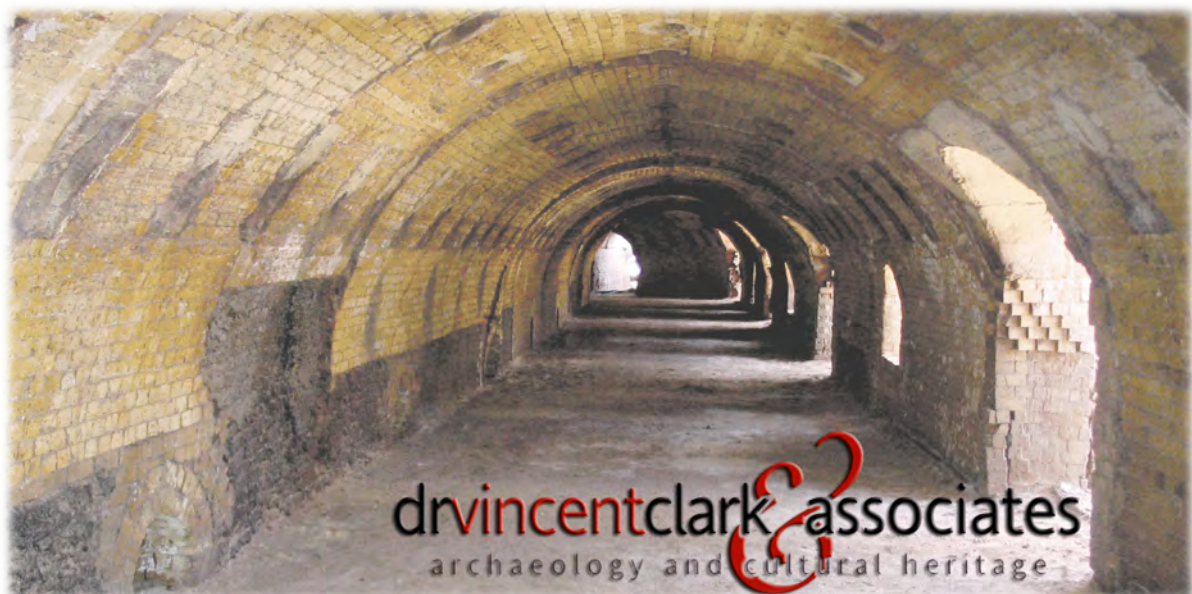

Bulla Bypass and Melbourne Airport Link to Outer Metropolitan Ring: Historical Archaeology Survey

Heritage Victoria project number 4036

William Anderson, Vincent Clark, Annie Noble

March 2013





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Summary

In advance of the planned construction of a road link between Melbourne Airport and the Outer Metropolitan Ring and a bypass of Bulla, Dr Vincent Clark & Associates was commissioned by VicRoads to undertake cultural heritage assessments, to comply with the *Aboriginal Heritage Act* 2006 and the *Heritage Act* 1995. This report contains the results of a ground survey undertaken in November and December 2011 as they relate to historical-period archaeology (a separate report is being prepared that deals with Aboriginal archaeology as part of a ‘cultural heritage management plan’ – Anderson: in prep.). A notice of intention to conduct an archaeological survey was submitted to Heritage Victoria on 4 November 2011, in accordance with s.131(1)(a) of the *Heritage Act* 1995, and Heritage Victoria replied on 8 November 2011, providing the project number 4036 (see Appendix 1).

The study area is located between the upper Maribyrnong River valley and the upper reaches of Moonee Ponds Creek, between 19 km and 27 km northwest of Melbourne city centre, within Hume City Council local government area and the localities of Melbourne Airport, Greenvale, Oaklands Junction and Bulla. The area consists of an irregular shape that spans 561.2 hectares. Moonee Ponds Creek and Deep Creek run from north to south on the east and west sides of the study area, separated by the basalt plain. The main historical settlements in the region are the deserted village of Oaklands Junction, now within the boundary of Melbourne Airport, and Bulla, which lies to the immediate south of the study area. Written and archaeological information on the region has been presented in a major heritage study undertaken in the 1990s (Moloney 1998; Moloney and Johnson 1998), which involved a comprehensive review of historical records and a field survey. Prior to the present study, five historical sites had been recorded – one with the Victorian Heritage Inventory (VHI) and three with the City of Hume Heritage Overlay (HO).

The region is especially important for the history of European settlement in Victoria and interaction between indigenous people and colonists. Explorers and settlers were drawn to the area because of its suitability for sheep farming, and as a result settlement began at a relatively early stage, in the 1830s. By the 1850s, the region was becoming more intensively settled, and an agricultural boom that coincided with the Gold Rush drew people to the region. As well as pastoral and arable farming, a number of specialised industries were focused on the Bulla region, especially quarrying of bluestone for building materials and kaolin, which was used in ceramic production.

The ground survey was carried out in November and December 2011 by representatives of Dr Vincent Clark & Associates and Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated. Topography and ground conditions were assessed across the study area, places of cultural interest were identified, and archaeological features and artefacts were documented. Five previously unregistered historical sites were recorded, in accordance with Heritage Victoria’s criteria for historical archaeological sites, and were added to the VHI. One site listed on the Heritage Overlay (Lochton Flour Mill) was recorded and added to the VHI and has been nominated for inclusion on the Victorian Heritage Register (VHR). Adding the three previously recorded sites, there are now ten registered historical archaeology sites located within the study area. Numerous Aboriginal artefacts were recorded during the survey, and 49 sites were recorded with the Victorian Aboriginal Heritage Register (VAHR). Two of these sites display material culture that suggests they were occupied in the 19th century, post-contact period.

The historical investigation and field study has resulted in twelve recommendations for the management of historical archaeological remains that are situated within the study area and may be affected by the proposed activity. It is recommended that recorded sites should be avoided where possible. In the event that avoidance is not possible, prior to any works that may damage or cause harm to VHI sites, VicRoads (or their contractor) must apply to the Executive Director of Heritage Victoria for Consent to damage or destroy. The consent may include conditions, such as further archaeological investigation, prior to the activity taking place. Applications for consent are to be addressed to:

Heritage Victoria
Department of Planning and Community Development
GPO Box 2392
Melbourne
Victoria 3001
Phone: 03 9208 3516

Prior to any works that may damage or cause harm to Heritage Overlay sites, VicRoads (or their contractor) must consult with Hume City Council. Appropriate permits and approvals must be obtained. Contact details for Hume City Council are:

Hume City Council
40 Macedon Street, Sunbury 3429
Phone: 03 9205 2200
Fax: 03 9309 0109
Email: contactus@hume.vic.gov.au

It is recommended that further investigation should take place in certain parts of the study area if these are likely to be affected by the activity, in order to verify the presence and condition of suspected historical archaeological remains. Four areas for further investigation are specified. Should any historical cultural deposits or features be uncovered during works which were not identified during the investigation for this assessment, work must cease in their vicinity and VicRoads (or their contractors) must notify Heritage Victoria immediately.

Glossary

CHMP	cultural heritage management plan
HO	Heritage Overlay
VAHR	Victorian Aboriginal Heritage Register
VHI	Victorian Heritage Inventory
VHR	Victorian Heritage Register

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1. Introduction

In October 2011, VicRoads commissioned Dr Vincent Clark & Associates to carry out a cultural heritage assessment prior to the proposed construction of a road link between Melbourne Airport and the Outer Metropolitan Ring and a bypass of Bulla. To comply with the *Aboriginal Heritage Act* 2006, a cultural heritage management plan (CHMP) was compulsory under the *Aboriginal Heritage Regulations* 2007 (r.22, r.23 and r.44). Accordingly, a ground survey was undertaken, which by necessity entailed carrying out a survey of historical (non-Aboriginal) archaeology. A notice of intention to conduct a historical archaeology survey was submitted to Heritage Victoria on 4 November 2011, in accordance with s.131(1)(a) of the *Heritage Act* 1995, and Heritage Victoria replied on 8 November 2011, providing the project number 4036 (Appendix 1).

This report contains the preliminary results of the ground survey, focusing on historical-period archaeology. Information on the abundant prehistoric Aboriginal material culture recorded during the survey is detailed in CHMP 11935 (Anderson: in prep.). Before the field investigation, background research was carried out that identified the locations and types of previously recorded historical sites and identified areas where unrecorded remains might be present. This informed the research focus of the field investigation, highlighting themes that relate specifically to the study area. These themes, which are detailed below, include the presence of European travellers and settlers in the first half of the 19th century, the Aboriginal population at the time of contact with white settlers, pastoral farming and the establishment of permanent settlements from the 1830s to 1850s, the Gold Rush period and associated agriculture and industry in the Bulla region, and the development of the region in relation to the expanding Melbourne conurbation.

The ground survey was carried out in November and December 2011 by representatives of Dr Vincent Clark & Associates and Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (Wurundjeri). The general aims were to assess ground conditions across the study area including land use and geomorphology, to identify places of cultural interest where archaeological material was likely to be present, and to locate and record any cultural material present on the surface. Numerous Aboriginal artefacts were located, which resulted in the registration of 49 previously unrecorded sites with the Victorian Aboriginal Heritage Register (VAHR). In addition, historical features and artefacts were recorded at more than a dozen locations, including six places that are judged to qualify as historical archaeological sites as defined by the *Heritage Act* 1995, and have been registered with the Victorian Heritage Inventory (VHI). One of these sites (Lochton Flour Mill) has been nominated for inclusion on the Heritage Register.

2. Background

The region around Bulla and Sunbury is significant to the colonial history of Victoria, being one of the first places that Europeans visited during explorations in the first half of the 19th century and subsequently one of the first areas within what is now Victoria to be intensively settled by colonists. Therefore, the archaeology of the region has particular importance to the colonial history of Port Philip Bay and Australia at large. The following sections provide some background to the study including description of the geographical setting and a review of the environmental, historical and archaeological context.

There has been some historical investigation within the immediate study area and the wider geographical region, notably the six-volume *City of Hume Heritage Study: former Shire of Bulla District* (Moloney and Johnson 1998; Moloney 1998). Archaeological work undertaken as part of the planning process have included study of historical archaeology, for example, a study of the Grey Box forest north of Melbourne Airport, which is where the former settlement of Oaklands Junction is located (Vines 1995) and studies of Woodlands Historical Park to the east of Moonee Ponds Creek and around Gellibrand Hill (Lennon 1993; Stone 2002). Several local histories dating from the Victorian era to the present contain information on architecture, monuments, industries and settlement of the Bulla and Oaklands area. Despite there being quite plentiful information on the region within and surrounding the study area, few archaeological sites have been recorded: within the study area one site has been listed with the VHI and three sites are listed with the City of Hume heritage overlay.

2.1 Study area

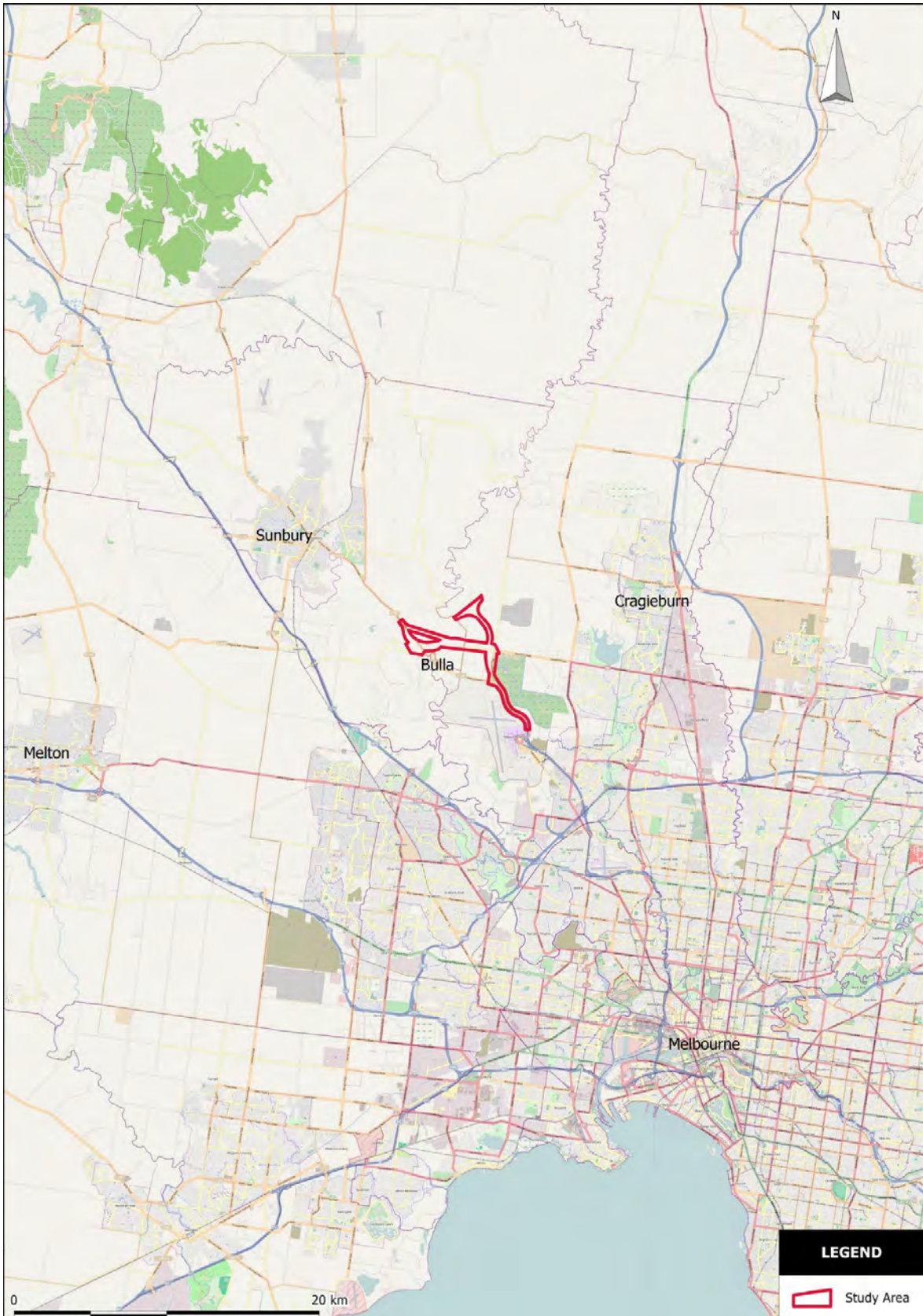
The study area is formed by the location of a planned road link from Sunbury Road east of Melbourne Airport to the proposed Outer Metropolitan Ring (OMR), and a bypass of Bulla (described below). The area is located between the upper Maribyrnong River valley and the upper reaches of Moonee Ponds Creek, between 19 and 27 km northwest of Melbourne city centre (Map 1). The area falls within Hume City Council local government area, and crosses the localities of Melbourne Airport, Greenvale, Oaklands Junction and Bulla.

The area consists of an irregular shape with maximum north-south dimensions of 7 km and maximum east-west dimensions of 6.8 km and covers a total surface area of 561.2 hectares (Map 2). The main geographical features within the study area are Moonee Ponds Creek that runs to the east of Sunbury and Oaklands Roads, the volcanic plain to the west of Moonee Ponds Creek and the incised valley of Deep Creek north of Bulla. The main historical settlements close to the study area are the deserted village of Oaklands Junction, now within the boundary of Melbourne Airport, and Bulla, which lies to the immediate south of the study area, both of which were founded in the mid-19th century.

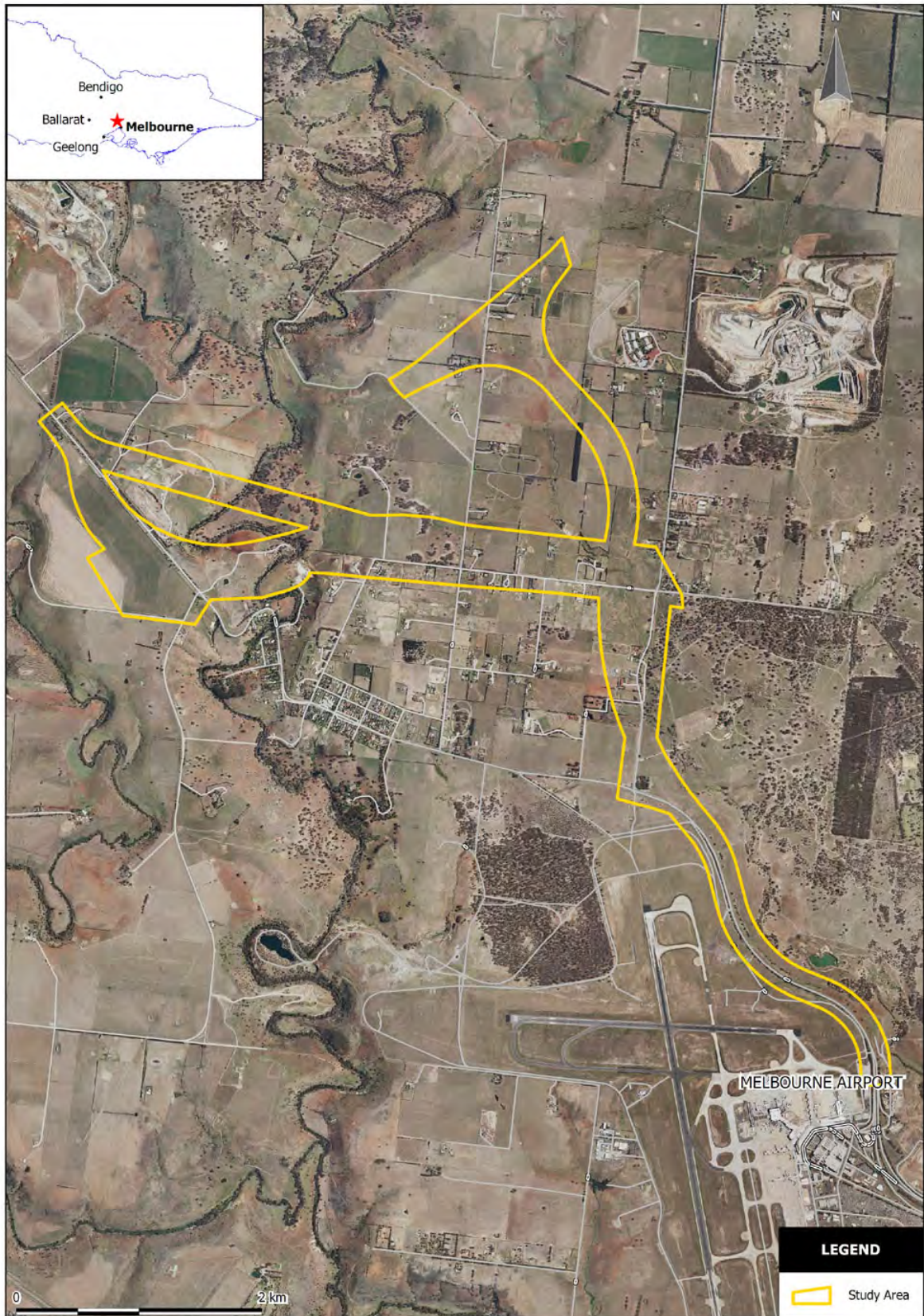
2.2 Activity description

The proposed activity is to build new roads and expand existing roads to the east and north of Melbourne Airport. The project consists of two main parts: first, construction of a road link from Sunbury Road east of Melbourne Airport to the planned Outer Metropolitan Ring (OMR), and second, to build a bypass of Bulla running from east of the junction of Somerton Road and Oaklands Road, crossing Deep Creek north of Bulla and joining Sunbury Road. At the time of the survey there were four separate alignments being considered for the Bulla bypass 'northern corridor' which have been labelled BB1, BB2, BB3 and BB4. Currently, the plans are at a preliminary stage, and detailed designs giving information on particular activities and ancillary works, locations, types and impacts of construction works are unavailable.

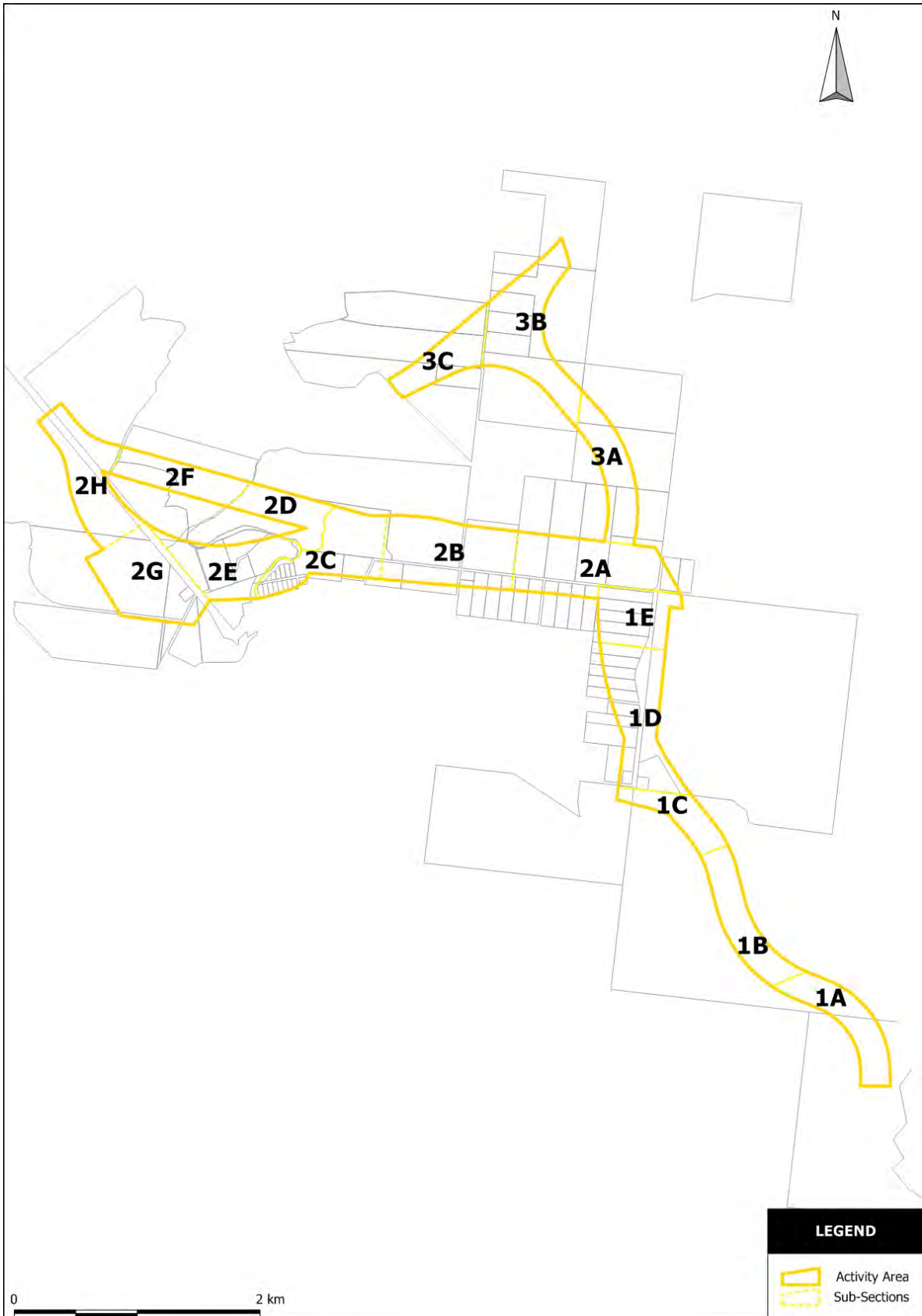
The planned construction area can be divided into three main sections: the southern section (Section 1) runs alongside Sunbury Road to the east of Melbourne Airport and follows the course of Oaklands Road in a north/south-alignment, until the junction with Somerton Road; the central part (Section 2) follows Somerton Road from the Oaklands Road junction in an east/west-alignment, passing north of Bulla and splitting into two branches which cross Deep Creek and re-join at Sunbury Road near Bateys Court; the northern part (Section 3) is located north of the junction of Somerton and Oaklands Roads, curving to the northwest, crossing St Johns Road and continuing up to Wildwood Road. These three main sections were subdivided into smaller portions, for logistical purposes and to present the findings of the archaeology and cultural heritage assessment. The sub-sections, overlaid on the present-day cadastral divisions, are shown in Map 3, and the topography and historical features within each section are discussed below.



Map 1: Location of study area in relation to Melbourne and surrounding towns (drawn by Paul Kucera)



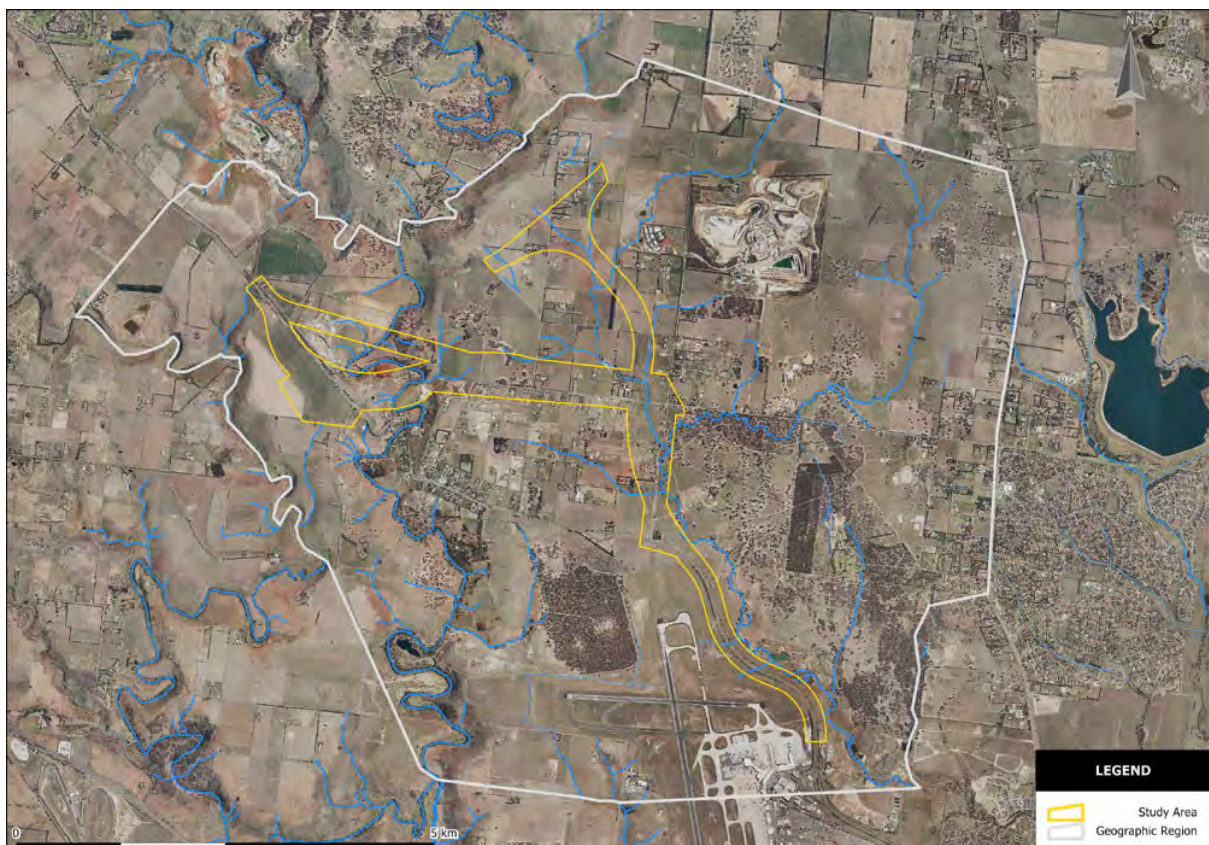
Map 2: Extent of study area projected on to aerial image (drawn by Paul Kucera)



Map 3: Study area divided into sub-sections and overlaid on cadastral divisions (drawn by Paul Kucera)

2.3 Environmental setting

The study area, which is located between Moonee Ponds Creek in the east and Deep Creek in the west, spans three general geographic zones – the low hills east of Moonee Ponds Creek, the volcanic plain, and the incised valley of Deep Creek. For the purpose of reviewing the area’s physical and cultural context, a surrounding geographical region was defined in terms of geology and terrain, as well as modern, built features (Map 4). The source of Moonee Ponds Creek is at the northeast corner of this area and the confluence of Deep Creek and Emu Creek at the northwest. The western boundary is formed by Jackson’s Creek, continuing on a south-easterly course to the confluence with Deep Creek, which forms the start of Maribyrnong River (formerly known as Saltwater River). The southern boundary of the region has less of a basis in physical geography, and crosses the flat plateau occupied by Melbourne Airport, which is situated at the current northern edge of the urban metropolitan area of Melbourne. The southeast of the region is defined by a small tributary of Moonee Ponds Creek, and the east of the region takes in Woodlands Historic Park and Gellibrand Hill, with the eastern boundary formed by Mickleham Road.



Map 4: Region surrounding the study area (drawn by Paul Kucera)

The study area spans a volcanic plain which is framed by two north/south-aligned streams – Moonee Ponds Creek and Deep Creek - whose geology is similar but which have quite contrasting topography (Geological Survey of Victoria 1973). Along Moonee Ponds Creek is a strip of colluvial and alluvial deposits, and to the west, an area of intrusive granodiorite, with zones of Older Volcanics on its west side, where a series of stone quarries are cut into the lower slopes of Gellibrand Hill. Between the streams is the basaltic, Newer Volcanics plain of the Pliocene epoch (Price et al. 2003), which consists of gently undulating land, rising slightly towards the west. Along the east side of Deep Creek are deposits of

granodiorite and a prominent spur formed of exposed Silurian shale, mudstone, greywacke (sandstone) and conglomerates. The underlying rock on the west of Deep Creek is Upper Ordovician interbedded shale and greywacke, overlaid by lava flows of the Newer Volcanics. Bulla is considered to display a unique suite of granite plutons as compared to other granites in Victoria (Rossiter 2003: 221). The Victorian government's map of geomorphological units (VRO 2008) depicts three units within the study area: '6.1.2: volcanic derived stony rises'; '6.3: hills and low hills'; and '6.2.2: sedimentary derived dissected plains'. Three basic soil types reflect the three main geological units within the study area: basaltic clays on the plain; alluvial deposits in the creek valleys and granitic soils on the middle slopes of Deep Creek valley (Jeffrey 1981).

The gently undulating plain which the study area spans is bounded on the east by Gellibrand Hill and Woodlands Park and is bisected in the west by the deeply incised valley of Deep Creek, with gentle hills to the north, at the junction with Emu Creek. Though Moonee Ponds Creek and Deep Creek have a similar profile, in which streams incise the basaltic plain to reveal sections of the underlying bedrock and form alluvial deposits above, their topography is substantially different. The broad, open valley of Moonee Ponds Creek slopes very gently towards the creek bank whereas Deep Creek runs through a narrow valley which is bordered by spurs and escarpments, where the transition from the upland plateau to the valley is strongly pronounced.

The incised stream valley of Deep Creek with its meanders and overlapping spurs - was presented by renowned geologist John Walter Gregory in his book *The Geography of Victoria* (1903: 152) to illustrate the formation of this type of valley. The very gradual formation of Deep Creek and related waterways nearby is indicated by the depth of the valley and erosive processes that have occurred over millennia (Anderson 1984: 18-20). Specific land forms within the study area, following the Victorian state government's classifications and nomenclature (DSE 2007) are: waterway (including creek-line, alluvial terrace/flats, stream), plain (including broad valleys, low rises), hill (including steeper slopes, ridge, escarpment, gully).

Moonee Ponds Creek and Deep Creek are part of the wider network of creeks that have their source in the hills north of Melbourne and flow south into Port Philip Bay. Moonee Ponds Creek is a minor stream at its upper reaches, flowing south and being fed by other minor creeks until it passes through a series of artificial channels before its outflow into the Yarra River. To the west of the study area, Deep Creek (labelled Darraweit Guim Creek on some 19th-century maps) is a more substantial channel, set in a deeply incised valley from its junction with Emu Creek slightly to the north of the study area, and converging with Jackson's Creek to the south of Bulla and west of Melbourne Airport to form the Maribyrnong River, also feeding into the Yarra River just prior to its outflow into Port Philip Bay.

The study area can be characterised as a temperate grassland plains environment. Its terrain, climate and vegetation are amenable to pastoral farming, and these conditions attracted the earliest European explorers and settlers in the first half of the 19th century (Moloney 1998: 12-14), and partly explain past and present-day land use (discussed below). Climate statistics from Melbourne Airport show a mean maximum temperature of between 14.1°C -25.5°C in February and minimum of 5.3°C -13.0°C in July, with an annual average of 541.7 mm rainfall (BOM 2012). The vegetation is mainly grasslands, including non-native grasses and some pockets of native grassland. The composition of flora has been much changed since

European settlement, not least by the impact of livestock grazing, however, early historical accounts indicate that the plains were never heavily wooded (Moloney 1998: 6). Stands of native trees are mainly confined to the banks of waterways and on the higher ground, though these might have been more extensive in the past.

2.4 Historical background

Since the arrival of permanent European settlers in 1835, the landscape of Bulla and its surroundings has undergone significant changes to both natural and built environment. These activities can be broadly divided into phases, from the explorers and early pastoralists to the more intensive settlement and farming of the mid- to late-19th century and specialised industries such as quarrying. The continuous and ongoing expansion of the Melbourne conurbation and the growth of a commuter belt following the introduction of motorised transport brought population growth and building developments that have impacted heavily on the landscape.

2.4.1 Aboriginal occupation and European settlement

Information on Aboriginal occupants of the Bulla region has been reviewed in more or less detail for a number of local cultural heritage studies (Presland 1983; Vines 1995: 21-3; Moloney 1998: 27-33; Sutherland and Richards 1994: 9-16). The main sources of information on social organisation and languages in Victoria prior to European colonisation are the writings of explorers such as Hamilton Hume, William Hovell, and later Alfred William Howitt, and of figures who held government positions as ‘Protectors of Aborigines’, especially William Thomas and Robert Brough Smyth (Howell-Meurs and Alley-Porter 2011: 9-10; Barwick 1984: 100-104). These and other writings were the basis for syntheses of ethnographic information, including those of Norman Tindale (1974), Diane Barwick (1984) and Ian Clark (1990).

The present study area is located within the language boundary of the Woi wurrung, whose territory has been traced to the region demarcated by the Werribee River and the Great Dividing Range from Mount Baw Baw to Mount William and Mount Macedon (Clark 1990: 379-80). Several Woi wurrung clans are identified with the locality of the present study area: the Marin Balug and Wurundjeri Willam especially: the Marin Balug, meaning ‘Marin people’ dwelt between Kororoit Creek, Saltwater (Maribyrnong) River and Jackson’s Creek, with ‘headquarters’ around Sunbury (Clark 1990: 383-4; Barwick 1984, 122), and the Wurundjeri Willam, meaning ‘white gum tree dwellers’, are associated with areas including the west of Darebin Creek to the east bank of Saltwater (Maribyrnong) River and Jackson’s Creek (Clark 1990: 385; Barwick 1984: 122-4).

The Maribyrnong River, Jackson’s Creek and Deep Creek waterways were among the first areas of present-day Victoria to be settled by Europeans. Access to water, good soil, plains and open woodlands were attractive to the newly arrived pastoral farmers as they had been to hunter-gathers for centuries before. David Moloney (1998: 14) writes that “the sites which provided shelter, plenty, and ceremony for Aboriginal people were also preferred sites for the homesteads and sheep stations of the European occupiers.” Through both intentional actions and unintended consequences, these occupiers had a devastating effect on the Aboriginal population.

The early years of white settlement in Victoria was disastrous for the Aboriginal population, involving dispossession, disease and murder. Though early European explorers only noted the presence of native inhabitants in passing (Moloney 1998: 28), there was probably awareness of the settlers long before regular settlement (Presland 2010: 83). With John Batman's notorious purchase of land for the Port Phillip Association, regular written records began: documents dating from the 1830s that relate to the Aborigines of Port Phillip provide a variety of official and informal viewpoints (Cannon 1982). Many documented encounters between European and Aboriginal people involve violent exchanges (e.g. Moloney 1998: 29-33), including in the Bulla district (Symonds 1985: 21-2), but the greatest effect on the numbers and health of Aboriginal people was caused by introduced diseases and land dispossession.

Partially as a result of violence between Aboriginal and European people, the Government policy towards Aborigines in the Port Phillip district included the establishment of a Protectorate system in 1839 which was to last for just ten years (Presland 2010: 95-105). The Protectorate's head was George Robinson, whose journals provide unique documentation of Aboriginal life in Victoria at the time of contact with Europeans (Presland 2010: 100). One of the Assistant Protectors drafted in from England, Edward Parker, set up his first station at Jackson's Creek, close to what would later become Bulla.

2.4.2 European explorers and settlers

The start of the historical period in Melbourne's Western Region, that is, the point at which written records began – dates from the time of European settlement in the first half of the 19th century. One major objective of Europeans who travelled to the Port Phillip district was to assess its suitability as pastoral land. This is reflected in the reports of an early explorer, James Fleming, who travelled with Charles Grimes' party in 1803 along the Maribyrnong River up to the confluence of Jackson's and Deep Creeks (Moloney 1998: 5). On their expedition of 1824, Hamilton Hume and William Hovell reported on the plains around Deep Creek and Moonee Ponds Creek, enthusiastically describing the pasture, sparse trees and good soil (Moloney 1998: 6). The pair camped for two nights in the Bulla region at the base of Gellibrand Hill near where Oaklands Road crosses the head of Moonee Ponds Creek and it was their reports that renewed interest in the Western Port region (Symonds 1985: 3). John Batman's initial foray into the Port Phillip district, in 1835, was also concerned with the land's potential as pasture: Moloney (1998: 7) writes that "... as sheep farmers, Batman and the [Port Phillip] Association members were preoccupied with open grasslands on the basalt plains to the west and north of the bay, and ignored the forested areas of the Yarra above the settlement and east of Plenty River."

Having signed the infamous treaty with local Aborigines, Batman returned to Van Diemen's Land to give glowing account of the rich pastures available for taking (Symonds 1985: 6, 13). By the time he returned on 9 November 1835, John Pascoe Fawkner, having come overland on 16 October 1835, had already erected a four-roomed weatherboard building and opened up Victoria's first pub on 7 November 1835 (Symonds 1985: 7). From this time on, pastoralists began to flow into the illegal Victorian Settlement of Port Phillip. Under an Act of the Legislative Council in Sydney, 'squatters' were placed under the control of Commissioners of Crown Land. Acts were passed in 1836 and 1838 which imposed a £10 fee to license each run regardless of the size. This imposition was a direct result of the charge of both overlanders from Sydney and the 'over-straighters' of Van Diemen's Land to Port Phillip and areas including Bulla (Billis and Kenyon 1932: v-vi).

The first official mention of 'Bulla Bulla' settlement dates to March 1837 with a visit to the area by Governor Burke who was visiting the newly founded Port Phillip District (Symonds 1985: 31). The first direct route to the Bulla district was established in 1839, crossing Moonee Ponds and following the route of Pascoe Vale Road. The path continued north through Broadmeadows before veering along what is now Mickleham Road (Symonds 1985: 64). At the earliest official land sale in the district in 1839, Fawkner, George Brodie and Thomas Ritchie each obtained large tracts throughout the Bulla area, while a second sale in 1842 led to the division of much of the land now occupied by Melbourne Airport (Symonds 1985: 31-32).

By the early 1840s, land sales in the region tended to favour smaller landholders closer to Bulla township. One of the earliest settlers, who had a great effect on the development of the Bulla township, was William 'Tulip' Wright, a convict from Hobart who came to Melbourne to be appointed the Chief Constable. Tulip, as he came to be known, supplemented his police income by running a coach service between Melbourne and Geelong, later taking over a Melbourne Hotel before constructing and opening the 'Settlers Home' Inn in 1843 on the northern side of Deep Creek, Bulla. The Inn was also known as the Deep Creek Inn and the Bridge Inn (depicted on the map in Figure 2). Tulip constructed the first bridge in Bulla to service his Inn and ran the first post office, pound and cemetery in the area (Symonds 1985: 33-34). The site of the Bridge Inn is located on the terrace to the south of the study area, just north of where Bulla Bridge crosses Deep Creek (see below, Section 3.3.6).

Until the late 1840s, the Bulla township consisted of only Tulip Wright's hotel and a few residences. As the land around the town began to be settled, services were established to cater for the farmer settlers. By 1853, the township consisted of 12 wooden houses, the Deep Creek Inn, and a separate post office and store (previously the post office had operated out of Tulip Wright's Inn). The first pound, located next to the Inn and cemetery, located above Tulip's property were run by Tulip. A shoe maker, Tommy Tompkins, soon moved into the district establishing a shop below the post office and helping construct the police barracks outside of the township, and a slaughter yard and blacksmith had also begun operation (Symonds 1985: 49-50).

By the 1860s kaolin quarrying had begun in the district, as had flour milling (discussed below). By the 1880s the population of Bulla had reached its peak with a range of industries operating in the area and the construction of several substantial homesteads. George and Robert Brodie, James Malcom and James Pearson were among a small number of landowners who owned more than £200 within the Bulla district (Symonds 1985: 67) with the division of the Bulla Common following the 1870s *Land Act*, allowing for smaller properties to be settled.

The gold rush in western Victoria brought both increased trade and increased traffic to the area, which was a route of access to the north and west. However, transport infrastructure did not develop immediately. The steep slopes associated with the Deep Creek valley at Bulla became known as 'Glue-Pot Hill' with many lives lost as bullock teams attempted to make the crossing during floods (Symonds 1985: 50). To alleviate the problem, the first cutting was made for ease of access into and out of the area, in 1843 (Moloney and Johnson 1998c). The crossing of Deep Creek at Tulip Wright's 'Bridge Inn', which is shown on maps of the 1850s and 1860s (Figure 3), was superseded in 1869, when a bluestone arch bridge with four

segmental arch spans was built (Moloney and Johnson 1998c), which today remains the main corridor of traffic across the creek.

2.4.3 Agriculture, industry and landscape

Pastoral farming and the introduction of sheep in particular had a number of direct and indirect consequences on the landscape and demographics of the region. Grazing animals would have altered the district's ecology, especially diminishing herbs and root plants (Vines 1995: 25) and causing erosion. Pastoralists were also involved in clearance of trees which accelerated erosion and affected drainage. Large sheep runs were initially controlled by single landowners during the second quarter of the 19th century. From the 1850s there was an intensified agriculture and a farming boom which was followed by decline in the 1860s (Moloney 1998: 35-6). The introduction of freehold coincided with developments in farming technology including widespread use of fertiliser, improved transport and more organised markets. Further legislative changes, including the 1862 *Land Act* and the construction of railways in the 1860s, intensified farming practices, and within the geographic region certain specialised production took place, including viticulture (Moloney 1998: 36).

Besides farming, two other practices left a mark on the land within the study area. Flour milling appears to have been short-lived, but its legacy includes the standing ruins of the three-storey bluestone Lochton Flour Mill, built beside Deep Creek in c. 1856 (Moloney 1998: 100; Moloney and Johnson 1998b, and see below, Appendix 6). The position of the mill, which is today isolated on a flat terrace west of the creek, was influenced by a westbound travel route to the goldfields which was later superseded. The mill was first owned and built by Captain William Morrison Hunter who had taken up land on the Melbourne side of Deep Creek, building 'Lochton' homestead on a hill top and the mill on the banks of Deep Creek. The mill's fortune relied on the demand for flour fuelled by the population increase of the 1850s. While the acreage under crop peaked in 1859, the boom ended as yields were decimated by poor soils, infestations and drought (Moloney 1998: 100) and the transport system expanded making it easier for flour to be bought into the region. The mill changed hands soon after its opening to the Bell Brothers before it was later owned by a W.B. Gadd until its closure in c. 1861 (Symonds 1985: 50).

Quarrying also affected the landscape around Bulla. There are two main quarried materials: basalt or bluestone from the upper slopes and escarpments above Deep Creek and kaolin extracted from the lower slopes. Kaolin, the fine white clay formed from decomposed granite, was sought after for a number of uses (including ceramic production) and Bulla was considered to have particularly fine deposits (Moloney 1998: 88). Kaolin deposits along the banks of Deep Creek were quarried from the 1850s, throughout the late 19th century and continued into the 20th century (Moloney 1998: 88-100). One such quarry is located within the present study area, which is marked as one kaolin lot on a map of 1861 and is labelled as 'McTigue's' on a map dating from 1962 (Moloney 1998: 91). Bluestone quarrying also took place from the mid-19th century onwards (Moloney 1998: 87-8). Another industry, brickworks, was closed down when the railway was proposed, diverting through Diggers Rest to Sunbury and making Bulla uncompetitive (Symonds 1985: 50).

Alongside agricultural, manufacturing and extractive industries, human settlement has affected the use and qualities of the land. This includes the development of housing and infrastructure, transportation (notably, the construction and expansion of Melbourne Airport) and specialised activities that relate with the greater Melbourne conurbation. The large

quarries, tip and landfill site directly west of Deep Creek and northwest of Bulla, has caused much ground disturbance which has probably erased all archaeological traces from these areas.

2.5 Archaeological background

The region's historical archaeology, that is, concerning the period after European settlement from the mid-1830s, has received somewhat more attention than prehistoric, Aboriginal archaeology. A large-scale heritage study was undertaken for Hume City Council that consisted of detailed research and field surveys during which dozens of historical sites were recorded (Moloney and Johnson 1998a). However, few sites have been listed with the Victorian Heritage Inventory (VHI) or Victorian Heritage Register (VHR); most listed sites appear on Hume City Council's Heritage Overlay Scheme (HO).

To assess the archaeological background of the study area and surrounding region, the relevant national, state and local authority registers were consulted and site documentation and field report were studied. The following registers were consulted: Victorian Aboriginal Heritage Register, The National Heritage List and Commonwealth Heritage List (Australian Government Department of Environment and Water Resources), Register of the National Estate (Australian Heritage Council), Victorian Heritage Register and Heritage Inventory (Heritage Victoria), and Local Council Heritage Overlays (the Hume City Council's Heritage Overlay Scheme).

Before the present study, 37 sites within the geographical region (depicted in Map 4) had been listed with the VHR, VHI or HO: three VHR sites including one with HR and HO listings and two with VHR, VHI and HO listings; seven VHI sites and 27 HO sites (Table 1). Within the study area, there is one site listed with the VHI: St Mary's Church Site (H7822-0204), located at the junction of Sunbury and Oaklands Roads. Four sites in the study area are listed with the City of Hume Heritage Overlay: Lochton Mill (HO22), Hume and Hovell Memorial (HO26), Oaklands Road Bridge (HO27) and Ponderosa (HO276). The five listed sites within the study area are shown in Map 5 and highlighted in bold in Table 1. Apart from these there are numerous historical sites, both listed and unlisted, in the close surroundings of the study area, especially around Bulla township and the former village of Oaklands Junction (Vines 1995, 35-8).

Table 1: Registered historical sites within or near the study area

Registration Type	Site Code/s	Site Name	Location
VHR, VHI, HO	H0625/ H7822-0232/ HO11	Glenara and Glenara Gardens	10 Glenara Drive, Bulla
VHR, VHI, HO	H1612/ H7822-0018/ HO25	Woodlands Homestead/ Woodlands Historic Park	Woodlands Drive, Greenvale
VHR, HO	H1643/ HO18	Former State School No. 46	Woodlands Drive, Greenvale
VHI	H7822-0199	Oaklands Junction	Perimeter Road, Melbourne Airport
VHI	H7822-0200	Glencairne Homestead	Perimeter Road, Melbourne Airport

Registration Type	Site Code/s	Site Name	Location
VHI	H7822-0201	Glenalice Homestead	Perimeter Road, Melbourne Airport
VHI	H7822-0202	Disused Road	Perimeter Road, Melbourne Airport
VHI	H7822-0203	Dam/Industrial Structure	Perimeter Road, Melbourne
VHI	H7822-0204	St Mary's Church Site	Oaklands Road, Greenvale
VHI	H7822-0205	Glenara Sheep Dam	Sunbury Road, Melbourne Airport
HO	HO10	Bluestone road and bridge cutting	Bulla Road (over Deep Creek), Bulla
HO	HO12	Former Bulla Shire Hall	96-98 Bulla Road, Bulla
HO	HO13	War Memorial	96 Bulla Road, Bulla
HO	HO14	St Mary's (Anglican) Church	100-102 Bulla Road, Bulla
HO	HO15	Gilbert Alston's Cottage	105-125 Bulla Road, Bulla
HO	HO17	Catenary Bridge	Deep Creek, behind former State School
HO	HO19	Sunnyside	20 Loemans Road, Bulla
HO	HO20	Glen Loeman	65 Loemans Road, Bulla
HO	HO21	Bulla Presbyterian (Uniting) Church and Manse	1 Sunbury Road, Bulla
HO	HO22	Lochton and Lochton Steam Mill	225 Wildwood Road, Bulla
HO	HO24	Wildwood Road Bridge	Deep Creek, Bulla
HO	HO26	Hume & Hovell Memorial	Oaklands Road, Oaklands, Junction
HO	HO27	Oaklands Road Bridge (unused)	Oaklands Road, Oaklands Junction
HO	HO29	Holden Ford & Bridge	Bulla-Diggers Rest Road (over Jacksons Creek), Diggers Rest
HO	HO32	Primitive Methodist (Uniting) Church	25 McLeods Road, Diggers Rest
HO	HO208	Bulla Cemetery	Cemetery Lane, Bulla
HO	HO209	Ritchies Run	Off Loemans Road, Bulla
HO	HO212	House	5 Trap Street, Bulla
HO	HO239	Cumberland	Woodlands Historic Park, Greenvale
HO	HO240	Dundonald	Woodlands Historic Park, Greenvale
HO	HO242	Prospect Cottage	70 Providence Road, Greenvale
HO	HO269	Balbethan Stud	310 Oaklands Road, Oaklands Junction

Registration Type	Site Code/s	Site Name	Location
HO	HO274	Oaklands (Sherwood) Hunt Club	1060 Somerton Road, Oaklands Junction
HO	HO275	Mudbrick Cottage (Wayletts Cottage)	1100 Somerton Road, Oaklands Junction
HO	HO276	House (Ponderosa)	1220 Somerton Road, Oaklands Junction
HO	HO277	Ballater Park	960 Somerton Road, Oaklands Junction
HO	HO390	Willow Bank (former Craig Bank)	400 Wildwood Road, Wildwood



Map 5: Previously registered historical sites in the study area (drawn by Paul Kucera)

2.5.1 Previously registered historical sites within the study area

The six previously registered sites within the study area are: the site of a former parish church (St Mary's Church Site: H7822-0204), the standing ruins of a mid-19th century flour mill (Lochton and Lochton Steam Mill: HO22), a monument (Hume and Hovell Memorial: HO26), a bridge which has since been demolished and replaced (Oaklands Road Bridge: HO27), a standing house (Ponderosa: HO276) and Woodlands Homestead (H1612 and HO25). Apart from the mill beside Deep Creek north of Bulla, these sites are all located along Oaklands Road, between the junctions of Somerton and Sunbury Roads.

St Mary's Church (H7822-0204) was an Anglican church built in 1858 and founded by Anne Greene who had donated the land on which it was built (Symonds 1985: 63). The church building consisted of a single aisle, bluestone structure. It was entirely moved from its original site, at the junction of Oaklands and Sunbury Road, to within the township of Bulla in 1973 due to the flight paths of planes from the nearby airport causing structural damage (Symonds 1985: 53). At the same time six burials were exhumed from the site and interred at the Bulla Public Cemetery (Clark 2005: 2). The site was recorded by Gary Vines (1995) who noted that "remnants of exotic planting associated with the church grounds survive, but the only artefact evidence was modern rubbish and highly disturbed remains of the building foundations" (Vines 1995: 58). Prior to the construction of a roundabout at the Sunbury/Oaklands Road intersection, an assessment found that at least one unmarked and unexhumed grave remained at the site (Clark 2005:3) and that the original location of the church could still be viewed and it was likely that *in situ* foundations were present.

Lochton Flour Mill, previously recorded as 'Lochton and Lochton Steam Mill' (HO22), is situated 1.6 km northwest of Bulla, in a sheltered valley at the tip of a wide meander of Deep Creek. Today the site is not visible from any road and it is in an isolated position which is difficult to access. The mill consists of an impressive, three-storey, bluestone structure which was built in 1856 (Moloney 1998: 100; Moloney and Johnson 1998c). It is associated with Lochton Homestead (not listed with the HO), a bluestone house on a hill 1.3 km northeast of the mill, which was owned by William Morrison Hunter, who built the mill. The mill was built to meet the demand for flour fuelled by the population boom of the 1850s Gold Rush and by increased agriculture in the region, though its use was short-lived due to a number of factors relating to the local and regional economy (Moloney and Johnson 1998c; Moloney 1998: 100) and it was closed in c. 1861 (Symonds 1985: 50). Further description of the site is given below, and in Moloney and Johnson's (1998c) catalogue entry on the site (Appendix 6).

The Hume and Hovell Memorial (HO26), located on the eastern side of Oaklands Road between Somerton and Sunbury Roads, was one of 39 memorials unveiled in 1924 as part of centenary celebrations of the journey of Hume and Hovell (Moloney and Johnson 1998c). The memorial was designed and constructed by A. and G. Henderson of Carlton and is an obelisk mounted on a plain stone base with three steps, made of grey, rough-faced granite. A white marble tablet is attached to the front of the memorial, inscribed with the following words: "*December 1924 / Erected / by the residents / of the district / in memory of / the explorers / Hume and Hovell / who camped / near this site / on the 14th and 20th of / December 1824*".

To the direct north of the Hume and Hovell Memorial is a small tributary of Moonee Ponds Creek which Oaklands Road crosses. Oaklands Road Bridge (HO27) was registered as a

timber bridge, probably dating from the 1860s, which Moloney and Johnson (1998c) describe as an unusual survival of a 19th-century timber bridge. It appears that the bridge has since been demolished, removed or built on with a new bridge. Further north from here is the crossroads between Oaklands and Somerton Roads, at the northeast corner of which is a property called 'Ponderosa' (HO276), which was occupied by James Musgrove, an agricultural implement maker and inventor. The main house dates from c. 1887 and is described by Moloney and Johnson (1998c) as "a substantially intact, characteristic Victorian villa", which may incorporate the remains of the turn-of-the-century Oaklands Creamery.

Woodlands Homestead (H1612 and HO25) is located within the Woodlands Historic Park, which occupies land to the east of Oaklands Road. The original part of the homestead consists of a prefabricated building which was erected in 1843. The registered area of the site was extended in March 2012 to cover the whole of Crown Allotment 50, Section 1, Parish of Bulla (SPI: 50~1\PP2258), including the homestead, stables, outbuildings and the surrounding landscape. The study area intersects with the western side of this land, though the main homestead building is approximately 500m distance from the study area.

2.5.2 Previous archaeological investigations

The most comprehensive study of historical archaeology in the region is the *City of Hume Heritage Study* which was carried out in the 1990s and resulted in a six-volume report by David Moloney and Vicki Johnson (1998). Historical sites were recorded across the eleven parishes of the former Shire of Bulla, including 161 'places of significance', 60 'historical sites and potential archaeological sites', and a number of other 'ruins and archaeological places', which the study identified but were not assessed in detail. Four 'places of significance' and two 'historical sites and potential archaeological sites', as well as four 'ruins and archaeological places' are located in the present study area. Within a 2 km radius of the study area there are 25 'places of significance' and eight 'historical sites and potential archaeological sites'.

Moloney and Johnson's study established not only the location and type of historical sites but reviewed sources of information on the region's modern history such as maps, and identified key environmental, social and economic themes. Most other heritage assessments and archaeological studies of the region have involved heritage assessments in advance of building developments. These studies often include desktop assessments and general or extensive site surveys, such as a study along the Moonee Ponds Creek (Weaver 1991), in Woodlands Park (Stone 2002) and across the entire Hume City Council area (du Cros 1996; Travers et al. 2010). There have been no documented archaeological excavations within the study area and no known excavations of historical sites in the wider Bulla region.

One investigation that took place close to the present study area was focused on the northern part of Melbourne Airport, in the forest southeast of Bulla (Vines 1995). The area includes the location of Oaklands Junction, the abandoned settlement that now lies within the airport boundary but which used to be situated on the main road between Melbourne and Bulla (discussed above). Seven historical sites were recorded including the Inverness Inn (H7822-0199), Glencaire Homestead (H7822-0200), a 'disused road' (D7822-0202), a 'dam and industrial structure' (H7822-0203), the aforementioned St Mary's Church site (H7822-0204) and an area that includes a 'sheep wash, dam and hedges' (H7822-0205). Other studies examining the Melbourne Airport precinct include background research in advance of a proposed Melbourne Airport Link (du Cros & Associates 1998) and a survey in which one

historical site – a dry stone wall which was later ‘de-listed’ (D7822-0244) – was recorded (Rhodes and Nicholson 1998), followed by another survey during which a bluestone culvert or bridge across a tributary of Steele Creek was recorded (Clark 2002).

Some projects have had a more focused geographical scope, among them Vincent Clark’s (2005) assessment of St Mary’s Church. Another study confined to a single property parcel was Fiona Weaver’s (2006) survey of 470 Sunbury Road, which is within the present study area. This identified three historical features: a dry stone wall, an access track and an early road, though no buildings or structures that were registered. Weaver (2006: 32) concluded that the land was probably part of one of the early pastoral runs within the district.

On the basis of previous studies, particularly the *City of Hume Heritage Study* (Moloney and Johnson 1998), several unrecorded or unregistered historical sites are known to be situated within the present study area. This is confirmed by maps of the 19th and 20th centuries which depict both existing structures and planned housing developments, some of which never came to fruition (Moloney 1998). Before starting the field investigation, historical maps and aerial photographs were consulted in order to identify places of historical/archaeological interest. Maps dating from the 1840s and 1850s indicate the location of early pastoral stations (Figure 1) and the unrealised plans to build Bulla on the flats beside Deep Creek (Figure 2) with the position of the creek crossing prior to the construction of the bluestone bridge further to the south (Figure 3). Of particular use for the field survey are maps dating from 1916 and 1938, which depict structures that were present at those times (Figure 4 and Figure 5) as well as aerial photographs taken in the 1960s (Figure 6).



Figure 1: Hand-painted map of property divisions in the Bulla district, thought to date from 1846 (State Library of Victoria)



Figure 2: Map of Bulla, showing property subdivisions beside Deep Creek, Surveyor General's Office August 31st 1855, lithographed by J Jones (State Library of Victoria)

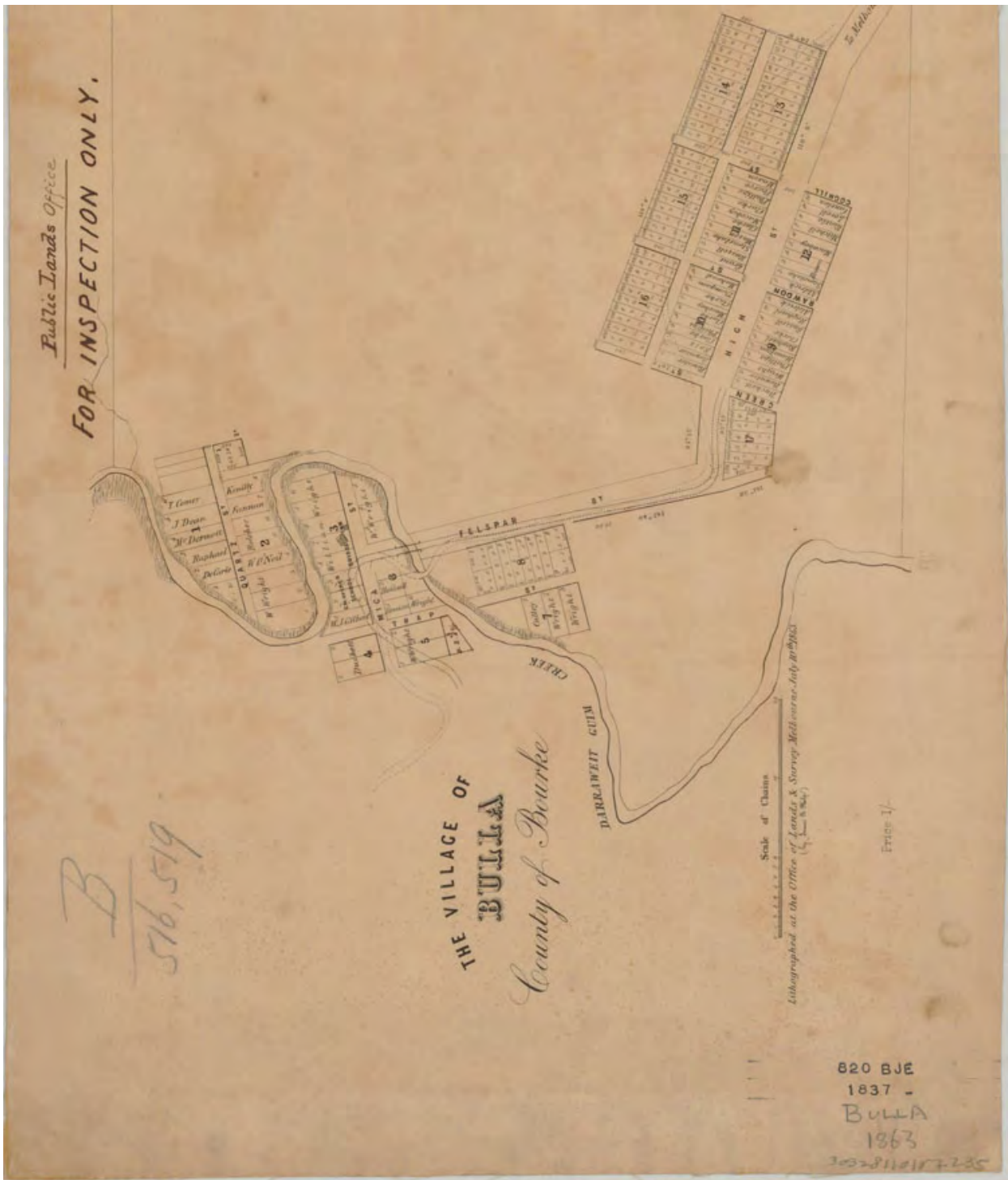


Figure 3: Map of Bulla, lithographed at the Office of Lands and Survey, Melbourne, July 10th 1863, by James B. Philp (State Library of Victoria)

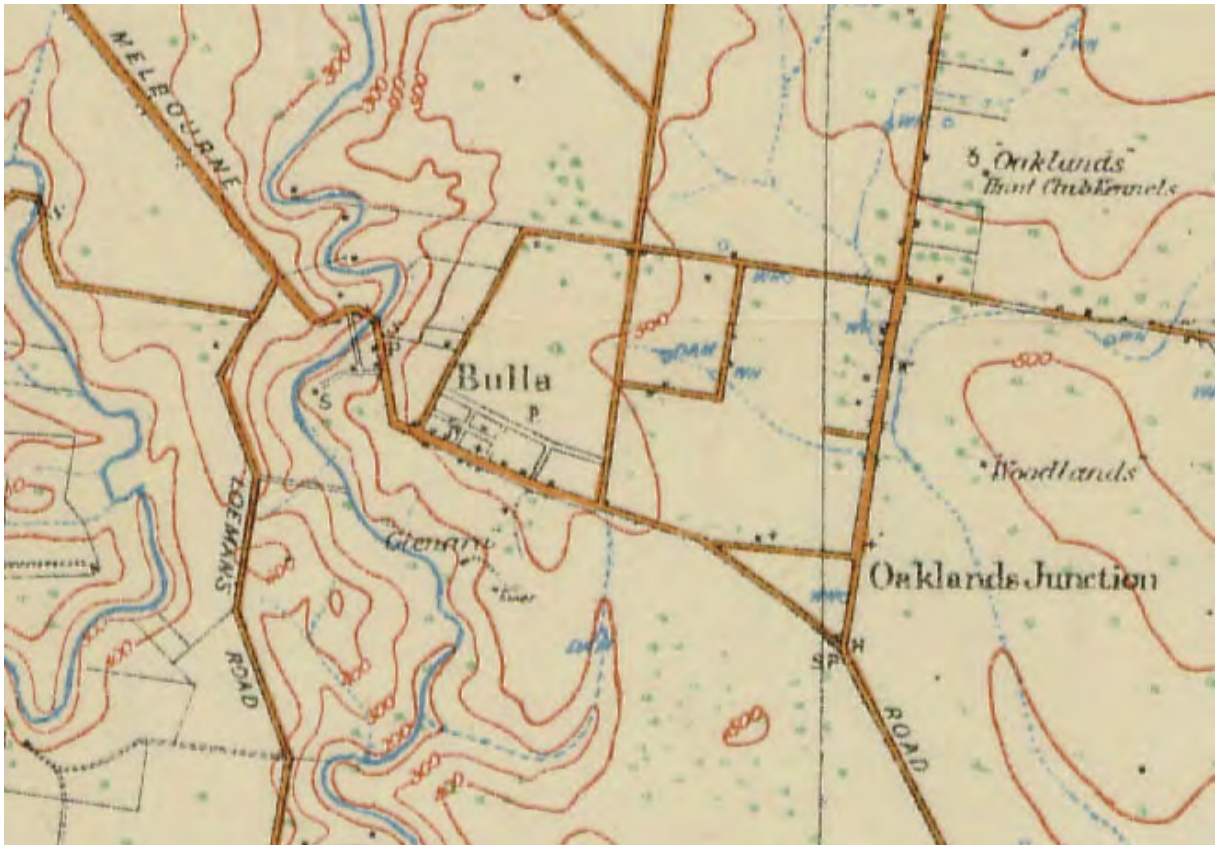


Figure 4: Detail of map dating from 1916 (Sunbury 1:63,360, Great Britain War Office General Staff, Commonwealth Section: State Library of Victoria)

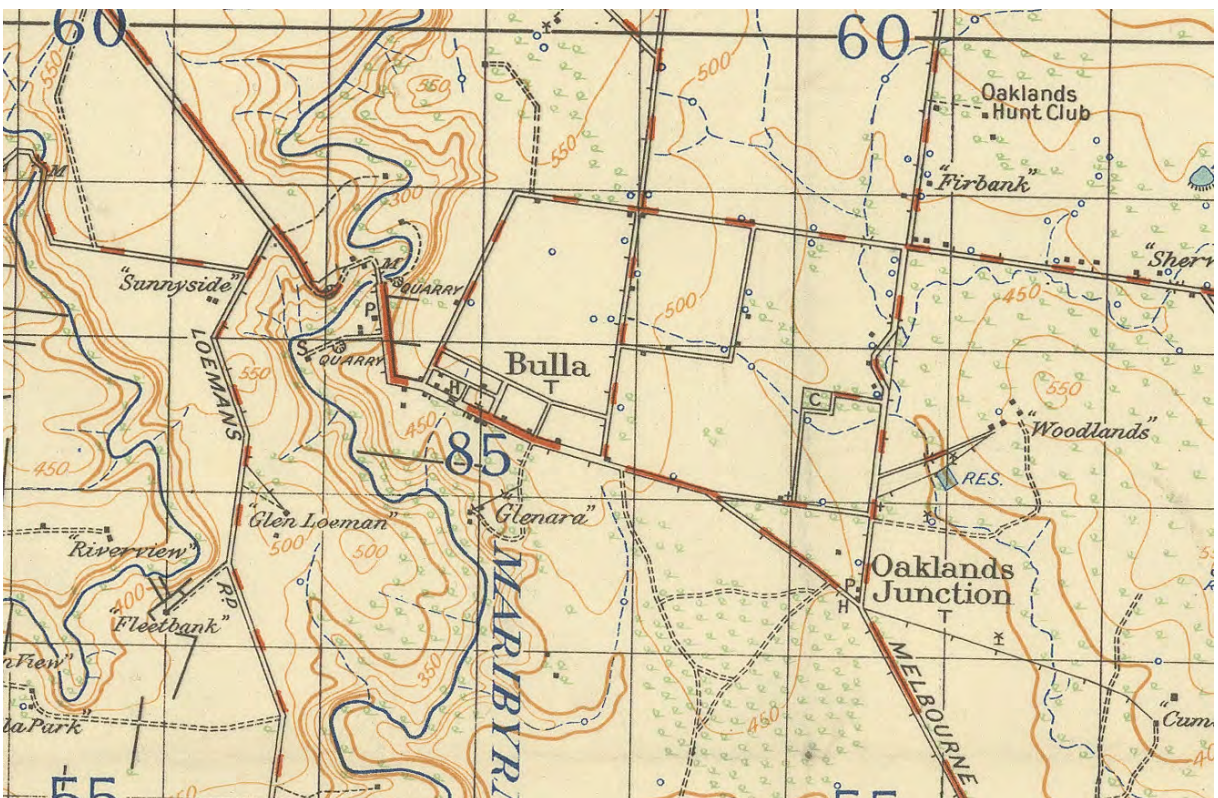


Figure 5: Detail of map dating from 1938 (Sunbury 1:63,360, Australian Section, Imperial General Staff)



Figure 6: Detail of Deep Creek and west of Bulla from aerial photograph taken in 1960 (Melbourne & Metropolitan Project, Run 5, 20.2.60)



3. Field survey

The primary aim of the survey was to locate and record historical sites, features and buildings that are present within the study area. As well as locating sites, information was sought on land use and the presence of historical occupation and work sites in relation to the physical environment. Moreover, historical issues identified during the background research, relating to contact between Aborigines and Europeans, the arrival of explorers and settlers in the region, pastoral farming, growth of agriculture, industries such as stone quarrying, travel routes and modes of transport, changing patterns of land tenure, the establishment and expansion of Bulla and its development in relation to the expanding Melbourne conurbation, were taken into account.

The field survey was carried out during November and December 2011 by representatives of Dr Vincent Clark & Associates and Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated. The following people participated in the fieldwork: William Anderson, Vincent Clark, Trevor Downe, Jenny Howes, Ron Jones, Helen Kiddell, Jo-Anne Low, Michelle Negus Cleary, Robert Mullins, Shane Nicholson, Kim Oataway, Jasmine Scibilia, Angela Smith, Craig Terrick, Kerrie Xiberras and Naomi Zukanovic.

3.1 Methodology

Before the field survey, information on the character of the study area was reviewed, particularly concerning terrain, land use and ground cover. Topographic maps, aerial and satellite images and landowner and property details were consulted, to formulate a method that would enable the fullest possible coverage of the study area within the allotted time. Areas where cultural material was expected to be present were identified using the information gained during the background study. Systematic methods were used where possible, though opportunistic methods were the main form of investigation due to the size of the study area and poor ground visibility across large portions of land.

The survey team consisted of five or six persons, sometimes divided into two teams of three. Most parts of the study area that were accessible and where there was sufficient ground visibility were visited and assessed. Teams conducted manual and digital recording of terrain and ground cover, visibility and disturbance and documented the presence and type of cultural material using written notes, digital cameras and differential GPS devices (Topcon GMS-2).

The majority of cultural material located during the ground survey consists of Aboriginal lithic artefact scatters. Details on these findings are contained in a separate report that deals with Aboriginal cultural heritage (Anderson, in prep.). During seven days of survey, the entire study area was assessed and the majority of the area was inspected by foot. Some portions are inaccessible or have undergone significant ground disturbance. On land where there was poor visibility, areas of erosion and disturbance such as below trees and along fence lines were sought out and closely inspected. Using a combination of remote sensing, extensive and intensive ground survey, an assessment was made of the location and volume of cultural material across the study area.

3.2 Survey coverage

The study area was divided into three main sections which correspond with the alignments being considered by VicRoads for the proposed Bulla Bypass and Outer Metropolitan Ring Road (OMR) link (VicRoads 2011, Fig. 2). Section 1 spans the area between the Tullamarine Freeway in the south and Somerton Road in the north, section 2 covers the proposed east-west Bulla Bypass route, and section 3 is the northern extension of the OMR link, north of Somerton Road. The three sections were divided into sub-sections that formed the main units for organising the field study and for presenting the results (Map 3).

To provide an accurate account of the survey's coverage and to assess land use and ground conditions, ratings were applied to the study area. The ratings express ground cover present at the time of the survey and also relate to land use and ground visibility (Appendix 3). The codes were introduced to the GIS as table attributes for representative polygons which were drawn on to the map of the study area. The extent of these polygons representing variable ground conditions was informed by satellite and aerial imagery, field notes and photographs. The representation of ground conditions at the time of the survey allow for an accurate estimate of coverage and also inform interpretation of the survey's findings, including the location and condition of cultural material in relation to land use and surface visibility.

The surface area (m²) of each ground cover code within each sub-section is presented in Appendix 4 and the visibility (%) within each sub-section is presented in Appendix 5. These show considerable variation in ground cover and visibility across the study area. The sub-section with the best ground visibility is 2D, while there is poor or nil visibility across most of Section 3. There is significant disturbance especially in Section 2F, much of which is occupied by a tip and landfill site. By mapping ground cover conditions, the correspondence between the presence of artefacts and good ground visibility can be demonstrated.

3.3 Survey results

During the field survey, information was gathered on the topography, geomorphology and land use of the study area, and surface artefacts and above-ground features were recorded. The majority of recorded artefacts and sites are composed of flaked stone: of 708 artefacts recorded at 536 locations (points), 659 are classed as Aboriginal lithic artefacts. These were interpreted as constituting 49 sites, which in addition to two previously recorded sites means there are currently 51 Aboriginal sites registered with the VAHR within the study area (Anderson, in prep.). A total of 13 historical, non-Aboriginal features were recorded, and surface artefacts or artefact scatters were recorded at 32 separate points (Appendix 2). The co-occurrence of lithics and historical items (e.g. glass and ceramics) at two sites (VAHR 7822-3265 and -3262) may indicate these places as 'contact' sites, especially where hand-knapped glass is present.

Five previously unrecorded historical sites were identified, in accordance with Heritage Victoria's criteria for recording historical archaeological sites, and were added to the Victorian Heritage Inventory. One site listed on the HO (Lochton Flour Mill) was recorded and added to the VHI. Adding the four other previously recorded VHI and HO sites, there are now ten registered historical sites located within the study area (Table 2).

Table 2: Currently registered historical sites within the study area

Section	Registration Type	Registration Number/s	Site Name	Description
1D	VHI	H7822-0204	St Mary's Church Site	19th-century church and graveyard site
1D	HO	HO26	Hume & Hovell Memorial	Monument built in 1920s
1D	VHI	H7822-2309	Campbell's Cottage	Chimney stack and remains of 19th-century house
1D	HR, HO	H1612, HO25	Woodlands Homestead Stables and Outbuildings	Buildings, features and surrounding landscape in Woodlands Park
1E	HO	HO27	Oaklands Road Bridge	Disused bridge
1E	VHI	H7822-2310	Oaklands Road Cistern	Brick dome shaped cistern
1E	VHI	H7822-2308	Oaklands Road Paving	Brick paving and planted bushes
2A	VHI	H7822-2305	Oaklands Road Homestead	Location of 19th-century house
2A	HO	HO276	House (Ponderosa)	19th-century house
2B	VHI	H7822-2307	Wildwood Road Farmstead	Remains of paving and buildings
2E	VHI, HO	H7822-2306, HO22	Lochton Flour Mill	Bluestone mill complex

Historical artefacts and features are especially concentrated in three areas: the south of Oaklands Road, the west of Somerton Road and on the east and west banks of Deep Creek. The present discussion of results will treat sub-sections of the study area separately, in accordance with the presentation of the survey method and coverage.

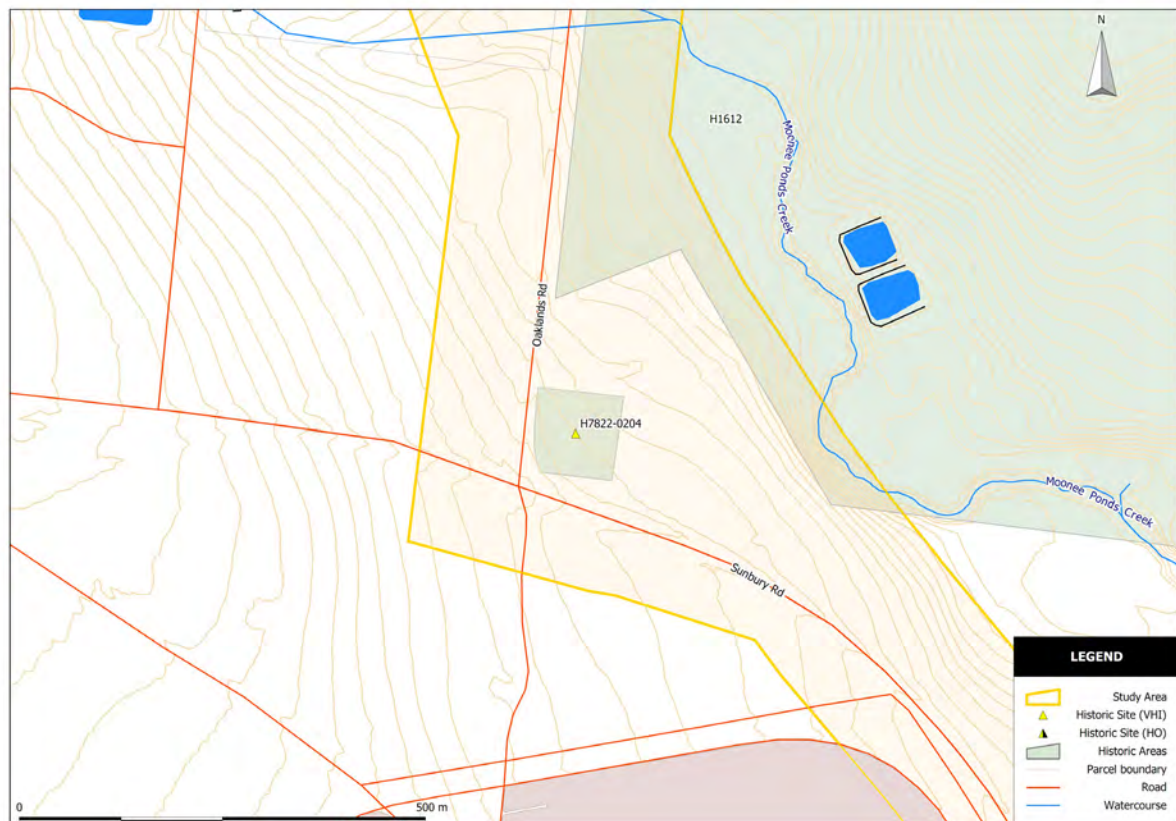


Map 6: Currently registered historical sites within the study area (drawn by Paul Kucera)

3.3.1 Section 1A, 1B and 1C: Melbourne Airport

The southern part of the study area follows Sunbury Road, east of Melbourne Airport, to the roundabout and junction with Oaklands Road. Near the roundabout is the former site of St Mary's Church (Photo 1), the only place in the study area that was previously listed on the VHI (H7822-0204). The church and burials were removed to near Bulla in the 1970s, though one or more unmarked graves are suspected to remain at the site (Clark 2005). The site now consists of two adjacent square plots, one covered in trees and other vegetation and the other with patches of grass and eroded ground. South of here, within the perimeter of Melbourne Airport, are the former settlement of Oaklands Junction and the route of the former road between Tullamarine and Bulla (Vines 1995).

To the west of St Mary's, Moonee Ponds Creek runs in a north to south direction, and on its opposite bank is Woodlands Historic Park, the location of Woodlands Homestead which is listed on the Victorian Heritage Register (H1612; H7823-0018; HO25); the study area crosses the western part of the land registered as H1612. Within the study area, close to the creek, are two windmills, thought to date from the mid-20th century (GPS points 058 and 258).



Map 7: Section 1C and south of 1D, showing St Mary's Church (H7822-0204) and Woodlands Homestead (H1612)

3.3.2 Section 1D and 1E: Oaklands Road

Along Oaklands Road, between its junction with Sunbury Road in the south and Somerton Road in the north, there are two sites that have a Heritage Overlay listing (Hume and Hovell Memorial: HO26 and Oaklands Road Bridge: HO27) Three other historical features along

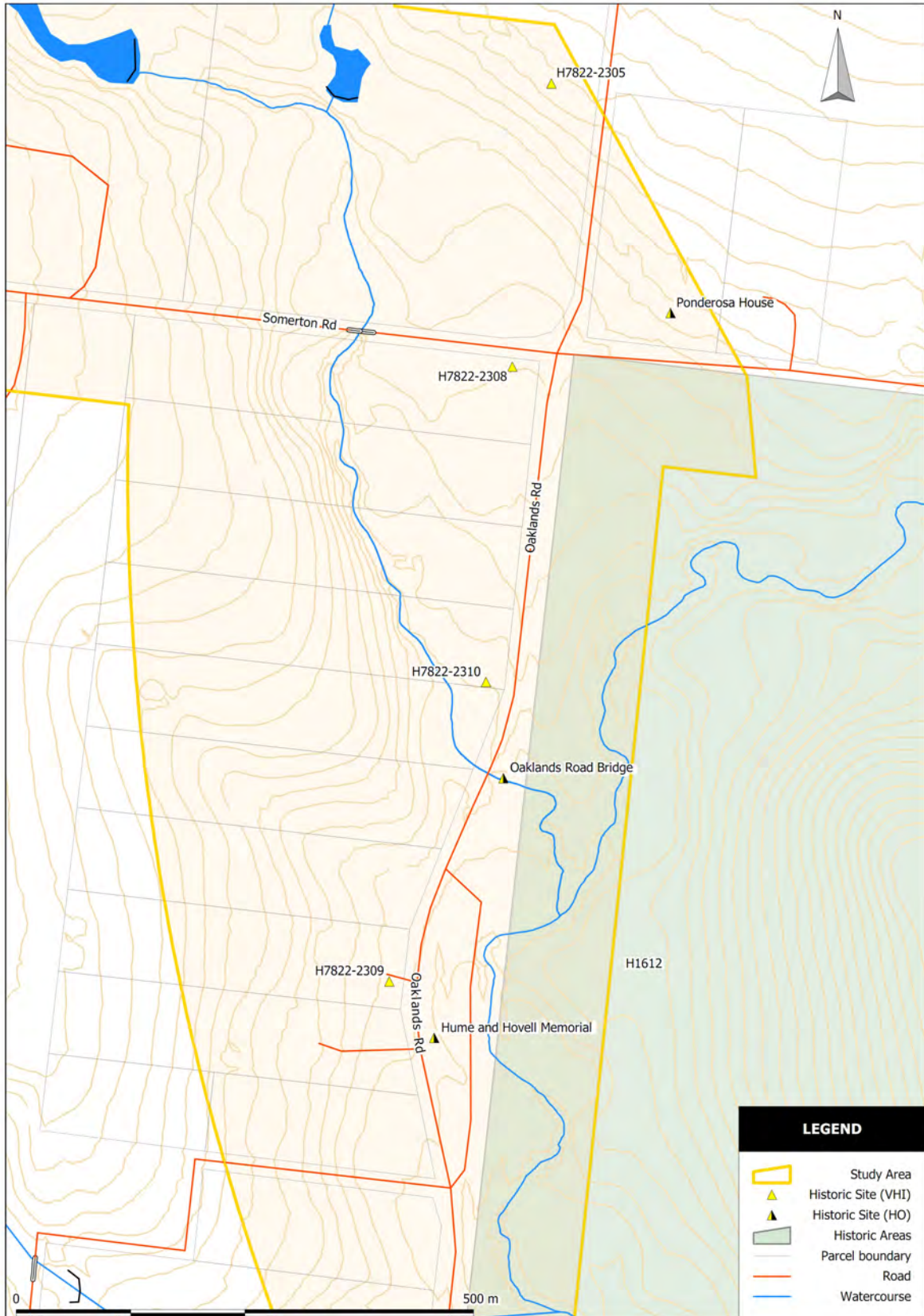
this stretch of road have now been recorded and registered with the VHI, and the study area continues to intersect with the registered Woodlands Homestead, Stables and Outbuildings (H1612, HO25). The course of Oaklands Road probably dates from the earliest phase of European settlement in the region. Its construction was officially declared in 1848, though the route might already have been in use during the previous decade (Moloney and Johnson 1998b). East of Oaklands Road is grassland and open woodland, with vegetation and trees becoming denser along the banks of Moonee Ponds Creek and on the west is a series of residential properties.

Oaklands Road curves slightly to the west half way between Somerton and Sunbury Roads, perhaps to avoid boggy ground near the creek. At this diversion, on the east of the road, is a suspected ford which may be a precursor to the route that was already shown along its present course on maps of the early 20th century (Photo 2). To the north of this ford, in a lay-by east of the road, stands the monument (HO26) erected in the 1930s to mark the supposed camp site of Hume and Hovell, who passed through the area a century before (Photo 7). Opposite here, on the west side of the road, is the chimney stack of a 19th-century house, Campbell's Cottage (Photo 3), which was previously discussed by Moloney and Johnson (1998c), when the whole house was standing (it is said to have burnt down in 1999). The site has now been listed with the VHI (H7822-2309).

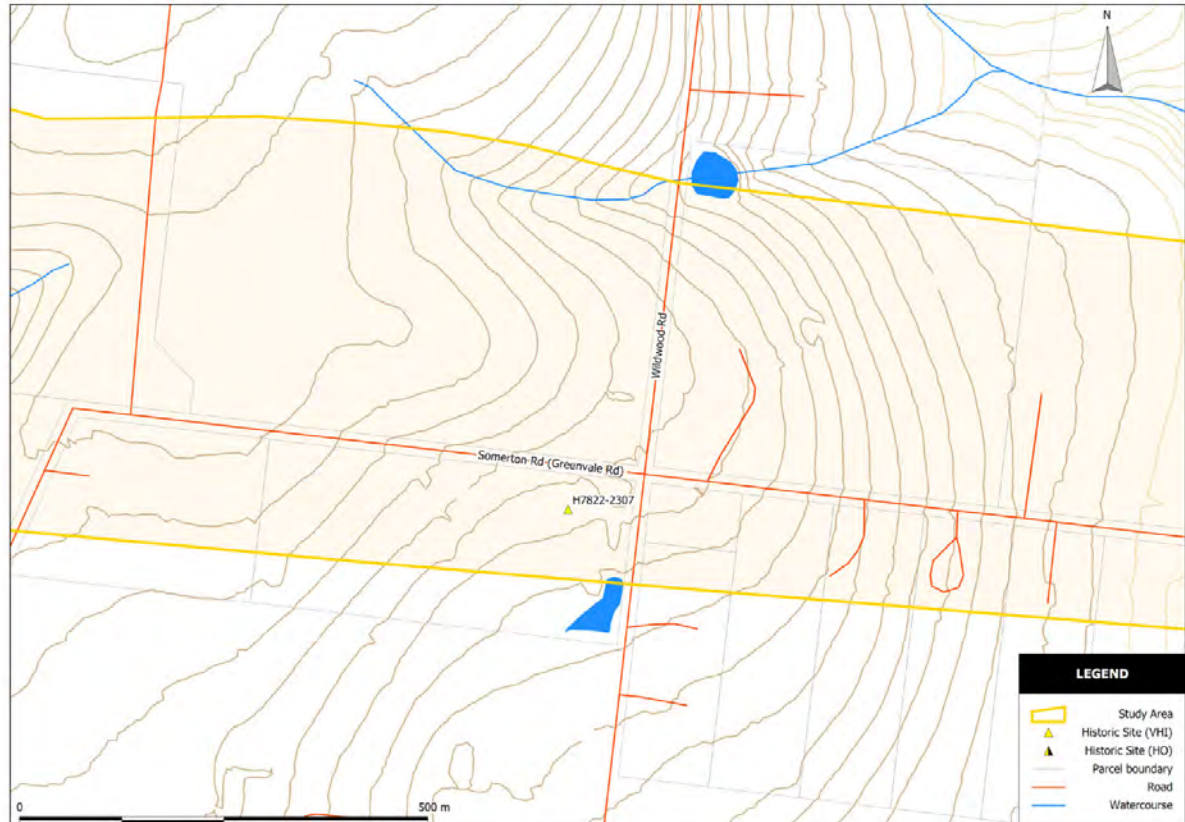
The property at 85 Oaklands Road, to the south of Campbell's Cottage, is the location of a former structure, which is indicated on the 1938 map (Figure 5). Inspection of this site did not locate any above-ground features, though two peppercorn trees at the north of the plot might be associated with the former structure, and the current landowner said that in the past old bricks and artefacts had been concentrated around these trees.

To the north of the residential properties is a channel that flows from northwest to southeast, passing beneath the road, before converging with Moonee Ponds Creek. The former bridge here was listed on the Hume Council Heritage Overlay (HO27), however, this has been replaced or rebuilt in recent times. The field to the north of this bridge and west of Oaklands Road is the location of two newly recorded historical sites. In the southeast of the field, close to the road verge, is a brick dome cistern, recorded as Oaklands Road Cistern (H7822-2310), which is sealed and has concrete coating across its top (Photo 4). This may be the site of a farmstead or house of which there are no above-ground remains. More structural remains are located in the far northeast of the field, at the southwest of the Somerton and Oaklands Road junction (Photo 5). These consist of an area of brick paving beneath a boxthorn tree and a small number of glass and ceramic sherds in the vicinity (Oaklands Road Paving: H7822-2308). This is likely to be the site of a 19th-century house or perhaps hotel, which dates from after the time that this crossroads was constructed: the building is shown on maps dating up to 1917 but not after (Figure 4).

On the northeast corner of the junction of Oaklands and Somerton Roads is the property called 'Ponderosa', home of the agriculturalist James Musgrove (HO276). Opposite here, on the west side of Oaklands Road, are walls, standing chimneys and fireplaces and remnant floors of a possible early 20th century building (Oaklands Road Homestead: H7822-2305), which has subsequently undergone refurbishment but now stands in ruins (Photo 6).



Map 8: Section 1D and 1E, showing sites along Oaklands Road and extent of Woodlands Homestead (H1612)



Map 9: Section 2B, showing Wildwood Road Farmstead (H7822-2307)

3.3.3 Section 2A and 2B: Somerton Road

West of Oaklands Road, the study area follows the route of Somerton Road, spanning both sides of the road, the larger portion being to the north. The corridor crosses the junction with Wildwood Road and continues west, along the continuation of Somerton Road known as Green Street or Greenvale Road, which then bends southward into Bulla, while the study area continues west, downhill towards Deep Creek.

At the Wildwood Road junction, and west of here, there are four areas of historical interest. On the southeast and southwest of the junction are the remnants of two residential complexes. The one on the southeast has been demolished and now lies within the garden of a modern house (1405 Somerton Road) where there are some bluestone pieces and ceramics around the margin of the property. On the southwest corner, a more extensive agglomeration of buildings that is likely to be the site of a farmstead and perhaps coaching stables (registered as Wildwood Road Farmstead: H7822-2307). The immediate corner, including the probable site of the main house, has been destroyed by the introduction of large mounds of earth, though there are further structural remains in the field to the south and west, including areas of bluestone paving (Photo 8) and a brick structure with a chimney and two vats (Photo 9). The position of buildings, probably sheds, can be discerned from 1960s aerial photographs, and the building is also shown on the 1916 map (Figure 4).

On the north side of the Somerton Road continuation is located an Aboriginal artefact scatter (Photo 10), and among the lithic items are ceramic and glass sherds, brick and a clay pipe (Photo 11). The relationship between the lithic and 19th-century artefacts is uncertain, though

it is possible that this is the site of a contact-era Aboriginal encampment. Having said this, historical artefacts do appear to continue along a track to the north, which might once have been a route towards Lochton homestead, though there are no structural remains in evidence. Another standing historical building is situated to the west, on the south side of Somerton/Greenvale Road/Green Street, which is shown on the early 20th-century maps and the aerial photograph of 1960 (Figure 6).

3.3.4 Section 2C: Deep Creek East

At the driveway to Lochton homestead, where Green Street bends southwards into Bulla, is a stretch of flat land that then drops sharply into the valley formed by Deep Creek. Another gully, running east/west, follows the alignment of Somerton Road. At its source is a cliff with basalt outcrops, with areas of possible bluestone quarrying which is now a landfill site, followed by steep slopes that drop some 70 m to the valley floor. On the southeast bank of Deep Creek, the study area crosses a large, sub-circular terrace, where the creek meanders in a wide arc to the west (Photo 12). The northern half of the terrace is slightly raised and there is a distinct, linear tail that runs from east to west. Immediately beside the creek, the ground falls away to the creek which is bordered by large granite boulders. This terrace is the site of an extensive Aboriginal site (Bulla 1: VAHR 7822-3278), where some historical items are among the plentiful lithic artefacts. The area was clearly in use during the 19th century, as it was subdivided into a series of roads that branch from Quartz Street, which were perhaps intended as the continuation of Bulla, but which were never developed (Figure 2). Only one structure is indicated here on the 20th-century maps and it is also shown on the 1960 aerial photograph, where the surrounding land includes a possible orchard and market garden (Figure 6). At the foot of the ravine formed by Deep Creek are outcrops of kaolin, which were quarried between the mid-19th and mid-20th century, including as a material used for fine ceramics (Moloney 1998, 88-100; Moloney and Johnson 1998c). The study area crosses one large quarry, which on one map, produced by the Department of Mines in 1962, is labelled as 'McTigue's' (Moloney 1998: 91). The quarry does not qualify as an archaeological site, as defined by Heritage Victoria, though it does have considerable historical and geological interest.

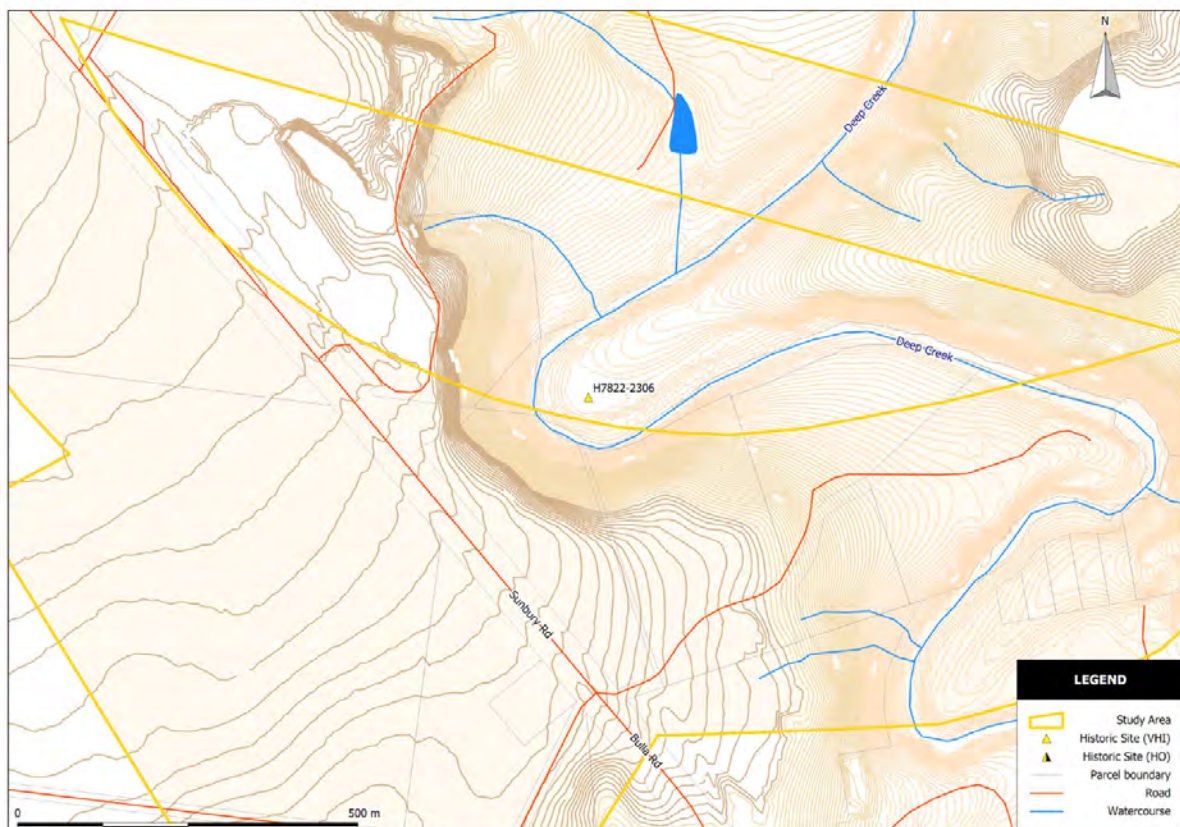
3.3.5 Section 2D: Lochton

Lochton homestead, a 19th-century stone house, is situated 700m north of the point where Green Street curves south towards Bulla (Moloney and Johnson 1998c). To the east of the house are flat fields, and to the direct south is a north/south-aligned gully. Between this gully and Deep Creek is a spur that projects to the west. The spur has steep slopes on its north and south sides, and its western side consists of a long, west-facing slope, where Lochton Mill, a mid-19th-century bluestone building, is situated on a flat terrace east of Deep Creek (Moloney 1998, 100; Moloney and Johnson 1998c).

The northern branch of the study area, at its crossing of Deep Creek, passes directly across the spur west of Lochton homestead. The terrain is characterised by steep to moderate slopes and a series of terraces. From its summit, at 160 m above sea level, the spur drops some 70 m to Deep Creek. Ground cover consists predominantly of open eucalypt forest, patches of light vegetation and bare ground. Across the summit and terraces of the middle slopes are half a dozen lithic scatters, and among some of these are historical artefacts. This is particularly the

case on the spur summit (Lochton 1A: VAHR 7822-3265), where glass and ceramic are among the extensive, and in parts dense, lithic scatter (Photo 13). There are some hand-knapped glass bottle bases at this location (Photo 14). On the crest facing south down Deep Creek valley is an agglomeration of boulders which might be remnants of a structure, though no artefacts were found on the surface here and there was insufficient information to register this site (Photo 15). It is probable that this hill-top was the main access point for Lochton Mill and that the track that runs down the gently slope has been in use since the mill's construction.

From the summit, a track runs down the gentler, west-facing slope of the spur towards Lochton Flour Mill (H7822-2306), on the east bank of Deep Creek. Today, the mill is an impressive ruin that stands at three storeys height on all four sides. Ancillary buildings, which are visible on a 19th-century photograph (Photo 17), now consist of foundations and piles of building stone. The mill's history, from its construction in c. 1856 to its abandonment barely more than a decade later, is well documented (Moloney 1998, 100; Moloney and Johnson 1998c – see Appendix 6). The site has significance for the archaeology and social history of the Bulla district and arguably the wider region. The site is currently being proposed for a listing with the Victorian Heritage Register: an application was submitted to Heritage Victoria on 21 December 2012.



Map 10: Section 2E, showing Lochton Flour Mill (H7822-2306)

3.3.6 Section 2E: Deep Creek West

West of Deep Creek, the southern branch of the study area crosses a river terrace and then steep slope that leads to the escarpment along which Sunbury Road runs. The topography

consists of alluvial flats beside the creek, slopes with granite boulders towards the bottom and basalt outcrops at the top; and the escarpment and plateau to the west. Though mirroring the topography of Section 2E, this area's modern land use history is different. The flat area beside the creek has been occupied since the mid-19th century. This is in an equivalent location to the Bridge Inn, which occupied the stream terrace on the next meander bend to the south, and was the main crossing of Deep Creek prior to the construction of the bluestone bridge in 1869 (see above, Section 2.4.2 and Figure 3). The creek flat has undergone significant disturbance in the last few years (Photo 29).

On the west bank of the creek there are none of the kaolin quarries that are present on the lower slopes of the east bank. There are, however, historic bluestone quarries on the escarpment above (Photo 25), as well as a dam and a recent, demolished house, but otherwise, less extensive ground disturbance: two separate buildings are shown on the 1960 aerial image, though these do not appear on the 1938 map and are thought to date from the 1950s; inspection of these places determined that they have low archaeological potential. Also appearing on the 1960 aerial image is a complex of several structures on the flat beside the creek (Figure 6). At least some of these features are likely to date from the mid- and late-19th century, though there are now no structural remains evident on the surface.

Major ground disturbance occurred on the west bank of the creek in 2010, when standing buildings and sheds were demolished, large quantities of refuse were cleared and a substantial embankment, some 8 m in height, was formed by moving earth up to the creek bank. Further land modification has included mechanical grading and excavation of tracks across the hillside. The only remnants of the structures that once stood in this location are scatters of redeposited ceramic and glass that are concentrated on the flat ground at the valley side as well as some artefacts on more gently inclined land of the middle slope (Photo 26). One indicator of the mid-19th-century use of this area is a token, dating from 1849, found on the surface in the centre of the promontory of the creek terrace. This is a token, minted by Soho Mint in Birmingham, 1849; issued by Annand Smith & Co, family grocers, in Collins Street, Melbourne. It shows the female personification of Britannia on obverse and has "Annand, Smith & Co / Family Grocers / Melbourne" inscribed on the reverse (MV 2008).

3.3.7 Section 2F: Bulla Tip

The northern branch of the study area on the west side of Deep Creek runs between the creek banks and Batey Court in the west, a track that leads off Sunbury Road. The valley slopes are gentler here than those further south, which opposite Lochton Mill are sheer cliffs. There has been significant ground disturbance across most of the area, which is occupied by a large landfill site (Bulla Tip and Quarry). On gently sloping ground some 100 m west of the creek there are a series of rectilinear piles of earth above a slightly raised embankment that marks the edge of the creek zone (Photo 30). Their exact identity is unclear, though they appear to have been deposited in recent years: they are not on the 1960 aerial photograph and they do not appear to be demolished structures. However, there are quite plentiful 19th-century artefacts on the surface and this place is marked on maps from as early as the 1840s as being the site of 'Baillie's Station' (Figure 1), which probably refers to an early pastoral station, perhaps dating from the earliest time of European settlement in the district. It is therefore suspected that this is the site of a historical settlement, though there is insufficient evidence for it to be recorded as a 'historical archaeological site'.

3.3.8 Section 2G and 2H: Digger's Rest Road

To the west of Deep Creek, Sunbury Road climbs the valley side before running in a southeast/northwest direction. The fields to the south of Sunbury Road and the western end of the study area make up Section 2G and 2H. The land consists of the flat volcanic plain, intersected at the far west by the upper part of a minor tributary that runs south towards Jackson's Creek. Most of area to the south of Sunbury Road is used for arable farming, and was under crop at the time of the survey. The remainder of the area is formed by the verges on either side of Sunbury Road, with a small area consisting of a farmyard at the west of Section 2H and a driveway leading to a residential property north of Sunbury Road. There were no historical archaeological remains identified in this part of the study area.

3.3.9 Section 3A and 3B: St John's Road

To the north of Somerton Road, near its junction with Oaklands Road, a branch of the study area follows a northerly direction, curving to the west and then branching to the southwest and northeast at St John's Road. The area is the central part of the plain to the west of Moonee Ponds Creek, and the terrain is uniformly flat. A minor, artificial drainage line runs between a reservoir and a dam at the south of the sub-section. The land consists entirely of pasture, and there is tall grass across the whole area: except for small patches of bare earth beneath rows of fir trees there is no ground visibility. An intact bottle, probably dating from the second or third quarter of the 20th century, was recorded along the drainage ditch, close to Somerton Road, but no other historical archaeological remains were found in this part of the study area.

3.3.10 Section 3C: Wildwood Road

To the north of Section 3, a branch of the study area spans the fields between Wildwood Road and St John's Road. Here, the plain is gently undulating, with a slight slope to both the east and the west, towards Deep Creek. There were no historical archaeological remains identified in this part of the study area.

3.4 Conclusion

The ground survey found historical features and artefact scatters to be focused especially in three parts of the study area: Oaklands Road, the junction of Somerton and Wildwood Road, and on both sides of Deep Creek. This distribution accords with the known location of 19th- and early 20th-century settlement in the district, as shown on maps and described in historical texts, but also includes places that have not been well documented. The chronology of the three areas may span the entire period of European occupation in the Bulla region, and it is likely that European explorers and settlers who visited here between the 1800s and 1830s traversed these districts.

There appears to be a difference in the date of features and structures along Oaklands and Somerton Road, which are from the later 19th century, and those in the Deep Creek area, which are from the mid-19th century, and in some cases earlier. This is significant because the former reflects the location of road systems that were laid out following the sale of land from the 1870s, while the latter are in positions that might have been significant in relation to Deep Creek, but which pre-date the establishment of roadways. An example is the early crossing of Deep Creek, pre-dating the construction of the bluestone bridge in 1869, which is located in Section 2E, near to the site of the former Bridge Inn. While the Oaklands and Somerton Roads sites are mainly residential, those in the vicinity of Deep Creek include agricultural and industrial sites, such as Baillie's Station, Lochton Mill and the kaolin and bluestone quarries. Alongside the historical sites near Deep Creek there is plentiful evidence of long-lived and intensive Aboriginal occupation, and in some places the co-occurrence of lithic and industrially-manufactured artefacts may point to the presence of Aboriginal occupation following the arrival of Europeans.

To conclude, the results of the survey show the surroundings of Bulla, including beside Deep Creek and along Oaklands Road near Moonee Ponds Creek, to be significant for the understanding of historical settlement, economy and society in the 19th and 20th centuries. As a result of the survey, six sites were recorded with the VHI (Table 2). Surface artefacts were located in a number of other locations (Appendix 2), and there are also sites where historical and cartographic information indicate the former presence of structures. On the basis of surface finds made during the survey these do not all qualify as historical archaeological sites, as defined by the Heritage Act 1995, though further investigation may reveal the presence of subsurface features and artefact deposits.



Photo 1: Site of St Mary's Church, facing west (W. Anderson, 11/11/11)



Photo 2: Possible ford parallel with Oaklands Road, facing north (W. Anderson, 11/11/11)



Photo 3: Chimney at Campbell's Cottage: H7822-2309 (W. Anderson, 6/12/11)



Photo 4: Oaklands Road Cistern: H7822-2310 (W. Anderson, 11/11/11)



Photo 5: Oaklands Road Paving: H7822-2308 (W. Anderson, 11/11/11)



Photo 6: Oaklands Road Homestead: H7822-2308 (W. Anderson, 6/12/11)



Photo 7: Hume and Hovell Memorial beside Oaklands Road (W. Anderson, 11/11/11)



Photo 8: Bluestone paving at Wildwood Road Farmstead (W. Anderson, 8/12/11)



Photo 9: Brick structure with vats and chimney at Wildwood Road Farmstead (W. Anderson, 8/12/11)



Photo 10: Location of Aboriginal and European artefact scatter: Greenvale Road 2B: VAHR 7822-3263 (W. Anderson, 14/11/11)

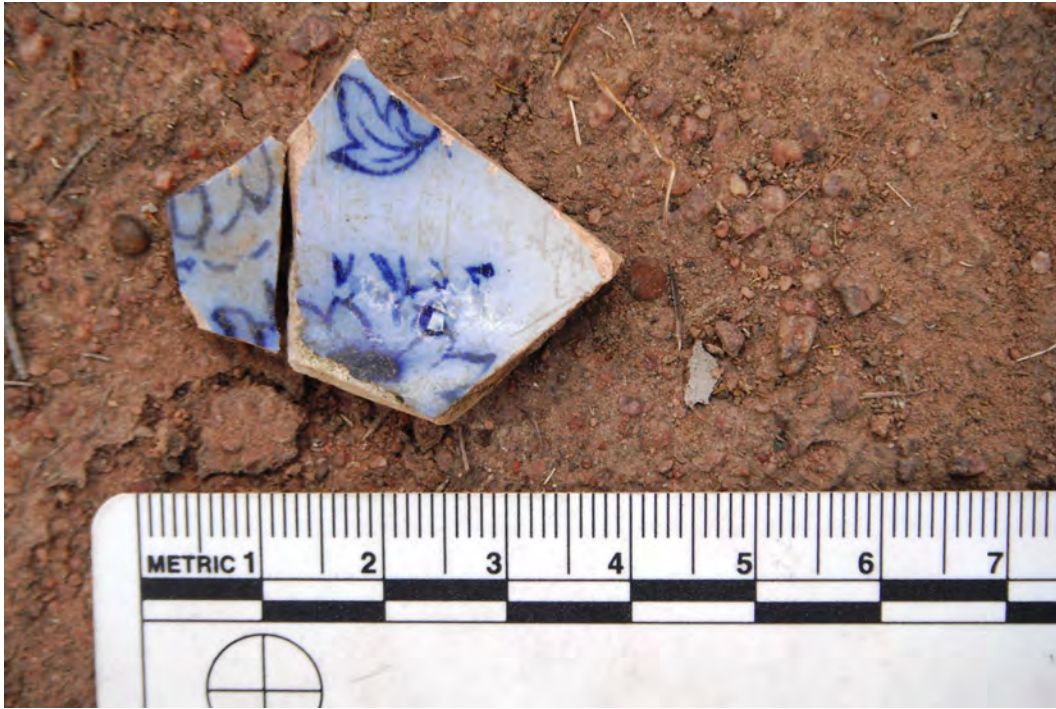


Photo 11: Decorated ceramic fragments in field north of Somerton Road, at Greenvale Road 2B: VAHR 7822-3263, GPS point 118 (J. Scibilia, 14/11/11)



Photo 12: East side of Deep Creek, Section 2C, viewed from the west (W. Anderson, 19/12/11)



Photo 13: Surface artefact scatter on hill top west of Lochton homestead, at Lochton 1A: VAHR 7822-3265 (M. Negus Cleary, 29/11/11)



Photo 14: Knapped silcrete and glass artefacts at Lochton 1A: VAHR 7822-3265 (W. Anderson, 29/11/11)



Photo 15: Boulders on hill top west of Lochton homestead, facing south (W. Anderson, 29/11/11)



Photo 16: East front of Lochton Mill, facing northwest (W. Anderson, 16/11/11)



Photo 17: 'View of the Deep Creek near Bulla', c.1860 (State Library of Victoria no. H10730)



Photo 18: View of Lochton Mill and Deep Creek, facing northeast (W. Anderson, 23/11/11)



Photo 19: Lochton Mill viewed from the east, facing west (W. Anderson, 16/11/11)



Photo 20: Lochton Mill viewed from the south, facing northeast (W. Anderson, 23/11/11)



Photo 21: East front of Lochton Mill, facing southwest (W. Anderson, 16/11/11)



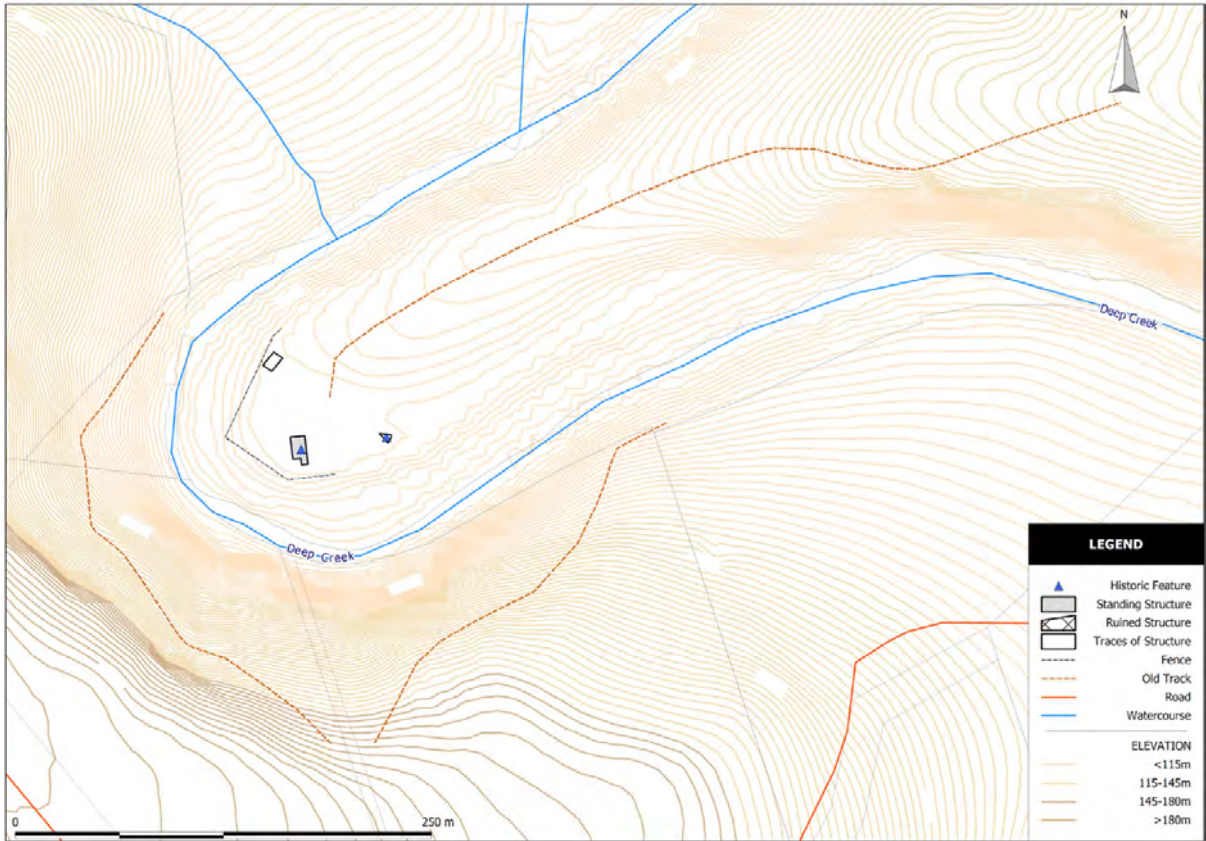
Photo 22: North end of Lochton Mill (W. Anderson, 16/11/11)



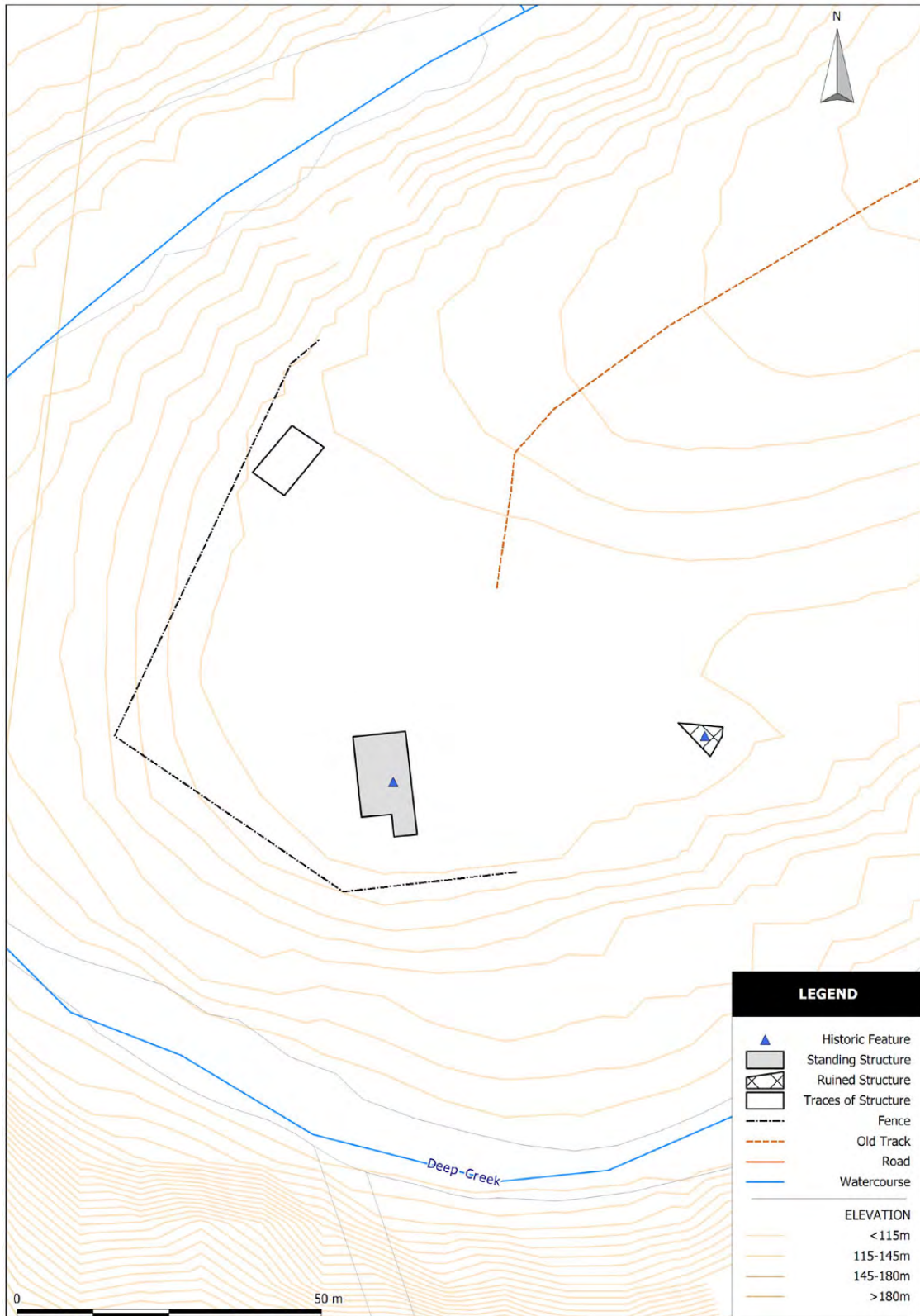
Photo 23: Interior of Lochton Mill, facing south (W. Anderson, 16/11/11)



Photo 24: Features to the east of Lochton Mill (Michelle Negus Cleary, 16/11/11)



Map 11: Location of Lochton Flour Mill on a terrace east of Deep Creek



Map 12: Features around Lochton Flour Mill



Photo 25: Bluestone quarry on escarpment west of Deep Creek, in Section 2E (W. Anderson, 19/12/11)



Photo 26: Ceramics and glass on west bank of Deep Creek, in Section 2E (W. Anderson, 19/12/11)



Photo 27: Penny token (1849) found in Section 2E, west of Deep Creek



Photo 28: Penny token (1849) found in Section 2E, west of Deep Creek



Photo 29: West bank of Deep Creek, in Section 2E, facing east (W. Anderson, 6/12/11)



Photo 30: Piles of earth on west bank of Deep Creek in Section 2F, possible location of 'Baillie's Station' (W. Anderson, 14/11/11)

4. Catalogue of recorded sites

The following catalogue contains details on the six sites recently recorded with VHI. The site name and code, location (grid co-ordinates and relevant map sheet) and property code (SPI) are followed by a description of the site and summary of historical information.

4.1 Oaklands Road Homestead (H7822-2305)

Co-ordinates: 309069 E, 5833004 N (GDA94)
308957 E, 5833189 N (AGD66)

Map Sheet: Keilor 7822-1-3 (1: 30,000)

SPI: 1\TP582530

On the west side of Oaklands Road, 300 m north of Somerton Roads, is a ruined brick building that consists of two chimneys and partially standing walls on the north side, all on a concrete slab. Native and non-native vegetation, including pine trees, are in the vicinity of the structure, and there is another building to the north.

A building at this location appears on a map of the area from 1938 (Figure 5) though on the equivalent map of 1916 (Figure 4) the building is shown immediately beside the road. It is uncertain whether these two buildings are the same. Therefore, the structure probably dates from before 1938 and may be earlier than 1916, though it appears to have undergone modification and rebuilding in more recent years (1960s-80s) before falling into disrepair.

4.2 Lochton Flour Mill (H7822-2306)

Co-ordinates: 305339.393 E, 5833506.354 N (GDA94)
305227.464 E, 5833321.973 N (AGD66)

Map Sheet: Keilor 7822-1-3 (1: 30,000)

SPI: 2/PS347289

The standing ruins of a bluestone and timber mill building and associated stone buildings and features are situated in an isolated valley, on the tip of a sloping promontory or 'point bar' at a meander in Deep Creek, 1.6 km northwest of Bulla (Map 11). The substantial and largely intact ruins of the main mill building stand to a height of three storeys. The four walls are mainly intact – the most damaged part is in the southwest corner where there has been substantial collapse (Photo 20). Vestiges of three buildings are located in the near vicinity, the most intact being foundations and an accumulation of basalt to the east of the mill (Map 12). The location of the adjacent buildings can be traced on the ground and also from a photograph dating from the 1860s (Photo 17). This shows the mill at the time of its operation or shortly after its closure, and shows there to have been a tall chimney at the east end of the building which has since collapsed. It also shows the mill and adjacent buildings to have occupied a flat area that may have been artificially levelled at the meander of the creek with a track leading up to the spur towards Lochton homestead. This whole area can be regarded as an industrial precinct that forms the mill site.

Lochton Flour Mill was built c.1856 and closed c.1861. Built and originally owned by squatter William Morrison Hunter (Moloney and Johnson 1998: BB/29-1), the building's fine masonry is thought to be the work of Donald Ross, who is linked to several buildings in Bulla (including churches and the Shire Office; Moloney 1998: 100). The head miller at Lochton was George Straughan, who ran the mill during its short history (c.1856 to c.1861) accompanied with his brother William and one David Roble Bain as assistants (Symond 1985: 50). The short-use life of the mill is linked with fluctuations in the fortunes of local farming and in turn, with the wider economy, particularly with the boom of the agricultural expansion and Gold Rush of the 1850s and later downturn (Moloney 1998: 100). Details on the mill's history are contained in Moloney and Johnson's (1998c) catalogue entry, which is provided here as an Appendix.

4.3 Wildwood Road Farmstead (H7822-2307)

Co-ordinates: 307388.754 E, 5833217.958 N (GDA94)

307276.832 E, 5833033.579 N (AGD66)

Map Sheet: Keilor 7822-1-3 (1: 30,000)

SPI: 31/PP5125

Bluestone paving and possible foundation walls are located at the site of a farm/homestead complex, at the corner of Wildwood and Somerton Roads, 1.4 km northeast of Bulla. The main building appears to have been demolished and probably lies under a large pile of earth at the northeast corner of the property, where there are also several mature, non-native trees. To the west of here are traces of stone and brick paving and possible building foundations. Further west still, in the middle of the field, is a brick feature made of a chimney and two vats which has an agricultural function and dates from the 20th century.

Maps and aerial photography indicate the presence of buildings at the site from the early 20th century, though these probably date mostly from the second half of the 19th century. A structure is shown on a map of 1916 (Figure 4) and again on a map of 1938 (Figure 5). An aerial photograph dating from 1963 (Melbourne North Project, Run 5, Film 1513, Photo 40.) shows structures on the southwest corner of Wildwood and Somerton Road. At the southwest corner there is a square enclosure of bushes, within which is a square building, probably the main dwelling. To the west and south of here are five smaller buildings, perhaps ancillary structures related to settlement and/or farming. A large structure to the south is likely to have been a barn. The demolition of these structures must date from the last fifty years and their construction most likely dates to the construction of Wildwood Road.

4.4 Oaklands Road Paving (H7822-2308)

Co-ordinates: 309026.438 E, 5833063.661 N (GDA94)

308914.503 E, 5832879.248 N (AGD66)

Map Sheet: Keilor 7822-1-3 (1: 30,000)

SPI: 19-1/PP2258

An area of brick paving is located beneath a boxthorn bush, at the southwest corner of the junction between Oaklands and Somerton Roads, 2.7 km northeast of Bulla village. As well as the hand-made brick paving there is a small number of glass and ceramic sherds in the

vicinity. This is a probable residence or hotel of the late 19th/early 20th century, perhaps 'McNamara's Hotel'.

Though the site cannot be identified with certainty, Moloney and Johnson (1998b) note a 'brick... archaeological site... an underground well/tank, perhaps part of the former McNamara's Hotel' that is described for the southwest corner of Oaklands and Somerton Roads. A structure is shown at this site on a map of 1916 (Figure 4) though not on a map of 1938 (Figure 5) and neither is it visible on aerial photographs dating from the 1960s. The field was part of the former Bulla Common which was subdivided in the 1870s as part of the *Land Act*, and this may have been the location of one of the small farms that were thus created. Oaklands Road was declared in 1848 (Moloney and Johnson 1998b: BB/14).

4.5 Campbell's Cottage (H7822-2309)

Co-ordinates: 308891.798 E, 5832390.346 N (GDA94)

308779.878 E, 5832205.938 N (AGD66)

Map Sheet: Keilor 7822-1-3 (1: 30,000)

SPI: 12-1/PP2258

A weatherboard building stood on the west side of Oaklands Road, of which now only the brick chimney stack remains (Photo 3). The site is located 0.7 km south of the junction of Oaklands and Somerton Road and 2.4 km east of Bulla. The standing chimney and fireplace are built of small hand-made bricks on granite footings with an iron lintel across the top of the fireplace. Cement render on the outside of the chimney stack is probably later than the original structure.

The cottage was built in 1873 by Duncan Campbell on the original Bulla Town Common, which was subdivided into about fifty small farms under the *Land Act* in the 1870s (Moloney and Johnson 1998). The site was inhabited into the twentieth century and still in use during the 1990s; the main structure burned down in a fire in 1999 (Sandy Kerry, pers. comm.). Since the fire in 1999 and the subsequent clearing of the debris, installation of services has taken place near the location of the former house to the south, adding to disturbance. The standing chimney stack displays minor repairs to the brickwork and exterior had been rendered in cement which is more recent than the original structure.

4.6 Oaklands Road Cistern (H7822-2310)

Co-ordinates: 308997.477 E, 5832718.229 N (GDA94)

308885.543 E, 5832533.817 N (AGD66)

Map Sheet: Keilor 7822-1-3 (1: 30,000)

SPI: 16-1/PP2258

A brick, domed cistern or well with cement rendering, is situated in a field to the direct west of Oaklands Road, 0.4 km south of the junction of Oaklands and Somerton Road and 2.6km northeast of Bulla village. The cement covering probably dates from later than the initial construction, which appears to utilise hand-made bricks.

Though the site cannot be identified with certainty, Moloney and Johnson (1998b) note “an underground well/tank, perhaps part of McNamara’s Hotel,” in a nearby position. Two structures are shown beside each other along the west of Oaklands Road on a map of 1916 (Figure 4) but there are no structures visible on aerial photographs dating from the 1960s. The field was part of the former Bulla Common which was subdivided in the 1870s as part of the *Land Act*, and this may have been the location of one of the small farms that were thus created. The construction of the cistern may be related with domestic buildings that have since been destroyed. The location is directly to the north of the former Oaklands Road Bridge (HO27), which crosses a minor tributary of Moonee Ponds Creek, so it may be an installation related with this crossing and road. The roads construction dates to 1848 (Moloney and Johnson 1998, BB/14) and the bridge may have followed in the 1860s.

5. Significance assessment

Guidelines issued by Heritage Victoria (2008: 23), state that “one of the most important aspects of an archaeological survey concerns the evaluation of significance – both of the project area and any identified sites.” In the following section, the significance of the region and of each recorded site are assessed, taking into account the eight criteria for assessing cultural heritage significance that have been issued by Heritage Victoria (2008: 34-5). The criteria are as follows:

- (A) Importance to the course, or pattern, of Victoria’s cultural history;
- (B) Possession of uncommon, rare or endangered aspects of Victoria’s cultural history;
- (C) Potential to yield information that will contribute to an understanding of Victoria’s cultural history;
- (D) Importance in demonstrating the principle characteristics of a class of cultural places or objects;
- (E) Importance in exhibiting particular aesthetic characteristics;
- (F) Importance in demonstrating a high degree of creative or technical achievement at a particular period;
- (G) Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons. This includes the significance of a place to Indigenous peoples as part of their continuing and developing cultural traditions;
- (H) Special association with the life or works of a person, or group of persons, of importance in Victoria’s history.

Background information on the history of the study area shows this to be an important region during the time of European colonisation and its significance continued into the present day, especially in relation to Melbourne. Explorers visited this area from as early as the first decade of the 19th century, and the area’s environment was an important factor in the decision to colonise, particularly with a view to establishing pastoral farmland. Concomitantly, the arrival of European farmers greatly affected the Aboriginal population, causing displacement of people and disruption of traditional ways of life. Therefore, the region has historical significance in terms of European colonisation, its impact upon indigenous people, and interactions between coloniser and colonised.

The discovery of gold in the 1850s marks a new phase in the region’s economic and social history. Bulla lay on the route to the goldfields, and the population boom of the gold rush brought demand for food and services. Crop farming and the production, processing and distribution of foodstuffs were practiced in the Bulla region, and the building of a large flour mill beside Deep Creek reflects these activities. However, the short use-life of Lochton Flour Mill, which operated for less than a decade, indicates how precarious these conditions were, as settlement and farming practices in the new colony were in their infancy.

There were major and rapid transformations in the region’s landscape between the first arrival of European settlers in the 1830s and the establishment of Bulla township. From being a small collection of buildings in 1853, the settlement expanded to include a number of stone structures and civic monuments. The development of a crossing of Deep Creek reflects the formalisation of the township: having previously been crossed at the location of the ‘Bridge Inn’, presumably on a wooden structure, in 1869 a bluestone bridge with four arch spans was

built across, and this bridge today remains the main route across the creek. Land tenure also changed in the third quarter of the 19th century with subdivisions in the 1870s that followed the *Land Act* causing changes to the settlement pattern, as did the construction and formalisation of roads such as Oaklands Road and Somerton Road. Therefore, the settlement pattern that is displayed in the distribution and type of documented remains can be seen to derive both from the early days of European settlement and also as a consequence of subsequent legislative changes.

By the mid-19th century a number of non-agricultural industries were becoming established at Bulla, especially quarrying of bluestone and kaolin. These had a major impact on the landscape, with large cuttings that skirt the lower sides of the valley at Deep Creek. Bluestone quarrying, providing materials used to build structures at Bulla, occurred on the escarpment above the valley. These industries are likely to have changed the number and composition of the population at Bulla, and their presence has significance in terms of the industrial history of the region.

The size and layout of Bulla did not develop in the way that some had envisaged. Maps from the 1850s show property boundaries and street layouts by the banks of Deep Creek, but these plans were not realised. Instead, the trajectory of settlement was dependant on varied local, regional and global-scale events and processes. Bulla's layout and size can be contrasted with the Oaklands Junction district, the main settlement of which would become subsumed within the boundary of Melbourne Airport. Therefore, the whole region may be regarded as historically significant, displaying in its structures and material culture numerous influences on settlement, land use and social patterns.

As the issues touched upon in the above review show, the present study area has significance in terms of all the criteria listed by Heritage Victoria (2008). Though it is necessary to judge the significance of individual sites, these should not be isolated from their local and regional context. It is from the physical and social setting of these places that meaning can be drawn. The following assessment of each site therefore deals with the *archaeological potential* of recorded remains.

Oaklands Road Homestead (H7822-2305)

Though the site appears to have been occupied since the early 20th century, extensive modifications that have taken place more recently (reconstruction of chimneys and walls, possibly an entirely new house on a concrete base) have probably disturbed or destroyed any archaeological deposits dating from this earlier phase. Archaeological deposits may exist within the internal floor area, beneath the concrete slab, as well as in the general vicinity of the structure, and are likely to relate to a domestic use in the early 20th Century.

Lochton Flour Mill (H7822-2306)

The bluestone mill beside Deep Creek, north of Bulla, is a relatively intact structure with substantial interest architecturally and from the point of view of industrial history. There are likely to be plentiful and intact archaeological deposits located here. The site's short use-life (c.1856 to c.1861) and its apparent abandonment following the mill's closure may mean that these deposits are well preserved and relate to a single phase. The likelihood of undisturbed archaeological deposits is supported by the site's isolation and inaccessibility. This site has a high potential to provide information on the architectural, economic and social history in the

mid-19th century, and the availability of supporting historical information regarding the mill's builder and workers strengthens this potential.

Wildwood Road Farmstead (H7822-2307)

Though buildings at this site have undergone demolition and the ground had been modified in recent times, it is possible that structural and artefactual deposits are present, which is suggested by the remains of bluestone paving and linear features that are visible on the surface. The former locations of structures at the site can be deduced from aerial photographs dating from the 1960s. The exact nature of the occupancy of the site and its chronology are uncertain, and therefore the site has potential for further historical research.

Oaklands Road Paving (H7822-2308)

The presence of brick paving at the corner of Oaklands and Somerton roads indicates an historical structure of some description. There is some potential for intact archaeological deposits to be present, for example buried walls and artefacts, and the site has since been used as farmland, though demolition of the site and quite severe erosion by livestock may have diminished these. The nature of the site and its chronology are uncertain, and therefore the site has potential for further historical research.

Campbell's Cottage (H7822-2309)

Until recent times, the cottage on the west of Oaklands Road was a standing structure, and it was its destruction by fire in 1999 that qualified it to be listed with the VHI as an archaeological site. There is some possibility of artefacts being present here, though a low likelihood of intact deposits. Underground services installed since the fire might have caused further ground disturbance.

Oaklands Road Cistern (H7822-2310)

The presence of a dome shaped cistern made of brick in a field west of Oaklands Road may indicate a nearby house of farm (a building is shown on a map dating from 1916), though there are few traces of such structures. There is some potential for the cistern to contain sealed artefacts dating from the time of its construction and usage, up to the point it was sealed with a concrete cap.

6. Legislative Requirements

The legislative requirements for the management of cultural heritage for the proposed construction of a road link between Melbourne Airport and the Outer Metropolitan Ring and a bypass of Bulla include two primary pieces of legislation due to the presence of historical (non-Aboriginal) cultural heritage.

Historical (non-Aboriginal) cultural heritage comes under the protection of the *Heritage Act* 1995. The purpose of this Act is to “provide for the protection and conservation of places and objects of cultural heritage significance and the registration of such places and objects” (s.1). Under the Act, it is an offence to damage or disturb unregistered archaeological places or objects (s.127), registered places or objects without consent (s. 129) and the discovery of archaeological places or objects must be reported (s.132). An archaeological object (see *relic* in the Act) is any archaeological deposit or artefacts which are 50 or more years old (s.3). An archaeological site (or place) under the Act is any area in which archaeological objects are situated (s.3).

The *Planning and Environment Act* 1987 sets out the details regarding local government Planning Schemes, under which the Heritage Overlays are administered. Heritage Overlays provide for the protection of places of local heritage significance. Consent must be sought from any local government prior to any plans that may affect a heritage overlay place.

The management recommendations for the proposed construction of a road link between Melbourne Airport and the Outer Metropolitan Ring and a bypass of Bulla (as pertaining to historical cultural heritage) are presented below (section 7) and comply with the above legislation.

7. Management Recommendations

7.1 Recommendation 1: St Mary's Church Site (VHI H7822-0204)

Prior to any ground disturbing works that may damage or cause harm to VHI H7822-0204 'St. Mary's Church Site', VicRoads (or their contractor) must apply to the Executive Director of Heritage Victoria for Consent to damage (or destroy). The consent may include conditions, such as further archaeological investigation, prior to the activity taking place. Applications for consent are to be addressed to:

Heritage Victoria
Dept. of Planning and Community Development
GPO Box 2392, Melbourne, Victoria 3001
Phone: 03 9208 3516

7.2 Recommendation 2: Oaklands Road Homestead (VHI H7822-2305)

Prior to any ground disturbing works that may damage or cause harm to VHI H7822-2305 'Oaklands Road Homestead', VicRoads (or their contractor) must apply to the Executive Director of Heritage Victoria for Consent to damage (or destroy). The consent may include conditions, such as further archaeological investigation, prior to the activity taking place. Applications for consent are to be addressed to:

Heritage Victoria
Dept. of Planning and Community Development
GPO Box 2392, Melbourne, Victoria 3001
Phone: 03 9208 3516

7.3 Recommendation 3: Lochton Flour Mill (VHI H7822-2306 / HO22)

Avoidance of harm to VHI H7822-2306 /HO22 'Lochton Flour Mill' is recommended. The site has been assessed to be of State significance and application has been made (on 21 December 2012) for the site to be registered on the Victorian Heritage Register.

Should avoidance of harm not be possible, prior to any ground disturbing work that may damage or cause harm to VHI H7822-2306 Lochton Mill, VicRoads (or their contractor) must apply to the Executive Director of Heritage Victoria for Consent to damage (or destroy). The consent may include conditions, such as further archaeological investigation, prior to the activity taking place. If the site is accepted for inclusion on the VHR then a permit will be required for any works or activities within the registered land. Applications for consent are to be addressed to:

Heritage Victoria
Dept. of Planning and Community Development
GPO Box 2392, Melbourne, Victoria 3001
Phone: 03 9208 3516

7.4 Recommendation 4: Wildwood Road Farmstead (VHI H7822-2307)

Prior to any ground disturbing works that may damage or cause harm to VHI H7822-2307 'Wildwood Road Farmstead', VicRoads (or their contractor) must apply to the Executive Director of Heritage Victoria for Consent to damage (or destroy). The consent may include conditions, such as further archaeological investigation, prior to the activity taking place. Applications for consent are to be addressed to:

Heritage Victoria
Dept. of Planning and Community Development
GPO Box 2392, Melbourne, Victoria 3001
Phone: 03 9208 3516

7.5 Recommendation 5: Oaklands Road Paving (VHI H7822-2308)

Prior to any ground disturbing works that may damage or cause harm to VHI H7822-2308 'Oaklands Road Paving', VicRoads (or their contractor) must apply to the Executive Director of Heritage Victoria for Consent to damage (or destroy). The consent may include conditions, such as further archaeological investigation, prior to the activity taking place. Applications for consent are to be addressed to:

Heritage Victoria
Dept. of Planning and Community Development
GPO Box 2392, Melbourne, Victoria 3001
Phone: 03 9208 3516

7.6 Recommendation 6: Campbell's Cottage (VHI H7822-2309)

Prior to any ground disturbing works that may damage or cause harm to VHI H7822-2309 'Campbell's Cottage', VicRoads (or their contractor) must apply to the Executive Director of Heritage Victoria for Consent to damage (or destroy). The consent may include conditions, such as further archaeological investigation, prior to the activity taking place. Applications for consent are to be addressed to:

Heritage Victoria
Dept. of Planning and Community Development
GPO Box 2392, Melbourne, Victoria 3001
Phone: 03 9208 3516

7.7 Recommendation 7: Oaklands Road Cistern (VHI H7822-2310)

Prior to any ground disturbing works that may damage or cause harm to VHI H7822-2310 'Oaklands Road Cistern', VicRoads (or their contractor) must apply to the Executive Director of Heritage Victoria for Consent to damage (or destroy). The consent may include conditions, such as further archaeological investigation, prior to the activity taking place. Applications for consent are to be addressed to:

Heritage Victoria
Dept. of Planning and Community Development
GPO Box 2392, Melbourne, Victoria 3001
Phone: 03 9208 3516

7.8 Recommendation 8: Hume and Hovell Memorial (HO26)

Avoidance of harm to HO26 'Hume and Hovell Memorial' is recommended. Should avoidance of harm not be possible, the Memorial must be relocated. The relocation of the Memorial must be conducted in consultation and with approval of the Hume City Council. Appropriate permits and approvals must be obtained. Contact details for the Hume City Council:

Hume City Council
40 Macedon Street, Sunbury, Victoria 3429
Phone: 03 9205 2200
Fax: 03 9309 0109
Email: contactus@hume.vic.gov.au

The new location for the Memorial should be chosen with reference to the historical accomplishment the Memorial signifies. The new location for the Memorial should consider maintaining and enhancing the significance of the Memorial, allowing for safe public access.

Removal, movement and relocation of the Memorial must be conducted in a manner that minimises damage. It is likely the Memorial will need to be dismantled for relocation and reassembled once moved. Specialist advice must be sought for this process.

7.9 Recommendation 9: Oaklands Road Bridge (HO27)

There is no recommendation for HO27 'Oaklands Road Bridge', as it is no longer present at the recorded location.

7.10 Recommendation 10: House (Ponderosa) (HO276)

Avoidance of harm to HO276 'House (Ponderosa)' is recommended. This site (the house) is currently still in use. For any further management advice for this site, consult with the Hume City Council:

Hume City Council
40 Macedon Street, Sunbury, Victoria 3429
Phone: 03 9205 2200
Fax: 03 9309 0109
Email: contactus@hume.vic.gov.au

7.11 Recommendation 11: Woodlands Homestead, Stables and Outbuildings (VHR H1612, HO25)

Avoidance of harm to H1612 (Woodlands Homestead, Stables and Outbuildings) is recommended. Enquiries in relation to VHR sites are to be directed towards Heritage Victoria. A permit may be required for any works or activities taking place within the registered area of H1612. Applications for permits are to be addressed to:

Heritage Victoria
Dept. of Planning and Community Development
GPO Box 2392, Melbourne, Victoria 3001

7.12 Recommendation 12: Further investigation

Four places require further investigation to assess the presence and condition of historical archaeological remains. The places recommended for further investigation are: on both sides of Deep Creek at the location of a bridge crossing that pre-dates the 1869 bluestone bridge (Section 2C and 2E); north side of the track to the west of Somerton Road above the escarpment to the west of Deep Creek (Section 2E); the property at 150 Green Street, on the south side of the road where there is a small weatherboard building (Section 2B); and the summit of the interlocking spur west of Deep Creek which is the location of the VAHR site Lochton 1 (Section 2D).

7.13 Recommendation 13: Discovery of Previously Unknown Archaeological Deposits

Should any historical (non-Aboriginal) cultural heritage deposits or features (such as deposits of artefacts –including bottles, sub-surface features or structural remains) be uncovered during works, which were not identified during the investigation for this assessment, work must cease in the vicinity of the deposits or feature and VicRoads (or their contractors) must notify Heritage Victoria. Heritage Victoria will advise of further action, which may include engaging a suitably qualified archaeologist to assess the deposits or feature. Contact details for Heritage Victoria:

Heritage Victoria
Dept. of Planning and Community Development
GPO Box 2392, Melbourne, Victoria 3001
Phone: 03 9208 3516

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Maps

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Sunbury 1:63,360, Australian Section, Imperial General Staff.

9. Appendices

Appendix 1: Heritage Victoria (HV) acknowledgement of survey notification



Department of Planning and Community Development

Ref 10/015848-03
8 November, 2011

Will Anderson
Dr Vincent Clark & Associates
11/240 Sydney Road,
COBURG, 3058

PO Box 2392
Melbourne 3001
Level 4, 55 Collins Street
Melbourne 3000
Telephone (03) 8644 8800
Facsimile (03) 8644 8811
www.heritage.vic.gov.au

Dear Will,

RE: PROPOSED SURVEY

Thank you for forwarding the completed Notice of Intent to Carry Out an Archaeological Survey form advising of your intent to conduct historical archaeological survey at the below site. All future correspondence, including the final reports, must quote the project number listed below

4036 BULLA & MELBOURNE AIRPORT, SUNBURY & SOMERTON ROADS

Section 131 of the *Heritage Act 1995* requires that copies of all documentation resulting from a survey or investigation must be lodged with Heritage Victoria for management, reference and archival purposes (in the form of site cards and archaeology reports). Comprehensive documentation provides the basis for appropriate management of Victoria's historical archaeological resource. Please note that site cards can now be submitted electronically in most cases.

The technical guide *Guidelines for Conducting Historical Archaeological Surveys* provides details on the statutory processes and required documentation in conducting a survey, completing a Heritage Inventory Site Card and producing the archaeology report. Any incomplete, inaccurate or illegible documentation will be returned for appropriate completion. **As detailed in the technical guide, a report must be submitted even if no new historical archaeological sites have been located during the course of the survey or desktop study. Site cards are due within one month of the completion of an archaeological survey. Archaeology reports are due from the archaeology consultant within one year of the date of completion of the archaeological survey.**

In accordance with Section 132 of the Heritage Act, this office must be notified if a historical archaeological site or relic is identified during a survey. This a requirement for all surveys, including those commissioned for Aboriginal cultural heritage investigations.

Should you have any queries or require any further assistance please call Brandi Bugh, Heritage Victoria Archaeologist, on (03) 8644 8901.

Yours sincerely





Jim Gardner
Executive Director
HERITAGE VICTORIA





Appendix 2: Surface artefacts recorded during survey



Section	GPS point	Items	Material	Material colour	Artefact type	Features, attributes
1D	070	1	glass	black	body fragment	
2B	104	1	glass	brown	bottle glass	
2B	107	1	clay	white	pipe	stem of clay pipe with stamped number '17'
2B	108	9	ceramic	white	earthenware	white glazed earthenware sherds
2B	109	2	glass	black	bottle glass	
2B	110	1	bluestone block		building stone	
2B	112	2	ceramic	white	earthenware	
2B	113	1	ceramic	orange	stoneware	orange slipped stoneware vessel rim
2B	114	2	glass	black	bottle glass	neck of bottle
2B	115	3	glass	black	bottle glass	square based bottle
2B	118	1	ceramic	white and blue	earthenware	white glazed earthenware with blue transfer print decoration
2B	120	1	glass	black	square base	square base of a black glass bottle
2B	123	2	glass and brick	n/a	n/a	coarse hand-made brick and black bottle glass
2C	396	1	ceramic	white	earthenware	white glazed earthenware sherd with blue transfer print
2C	410	1	glass	black	body fragment	
2C	413	1	ceramic	white	rim	white glaze earthenware rim with blue transfer print floral decoration
2C	5034	1	ceramic	white	rim and handle	white earthenware teacup fragments
2D	132	1	ceramic	white and blue	earthenware	rim of a mid-19th century bowl; hand(?) painted blue floral decoration with some transfer printed decoration too
2D	264	1	glass	black	knapped base	knapped black glass bottle, probably base part, used as a 'core' to strike small flakes from
2D	266	1	glass	black	knapped wall	knapped black glass bottle, wall fragment
2D	277	1	glass		bottle part	
2D	278	1	glass		bottle part	

Section	GPS point	Items	Material	Material colour	Artefact type	Features, attributes
2D	281	2	glass	clear	base	body and base fragments of a folded glass bottle, perhaps for soda, 'M' on the side is perhaps Melbourne glass manufacturers, before 1920; on base is perhaps 'C W & co'
2D	282	3	glass	black	body fragment	black bottle glass fragments
2D	283	1	glass	black	knapped base	black bottle glass base part with knapped margin
2D	285	1	glass	black	base	
2D	365	2	ceramic	stoneware	sherds	sherds of 19th-c. white glazed stoneware
2D	297	1	ceramic	white	earthenware	plain, white glazed earthenware base sherd
2D	355	1	glass	clear	neck	clear glass bottle neck with possible evidence of retouch
2D		15	glass (15)			Intensive block F, 2_D_02
2D		3	glass (2), ceramic (1)			Intensive block G, 2_D_02
2E	S1_184	1	copper		token	One penny token (1849)
2F	248	3	black glass, ceramic (2)			scatter of 19th-century artefacts beside piles of fill

Appendix 3: Key to ground cover and visibility ratings used for the survey

Rating	Ground cover description	Visibility	
1	Bare ground, eroded surfaces	full	
2	Sparse vegetation, infrequent grass and low plants	good	
3	Ploughed land and orchards	good	
4	Tree cover with some bare patches and leaf and bark litter	fair	

Rating	Ground cover description	Visibility	
5	Moderate vegetation, rare exposed ground	poor	
6	Tall, thick grass and unharvested crops	none	
7	Significant or total ground disturbance, artificial surfaces	n/a	
8	Roads, covered (tarmac)	n/a	

Rating	Ground cover description	Visibility	
9	Tracks and paths, uncovered (dirt, gravel)	n/a	
10	Water: streams, dams etc.	n/a	
11	Buildings	n/a	-
12	Not inspected	n/a	-

Appendix 4: Sub-sections of the activity area divided into ground cover codes (m²)

Code	1A	1B	1C	1D	1E	2A	2B	2C	2D	2E	2F	2G	2H	3A	3B	3C
1	11293	6138	1483	7669	9588	501	20335	13608	10942	0	0	0	0	2289	709	0
2	0	0	0	13847	25329	0	84266	4736	21183	23662	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39021
4	35794	21731	4370	46518	31455	24859	54076	23216	87555	17762	0	5816	1697	7382	0	7900
5	2203	34301	92439	84400	191094	52916	17348	57726	25298	88891	0	23590	0	0	0	0
6	68140	107975	0	129072	28	141674	216285	191813	61840	127745	87594	394118	225555	275374	202456	150210
7	48344	8400	757	18537	3230	16560	32974	27007	1266	41601	155637	0	12341	0	0	27376
8	24670	21172	19230	17352	9028	13347	12674	1701	0	0	791	25301	16244	0	0	11013
9	3934	0	0	6351	589	4317	6097	6215	0	16012	2377	0	0	0	0	0
10	0	0	0	13812	7838	6844	1389	5613	8108	6805	5724	0	614	1245	328	0
11	2780	0	0	0	48	1256	1254	44	0	287	0	0	0	0	0	1607
12	98646	101076	67040	150205	0	262435	99836	48848	0	26037	0	27740	146100	0	314821	0
Total	295806	300792	185319	487763	278225	524709	546535	380527	216192	348802	252123	476565	402551	286289	518314	237127

Appendix 5: Ground visibility in sub-sections of the activity area (%)

Visibility	1A	1B	1C	1D	1E	2A	2B	2C	2D	2E	2F	2G	2H	3A	3B	3C	TOTAL
Good	3.82	2.04	0.80	4.41	12.55	0.10	19.14	4.82	14.86	6.78	0.00	0.00	0.00	0.80	0.14	16.46	5.42
Fair	12.10	7.22	2.36	9.54	11.31	4.74	9.89	6.10	40.50	5.09	0.00	1.22	0.42	2.58	0.00	3.33	7.28
Poor	23.78	47.30	49.88	43.77	68.69	37.09	42.75	65.58	40.31	62.11	34.74	87.65	56.03	96.19	39.06	63.35	53.64
Disturbance	16.34	2.79	0.41	3.80	1.16	3.16	6.03	7.10	0.59	11.93	61.73	0.00	3.07	0.00	0.00	11.54	8.10
Tracks and roads	9.67	7.04	10.38	4.86	3.46	3.37	3.43	2.08	0.00	4.59	1.26	5.31	4.04	0.00	0.00	4.64	4.01
Other	0.94	0.00	0.00	2.83	2.83	1.54	0.48	1.49	3.75	2.03	2.27	0.00	0.15	0.43	0.06	0.68	1.22
Not inspected	33.35	33.60	36.18	30.79	0.00	50.02	18.27	12.84	0.00	7.46	0.00	5.82	36.29	0.00	60.74	0.00	20.33



Appendix 6: 'Lochton Flour Mill (ruin)', excerpt from Moloney and Johnson 1998b

Place: **Lochton Flour Mill (ruin)**

Place ID No.- **BB/04**

Type: Industrial (Flour Mill); Ruin; Archaeological Site.

Location: *Lochton*, Deep Creek, Bulla

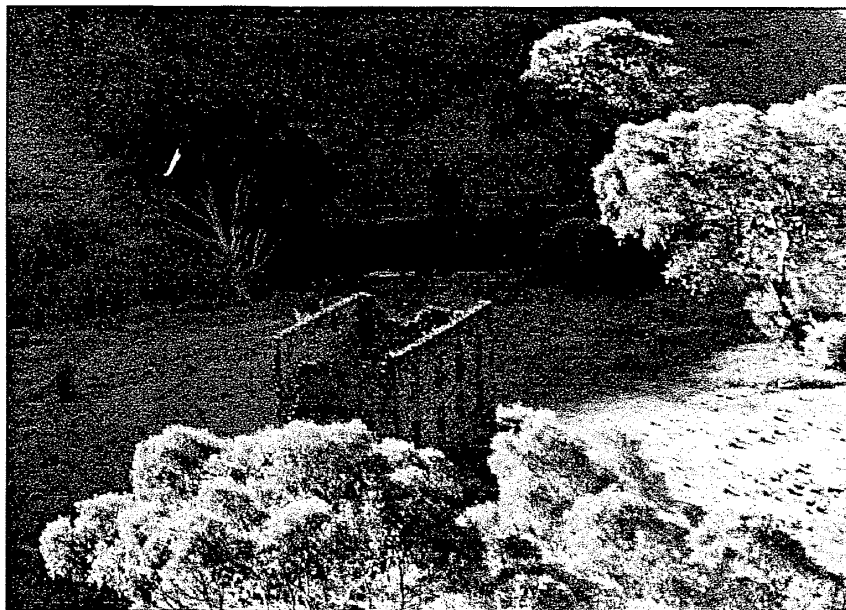
Map Reference: E - 463058, N - 58338, Keilor 7822-1 SW, 1:25,000.

Critical Date(s): Construction c.mid 1850s; closure c.early 1860s.

Historical Theme(s): 'The Land: Producing'; 'Industries'.

Previous Heritage Registration(s): LCC

Recommended Level of Significance: Regional



Statement of Significance:

The ruin of the 1850s Lochton flour mill is of Regional historical, architectural, aesthetic, scientific and social significance as a rare type of building from an early era of the colony's history. It is one of only a few bluestone flour mills which survive in Victoria, either intact or as substantial ruins, and one of even fewer early (1850s or earlier) examples.

It is Bulla's most prominent expression of the pioneering phase of its transition to an agricultural settlement. Its early date also expresses the impact of the gold-rushes on agriculture and flour production in the colony, as farms were settled and mills were built. Its apparently short period of operation demonstrates the volatility of the gold-rush era, and in particular the traumatic changes in seasons and markets which struck wheat production and flour milling in the southern part of Victoria in the early 1860s.

It stands isolated and little-known in a grand natural setting - at the head of a long, lightly wooded horse-shoe bend of Deep Creek, within a towering escarpment. The combination of the large bluestone mill and this superb rural setting constitutes exceptional, possibly State level, aesthetic and historical significance.

Its ruinous condition and substantial size dramatically convey its historical quality, and an important way of life which is now extinct, even to memory. It has outstanding potential for interpretation. It also has high research potential, and probably requires archaeological documentation.

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Description:

The place is the substantial ruin of a large bluestone steam flour mill whose date of construction would appear to be soon after the first gold-rushes, around the mid 1850's. The mill was constructed on level ground near the creek, almost certainly to provide water for the boilers. It was originally three stories with an attic above, and, it appears, a galvanised iron roof. The stonework is roughly coursed and generally a little neater and better executed than at the Sunbury flour mill. Although mostly devoid of ornamentation this functional structure has symmetrical fenestration on its main (eastern) facade - evidence of concern for appearance, and, perhaps, of the involvement of an architect.

Most of the four external walls of the mill building remain, together with internal timber posts, corbels and beams. The eastern and western ends are best preserved. The brick chimney shown on the c1860 photograph has been demolished. The timber is said to be from the local grey box forest which was once partly situated on the *Lochton* property.¹ The ruins of a bluestone annex, which was probably the steam-engine house, remains, with fragments of slate. There is nothing left of the brick chimney or boiler-house. An earth hole, perhaps the remains of a buried storage tank for the steam-engine's water, is located beside this annex. To the north of the mill are the stone ruins of one of the mill outbuildings (possibly a mill workers residence) which appear on an early photograph.² There are traces of an early road to the north of the mill. The track from the mill to a ford across Deep Creek downstream of the mill also survives. In the hill above the ford site is a sizeable quarry which was probably the source of the stone used in the mill's construction. Beside the creek a gum tree, now dead, has grown around a very large plank of timber which is embedded into it. This is obviously of great age and strength, and would appear to have had some structural purpose. It may have been part of a pumping arrangement.

The setting of the mill is outstanding, at the head of an alluvial flat on a long horse-shoe bend of the Deep Creek, opposite a high and steep escarpment. It is on an isolated and relatively undisturbed corner of the creek, away from roads, and is not well known despite its size.

The mill was identified in a special LCC Report and graded at a Regional level of significance.³

History:

William Morrison Hunter purchased the 354 acre Section A of Crown Allotment 5, Parish of Bulla in August 1848 for £354.⁴ Hunter came to the colony around 1842 as the educated, Gaelic speaking, 19 year old second son of an Argyleshire landed family.⁵ Like many others of similar station, he was apparently keen to take advantage of the opportunities in the young colony, and by 1843 had acquired the rights to three large squatting runs, at Tarrengower, Muckleford, and Kingower/Kinga-ra-ra Creek in central Victoria. He apparently developed a reputation for squabbling over boundaries, and (perhaps through his overseer) became involved in a dispute with the Aboriginal Protector Parker (late of Sunbury) at Mount Franklin. In 1845

¹ Clarke, P T, & Dodd, A J, 'Flour Mills', (University of Melbourne, Faculty of Architecture, Fourth Year Research Essay, 1963), p. 28.

² 'View of the Deep Creek, Near Bulla', c. 1860, Cumming Collection, La Trobe Library, State Library of Victoria.

³ Land Conservation Council, *Rivers and Streams; Special Investigation Report*, (September 1989), p 300.

⁴ Plan, Parish of Bulla Bulla; and original 'Land Purchase'.

⁵ Unless otherwise cited, all Hunter's bibliographical data comes from:- Claude Culvenor's 'William Morrison Hunter', notes prepared for his *The Boundaries of the Mount Franklin Aboriginal Reserve* (Jim Crow Press, Daylesford, 1992); and from unpublished extracts of 'An Unbroken Thread of Silke', and other notes by Ian Silke.

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he became a member of the Melbourne Club. In about 1846 he was away for a year or more, and again in 1854 was in Scotland, where he married Catherine Campbell, daughter of the laird of Ormidale, a title to which she and her daughter would later succeed.

Symonds alleges (without references) that *Lochton* was built in 1850, and the mill in 1856.⁶ Another unsourced estimate of the date of the mill's construction is 1851-3.⁷ There is apparently no evidence that Hunter lived on his squatting runs for more than a few years, and it seems quite consistent that an educated and travelling man would prefer to live near the city, on his freehold tenure, rather than the bush. In 1853 Hunter was appointed as a magistrate.⁸ Presumably he had settled at *Lochton* by or at the time he brought his wife back to Australia in 1854, as in 1857 their daughter was born at Bulla.

Although he had secured the pre-emptive rights to his three pastoral runs about this time, the encroaching gold diggings and crown land sales severely reduced the financial prospects of these holdings. At the time of his death in 1859 (aged 36), he was described as a 'farmer' of 'Deep Creek'. With new local markets created by the gold-rush, he had perhaps decided to concentrate more on agricultural investment than pastoralism.

Sometime before he died (of 'cholera', possibly severe gastro-enteritis⁹) at *Lochton* in 1859, Hunter built the mill.¹⁰ He had mortgaged the property for £3000 in 1857, suggesting that substantial improvements had already taken place (and perhaps, that additional improvements were in train). The mortgage was to have been repayed by July 1860, but was not reconveyed to Hunter's daughter until 1870.¹¹

Donald Ross, attributed with building numerous important bluestone buildings at Bulla, including the Shire Office and the Presbyterian and Anglican churches,¹² is said to have been one of the masons employed on the mill's construction.¹³ The involvement of a professional mason would accord with the superior finish of the stonework of the Bulla mill in comparison to its Sunbury counterpart.

What little is known of the operation of the mill suggests that it was short-lived. Around the turn of the century pioneer farmer Maurice McAuliffe of Wildwood told of carting wheat to Gillespie's Melbourne mills in the early 1850s, and bringing home supplies of flour.¹⁴ This confirms the local demand for a mill in the early phase of the Bulla farming settlement. Without citing sources, Symonds refers to other people said to have been associated with the mill. These include the Bell brothers (a WM Bell, Collins Street merchant, was one of the widow Hunter's testifiers in the probate arrangements¹⁵) who took over the mill, employing Mr Straughan as the miller. A David Robe Bain is said to have worked in the mill in 1856, and a W B Gadd was the

⁶ Symonds, I W, *Bulla Bulla*, (Spectrum, Melbourne, 1985), p. 50

⁷ Clarke, Dodd, *op cit*, p. 26.

⁸ *Melbourne Morning Herald*, 7/4/1853.

⁹ Culvenor, *op cit*

¹⁰ It is cited in all early primary sources as 'Hunters Mill' (eg, Daniel, O, 'History of Bulla', 25/4/1910, Prize Essay written for the Competition of the Bulla Horticultural Show, 1914). I Batey (letter to EJ Hunter, 4/5/1917, SLV, ms) states that Hunter, a 'man of means', built the mill prior to the end of the fifties.

¹¹ Mortgage, WH Hunter to The Australian Mortgage Trust Company, 12/12/1857, PRO, VPRS 460 Unit 889

¹² Keissling, W, Loebert, M, Shaw, M, 'Materials of Bulla', University of Melbourne, School of Architecture, History Four thesis, 1963, Appendix A.

¹³ Daniel, *op cit*.

¹⁴ *ibid*. Either the mill-name or period of this anecdote is a little unreliable, as Gillespie's earliest mills did not commence until the 1860s, and Gillespie only became a very prominent miller in the 1880s.

¹⁵ PRO, VPRS:-2881(6); 28(33).

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owner in 1861, when it is said to have closed.¹⁶ Straughan is also recorded in local history as the miller brought out from Scotland by Eadie for his Sunbury mill, which does not tally with the account of his involvement with Bulla mill. But it is possible that if the Lochton Mill closed down in 1861, Straughan may have gone to work at Eadie's mill, which opened c1861-2. It could also suggest that the Bulla mill was directly replaced by the Sunbury mill, whose advantages included access to the railway, and cheap hydro power.

Gazetteers of 1865 and 1870 mention that there was a flour mill at Bulla, but do not say whether it was operating. In 1875 it is not mentioned at all. The Directories, which commence in 1868, list no miller or mill-carter among the residents of Bulla.¹⁷ The first rate books of the Bulla Road Board (1863-4) record three separately properties of in the ownership of the executors of the late William Hunter. One of the Hunter sites, valued at £90, was described as a 'Steam Flour Mill, 2 Cottages and Land'. The other sites rated were the main house, garden and land, leased to Hamil Kerr (valued at £144), and another 'cottage', leased to William Ross Sutherland (valued at £11.10). The rate books note the steam flour mill for the last time in 1866, after which the valuation of the main house and property is listed as £132. This dramatic fall in value probably indicates that the demise of the flour mill was recognised officially in 1867.¹⁸

In 1878 an advertisement in the *Argus* advised that Hunter's daughter Margaret, who had returned with her mother to live in Scotland after Hunter's death, had given instructions for the auction of the 354 acre *Lochton* property. At the time the property was tenanted by 'Messrs Millar Brothers' for £120 per annum.¹⁹ The description of the property included reference to:-

*'On the creek, the stonework and chimney of old flour mill, with floors and joists, and two small old stone cottages, all of which could be utilised in the erection of new building.'*²⁰

Obviously the mill had not been used for many years, and the roof had already been recycled. The property was purchased at the auction by Mr Hay Lonie Esq., of *Camp Hill* Tullamarine, for £2,832.²¹

The mill would have been affected by the momentous changes which occurred in the early 1860's. The gold-rushes stimulated a great demand for wheat in the 1850s, most of which had to be imported from other colonies or countries. As many disappointed diggers turned to farming for a good livelihood, the area of the colony under wheat increased from 7,554 to 196,922 acres between 1854 and 1862.²² Most of this land was between the goldfields and Melbourne, and the Bulla locality shared the boom. During the period 1850-4 most of the Bulla area was sold by the Crown,²³ and many of the larger holdings already alienated were subdivided or leased for farming. The population of the locality increased quickly in the years 1854-7, and acreage under crop peaked in 1859. But soon boom prices collapsed, good early yields quickly exhausted the poor soils, and crops were infested with rust and caterpillars and decimated by droughts. Imports continued, and more suitable northern lands were opened up for farming by the railways and land legislation. The acreage of the Bulla area under crop fell to a low in 1864

¹⁶ Symond, *loc cit*. This date is probably from an anonymous 'History of Bulla' essay submitted for the schoolchildrens' 1910 essay competition. A man named Bain was a plasterer in Bulla by the time of the 1868 Bailliere's *Post Office Directory*.

¹⁷ Bailliere's *Victorian Gazetteers*, 1865, 1870, 1875; Bailliere's *Post Office Directories*, 1868-1881; Wise's *Post Office Directory*, 1884-5.

¹⁸ Bulla District Road Board, *Rate Books*, 1863-67.

¹⁹ PRO, VPRS 460, *op cit*

²⁰ *The Argus*, 9/9/1878

²¹ PRO, VPRS 460, *op cit*

²² *Victorian Year Book 1973*, Centenary Edition, (no 87), 1973, p.1084.

²³ Plan, Parish of Bulla Bulla.

Consultants: David Moloney and Vicki Johnson