

Proposed Bunyip North Granite Quarry

Environment Effects Statement

Historic Heritage Existing Conditions



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This existing conditions report provides information on the current condition of the environment at this moment in time only, as per the report date.

An impact assessment will be undertaken as part of the EES process and made available for review upon exhibition.

Providing existing condition reports is not a mandatory requirement of the EES.

Feedback is welcome. Please contact the Project Manager:

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Disclaimer

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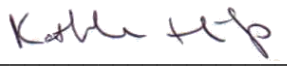
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Please note that all maps and plans in this report are prepared using Victorian Government Standard GDA94 MGA coordinates (Zone 55).

Executive Summary

This historic cultural heritage existing condition report has been prepared prior to the release of the impact assessment which will inform the EES. The EES is required to consider the project's potential environmental effects, inform the public and other stakeholders and enable a Minister's Assessment to inform decision makers. The study area for this report relates specifically to the land within the specified project area, however contextual information to inform the report has been drawn from the wider region.

Methodology for the Assessment

Desktop research undertaken for the historic cultural heritage assessment involved a review of relevant historical research compiled for the study area and the wider region. The following methodology was utilised to undertake this review:

- A search of relevant heritage registers, listings and databases, including the Victorian Heritage Register and Inventory, the Register of the National Trust, the Commonwealth Heritage Database and the Shire of Cardinia heritage overlay;
- A literature search, including historic aerial photography, to identify any land use history of relevance to the study area;
- Consultation with local community about historic associations with the property;
- A site survey to identify any historic places on the property; and
- Writing and production of an EES technical report, with information on any historic places impacted by the proposal and recommendations for mitigation of impacts where possible. The impact assessment and mitigation measures will be provided during the exhibition period.

Reporting standards were taken from Heritage Victoria's *Guidelines for Conducting Historical Archaeological Surveys* (2008).

Acronyms

CHMP – Cultural Heritage Management Plan
DEDJTR – Department of Economic Development, Jobs, Transport and Resources
EES – Environmental Effects Statement
EIIA – Extractive Industry Interest Area
EPBC Act – *Environment Protection and Biodiversity Conservation Act 1999*
EVC – Ecological Vegetation Class
GDA94 – Geocentric Datum of Australia 1994
MGA – Map Grid of Australia
MRSD – *Mineral Resources (Sustainable Development) Act 1990*
PE Act – *Planning and Environment Act 1987*
SEIIA – Stone Extraction and Extractive Industry Area
VHI – Victorian Heritage Inventory
VHR – Victorian Heritage Register

1.0 Introduction

1.1 Background to the EES

The Bunyip North Quarry Project was referred to the Minister for Planning to seek advice on the need for an Environment Effects Statement (EES) under the *Environment Effects Act 1978*.

On the 22 November, 2015 the Minister issued his decision that an EES is required for the project and issued procedures and requirements that are to apply to the EES.

The proposed Project is proposed to be located in Bunyip North, Victoria on land which is currently a greenfield site. The site has been identified as containing a suitable granite rock resource of a quality and volume to meet future market needs given that current accessible resources of Hanson are steadily heading towards depletion.

The proposed quarry site has been identified within a Stone Extraction and Extractive Industry Area (SEIIA) and a site of high importance for Melbourne's future growth. Many SEIIAs are becoming sterilised through urban growth and surrounding land uses however, the location of the subject site in Bunyip North, has the potential to provide a valuable resource to Victoria through its quality stone, close proximity to the Melbourne market and excellent access to the major road network.

1.1.1 Background to the Historic Heritage Study

Historic heritage is an important environmental issue in the Bunyip North area as the township and surrounding areas were established during the mid-nineteenth century and became one of the regional areas providing much needed resources for the development of early Melbourne. Little historic research has been undertaken in the area to date; therefore the potential for a greater understanding of activities associated with residents and industries is greater than for regions closer to Melbourne.

1.1.2 Purpose of this Report

The purpose of this existing conditions report is to present the results of the assessment of the historic heritage associated with Bunyip North Quarry and define performance requirements necessary to meet historic heritage quality objectives.

1.1.3 Study Objectives

The objectives of the historic heritage study were to:

- provide an overview of the potential for historic heritage to be present within the boundaries of the Bunyip North Quarry;
- document the location of any previously unidentified historic heritage that may be impacted by the construction of the quarry;

1.1.4 Scoping Requirements

The scoping requirements for the EES, set by the Minister for Planning specify the draft evaluation objectives and provide the context for the technical studies informing the EES.

The relevant evaluation objective is to avoid or minimise adverse effects on Aboriginal and historic cultural heritage values.

The requirements relevant to the historic heritage existing conditions assessment include the following:

- **Priorities for characterising the existing environment**
 - Identify and document any known and previously unidentified places and sites of historic cultural heritage significance within the study area and its vicinity, including any necessary investigations to supplement past studies, having regard to the heritage overlay of the Cardinia Planning Scheme and Heritage Victoria guidelines.

1.2 Project Overview

The Project is located in Bunyip North, Victoria on land which is currently utilised for grazing purposes. The site has been identified by Hanson as containing a granite rock resource of a quality and volume to meet future market needs given that Hanson's current accessible resources are steadily heading towards depletion.

DEDJTR has identified the site as being located within an Extractive Industry Interest Area (EIIA) within the Cardinia Shire. The EIIA designation is applied to land that has been identified as being likely to contain stone resources of sufficient quantity and quality to support a commercial extractive industry operation.

The purpose of the EIIA is to as stated on the Energy and Earth Resources webpage is to:

- 'provide a basis for the long term protection of stone resources from sterilisation by other land uses,
- provide a basis for ensuring the long term availability of stone resources for use by the community and at minimal detriment to the environment,
- assist in considering extractive industry values in long term strategic planning,
- ensure that planning or responsible authorities consult with all relevant agencies about land use proposals which may impact on the reduction of stone resources within these areas, and
- create an awareness that extractive industry is a possible land use in these areas.'

Hanson consider the Project has the potential to provide a valuable resource to Victoria through its quality and quantity of stone, close proximity to the Melbourne market and excellent access to the major road network which is supported by its location in the EIIA.

1.2.1 Project Site

The Project Site is located in Bunyip North approximately eighty-two kilometres southeast of Melbourne, Victoria on land owned by Hanson and formally described as:

- Lot 3 on Plan of Subdivision 520625 (195 Tonimbuk Road, Bunyip North, Victoria 3815);
- Lot 8 on Lodged Plan 116228 (240 Sanders Road, Bunyip North, Victoria 3815);
- Lot 2 on Plan of Subdivision 531586 (310 Sanders Road, Bunyip North, Victoria 3815); and
- Lot 1 on Title Plan 251325 (5 Wallaby Court, Bunyip North, Victoria 3815).

The Project Site is bound by Sanders Road to the north, private agricultural land to the southeast and partially bound by private property and Wallaby Court to the west. In addition, the site boundary extends to the southeast forming the proposed access road.

The Project Site has an area of approximately 160 hectares and a stone reserve comprising approximately 130 million tonnes of granite rock with potential to resource production of crushed rock products for a period of 69 years, depending on demand.

1.2.2 Project Description

Hanson proposes to establish a granite quarry on a greenfield site in Bunyip North. The stone reserves at the site comprise about 130 million tonnes of granite, which is likely to resource production of crushed rock products over a period of 69 years, depending on demand. The project site covers some 280 hectares, and has frontages to Bunyip-Tonimbuk Road and Sanders Road. The indicative pit design has a footprint of about 68.8 hectares, and a maximum depth of between 80 and 160 metres below natural surface, which is undulating.

Development and operation of the proposed Bunyip North Quarry will involve the:

- removal of vegetation, topsoil and overburden to enable stone extraction;
- removal of granite through controlled blasting and mechanical extraction;
- onsite processing of stone;
- mixing of aggregates on site;
- progressive rehabilitation of extracted areas;
- transportation of stone and aggregates from site; and
- final rehabilitation (post resource exhaustion).

1.2.3 Project Purpose

The quality and extent of raw material found at the Hanson Project Site is becoming scarce either through depletion as Melbourne grows or through sterilisation caused by encroachment of incompatible development. Hanson's Lysterfield hard rock reserves are nearing depletion and the remaining resources

are of a quality which is not suitable for all products. As a result of the above factors, Hanson identified and purchased the Project Site within the Extraction and Extractive Industry Area with a view to developing a new quarry to utilise the granite reserve to provide long term supply for hard rock aggregate to the Melbourne market.

The Project Site has an estimated reserve of 130 million tonnes and is considered by Hanson a critical, long term resource when considered in the wider context of scarcity of similar reserves.

The primary rationale for the Project is to fully utilise the granite resource available within the Extractive Industry Interest Area EIIA location.

Through undertaking the Project, Hanson aims to achieve complementary objectives of:

- Providing long term certainty and commercial stability for ongoing Hanson operations
- Providing employment during construction and operations of the quarry
- Contributing to the local, regional and State economies through capital expenditure, multiplier benefits to local businesses, and employment.
- Continuing to conduct operations in an environmentally responsible manner by understanding and managing environmental impacts.

1.2.4 Summary of Proposed Works and Activities

The following components of the proposed works and activities are relevant to an assessment of historic heritage impacts.

Development

On the basis that the project receives approval, a number of site preparation activities are required and must be completed before quarry activities can commence. These include the following:

- Relocation of the services
- Construction of the access road to the processing facility via Tonimbuk Road
- Vegetation clearance for the first quarry stage and processing plant
- Construction of the plant equipment and weighbridge
- Preparation of stockpile areas
- Implementation and construction of drainage channels, sediment and collection dams
- Decommissioning of the current dwelling and water tanks
- Commissioning of site offices
- Erection of perimeter security fencing

Operation

The quarry phase is expected to last approximately 69 years depending on the future level of resource demand. The following key activity is relevant to an assessment of historic heritage impacts:

- **Topsoil and Overburden Removal and Storage**

Topsoil is progressively removed on an “as needed” basis and stockpiled for later rehabilitation works. Overburden is then progressively removed and either used directly for rehabilitation purposes or stockpiled for future rehabilitation use and/or sold as a general fill or utilised in the production of lower quality processed road base materials.

1.3 Land Uses and Development Surrounding the Project Site

The properties surrounding the Project Site comprise commercial and residential properties, as well as public open space reserve:

Commercial Land Use

- Tonimbuk Equestrian Centre
- Garfield North Education Centre
- Linden Brook Pastoral
- Bridlewood Farm

Agriculture & Broad Acre Residential Land Use

The land surrounding the Project Site is predominately used for agricultural broad acre farming and residential land uses. Twenty-four dwellings are located within 500 metres of the Project Site boundary, 19 dwellings between 500 metres and 1000 metres from the Project Site boundary and 33 dwellings located between 1000 and 1500 metres from the Project Site boundary.

Publicly recorded pastoral properties within the area include Linden Brook Pastoral located to the south and Bridlewood Farm, located to the north of the Project Site.

Public Open Space Reserves

Mt Cannibal Flora and Fauna Reserve

Mount Cannibal Flora and Fauna Reserve is located off Garfield North Road, Bunyip North. The reserve is Council owned and managed and is identified by Cardinia Shire Council as ‘the most identifiable peak in the eastern reaches of Cardinia Shire’.

2.0 Regulatory Requirements & Approach

2.1 Legislative Framework

2.1.1 *Environment Protection and Biodiversity Conservation Act 1999*

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the Commonwealth legislation that provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places defined in the Act as matters of national environmental significance. The EPBC Act administers the National and Commonwealth Heritage Lists.

The Australian Government Minister for the Environment decides whether assessment and approval is required under the EPBC Act for any actions that have, or are likely to have a 'significant impact' on one or more of the nine matters of national environmental significance:

- World heritage places;
- National heritage places;
- Wetlands of international importance (under the Ramsar Convention);
- Listed threatened species and ecological communities;
- Migratory species;
- Commonwealth marine areas;
- The Great Barrier Reef Marine Park;
- Nuclear actions (including uranium mines); and
- A water resource, in relation to coal seam gas development and large coal mining development.

The proponent has already referred this project to the Commonwealth under the EPBC Act and the project was determined to be a 'controlled' action. The assessment of the project is therefore being undertaken through the current EES process.

2.1.2 *Heritage Act 2017*

The Victorian *Heritage Act 2017* provides for the protection and conservation of places and objects of cultural heritage significance to the state of Victoria. The Victorian Heritage Register and the Victorian Heritage Inventory are administered through the *Heritage Act 2017*.

All historic archaeological sites in Victoria are protected by the *Heritage Act 2017*, irrespective of whether these sites are listed on the Victorian Heritage Inventory or the Victorian Heritage Register.

A Consent from the Executive Director of Heritage Victoria is required to disturb or destroy historic archaeological sites, places, buildings or structures listed on the Victorian Heritage Inventory.

A Permit from the Executive Director of Heritage Victoria is required to modify, disturb or destroy historic archaeological sites, places, buildings or structures listed on the Victorian Heritage Register. Permit applications must be approved by the Heritage Council.

Fees apply for the issue of Consents and Permits and a conservation bond is required for artefacts from a historic archaeological site. Heritage Victoria may also require a Conservation Bond for any conservation treatment of artefacts which are recovered from a development site.

The issue of a Permit or Consent is not automatic and is subject to furnishing of adequate supporting documentation.

2.1.3 *Planning and Environment Act 1987*

Heritage Overlays are part of the local council planning schemes and help protect the heritage of a local area. Heritage Overlays may include both places of local and state significance. Places on the Heritage Overlay require a planning permit from the corresponding Local Council for particular activities.

The *Planning and Environment Act 1987* (PE Act) provides for the creation of planning schemes which are statutory documents that set out objectives, policies and provisions relating to, among other things, the conservation of heritage places. An objective of the PE Act is “to conserve and enhance those buildings, areas or other places which are of scientific, architectural or historical interest or otherwise of special cultural value” (*Planning and Environment Act, 1987* s.4 (1) (d)). Clause 15.03 of the State Planning Policy Framework provides for the conservation of places of heritage significance. Clause 21.02 of the Local Planning Policy Framework (Shire of Cardinia) sets out a strategy for conservation of places of heritage significance including the implementation of a Heritage Overlay. The Heritage Overlay identifies Heritage Precincts, structures, places, vegetation and other features which are protected by the local council’s Planning Scheme. The Heritage Overlay establishes controls for modification of these places.

Planning approval from the Shire of Cardinia would be required for any proposed impacts to a site listed on the Heritage Overlay.

2.2 Engagement

Field survey of the study area on August 11, 2017 indicated that there was no historic heritage within its boundaries. Therefore, no formal consultation with Heritage Victoria was undertaken for the preliminary assessment.

Consultation regarding local history was undertaken by Stephanie Salinas (Hanson Construction Materials Pty Ltd) and Kathleen Hislop (Heritage Insight Pty Ltd) with local resident, Mr George Fry, on Friday August 25, 2017. Mr Fry has been a resident of the area since childhood and has been researching the history of the area for a number of years.

The preliminary results from the historic heritage assessment were presented to the TRG meeting on February 26, 2018 and will be presented within the impact assessment report.

An open public meeting was held on March 3, 2018, where members of the community were able to discuss the preliminary results of the heritage study and provide feedback on historic heritage concerns with the consultant.

Further community consultation took place during the structural assessment at Topp Road on June 1, 2018 with the property owners. They have been living in the house for over 30 years and during that time have collected a range of maps and newspaper articles related to the local history of the area.

Consultation with Heritage Victoria was undertaken regarding assessment of the intangible historic heritage values of the local area on August 17, 2018 and January 15, 2019. Following the extensive bushfire damage to the study area in March 2019, a meeting was held on June 5, 2019 between Paul Pepdjonovic and Brandi Bugh (Heritage Victoria) and Kathleen Hislop (Heritage Insight Pty Ltd) to determine whether additional field surveys were necessary. Additional photographic evidence was supplied to Heritage Victoria via email on June 14, 2019. Paul Pepdjonovic from Heritage Victoria responded on June 16, 2019 indicating that no additional survey will be required if additional survey data will not enrich the current level of data or change the result of the preliminary assessment

3.0 Existing Conditions

3.1 Background

3.1.1 Project Site

The Project Site is located in Bunyip North in the County of Mornington, Parish of Bunyip North, Shire of Cardinia (Map 1), approximately 82 kilometres southeast of Melbourne, Victoria on land owned by Hanson and formally described as:

- Lot 3 on Plan of Subdivision 520625 (195 Tonimbuk Road, Bunyip North, Victoria 3815);
- Lot 8 on Lodged Plan 116228 (240 Sanders Road, Bunyip North, Victoria 3815);
- Lot 2 on Plan of Subdivision 531586 (310 Sanders Road, Bunyip North, Victoria 3815); and
- Lot 1 on Title Plan 251325 (5 Wallaby Court, Bunyip North, Victoria 3815).

The Project Site is bound by Sanders Road to the north, private agricultural land to the southeast and partially bound by private property and Wallaby Court to the west. In addition, the site boundary extends to the southeast forming the proposed access road.

The Project Site has an area of approximately 280 hectares and a stone reserve comprising approximately 130 million tonnes of granite rock with potential to resource production of crushed rock products for a period of 69 years, depending on demand.

3.1.2 Existing Land Uses within the Project Site

The Bunyip North Quarry is proposed to be developed on private land owned by Hanson currently utilised for the following land uses:

- Grazing Pasture Land
- Residential Land Use
- Farm Storage (sheds)
- Water capture and storage for farming purposes

Pasture Land

The majority of the Project Site is cleared farmland which has been highly modified by grazing activity which has also resulted in modification to the naturally occurring vegetation.

Residential Land Use

A residential dwelling is located approximately 250 metres south of the northern Sanders Road boundary which is accessed via a private driveway. The dwelling owned by Hanson, is currently leased to tenants. A dam and an unused shed are located within close proximity to the dwelling directly to the southeast

Sheds

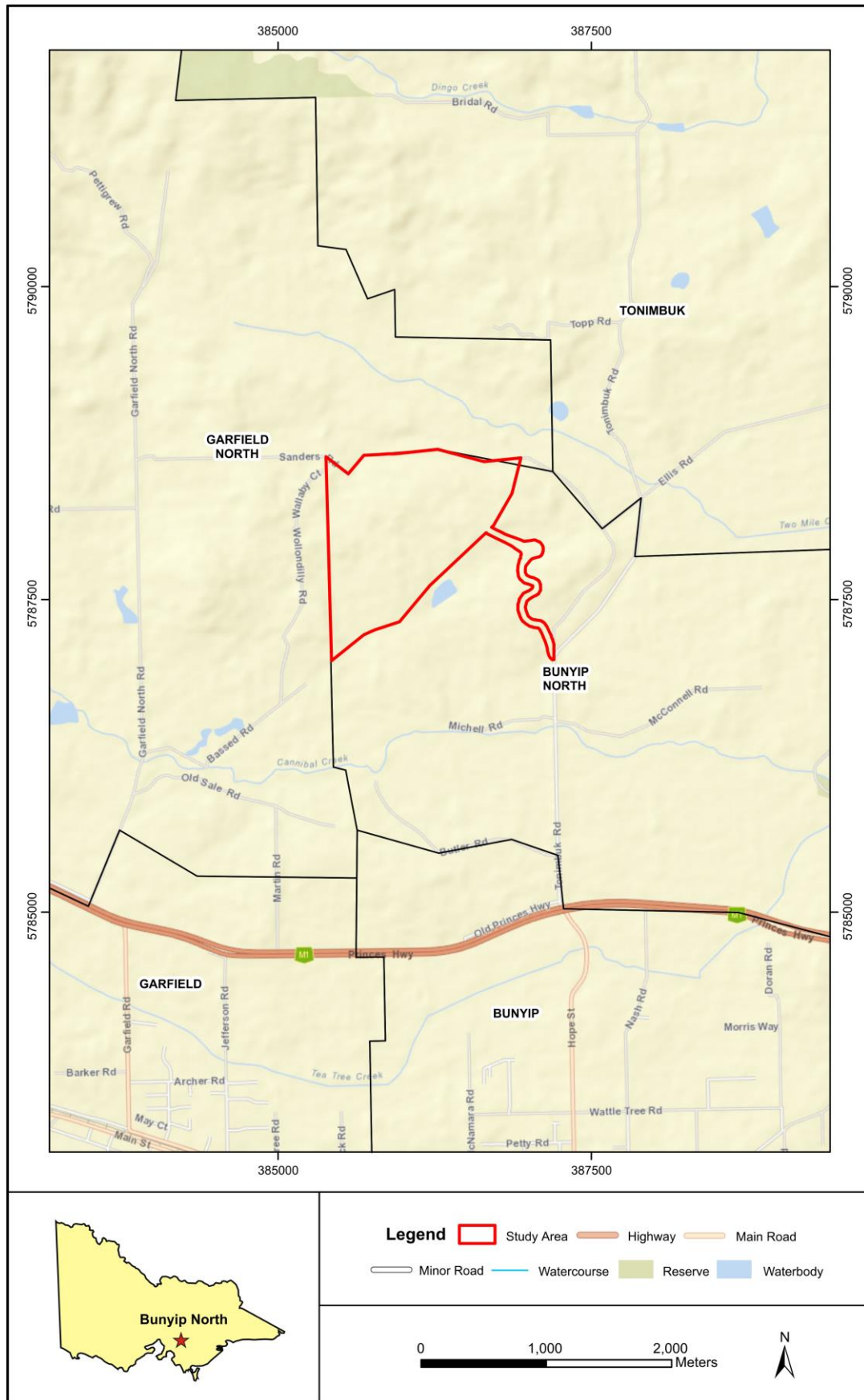
A number of sheds are located within the Project Site boundary and utilised for hay and farm storage. Specifically, three sheds are located in the northeast corner of the Project Site, one to the south of the dwelling and another to the west of Tonimbuk Road within the access road footprint.

Water Tanks

Two water tanks are located centrally on the Project Site and within close proximity to the residential dwelling at the highest point.

Perimeter Fencing

Wire fencing has been established around a large portion of the Project Site boundary.



Map 1: Location of the study area

3.2 Environmental Setting

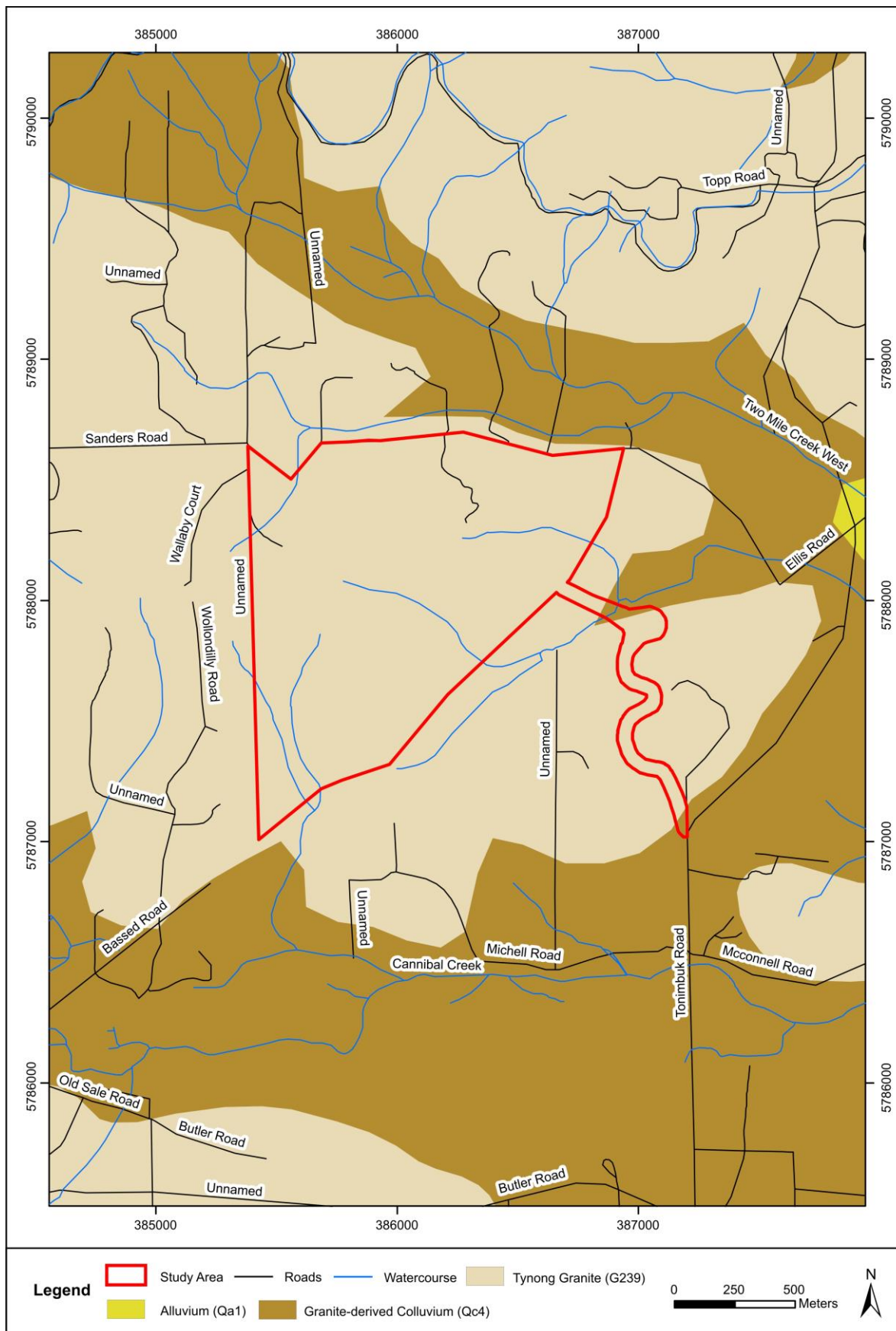
3.2.1 Geology/Geomorphology

Tynong Granite (G239) forms the underlying geology within the study area (Map 2). Two small patches along the proposed access road are located on colluvium derived from granite (Qc4). Tynong Granite is an igneous intrusive rock dating from the Late Devonian (Department of Economic Development, Jobs, Transport and Resources – GeoVic 3, accessed 20/9/2017). The granite outcrops in the form of boulders and sheets, predominantly on the crests and upper slopes of the ridge that runs through the study area. The Tynong Granite extends approximately 32km north to the area around Warburton, 38km east to the area around Dandenong and 60km north east to the area around Baw Baw.

Around 900m to the east, situated along the lower reaches of Two Mile Creek where it meets the Bunyip River is Pleistocene to Holocene age alluvium comprising recent deposits of gravel, sand and silt (Department of Economic Development, Jobs, Transport and Resources – GeoVic 3, accessed 20/9/2017).

Soils in the study area were described as Jindivick Association which forms on Devonian Granite and is found in mountainous areas with steep slopes (Sargeant, 1975, p. 9). Surface soils are typically brownish-grey or grey sandy loams, with coarse angular sand fragments and gravel to 200mm. Yellowish-grey brown soils with a similar texture generally occur below 200mm and may overlie yellow-brown to reddish-brown sandy clay loams or sandy clays in deeper soils. Decomposing rock is generally found above 2m in depth a result of the shallow depth of soil and the associated topography, the soils are prone to erosion and mass movement, particularly when cleared of vegetation (Sargeant, 1975; Department of Environment and Primary Industries – Biodiversity Interactive Map, accessed 3/6/2010).

The landforms within the study area comprise dissected hills with steep slopes. A dendritic ridgeline extends from the hills to the west of the study area for approximately 1.2km and terminates near the eastern boundary. There are two prominent saddles (point between higher points of elevation) on the ridge. Landscape analysis undertaken by van de Graaff (2010) shows that the study area comprises a landscape of crests, hill slopes and colluvial aprons and alluvial fans at the base of the slopes. The colluvial aprons and alluvial fans are evidence of soil mass movement, particularly erosion of the hill slopes. This has implications for the preservation of archaeological sites. In this case it is likely that any archaeological sites in the study area have undergone some disturbance as a result of erosion.

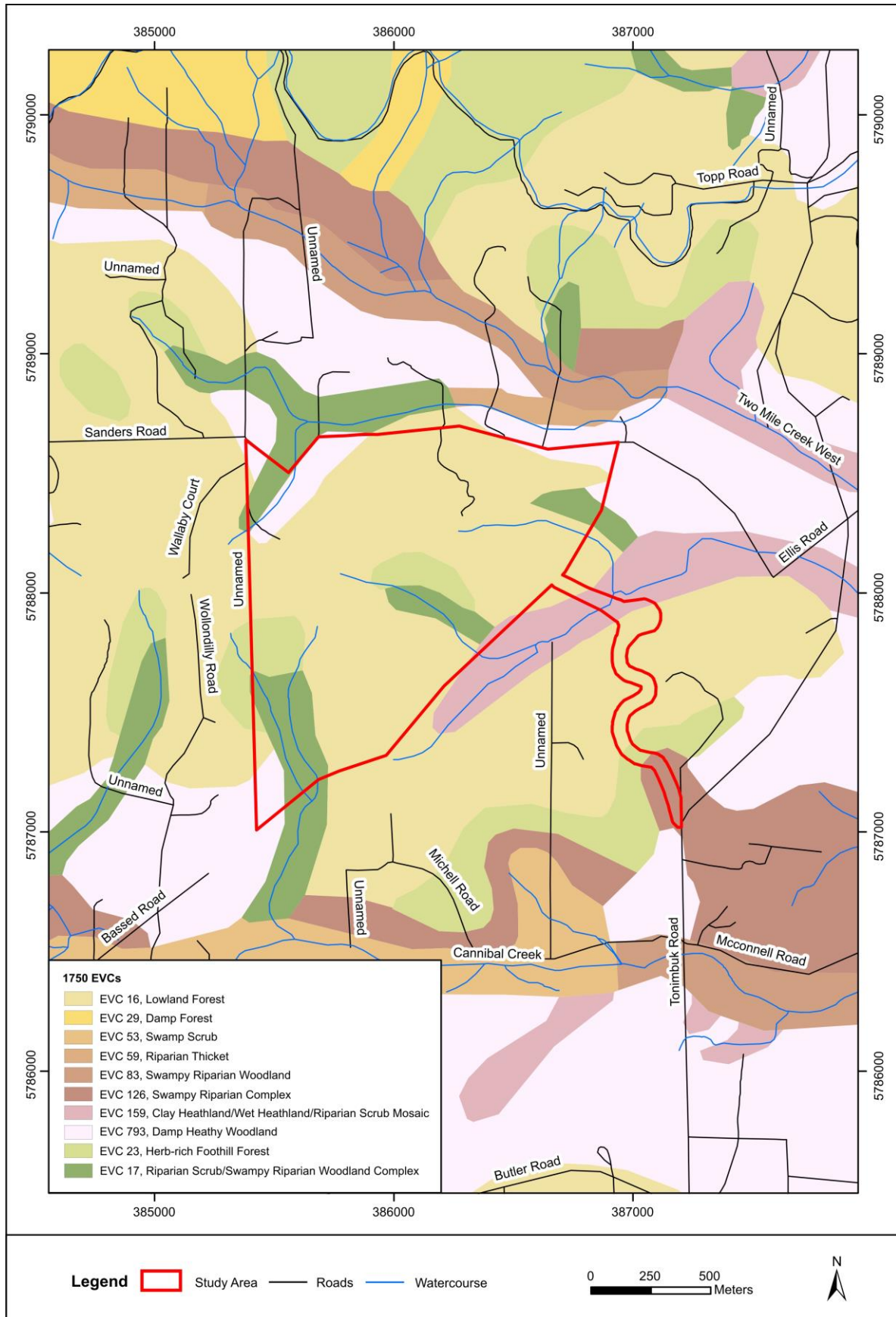


Map 2: Geology in the study area

3.2.2 Vegetation

The predominant pre-contact ecological vegetation class (EVC) within the study area was EVC 16 (lowland forest), which covered the majority of the land surface (Department of Environment and Primary Industries – Biodiversity Interactive Map, accessed May-June 2009). Lowland forest was the main EVC on the hills between the study area and Cannibal Hill to the west, as well as the hills to the south (Department of Environment and Primary Industries – Biodiversity Interactive Map, accessed May-June 2009). Other EVCs present on the low-lying land and along the water ways were EVC 159 (Clay heathland/Wet heathland/Riparian scrub mosaic, EVC 793 (Damp heathy woodland), EVC 23 (herb-rich foothill forest), EVC 17 (Riparian scrub/Swampy riparian woodland complex) and EVC 83 (Swampy riparian woodland) (Department of Environment and Primary Industries – Biodiversity Interactive Map, accessed May-June 2009).

The native vegetation within the region has been significantly altered and diminished by intensive land use over the past 150 years.



Map 3: Pre-1750 EVCs in the study area

4.0 Historic Values Assessment

4.1 Methodology

The following methodology was developed in order to determine the current historical heritage values associated with the study area and to address the scoping requirements:

- A search of relevant heritage registers, lists and databases, including the Victorian Heritage Register and Inventory, the Register of the National Trust, the Commonwealth Heritage Database and the Shire of Cardinia heritage overlay;
- A literature search, including historic aerial photography, to identify any land use history of relevance to the study area;
- Consultation with local community about historic associations with the property and surrounding area;
- A site survey to identify any historic places on the property; and
- Writing and production of an EES technical report, with information on any historic places impacted by the proposal and recommendations for mitigation of impacts where possible.

Reporting standards were taken from Heritage Victoria's *Guidelines for Conducting Historical Archaeological Surveys* (2008).

4.2 Assumptions

The following assumptions have been made during the preparation of this report:

- This assessment has been made based on the study area boundary and quarry layout at the time of report preparation. If any additional areas are added or modified, the outcomes of this report may require amendment; and
- If any modifications are made to the design that result in any impact to any heritage place/s these will be managed in accordance with the *Heritage Act 2017*, the heritage provisions of the Cardinia Planning Scheme and the Mitigation Measures developed for the Project (see Section 5.2).

4.3 Results

4.3.1 Land Use History

The following section discusses aspects of the land use history which are relevant to the identification of potential historic heritage issues within the study area.

Early Settlement in the Bunyip and Garfield Area

The study area is located to the north of the current township of Bunyip, near Garfield. Bunyip is a small township located on the edge of the Koo Wee Rup Swamp. The name Bunyip is derived from the Aboriginal word *Bunyeep*. The Bunyip is a prominent character in Aboriginal mythology, believed to be a spiritual being that lives near water and preys on humans who come too near (Nest, 1990, p. 1; Roberts (1985) quoted in Claessen, 2007).

The first settlers to the area found the vegetation impenetrable and consequently the land difficult to cultivate. In 1827, William Hovell attempted to cross the swamp but found the scrub to be an impenetrable wilderness. He was impressed by the country, and those areas which were workable held some promise for future development. The ti-tree, large gum and blackwood trees had to be cleared before the land could be successfully cultivated. The ti-trees caused the most difficulty with the stumps of the trees having to be removed three times over before the land was successfully cleared (Nest, 1990, pp. 1–2).

The Bunyip and Garfield areas opened up after a road was surveyed from Dandenong to Gippsland in 1847, this road skirted the ranges, and was frequently impassable in wet weather, an alternative road was constructed in 1859 which went through Cannibal Creek and via Bunyip (Nest, 1990, p. 2). The route followed the base of Cannibal Hill and it was likely that the granite outcrops were a favoured resting place for travellers (Murphy, 2000, p. 6). This road also became the coach route. The original township of Bunyeep was surveyed near the eastern end of this track in 1857; the township was north of present-day Bunyip, between the end of Ellis Road and the Bunyip River approximately 3.5km east of the current study area. It did not extend into or near the current study area. The township of Cannibal Creek was surveyed in 1860. Cannibal Creek was renamed Garfield in 1887.

The construction of the Gippsland railway in the 1870s made the area more accessible for local industries to transport their produce, namely the timber and clay brick-making industries (Nest, 1990, p. 74; Arnold, 2013, accessed 19/9/2017). Early industries within the broader region also included orcharding and eucalyptus oil production, while dairying and grazing were preferred during the early twentieth century (Nest, 1990, p. 27). Bee farms were also established in Garfield in the 1860s to produce honey from the ti-tree blossoms (Nest, 1990, p. 1).

The year 1854 marked the establishment of the telegraph network in Victoria (Thompson, 2010, accessed 4 June 2010). The Gippsland telegraph is already marked on the 1850s map of Foyne's Run and shows the telegraph route heading north east towards Bunyeep (Figure 1) before continuing further east into Gippsland. In 1859, the road known as the Old Telegraph Road was surveyed along this alignment (Nest, 1990, p. 2). The alignment of the telegraph is shown on an 1850s plan of the area, which also shows the boundary of the Foyne's Run and the original township of Bunyeep (Figure 1). An 1868 plan of the Parish of Bunyeep (Figure 2) shows the alignment of the Old Telegraph Road. When compared to contemporary plans of the region, it can be seen that the Old Telegraph Road passed along the southwest boundary of the study area.

David Connor was one of the first European squatters to settle in the district. He occupied Foynes Run which was located to the west of Bunyip River and encompassed the granite outcrop of Cannibal Hill the current study area. Cannibal Hill was originally named 'Connabul' Hill after the Connabul family who leased the land in 1846 (Murphy, 2000, p. 6; Gudgeon, 2005). In 1873, the lease was gazetted and taken up by David Connor and was subsequently let by Thomas Brown, George Le Fevre, Warren Brown and Thomas Hunt (Spreadborough and Anderson, 1983, pp. 156–157). To the south of Foynes Run was Cannabul Creek Run, originally occupied in the 1840s by Michael Ready and James Hook. In 1873 it was also occupied by David Connor.

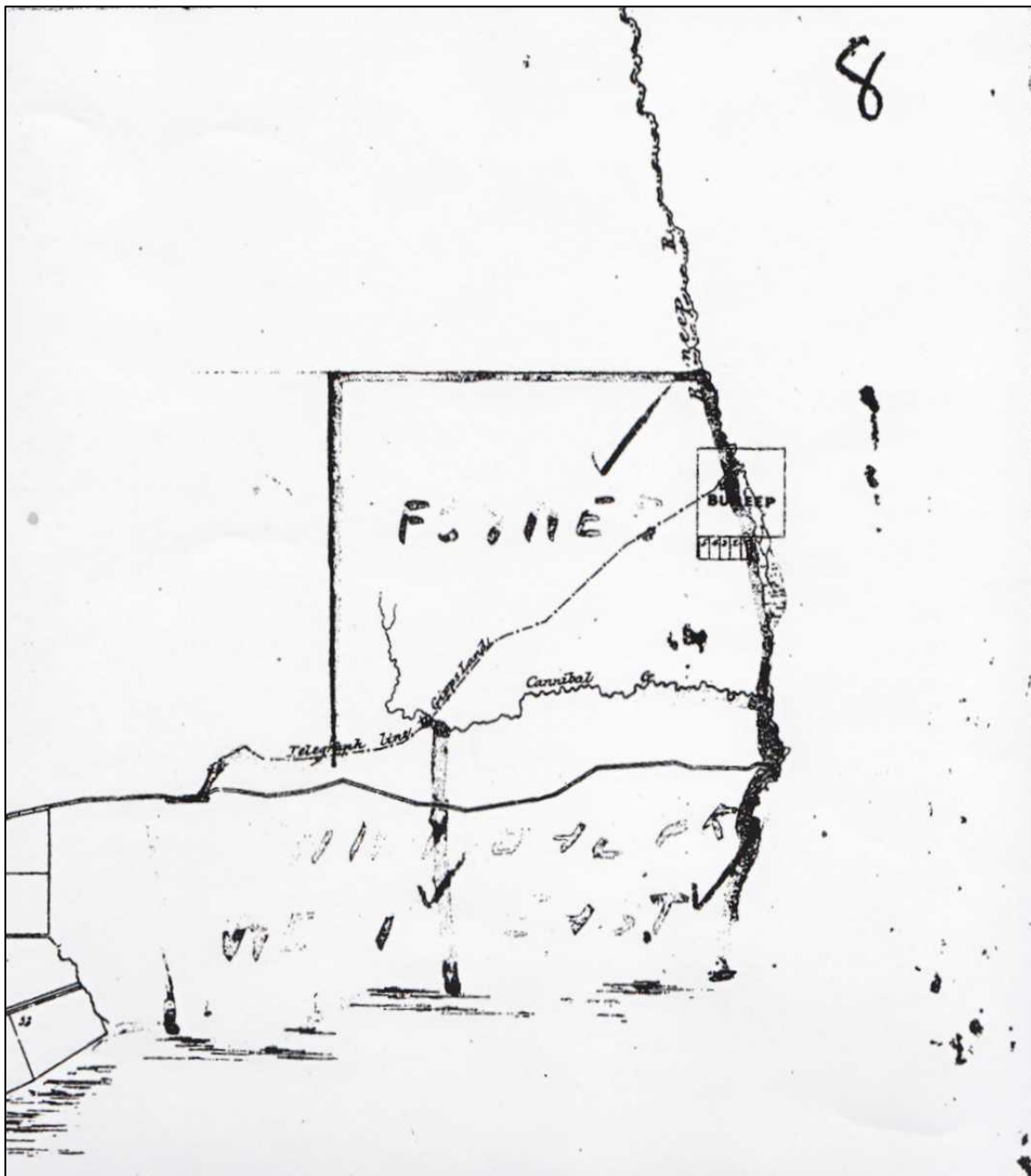


Figure 1: 1850s plan of Foynes Run, the original township of Bunyeep and the overland telegraph line, which bordered the southern edge of the study area

The 1868 parish plan shows that Foynes Run had been subdivided by this time and that the study area was within the boundaries of three larger allotments (Figure 2). Allotments 86A and 86B had been selected by a W.H. Webb and W.J. Webb, while Allotment C, which took in the west side of the study area, was still vacant.

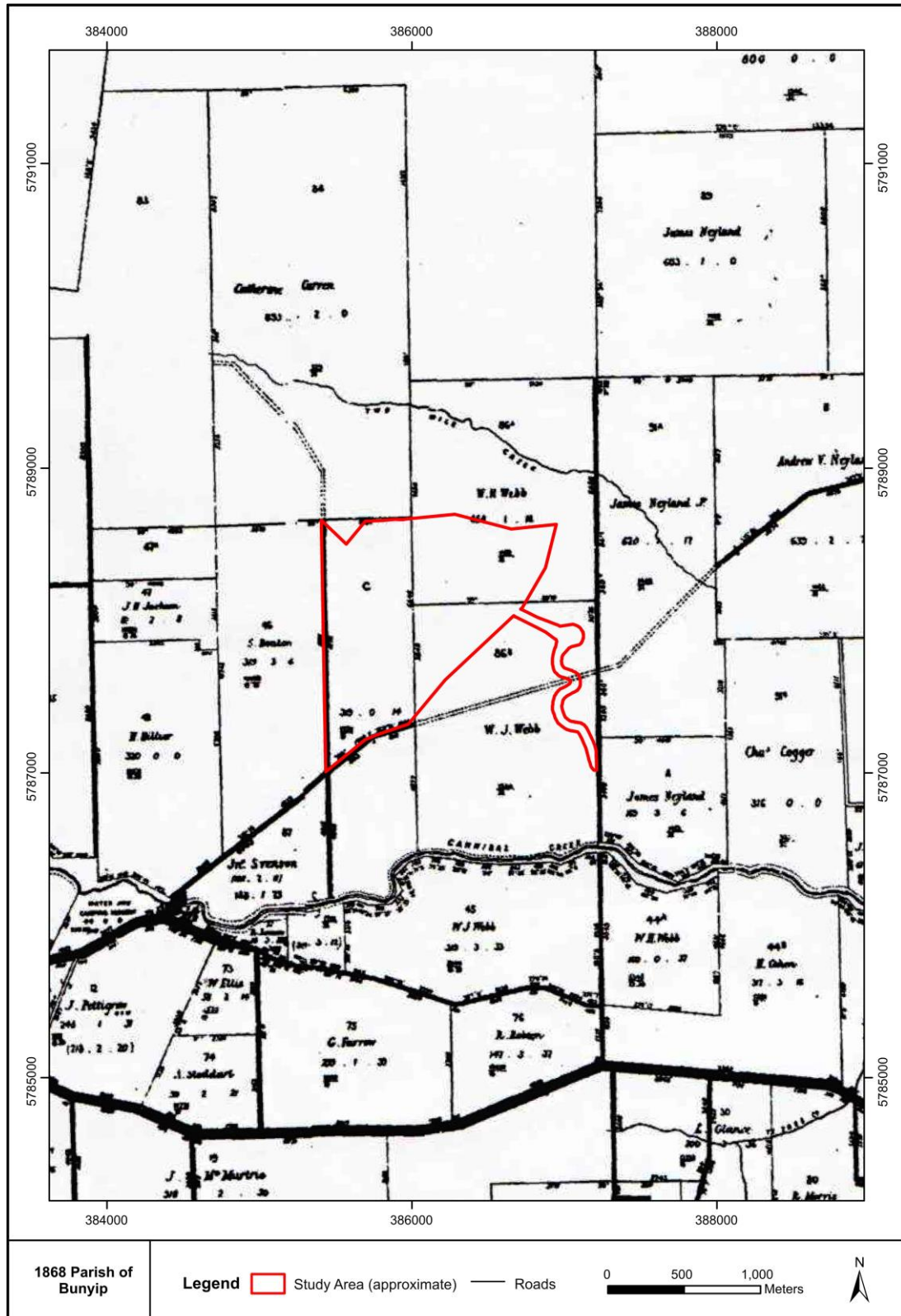


Figure 2: Parish of Bunyeep, 1868 showing allotments in and around the study area

It is possible that the land within the study area was accessed and potentially utilised during the late 1840s to 1860s. This is because of its proximity to the track between Cannibal Hill and the Bunyip River, which subsequently formed the alignment of the Gippsland telegraph and was surveyed as the Old Telegraph Road.

Its proximity to a transport route would have made it accessible to early industries. The area currently known as Bunyip State Park, located 2.5km to the north of the study area, was subject to heavy logging activities for a period of 100 years (Murphy, 2002, pp. 10–11). It is possible that these activities may have extended into the Cannibal Hill area that the original forest within at least part of the study area was logged and cleared between the late 1850s and early 1870s.

Recent Land Use History of the Study Area

The land within the study area was further subdivided during the twentieth century. Aerial photography from 1947 (Figure 3) shows that the study area was heavily treed, except for a cleared section running in a north east to south west alignment. Aerial photography from 1968 (Figure 4) indicates an increase in land clearance. Mr George Fry confirmed that there was a sawmill located to the west of the study area during the 1950s that took the timber logged from the study area (Fry pers. corr. 25/8/2017). Dirt tracks crossing the property and a house towards the eastern end of the ridgeline.

The 1985 aerial photograph (Figure 5) shows that the study area had largely been cleared of the vegetation visible in the 1968 aerial. At this time there are only isolated trees and bracken visible and the entire property appears to have been cleared for grazing. There is less vegetation cover visible in the 1985 aerial than exists on the property at present.

The major impact of logging and land clearance on the study area, would have caused significant soil erosion and soil disturbance. The sandy loam soils in the study area are particularly prone to erosion due to the steep topography of the hill slopes and shallow depth of soil. Landform and soil analysis in the region has shown clear evidence of soil mass movement in the past (Sargeant, 1975; Department of Environment and Primary Industries – Biodiversity Interactive Map, accessed 3/6/2010).

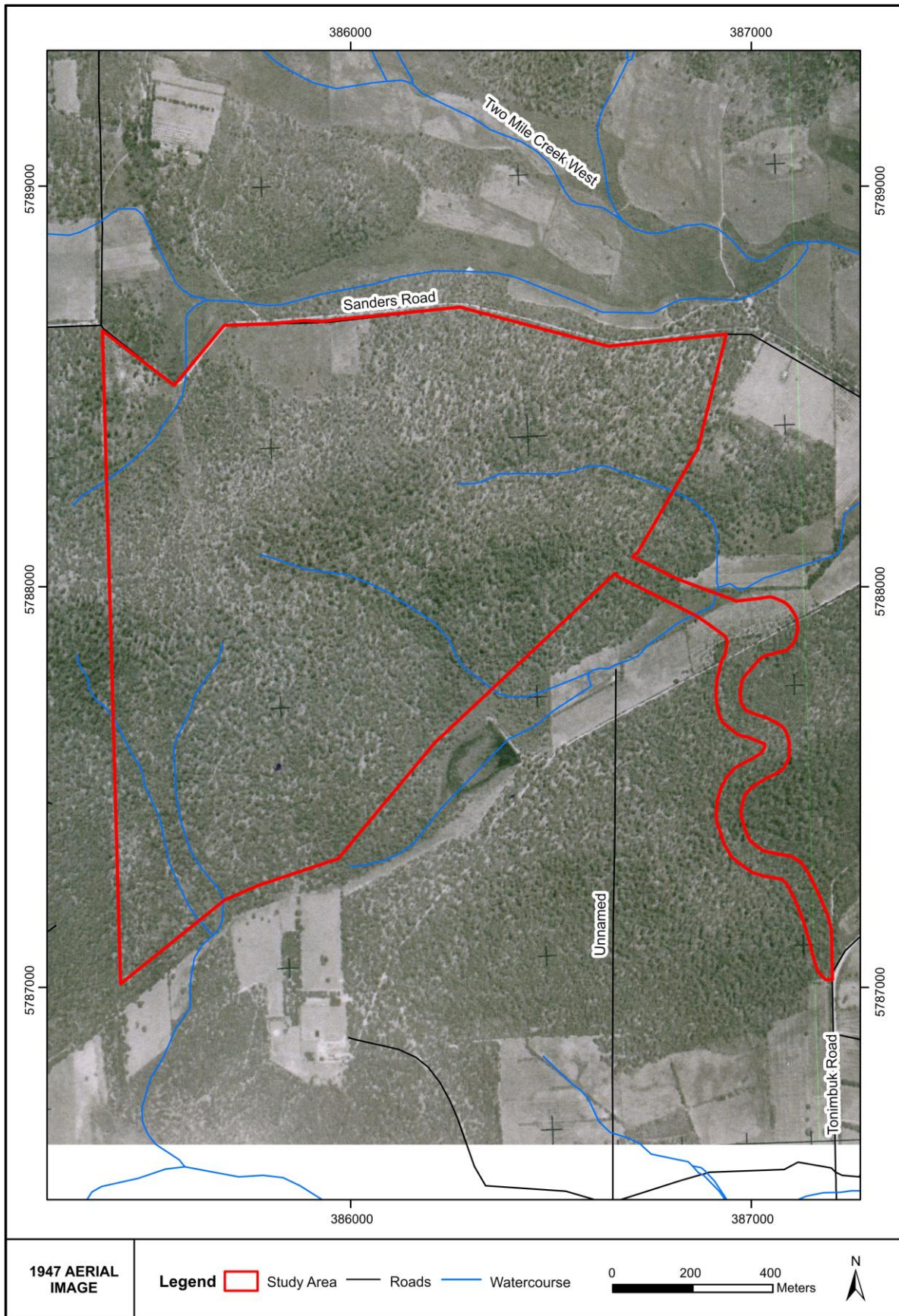


Figure 3: 1947 aerial photograph (Land Victoria Aerial Photography)

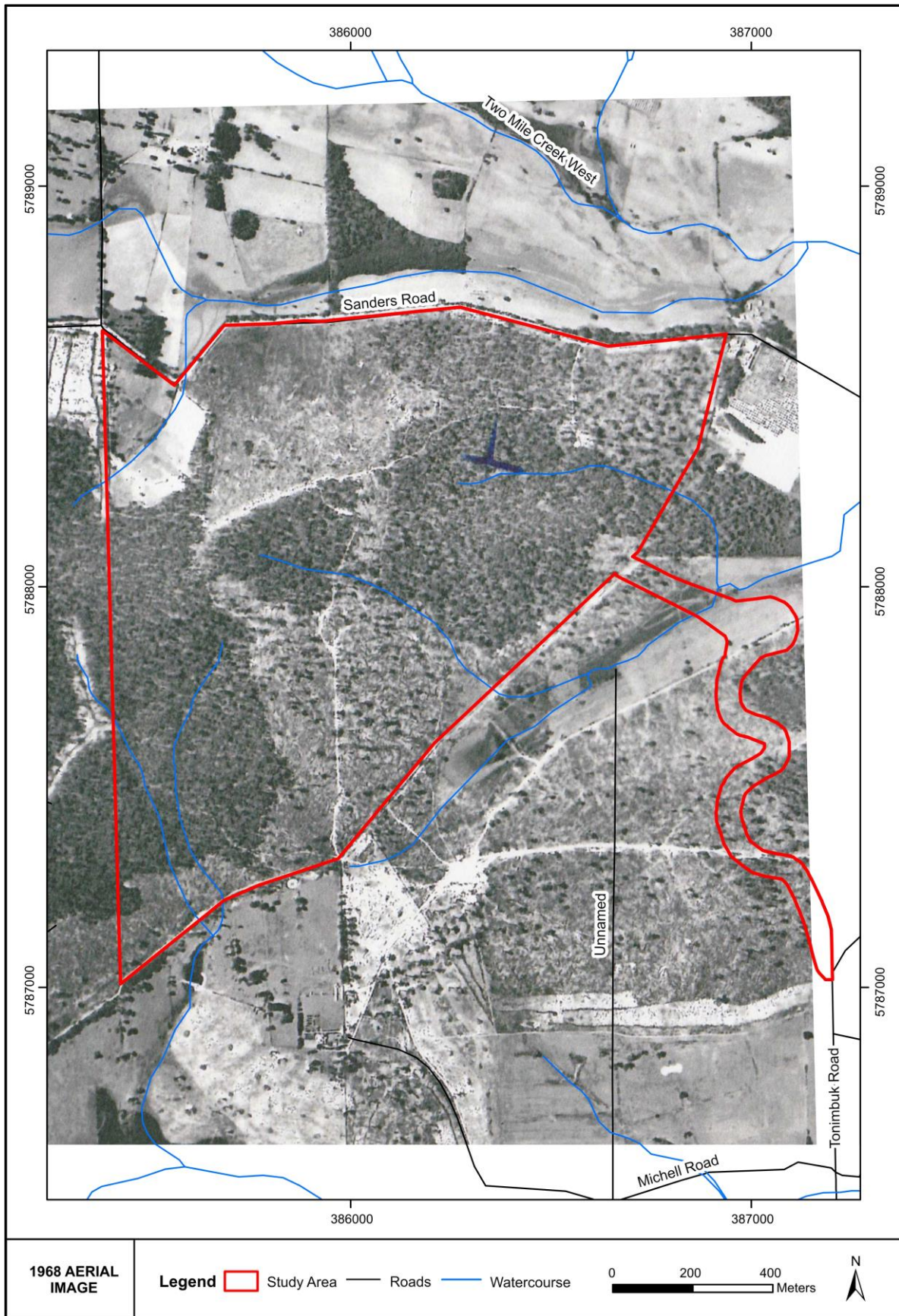


Figure 4: 1968 aerial photograph (Land Victoria Aerial Photography)

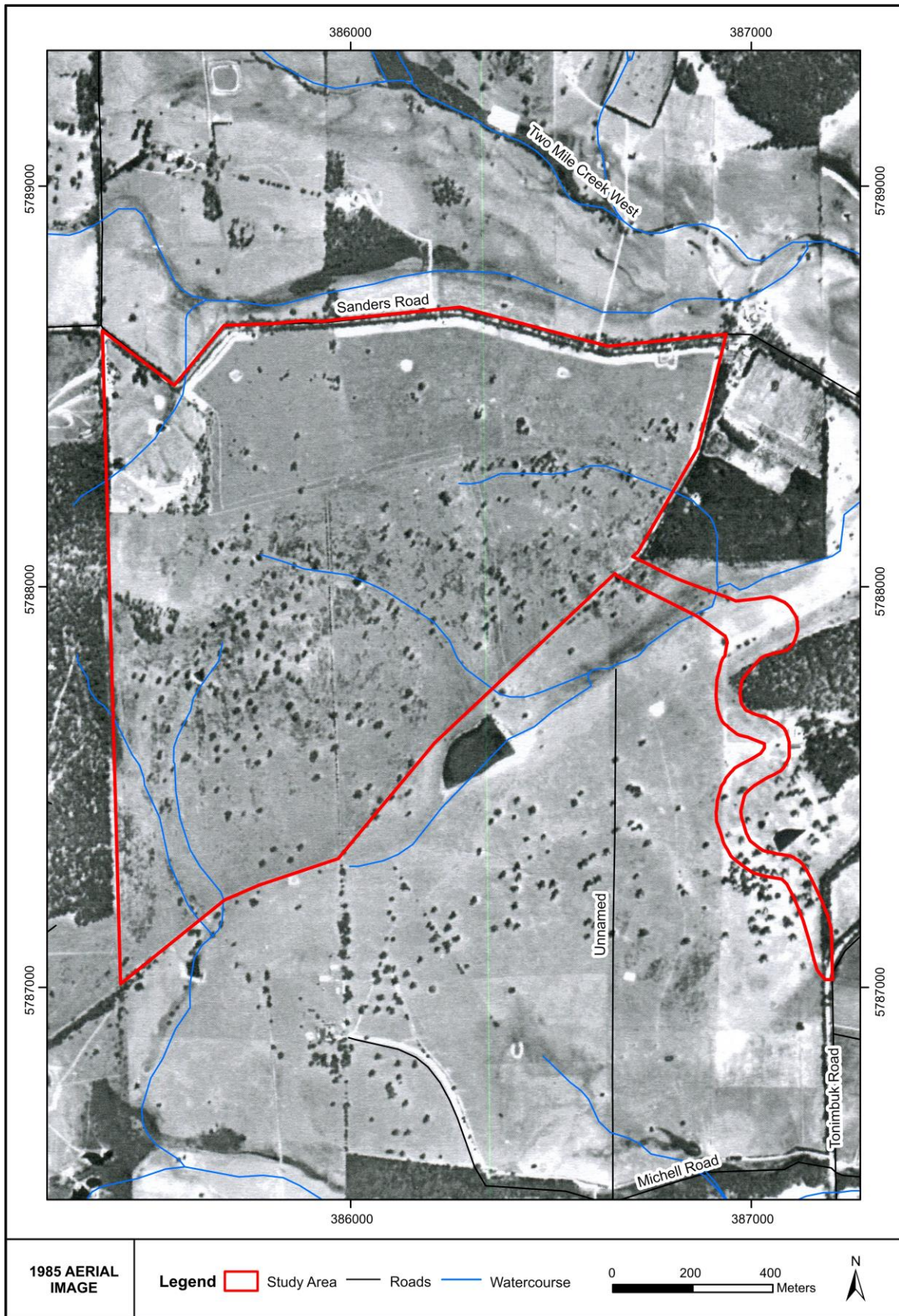


Figure 5: 1985 aerial photograph (Land Victoria Aerial Photography)

4.3.2 Previous Research

Registered Heritage Places

There are no registered historic heritage sites on the Victorian Heritage Register and Inventory located within or in proximity to the study area. There are no sites on the Register of the National Estate, National Trust or Commonwealth heritage databases within or in proximity to the study area. While no heritage overlay registrations are within the study area, there are two (Table 1).

Table 1: Summary of heritage overlay places in proximity to the study area

Registration No.	Register	Distance from Study Area	Name
HO94	Heritage Overlay	1.36km	Mikado Park 265 Old Sale Road, Garfield North
HO113	Heritage Overlay	40m	Lamble Orchard House 145 Sanders Road, Garfield North
HO122	Heritage Overlay	995m	Woodlands, later Fern Hill 50 Topp Road, Bunyip North

Mikado Park (HO94) was constructed in 1885 and comprises three rendered mud brick gabled buildings (former cottage, cottage and stable, packing shed) and an altered nineteenth-century weatherboard house. A remnant row of pine as well as Monterey cypress are present near the house, however there would have been more extensive pine and Monterey cypress present along the boundaries of the property and the main drive prior to the Depression. Mikado Park is included on the Shire's Heritage Overlay for its association with the important architect and politician, Sir William Pitt as well as the rarity of the adobe construction outbuildings. The complex provides evidence of the development of orcharding and early farming in the district as well as evoking one of the varied forms of the district's rural retreats, pursued by city businessmen.

Lamble Orchard House (HO113) was constructed in 1928 and comprises a Californian Bungalow style weatherboarded farm house with shingled gables (porch and main roofs), a corrugated iron roof, and unusual Eastern-style flared window hoods. Lamble Orchard House is included on the Shire's Heritage Overlay for its association with the locally prominent Lamble family and is a good and stylistically interesting Californian Bungalow design from the early development of orcharding in the district.

Woodlands (later Fern Hill; HO122) was constructed in 1898 and comprises a hipped roofed and verandahed brick farm house. The bricks were reputedly burnt from clay dug on the property and the house is one of the few in the district from this era built using bricks. Woodlands is included on the Shire's Heritage Overlay as an early farm house which uses brick construction, a relatively unusual wall material for the area, for the association with early orcharding in the area and its association with the prominent local Topp family. Daniel S.C. Topp was a well-known Melbourne saddler and harness maker who commenced a grazing lease at Fern Hill in 1889. In the next four years, he had fenced 585 acres in Crown Allotment 85A, had cleared four acres and planted 200 fruit trees (Graeme Butler and Associates, 1996, pp. 413–415). By 1908, he was described as an orchardist and grazier, with a seven room residence and numerous outbuildings, stockyards and a circular well. There was also a building described as a school comprising two rooms, which later became the site of the Tonimbuk State School. Daniel Topp died in 1920 and the Shire of Berwick rate books for 1920-21 record that the new land owner for the property was A.G.M. Michell. Michell appointed Les Lamble, son of the owner of a farm property on Sanders Road as the manager (Graeme Butler and Associates, 1996, pp. 413–415).

One other feature identified approximately 100m south of HO122 (Woodlands, later Fern Hill) is an east-west aligned open (possibly with some enclosed sections) aqueduct stretching from near the Bunyip River in the east to Cannibal Creek to the west. Sections of aqueduct are noted in the broader region connecting weirs and sections of waterways. While the construction date for this aqueduct is not known, they are often associated with particular periods of hardship in Victoria's history, such as the utilisation of "Sustenance labour" in the aftermath of periods of economic depression and within living memory of residents of the area (Heritage Council of Victoria – Victorian Heritage Database D7921-0101, accessed June 2019).

Previous Archaeological Studies

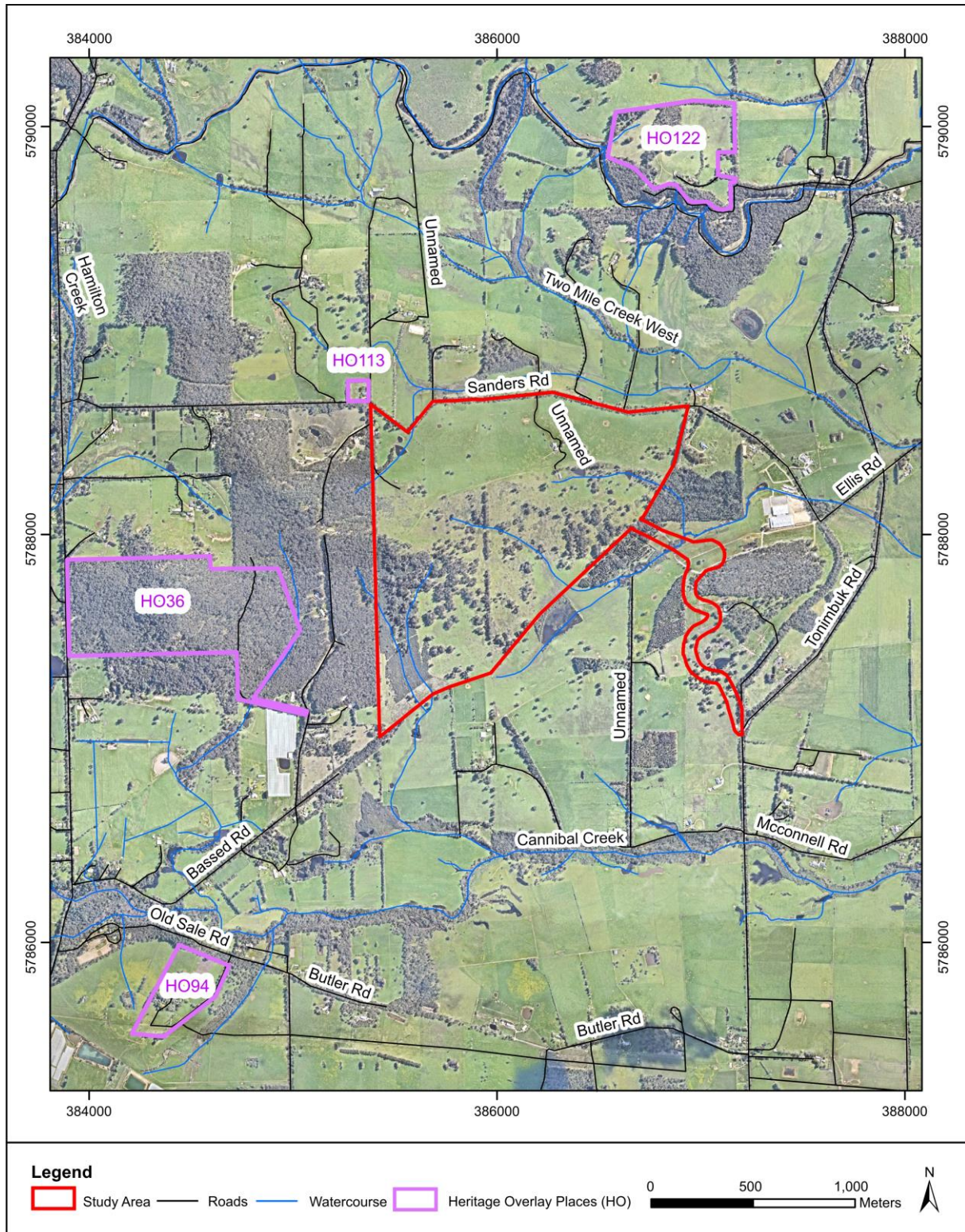
No previous historical heritage studies have been undertaken specifically for the study area. Only a small number of previous heritage investigations have been completed within the Bunyip and Garfield area, none are within proximity to the study area. The most relevant are summarised below.

- **Work Sites on Cannibal Creek and Bunyip River, Bunyip North: A Preliminary Cultural Heritage Investigation (Murphy, 2000)**

This report included results for both Aboriginal and historic heritage assessments for a survey of a section of Cannibal Creek and Bunyip River where stabilisation works were to be conducted on the creek banks. These areas are located to the east and south east of the current study area. No evidence of historic heritage was identified during the survey. The study area was assessed as having no potential for historic material.

- **Cardinia Shire (North) Heritage Study (Graeme Butler and Associates, 1996)**

The report produced a summarised thematic history of the northern section of the shire. Several features of heritage value were identified during the study, including Cannibal Hill, which was considered to be of Regional Heritage Value as it has been an important landmark during European settlement of the region as well as botanical significance for the areas with undisturbed vegetation.



Map 4: Location of heritage overlay sites in proximity to the study area

4.3.3 Field Survey of the Study Area

A field survey of the study area was undertaken on August 11, 2017 to assess whether there was any physical evidence for historic heritage or the potential for the study to impact on historical heritage. The field survey was undertaken by Kathleen Hislop (Heritage Insight Pty Ltd), and Stephanie Salinas and Thomas Anton (Hanson Construction Materials Pty Ltd). A survey notification form was lodged with Heritage Victoria prior to undertaking the survey (Appendix 1).

Field survey undertaken as part of the initial Cultural Heritage Management Plan in 2009 involved a detailed inspection of the Sanders Road portion of the study area. No historic heritage such as housing or outbuildings was identified during the 2009 survey. The following field survey results were focussed on the proposed access track and the alignment of the Old Telegraph Road along the southern boundary of the study area and where it likely continued east through the equestrian centre.

Ground visibility was variable across the survey area, with the southern boundary being thickly grassed and patchy visibility within the equestrian centre land and the proposed access track. Land disturbance was also present through the equestrian centre land where land clearance and landscaping for horse jumps, and construction of tracks have altered the original landscape.

No historic archaeological sites, places or structures were identified during the field survey. While the Old Telegraph Road was aligned with the southern boundary of the study area and would also have crossed the proposed access track route, no physical evidence of the telegraph line or road were identified.

A selection of photographs from the field survey is provided below.

Review Post-Bushfire, March 2019

In March 2019, vegetation within the study area was severely impacted by a bushfire. Often areas will be resurveyed for cultural heritage following a bushfire as the burning of undergrowth and leaf litter substantially improves the ground surface visibility. Review of the previous survey ground conditions and the post-bushfire ground conditions was undertaken and discussed with Heritage Victoria on June 5, 2019. Ground surface visibility was not significantly better post-bushfire and it was considered that undertaking further field survey would be of limited benefit and unlikely to enhance our information for the study area.



Plate 1: Facing east along a potential alignment of the Old Telegraph Road in the equestrian centre (photo by K. Hislop 11/8/2017)

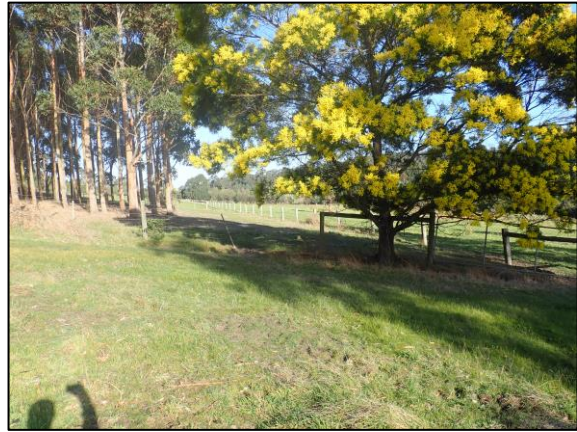


Plate 2: Facing west along a potential alignment of the Old Telegraph Road (photo by K. Hislop 11/8/2017)



Plate 3: Facing north along a current access track route, across the equestrian centre land (photo by K. Hislop 11/8/2017)



Plate 4: Facing south along the proposed access track route (photo by K. Hislop 11/8/2017)



Plate 5: Southern boundary of the Sanders Road portion of the study area, facing south west along a potential alignment of the Old Telegraph Road (photo by K. Hislop 11/8/2017)



Plate 6: Southern boundary of the Sanders Road portion of the study area, facing south west and looking towards the western boundary. Note revegetated boundary area in left of photo (photo by K. Hislop 11/8/2017)



Plate 7: Facing north along the proposed access track (photo by K. Hislop 11/8/2017)



Plate 8: Facing south east along the proposed access track (photo by K. Hislop 11/8/2017)

4.3.4 Structural Assessment – HO122 (Topp Road (Fernhill))

Permission to assess the three heritage overlay residences (HO94, HO113 and HO122) located within 1.5km of the study area was requested and initially provided. However, on applying to set an inspection date, only the residents at Topp Road responded in the affirmative. This report has been updated with reference to comments made by Terrock (2019),

An inspection of the general structural condition of the residence at Topp Road was undertaken on June 1, 2018 by David Hogg (Director, Quatrefoil Consulting Pty Ltd). Kathleen Hislop (Heritage Insight Pty Ltd) was also in attendance. The following information has been summarised from the full report (Appendix 3).

The aim of the inspection was to:

- record the existing general structural condition, noting structural defects and other relevant site observations;
- prepare a brief report outlining observations and findings and discussing the potential effects of vibrations from proposed blasting activities at the proposed Bunyip North Granite Quarry, to be located a little over a kilometre away from the site; and
- the intended use of the report is for inclusion in a Heritage Impact Assessment being prepared by Heritage Insight for an Environmental Effects Statement for the proposed quarry (see Appendix 3 for the full structural assessment).

The original house was built in the late 1890s and is of solid brickwork construction with timber floor and roof framing and corrugated sheet roofing. Footings are likely to be plain brick, stone or shallow cemented rubble. The house was extended to the west approximately 20 years ago. The extension construction is of brick veneer perimeter walls on strip footings with internal stud framed walls. Timber floor framing is supported on stumps and the roof is traditional timber framed with corrugated sheeting roofing.

Internal walls to the original house are hard plastered and ceilings lathe and plastered. In the extension, wall and ceiling finishes are plasterboard.

External brickwork to the extension has been well matched to the original brickwork and bricks were reused from the original where possible. Bricks were reported to have been made on site from site won clay. It is therefore likely they were fired to a lesser degree and consequently are much weaker and softer than contemporary bricks. The original mortar is likely to be lime-based but recent repointing mortar and that used in the recent extensions and repointing appears to be cement-based.

It was reported that prior to the current owners, the house received little maintenance during the 1930s to 1980. The current owners have lived in the house since around 1980 and have renovated, restored and later extended the house in the early 1990s.

No cracking was reported as recent by the owners, with the exception of minor cracking to the room 'Bed 1' at the northeast corner (see Appendix 3). This is relatively recent but the owners were not sure when it occurred. Whilst cracking was noted as generally minor, the fact there is some minor and recent cracking suggests the footings are at least partially founded on clay soils rather than rock, despite local rock outcrops close to the house.

Planting around the building is limited to medium shrubs, with the exception of a more significant tree away from the southeast corner and downhill from the house. The house is situated on top of a rise and site drainage away from the house is generally good. Surface rock outcrops were noted in close proximity to the house in several locations.

Several minor structural defects were noted during the inspection, but these were limited to minor damp-affected brickwork and minor cracking. There were signs of previously repaired cracking but only limited recent movement. Since the current owners have lived at the property, the house has been improved and well maintained. Overall the house is in very good condition.

5.0 Conclusions

This existing conditions report documents the current condition of historic heritage from activities undertaken throughout the years until the present day.

Priorities for characterising the existing environment: The background research undertaken was intended to identify and document any known and previously unidentified places and sites of historic cultural heritage significance within the study area and its vicinity. The background research identified the potential for remnants of the Old Telegraph Road to be present within the boundaries of the study area. There were no other indications for potential historic heritage within the study area. Associated field survey undertaken in 2009 and 2017 identified no evidence of the Old Telegraph Road, telegraph line or other historic heritage features within the study area.

References

Legislation

Environment Protection and Biodiversity Conservation Act 1999

Heritage Act 2017

Planning and Environment Act 1987

Organisations

Land Victoria Aerial Photography storage facility (Laverton)

Public Record Office Victoria

Internet Resources

Department of Economic Development, Jobs, Transport and Resources – GeoVic 3

(<http://www.energyandresources.vic.gov.au/earth-resources/maps-reports-and-data/geovic>)

Department of Environment and Primary Industries – Biodiversity Interactive Map

(<http://www.depi.vic.gov.au/environment-and-wildlife/biodiversity/biodiversity-interactive-map>)

Department of Environment and Primary Industries – EVC Benchmarks

(<http://www.depi.vic.gov.au/environment-and-wildlife/biodiversity/evc-benchmarks>)

Heritage Council of Victoria – Victorian Heritage Database

(<https://vhd.heritagecouncil.vic.gov.au/>)

Reports and Published Resources

Arnold, H. (2013) ‘Garfield - after the coming of the Railway’, *Koo-Wee-Rup Swamp History*, 6 August. Available at: <http://kooweerupswamphistory.blogspot.com.au/2013/08/garfield-after-coming-of-railway.html>.

Australia ICOMOS Incorporated (2013) ‘The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, 2013’. Australia ICOMOS Incorporated. Available at: <http://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf>.

Claessen, S. (2007) *Bunyip Sanctuary Master Plan*. Master Plan. Victoria: Cardinia Shire Council.

Dandenong Journal (Vic.: 1927 - 1954) (1949) ‘THE PUBLIC WORKS’, Wednesday 19 January, p. 12.

van de Graaff, R. (2010) ‘Appendix 2 - Summary Landscape Analysis’, in *CHMP 10705 (In preparation)*. Kensington: Heritage Insight Pty Ltd.

Graeme Butler and Associates (1996) *Cardinia Shire (North) Heritage Study*. Melbourne: Graeme Butler and Associates.

Gudgeon, S. (2005) ‘The Foreign Region’, *Epicure. The Age*.

Heritage Council of Victoria and Heritage Victoria (2008) *Guidelines for Conducting Historical Archaeological Surveys*. Melbourne: The State of Victoria Department of Planning and Community Development. Available at: http://www.dpcd.vic.gov.au/__data/assets/pdf_file/0006/36816/SurveyGuide.pdf.

Murphy, A. (2000) *Work Sites on Cannibal Creek and Bunyip River, Bunyip North: A Preliminary Cultural Heritage Investigation*. Heritage Assessment HV 1058; AAV 1756. Berwick: Tardis Enterprises Pty Ltd.

Murphy, A. (2002) *Bunyip State Park: A Preliminary Cultural Heritage Assessment*. AAV Report. Beaconsfield: Tardis Enterprises Pty Ltd.

Nest, D. (1990) *Call of the Bunyip*. Bunyip: Bunyip History Committee.

Peacham, H. (1612) *Minerva Britanna or a Garden of Heroical Devises, furnished, and adorned with Emblemes and Impresa's of Sundry Natures*. First. London: Printed in Shoe-lane at the signe of the Faulcon by Wa: Dight. Available at: <https://archive.org/details/minervabritannao00peac>.

Sargeant, I. J. (1975) *Soil Survey Western Port Bay Catchment: Soil Survey Report No. 52*. Victoria: Victorian Department of Agriculture.

South Bourke and Mornington Journal (Richmond, Vic.: 1877 - 1920; 1926 - 1927) (1927) 'Berwick Council Saturday, 23rd April', 28 April, p. 7.

Spreadborough, R. and Anderson, H. (1983) *Victorian Squatters*. Ascot Vale: Red Rooster Press.

Thompson, D. (2010) *The Australian Telegraph Network 1854-1877, Museums Victoria Collections*. Available at: <https://collections.museumvictoria.com.au/articles/2625>.

Walker, S. (1986) 'Michell, Anthony George Maldon (1870-1959)', *Australian Dictionary of Biography*. National Centre of Biography, Australian National University.

Appendix 1: Heritage Victoria Survey Notification



Archaeological Survey Notification

Pursuant to Section 131(1) of the *Heritage Act* 1995, this form must be completed in full and submitted to Heritage Victoria prior to conducting an archaeological survey. Please note that approval to access the survey area must be arranged by the applicant.

1. Applicant details

Name: ...Kathleen Hislop.....
Email address: ...kathleenhislop@heritageinsight.com.....
Company: ...Heritage Insight Pty Ltd.....
Postal address: ...53 Stubbs Street, Kensington VIC.....Postcode...3031.....
Telephone (business hours): ...03 9376 6569..... Mobile: ...0400 087 157.....
Commissioning agent: ...Hanson Construction Materials Pty Ltd.....
Reason for survey: ...Heritage assessment as part of EES for proposed quarry.....

2. Survey location

A map clearly identifying the survey area must be attached to this form. For larger, or linear, surveys more than one map may be required. If surveying the seabed, attach a chart clearly identifying the survey area and location.

Location name: ...Hanson proposed quarry site.....
Address: ...310 Sanders Rd, 240 Sanders Rd, 195 Tonimbuk Rd and 5 Wallaby Crt Bunyip North
Mapsheet number (1:100,000): ...8021.....
Mapsheet name (1:100,000): ...Warragul.....

3. Survey dates

It is intended that the survey will be conducted between the following dates:

From: ...11/8/2017..... To:11/8/2017.....

Applicant's signature:  Date:8/8/2017.....

This form must be lodged with Heritage Victoria's Archaeology Team at:

Archaeology.admin@dtpli.vic.gov.au

Heritage Victoria

GPO Box 2392

Melbourne Vic 3000

Any personal information about you or a third party in your correspondence will be collected, held, managed, used, disclosed or transferred in accordance with the provisions of the Information Privacy Act 2000 (Vic) and applicable laws. Enquiries about access to information about you held by the Department should be directed to the Privacy Officer, Department of Planning and Community Development, PO Box 2392, Melbourne, VIC 3001.

Notwithstanding the above, please note that information provided to enable the administration of the Heritage Act 1995 may be disclosed to persons with an interest in the heritage place or object particularly, and information provided as part of a permit application may be made available on-line where the application has been publicly advertised under section 68 of the Heritage Act 1995.

