foreign fragment, chunk or lump of stone that shows no clear signs of flaking but is out of geological context and must have been transported to the site by people.

**Moiety:** a moiety is a half. Tribes were composed of two moieties (halves), and each clan belonged to one of the moieties.

**Mound:** these sites, often appearing as raised areas of darker soil, are found most commonly in the volcanic plains of western Victoria or on higher ground near bodies of water. The majority were probably formed by a slow build-up of debris resulting from earth-oven cooking; although some may have been formed by the collapse of sod or turf structures. It has also been suggested some were deliberately constructed as hut foundations (Bird and Frankel 1991: 7–8).

**Noxious weeds:** plants that have been proclaimed under the Victorian Catchment and Land Protection Act. They include four types: state prohibited, regionally prohibited, regionally controlled and restricted. Noxious weeds are species that seriously threaten or potentially threaten agricultural production.

**Obltrusiveness:** how visible a site is within a particular landscape. Some site types are more conspicuous than others. A surface stone artefact scatter is generally not obtrusive, but a scarred tree will be (Bird 1992).

**Pebble/cobble:** natural stone fragments of any shape. Pebbles are 2–60 mm in size and cobbles are 60–200 mm in size (McDonald et al. 1984: 78).

**Percussion:** the act of hitting a core with a hammerstone to strike off flakes.

**Platform preparation:** removal of small flake scars on the dorsal edge of a flake, opposite the bulb of percussion. These overhang removal scars are produced to prevent a platform from shattering (Hiscock 1986: 49).

**Pre-contact:** before contact with non-Aboriginal people.

**Post-contact:** after contact with non-Aboriginal people.

**Quarry (stone/ochre source):** a place where stone or ochre is exposed and has been extracted by Aboriginal people. The rock types most commonly quarried for artefact manufacture in Victoria include silcrete, quartz, quartzite, chert and fine-grained volcanics such as greenstone.

**Regionally controlled weed:** legally defined by the Victorian Catchment and Land Protection Act, and determined by each Victorian Regional Catchment authority in conjunction with DSE for each particular Region. Listed species are those that are widespread, but are still considered important for control. Landholders must take all reasonable steps to control and prevent the spread of these weeds on their property and adjacent roadsides.

**Retouch:** a flake, flaked piece or core with intentional secondary flaking along one or more edges.

**Rock art:** ‘paintings, engravings and shallow relief work on natural rock surfaces’ (Rosenfeld 1988: 1). Paintings were often produced by mineral pigments, such as ochre, combined with clay and usually mixed with water to form a paste or liquid that was applied to an unprepared rock surface. Rock engravings were made by incising, pounding, pecking or chiselling a design into a rock surface. Rare examples of carved trees occasionally survive.

**Rock shelter:** may contain the physical remains of camping places where people prepared meals, flaked stone, etc. They are often classed as a different type of site due to their fixed boundaries and greater likelihood of containing sub-surface deposits. Rock shelters may also contain rock art.

**Rock-well:** a natural or modified depression within a stone outcrop, which collects water. The most identifiable of these sites
have been modified by Aboriginal people, either by deepening or enlarging.

**Scarred tree:** scars on trees may be the result of removal of strips of bark by Aborigines e.g. for the manufacture of utensils, canoes or for shelter; or resulting from small notches chopped into the bark to provide hand and toe holds for hunting possums and koalas. Some scars may be the result of non-Aboriginal activity, such as surveyor’s marks.

**Scraper:** a flake, flaked piece or core with systematic retouch on one or more margins. Scraper types follow Jones (1971).

**Shell midden:** a surface scatter and/or deposit comprised mainly of shell, sometimes containing stone artefacts, charcoal, bone and manuports. These site types are normally found in association with coastlines, rivers, creeks and swamps – wherever coastal, riverine or estuarine shellfish resources were accessed and exploited.

**Significance:** the importance of a heritage place or site for aesthetic, historic, scientific or social values for past, present or future generations.

**Striking platform:** the surface of a core, which is struck by a hammerstone to remove flakes.

**Structures (Aboriginal):** can refer to a number of different site types, grouped here only because of their relative rarity and their status as built structures. Most structures tend to be made of locally available rock, such as rock arrangements (ceremonial and domestic), fishtraps, dams and cairns, or of earth, such as mounds or some fishtraps.

**Stratified deposit:** material that has been laid down, over time, in distinguishable layers.

**Utilised artefact:** a flake, flaked piece or core that has irregular small flake scarring along one or more margins that does not represent platform preparation.

**Visibility:** the degree to which the surface of the ground can be seen. This may be influenced by natural processes such as wind erosion or the character of the native vegetation, and by land-use practices, such as ploughing or grading. Visibility is generally expressed in terms of the percentage of the ground surface visible for an observer on foot (Bird 1992).
REFERENCES


Aboriginal Affairs Victoria, various dates, Heritage Services Branch site registry files.


Batey, I. ‘Further notes on the early days of the Keilor and Werribee plains with word portrait of Big Clarke 40s and 50s’, unpublished manuscript, MS 000035; Box 16/2, Royal Historical Society of Victoria Inc.


Batey, Isaac, n.d. ‘Reminiscences 1840-70, of settlement of Melbourne and the Sunbury district’, unpublished manuscript, MS 000035; Box 16/2, Royal Historical Society of Victoria Inc.


Bell, J. 2004, Mt View Estate, Riddell Road Sunbury, final report for Cooper Consulting Group.


Black, Lindsay, 1944, *The Bora ground : being a continuation of a series on the customs of the Aborigines of the Darling River Valley and of Central New South Wales* Published Sydney : F.H. Booth,

Black, Lindsay, 1945 New bora grounds, Collected pamphlets on Anthropology : Vol. 9, State Library of South Australia.


City of Hume, 2001, Planning Scheme, Schedule to the Heritage Overlay.


Dawson, J. 1881. *Australian Aborigines: The Language and Customs of Several Tribes of Aborigines in the Western District of Victoria*. Australian Institute of Aboriginal Studies, Canberra.


du Cros, H., 1989c, Deer Park Archaeological Survey - Stages 2 to 7. Report to VAS and the DCE.


Frankel, D. 1993. *Earth Circle on Lot 18, Reservoir Road, Sunbury: A Report to the Victorian Archaeological Survey*, Unpublished manuscript held by Aboriginal Affairs Victoria, Melbourne.

Heritage Victoria database, Heritage Victoria, Melbourne.


Howitt, A. W. 1885. The Jererai, or initiation ceremonies of the Kurnai tribe. *Journal of the Royal Anthropological Institute* 14, 301-325.


Knight, James, in prep., PhD. Candidate, University of New England.


Murphy, A. & Dugay-Grist, 2007a, Blind & Kismet Creek drainage scheme Desktop Archaeological Study report to GHD on behalf of Melbourne Water

Murphy, A. & Dugay-Grist, 2007b, Macedon and Racecourse Roads Sunbury Cultural Heritage Assessment. Report to Stockland Pty Ltd.


Tulloch, J. 2003, Lancefield Road cultural Heritage Assessment

Vines, G. 2003, Reservoir Road Archaeological Survey


