

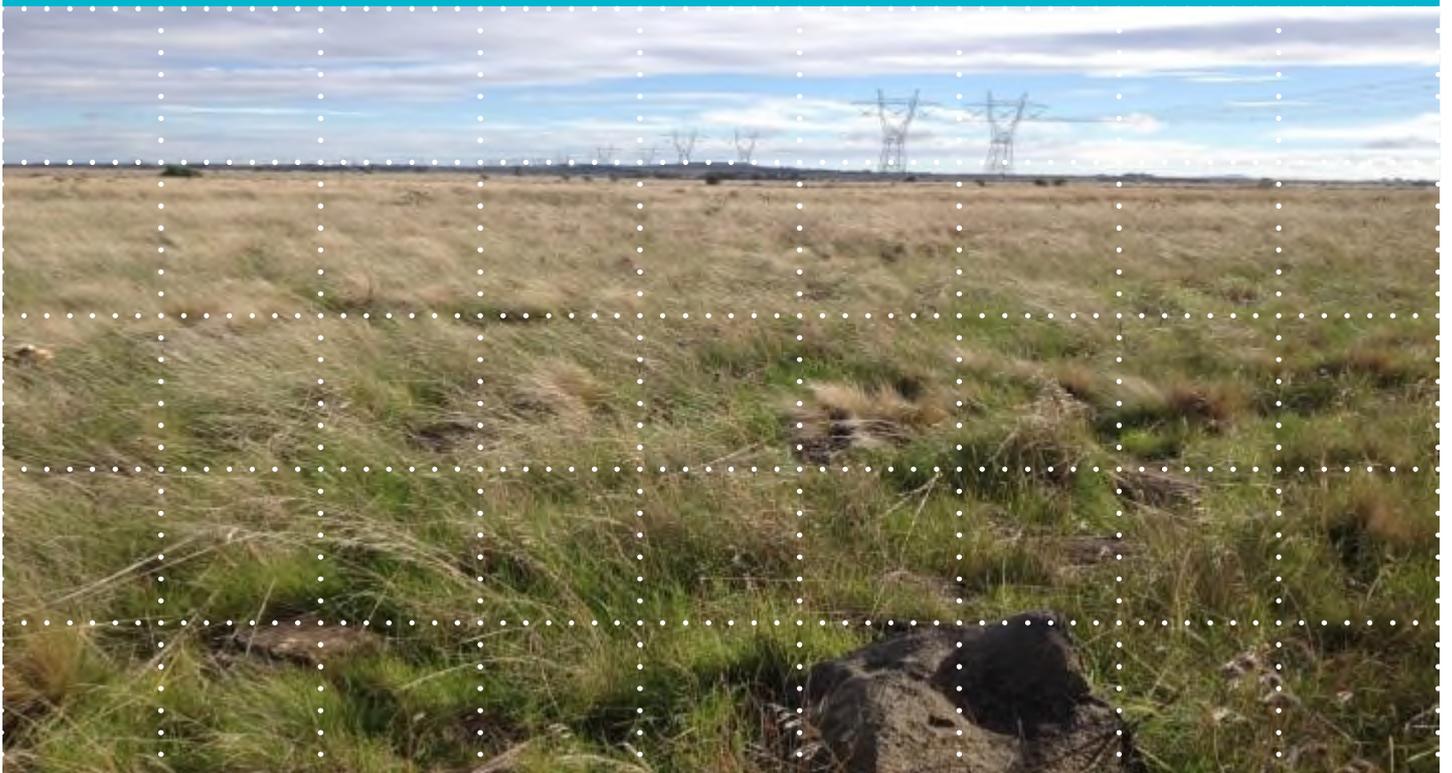
Draft Report

Tarneit Plains Precinct Structure Plan (PSP1085), Victoria: Aboriginal Heritage Impact Assessment

Client

Metropolitan Planning Authority (MPA)

20 October 2015



Ecology and Heritage Partners Pty Ltd

Cultural Heritage Advisor

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- Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated for assistance in the field, cultural heritage information and evaluation of the report.
- Office of Aboriginal Affairs Victoria.

Cover Photo: View across Tarneit Plains PSP area, facing south from MPA Property Number 3.

(Photo by Ecology and Heritage Partners Pty Ltd)

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ABBREVIATIONS

See Glossary (Appendix 5, Page 80) for explanation of some of these terms.

Acronym	Description
Act, the	<i>Aboriginal Heritage Act 2006</i>
AHHA	Aboriginal and Historical Heritage Assessment
APD	Authorised Project Delegates
BLCAC / Bunurong	Bunurong Land Council Aboriginal Corporation
BWF / Boon Wurrung	Boon Wurrung Foundation Ltd
CHA	Cultural Heritage Advisor
CHL	Commonwealth Heritage List
CHMP	Cultural Heritage Management Plan
CHP	Cultural Heritage Permit
CMA	Catchment Management Authority
DEPI	Department of Environment and Primary Industries (Victoria)
DoE	Department of the Environment (Commonwealth)
DPC	Department of the Premier and Cabinet (Victoria)
DTPLI	Department of Transport, Planning and Local Infrastructure
EES	Environment Effects Statement
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EVC	Ecological Vegetation Class
HV	Heritage Victoria
LDAD	Low Density Artefact Distribution
NES	National Environmental Significance
NHL	National Heritage List
NNTT	National Native Title Tribunal
OAAV	Office of Aboriginal Affairs Victoria
PMST	Protected Matters Search Tool
RAP	Registered Aboriginal Party
Regulations, the	<i>Aboriginal Heritage Regulations 2007</i>
RNE	Register of the National Estate
RTH	Radial Test Hole
DoE	Department of the Environment (Commonwealth)
SGD	Significant Ground Disturbance
SLV	State Library of Victoria
STH	Shovel Test Hole

Acronym	Description
STP	Stratigraphic Test Pit
T/O	Traditional Owner/s
VAHC	Victorian Aboriginal Heritage Council
VAHR	Victorian Aboriginal Heritage Register
VHI	Victorian Heritage Inventory
VHR	Victorian Heritage Register
WHL	World Heritage List
WTLCHCI / Wurundjeri	Wurundjeri Tribe Land and Compensation Cultural Heritage Council Inc

EXECUTIVE SUMMARY

Introduction

Ecology and Heritage Partners Pty Ltd was commissioned by Metropolitan Planning Authority (MPA) to prepare An Aboriginal Heritage Impact Assessment (AHIA) for the proposed Tarneit Plains Structure Plan (PSP No. 1085) in Truganina and Mt. Cottrell, Victoria (Melton City Council) (Map 1).

The Activity

The MPA is preparing a Precinct Structure Plan (PSP) for the study area to provide a master plan for future development within the study area. This investigation is intended to identify issues relating to Aboriginal cultural issues that may form either opportunities or constraints to the overall master planning process.

The Study Area

The study area is approximately 485 ha in size and is bounded to the north by the Riding Boundary Road, to the east by Hopkins Road, to the west by rural properties fronting Troups Road South and the future Outer Metropolitan Ring Road (OMR) and to the south by Middle Road (Map 2).

Methods

The assessments undertaken as part of this AHIA were a background review and a field survey. The background review consisted of reviews of relevant heritage registers and databases, previous archaeological publications and unpublished reports, and a review of the environmental context of the study area, culminating in a predictive statement regarding the likelihood of Aboriginal cultural heritage occurring in the study area.

The field survey consisted of a ground surface survey of the study area by qualified archaeologists to discover any Aboriginal cultural heritage visible on the ground surface and to identify any areas of Aboriginal cultural heritage likelihood (areas that are considered likely to contain subsurface Aboriginal archaeological deposits).

Subsurface testing did not form part of the scope of works for this assessment.

Results

Desktop Assessment

The desktop assessment indicated that there have been 21 Aboriginal archaeological sites previously recorded within a 3 km radius of the study area (Map 8). One site was located within the study area. The desktop assessment concluded that stone artefact sites are the type of Aboriginal site most likely to occur within the activity area.

Field Survey

The field survey was undertaken on 20 June 2014 by Ecology and Heritage Partners Pty Ltd Archaeologist/Cultural Heritage Advisor Terence MacManus, with Shane Clark representing the RAP applicant for the study area, the Boon Wurrung, and Mike Haley representing the Aboriginal stakeholder group for the area, the Bunurong.

A summary of the archaeological survey attributes appears in Appendix 2, Page 73.

Requirements for Future Cultural Heritage Management Plans Within the Study Area

The purpose of this AHIA was to provide a general overview of Aboriginal cultural heritage within the study area, for the purposes of informing future land use and the future urban structure of the PSP.

Under the *Aboriginal Heritage Act 2006*, a Cultural Heritage Management Plan (CHMP) is required (triggered) for any *high impact activities* undertaken within areas of *cultural heritage sensitivity* (as defined by the *Aboriginal Heritage Regulations 2007*). However, the *Aboriginal Heritage Regulations 2007* also state that areas of cultural heritage sensitivity which have been subject to *significant ground disturbance* do not require a CHMP, as the area of sensitivity is considered to have been removed by this disturbance. The purpose of this AHIA is to determine whether any mandatory CHMP triggers exist within the study area (such as Aboriginal archaeological sites or areas of cultural heritage sensitivity) and if so, whether significant ground disturbance in the area has removed the need for a CHMP prior to any future high impact activity.

Figure 1 and Table 6 present an overview of the requirements for likely future mandatory CHMPs within the properties of PSP area No 1085, the properties where voluntary CHMPs are recommended and the properties for which it is unlikely further Aboriginal cultural heritage assessment will be necessary.

Figure 1: Summary of Future CHMP recommendations by property overview.

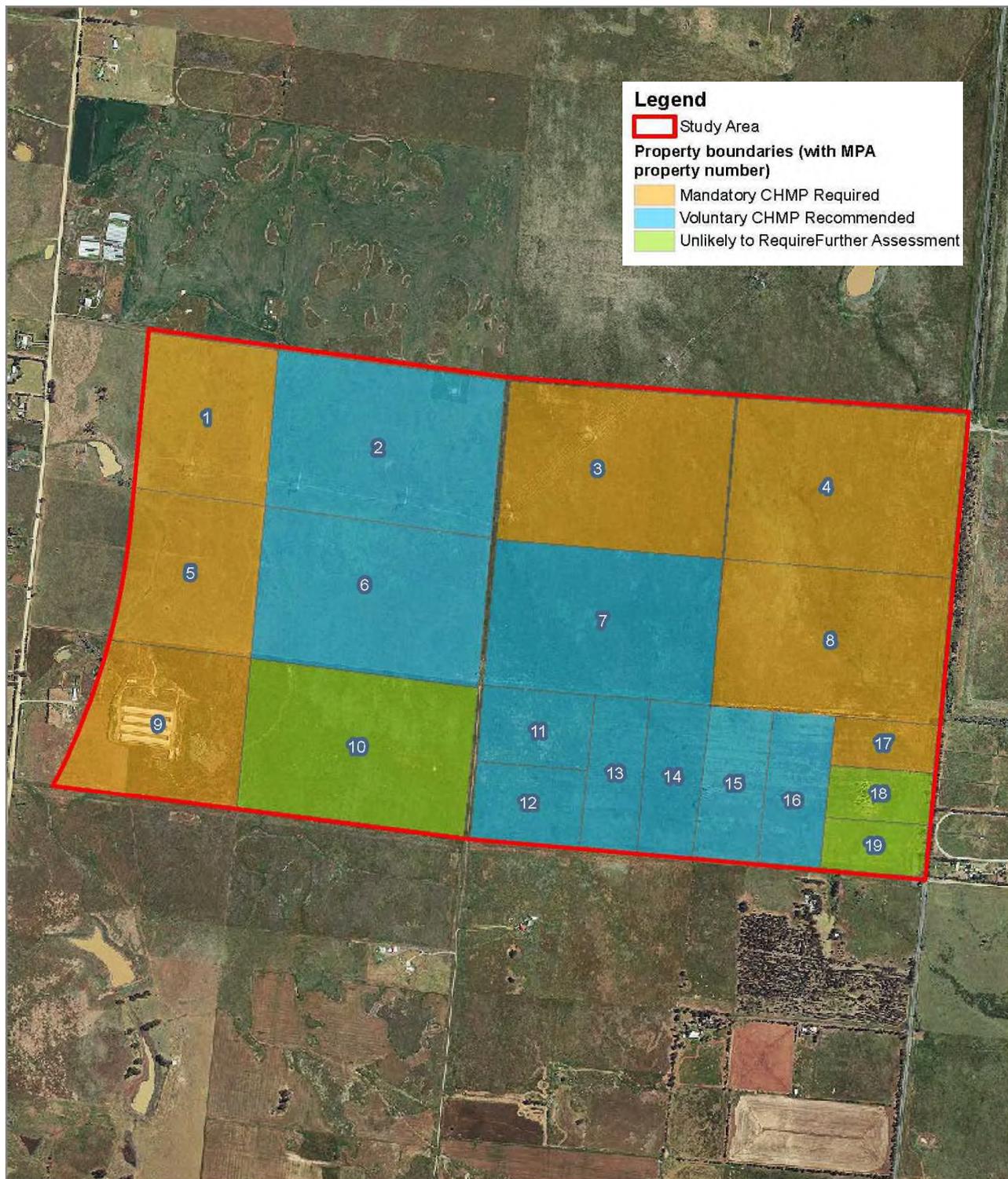


Table 1: Summary of future CHMP requirements by property number (correct as of September 2015).

MPA Property Number	Likely to contain Aboriginal cultural heritage and Mandatory CHMP Required	Likely to contain Aboriginal cultural heritage and Voluntary CHMP Recommended	Unlikely to contain Aboriginal cultural heritage / require a CHMP
1	<input checked="" type="checkbox"/>		
2		<input checked="" type="checkbox"/>	
3	<input checked="" type="checkbox"/>		
4	<input checked="" type="checkbox"/>		
5	<input checked="" type="checkbox"/>		
6		<input checked="" type="checkbox"/>	
7		<input checked="" type="checkbox"/>	
8	<input checked="" type="checkbox"/>		
9	<input checked="" type="checkbox"/>		
10			<input checked="" type="checkbox"/>
11		<input checked="" type="checkbox"/>	
12		<input checked="" type="checkbox"/>	
13		<input checked="" type="checkbox"/>	
14		<input checked="" type="checkbox"/>	
15		<input checked="" type="checkbox"/>	
16		<input checked="" type="checkbox"/>	
17	<input checked="" type="checkbox"/>		
18			<input checked="" type="checkbox"/>
19			<input checked="" type="checkbox"/>

Summary of Management Recommendations

This assessment is intended to inform master planning for a precinct structure plan (PSP) with regards to the existing conditions of the PSP area, and to highlight any areas which will require additional cultural heritage considerations in the future. Therefore at this stage potential impacts to the sites within the study area are unknown. Further investigation of the site within the study area as part of activity-specific CHMPs will provide detailed management recommendations. The following generic recommendations are given to facilitate appropriate management of the site in the interim, and to identify future possible constraints to proposed development activities within the study area.

Recommendation 1: Site management of VAHR 7822-1545 (Mt. Atkinson AS 4)

This site is located within [REDACTED] and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however If impact cannot be avoided and any high impact activity is proposed, a mandatory CHMP will be required for the activity under the *Aboriginal*

Heritage Act 2006. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site, and will formulate specific recommendations for the future management of the site in relation to the proposed high impact activity.

Recommendation 2: Areas of Cultural Heritage Sensitivity

Areas of legislative cultural heritage sensitivity are present in [REDACTED], under r.22 and r. 23 of the *Aboriginal Heritage Regulations 2007*. If any high impact activity is proposed within these areas of sensitivity, then a mandatory CHMP will be required under the *Aboriginal Heritage Act 2006*.

Recommendation 3: Areas of Cultural Heritage Likelihood

The field survey identified areas of cultural heritage likelihood within [REDACTED]. If any high impact activities are proposed within these areas of likelihood, then, where a mandatory CHMP is not required, a voluntary CHMP is recommended to manage any potential Aboriginal cultural heritage in these areas.

Recommendation 4: Areas with no areas of Cultural Heritage Sensitivity or areas of Cultural Heritage Likelihood

This assessment identified that [REDACTED] did not contain any areas of Aboriginal cultural heritage sensitivity or likelihood. It is unlikely further Aboriginal cultural heritage investigations will be required for these areas prior to development.

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1 INTRODUCTION

1.1 Background and Scope of Works

This Aboriginal Heritage Impact Assessment (AHIA) has been prepared for the Metropolitan Planning Authority (MPA) to identify Aboriginal cultural heritage sites within the Mt. Atkinson Precinct Structure Plan (PSP 1082) and the Tarneit Plains Precinct Structure Plan (No 1085) area in Truganina and Mt. Cottrell, Victoria (Melton City Council) (Map 1).

This assessment will inform future land use and the future urban structure for the PSPs, and will provide recommendations for how any significant places and sites should be managed. The assessment of the Aboriginal cultural heritage values of the study area has been conducted in accordance with best practice and the guidelines provided by the Office of Aboriginal Affairs (OAAV 2012; OAAV 2014a).

The project brief agreed upon by Ecology and Heritage Partners Pty Ltd and the MPA is as follows:

- Review the Aboriginal Cultural Heritage Register and Information System (ACHRIS) to identify recorded Aboriginal sites and known areas of Aboriginal cultural heritage sensitivity within the precincts;
- Review of any previous assessments which are relevant to the PSP area, including the Melton Heritage Study, and relevant archaeological assessment reports such as the survey by Thompson (2003);
- Review of the geological and geomorphological framework of the study areas, and an evaluation of how this would have influenced Aboriginal occupation of the study areas in the past;
- Review of the vegetative history of the study areas and an evaluation of how resource availability would have affected Aboriginal occupation of the study areas in the past (particularly in relation to resource extraction and the likelihood of nearby sites);
- Review of land use and local histories, and conduct a search of archival sources (e.g. historic maps and aerial photos), which are relevant to the identification of areas of significant ground disturbance as defined by the *Aboriginal Heritage Regulations 2007* which would affect determinations of areas of cultural heritage sensitivity within the study areas; and
- Preparation of a comprehensive Aboriginal Heritage site prediction plan which will determine the likelihood of Aboriginal cultural heritage being present throughout the study areas based on the results of the previous studies, the known heritage in the area, and the characteristics of the landforms within the study area particularly relating to known Aboriginal land-use patterns for the region. This site prediction plan will form the basis for the maps of Aboriginal heritage sensitivity and the development of the site assessment methodology.
- Preparation of a detailed survey methodology, including the identification of areas of Aboriginal cultural heritage sensitivity and recorded Aboriginal sites.

- All Aboriginal sites identified during the field survey, including the reinspection of the previously-recorded sites, would be recorded using a DGPS with accuracy to ± 1.0 m in order to provide MPA with the most up-to-date data possible.

It was agreed in consultation with MPA that the methodology would include a combination of pedestrian, vehicular and visual survey with the areas of greatest potential archaeological sensitivity being targeted for more intensive assessment. Decisions on which areas of the property were subject to which level of assessment would be based on the results of the background research for the area indicating the landforms, land use history, and location of previously recorded sites within the study area.

Each recorded site in the area was to be revisited and a note made of its current condition, compared to the condition of the site at the original time of recording. All new sites identified within the study area were recorded in full in accordance with the Guidelines set out by *The Archaeologist's Field Handbook* (Burke and Smith 2004), which conform to the standards required by OAAV. The field survey also aimed to identify any constraints or opportunities in relation to the future development of the PSP areas, such as which areas would require further cultural heritage assessments prior to development, and which areas were unlikely to require such investigations.

1.2 Report Framework

This report has been prepared in accordance with the guidelines set out by OAAV regarding archaeological survey methodology and practice and has also been prepared in accordance with best practice and the guidelines of the Australian Association of Consulting Archaeologists (AACAI) code of ethics.

Places of Aboriginal cultural heritage significance were assessed against the criteria as defined in Section 4 of the *Aboriginal Heritage Act 2006*, and OAAV Guidelines for Registering Aboriginal Places (2014b).

1.3 Name of Cultural Heritage Advisor

This report was prepared by Ecology and Heritage Partners Pty Ltd Archaeologist/Cultural Heritage Advisor Terence MacManus. The quality assurance review was undertaken by Ecology and Heritage Partners Pty Ltd Director/Principal Heritage Advisor Oona Nicolson. The field work was undertaken by Ecology and Heritage Partners Pty Ltd Archaeologist/Cultural Heritage Advisor Terence MacManus. Mapping was provided by Ecology and Heritage Partners Pty Ltd GIS Officer Monique Elsley.

1.4 Historical Heritage

A separate report detailing historical heritage has been prepared for this project. The report is a Post-Contact Heritage Assessment. The HV reference number for this project is 4487.

1.5 Location of Study Area

The study area is located in Truganina and Mt. Cottrell, Victoria (City of Melton). The study area is approximately 485 ha in size and is bounded to the north by the Riding Boundary Road, to the east by Hopkins Road, to the west by rural properties fronting Troups Road South and the future Outer Metropolitan Ring Road (OMR) and to the south by Middle Road (Map 2).

1.6 Proposed Activity

The West Growth Corridor Plan identifies the Tarneit Plains as providing local and regional employment opportunities with significant areas proposed for industrial uses as well as for business/ residential uses..

The MPA is preparing a Precinct Structure Plan (PSP) for the study area to provide a master plan for future development within the study area. This investigation is intended to identify issues relating to Aboriginal cultural heritage issues that may form either opportunities or constraints to the overall master planning process (Map 3).

1.7 Name of Client

This report has been commissioned by the MPA (ABN: 77 803 352 468).

1.8 Registered Aboriginal Parties

There was not a RAP in place for the study area at the time the preparation of this report commenced. However, the Boon Wurrung Foundation Limited (BWFL) have an application for RAP status over land inclusive of the study area currently before the Aboriginal Heritage Council, and therefore must be consulted in relation to cultural heritage within the study area. The Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCCHC) also had an application for RAP status over the study area at the time this study commenced and, although their application was rejected by the Aboriginal Heritage Council shortly following the inception of this project, they were also therefore invited to participate in the assessment.

In addition to the RAP applicants for the area, there was one group recognized by the Aboriginal Heritage Council as Aboriginal stakeholders for the area, the Bunurong Land Council Aboriginal Corporation (BLCAC). As such, the BLCAC were also consulted with during the assessment.

1.9 Native Title

There are currently no Native Title claims or determinations over the study area and as the study area comprises privately owned land Native Title has been extinguished.

1.10 Report Review and Distribution

Copies of this HHA will be lodged with the following organisations:

- The MPA;
- Melton City Council;
- Bunurong Land Council Aboriginal Corporation;
- Boon Wurrung Foundation Limited;
- Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated; and
- Office of Aboriginal Affairs

1.11 Heritage Legislation

An overview of the *Aboriginal Heritage Act 2006*, the *Commonwealth Native Title Act 1993*, the *Victorian Planning and Environment Act 1987* and the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* is included in Appendix 1, Page 68. This legislation is subordinate to the *Victorian Coroners Act 2008* in relation to the discovery of human remains.

1.12 Limitations

The assessment is limited to the requirements outlined in the brief provided by MPA. Therefore it provides a brief analysis of the known Aboriginal cultural heritage sites within the PSP, together with a list of Aboriginal cultural heritage that was identified in the study area through a targeted archaeological survey. Physical identification of Aboriginal cultural material is limited to those areas where landowner access was granted, or was visible from adjoining land.

Analysis of the Aboriginal archaeological potential for the study area was based on analysis of previously registered sites, previous archaeological and cultural heritage reports, anecdotal evidence from landowners in the area, the results of the field survey and analysis of available mapping to identify landforms with archaeological sensitivity.

2 ABORIGINAL CULTURAL HERITAGE ASSESSMENT

2.1 Desktop Assessment

The desktop assessment includes research into information relating to Aboriginal cultural heritage in or associated with the study area.

2.1.1 Geographic Region

The study area forms a part of the Victorian Volcanic Plain bioregion (VVP) (Map 4). The VVP is a wide-scale geological unit that stretches over most of western Victoria, from western Melbourne to the South Australian border. It is dominated by Cainozoic volcanic deposits which form extensive flat and undulating basaltic plains containing stony rises, old lava flows, volcanic cones and old eruption points. The VVP is also dotted with numerous lakes and river systems, both fresh and saline. Specifically, the study area occurs in a more discreet unit of the VVP, being the Werribee-Keilor Plains.

For the purposes of this report, the geographic region relating to the study area is defined as the geomorphological characteristics of the VVP within the boundaries of the study area. These geomorphological characteristics are defined by the Department of Environment and Primary Industries' (DEPI) Victorian Geomorphological Framework (VGF) as 'plains with poorly developed drainage and shallow regolith (Wingeeel)' (VGF 6.1.3) across the entire study area (DEPI 2014a).

2.1.2 Environmental Context

Environmental factors influence how land may have been used in the past. This section reviews the environmental context of the study area to gain an understanding of environmental factors relevant to Aboriginal cultural heritage.

2.1.2.1 *Geology, Geomorphology and Soils*

The study area comprises the shallow plains characterised by the VGF 6.1.3 geomorphological unit (Map 6). These plains developed from the lava flows across the area during the Late Pliocene and during the Pleistocene, at a geological time known as the 'Newer Volcanics' (between approximately 1 and 2 million years ago). They are characterised by a thin basaltic regolith which clearly displays lava flow boundaries and has led to frequent corestones ('floaters') extruding on the surface. The boundaries of these lava flows have led to shallow drainage lines throughout this geomorphological unit, which feed into ephemeral wetlands and swamps. A number of waterways incise this deposit, including Kororoit Creek and Skeleton Creek, a branch of which flows south through the north east section of the current study area (DPI 2014b) (Map 5).

The most prominent geographical feature in the study area is Mt Atkinson, which is described by geologists as a 'lava hill', a source of extended flows of lava whose crater is now 'absent or ambiguous'. It is one of 400 inactive volcanic eruption points on the Victorian Volcanic Plain, stretching between Darebin Creek and the South Australian border (Holdsworth *et al.* 2011: 77). Lava flows were broad and thin, extending mainly north, east and south, and influencing the course of Kororoit Creek to the north. Today, Mt Atkinson is seen as a low hill. Towards the end of the vent's eruptive phase, the formerly fluid lava flow became more viscous

and a ridge, extending 2 km east of the vent built up. The lava flows were effusive and slow cooling, producing relatively dense basalt, with smooth and round field stones. The longest tongue of lava flowed south east of Mt Atkinson as far as the Mt Atkinson Dry Stone Wall Precinct (see Bullers 2014). One Aboriginal site has been recorded at the top of Mt Atkinson.

The VVP, and the study area, is characterised by the ancient volcanic lava flows discussed above. These lava flows have led to the development of shallow sodic and non-sodic texture contrast soils such as sodosols and dermosols. Sodosols typically display a stark contrast between the A and B horizons, with both colour and texture markedly different in the weakly acidic soil and clay layers. Dermosols do not share this distinction between the A and B horizons, instead having gradational colours and textures between the two units, although they tend to have a more layered structure throughout the B horizon. Due to the shallow nature of the soils in the region, the clay B horizons tend to expand and contract with moisture, leading to cracking throughout the units (DPI 2014b).

2.1.2.2 Landforms and Hydrology

The study area itself comprises shallow plains characterised by fertile cracking basalt soils prone to seasonal waterlogging in areas and occasional basalt floaters. The headwater of a branch of Skeleton Creek commences just north of the Tarneit Plains precinct and continues through the north eastern section of the study area. Skeleton Creek runs north to south flowing into Port Phillip Bay, and has been classed as being in 'moderate condition' by Melbourne Water (Melbourne Water 2014).

The study area is located approximately 4 km south of Kororoit Creek. Both Skeleton and Kororoit Creeks would have been an important part of the regional landscape for Aboriginal people. These permanent sources of water would have provided numerous food resources, materials and a constant supply of fresh water. Previous archaeological studies clearly identify high concentrations of Aboriginal archaeological sites within 200 metres of both Skeleton and Kororoit Creek and associated swamps.

2.1.2.3 Vegetation

According to DEPI's Ecological Vegetation Classes (EVCs), the soils of the VVP would have historically supported vegetation classified as a large range of vegetation (DEPI 2014c). Within the current study area at the time of European settlement, the vegetation would have been predominantly representative of EVC 132_61: Heavier-soils Plains Grassland. This vegetation class consisted of low-lying treeless plants such as graminoids and herbs and included such species as *Pimelea humilis* (common rice-flower), *Leptorhynchus squamatus* (Scaly Buttons), *Themeda triandra* (kangaroo grass) and *Convolvulus erubescens* (pink bindweed) (Map 7).

The broader surrounding region would also held pockets of EVC 125: Plains Grassy Wetland. Similar to EVC132_61, this EVC is listed as 'usually treeless', although it has been noted to include some instances of *Eucalyptus camaldulensis* (river red gum) or *Eucalyptus ovata* (swamp gum). It too would have supported herbs and graminoids, but would have also included species such as *Potamogeton tricarinatus* s.l. (floating podweed), *Triglochin procerum* s.l. (Water Ribbons) and *Austrodanthonia duttoniana* (brown-back wallaby-grass), due to slightly wetter conditions.

In addition to EVC 125, a third class of vegetation would have been present nearby, closely following the passage of Kororoit Creek. This vegetation falls within the classification of EVC 68: Creekline Grassy Woodland, and would have historically consisted of a Eucalypt-dominated woodland, predominantly *Eucalyptus camaldulensis* (river red gum) growing up to 15 m tall, with an associated shrub and grass layer consisting of species such as *Rubus parvifolius* (small-leaf bramble), *Lemna disperma* (common duckweed) and *Glycine clandestina* (twining glycine) (DEPI 2014c).

Today, the land is largely open, treeless pasture, primarily used for pastoral and cropping activities.

2.1.2.4 Climate

The climate of the Tarneit Plains is characterised by warm summers and cool winters; temperatures range between an average maximum of 26.5°C and minimum of 12°C in summer to an average maximum 13.6°C and minimum 5.4°C in winter. Rainfall varies between a maximum of 63 mm in November and minimum of 35.4 mm in July, with annual average rainfalls of 539.2 mm (BOM 2014).

2.1.3 Aboriginal Context

The following section reviews the Aboriginal context of the study area and includes; an examination of historical and ethnohistorical sources, previously recorded Aboriginal archaeological site types and locations in the geographic region of the study area and, archaeological studies undertaken in the area. Together, these sources of information can be used to formulate a predictive site model concerning what types of sites are most likely to occur in the study area, and where these are most likely to occur.

2.1.3.1 Archaeological Research

Archaeological evidence suggests that Aboriginal peoples had occupied all of Australia's environmental zones by 40,000 years BP. Pleistocene archaeology of the Port Phillip Bay and Hinterland area documents human occupation dating back at least 40,000 years. The oldest dated archaeological site in Victoria occurs at Keilor in Melbourne. Charcoal from a hearth excavated in 1973 has been dated to 31,000 years BP (Flood 1995: 286). More recently research at the Bend Road site in Melbourne's southeast has dates extending back to 30–35,000 BP (Hewitt and Allen 2010).

The archaeological record of the Greater Melbourne area includes a rich record of artefact scatters, scarred trees and stone arrangements that documents Aboriginal life dating from the Pleistocene through to the immediate pre-European past. Most of these sites point to important relationships between sites and landscapes and resources within the immediate area.

2.1.3.2 History and Ethnohistory

The following is a summary of historical and ethnographic accounts of the *Wurundjeri* and *Bun Wurrung*¹ culture and practices. It is largely derived from non-Indigenous historical sources and does not incorporate the oral history of the contemporary *Wurundjeri* and *Bun Wurrung* communities. Such a record would

¹ The *Bun Wurrung* is the historical parent group from which the modern-day Boon Wurrung Foundation Ltd and the Bunurong Land Council Aboriginal Corporation both derive, and therefore encapsulates the history and ethnohistory of both groups.

require an exhaustive treatment beyond the scope of the current report. The current summary is thus a limited account of *Wurundjeri* and *Bun Wurrung* social and economic life that may facilitate a more detailed interpretation of the archaeological record by way of ethnographic analogy. Such analogy is not without its limitations. This summary is not intended to be a detailed study of the *Wurundjeri* and *Bun Wurrung* peoples prior and subsequent to European settlement and does not necessarily reflect any opinions or knowledge held by the contemporary *Wurundjeri* and *Bun Wurrung* communities.

By the time European people first established on the Yarra River in 1835, there were two separate language groups in the area, the *Woi wurrung* and the *Boon (Bun) Wurrung*. These groups were collectively occupying the area south of the Great Dividing Range, from Werribee River to the height of the Dandenong Ranges (Presland 2010:12). These two groups also share a cultural and linguistic affinity with the *Ngurai-illam wurrung*, *Djadja wurrung*, *Wada wurrung* and *Duang wurrung* language groups. Together they are known as the East Kulin Nation (Clark 1990: 369; Presland 2010: 12), which occupies the south central Victorian region (Howitt 2001). According to Clark (1990: 369) the *Woi wurrung*, *Bun wurrung*, *Ngurai-illam wurrung* and *Duang wurrung* languages were all dialects of the one language, as they share more than 75 per cent common vocabulary with each other.

The East Kulin groups shared similarities in speech, burial practices, initiation, kinship marriage ties and religious beliefs including common beliefs regarding Dreaming figures such as the creation ancestors *Bunjil* (eaglehawk) and *Waa* (crow) (Presland 2010: 15). The Kulin clans believed that the living world was divided into two halves or moieties, also named *Bunjil* and *Waa*. All the Kulin groups have a patrilineal descent system (Howitt 2001: 126). Marriage partners were sought from within the East Kulin Nation but outside of their own clan (Presland 2010: 15). Wives were taken from the opposite moiety and membership in the moiety had religious, economic and social implications and obligations that transcended local allegiances and clans (Barwick 1984). All four of the clans that make up the *Woi Wurrung* belong to the *Waa* moiety, except the *Gunung willam balluk*, which in turn is identified with *Bunjil* (Presland 2010: 25).

History and Ethnohistory of the Wurundjeri

The *Woi wurrung* shared a cultural and linguistic affinity with the *Bun wurrung*, *Ngurai-illam wurrung*, *Djadja wurrung*, *Wada wurrung* and *Duang wurrung* language groups.

The *Wurundjeri* country was rich in resources as it is located in the temperate south zone of Australia, which covers the south part of the continent. Due to a present rainfall in excess of 300 millimetres a year, the temperate zone has many watercourses and lakes, which provided a reliable water supply to the Aboriginal population. This allowed a relative growth of the human populations in the region, and in favoured areas, hunter-gatherers invested much labour on maintaining resources such as fish traps and weirs (Clark 2010: 48). For instance, the *Wurundjeri willam* occupied a large region comprising the northern suburbs of Melbourne consisting of wetlands which would supply food sources such as eels, mussels, fish, snakes and plants (plains grassy woodland); as well as abundance of wetland birds such as Brolgas and ducks (La Trobe University sanctuary 2001). Past Aboriginal occupation in the area is still evident today through the scars that were left on trees and the stone tools fragments that are still being discovered across the landscape.

However, the mainstays of the Aboriginal diet were plants and roots. One of the most important foods was Myrnong (*Microseris lanceolata*), a tuber that resembled a dandelion, also known as Yam Daisy or Native

Dandelion. In addition to this plant, there were more than 300 plants of which the roots or tubers were eaten, including the bulrush (*Typha* sp.), marsh club rush, early-nancy, milkmaid, various orchids (*i.e.* greenhood, onion and potato orchids) and many kinds of lilies (including bulbine lily, chocolate lily, flax lily, fringe lily, grass lily, gymea lily and pale vanilla lily) (Clark 2010: 72). Roots of common reed (*Phragmites australis*) were also collected to manufacture items of personal adornment (Presland 2010: 71).

Similar to other hunter-gatherer societies, there was a division of labour based on gender. Men would engage in hunting and women gathered plants and roots; although it is not unusual that these subsistence activities overlap, especially with women and young children capturing small animals during their foraging excursions.

Before the European people arrived, the Eastern Kulin clans were able to move freely around their land on an annual cycle, with some *Wurundjeri* bands spending the warmer months on the banks of the lower Yarra, and during the cooler months they would move to higher land into the Dandenong Ranges (Presland 2010). A significant place along the Yarra River was a wetland complex called *Bolin*, where mature eels were captured by hand or speared (Presland 2010: 67-68). Nets and traps were also used to capture eels and fish during the day and at night; spear fishing from a canoe was also practiced in freshwater bodies, attracting fish with a lighted brand near the water's surface. Two common freshwater fish that were captured include the Australian Grayling (*Prototroctes maraena*) and Tupong (*Pseudaphritis urvillii*) (Presland 2010: 68). Possums, especially the brush-tailed possum (*Trichosurus vulpecula*) were hunted for their meat and their skins that would later be used to make cloaks. Other animals included kangaroo, bandicoot, emu and other smaller quadrupeds; these were cooked and distributed among the participants of the hunting party, according to a set of very strict rules (Howitt 2001: 764-765).

The ceremonial and ritual practices of the *Wurundjeri* are not well recorded. The *Wurundjeri* believed that the *Wirrarap* (medicine-man) could kill persons, far or near, by means of *Mung*, or evil magic, through the agency of many substances, among which the *Thundal*, or quartz crystals, stood first. The 'power' of the *Thundal* could be projected either invisibly, or as a small whirlwind. The effect on a man trapped in this power caused a chill, pain and shortness of breath. The medicine-man would then stare at the victim until he saw the substance leaving, run after it, catch it and bag it, breaking a piece off it to prevent it escaping again (Howitt 2001: 365).

In terms of disposal of the dead, many of the *Wurundjeri* clans would practice inhumation as a symbol of respect, such as those groups on the Yarra River (the *Wurundjeri balluk*); however, the *Wurundjeri* from Mount Macedon (the *Gunung willam balluk*) burned their dead. Among the *Wurundjeri* groups that practiced inhumation, men and women were treated in a similar fashion. The *Wurundjeri* would bury a man with his personal property; in the case of men, his spear-thrower was stuck in the ground at the head of the grave, while a woman had her digging stick placed at her head (Howitt 2001: 458).

The connections that existed between the different Kulin clans were maintained and strengthened at regular meetings. These gatherings were also opportunities to settle disputes and to conduct business, and occurred throughout the landscape. One of the places where these types of gatherings occurred in the *Woi wurrung* territory was along the low reaches of the Yarra River, in an area now occupied by the Melbourne Cricket Ground and Richmond Oval (Presland 2010: 40).

Since the end of the eighteenth century, the *Wurundjeri* were aware of the presence of white men in the south of Victoria, with small groups of sealers becoming established to the east of Wilsons Promontory. From the mid-1830s the territories of the Eastern Kulin were impacted as European pastoralists grew in numbers and spread out with their sheep and cattle (Presland 2010: 87). The foundation of the city of Melbourne in the heart of the Eastern Kulin territory also affected the way in which the member clans of the Kulin could move on the landscape. The contacts between the Kulin and the European people were plagued with conflicts, and often these resulted in many deaths. Diseases such as influenza and smallpox to which the Kulin had no immunity, played a large part in the decline of the population (Presland 2010: 90). Finally, alcohol drinking, disease and inter-tribal fighting were among other major factors in declining numbers of the Kulin groups, although according to Wiencke (1984: 34-35) and Presland (2010: 90), the loss of desire to live and reproduce also played a major factor, with fewer births registered after 1836.

In 1839 the Aboriginal protectorate scheme was introduced in Victoria. Four Assistant Protectors were appointed under a Chief Protector, George Augustus Robinson. The role of the protectorates was to provide food, shelter and medical supplies, record cultural and population information and to indoctrinate Aboriginal peoples in to the western European cultural and economic systems. Aboriginal reserves and stations were established across Victoria and Aboriginal peoples were encouraged to move to them. *Woi wurrung* clans moved to the reserves and stations set up at Narre Narre Warren, Mordialloc, Warrandyte, and on the Acheron River. A school for Aboriginal children was also set up on Merri Creek (Presland 1994: 100). The Protectorate was largely unsuccessful and was disbanded in 1849.

The Central Board for the Protection of the Aborigines was founded in 1860 to provide an administrative structure to manage Aboriginal people in Victoria. Under their direction a series of missions and government stations were set up throughout Victoria where Aboriginal people could live (Department for Victorian Communities, OAAV Website). In the 1860s the Coranderrk Mission Station was opened near Healesville. Aboriginal people from the *Woi Wurrung* clan moved through, lived and worked on the station almost semi-autonomously up until the 1880s (Presland 1994: 100). Most Aboriginal people of *Woi Wurrung* descent can trace their ancestry to people who were associated with the Coranderrk Mission Station.

While many Aboriginal people lived on the missions and government stations, a significant number of people worked and lived on farms and pastoral stations. Some Aboriginal people farmed the land on smallholdings, or worked in industries such as fishing on the Murray, the goldfields, and in the timber industries. People outside the reserves sometimes gathered together in camp sites on the outskirts of towns. They were also involved in sports such as cricket, football and athletics.

By the turn of the century only a small population of Aboriginal people lived on the missions and government stations, with most living and working in the same general area. The last missions and stations were phased out in the 1920s, though some of the land which was once part of the missions is now under the control of Aboriginal communities (Department for Victorian Communities, OAAV Website). Pressure from the government forced most of the remaining Aboriginal peoples to leave the Coranderrk Mission Station and it closed in 1924 (Presland 1994: 100).

Since the 1920s, Aboriginal people have continued to live in most areas of Victoria, often with strong ties to their original clan and tribal areas. This century, Aboriginal history has been marked by peoples' efforts to maintain their collective identity and culture (DPCD 2012).

Today the descendants of the *Woi Wurrung* language group are represented by the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Inc.

History and Ethnohistory of the Bun Wurrung

The *Bun Wurrung* were bordered by the *Wada wurrung* to the west, to the north by the *Woi wurrung*, and the *Gunai* to the east. Linguistically, the *Bun wurrung* shared more than 75 per cent of their vocabulary with the *Woi wurrung* and around 70 per cent with the *Daung wurrung* who were to the north of the *Woi Wurrung* (Clark 1990: 363). Early European descriptions of the *Bun wurrung* are available through the works of George Augustus Robinson, who was Chief Protector of Aborigines in the Port Phillip District, and the works of his Assistant Protector, William Thomas. Robinson and Thomas made extensive notes about their way of life (Presland 2010: 31).

The *Bun wurrung* are sometimes referred to as the “Westernport tribe” or “coast tribe” (Presland 2010: 20). Their country is located to the east of Port Phillip and Western Port Bays, extending from the south of the Yarra River to the creeks and inlets from the sea into the Werribee River. Along the coast, it extends from the Werribee River to Anderson’s inlet, then north to the Dandenong Ranges, Mirboo, Warragul, and upper Latrobe River (Clark 1990: 363). Howitt (2001: 71) likewise mentions that a strip of country stretching from the mouth of the Werribee River to Williamstown and the southern suburbs of Melbourne on the coast around the whole Mornington Peninsula also belonged to the *Bun wurrung*.

The *Bun wurrung* and their northern and western neighbours shared a patrilineal form of moiety system. The Kulin social world was divided into either one of two moieties: the *Waa* (crow) or *Bunjil* (eaglehawk) moieties (Clark 1990: 276). There are six main *Bun wurrung* clans which are segregated into separate localities as with the rest of the Eastern Kulin clans (Howitt 2001: 127). These clans are: *Bun wurrung balug* (Point Nepean and Cape Schank), *Mayune balug* (Carrum Swamp, ‘Mayune’ station), *Ngaruk willam* (Brighton, Mordialloc, Dandenong, and between Mount Eliza and Mount Martha), *Yallock balug* (Bass River, Tooradin), *Yalukit willam* (East of Werribee River, and St. Kilda), and *Yowengarra* (Tarwin River, Wilsons Promontory) (Clark 1990: 365). Although most of the *Bun wurrung* lived around Mornington Peninsula and Western Port Bay, the estate of one of these clans included a strip of land which stretched around the top of Port Phillip Bay to the Werribee River. This narrow strip, perhaps a few kilometres wide, was part of the estate of the clan named *Yalukit willam* and would have taken in all of Williamstown, most of Altona, and the southern parts of Footscray, Sunshine and Werribee (Presland 1997).

More detailed research is required in both European sources and Aboriginal oral history to clarify the clans within the region of the study area. However, Clark’s research (1990: 364-5; 368-9) notes that the land may have been occupied by the *Kurung jang balug* clan (from the *Woi wurrung*, which means ‘red ground people’) or the *Yalukit willam* clan (which means ‘Yalukit dwellers’ from the *Bun wurrung*).

All clans belonged to the *Bunjil* moiety, except the *Burinyung bulluk*, which belonged to the *Waa* moiety (Presland 2010: 24). Similar to other Kulin groups, marriage among the *Bun wurrung* was exogamous, and partners were sorted members from the opposite moiety. Inter-clan marriage was common between the *Bun wurrung* and their neighbours (Presland 2010: 33).

Similar to other Australian clans, the *Bun wurrung* were hunters and gatherers. Some of the native species which still exist that may have been hunted include the Long-nosed Potoroo, the Swamp Antechinus, the

White-footed Dunnart, the Broad-toothed Rat, the Feather-tailed Glider and the Eastern Pygmy-possum, as well as the more familiar kangaroos, koalas and wombats (Parks Victoria 2012). The *Bun wurrung* probably targeted these and other terrestrial species; however, they are also known as the “salt water people”, who heavily exploited the coastline and marine resources. The Wilsons Promontory area is known to have provided valuable food resources to the people, especially during the summer season.

Although women occasionally hunted, their primary role included gathering food and other resources. Women provided the bulk of the food (supplying as much as 80 per cent of food requirements). They carried a collecting bag and long digging sticks which were vital in the gathering of tuberous plants; these comprised a third of the 940 plant species which have been recorded as food sources. In the Melbourne area, daisies, Lilies and orchids flourished. *Murnong* or yam daisies were eaten raw in spring but cooked at other times. In the *Bun wurrung* area the women were also in charge of collecting shell fish (Presland 2010). For vegetables they would collect a variety of bulbs, shoots and foliage like the Warrigal Spinach and they would make a drink from the nectar of the Coastal Banksia flowers.

The primary food source for the *Bun wurrung* was undoubtedly the coastal landscape that formed much of their traditional territory. This maritime adaptation is evidenced by the numerous shell middens on cliffs and sand dunes of Port Phillip, Bass Strait and the Western Port (Massola 1959: 180). Other middens can be found at one of their many coastal camps at Mordialloc, Frankston or Warneet on the Westernport Bay, and these in particular are attributed to the *Mayone bulluk*. Here they would have accessed many of their favourite resources such as bird eggs, fish, shellfish, eels, freshwater mussels and crayfish.

Before conflicts with European people arose, the *Bun wurrung* had several enemies, including the *Braiakolung* and the *Brataoulung*, the most westerly clans of the *Kurnai* or *Gunai* tribes from the Gippsland region. They would raid the *Bun wurrung* camps, kill every man and take younger women. These conflicts would still continue until the mid-1840s (Massola 1959: 181). As Ellender (2002) notes, the area of Southern Gippsland around Wilsons Promontory appears to have undergone a change in ownership from *Bun wurrung* peoples to *Brataulung* around 1844. This change was likely the culmination of a long standing feud between the two groups, and as a consequence there rose a depopulated buffer zone between the *Bun wurrung* and the *Gunai (Kurnai)* groups. As such, the whole area was susceptible to being occupied by other groups.

The *Bun wurrung* belief system is shared with the other *Kulin* clans; however, the ethnographic information regarding the *Bun wurrung* is limited. All *Kulin* groups believe in supernatural magic and the curative powers of medicine-men or witchdoctors, whom were believed to “project substances in an invisible manner to their victims” (Howitt 2001: 357). In Howitt’s anthropological studies, he states that quartz (or more crystal quartz) was carried as part of the stock-in-trade by the medicine man; this was used to inflict damage by means of magic (2001: 357-8).

Wilsons Promontory was the residence of the powerful spirit-being known as *Lohan*, whose permission was required to safely enter his territory (Smyth 1876: 453). Strangers entering *Bun Wurrung* country were required to undergo a ritual ceremony. According to Howitt’s investigations, a small hole was made on the ground, which was filled with water and stirred with a stick in order to make the water muddy. The visitor was then required to consume several mouthfuls of the muddy water (improper observance of this part of the ritual would result in the visitor’s throat ceasing up and causing suffocation). Howitt (2001: 403) also

details the visitor was required to eat small pieces of roasted flesh, which was placed in their mouth on a pointed stick and removed with the person's teeth not their lips.

Other spirits included the *Toor-roo-dun*, which appears related to the *Bunyip*. The *Bun Wurrung* like all Kulin groups revered a creation spirit, *Bunjil/Lohan* who created all things except women. *Bunjil* carried a large knife with which he made the earth, mountains, rivers and creeks (Smyth 1876: 423). According to Thomas (1983: 421), *Bunjil* had a wife *Boi boi* and a brother called *Pallian* (various spellings). *Boi Boi* and *Bunjil* had a son called *Binbeal*, who controlled the heavens and a daughter called *Karakarook*, whose concerns were of a more earthly nature. *Pallian* presided over the fish in the rivers and oceans.

2.1.3.3 Oral History

The Bunurong, Boon Wurrung and the Wurundjeri did not have any oral histories relating to the study area for inclusion in this report.

2.1.4 Database Searches

The following database searches were conducted in order to inform the survey methodology as part of the assessment (i.e. the location of registered sites in the study area to be reinspected, and which areas or landforms of the study area are most likely to contain undiscovered Aboriginal cultural heritage):

2.1.4.1 Victorian Aboriginal Heritage Register

A search of the Victorian Aboriginal Heritage Register (VAHR) was conducted on 29 May 2014. A 5km search radius was initially investigated, but returned an extremely high number of results (n = 359). A large number of these sites are associated with Skeleton Creek and Dry Creek, particularly at their convergence upstream of the study area. As these Creekside landforms are not consistent with the study area, the search radius was reduced to 3km in order to obtain results that would be more relevant to, and representative of, the current study area.

The search identified a total of 21 registered Aboriginal sites within a 3 km radius of the study area (Map 8). These sites consist of a total of 2 site component types and were all found in surface or shallow topsoil contexts (Table 2, Page 28). The difference between the number of sites and number of site component types is because one site contains two site component types. No Aboriginal Historical References were identified within a 3 km radius of the study area.

One site is located within the study area:

- VAHR 7822-1545 (Mt Atkinson AS 4), which comprises four quartz flakes and six silcrete flakes.

Other sites located in close proximity to the study area are:

- VAHR 7822-1548 (Mt Atkinson AS 9), which comprises one silcrete backed blade
- VAHR 7822-1549 (Mt Atkinson AS 10) which comprises one quartzite broken flake
- VAHR 7822-1551 (Mt Atkinson AS12) which comprises one silcrete flaked core

Table 2 shows that stone artefact sites, account for all of the site component types in the search area, with artefact scatters being by far the most prevalent site type in the region (n=86%). It should also be noted that

due to changing conventions for the recording of archaeological sites over time, some of the sites listed as ‘artefact scatters’ may in fact represent ‘isolated artefacts’, as early recording forms made no distinction between the two site types².

A summary of the Aboriginal archaeological site component types appears in Table 2 and Map 8, and a list of all sites in the search area is shown in Table 3.

Table 2: Summary of Previously Identified Aboriginal Site Component Types within 2 km of the Study Area

Site Component Type	Quantity	Percentage (%)
Artefact Scatters	19	90%
Low Density Artefact Distributions	2	10%
Total	21	100%

Table 3: List of Previously Identified Sites within 3 km of the Study Area

VAHR Site Number	Site Name	Site Type	Within Study Area?
7822-0206	Mt Atkinson	Artefact Scatter	No
7822-0707	BQ 1	Artefact Scatter	No
7822-1534	Mt Atkinson La 1	Artefact Scatter	No
7822-1535	Mt Atkinson La 2	Artefact Scatter	No
7822-1536	Mt Atkinson La 3	Artefact Scatter	No
7822-1537	Mt Atkinson La 4	Artefact Scatter	No
7822-1538	Mt Atkinson La 5	Artefact Scatter	No
7822-1539	Mt Atkinson La 6	Artefact Scatter	No
7822-1540	Mt Atkinson La 7	Artefact Scatter	No
7822-1542	Mt Atkinson AS 1	Artefact Scatter	No
7822-1543	Mt Atkinson AS 2	Artefact Scatter	No
7822-1544	Mt Atkinson AS 3	Artefact Scatter	No
7822-1545	Mt Atkinson AS 4	Artefact Scatter	Yes
7822-1546	Mt Atkinson AS 5	Artefact Scatter	No
7822-1547	Mt Atkinson AS 6	Artefact Scatter	No
7822-1548	Mt Atkinson AS 9	Artefact Scatter	No
7822-1549	Mt Atkinson AS 10	Artefact Scatter	No
7822-1550	Mt Atkinson AS 11	Artefact Scatter	No
7822-1551	Mt Atkinson AS 12	Artefact Scatter	No

² In 2013, the standards for recording Aboriginal sites changed once more and resulted in the ‘isolated artefact’ category no longer being used. Isolated artefacts, or any artefact scatter with a density less than 10 artefacts across 10 m² are now recorded as ‘Low Density Artefact Distributions’ (LDADs), however recordings of ‘isolated artefacts’ prior to this date remain registered on the VAHR as such.

VAHR Site Number	Site Name	Site Type	Within Study Area?
7822-3735	Derrimut Road Truganina LDAD 1	Low Density Artefact Distribution	No
7822-3736	Middle Road Truganina LDAD 1	Low Density Artefact Distribution	No

2.1.4.2 Local Council

The study area is located within, and is governed by, the City of Melton Planning Scheme. Planning schemes set out policies and provisions for the use, development and protection of land.

The Heritage Overlay of the City of Melton Planning Scheme was examined (DTPLI 2014). No Aboriginal heritage places listed on the Heritage Overlay are present within the study area.

2.1.5 Previous Archaeological Investigations

Localised and regional archaeological investigations have established the general character of Aboriginal sites located within the same geographic region as the study area. This information, together with an environmental context, histories of land use and, historical and ethnohistorical sources, can be used to identify what parts of the study area are more likely to contain undiscovered Aboriginal cultural heritage, and what types of archaeological sites are likely to be present in these locations. This information is used to form the basis for a site prediction statement.

A summary of archaeological reports relevant to the geographical region of the study area appears below (Table 4).

Regional Assessments

In 1989 du Cros prepared a large scale study (#236) of the Western Region Melbourne Metropolitan Area (#236) encompassing the Victorian Volcanic Plains bioregion. As such du Cros' findings and site prediction model are of direct relevance to this investigation. Stone artefact scatters, isolated artefacts and scarred trees were identified as most likely to occur close to large or permanent swamps. It was further observed that within the western region Aboriginal sites were most likely to be found on river and creek flats, terraces or slopes within 100 meters of a major waterway. du Cros predicted that the majority of surface sites on the plains would date to between 120 and 3,000 years ago.

In 2006 Edmonds and Long (#3872) produced a large scale desktop assessment for the Melton-Caroline Springs growth area. Many Aboriginal sites were identified throughout the region, several of which were located close to the current study area. The report details the likelihood of finding sites within the various landforms of the area based on previous studies undertaken, and determines that the most likely place to find Aboriginal sites is within proximity to permanent and ephemeral water courses, and that artefact scatters and scarred trees were the most likely site types to occur.

Reports Relevant to the Study Area

In 2003 Thomson undertook an archaeological assessment of a property on Hopkins Road Truganina (#2760). Bounded by Greigs road to the north, Hopkins Road to the east, Mount Atkinson Road to the west and a section of Riding Boundary Road to the south, the activity area extended into the north eastern section of the current study area and included the drainage line which flows into Skeleton Creek. All areas of

exposure that were accessible across the study area were inspected, with intense survey across the stony rise in the northern section and the drainage line in the southern section. Large basalt boulders across the site and dense grass cover limited accessibility however. A total of fourteen Aboriginal archaeological sites were recorded during the initial preliminary survey, including six artefact scatters and eight isolated artefact occurrences. The majority of these sites were located across a prominent stony rise and the lower slope of Mt Atkinson.

A mandatory Cultural Heritage Management Plan was prepared by Murphy and Morris in 2011 (#11609) for the installation of a gas pipeline extending from Middle Road, Truganina, along Hopkins Road to Taylors Road, Plumpton, following the eastern boundary of the current study area. The pedestrian survey identified land with low archaeological potential including land within 200 m of Kororoit creek and Upper Skeleton Creek, elevated landforms and stony rises associated with Mount Atkinson; and elevated land near former swamps adjacent to the studied area. The desktop and standard assessments indicated that Aboriginal cultural heritage is likely to be present near current and former waterways and on elevated landforms within the activity area. A complex assessment was undertaken in the areas of likelihood; no new Aboriginal places were recorded during the assessment.

Other Reports

Table 4: Archaeological Reports Relevant to the Study Area

Author, Date, Report #	Description and Location	Results
Du Cros, H. 1989 #236	An archaeological survey in of the western region of the Melbourne metropolitan area.	Nineteen new sites (7822-0396/0414 [VAHR]) were recorded during the survey; the majority of these were found along water courses. The 19 sites comprise 15 artefact scatters, 3 isolated artefacts, and 1 quarry. The majority of the sites recorded were from the Werribee River or Kororoit Creek areas, those most commonly being artefact scatters, scarred trees and isolated artefacts. Du Cros suggests that the Western Region would have had exploitable resources attractive to Aboriginal people. A Melton burial (VAS7822/71) was exposed due to the drainage work carried out in the area in 1980. The remains were of a young female, buried on her left side slightly flexed. Remnants of charcoal and burnt clay were present in the burial fill. No carbon date was taken (du Cross 1989: 23)
Vines, G. 1990 #246	Archaeological surveys were conducted in small sections of a larger study area located immediately east of Robinsons Road and immediately north of the railway line at Deer Park.	No sites were identified within the areas that form part of the current study area. However, seven Aboriginal stone artefact scatters were identified along Kororoit Creek.
Webb, C. 1991 #415	An impact report of a cable laying project between Melbourne and Adelaide.	Most of the area surveyed was close to roads or in an already disturbed area. Recommendations were for the project to proceed with further survey of some sections.
Webb, C. 1994 #416	Survey of proposed cable route from Melbourne to Ballarat, following mostly existing roads and rail services.	Much of the area is disturbed farmland. Two sites were located along Parwan Creek, with recommendations to protect one in situ deposit and no protective action against the other disturbed one.

Author, Date, Report #	Description and Location	Results
Du Cros, H. & Watt, P. 1993 #637	A survey of the Skeleton Creek Catchment area within the Werribee Growth Corridor.	The desktop assessment determined that the majority of Aboriginal sites within the Werribee area are found along rivers and creeks. Fifteen artefact scatters and isolated artefacts have been previously recorded within the study area (7822-0206/0209, 0313/0320, 0422/0423, 0425 [VAHR]). The assessment of European and Aboriginal Heritage of the Skeleton Creek Catchment identified six historic archaeological sites, but no new Aboriginal sites. The Historic sites include Leake's Dairy (7822H-0135), Truganina Estate (7822H-0136), Leake's Cellars (7822-0137), Leake's Rd 1 (7822H-0138), and a Stockyard Ruin (7822H-0139).
Vines, G. 1993 #701	An archaeological survey for a 1 km stretch of land extending north and south of the Western Freeway, and 500 m east and west of Hopkins and Sinclair's Roads, Rockbank.	A tributary of Skeleton Creek runs through the southern part of the study area. Kororoit Creek extends across the northern boundary of the activity area. These water courses would have supported rich food resources for local Aboriginal tribes and it is likely that Aboriginal campsites would have been located near these water sources. Three previously unrecorded isolated artefacts were recorded during the survey (site numbers not provided).
Lane, S. 1997 #1066	An archaeological investigation for the proposed Western Freeway - Western Ring Road Connection, Deer Park.	A total of nine Aboriginal sites, comprising five isolated artefacts and four surface scatters, were identified during the standard assessment. Two further artefacts were identified during subsurface testing. The majority of sites were located east a current or possible past source of freshwater.
du Cros, H & Rhodes, D. 1998 #1320	This report aimed to provide an overview and assessment of waterways and floodplains for The Waterways and Drainage Group within Melbourne Water to understand the impact on cultural heritage.	The predictive models provided in this report illustrate that waterways and floodplains in and around Melbourne should still be considered highly likely to yield evidence of Aboriginal occupation. Site types considered common are surface artefact scatters, isolated artefacts and scarred trees. Rarer site types are fresh water middens, burials and quarries.

2.1.6 Aboriginal Archaeological Site Prediction Statement

The following site prediction statement³ has been formulated from the review of previous assessments. The statement presented is based on a site type approach. (For further information on site types see OAAV 2014).

The review of the previously recorded Aboriginal archaeological sites and previous archaeological investigations indicates that the most likely⁴ site types in the study area are stone artefacts scatters and Low Density Artefact Distributions (LDADs). These site types are by far the most prevalent in the region, representing the only site types previously found within 2 km of the study area (considering 'isolated artefacts' and 'LDADs' as substitutable terms for the same site type under changing registration guidelines over time). Given the previous studies undertaken across part of, or close to the study area, did not identify

³ The term "site prediction statement" is sometimes referred to as "site prediction model". Ecology and Heritage Partners Pty Ltd prefers the term "statement" as it is more accurate; "statistical modelling" is a rigorous and comprehensive process using empirical data.

⁴ **Likely** is an assessment of site types with a 50% or more likelihood of occurring; **Unlikely** is an assessment of site types with less than 50% likelihood of occurring.

other site types such as scarred trees, mounds, quarries or Aboriginal burials, it is considered unlikely these will be found within the similar landforms of the current study area.

Note: A similar predictive model has already been developed for most of the current study area following Thomson's survey of the region in 2003. The outcomes of this survey, discussed above, and the predictive model formulated in Thompson's report, have been utilised as a basis for this updated site prediction statement, conforming to the requirements of the Aboriginal Heritage Act 2006. This updated statement also integrates the additional data for the region gathered from further cultural heritage investigations in the area since that time

Stone Artefact Scatters are considered likely to occur in the study area. Stone artefact scatters, in addition to being one of the most prevalent site types identified throughout Victoria, have comprised the majority of site types previously identified within the study area and surrounding region. It is reasonable to therefore expect that stone artefact scatters may also be present in the previously unsurveyed sections of the study area.

Stone tools were made by hitting one piece of stone, called a core, with another called a 'hammerstone', often a pebble. This would remove a sharp fragment of stone called a flake. Both cores and flakes could be used as tools. New flakes were very sharp, but quickly became blunt during use and had to be sharpened again by further flaking, a process called 'retouch'. A tool that was retouched has a row of small flake scars along one or more edges. Retouch was also used to shape a tool.

Not all types of stone could be used for making tools. The best types of stone are rich in silica, hard and brittle. These include quartzite, chert, flint, silcrete and quartz. Aboriginal people quarried such stone from outcrops of bedrock, or collected it as pebbles from stream beds and beaches. Many flaked stone artefacts found on Aboriginal sites are made from stone types that do not occur naturally in the area. This means they must have been carried over long distances.

Stone tools are the most common evidence of past Aboriginal activities in Australia. They occur in many places and are often found with other remains from Aboriginal occupation, such as shell middens and cooking hearths. They are most common near rivers and creeks. It is easier to find them where there is limited vegetation or where the ground surface has been disturbed, for example by erosion.

Artefact scatters are the material remains of past Aboriginal people's activities. Scatter sites usually contain stone artefacts, but other material such as charcoal, animal bone, shell and ochre may also be present. No two scatters are exactly the same.

Artefact scatters can be found wherever Aboriginal occupation has occurred in the past. Aboriginal campsites were most frequently located near a reliable source of fresh water, so surface scatters are often found near rivers or streams where erosion or disturbance has exposed an older land surface.

Low Density Artefact Scatters (LDADs) are considered likely to occur in the study area. Sites of this type, including sites formerly registered as 'isolated artefacts' which would be considered part of an LDAD recording under modern registration guidelines, are known to be present within the study area and in the surrounding region. Low densities of stone artefacts are by far the most common site type identified across Victoria, and it is reasonable to predict they will also occur within the previously unsurveyed sections of the

study area. It is also possible that increased visibility conditions in areas which have been subject to prior survey may result in new identification of scattered artefacts within these areas of visibility.

LDADs are defined as scatters of stone artefacts (surface and/or subsurface) which are spread across a given area at a density lower than 10 artefacts in any given 10 m² area. LDADs can consist of a single artefact found in isolation, to hundreds of artefacts spread across a wide area so long as the density does not cross the 10 artefacts in 10 m² threshold. Due to the nature of this site type, artefacts under the same LDAD recording can represent multiple site uses, occupational histories, knapping events, discard events or visitational cycles. They can be found anywhere across the landscape; from camp sites, to areas of industry or ceremony, to accidental/opportunistic discard events as people were moving through the landscape – this wide scope of possible site formation processes increases the likelihood one or more LDAD may be present within any given area not subject to significant disturbance activities since European settlement.

Scarred Trees are considered unlikely to occur in the study area, as the area appears to have been predominantly cleared of native vegetation and no previously-recorded scarred tree sites are known to exist in the region.

Aboriginal people caused scars on trees by removing bark for various purposes.

The scars, which vary in size, expose the sapwood on the trunk or branch of a tree. Scarred trees are found all over Victoria, wherever there are mature native trees, especially box and red gum. They often occur along major rivers, around lakes and on flood plains.

Shell Middens are considered unlikely to occur in the study area. This site type is not known to occur in the study area or the surrounding region, and is generally found in close proximity to reliable water sources of sufficient volume to support a range of marine or riverine life.

Shell middens may occur in both freshwater and coastal contexts. Shell middens are accumulations of shell produced by Aboriginal people collecting, cooking and eating shellfish. Shell middens often contain evidence of cooking such as charcoal, ash, fire-stones, burnt earth or burnt clay. Sometimes they also contain animal bones, fish bones, stone tools and Aboriginal burials.

Freshwater shell middens are found along river banks and flood plains, near swamps and lakes, and in sand dunes. They are sometimes found in dry areas, where fresh water was once present. Freshwater shell middens usually occur as fairly thin layers or small patches of shell. The shells usually come from both the freshwater mussel (*Velesunio ambiguus*) and river mussel (*Alathyria jacksoni*). The shells may be the remains of just one meal or hundreds of meals eaten over thousands of years.

Freshwater mussel shells may also be found in Aboriginal oven mounds, but usually only in small quantities. Middens may be visible as scatters of broken mussel shell, exposed along vehicle tracks. If you look closely, you may find mussel shells buried in the surrounding soil. Middens are also commonly visible as scatters of mussel shell eroding down the slopes of dunes. Again, the scatters can usually be traced up the dune to the buried shell layer. Shell fragments in the upcast from rabbit burrows in dunes may also indicate a midden.

Shell middens are also found in many areas along the Victorian coast. They can be located in sheltered positions in the dunes, coastal scrub and woodlands, within rockshelters, or on exposed cliff tops with good vantage points. They can occur near rocky or sandy shores and also close to coastal wetlands, inlets, estuaries, bays and river mouths. Coastal shell middens are found as layers of shell exposed in the sides of

dunes, banks or cliff tops, or as scatters of shell exposed on eroded surfaces. They range in size from a few metres across to many hundreds of metres and can consist of a thin, single layer, or multiple layers forming a thick deposit.

Mounds are considered unlikely to occur in the study area. These sites types are not generally known to be found in the region, and the operation of farming activities across much of the study area in the past, along with the development of the area for housing, roads and railway lines, means it is likely any mounds which may have once been present may have been destroyed or degraded beyond recognition.

Aboriginal mounds are places where Aboriginal people lived over long periods of time. Mounds often contain charcoal, burnt clay or stone heat retainers from cooking ovens, animal bones, shells, stone tools and, sometimes, Aboriginal burials.

Mounds usually occur near rivers, lakes or swamps but occasionally some distance from water. They are also found on dunes and sometimes among rock outcrops on higher ground.

Quarries are considered unlikely to occur in the study area, as there is no known source of stone suitable for Aboriginal artefact manufacture within the bounds of the study area.

Aboriginal quarries are the sites where Aboriginal people took stone from rocky outcrops to make chipped or ground stone tools for many different purposes. Not all types of stone were suitable for making tools, so an outcrop of good stone that could be easily quarried was a valuable resource. Aboriginal people quarried different types of stone, each with its own special value and use. Stone tools were made from greenstone, silcrete, quartz, quartzite, basalt and chert. Pigments were made from quarried ochre, and grinding tools were made from sandstone.

Some quarries are small, consisting of just a single protruding boulder. Other quarries incorporate many outcrops and areas of broken stone that can cover thousands of square metres.

Stone Arrangements are considered unlikely to occur in the study area, as none of the previous investigations across the study area have identified evidence of these site types and the impacts of agriculture and pastoralisation since European settlement of the region is likely to have impacted or destroyed any such sites.

Aboriginal stone arrangements are places where Aboriginal people have positioned stones deliberately to form shapes or patterns. The purpose of these arrangements is unknown because their traditional use ceased when European settlement disrupted Aboriginal society. They were probably related to ceremonial activities.

Stone arrangements occur where there are plenty of boulders, such as volcanic areas, and where the land could support large bands of people. Surviving stone arrangements are rare in Victoria, and most are in the western part of the State.

Stony Rises are considered likely to occur in the study area. The study area lies in close geographical proximity to the Mt. Atkinson eruption cone, and comprises the textbook undulating basalt landscape within which these site types are known to occur.

Stony Rises are a geological formation that emerges from the smooth lava fields of the western plains of Victoria, a fertile region that for tens of thousands of years supported the lives of its indigenous Aboriginal

people. Stony Rises occur in a number of forms but generically comprise loosely consolidated rocks and boulders elevated above the surrounding plain. Ephemeral lakes occur at low points often adjacent to the Stony Rises, and are often interspersed with low-lying, poorly-drained plains (Joyce 2003). Stony rises provided vantage points to local Aboriginal tribes across the tribal territory.

Stony Rises are considered an area of Aboriginal archaeological sensitivity as they are likely to contain stone artefact sites. Stony Rises are known to be the site of Aboriginal stone huts and stone circle arrangements, and can also contain hearth sites. Previous studies have shown a tendency for stone artefacts located in surface and/or subsurface contexts on stony rises. Artefact distribution patterns commonly comprise isolated stone artefacts and diffuse low density artefact scatters occurring across the volcanic plains, with moderate to higher densities of stone artefacts occurring on stony rises and that only occasional isolated stone artefacts may occur away from stony rises. The most significant sites are located on the stony sites near watercourses. Scarred trees may occur where mature native vegetation is located in proximity to former swamps.

Aboriginal Burials are considered unlikely to occur in the study area. Although Aboriginal people have a long history of occupation in Victoria, burial practices in the volcanic plains areas varied greatly over time, and between different Aboriginal groups. Stony areas and areas with dense clayey soils may have been less likely to involve interment, due to the difficulty involved with digging through the clays. Other burial practices such as cremation, stowage of bodies in trees or rock clefts, or even left bodies being out in the open are all less likely to have left archaeological traces to the present day. Equally, burials under cairns or stone arrangements are likely to have been impacted or destroyed by the clearance of the study area for agricultural or pastoral activities or the development of housing where applicable.

Aboriginal burials are normally found as clusters of human bones eroding from the ground, or exposed during ground disturbance. Aboriginal customs for honouring and disposing of the dead varied greatly across Victoria, but burial was common. Aboriginal burial sites normally contain the remains of one or two people, although cemeteries that contain the remains of hundreds of people buried over thousands of years have been found. Sometimes the dead person was buried with personal ornaments and artefacts. Charcoal and ochre are also often found in burial sites.

Although Aboriginal burials are quite rare in Victoria, they have been found in almost every kind of landscape, from coastal dunes to mountain valleys. They tend to be near water courses or in dunes surrounding old lake beds. Many burials have been found on high points, such as dune ridges, within surrounding flat plains. They are often near or within Aboriginal occupation sites such as oven mounds, shell middens or artefact scatters.

Aboriginal mortuary trees are considered unlikely to occur in the study area. Although it's possible this practice may have been utilised within the study area due to the hard nature of the soils, the clearance of native vegetation from the area following European settlement means it is unlikely any remnant native trees which might retain human remains are still present within the study area.

Accounts of Aboriginal mortuary trees are contained in newspaper reports (Mount Ararat Advertiser 1858), ethnohistorical accounts (Bride 1983[1898]: 322), oral history (Ron Howlett, personal communication 2003), and unpublished diaries (Johns 1877). These accounts describe the following treatment of Aboriginal human remains: the corpse was allowed to decompose. Later, the remains were recovered and sometimes the

bones of limbs were distributed among relatives to be kept as relics. Then, postcranial remains were bundled and placed in a hollow tree, sometimes with the skull. On other occasions, the skull was deposited in a hollow tree while postcranial remains were given to a relative for placement at a later date, possibly also in a hollow tree (article: 70).

The Chief Protector of Aborigines, George Augustus Robinson, recorded several different forms of treatment of the dead by the northern Djab Wurrung clans in his 1841 journal (Clark 1987: 15, 1998: 335, 368), including placement in trees. The ethnographic record for southwestern Victoria also indicates that while low-ranking individuals were usually placed in simple burials, higher-ranking individuals were subject to more complex rituals that included placement in trees (Dawson 1881: 62–66; Howitt 1996 [1904]: 455–457; article: 63).

The study of the Moyston Mortuary Tree and references to additional mortuary trees within the region demonstrate a local pattern of mortuary practices in southwestern Victoria. While burials in lunettes, earth mounds, and sand dunes are more common in the region, more complex practices also existed in southwestern Victoria in the late pre-contact to early post-contact periods (Sprague 2005: 70; article: 69-71).

2.1.7 Desktop Assessment – Summary of the Results and Conclusions

The desktop assessment indicates that Aboriginal cultural heritage is present within the study area. This cultural heritage consists of an Aboriginal surface stone artefact scatter comprising of four quartz flakes and six silcrete flakes:

- VAHR 7822-1545 (Mt. Atkinson AS 4).

This site is located within MPA [REDACTED], and is approximately 240 m south of the northern boundary to the PSP area. This site was located on a vehicle track running beneath the high-voltage power transmission lines running through the area, and was identified in an area with good GSV due to this track. The presence of this site also includes an area of legislative cultural heritage sensitivity (under r.22) centred on its location – the desktop assessment revealed that further areas of sensitivity (under r. 23) are also located within the study area, and will therefore act as mandatory triggers for future CHMPs in the area (unless it can be proved they have been subject to significant ground disturbance).

The study of Aboriginal history and previous archaeological reports in the region indicated that the study area contains areas of Aboriginal cultural heritage potential, in addition to the areas of sensitivity identified in the desktop assessment. These previous studies have indicated that areas of elevation, stony rises, and areas in relative proximity to fresh water supplies are highly likely to contain Aboriginal cultural heritage in the region, associated with how Aboriginal people utilised the landscape in the past. These sites have generally tended to comprise surface stone artefact scatters, with some artefacts found eroding from the topsoil layers adjacent to watercourses. Combined with the information gathered on the geology, geomorphology, and ecological and land use history of the study area, it is apparent that landforms and vegetation highly conducive to Aboriginal exploitation and use would have been present in the study area in the past, as well as nearby areas such as the peak and upper slopes of Mt. Atkinson to the north. These areas may therefore contain Aboriginal cultural heritage that would have implications for the future development of the area, and thus these areas also warranted further investigation in the form of field survey.

3 FIELD SURVEY

The field survey included pedestrian, vehicle and visual survey of the study area to detect the presence of Aboriginal cultural heritage in or associated with the study area.

The study area was surveyed on 20 June 2014 by Ecology and Heritage Partners Pty Ltd Archaeologist/Cultural Heritage Advisor Terence MacManus, with Shane Clark and Mike Haley respectively representing the RAP applicant and Aboriginal stakeholder groups for the area, the Boon Wurrung and the Bunurong. Although the Wurundjeri were invited to participate in the assessment, they contacted Ecology and Heritage Partners shortly before the proposed fieldwork dates in order to withdraw from the project, as they felt it would not be appropriate to attend the survey in light of their RAP application rejection by the Aboriginal Heritage Council.

A summary of the archaeological survey attributes appears in Appendix 2, Page 73.

3.1.1 Methodology of the Standard Assessment

The field survey took the form of a pedestrian, vehicular and visual survey in which the three participants walked 2 m apart in a stratified random sampling strategy targeting the areas of visibility within the properties of the study area to which access was granted (Map 9). The stratification of the random sampling methodology was based on several factors, including the aforementioned property access, the location of previously-recorded sites, areas of cultural heritage sensitivity, areas of prior disturbance and areas which lay on landforms likely to contain Aboriginal cultural heritage.

The previously-registered site within the study area was reinspected as part of this assessment, so as to record the most up-to-date details of the sites for future considerations of the area. In order to do so, access was arranged for the property in which it lies, and it was ensured that each of this property and the area surrounding the registered site was subject to more intensive pedestrian survey, in order to determine whether any additional Aboriginal cultural heritage material may be present in association with the site, or nearby within the same landform.

The study area was assessed for the presence of any remnant native trees which might bear evidence of cultural scarring, and the geomorphological character of the study area was surveyed for evidence of caves, cave entrances and/or rock shelters.

3.1.2 Visibility, Exposure and Coverage

3.1.2.1 Ground Surface Visibility

Ground surface visibility (GSV) varied throughout the study area. For the majority of the study area, thick grass cover obscured much of the natural ground surface, making GSV close to 0% (Plates 1 to 3). Small areas of greater visibility were present along vehicle tracks, besides extruding basalt boulders on the stony rises, or around the bases of trees (Plates 4 to 6). Lesser grass cover was also present on the side of dams or within other areas of disturbance, however these areas had been impacted by the disturbance and therefore were unlikely to represent the true natural ground surface at these locations (Plate 7).

3.1.2.2 Effective Survey Coverage

Effective survey coverage calculations are based on the percentage of ground surface exposure, and provide a measure for the 'detectability' of artefacts and the level of survey sampling effort within each landform in the study area. The calculation assesses the level of average GSV across the study area in each landform, the extent of isolated exposures with higher or lower GSV than the average, and a calculation of the area within each landform surveyed.

An overview of the effective survey coverage in each landform within the study area is provided in Table 5.

Table 5: Effective Survey Cover Calculations within the Study area

Landform	Total Area (Ha)	Average Landform GSV (%)	Average Landform GSV (Ha)	Isolated Exposure Area (Ha)	Isolated Exposure GSV (%)	Detection Area (ha)	Detection Area (%)	Area of Study area assessed (ha)	Percentage of Study area assessed (%)	Effective Survey Coverage (%)
Stony Rises	153.16	10	15.32	5.00	90	19.82	12.9	74.08	48.4	6.3
Low Undulating Plain	321.68	10	32.17	10.00	90	41.17	12.8	120.32	37.4	4.8
Areas of Disturbance	5.16	80	4.13	0.50	100	4.63	89.7	1.71	33.1	29.7
Total	480.00	11	51.61	15.50	10.1	65.61	13.7	196.11	40.9	5.6

3.1.3 Limitations of Field Survey

The field survey was limited by two main factors: the GSV across the study area and access to the properties within the Tarneit Plains PSP area. The inability to contact some of the landholders in order to arrange access, or the refusal of property owners to allow access during the field survey, meant that [REDACTED] were not intensively surveyed. This limitation was partially overcome by undertaking visual surveys of these areas from adjoining properties or vantage points in the landscape, and determining the likelihood of the landforms within those areas to contain Aboriginal cultural heritage (Table 5).

Similarly, some of the properties to which access was obtained were extremely large, meaning that 100% pedestrian survey across these areas was untenable. Survey of these areas therefore partially involved the use of vehicles to gain access to sections of the properties. However, due to the extremely high frequency of surface basalt boulders and extruding basalt floaters across the stony rises and undulating plain of the study area, it was impossible to use the vehicle to gain access to the majority of the study area. In these cases, the field survey was limited by the need to walk in very wide transects to maximise the land coverage of the field survey in the time allowed. Therefore the potential exists that undiscovered Aboriginal cultural heritage lies in the areas which were not physically walked over during the field survey, or underneath the thick grass cover of the majority of the areas traversed. This potential was managed targeting sections of these properties which appeared more likely to contain Aboriginal cultural heritage during the survey of both the properties subject solely to pedestrian survey, and to the properties subject to a mixture of pedestrian and vehicular survey.

Table 6: Effective Survey Cover Calculations within the Activity Area

Property Number	% Pedestrian Survey	% Vehicular Survey	% Visual Survey
1	-	-	100
2	20	-	80
3	15	30	55
4	10	60	40
5	-	-	100
6	10	-	90
7	40	-	60
8	10	60	40
9	-	-	100
10	5	-	95
11	-	-	100
12	-	-	100
13	-	-	100
14	-	-	100
15	40	-	60
16	70	-	30
17	20	-	80
18	20	-	80
19	80	-	20

3.1.4 Results of the Standard Assessment

3.1.4.1 Landforms

The survey confirmed the landforms identified during the desktop assessment (Table 5) with two main landforms present: stony rises and the general low undulating plain comprising the edge of the Mt. Atkinson eruption cone (Map 9).

The stony rises landform is present throughout the study area, occurring in [REDACTED] (Plates 8 to 11). This landform generally appears as discrete clusters of low stony rises across relatively wide areas, however is present in smaller quantities within [REDACTED]. In these areas, the stony rises are also more elevated over the surrounding undulating plain however due to the overall slope of the study area away from Mt. Atkinson, these stony rises are located at a lower elevation than the stony rises present throughout the rest of the study area (Plate 12). In particular the stony rises to the west of the

study area, throughout [REDACTED] are quite elevated due to their position in the landscape, but are not as markedly elevated over the undulating plains landform around them (Plates 9 and 13).

Undulating plains comprise the remainder of the study area (Plates 14 to 18). This landform is quite variable in its elevation from north to south, as it follows the general slope of the Mt. Atkinson eruption cone to the north (Plates 19 and 20). In several locations, most markedly throughout [REDACTED] and surrounding the undulating stony rises within [REDACTED], the undulating plain falls sharply and creates a vantage point from which the lower areas of the plain can be easily viewed across very long distances (Plates 13 and 21). These sections of the landscape, particularly overlooking the alignment of Dry Creek in the West of the study area, may have been desirable locations for Aboriginal people in the past to work or camp, as the views they afforded could have aided in the hunt for game or the tracking of other Aboriginal groups across the landscape.

Due to access restrictions, the alignment of Dry Creek in the west of the study area was not intensively surveyed, however the alignment of the drainage line running through [REDACTED] was investigated during the field survey. This drainage line was found to be quite ephemeral, with few landscape features nearby indicating it may have been a favoured place for Aboriginal people of the past to utilise (Plate 22).

3.1.4.2 Aboriginal Cultural Heritage and Areas of Aboriginal Cultural Heritage Likelihood

There are no mature native trees present within the study area, nor are there any caves, cave entrances or rock shelters present within the study area.

No new Aboriginal archaeological sites were identified during the field survey, however reinspection of registered site VAHR 7822-1545 (Mt. Atkinson AS 4) did result in the identification of one new surface stone artefact within the established boundaries of the site (Plate 24, Map 10):

- VAHR 7822-1545 (Mt. Atkinson AS 4) originally comprised four quartz flakes and six silcrete flakes. None of the originally-recorded artefacts were identified during the field survey, however one new surface quartzite core fragment was identified along the exposed vehicle track which comprises part of the site's recorded boundary (Plates 23 and 24).

Areas of Aboriginal Likelihood

A total of six areas of moderate Aboriginal likelihood were identified during the standard assessment (Map 10). These consisted of the extent of the stony rises within the study area, and the landscape surrounding the steeply-elevated regions of the study area which would have provided good vantage points for Aboriginal people in the past. Although several small drainage lines were found to be present in the area, these did not appear to be of a reliable enough nature to warrant consideration as areas of sensitivity, particularly given the more reliable water sources nearby that previous archaeological studies had identified as the focal points for Aboriginal water management in the area. The locations of these areas of sensitivity and Aboriginal archaeological sites within the study area were mapped in the field and are summarized in Table 7:

Table 7: Results of Field Survey: Sites and areas of sensitivity within the study area.

MPA Property Identification Number	Assessment: Pedestrian/Vehicular/Visual Only	Sites present: Y/N	Sensitivity assessment
1	Visual only – assessed from Property 2 and 6, and from Troups Road South.	No.	Low to moderate.
2	Pedestrian.	No.	Low to moderate.
3	Pedestrian and vehicular.	Yes – VAHR 7822-1545 (Mt. Atkinson AS 4).	Low to moderate.
4	Pedestrian and vehicular.	No.	Low.
5	Visual only – assessed from Property 6, and from Troups Road South.	No.	Moderate.
6	Pedestrian.	No.	Low to moderate.
7	Pedestrian.	No.	Low to moderate.
8	Pedestrian and vehicular.	No.	Low to moderate.
9	Visual only – assessed from Property 6 and 10, and from Troups Road South.	No.	Low to moderate.
10	Pedestrian.	No.	Low.
11	Visual only – assessed from property 7.	No.	Low to moderate.
12	Visual only – assessed from property 7.	No.	Low to moderate.
13	Visual only – assessed from property 7.	No.	Moderate.
14	Visual only – assessed from property 7 and 15.	No.	Low to moderate.
15	Pedestrian.	No.	Low to moderate.
16	Pedestrian.	No.	Low to moderate.
17	Pedestrian.	No.	Low to moderate.
18	Pedestrian.	No.	Low.
19	Pedestrian.	No.	Low.

3.1.4.3 Previous Ground Disturbance

Three particular areas of previous ground disturbance were identified during the standard assessment:

- The location of a large chicken farm facility within [REDACTED] (Plate 25);
- A relatively large section of dumped fill within the southeastern corner of [REDACTED] (Plates 7 and 26); and
- The location of a large dam in the northeastern section of [REDACTED] (Photo of dam wall not taken due to access restrictions).

These areas of disturbance have the potential to have removed any Aboriginal cultural heritage which may once have been present in these locations. Additionally, although the cutting of the dam in [REDACTED] allowed some greater visibility, the imported fill and chicken farm both cover the natural ground surface, making it impossible to determine if Aboriginal cultural heritage is/was present in these areas⁵.

Additionally, it was evident that some minor ground disturbance had occurred throughout the region, and in particular throughout [REDACTED] via the movement of stock throughout the landscape and minor farming works, however this disturbance was minimal and not considered to have adversely impacted the identification of Aboriginal cultural heritage in these regions (Plate 27). Similarly, the planting of a relatively large row of trees along the boundary between [REDACTED] may have caused some ground disturbance, but the excellent GSV in these areas is considered to have offset any limitations this disturbance may have had on the ability to detect Aboriginal cultural heritage where this disturbance had occurred (Plate 6).



Plate 1: Example of average GSV within Property 18.



Plate 2: Study area facing northwest across Property 7, showing poor average GSV and general undulating plains landform.

⁵ Due to access restrictions, the section of the study area comprising the dam and chicken farm were not intensively surveyed, but were instead assessed from the adjoining properties – however, if access had been granted to these properties then the restriction and amplification of view described above would have modified the survey's effectiveness.



Plate 3: Study area facing northeast across Property 6, showing poor average GSV and general slope across the undulating plains landform.



Plate 4: Example of GSV along vehicle track in northern section of Property 3. Note lower grass cover and small areas of exposure at left of photo.



Plate 5: Example of improved GSV surrounding extruding/mounded basalt boulders in Property 14.



Plate 6: Example of good GSV surrounding the base of trees planted along the boundary of Property 8, and Properties 15, 16 and 17.



Plate 7: Study area facing east towards imported fill in the southeastern corner of Property 6.



Plate 8: View southwest across low stony rise within Properties 15 and 16.



Plate 9: View north across eastern edge of undulating stony rises between Properties 5 and 6.



Plate 10: View west across low stony rise within Property 8 – note the tall grass and poor GSV throughout this area.



Plate 11: View north across low undulating stony rises in Property 6.



Plate 12: Study area facing west from edge of stony rise in Property 8, showing relative elevation of the rise to the surrounding undulating plain.



Plate 13: View southwest across undulating stony rise across Properties 5 and 6, showing relative elevation to the landscape beyond (background of photo).



Plate 14: Study area facing east across low undulating plain in Property 6.



Plate 15: Study area facing south across low undulating plain in Property 7.



Plate 16: Study area facing west across low undulating plain in Property 8.



Plate 17: Study area facing east across low undulating plain in Property 4.



Plate 18: Study area facing southwest across low undulating plain in southern section of Property 3.



Plate 19: Study area facing north from centre of Property 6, showing the general slope of the region towards Mt. Atkinson (background).



Plate 20: View west across generally sloping undulating plain in the northern end of Property 3.



Plate 21: View south from northwestern corner of Property 3, showing sharp slope towards the south.



Plate 22: Study area facing northwest from ephemeral drainage line in Property 4.



Plate 23: View northeast along vehicle track where VAHR 7822-1545 (Mt. Atkinson AS 4) is located.



Plate 24: Quartzite core fragment identified within the registered extent of VAHR 7822-1545 (Mt. Atkinson AS 4).



Plate 25: View across Property 9 from Property 6, showing large chicken farm in background.



Plate 26: View across Property 6, towards piles of fill and shipping container located at the southeastern corner of Property 6.



Plate 27: View across low stony rise in Property 15, showing areas of stock impact and minor farming activities (rock piling).

3.1.5 Field Survey – Summary of results and Conclusions

The field survey identified no new Aboriginal sites within the study area, although reinspection of Registered site VAHR 7822-1545 (Mt. Atkinson AS 4) resulted in the identification of one new artefact associated with this site. This artefact consists of a quartzite core fragment. Considering artefacts of this raw material and artefact type do not appear on the original recording form for the site, it is considered likely that this is a newly-identified artefact and not the re-recording of a previously identified component of the site. The discovery of this single artefact has not resulted in change to the significance of the site as determined by the original recording, and specific details of the artefact are presented in Appendix 4, Page 75.

The field survey also identified several areas of Aboriginal cultural heritage likelihood – these areas were predominantly located within the areas of low undulating stony rises, but also included areas where the landscape was particularly elevated, or dropped off suddenly allowing excellent views from the elevated vantage point. This pattern of likelihood is consistent with the landscapes within which Aboriginal cultural heritage is known to occur in the greater surrounding region. However, due to the relatively low-lying nature of even the more elevated sections throughout the study area, and especially in relation to the nearby highly elevated areas associated with the Mt. Atkinson eruption cone (which was likely a focal point for past Aboriginal utilisation of the region), the areas of likelihood identified in this assessment are considered to be areas of moderate likelihood only. These areas were mapped through a combination of GPS co-ordinates taken at salient points of the landscape, and drawing a line between these points and key visible markers in photographs and aerial imagery to denote the boundaries of the areas of likelihood (Map 9).

The location of these areas of likelihood, and the location of registered site VAHR 7822-1545 (Mt. Atkinson AS 4) have implications for any future development of the region; these implications are discussed in detail in Part 2 of this report, and the details of the Aboriginal cultural heritage identified in association with registered site VAHR 7822-1545 (Mt. Atkinson AS 4) are presented Appendix 4, Page 75.

4 DETAILS OF ABORIGINAL CULTURAL HERITAGE IN THE STUDY AREA

4.1 Aboriginal Cultural Heritage in the Study Area

One Aboriginal archaeological site is located within the study area. This site was reinspected as part of the field survey, resulting in the identification of one additional surface artefact:

Site	Name	Number of Artefacts Identified	Reinspected?	Artefacts identified at site during field survey
VAHR 7822-1545	Mt. Atkinson AS 4	10	Yes	1

Due to the low amount of artefactual detail present on the original site card recording, and the inability to relocate the original artefacts associated with this site, intensive analysis of the Aboriginal cultural heritage of this site was not undertaken. Instead, the details of the newly-identified artefact were recorded, and added to the original site recording. This information is presented in detail in the Place Inspection form attached in Appendix 4, Page 75.

4.1.1 Aboriginal Stakeholder Information Regarding the Aboriginal Cultural Heritage

The representatives of the Bunurong and Boon Wurrung communities were asked if they knew of any information of the area contained in oral histories or stories that they wished included in this report. The representatives did not have any oral histories relating to the study area or specific information regarding this site, for inclusion in this report.

4.1.2 Results of the Assessment of the Aboriginal Cultural Heritage

One Aboriginal archaeological site is present within the study area:

- VAHR 7822-1545 (Mt. Atkinson AS 4).

This site comprises a surface stone artefact scatter of 11 artefacts. These artefacts are made from silcrete (54%, n = 6), quartz (37%, n = 4) and quartzite (9%, n = 1) and represent unretouched flakes, knapping debris and a core fragment.

The identification of an additional artefact at this site supports the site prediction statement, which indicated that further surface stone artefacts were likely to occur within the study area due to the known presence of this site. The inability of the field survey to identify further Aboriginal cultural heritage in other parts of the study area appears incongruous with the site predictive statement, however the lack of identification may be the result of the GSV across the majority of the study area, rather than a lack of sites in the region.

PART 2

CULTURAL HERITAGE MANAGEMENT RECOMMENDATIONS

5 REQUIREMENTS FOR FUTURE CULTURAL HERITAGE MANAGEMENT PLANS WITHIN THE STUDY AREA

The purpose of this AHIA was to provide a general overview of Aboriginal cultural heritage within the study area, for the purposes of informing future land use and the future urban structure of the PSP.

The *Aboriginal Heritage Act 2006* (the Act) and *Aboriginal Heritage Regulations 2007* (the Regulations) require that a mandatory CHMP be prepared for any high impact activity taking place within an area of cultural heritage sensitivity. Additionally, a *voluntary* CHMP may be undertaken for proposed high impact activities which are not located within areas of legislative cultural heritage sensitivity, but which are located in areas likely to contain Aboriginal cultural heritage (this satisfies the requirement under the Act to avoid harm to Aboriginal cultural heritage in areas where it is likely to be present). As such, any future development of the area must consider the implications of their proposed activities on the cultural heritage values of the study area as identified in this assessment.

As a result of this assessment, one Aboriginal cultural heritage Place has been identified within the boundaries of the study area. The extent of this Place, and an area of 50 m surrounding the extent of the Place, is considered an area of cultural heritage sensitivity under the Regulations (r. 22) and is therefore a trigger for a Mandatory CHMP. In addition, any land within 200 m of a named waterway or prior waterway is considered an area of cultural heritage sensitivity under the Regulations (r. 23, 24). Areas of sensitivity under these Regulations have been identified within the study area (Map 11).

The field assessment also identified several areas of Aboriginal cultural heritage likelihood. Whilst these areas do not trigger a mandatory CHMP, a voluntary CHMP is recommended for any future high impact activities within those areas in order to satisfy best practice, and to avoid risk of unexpected discovery of cultural heritage material during works, thereby causing unnecessary delays to development. Although it is still possible unexpected discovery will occur even after a CHMP, the contingencies developed as part of the CHMP recommendations will allow minimal disruption to the works if this occurs (with no CHMP in place, such disruptions may include the mandatory requirement for a CHMP to be produced, resulting in additional assessments and a minimum 30-day evaluation period).

Table 6 presents an overview of the requirements for mandatory CHMPs within the properties of PSP area No 1085, the properties where voluntary CHMPs are recommended and the properties for which it is unlikely further Aboriginal cultural heritage assessment will be necessary.

Table 8: Summary of future CHMP requirements by property number.

MPA Property Number	Likely to contain Aboriginal cultural heritage and Mandatory CHMP Required	Likely to contain Aboriginal cultural heritage and Voluntary CHMP Recommended	Unlikely to contain Aboriginal cultural heritage / require a CHMP
1	<input checked="" type="checkbox"/>		
2		<input checked="" type="checkbox"/>	
3	<input checked="" type="checkbox"/>		
4	<input checked="" type="checkbox"/>		
5	<input checked="" type="checkbox"/>		
6		<input checked="" type="checkbox"/>	
7		<input checked="" type="checkbox"/>	
8	<input checked="" type="checkbox"/>		
9	<input checked="" type="checkbox"/>		
10			<input checked="" type="checkbox"/>
11		<input checked="" type="checkbox"/>	
12		<input checked="" type="checkbox"/>	
13		<input checked="" type="checkbox"/>	
14		<input checked="" type="checkbox"/>	
15		<input checked="" type="checkbox"/>	
16		<input checked="" type="checkbox"/>	
17	<input checked="" type="checkbox"/>		
18			<input checked="" type="checkbox"/>
19			<input checked="" type="checkbox"/>

6 MANAGEMENT RECOMMENDATIONS

This assessment is intended to inform master planning for a precinct structure plan with regards to the existing conditions of the PSP area, and to highlight any areas which will require additional cultural heritage considerations in the future. Therefore at this stage potential impacts to the sites within the study area are unknown. Further investigation of the site within the study area as part of activity-specific CHMPs will provide detailed management recommendations. The following generic recommendations are given to facilitate appropriate management of the site in the interim, and to identify future possible constraints to proposed development activities within the study area.

Recommendation 1: Site management of VAHR 7822-1545 (Mt. Atkinson AS 4)

This site is located within [REDACTED], and is considered a site of low significance. Future high impact activities in the region should aim to avoid impact to this site however if impact cannot be avoided and any high impact activity is proposed, a mandatory CHMP will be required for the activity under the *Aboriginal Heritage Act 2006*. Such a CHMP would likely include subsurface testing to relocate the artefact and establish the true extent of the site.

Recommendation 2: Areas of Cultural Heritage Sensitivity

Areas of legislative cultural heritage sensitivity are present in [REDACTED], under r. 22 and r. 23 of the *Aboriginal Heritage Regulations 2007*. If any high impact activity is proposed within these areas of sensitivity, then a mandatory CHMP will be required under the *Aboriginal Heritage Act 2006*.

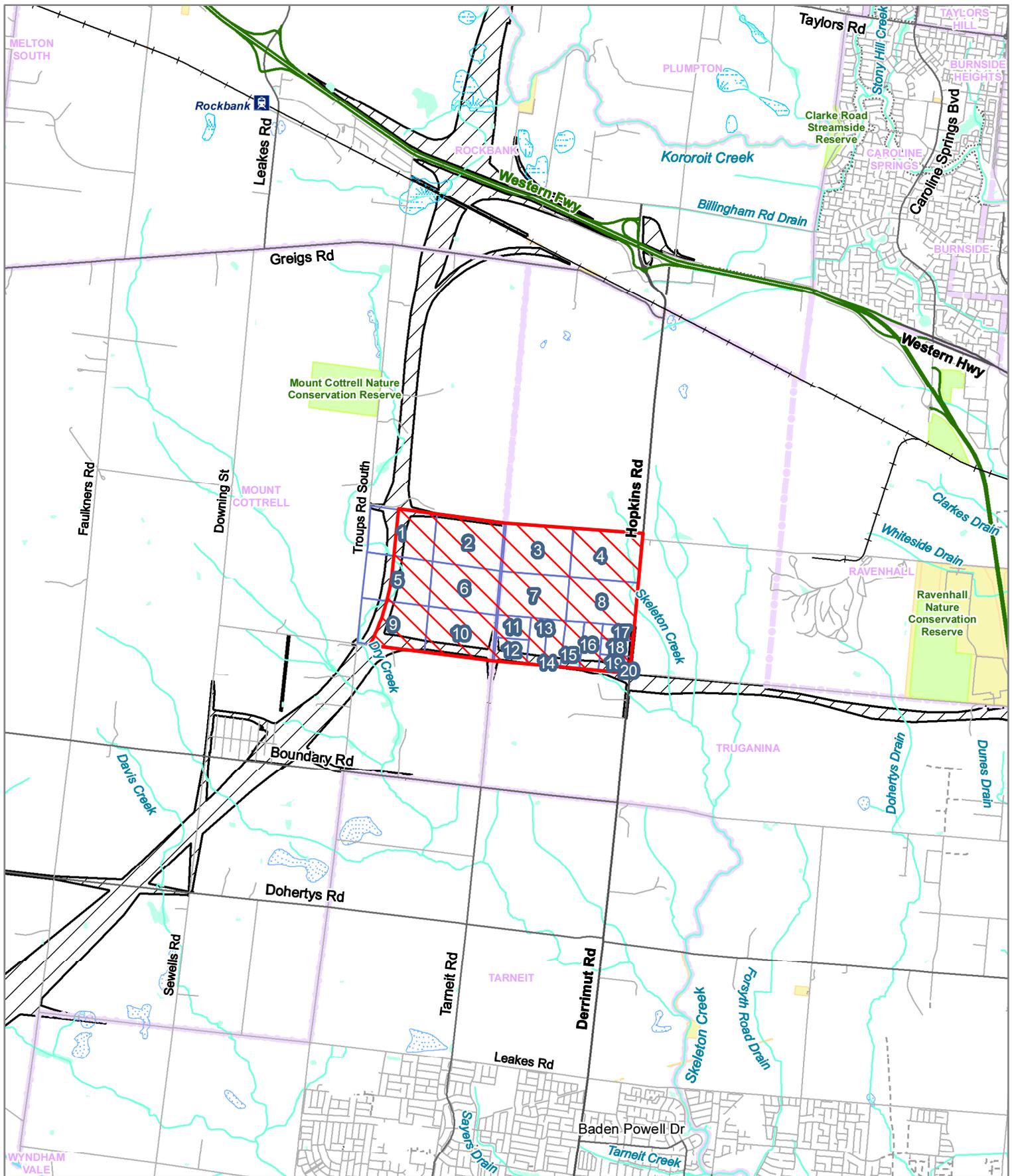
Recommendation 3: Areas of Cultural Heritage Likelihood

The field survey identified areas of cultural heritage likelihood within [REDACTED]. If any high impact activities are proposed within these areas of likelihood, then where a mandatory CHMP is not required, a voluntary CHMP is recommended to manage any potential Aboriginal cultural heritage in these areas.

Recommendation 4: Areas with no areas of Cultural Heritage Sensitivity or areas of Cultural Heritage Likelihood

This assessment identified that [REDACTED] did not contain any areas of Aboriginal cultural heritage sensitivity or likelihood. It is unlikely further Aboriginal cultural heritage investigations will be required for these areas prior to development.

MAPS

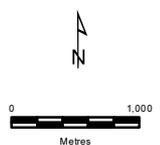


Map 1
Location of Study Area
 Aboriginal Heritage Impact
 Assessment: Tarneit Plains
 Precinct Structure Plan (PSP
 1085)

Legend

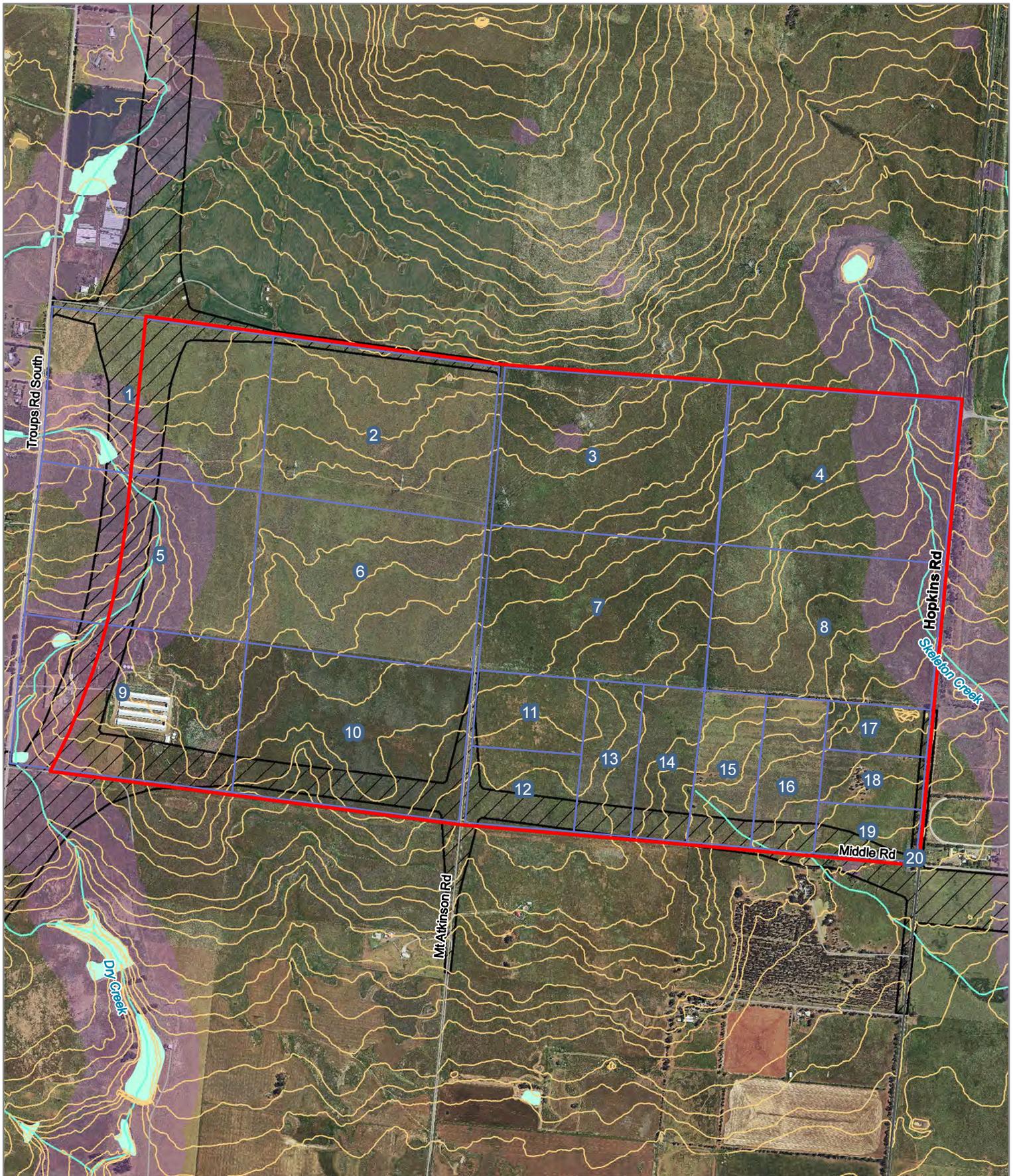
- Study Area
- Outer Melbourne Ring Road
- Railway
- Freeway
- Major Road
- Collector Road
- Minor Road
- Proposed Road
- Walking Track
- Minor Watercourse
- Major Watercourse
- Permanent Waterbody
- Land Subject to Inundation
- Wetland/Swamp
- Parks and Reserves
- Crown Land
- Localities

= MPA property number



Local Government: Shire of Melton
 25k Mapsheet: Truganina 7822-3-1
 Coordinate System: MGA Zone 55 (GDA94)
 Map Scale: 1:60,000

VicMap Data: The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.



Map 2
Extent of Study Area and
Areas of Cultural Heritage
Sensitivity
Aboriginal Heritage Impact
Assessment: Tarneit Plains
Precinct Structure Plan (PSP
1085)

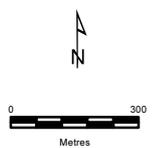
Legend

- Study Area
- Areas of Cultural Heritage Sensitivity
- Minor Watercourse
- Permanent Waterbody
- Contour (1m)

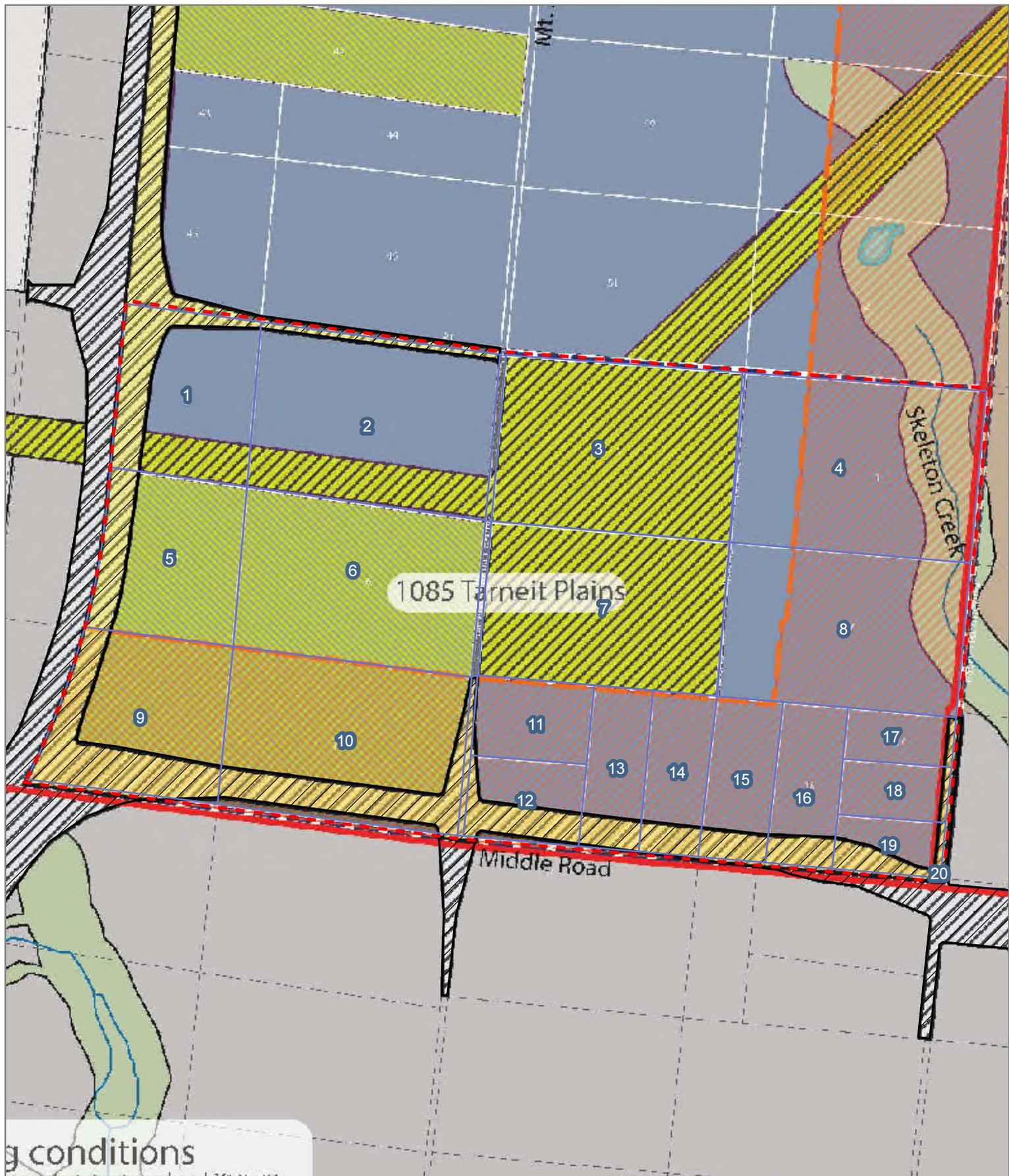
17 = MPA property number



Local Government: Shire of Melton
 25k Mapsheet: Truganina 7822-3-1
 Coordinate System: MGA Zone 55 (GDA94)
 Map Scale: 1:18,000



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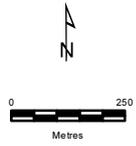
Map 3
West Growth Corridor plan
(excerpt)
Aboriginal Heritage Impact Assessment: West Growth Corridor Plan – Excerpt

Legend

Study

= MPA property number

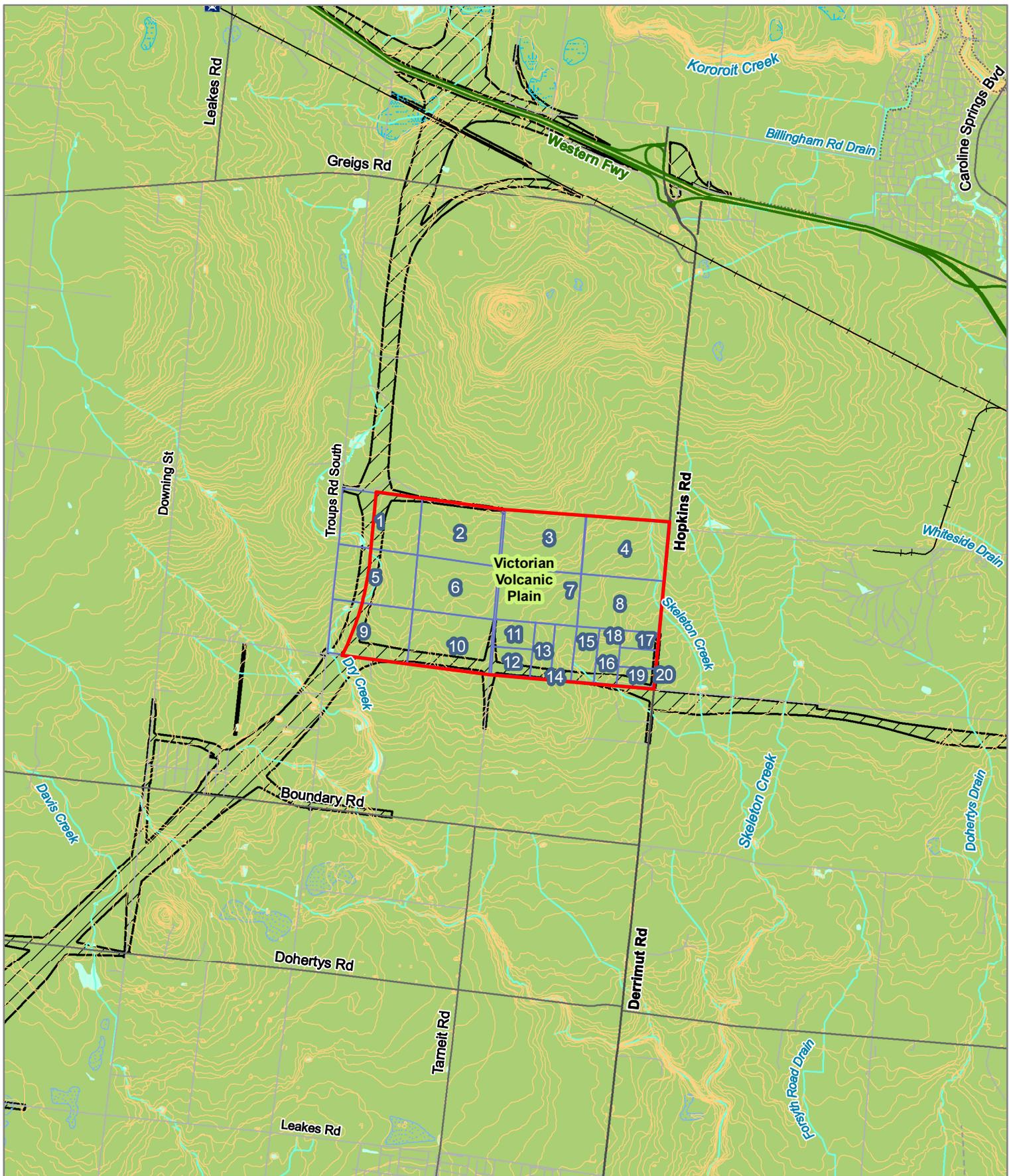
- precinct areas
- power easement
- APA gas buffer (red indicates pipelines)
- biodiversity
- drainage zones
- landscape values
- waterways / waterbodies
- business
- Industrial
- business with residential
- freeways
- omr
- railway reserve (melbourne-ballarat)
- PAO
- future urban
- specialised town centre



Local Government: Shire of Melton
 25k Mapsheet: Truganina 7822-3-1
 Coordinate System: MGA Zone 55 (GDA94)
 Map Scale: 1:17,000

VicMap Data: The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.

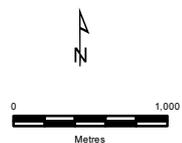




Map 4
Relevant Geographic Region
Aboriginal Heritage Impact Assessment: Tarnet Plains Precinct Structure Plan (PSP 1085)

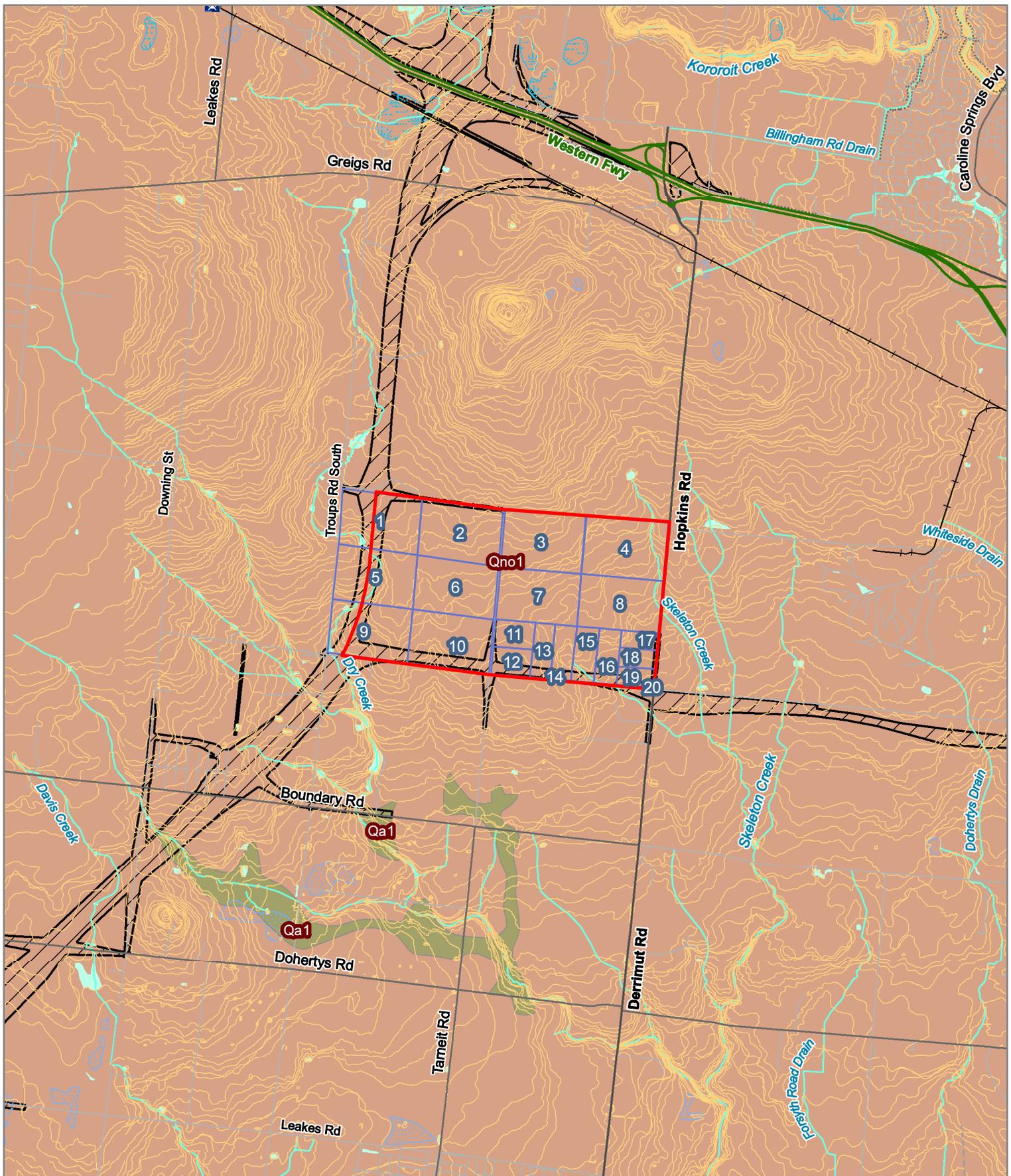
- Legend**
- Study Area
 - Contour (1m)
 - Bioregions**
 - Victorian Volcanic Plain

17 = MPA property number



Local Government: Shire of Melton
 25k Mapsheet: Truganina 7822-3-1
 Coordinate System: MGA Zone 55 (GDA94)
 Map Scale: 1:50,000

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Map 5
Relevant Geology
 Aboriginal Heritage Impact Assessment: Tarnett Plains Precinct Structure Plan (PSP 1085)

Legend

- Study Area
- Contour (1m)

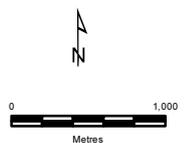
Geology

- Qa1 - Unnamed alluvium, Fluvial: alluvium, gravel, sand, silt (Quaternary (Holocene) to Quaternary (Holocene) in age)
- Qno1 - Unnamed sheetflow basalt, Basalt, minor scoria and ash: tholeiitic to alkaline (Quaternary (Pleistocene) to Neogene (Miocene) in age)

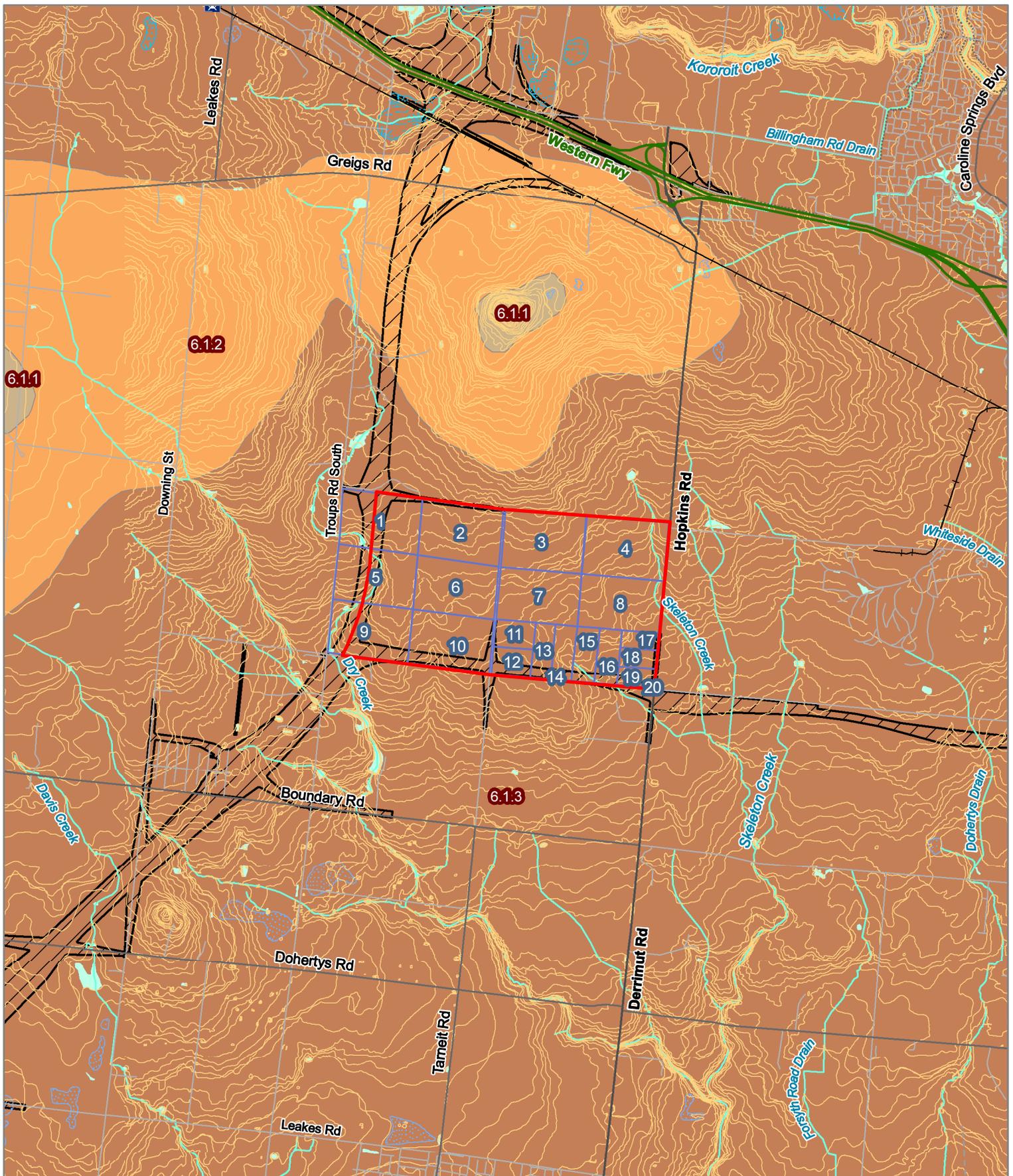
17 = MPA property number



Local Government: Shire of Melton
 25k Mapsheet: Truganina 7822-3-1
 Coordinate System: MGA Zone 55 (GDA94)
 Map Scale: 1:50,000



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Map 6
Relevant Geomorphology
 Aboriginal Heritage Impact
 Assessment: Tarnet Plains
 Precinct Structure Plan (PSP
 1085)

Legend

- Study Area
- Contour (1m)

Geomorphological Units

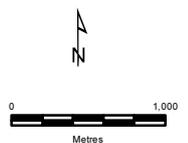
Western Plains

- 6.1.1 Eruption points; maars, scoria cones and lava shields, including associated ash and scoria deposits
- 6.1.2 Stony rises
- 6.1.3 Plains with poorly developed drainage and shallow regolith

17 = MPA property number



Local Government: Shire of Melton
 25k Mapsheet: Truganina 7822-3-1
 Coordinate System: MGA Zone 55 (GDA94)
 Map Scale: 1:50,000





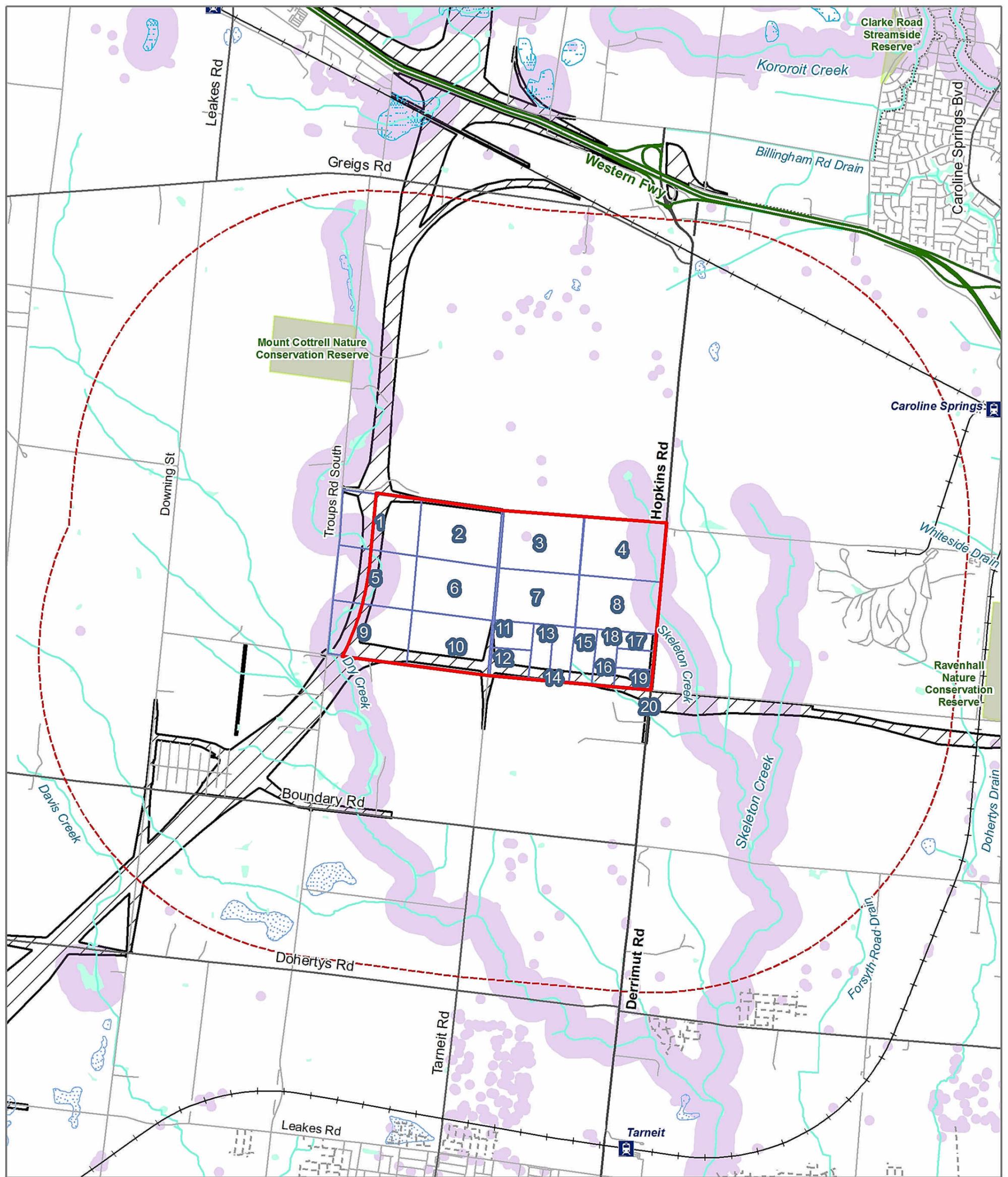
Map 7
Pre 1750 Ecological Vegetation Classes
Aboriginal Heritage Impact Assessment: Tarneit Plains Precinct Structure Plan (PSP 1085)

- Legend**
- Study Area
 - Ecological Vegetation Classes (pre 1750)**
 - Creekline Grassy Woodland
 - Lignum Swamp
 - Plains Grassland
 - Plains Grassy Wetland



Local Government: Shire of Melton
 25k Mapsheet: Truganina 7822-3-1
 Coordinate System: MGA Zone 55 (GDA94)
 Map Scale: 1:50,000

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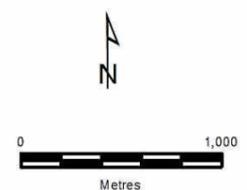


Map 8
Previously Recorded Aboriginal Places in and around the Study Area
Aboriginal Heritage Impact Assessment: Tarneit Plains Precinct Structure Plan (PSP 1085)

- Legend**
- Study Area
 - Search buffer (3km)
 - Areas of Cultural Heritage Sensitivity



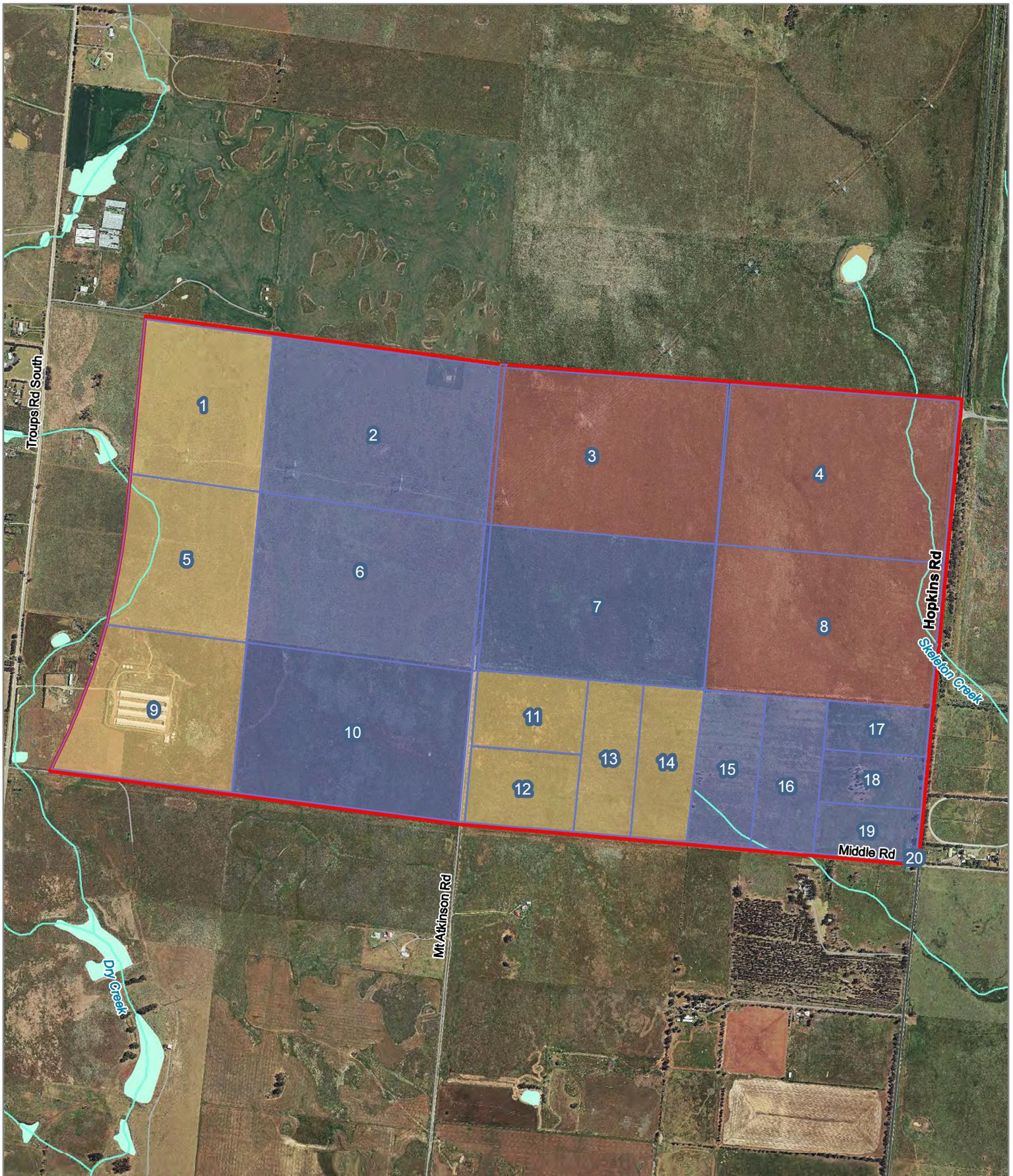
Local Government: Shire of Melton
 25k Mapsheet: Truganina 7822-3-1
 Coordinate System: MGA Zone 55 (GDA94)
 Map Scale: 1:50,000



VicMap Data: The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.



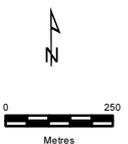
17 = MPA property number



Map 9
Properties Surveyed
 Aboriginal Heritage Impact
 Assessment: Tarneit Plains
 Precinct Structure Plan (PSP
 1085)

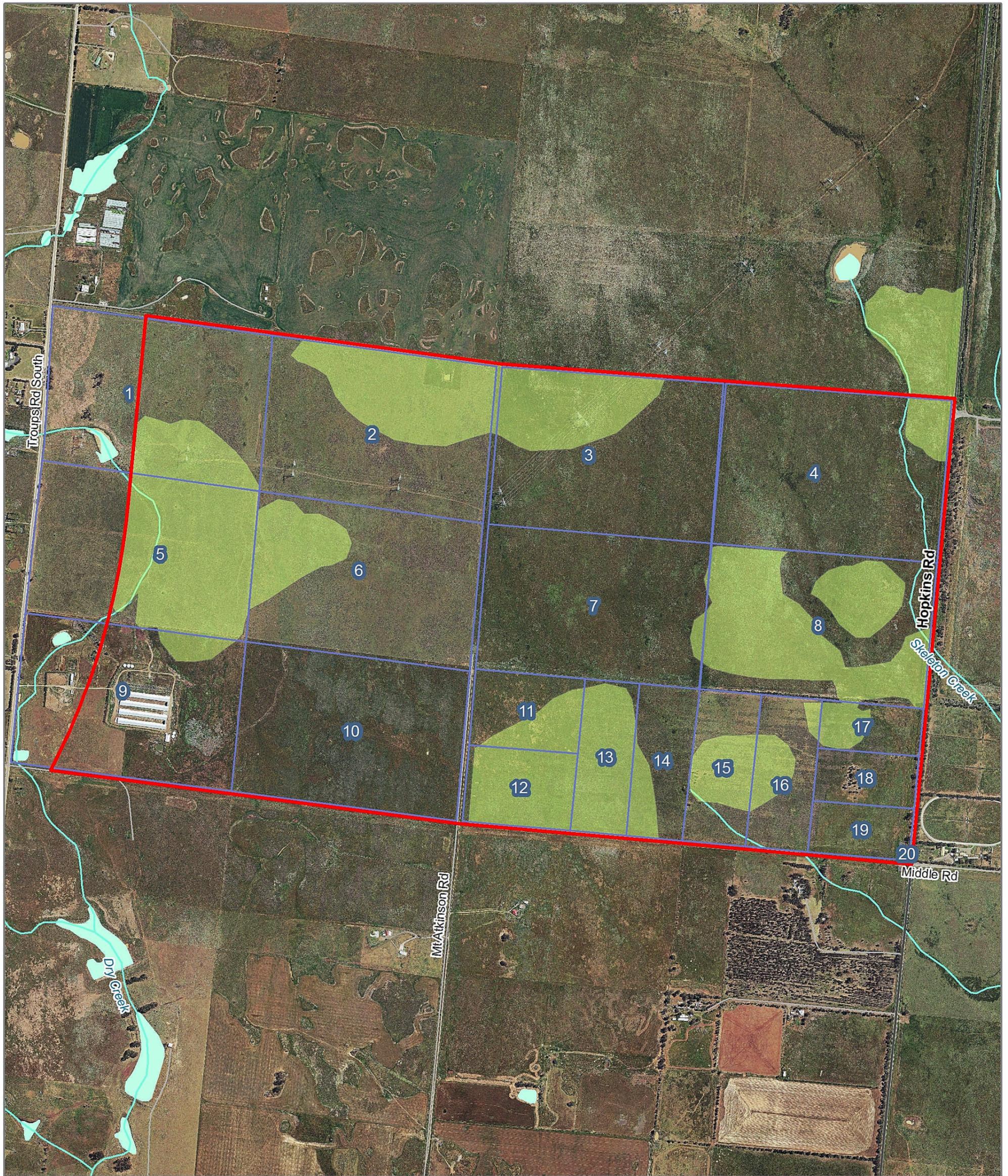
Legend

- Study Area
- Property boundaries (with MPA property number)**
- Pedestrian Survey
- Pedestrian and Vehicular Survey
- Visual Survey Only



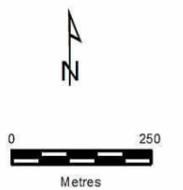
Local Government: Shire of Melton
 25k Mapsheet: Truganina 7822-3-1
 Coordinate System: MGA Zone 55 (GDA94)
 Map Scale: 1:18,000

VicMap Data: The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.



Map 10
Overview - Results of Survey
 Aboriginal Heritage Impact
 Assessment: Tarneit Plains
 Precinct Structure Plan (PSP
 1085)

Legend
 Study
Areas of archaeological potential identified by the survey
 Moderate potential

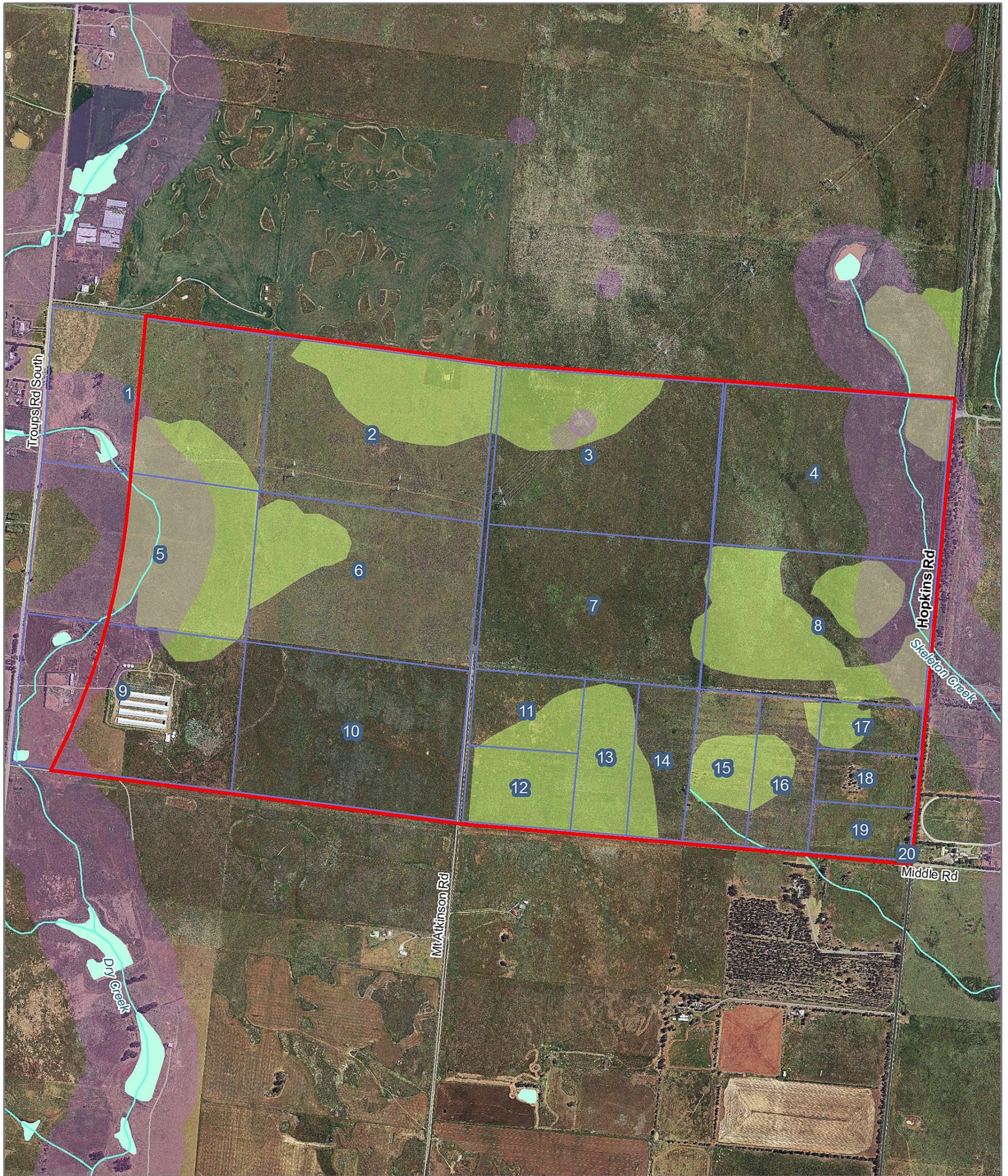


Local Government: Shire of Melton
 25k Mapsheet: Truganina 7822-3-1
 Coordinate System: MGA Zone 55 (GDA94)
 Map Scale: 1:18,000

VicMap Data: The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.

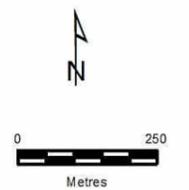


17 = MPA property number



Map 12
Overview of All Sites and Areas of Sensitivity in the Area following Results of Survey
Aboriginal Heritage Impact Assessment: Tarneit Plains Precinct Structure Plan (PSP 1085)

- Legend**
- Study Area
 - Area of moderate Aboriginal Cultural Heritage Likelihood
 - Areas of Cultural Heritage Sensitivity

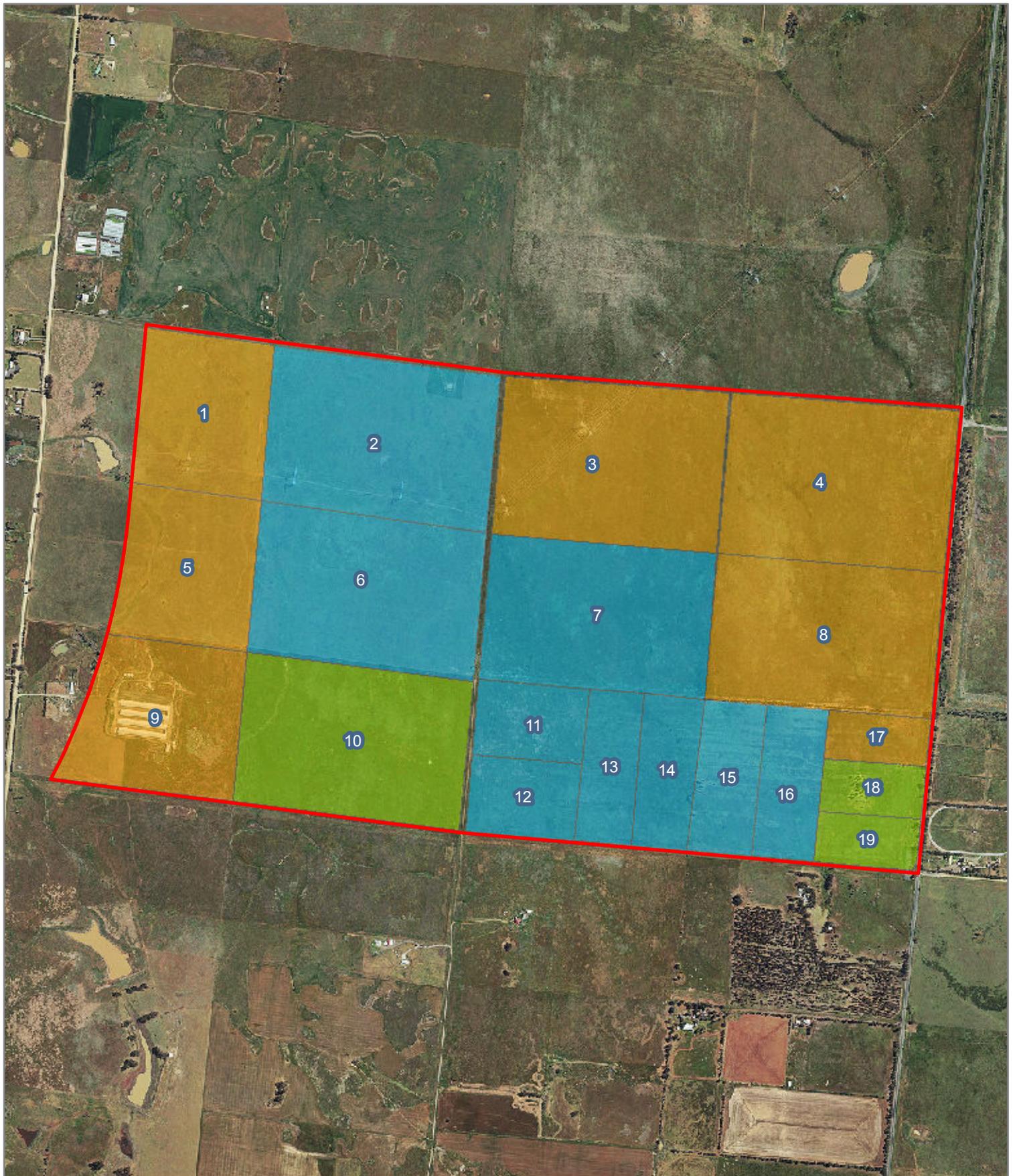


Local Government: Shire of Melton
 25k Mapsheet: Truganina 7822-3-1
 Coordinate System: MGA Zone 55 (GDA94)
 Map Scale: 1:18,000

VicMap Data: The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.



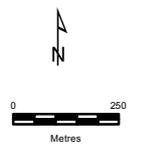
17 = MPA property number



Map 13
Future CHMP Requirements
Aboriginal Heritage Impact Assessment: Tarneit Plains Precinct Structure Plan (PSP 1085)

Legend

- Study Area
- Property boundaries (with MPA property number)**
- Mandatory CHMP Required
- Voluntary CHMP Recommended
- Unlikely to Require Further Assessment



The accuracy or completeness of the information provided in this map is not guaranteed. The State of Victoria shall bear no responsibility for any errors, omissions or defects in the information. Coordinate System: MGA Zone 55 (GDA94) Map Scale: 1:18,000

APPENDICES

Appendix 1: Heritage Legislation

A1.1 Victorian *Aboriginal Heritage Act 2006*

The *Aboriginal Heritage Act 2006* protects Aboriginal cultural heritage in Victoria. A key part of the legislation is that Cultural Heritage Management Plans (CHMPs) are required to be prepared by Sponsors (the developer) and qualified Cultural Heritage Advisors in accordance with the *Aboriginal Heritage Act 2006* and the accompanying *Aboriginal Heritage Regulations 2007*. A CHMP is the assessment of an area (known as an 'activity area') for Aboriginal cultural heritage values, the results of which form a report (the CHMP) which details the methodology of the assessment and sets out management recommendations and contingency measures to be undertaken before, during and after an activity (development) to manage and protect any Aboriginal cultural heritage present within the area examined.

The preparation of a CHMP is mandatory under the following circumstances:

- If the *Aboriginal Heritage Regulations 2007* require a CHMP to be prepared (s. 47);
- If the Minister of Aboriginal Affairs Victoria requires a CHMP to be prepared (s. 48); or
- If an Environmental Impact Statement (EIS) is required by the *Environment Effects Act 1978* (s. 49).

The *Aboriginal Heritage Regulations 2007* require a CHMP to be prepared:

- If all or part of the proposed activity is a 'high impact activity'; and
- If all or part of the activity area is an area of 'cultural heritage sensitivity'; and
- If all or part of the activity area has not been subject to 'significant ground disturbance'.

The preparation of a CHMP can also be undertaken voluntarily. Having an approved CHMP in place can reduce risk for a project during the construction phase by ensuring there are no substantial delays if sites happen to be found. Monitoring construction works is also rarely required if an approved CHMP is in place.

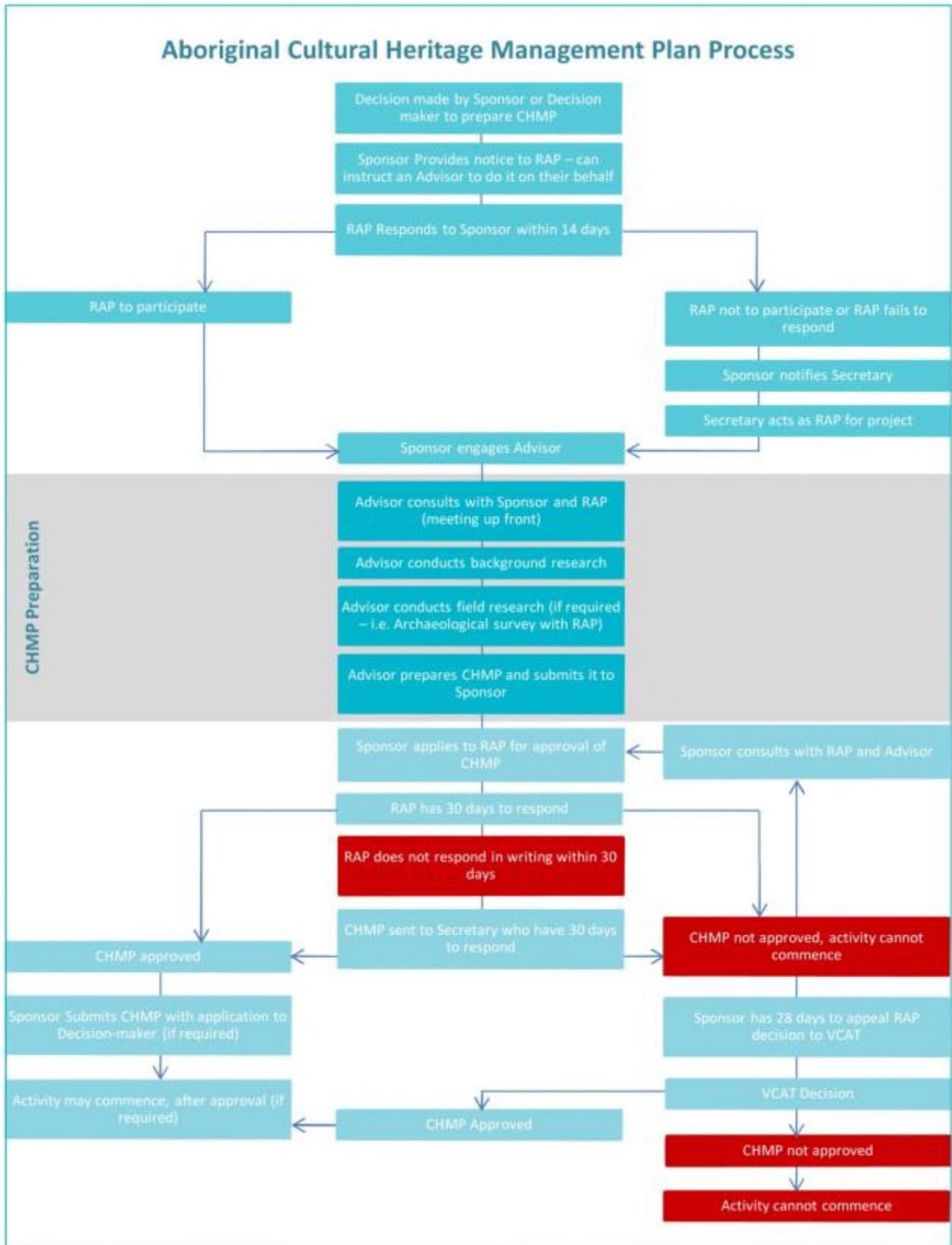
Approval of a CHMP is the responsibility of the Registered Aboriginal Party who evaluates the CHMP and then it is lodged with the Secretary of the Department of Planning and Community Development (DPCD) to take effect or, the Secretary of the DPCD (OAAV).⁶ They will be examining the CHMPs in detail with key points including:

- Addressing whether harm to heritage can be avoided or minimised;
- All assessments (including test excavations) must be completed before management decisions are formulated; and
- Survey and excavation must be in accordance with proper archaeological practice and supervised by a person appropriately qualified in archaeology.

There are three types of CHMPs that may be prepared (*The Guide to preparing a CHMP 2010*). These are:

- Desktop; Standard; and Complex.

⁶ In 2013, The DPCD was abolished and OAAV was transferred to the Department of the Premier and Cabinet (DPC). However the wording within the Act still retains reference to the Secretary of DPCD



A desktop CHMP is a literature review. If the results of the desktop show it is reasonably possible that Aboriginal cultural heritage could be present in the activity area, a standard assessment will be required.

A standard assessment involves a literature review and a ground survey of the activity area. Where the results of ground survey undertaken during a standard assessment have identified Aboriginal cultural heritage within the activity area, soil and sediment testing, using an auger no larger than 12 cm in diameter, may be used to assist in defining the nature and extent of the identified Aboriginal cultural heritage (Regulation 59[4]).

Where the results of ground survey undertaken during a standard assessment have identified Aboriginal cultural heritage within the activity area or areas which have the potential to contain Aboriginal cultural heritage subsurface, a complex assessment will be required. A complex assessment involves a literature review, a ground survey, and subsurface testing. Subsurface testing is the disturbance of all or part of the activity area or excavation of all or part of the activity area to uncover or discover evidence of Aboriginal cultural heritage (Regulation 62[1]).

It is strongly advised that for further information relating to heritage management (e.g. audits, stop orders, inspectors, forms, evaluation fees, status of RAPs and penalties for breaching the Act) Sponsors should access the OAAV website (<http://www.aboriginalaffairs.vic.gov.au/>).

The flow chart above also assists in explaining the process relating to CHMPs.

A1.2 Commonwealth Native Title Act 1993

Native Title describes the rights and interests of Aboriginal and Torres Strait Islander people in land and waters, according to their traditional laws and customs. In Australia, Aboriginal and Torres Strait Islander people's rights and interests in land were recognised in 1992 when the High Court delivered its historic judgment in the case of *Mabo v the State of Queensland*. This decision overturned the legal fiction that Australia upon colonisation was terra nullius (land belonging to no-one). It recognised for the first time that Indigenous Australians may continue to hold native title.

Native Title rights may include the possession, use and occupation of traditional country. In some areas, native title may be a right of access to the area. It can also be the right for native title holders to participate in decisions about how others use their traditional land and waters. Although the content of native title is to be determined according to the traditional laws and customs of the title holders, there are some common characteristics. It may be possessed by a community, group, or individual depending on the content of the traditional laws and customs. It is inalienable (that is, it cannot be sold or transferred) other than by surrender to the Crown or pursuant to traditional laws and customs. Native Title is a legal right that can be protected, where appropriate, by legal action.

Native Title may exist in areas where it has not been extinguished (removed) by an act of government. It will apply to Crown land but not to freehold land. It may exist in areas such as:

- Vacant (or unallocated) Crown land;
- Forests and beaches;
- National parks and public reserves;

- Some types of pastoral leases;
- Land held by government agencies;
- Land held for Aboriginal communities;
- Any other public or Crown lands; and/or
- Oceans, seas, reefs, lakes, rivers, creeks, swamps and other waters that are not privately owned.

Native Title cannot take away anyone else's valid rights, including owning a home, holding a pastoral lease or having a mining lease. Where native title rights and the rights of another person conflict the rights of the other person always prevail. When the public has the right to access places such as parks, recreation reserves and beaches, this right cannot be taken away by Native Title. Native Title does not give Indigenous Australians the right to veto any project. It does mean, however, that everyone's rights and interests in land and waters have to be taken into account.

Indigenous people can apply to have their native title rights recognised by Australian law by filing a native title application (native title claim) with the Federal Court. Applications are required to pass a test to gain certain rights over the area covered in the application. The Native Title Tribunal (NNTT) was established to administer application processes. Once applications are registered, the NNTT will notify other people about the application and will invite them to become involved so all parties can try to reach an agreement that respects everyone's rights and interests. If the parties cannot agree, the NNTT refers the application to the Federal Court and the parties argue their cases before the Court.

As a common law right, native title may exist over areas of Crown land or waters, irrespective of whether there are any native title claims or determinations in the area. Native Title will therefore be a necessary consideration when Government is proposing or permitting any activity on or relating to Crown land that may affect native title⁷.

A1.3 Victorian *Planning and Environment Act 1987*

All municipalities in Victoria are covered by land use planning controls which are prepared and administered by State and local government authorities. The legislation governing such controls is the *Planning and Environment Act 1987*. Places of significance to a locality can be listed on a local planning scheme and protected by a Heritage Overlay (or other overlay where appropriate). Places of Aboriginal cultural heritage significance are not often included on local government planning schemes.

A1.4 Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides a national framework for the protection of heritage and the environment and the conservation of biodiversity. The EPBC Act is administered by the Australian Government Department of the Environment (DoE). The Australian Heritage Council assesses whether or not a nominated place is appropriate for listing on either the National or Commonwealth Heritage Lists and makes a recommendation to the Minister on that basis. The

⁷ The information in this section was taken from the Department of Sustainability and Environment, Fact Sheet on Native Title, 2008

Minister for the Environment, Water, Heritage and the Arts makes the final decision on listing. DoE also administers the Register of the National Estate.

The objectives of the EPBC Act are:

- To provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance;
- To promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources;
- To promote the conservation of biodiversity;
- To provide for the protection and conservation of heritage;
- To promote a cooperative approach to the protection and management of the environment involving governments, the community, land-holders and indigenous peoples;
- To assist in the cooperative implementation of australia's international environmental responsibilities;
- To recognise the role of indigenous people in the conservation and ecologically sustainable use of australia's biodiversity; and
- To promote the use of indigenous peoples' knowledge of biodiversity with the involvement of, and in cooperation with, the owners of the knowledge.

A1.5 Victorian Coroners Act 2008

The Victorian *Coroners Act 2008* requires the reporting of certain deaths and the investigation of certain deaths and fires in Victoria by coroners to contribute to the reduction of preventable deaths. Of most relevance to heritage is the requirement for any “reportable death” to be reported to the police (s. 12[1]). The *Coroners Act 2008* requires that the discovery of human remains in Victoria (s. 4[1]) of a person whose identity is unknown (s. 4[g]) must be reported to the police.

Appendix 2: Archaeological Survey Attributes

ABORIGINAL CULTURAL HERITAGE PLACE ASSESSMENT: ARCHAEOLOGICAL SURVEY AND EXCAVATION ATTRIBUTES FORM

Project Name: Tarneit Plains Precinct Structure Plan (PSP 1085).

Author/Consultant: Terence MacManus

Cultural Heritage Management Plan #: N/A

Cultural Heritage Permit #: N/A

Survey Attributes

Survey Date: 20.06.2014	Ground Surface Visibility: Variable
Actual Survey Coverage: 40.9%	Effective Survey Coverage: 5.6%
Survey Spacing (m): Variable	Transect Width (m): Variable Number in Crew: 3
Landform: Undulating Plain and Stony Rises	Vegetation: Exotic and native grasses
Disturbance: Variable	

Survey Method

- Pedestrian
 Remote sensing (specify)

Survey Design

- Opportunistic
 Random
 Systematic
 Stratified
 Other

Sample

- Area
 Transect
 Locality
 Haphazard
 Other

Survey Type

- Surface

Appendix 3: Site Gazetteer

Table A3.1: Site Gazetteer

Site Name & Number	Primary Grid Coordinate (GDA 94, Zone 55)	Site Type	Landform	Cultural Heritage Significance
VAHR 7822-1545 (Mt. Atkinson AS 4)	E 596075, N 5816379	Artefact Scatter	Undulating Plain	Low

Appendix 4: Original VAHR 7822-1545 (Mt. Atkinson AS 4) site card and Place Inspection Form



VICTORIAN ABORIGINAL SITE RECORD

SITE NAME: MT ATKINSON AS4.

SITE NUMBER: 7822-1545

Office Use Only

LOCATION

1:100,000 map name and number

MELBOURNE

Grid Coordinates: E 295963 N 5816195

Datum AGD 66 GDA 94 Zone 54 55
 GPS 1:25,000 map sheet 1:100,000 quadrant

4	1
3	2

 Other 1:100,000 map sheet

1:25,000 map sheet number: 7822-3-1

Additional maps: _____
 Aerial photo: _____

ACCESS

Access Requirements

- 4WD required
- 4WD required if wet
- >30 minute walk from nearest road
- Accessible with non-4WD vehicle
- Other _____
- No difficulties

Access Restrictions

- Contact Aboriginal community
- Contact heritage officer
- Contact owner
- Contact land manager
- Guide required
- Guide desirable
- Other _____
- No restrictions known

LAND TENURE

Land Status: Crown Private

Tenure type:

- Commonwealth Company
- State government Individual
- Parks Victoria Catchment authority/Water board (Specify)
- Local government
- Road reserve Other _____

Land owner/manager

Name Faye + Mick Craig

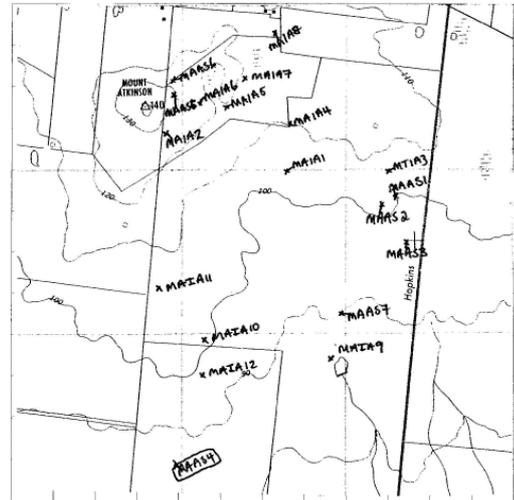
Address 575 Hogan Rd

Wentworth

State VIC Postcode 3030

Information from land owner/manager about the site (if any)

LOCATION MAP (Copy of 1:25,000 map, fully labelled)



DESCRIBE HOW TO LOCATE SITE

(Start at known point - eg nearest town)

Follow Western Hwy from Melbourne approx. 25km take Wimmera exit to Hopkins Rd - follow for 1km and access property through gate on right. From gate, follow vehicle track south for approx 2.5km. Artefacts are eroding along eastern length of track running beneath the large over head power lines.

ENVIRONMENTAL SETTING

Landforms

- Inland (>1km from present coast) Coastal (<1km from present coast)
- Mountainous Hilly Undulating Lowland plain Highland plain
- Wind formed Coast Volcanic Karst River/lake formed
- Other _____

- Gently inclined Steep Depression Lower slope
- Moderately inclined Cliffed Flat ground Middle slope
- Aspect _____ Upper slope
- Crest

- Gorge Escarpment/Cliff Floodplain Plain (above flood level)
- Dune Gully/Channel Mudflat/Mangrove Beach
- Lunette Lake shore Sandsheet/Drift Stony rise
- Plateau Mountain Rock platform Unsure
- Levee/Bank

Water

- Fresh No local source Temporary
- Salt/Brackish Permanent
- Lakes/Swamps Rivers/Creeks
- Coastal Highly localised (springs, soaks, etc)

Distance to fresh water 1,000 m

Current Land Use

- Agricultural Alpine park Cleared Cultivated
- Developed Forestry Grazed Parkland
- Plantation Recreation Reserve Undeveloped
- Urban Other _____

ADDITIONAL INFORMATION

located less than 1km south of Koroit Creek.

Soils

- Gravel Sand Silt Clay
- Loose/Soft Firm Hard/Cemented
- Well drained/Dry Poorly drained/Wet Liable to flooding

Vegetation

- No vegetation/Bare land Native vegetation Modified native vegetation
- Agricultural Urban

Ground surface exposure 80 % (Percentage of ground surface visible).

- Forest Heath Native grassland
- Woodland Scrub Agricultural pasture
- Tall Low Open Closed

- Wattle Banksia Rainforest
- Cypress pine Sheoak
- Salt tolerant plants Eucalypt
- Heath Tea tree
- Mallee Mangrove
- Paper bark/Honey myrtle Beech

Threats to Site

- Development: Imminent Likely Unlikely Already occurred

Office Use Only
 MULTI-COMPONENT SINGLE COMPONENT

NUMBER AND TYPE OF COMPONENT FORMS ATTACHED TO MAIN FORM

<input type="checkbox"/> Aboriginal Place Consultation	<input type="checkbox"/> Artefact Scatter	<input type="checkbox"/> Quarry	<input type="checkbox"/> Shell Midden
<input type="checkbox"/> Aboriginal Place Feature	<input type="checkbox"/> Earth Feature	<input type="checkbox"/> Rock Art	<input type="checkbox"/> Stone Feature
<input type="checkbox"/> Artefact Collection	<input type="checkbox"/> Human Remains	<input type="checkbox"/> Scarred Tree	

Total Number of Components _____
 Total number of Record Forms (including this form) _____

RECORDER INFORMATION

Name MELANIE THOMSON
 Business BIOSIS RESEARCH
 Address 322 BAY ST
PORT MELBOURNE
 State VIC Post Code 3207
 Phone: (03) 9646 9499
 Fax: (03) 9646 9242
 E-mail: mthomson@biosisresearch.com.au

RECORDER TYPE

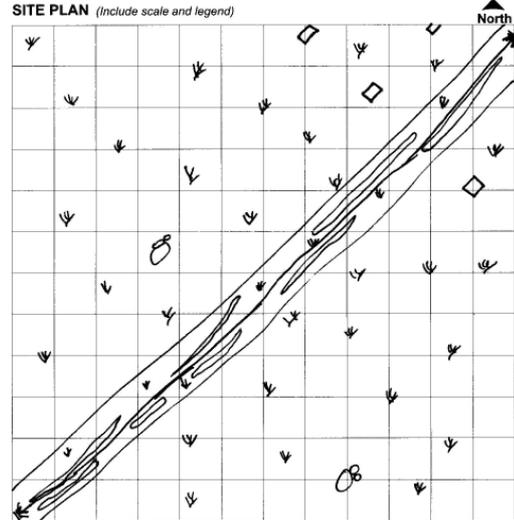
- Consultant Researcher
 Cultural Officer Student
 Aboriginal community Aboriginal Affairs Victoria staff
 Other _____

SITE PLAN (Include scale and legend)

LEGEND

- vehicle track
- track
- overland
- power lines
- area of exposure on track
- grassed
- basalt boulders
- area of exposed artefacts along track

0 10 20



DATE RECORDED

14 - 08 - 2003

INFORMATION FROM THE RELEVANT ABORIGINAL COMMUNITY ABOUT THE SITE (If any - identify informant as appropriate)

Community organisation _____
 Informant's Name _____
 Address _____
 State _____ Postcode _____
 Phone: () _____
 Fax: () _____
 E-mail: _____

CONDITION ASSESSMENT

(Overall condition of heritage site and surrounds)

- Excellent (80-100% intact) Area is: Stable None
 Good (60-80% intact)
 Fair (40-60% intact) Eroding Native animal
 Poor (20-40% intact) Aggrading Stock rubbing
 Very poor (<20% intact)
 Destroyed

IMPACTS AFFECTING HERITAGE SITE

- None
 Native animal Vehicular Gully erosion Water
 Stock rubbing Pedestrian Sheet erosion Wind
 Overgrazing Visitation Exfoliation
 Stock trampling Vandalism Deflation
 Rabbit damage Scientific investigation Landslip
 Other burrow or digging Moss/Lichen Fire
 Other _____

SUMMARY SITE DESCRIPTION AND MANAGEMENT RECOMMENDATIONS (If any)

Site located on track running beneath over head power lines.

Office Use Only

DOCUMENTATION

PHOTOGRAPHED Yes No PUBLISHED Yes No References _____
 PHOTOS HELD AT AAV Yes No
 MAPPED Yes No DATED Yes No Dates _____
 EXCAVATED Yes No (include method, lab number, age determination and error, and material)
 COLLECTED Yes No

(If yes, complete an Artefact Collection Component Form)

- Negatives
 Slides
 Heritage Registry Files
 Archives (in secondary storage)

AAV File Number 7822-1545
 Report Numbers _____

CURRENT MANAGEMENT

- None known Management plan completed Monitoring program
 Informal Management works implemented
 Other _____

RETURN TO: The Heritage Registrar, Aboriginal Affairs Victoria, PO Box 515 EAST MELBOURNE VIC 3002

June 2003



**VICTORIAN ABORIGINAL
SITE RECORD**

ARTEFACT SCATTER

SITE NAME MT ATKINSON AS4 SITE NUMBER 7822-1545

Grid Coordinates E 295963 N 5816195 Datum AGD 66 GDA 94

Primary Component Secondary Component

Context Open Subsurface Overhang Cave

Dimensions of Component
Length 500 m Width 5 m Depth _____ m

Ground Surface Exposure 100 % (Percentage of ground surface visible)

Area of Scatter Examined All Centre NE NW SW SE m²

Average density 2 m² Maximum density _____ m² Minimum density _____ m²

Number of Artefacts

Estimated number 10s 100s 1000s 10000s Counted number _____

COMPOSITION OF SCATTER

The following tables should be used to indicate the general composition of artefact scatters. Include a key for any abbreviations used.
 "Industry" refers to the method of production used in manufacture (i.e. battered, ground, pecked, flaked, etc).
 "Technological Class" refers to reduction type (e.g. flake core, core, retouched flake etc).
 "Artefact Type" refers to the typology (e.g. thumbnail scraper, backed blade etc).

Lithic Artefacts (Include flaked glass and ceramic, and grindstones).

Number	Raw Material	Industry	Technological Class	Artefact Type	Comments
1	QUARTZ	FLAKED	UNRETACHED FLAKE	FLAKE	
1	SILICATE	FLAKED	" "	FLAKE	
1	SILICATE	FLAKED	" "	FLAKE	
1	QUARTZ	FLAKED	" "	WASTE	
4	SILICATE	FLAKED	" "	WASTE	
2	QUARTZ	FLAKED	DEBRIS		

Other Cultural Material (Include non-lithic artefacts and faunal remains other than shell)

Number	Material	Artefact Type	Comments

RETURN TO: The Heritage Registrar, Aboriginal Affairs Victoria, PO Box 515 EAST MELBOURNE VIC 3002

July 2003

VICTORIAN ABORIGINAL PLACE

PLACE INSPECTION FORM

HERITAGE REGISTER NAME Mt. Atkinson AS 4

HERITAGE REGISTER NUMBER

7	8	2	2
---	---	---	---

 -

0	5	4	5
---	---	---	---

COMPONENT Artefact Scatter

Updated Primary Grid Coordinates* E

2	9	6	0	7	5
---	---	---	---	---	---

 N

5	8	1	6	3	7	9
---	---	---	---	---	---	---

*All grid coordinates must be presented with reference to the MGA94 datum Zone 54 Zone 55

Please note on location map/context and extent plans where Primary Grid Coordinate reading was taken

LAND STATUS: Crown Private

DATE OF INSPECTION

2	0
---	---

 -

0	6
---	---

 -

2	0	1	4
---	---	---	---

RELEVANT CULTURAL HERITAGE MANAGEMENT PLAN NUMBER (IF ANY)

N	/	A	
---	---	---	--

If this Aboriginal heritage place was previously subject to a CHMP - state the number of that plan

INSPECTION CONDUCTED BY:

Name Terence MacManus
Business Ecology and Heritage Partners
Address 230 Latrobe Terrace, Geelong

State Vic Post Code 3218
Phone: (03) 9377 0120
Fax: () _____
E-mail: tmacmanus@ehpartners.com.au

LAND OWNER/MANAGER

Name Peter Congerton (manager)
Business Easement management Group SPI Powernet Pty Ltd
Address Level 3 / 600 Kingsway, Miranda

State NSW Post Code 2228
Phone: (02) 9531 2051
Fax: () _____
E-mail: _____

INDIVIDUALS PRESENT DURING INSPECTION

Name	Function	Organisation
<u>Shane Clarke</u>	<u>Aboriginal representative</u>	<u>Bunurong Land Council</u>
<u>Mike Haley</u>	<u>Aboriginal representative</u>	<u>Boon Wurrung Foundation</u>
_____	_____	_____
_____	_____	_____

PRESENT CONDITION ASSESSMENT

(Overall condition of heritage site and surrounds)

Excellent (80-100% intact) Fair (40-60% intact) Very poor (<20% intact) Destroyed **Area is:** Stable Eroding Aggrading
 Good (60-80% intact) Poor (20-40% intact)

IMPACTS AFFECTING SITE

Actual: vehicular impact during use of vehicle track upon which site is located, and weathering of track.

Potential: Future residential development of the region.

MANAGEMENT RECOMMENDATIONS / ACTIONS TAKEN

No action taken at this time - management recommendations of the assessment during which this site was revisited state that a CHMP will be required if any future high-impact activities are going to take place which may impact the site.

Reinspection of the site identified one new Aboriginal artefact - a quartzite core fragment which was identified on the edge of the vehicle track, at the interphase of the track and the adjacent grass.

Site Photographed Material Collected Other _____

RETURN TO: The Heritage Registrar, Aboriginal Affairs Victoria, PO Box 2392 MELBOURNE VIC 3001

Appendix 5: Glossary

Items highlighted in *bold italics* in the definition are defined elsewhere in the glossary.

Acronym	Description
Aboriginal Cultural Heritage Likelihood	An area assessed by a Cultural Heritage Advisor as having potential for containing either surface or subsurface Aboriginal archaeological deposits. This term is used in this report to differentiate between <i>legislated areas of cultural heritage sensitivity</i> and areas considered by an archaeologist to be sensitive.
Aboriginal Site	A location containing Aboriginal cultural heritage, e.g. <i>Artefact scatter, isolated artefact, scarred tree, shell midden</i> , whether or not the site is registered in the VAHR, cf. <i>Aboriginal cultural heritage place</i> .
Angular Fragment	An artefact which has technologically diagnostic features but has no discernible ventral or dorsal surface and hence is unidentifiable as either a flake or a core
Area Of Cultural Heritage Sensitivity	An area specified as an area of cultural heritage sensitivity in Division 3 or Division 4 of Part 2 of the <i>Aboriginal Heritage Regulations 2007</i> .
Artefact Scatter	Stone artefact scatters consist of more than one stone artefact. Activities associated with this site type include stone tool production, hunting and gathering or domestic sites associated with campsites. Stone artefacts may be flakes of stone, cores (flakes are removed from the stone cores) or tools. Some scatters may also contain other material such as charcoal, bone, shell and ochre.
Assemblage	The name given to encompass the entire collection of artefacts recovered by archaeologists, invariably classified into diagnostic items used to describe the material culture.
Backed	When one margin of a flake is retouched at a steep angle, and that margin is opposite a sharp edge. The steep margin is formed by bi-polar or hammer and anvil knapping. Also used to describe artefacts with backing, e.g. Backed artefact.
Backed Artefact	A class of artefact employed by archaeologists to describe artefacts which are backed. Sometimes divided into elouera, bondi point, microlith and geometric.
Bipolar	A flaking technique where the object to be reduced is rested on an anvil and struck. This process is identified by flakes with platform angles close to 90 degrees as well as apparent initiation from both ends. Some crushing may also be visible.
Burials	Aboriginal communities strongly associate burial sites with a connection to country and are opposed to disturbance of burials or their associated sites. General considerations for the presence of burial sites are the suitability of Subsurface deposits for digging purposes; with soft soil and sand being the most likely. They are more likely near water courses or in dunes near old lake beds or near the coast. Burials are often located near other sites such as oven mounds, <i>shell middens</i> or <i>artefact scatters</i> .
Chert	A cryptocrystalline siliceous sedimentary stone.
CHMP	Cultural Heritage Management Plan . A plan prepared under the <i>Aboriginal Heritage Act 2006</i> .
Core	An artefact which has technologically diagnostic features. Generally this class of artefact has only negative scars from flake removal, and thus no ventral surface, however, for the purposes of this research core has been employed to encompass those artefacts which were technically flakes but served the function of a core (ie. The provider of flakes).
Cortex	The weathered outer portion of a stone, often somewhat discoloured and coarser compared with the unweathered raw material.
Decortications	The process of removing cortex from a stone (generally by flaking).

Acronym	Description
Deep Ripping	The ploughing of soil using a ripper or subsoil cultivation tool to a depth of 60 cm or more (see <i>significant ground disturbance</i>).
DEPI	Department of Environment and Primary Industries. The Victorian State Government department responsible for management of natural heritage in Victoria.
DPC	Department of the Premier and Cabinet. The Victorian State Government department, of which OAAV is a part, responsible for management of Aboriginal cultural heritage in Victoria.
DoE	Department of the Environment. The Commonwealth Government department responsible for management of heritage sites on the World, National or Commonwealth Heritage lists.
DTPLI	Department of Transport, Planning and Local Infrastructure. The Victorian State Government department, of which HV is a part, responsible for management of historical heritage in Victoria.
Flake	An artefact which has technologically diagnostic features and a ventral surface.
High Impact Activity	An activity specified as a high impact activity in Division 5 of Part 2 of the <i>Aboriginal Heritage Regulations 2007</i> .
HV	Heritage Victoria. A division of DTPLI responsible for management of historical heritage in Victoria.
Isolated Finds Or Artefacts	Isolated finds refer to a single artefact. These artefacts may have been dropped or discarded by its owner once it was of no use. This site type can also be indicative of further subsurface archaeological deposits. These site types can be found anywhere within the landscape, however, they are more likely to occur within contexts with the same favourable characteristics for stone artefact scatter sites.
LDAD	Low Density Artefact Distribution. A category of Aboriginal Place type in the VAHR comprising single stone artefacts and/or distributions of multiple stone artefacts at concentrations of less than 10 artefacts in a 10 x 10 m area.
Manuport	An object which has been carried by humans to the site.
OAAV	Office of Aboriginal Affairs Victoria. A division of DPC responsible for management of Aboriginal cultural heritage in Victoria.
Oriented Length	Dimension measured according to the following criteria: The length of the flake from the platform, at 90° to force indicators such as ring-crack, bulb of percussion, force ripples and striations, to the opposing end. Where there were an insufficient number of features present to take this measurement, such as when the flake was broken, this variable was not recorded (sometimes referred to as percussion length).
Oriented Thickness	Dimension measured at 90° and bisecting the oriented width dimension. This was done from the ventral surface to the dorsal surface (sometimes referred to as percussion thickness).
Oriented Width	Dimension measured at 90° and bisecting the oriented length dimension. This was done from one margin to the other. As this measurement and oriented thickness, both rely on oriented length, these were not recorded where the oriented length was not recorded (sometimes referred to as percussion width).
Procurement	The process of obtaining raw material for reduction.
Quarries	Stone quarries were used to procure the raw material for making stone tools. Quarries are rocky outcrops that usually have evidence of scars from flaking, crushing and battering the rock. There may be identifiable artefacts near or within the site such as unfinished tools, hammer stones, anvils and grinding stones.
Quartz	A crystalline form of silica.

Acronym	Description
RAP	Registered Aboriginal Party. An Aboriginal organisation with responsibilities relating to the management of Aboriginal cultural heritage for a specified area of Victoria under the <i>Aboriginal Heritage Act 2006</i> .
Raw Material	The kind of stone the artefacts were manufactured from.
Reduction	The process of removing stone flakes from another pieces of stone. Generally this is performed by striking (hard hammer percussion) one rock with another to remove a flake.
Registered Cultural Heritage Place	An Aboriginal site recorded in the <i>VAHR</i> , cf. Aboriginal site .
Retouch	Retouch is when a flake is removed after the manufacture of the original flake. This sequence can be observed when a flake scar is present and encroaches over the ventral surface and thus must have been made after the initial flake removal. Recorded whether retouch was absent or present on the artefact.
Rock Shelter	A concave area in a cliff where the cliff overhangs; or a concave area in a tor where the tor overhangs; or a shallow cave, where the height of the concave area is generally greater than its depth.
Scarred Trees	It is known that the wood and bark of trees have been used for a variety of purposes, such as carrying implements, shield or canoes. The removal of this raw material from a tree produces a 'scar'. The identification of a scar associated with aboriginal custom as opposed to natural scarring can be difficult. The scar should be of a certain size and shape to be identifiable with its product; the tree should also be mature in age, from a time that aboriginal people were still active in the area.
Significant Ground Disturbance	Disturbance of topsoil or surface rock layer of the ground or a waterway by machinery in the course of grading, excavating, digging, dredging or deep ripping , but does not include ploughing other than deep ripping .
Silcrete	A silicified sedimentary stone, often with fine inclusions or grains in a cryptocrystalline matrix. Because of the nature of the grains in silcrete (a hindrance in knapping/flaking predictability) the stone is sometimes heat treated. This exposure to heat can be identified by the presence of pot-lidding as well as a 'lustre' to the stone which is otherwise absent in the stones' natural state. Exposure to sufficient heat homogenises the stone matrix and improves the knapping (flake path) predictive potential (Crabtree & Butler 1964; Mandeville and Flenniken 1974; Purdy 1974; Domanski and Webb 1992; Hiscock 1993; Domanski <i>et al.</i> 1994). Similar to indurated mudstone, it has also been demonstrated that silcrete from the hunter valley often turns a red colour after being exposed to heat (Rowney 1992; Mercieca 2000).
Stone Arrangements	Stone arrangements are places where Aboriginal people have deliberately positioned stones to form shapes or patterns. They are often known to have ceremonial significance. They can be found where there are many boulders, such as volcanic areas and are often large in size, measuring over five metres in width.
Taphonomy	The study of the processes (both natural and cultural) which affect the deposition and preservation of both the artefacts and the site itself.
Technology	A form of artefact analysis which is based upon the knapping/ manufacturing process, commonly used to subsequently infer behaviour patterns, cultural-selection and responses to raw material or the environment.
Thumbnail scraper	A conceptual class of artefact employed to describe small rounded retouched flakes with steep margins (based on the classification by Mulvaney and Kamminga 1999).
VAHR	Victorian Aboriginal Heritage Register. A register of Aboriginal cultural heritage places maintained by OAAV .

Acronym	Description
VHI	Victorian Heritage Inventory. A register of places and objects in Victoria identified as historical archaeological sites, areas or relics, and all private collections of artefacts, maintained by HV . Sites listed on the VHI are not of State significance but are usually of regional or local significance. Listing on the VHR provides statutory protection for that a site, except in the case where a site has been “D-listed”.
VHR	Victorian Heritage Register. A register of the State’s most significant heritage places and objects, maintained by HV . Listing on the VHR provides statutory protection for that a site.

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