

Alspec Industrial Business Park

221-227 and 289-317 Luddenham Road, Orchard Hills, Historical assessment

Prepared for HB+B Property Pty Ltd
March 2022

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221-227 and 289-317 Luddenham Road, Orchard Hills, Historical assessment

Report Number

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Client

HB+B Property Pty Ltd

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v1 Final

Prepared by

Approved by



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10 March 2022



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10 March 2022

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Executive Summary

HB+B Property Pty Ltd (HB+B) has engaged EMM Consulting (EMM) to complete a historical heritage assessment for the land known as Alspec Industrial Business Park, 221-227 and 289-317 Luddenham Road, Orchard Hills, NSW. This report follows the preliminary heritage assessment for 221-227 and 289-317 Luddenham Road, Orchard Hills completed by EMM in 2020 (EMM 2020a), which assessed heritage constraints across the initial proposed project area in relation to rezoning. The project area has expanded since this initial assessment.

Statutory and non-statutory registers were reviewed and there are no heritage listings within the project area. One item was identified on the *Penrith Local Environmental Plan 2010* as abutting the project area to the east; item I843 known as Luddenham Road Alignment (Luddenham Road).

The assessment has shown that project area has a continuous history of rural and economic development in Orchard Hills. The area contributes to the rural character of Luddenham Road and is representative of long-occupied rural estates in the Penrith region. The assessment shows that none of the lots within the project area are likely to hold any archaeological resources of significance. However, additional survey will need to be undertaken to identify if the structures present within Lot 1 DP 396972 and Lot 2 DP 219794 hold any heritage significance.

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1 Introduction

1.1 Background to the project

HB+B Property Pty Ltd (HB+B) has engaged EMM Consulting (EMM) to complete a historical heritage assessment for the land known as Alspec Industrial Business Park, 221-227 and 289-317 Luddenham Road, Orchard Hills, NSW (Lot 1 DP 1099147; Lot 242 DP 1088991, Lots 1, 2, 3, 4 DP520117, Lot 1 DP396972, Lot 2 DP 219794, Lot 24 DP331426) (hereafter 'project area'). This report follows the preliminary heritage assessment for 221-227 and 289-317 Luddenham Road, Orchard Hills completed by EMM in 2020 (EMM 2020a), which assessed heritage constraints across the initial proposed project area in relation to rezoning.

The master-planning and rezoning of the study area is being undertaken to allow development to occur. Each development subsequently undertaken would require various assessments and/or approvals under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and the *Heritage Act 1977* (Heritage Act).

1.2 Purpose of this report

This document will support the updated planning proposal put forth by HB+B Property Pty Ltd. This report will consist of a historical heritage assessment focusing on the direct impacts to heritage items, including potential relics and indirect impacts to the surrounding heritage items. The report will be prepared in accordance with Heritage NSW guidelines.

1.3 Project description

The Planning Proposal seeks to facilitate redevelopment of the land to enable the development of industrial warehouses at the site across three stages and will comprise the following (Plate 1.1):

- potential for thirty-two (32) high-quality warehouse buildings across thirty-two (32) lots, each accompanied with an ancillary office, associated parking as well as business identification signage for legibility and easy way-finding;
- landscaped internal estate roads including two roundabouts, a cul-de-sac and entry roads for improved amenity; and
- electrical easement an environmental conservation area, and an environmental zone and basins.

The details of the proposed construction activities resulting from the rezoning is unknown, however they would likely result in surface and upper soil profile impacts (the common location of cultural materials) to significant portions of the study area

Alspec Industrial Business Park	
11-Feb-22	SK022k
TOTAL SITE AREA (m²)	1,466,103
Alspec Total Site Area	1,253,713
Additional Land Site Area	185,135
Southern Land Parcel	27,255
Constraints (m²)	SITE AREA (%)
Outer Sydney Orbital	360,412
Western Sydney Freight (incl. overlaps)	6,385
Electrical Equipment (incl. overlaps)	23,335
Enviro. Management & Basins (incl. several basins)	73,024
Luddenham Road Widening Corridor (incl. overlaps)	23,088
Environmental Conservation Area	166,284
Road Reserves	81,112
CONSTRAINTS TOTAL	733,943
TOTAL DEVELOPABLE AREA (m²)	732,160
STAGE 1 TOTAL AREA (m²) (incl. internal constraints)	266,400
Stage 1 Electrical base rent (incl. overlaps)	23,335
Stage 1 Enviro. Management & Basins	45,442
Stage 1 Luddenham Road Widening Corridor (incl. overlaps)	3,654
Stage 1 Internal Road Reserves	19,841
Stage 1 Developable Area	174,128
Total Warehouse	93,781
Total Office	3,800
Total Building Area	97,581
Stage FSR	0.56:1
Carparking Achieved	1,013
STAGE 2 TOTAL AREA (m²) (incl. internal constraints)	263,307
Stage 2 Internal Road Reserves	19,114
Stage 2 Developable Area	244,193
Total Warehouse	143,361
Total Office	7,900
Total Building Area	151,261
Stage FSR	0.62:1
Carparking Achieved	1,514
STAGE 3 TOTAL AREA (m²) (incl. internal constraints)	376,030
Stage 3 Luddenham Road Widening Corridor (incl. overlaps)	19,434
Stage 3 Internal Road Reserves	42,757
Stage 3 Developable Area	313,839
Total Warehouse	151,117
Total Office	9,775
Total Building Area	160,892
Stage FSR	0.51:1
Carparking Achieved	1,640
Total Developable Area	732,160
Total Warehouse Area	388,259
Total Office Area	21,475
Total Building Area	409,734
Site FSR	0.56:1
Total Car Parking	4,168
Required Car Parking	4,097



ISSUED FOR INFORMATION



Alspec Industrial Business Park

Luddenham Road, Orchard Hills - NSW

Updated Masterplan
 1:3000 @ A1
 February 2022
 11178_SK022k-1
 nettletontribe

Source: Nettleton Tribe, n.d.

Plate 1.1 The concept plan for the proposed re-zoning

1.4 Project area

The project area encompasses 147.5 hectares of rural residential land in the Penrith LGA in the Parish Claremont, County of Cumberland (Figure 1.1). It is within the bounds of the suburbs of Orchard Hills and Luddenham, c. 40 km west of the Sydney CBD.

The project area comprises nine lots (Figure 1.2). Lot 1 DP1099147, the northern portion of the study area is small horse agistment paddocks, stables, and associated buildings. Lot 2 DP219794, Lot 24 DP331426, and Lots 1-4 DP 520117 comprise rural residences, associated outbuilding, paddocks and dams. Lot 1 DP 396972 is a privately owned community space with buildings and sports fields. The south western portion of the study area is within Lot 242 DP1088991, which is primarily cattle pasture with residences in the east of the Lot. The landscape is low relief hills and plains, features several small ponds and three larger dams, a small crest named Brown Hill in the south paddock, and is traversed by an unnamed tributary to South Creek in the north-west.

1.5 Previous reports

Completed:

- heritage assessment of values and impacts 2020 prepared for HB+B Property Pty Ltd prepared by EMM Consulting (EMM 2020a);
- preliminary Aboriginal culture heritage assessment 2020 prepared for HB+B Property Pty Ltd prepared by EMM Consulting (EMM 2020b);

In draft:

- Aboriginal culture heritage assessment 2022 prepared for HB+B Property Pty Ltd prepared by EMM Consulting;

1.6 Research sources

Research for this report was conducted using various sources including online archives, the State Library of NSW and through interviews. Included are the Historic Lands Records Viewer, Penrith City local history library, Australian Dictionary of Biography, and the Heritage NSW website.

The list of references can be found at the end of this report.

1.7 Authorship

This report was compiled by Amelia O'Donnell (Heritage Consultant) with assistance from Kerryn Armstrong (Senior Archaeologist) and quality assurance was conducted by Pamela Kottaras (National Technical Lead – Historic Heritage).



Source: EMM (2022); ESRI (2021); DFSI (2020); GA (2011); ASGC (2006)



KEY

- Study area
- Major road
- Minor road
- Vehicular track
- Water pipeline
- Watercourse/drainage line

- INSET KEY**
- Main road
 - NPWS reserve
 - State forest

Regional setting

221-319 Luddenham Road, Orchard Hills
 Historical assessment and statement of heritage impact
 Figure 1.1



\\vemmsv1\vemms3\2020\200753_Luddenham_Road SSD Stage 1\GIS\02_Maps\HHA\G001_RegionalLocation_20220310_03.mxd 11/03/2022



Source: EMM (2022); Nearthmap (2020); DFSI (2020)

- KEY**
- Study area
 - Watercourse/drainage line
 - Cadastral boundary



Local setting

221-319 Luddenham Road, Orchard Hills
 Historical assessment and statement of heritage impact
 Figure 1.2



\\emmsv1\emms3\2020\200753_Luddenham Road SSD stage 1\GIS\02_Maps\HHA\G002_Maps\HHA\G002_SiteLocation_202200310_03.mxd 10/03/2022

2 Statutory framework

2.1 Legislation

2.1.1 Introduction

In NSW heritage items and relics, that is archaeological sites assessed to be of local or State significance, are protected by two main pieces of legislation: the EP&A Act and the NSW *Heritage Act 1977*. An additional layer of protection is added, in certain circumstances, by the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act).

2.1.2 Environment Protection and Biodiversity Conservation Act 1999

The EPBC Act provides a legal framework to protect and manage nationally and internationally important heritage places, as well as flora, fauna, ecological communities, and water resources, which are defined as Matters of National Environmental Significance (MNES) under the EPBC Act. The EPBC Act identifies nine MNES, including world heritage properties and places listed on the National Heritage List (NHL).

The EPBC Act establishes the National Heritage List, Commonwealth Heritage List (CHL) and the Register of the National Estate (RNE). The RNE is a non-statutory register.

Under the EPBC Act, an action that may have a significant impact on a MNES is deemed to be a 'controlled action' and can only proceed with the approval of the commonwealth minister for the commonwealth agency responsible for the environment. An action that may potentially have a significant impact on a MNES is to be referred to Department of Agriculture, Water and the Environment (DAWE) for determination as to whether or not it is a controlled action. If deemed a controlled action, the project is assessed under the EPBC Act for approval.

The project is unlikely to have a significant impact on any world heritage properties or places listed on the National Heritage Register, and therefore the EPBC Act is not discussed further.

2.1.3 Environmental Planning and Assessment Act 1979

The EP&A Act establishes the framework for development assessment within NSW, with one of the objects of the Act being to promote the sustainable management of built and cultural heritage, including Aboriginal cultural heritage.

As the majority of development assessment and consent is undertaken by Local Government (council), the EP&A Act directs council to prepare a local environmental plan (LEP) and development control plans (DCPs) for their local government. LEPs are to be developed under the standard instrument, which provides planning consistency across the State. Schedule 5 of the Standard Instrument provides a list of identified environmental heritage within the LGA, impacts to which are to be considered during the development assessment and approval process. DCPs provide policies that are specific to the local environment and character of the LGA or a subset of the LGA. The NSW department with responsibility for planning may also prepare state environmental planning policies (SEPPs) to guide planning across the State.

Government departments developing infrastructure such as roads, assess their proposed works through the preparation of a review of environmental factors (REF). This process is self-assessed and while council has the opportunity to comment, it does not have powers of approval. Other Acts, such as the Heritage Act, still apply in this instance.

Due to the size, economic value or impacts, some types of development are assessed as State Significant Development (SSD) or State Significant Infrastructure (SSI). Where a project is identified as SSD or SSI, the NSW department with responsibility for planning is the consent authority and directs the proponent to prepare an application for the secretary's environmental assessment requirements (SEARs), which define the various studies and guidelines for the preparation of an environmental impact statement (EIS), and supporting technical reports.

The purpose of all assessment processes is to consider impacts to, among other things, cultural heritage items and places as well as archaeological sites and deposits associated with the proposal and to identify measures to avoid, mitigate or ameliorate impacts.

2.1.4 Heritage Act 1977

The Heritage Act is keystone State legislation that protects and manages items of environmental heritage that are listed on the State Heritage Register (SHR) and/or are assessed as 'relics'. Items listed on the SHR are given automatic protection against any activities that may damage an item or affect heritage significance. Items on the SHR undergo a rigorous assessment process and must reach a high significance threshold to be included. Inclusion on the SHR is directed by the Minister for Heritage.

Section 170 of the Heritage Act establishes the *Heritage and Conservation Register* (S170 register) that government agencies must keep. The S170 register includes all items of environmental heritage that have been identified by the agency, or that are listed on the SHR, an environmental planning instrument, or which may be subject to an interim heritage order that are owned, occupied or managed by that government body. These registers provide a list of known heritage items to be considered during this assessment.

Part 6 of the Heritage Act provides protection for 'relics', regardless of their listing status. It applies to all land in NSW that is not included in the SHR. Section 4(1) of the Heritage Act (as amended 2009) defines a 'relic' as follows:

A "relic" means any deposit, artefact, object or material evidence that:

- a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and
- b) is of State or local heritage significance.

Section 139(1) of the Heritage Act states that:

A person must not disturb or excavate any land knowingly or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, damaged or destroyed unless the disturbance or excavation is carried out in accordance with an excavation permit.

Approval under the Heritage Act is not applicable for projects assessed as SSD under the Stage Regional Development SEPP, in accordance with Division 4.7, section 4.41(1)(c) of the EP&A Act. However, where unanticipated relics are discovered, notification to the Heritage Council is regulated under Section 146 of the Heritage Act.

Section 146 Notification of discovery of relic:

A person who is aware or believes that he or she has discovered or located a relic (in any circumstances, and whether or not the person has been issued with a permit) must:

- c) *within a reasonable time after he or she first becomes aware or believes that he or she has discovered or located that relic, notify the Heritage Council of the location of the*

relic, unless he or she believes on reasonable grounds that the Heritage Council is aware of the location of the relic, and

- d) *within the period required by the Heritage Council, furnish the Heritage Council with such information concerning the relic as the Heritage Council may reasonably require.*

The Heritage Act identifies the category of ‘works’, which refers to historical infrastructure, and is viewed as separate to that of archaeological ‘relics’ under the Heritage Act. ‘Works’ may be buried, and are therefore archaeological in nature, but exposing a ‘work’ does not trigger reporting obligations under the Heritage Act unless it is of demonstrable significance.

2.2 Identifying listed heritage items

Statutory and non-statutory registers were reviewed. Listing on statutory registers provides a basis under which the item or place is protected, and change is managed through project approval. Statutory listings provide legal protection for heritage items under the legislation outlined above.

Statutory registers reviewed as a part of this assessment include:

- NHL - the register is made under the EPBC Act and protects items that have been formally assessed and approved to be of national significance to the people of Australia.
- CHL - the register is made under the EPBC Act and is a list of heritage items owned by the federal government. The list places responsibilities for care of the item on the federal government agency that owns it.
- SHR - this register is made under Part 3A of the Heritage Act. Items on the SHR undergo a rigorous assessment process and must reach a high significance threshold to be included. Inclusion on the SHR is directed by the Minister for Heritage.
- s170 register - this register is made under Section 170 of the Heritage Act. It is a register of heritage items that are owned or managed by state government authorities. Items on the s170 register may also be listed on other registers. Demolition, change to fabric and change of ownership require notification to the Heritage Council of NSW.
- Schedule 5 of the *Penrith Local Environmental Plan (PLEP) 2010*. The EP&A Act sets the provisions for the making of LEPs. Most LEPs are prepared to a standard template, which includes environmental heritage in Schedule 5 (the heritage schedule). Where an item is included in the heritage schedule, development applications must include an assessment of impacts to the item. Where a project is being assessed as SSD as this project is, approval by the relevant council is not required but the items require assessment and management if they are affected by a proposal.
- State Heritage Inventory (SHI), which was cross-checked with Schedule 5 of the PLEP 2010 and the s170 register. The SHI is not a single statutory register, but a central collection of state listed statutory heritage items maintained by Heritage NSW.

Non-statutory listing is an acknowledgment of a site’s, or place’s, importance to sections of the community. Listings on such registers do not place legal requirements on development but nevertheless influence the future of such listed items. Non-statutory registers reviewed as a part of this assessment include:

- National Trust of Australia, NSW (NT) - the NT is made up of autonomous state chapters. Each chapter is a community-based and non-government organisation, with a mandate to conserve and promote Australia’s

natural and cultural heritage. Classification by NT is a strong acknowledgment of heritage significance and while statutory constraints are not applicable, classification offers protection through visibility and community action.

- Register of the National Estate (RNE) - the RNE is an archived list of heritage items that were protected under the now repealed Commonwealth *Heritage Commission Act 1975*, which was replaced by the EPBC Act. While many items were transferred from the RNE to the NHL or CHL, those that were not remain on the RNE as an indication of their heritage value.

3 Existing environment

3.1 Introduction

The environmental characteristics of any area influenced the way people used the landscape. In the past, the availability of resources such as water, flora, fauna, stone material and topography played a substantial role in the choice of camping, transitory movement and ceremonial areas used by Aboriginal people.

Migrants to the early colony looked for the same landscape characteristics but manipulated their environment in ways that left more obvious marks. Water, level or gently sloping ground, and suitable soils to grow crops and animals was sought after. Therefore, understanding environmental factors assists with predicting where sites are likely to occur. Additionally, natural and cultural (human-made) site formation processes that occur after the deposition of archaeological material influence the way archaeological material is distributed and preserved across a landscape.

3.2 Landscape overview

3.2.1 Geology and landforms

The study area is situated within the Sydney Basin bioregion and Cumberland subregion (Thackway and Cresswell 1995). The Cumberland subregion is characterised by low rolling hills and wide valleys in a rain shadow area below the Blue Mountains (NSW National Parks and Wildlife Service 2003, 193). Prominent landforms within the site, include a single ridge at the southern end of the of the breakwater and sloping gently towards the creek in the northwest. Ridgelines and crests are broad (<200 m) with gentle slopes (>5%) receding to the valley floor north-west of the study area. The project area exhibits minimal topographic relief (<10 m) and is subject to flooding. Topography would not have dramatically impeded Aboriginal or European movements across the area, and elevated landforms near the creek would likely have been targeted for habitation or occupation.

The geology of the project area is late Triassic Bringelly Shale (RWB) from the Wianamatta Group (NSW National Parks and Wildlife Service 2003, 193). RWB consists of shale, carbonaceous claystone, claystone, laminate, fine to medium-grained lithic sandstone, rare coal and tuff. The RWB is overlaid by younger Pleistocene geology (QAL) from fluvial deposits (NSW National Parks and Wildlife Service 2003, 186)

The study area is bounded by South Creek to the east, a major creek line that would have been attractive to early squatters or pastoralists. Other lesser creek lines and drainage surfaces extend across the site, notably a tributary of South Creek to the northwest.

3.2.2 Land use history

High levels of historic land use and disturbance has occurred over the last 200 years. These are dominated by agricultural, pastoral and agistment activities, which have resulted in devegetation and modification of waterways (usually in the form of dams) across many parts of the project area. Early land use consisted of forestry and grazing in the wood and scrubland of the Cumberland Plain. Settlement expansion and the search for suitable agricultural land soon led to the establishment of Parramatta and Liverpool townships, driving the development of Sydney's west as a key area for pastoral and agricultural exploitation.

Land use and associated disturbance of the site accelerated from the early nineteenth century, primarily associated with an initial land grants issued in 1809 to Gregory Blaxland and Nicholas Bayly (NSW HLRV). Due to the fertility of the soil, proximity to water and accessibility to the centres of Parramatta and Sydney CBD the area has been kept

in steady use for agriculture, grazing and agistment since that time. The land has subsequently been heavily cleared and altered to suit these endeavours with the majority of native vegetation being cleared for grass or cropland.

Construction of residential buildings, stables and other agricultural structures has resulted in significant areas of disturbance. Horse agistment began on the site in the 1960s and has spread across the entirety of the northern portion of the project area; it includes significant clearing, grading, and construction throughout. Other access roads, farm tracks and irrigation ditches also contribute to linear areas of high-level disturbance. By 1975, the current extent of the horse agistment construction had been reached and the site resembled its current state with few buildings added in the decades since. Usage continues in the same manner until the current era, further entrenching the use in these areas. More recent disturbance has included the construction of roadways (eg Luddenham Road and Patons Lane) and urban/industrial infrastructure.

3.3 Heritage listings

There are currently six (6) listed properties in the vicinity of the project area (within 3 km) (Table 3.1) (Figure 3.1). Of these, the development is directly adjacent to two heritage items listed in the Penrith LEP 2010 (PLEP) as being of local significance; the “Luddenham Road Alignment” (PLEP 2010, I843) and the “Leholme Horse Stud Rotunda” (PLEP 2010, I232).

Additionally, heritage studies covering the Orchard Hills region have identified further non-listed items of potential heritage significance. The 1990 *South Creek Valley Heritage Study* (Perumal Murphy Pty Ltd 1990) listed two items of potential local significance within and adjacent to the project area;

- Native trees on Luddenham Road, Orchard Hills; and
- Band of native vegetation, Patons Lane, Orchard Hills.

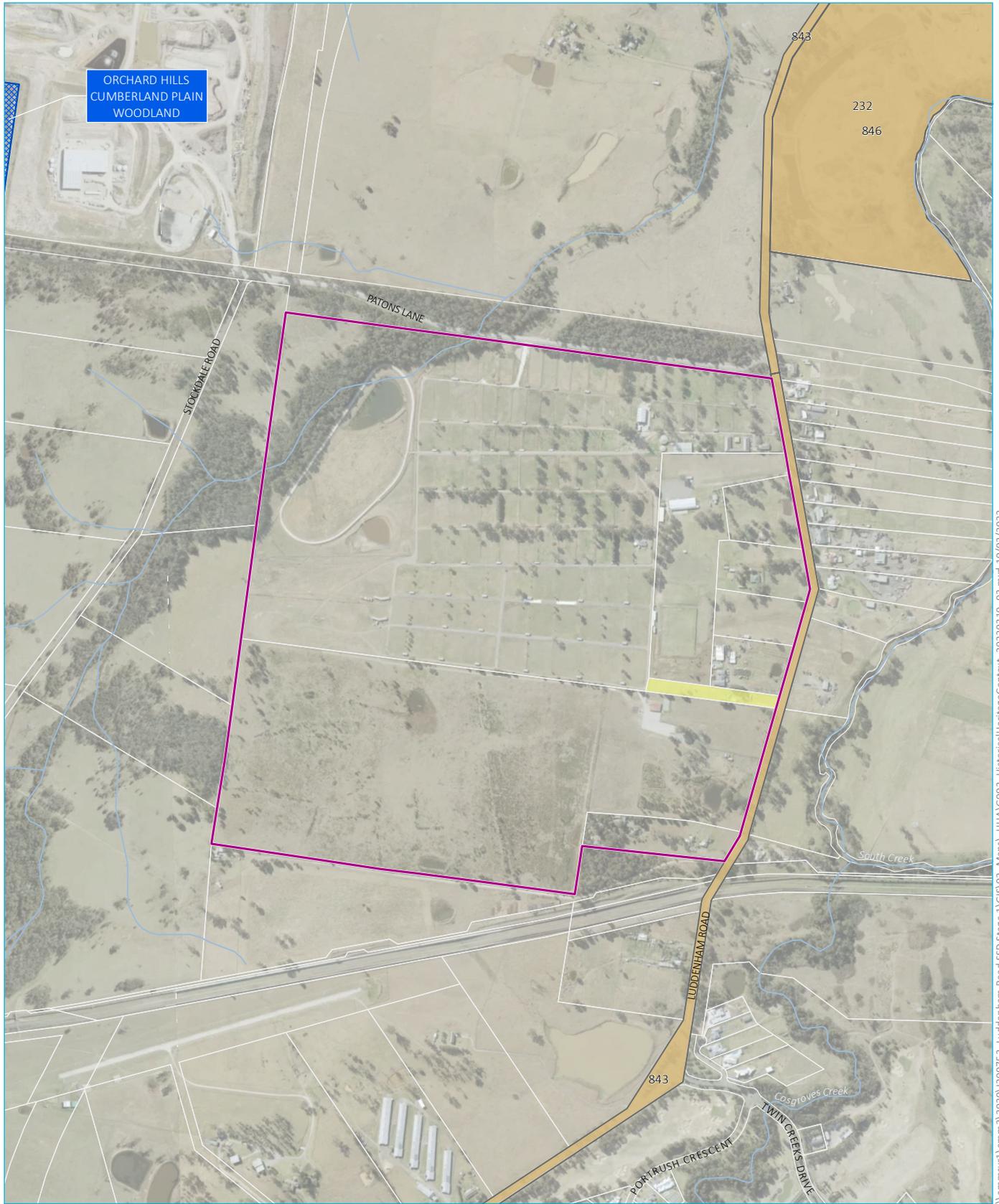
The *Penrith Heritage Study* (Paul Davies Pty Ltd 2007c, 205) has identified two potential heritage items within the project area;

- Farmhouse located at 287 Luddenham Road (Lot 24 DP331426): A twentieth century farmhouse with pyramidal hipped roof. One of the few farmhouses visible from Luddenham Road. Not recommended for listing; and
- Farmhouse located at 319-325 Luddenham Road (Lot 2 DP219794): An early twentieth century weatherboard farmhouse with pyramidal hipped roof and bullnose front verandah roof. It is argued to be the best example of the few farmhouses visible from Luddenham Road. An earlier gabled roof structure is also located to the side of the house. The house is suggested to be of potential local significance due to its rural setting on Luddenham road and rarity as a surviving early farmhouse in this region (Paul Davies Pty Ltd 2007c, 205, 208).

Table 3.1 Identified heritage items in the vicinity of the project area

Item name	Register listing number								Location
	NHL	CHL	SHR	S170	LEP	NT	RNE	Other	
Luddenham Road Alignment (Luddenham Road)	-	-	-	-	1843	-	-	-	Adjacent to project area
Leeholme Horse Stud Rotunda (391–395 Mamre Road, Orchard Hills, Lot 2, DP 547057)	-	-	-	-	1232	-	-	-	Approximately 1 km north east of the project area
Memorial cairn (Luddenham Road, Orchard Hills)	-	-	-	-	1230	-	-	-	Approximately 1.7 km north east of the project area
Mamre (181–275 Mamre Road, Orchard Hills, Lot 1, DP 530579)	-	-	00264	-	1228	-	3116	-	Approximately 3.2 km north of the project area
Memorial cairn (181–275 Mamre Road, Orchard Hills, Lot 1, DP 530579)	-	-	-	-	1229	-	-	-	Approximately 3.2 km north of the project area
Orchard Hills Cumberland Plain Woodland (The Northern Rd, Orchard Hills)	-	105317	-	-	-	-	102211	-	Vicinity of project area

*Notes: * NHL National Heritage List (statutory); CHL Commonwealth Heritage List (statutory); SHR State Heritage Register (statutory); S170 Section 170 of the Heritage Act (Government agency list of heritage assets) (statutory); LEP Local Environmental Plan (statutory); NT National Trust of Australia (NSW Branch) (non-statutory); RNE - Register of the National Estate (static and non-statutory); Landscape Identified significant cultural landscapes.*



Source: EMM (2022); Nearmap (2022); DFSI (2021)

KEY

- Study area
- Watercourse/drainage line
- Cadastral boundary
- Register of the national estate
- Local heritage item - general
- Farm - rejected listing

Listed sites and items

221-319 Luddenham Road, Orchard Hills
 Historical assessment and statement of heritage impact
 Figure 3.1

\\vemmsv1\vemms3\2020\200753_Luddenham Road SSD stage 1\GIS\02_Maps\JHHA\G003_HistoricalHeritageContext_20220310_03.mxd 10/03/2022

4 Historical summary

4.1 Historic themes

The Australian and NSW heritage systems employ a series of historic themes to guide the understanding of history and historical investigation in the nation and state. As part of any historic heritage assessment, it is important to review the historic themes when undertaking research on an area or place to provide proper context. The state and national themes are complementary to enable the historian to present a unified understanding of how an area fits into Australian history. The historic themes are also an important guide when assessing an item’s heritage significance. They provide information on how an item may be historically significant at the local, state or national level.

Finally, historic themes help to develop interpretation and management strategies for items of heritage significance. A full list of these themes can be found on the Heritage NSW website. Historic themes in the study area were identified based on the historical background. The Australian and NSW historic themes relevant to the project boundary that have been used in this report are listed in Table 4.1.

Table 4.1 Historic themes

Australian historic themes	NSW historic themes
2. Peopling Australia	2. Aboriginal cultures and interactions with other cultures; convict; and migration
3. Developing local, regional and national economies	3. Agriculture; commerce; environment; cultural landscape; exploration; and pastoralism.
4. Building settlements, towns and cities	4. Land tenure
5. Working	5. Labour
8. Developing Australia’s cultural life	6. Domestic life

4.2 Historical context

4.2.1 Key phases

Historical analysis has allowed for the division of project area’s development into phases. These phases and the themes below provide a framework for understanding the site and therefore its significance.

Phase 1: Pre contact

Phase 2: Exploration and early settlement

Phase 3: Establishment of Orchard Hills

Phase 4: Development of the project area

4.2.2 The environment and pre and early contact

Regional studies indicate that Aboriginal people first visited and occupied the Sydney Basin between ~45-35,000 years ago (ka) years ago. Populations remained low in the late Pleistocene and were focussed along the banks of major river systems, such as the Hawkesbury-Nepean River. After ~18 ka, there is an increasing

archaeologically observed presence across the basin, including the initiation of a number of sites, such as Burrill Lake and Bass Point. Increasing numbers and diversity of sites in the last 10 ka, and especially the last 5 ka, suggests a significant population established across most environments of the basin; and it is during this time that the socio-economic and religious systems observed at contact likely developed.

Information about the socio-cultural structure of Aboriginal society prior to European contact largely comes from ethno-historical accounts made by colonial settlers. These accounts and observations were often made after significant social disruption due to disease and displacement. As a result, this information is often contentious, particularly in relation to language group boundaries. Therefore, it is likely that language group boundaries were far more diffuse and complex than the arbitrary demarcations drawn by colonial observers.

Over thirty separate Aboriginal groups populated the wider Sydney Basin in 1788 CE, each with their own country, practices, diets, dress, and dialects. We now know of these groups as 'clans' and each identified with broader cultural-linguistic groups known as 'tribes'. The study area sits within Darug clan country which extended from around Parramatta through to the Blue Mountains and from the Hawkesbury River in the north to Appin in the south. The many rivers acted as natural demarcation of this area and the flat terrain of the Cumberland Plain was favourable to the livelihood of the peoples.

"The inland clans fished for mullet and eels in rich lagoons, but much of their food came from yams dug out from the riverbanks and worms known as 'cah-bro' extracted from river driftwood. Colebee and Ballederry called these people the 'climbers of trees' after their practice of skilfully ascending gums in pursuit of animals, cutting footholds in the trunks with a stone axe." (Collins 1798)

The central location and ease of movement through this area thanks to suitable topography meant that Darug country was frequented by travelling groups and used as a place of meeting. "Corroboree" the word for meeting and ceremony now associated with Aboriginal meetings in the modern era stems from the Darug language group (Troy 1994).

Environmental conditions in this region throughout the last 10,000 years were relatively stable and evidence suggests that population densities pre contact were high (Williams 2013). In the late eighteenth century smallpox and other European diseases are likely to have wiped out a significant percentage of Aboriginal peoples (>50%). In May 1789 William Bradley recorded the 'dreadful havoc' that smallpox had wrought amongst Aboriginal communities: 'we did not see a Canoe or a Native the whole way coming up the Harbour and were told that scarce any had been seen lately except laying dead in and about their miserable habitations' (Bradley 1969). Traditional burial practices broke down and clans merged as entire communities were taken by the virus (Hunter 1793). The impact of smallpox and other European diseases continued to ripple across the country, reducing communities in the Hunter 'from about 200, to 60' (Backhouse, 1843, p. 401). This is large scale decrease in population accounts the discrepancies seen between the distribution of archaeological remains and the ethnographic accounts of Aboriginal populations.

The Cumberland Plain was a point of first contact between many Aboriginal peoples and the Europeans, the same environmental factors that supported Aboriginal peoples also made for favourable lands for settlement and agriculture. The expedition by Governor Phillip to Prospect Hill in 1788 found the lands to the west more agreeable to farming than those of the Sydney Cove area and the township of Rose Hill (renamed Parramatta the following year) was established and settler colonialism rapidly expanded the European footprint in the area. Competition for resources quickly flared tensions, with violence escalating throughout the region. On 1 May 1801 Governor King issued a public order requiring that Aboriginal people around Parramatta, Prospect Hill and Georges River should be 'driven back from the settlers' habitations by firing at them'. King's edicts appear to have encouraged a shoot-on-sight attitude whenever any Aboriginal men, women or children appeared (Flynn 1997).

The conflicts and subsequent reprisals by both sides spread across the region and would eventuate in the Appin Massacre, 1816; these actions would come to be known as the Cumberland Plain war. The area was not only a site of conflict but also served as an important reconciliation place even as early as 1805 during a meeting organised by the reverend Samuel Marsden and the local tribes in a bid to cease the hostilities between settlers and Aboriginals.

Hostilities between certain groups remained many Aboriginal peoples continued to live a semi-traditional lifestyle or moved into a European lifestyle. Darug clans lived at an encampment on the Mamre Farm estate at South Creek in Orchard Hills, adjacent to the study area (north-west). The Reverend Marsden established the property in 1798 as a model farm for experimental crops and animal husbandry. The estate was over 1300 acres and an Aboriginal camp was situated on the opposite side of the creek, a few hundred metres from the homestead.

“...the South Creek Natives live on Charles Marsden’s property ‘Mamre’, often staying at the junction of South Creek and Eastern Creek. In comparison with some other tribes, the South Creek Natives may be considered as half-domesticated, and they often assist in the agricultural operations of the settlers” (West 1835 in *A History of Aboriginal Sydney* website)

The first parcels of land granted to an Aboriginal person were to the north of the study area between Richmond Road and Plumpton Ridge along Bells Creek. Governor Macquarie granted this land to Colebee and Nurragingy in 1819. Colebee did not stay long but Nurragingy lived on the land and it remained in the family until 1920 when it was resumed by the Aboriginal Protection Board (Kohen 1986, p.27).

4.2.3 Exploration and early settlement

The first official European presence in the Orchard Hills region was a small exploration party led by Captain Watkin Tench travelling from Parramatta to the banks of the Nepean River in June of 1789 (Tench 1793). Tench travelled to the region once more in April of 1791 to determine the relationship between the Hawkesbury and Nepean Rivers (Tench 1793). The region west of Parramatta was not settled immediately as the expansion of the Sydney colony was initially focused on the Hawkesbury River, which Tench found to be part of the same river system as the Nepean (Tench 1793).

In 1803 Governor King sanctioned settlement west of Parramatta and commissioned Surveyor’s Grimes and James Meehan to survey grants on the eastern banks of the Nepean (Paul Davies Pty Ltd 2007a, 11). Governor King granted the first portions of land in the Orchard Hills region to Reverend Samuel Marsden and Captain William Kent in August of 1804 (Paul Davies Pty Ltd 2007c, 196). Marsden’s 1030 acre (416.8 ha) grant, *Mamre*, and Kent’s 500 acres (202 ha), known as *Landsdown Place*, were located on South Creek, north of the project area (Paul Davies Pty Ltd 2007c, 195–96). Another significant grant in the region was presented to Mary Putland, daughter of William Bligh, in 1806 (City Plan Heritage 2015, 15). After the death of her first husband in 1809 and remarriage to Lieutenant Colonel Maurice O’Connell in 1810, Mary was granted an additional 1055 acres (427 ha) as a wedding gift, known as *Frogmore* (Australian Dictionary of Biography online n.d.). *Frogmore* held 7000 head of cattle, which were cared for by convicts and Bligh’s exploitation of the government store (Australian Dictionary of Biography online n.d.; City Plan Heritage 2015, 15–16). The project area was not known as Orchard Hills until the late nineteenth century but was commonly referred to as ‘South Creek’, ‘St Marys’ or ‘Frogmore’.

The next phase of grants around the Nepean was approved under acting Governor Paterson and Lachlan Macquarie from 1809 (Paul Davies Pty Ltd 2007b, 46; 2007c, 197). Macquarie rewarded individuals connected to the military and free settlers with large capital to invest in the colony with large tracts of land (Paul Davies Pty Ltd 2007b, 46). Three properties in the project area formed part of the early Macquarie grants (Plate 4.1). Lot 1 DP1099147, Lot 1 DP 396972, Lots 104 DP 520117, and Lot 24 DP 331426 formed historical Lot 23, which was originally promised to Lieutenant Villiers but assigned to Gregory Blaxland in 1809 (Macquarie University n.d.; Paul Davies Pty Ltd 2007c, 197). Lot 242 (DP 1088991), historically Lot 24, was granted to Lieutenant Nicholas Bayly (also Bayley) in the same year (Fletcher n.d.). The north-west corner of William Cosgrove’s 60 acre (24.3 ha) “*Cosgrove Farm*”, granted in 1812, also passes into the project area as part of Lot 2 DP 219794 (Paul Davies Pty Ltd 2007c, 12). The majority of Lot 2 DP 219794 was part of Lot 25, the 30-acre (12 ha) grant taken up by Mary Crooke (also Crooks) during the second wave of Macquarie’s grants in 1823 (Old Form Torrens Register Vol.2365 Fol.39) (Plate 4.1).

The properties in the project area formed part of rural estates (Paul Davies Pty Ltd 2007b, 34). Cattle grazing was the primary economic focus of the area followed by mixed agriculture which both sustained the labour force and

supported the economic activities of the estates (Houison 1936, 19; Paul Davies Pty Ltd 2007b, 21). The day to day workings of the grants were performed by assigned convict labourers (Paul Davies Pty Ltd 2007b, 34).

A permanent Government presence was established in the Nepean region in 1814, with the Government herds moved to a stockyard at Emu Plains (Paul Davies Pty Ltd 2007a, 11). The stockyard later became the site of the Emu Plains Government Farm, which was established to receive the glut of convicts after the Napoleonic War as well as to produce food to support the colony (Paul Davies Pty Ltd 2007b, 19). The farm was decommissioned in 1832 (Paul Davies Pty Ltd 2007b, 20).

Access to the region west of Parramatta was improved from 1815, with the construction of the Great Western Road from Parramatta, encouraging further settlement (Paul Davies Pty Ltd 2007a, 12). Pasture land came to dominate the region with stock and sale yards established at Penrith and St Marys (Paul Davies Pty Ltd 2007b, 23). Moreover, wheat became the crop of choice of the region (Paul Davies Pty Ltd 2007b, 23). The opening of the western districts and infection of stem rust led to the decline of wheat-growing around St Marys and Luddenham by 1863 and wheat production was overtaken by other grain crops such as corn, barley and oats (Paul Davies Pty Ltd 2007b, 23). From the 1840s large estates began to be subdivided and towns were established over the region (Paul Davies Pty Ltd 2007a, 12). The introduction of the railway from the 1850s changed the character of the wider Nepean region shifting the economic focus from pastoralism to dairying, agriculture and industrial production (Paul Davies Pty Ltd 2007a, 13; 2007b, 24).

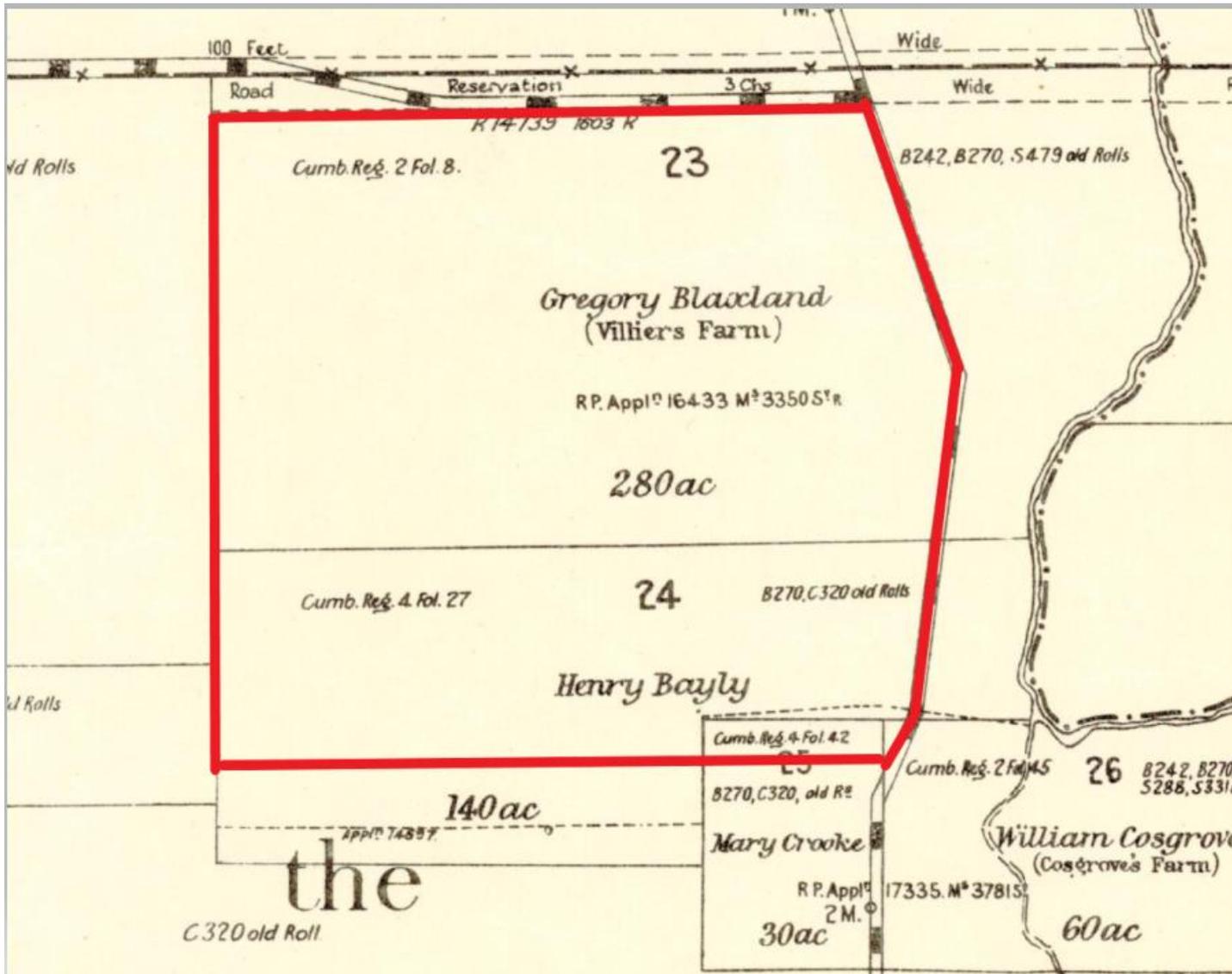


Plate 4.1 Parish of Claremont, Country of Cumberland 1960 with the indicative project area in red (Source: HLRV New South Wales. Department of Lands)

4.2.4 Orchard Hills

The Nepean region experienced an intensification of industrial activities over the late nineteenth and early twentieth century (Paul Davies Pty Ltd 2007b). The nature of the industrial works revolved around the production and processing of agricultural and pastoral products, for example Methven's Balfargy Cannery at Colyton was opened and South Creek became the centre of noxious trades such as tanning (Paul Davies Pty Ltd 2007b, 24, 27). Sand and gravel were also mined from 1883 (Paul Davies Pty Ltd 2007b, 27). Modern industry arrived in the 1940s with the opening of the munitions filling factory at St Marys (Paul Davies Pty Ltd 2007b, 28). The Warragamba-Prospect pipeline was constructed south of the project area in 1943 (Paul Davies Pty Ltd 2007b, 202). From the 1950s the region became tied to the functions of the expanding metropolitan area of Sydney (Paul Davies Pty Ltd 2007a, 13).

Despite the changing nature of the Nepean region, pastoralism continued to be the focus of the Orchard Hills area over the nineteenth and early twentieth centuries. The region's climate and proximity to Sydney's markets made the Orchard Hills area suitable for both pastoral and agricultural pursuits (Department of Environment and Heritage 1988, 11). Over the second half of the nineteenth century, vineyards and orchards began to be established in conjunction with sheep and cattle grazing (*The Sydney Morning Herald* 4 April 1866, 7).

From the 1880s large historical properties were subdivided into small 50 acre (20 ha) lots (Department of Environment and Heritage 1988, p. 13). Subdivided land in the vicinity of the project area was advertised as "ideal for vineyards and orchard lots" (Department of Environment and Heritage 1988, p. 13). Stone fruits such as nectarines, plums, peaches and apricots, as well as table grapes became the main produce of the area and rural communities became established around smaller villages, such as Luddenham (Department of Environment and Heritage 1988). For these reasons, on 17 October 1910 the region was named Orchard Hills (Penrith City Local History online n.d.). A number of orchards were closed in the 1930s after an outbreak of fruit fly (Paul Davies Pty Ltd 2007b, 24). Nevertheless, orchards and vineyards have had a continued presence in the region and the project area retains its rural character into the present.

4.2.5 Occupation of the project area

i Blaxland's grant

Despite being reserved for Lieutenant Villiers, Governor Macquarie granted the 280 acres (113.3 ha) of Lot 23 (Plate 4.1) to Gregory Blaxland in April of 1809 (Paul Davies Pty Ltd 2007b, 197; Conway n.d.). The grant retained the name of its previous retainer becoming known as *Villiers Farm*. Blaxland's grant joined his 2000-acre (809.4 ha) *Lee Holme* property to the north. South Creek marked the eastern boundary of both *Villiers Farm* and *Lee Holme* (Adams 1960, 11). Blaxland's brother John Blaxland was also granted land in the region— his *Luddenham* Farm was south west of his brother's grants.

Although Macquarie had hoped the Blaxland brothers would turn their land over to grain growing, they were more concerned with pastoral pursuits (Conway n.d.). The brothers arrived in Australia in 1807 and, from 1809, "turned whole attention to the lazy object of rearing cattle" (Macquarie in Houison, 1936, p. 19). Between 1809 and the dissolution of their partnership in 1813 the Blaxlands supplied the Government Store with a little over 40 tonnes of fresh meat (Houison 1936, 19). The Blaxland brothers also established Luddenham Road, which connected the Blaxland farms to each other as well as the Western Road to the north and Old Road to the south (presently Elizabeth Drive).

Macquarie toured the Orchard Hills area in 1810. Gregory Blaxland led the tour and the party visited both Blaxland's and Bayly's properties:

We passed close to Prospect Hill and by the Devil's Back to Mr Bayly's farm near South Creek: we halted here a little while and admired very much the situation of Mr Bayly's farm and the neatness of his barn and

stockyards; thence across the South Creek to a small farm belonging to Mr Gregory Blaxland, at whose farm we halted for breakfast (Macquarie in Adams, 1960, p. 11).

Macquarie also noted of Blaxland's *Villiers Farm*:

"This is entirely as yet a grazing farm with only a miserable hut for the stock keepers and stockyards for the cattle. The land in some parts is tolerably good and pretty well watered, but it is better adapted to grazing than tillage" (Macquarie in Houison 1936, p.29)

Macquarie indicates that Blaxland was not the primary occupier of *Villiers Farm* (Adams 1960, 11). Blaxland was granted a large number of convicts to work his farms and it is likely these individuals worked as "stock keepers". Blaxland's interest in pastoral practices, however, means it is likely he split his time between the Orchard Hills farms and his other estates (Conway n.d.). By 1820 Blaxland had settled on *Brush Farm* at Eastwood (Conway n.d.).

Blaxland's *Villiers Farm* passed into the hands of John Wentworth, half-brother of William Wentworth, around the time of Blaxland's departure in 1820 (General Register of Deeds (Old System Deeds) Book 30 No 512). It is possible Wentworth held the property in 1819 as he is recorded contributing meat to the Government Store (The Sydney Gazette and New South Wales Advertiser 1819, 1). John Wentworth died at sea in 1820 and his property holdings passed to his father D'Arcy Wentworth (Auchmuty 1967).

In 1856 Robert Towns, husband of John's sister Sophia Wentworth, entered into a feud with his brother-in-law William Wentworth, regarding the distribution of property, specifically John's property, in D'Arcy Wentworth's estate (Shineberg n.d.). In 1858 the Privy Council upheld D'Arcy Wentworth's estate, and Lot 23 went to William Wentworth (Shineberg, n.d.; General Register of Deeds (Old System Deeds) Book 30 No 512). Although Robert filed another lawsuit on behalf of Sophia in 1860, Lot 23 remained in the hands of William Wentworth.

Upon William Wentworth's death the property passed to his son, Fitzwilliam Wentworth (Old Form Torrens Register Vol. 2253 Fol.198). In 1919 Fitzwilliam sold the property to Sydney grazier William Vanstone, who in turn leased to property to St Mary's Farmer Henry Sylvester Dorahy (Old Form Torrens Register Vol.2941 Fol.166). The property was sold to St Mary's Farmer, Marshal Mounter in 1926 and the land passed through numerous hands until 1947 after which time the eastern portion fronting Luddenham Road was subdivided from Lot 23 (Table 4.2) (Old Form Torrens Register Vol.4708 Fol.193; Vol.5679 Fol.209).

An aerial photograph of the property from 1956 shows the majority of the lot had been cleared of vegetation and divided into large paddocks (Plate 4.2). Remnant tilling is visible throughout the landscape and a homestead comprising two large structures, a house with yard and an unidentified building, are present fronting Luddenham Road. A small portion of land east of the house has row plantings. The house is extent within the project area on Lot 2 DP 520117 (Figure 4.1).



Plate 4.2 1957 Historical aerial photograph with the approximate project area indicated by red (source: NSW Government Spatial Services)

A house with plantings in the rear is also present within the boundaries of Lot 24 DP331426 (Figure 4.1). This property was subdivided from Lot 23 in 1935 (Old Form Torrens Register Vol.4708 Fol.145). The property was purchased by Ernest Joseph Morphett, a labourer from St Marys (Old Form Torrens Register Vol.4708 Fol.145). It is likely the house was constructed during Morphett’s tenure. No further property title information was registered. The house is still present within this lot.

Following the 1947 subdivision Lot 23, now Lot 1 DP 1099147 (Figure 4.1), continued to pass through the hands of short-term title holders (Table 4.2). In 1966 the property title passed to A&M Fox Investments Pty Ltd before being taken over by Ingham Enterprises Pty Ltd in 1998 and ANZ Capel Court Limited in 2003. Aerial photographs show the present horse agistment paddocks and associated structures were constructed between 1956 and 1962, under the tenure of Bookmaker John William Gardiner.

Table 4.2 Lot 23/ Lot 1 DP 1099147 property title holders 1926-2003

Old Form Torrens Register Vol-Fol	Date	Property Title Holder
3055-90	1926-1935	Albert Ernest James of St Mary's (Farmer)
4708-193	1935	Albert Ernest James of St Mary's (Farmer)
	1935-1939	Mary Abdullah Simon of Bondi

Table 4.2 Lot 23/ Lot 1 DP 1099147 property title holders 1926-2003

Old Form Torrens Register Vol-Fol	Date	Property Title Holder
	1939-1941	Leonard Greet of St Mary's
	1941-1943	William Joseph Hammond
	1943-1947	Ross Bruce King Stuart
5679-208	1947-1954	John Frederick Moore of Oberon (Hotel Proprietor)
	1954-1955	Kenneth Stanley Baker of Doonside (Farmer)
	1955	John Frederick Howard of Lindfield (Engineer)
	1955-1956	Allan Gregory Toohey
7122-197	1956	John Frederick Howard of Lindfield (Engineer)
7397-162/163	1957	John Frederick Howard of Lindfield (Engineer) & Alan Gregory Toohey of Vaucluse (Company Director)
7515-35	1958-1965	John William Gardiner of Coogee (Bookmaker)
	1966-1998	A&M Fox Investments Pty Limited
	1998-2003	Ingham Enterprises Pty Ltd
	2003	ANZ Capel Court Limited

The eastern frontage of Lot 23 was purchased by St Mary’s Grazier Ross Bruce King Stuart in 1950 (Old Form Torrens Register Vol.5679 Fol.209). The property was taken up by Constance Emily Griffin in the same year before being purchased by Clarice Elizabeth Beard in 1951 (Old Form Torrens Register Vol.5679 Fol.209). In 1956 John Stuart Russell is named as title holder before Winifred May Messuer took over the title in 1959 (Old Form Torrens Register Vol.5679 Fol.209). Lots 1-4 DP 520117 (Figure 4.1) were subdivided in 1960 (Old Form Torrens Register Vol.10344 Fol.113-116). Aerial photographs indicate a house was constructed on Lot 4 between 1970 and 1978. It is not clear when the house on Lot 1 was constructed as buildings and tanks are present in this location prior to 1947, the present roofline is clearly visible from 1983. Semi-circular greenhouses were established in the north of Lot 1 from 1991, the greenhouses are no longer present.

Lot 1 DP396972 (Figure 4.1), to the west of the four lots fronting Luddenham Road, was subdivided from Lot 23 in 1956 and was purchased by John Keith Orr and Margaret Richardson Orr (Old Form Torrens Register Vol.7252 Fol.14). Local milk Vendor William James Fitzpatrick and Lucy Rosie Fitzpatrick held the title in 1969 followed by a local horse trainer and driver Donald John Heath and his wife Frances Anne Heath in 1972 (Old Form Torrens Register Vol.7252 Fol.14). The current property owners the Croatian Culture Association took over the property in 1976 (Old Form Torrens Register Vol.7252 Fol.14).

Aerial photographs show a homestead, multiple large outbuildings and driveway were constructed under the Orr’s tenure between 1956 and 1961. By 1970 two of the large rectangular outbuildings had been demolished. Further outbuildings were removed under the tenure of the Croatian Culture Association and the current hall building, and a potential sports field, were constructed prior to 1978. The first clear sports field appears on the property in 1983.

ii Bayly’s grant

Nicholas Bayly , who arrived in New South Wales as commander of the guard on the *Barwell* in 1797 (Fletcher n.d.), was granted the 280 acres (113 ha) of Lot 24 (Plate 4.1), south of Blaxland’s *Villiers Farm* in April of 1809 (Paul Davies Pty Ltd 2007c, 195). Bayly had a tumultuous career in the colony and was not liked by government officials (Fletcher n.d.). At his appointment to Naval Officer in 1809 Lieutenant-Governor Paterson granted Bayly, his wife, and children 1070 acres (433 ha) at Kemps Creek which came to be known as *Bayly Park*.

Lot 24 located on the west side of South Creek, now Lot 242 DP1088991 (Figure 4.1) within the project area, was part of this grant. The remaining portions of *Bayly Park* were located east across the creek in the Parish of Melville (outside of project area). Bayly is also recorded contributing fresh meat to the government stores; however, a muster in 1822 confirmed Bayly only owned 34 cattle, eight sheep and had 40 acres (16 ha) under cultivation (*The Sydney Gazette and New South Wales Advertiser* 1819, 1). The report of Macquarie's visit suggests Bayly's homestead was located east of South Creek (Houison 1936, 29).

Nicholas Bayley died in 1823 and the 140 acres (56.7 ha) of Lot 24 and 360 acres (Lot 50, 145.7 ha) on the eastern side of the creek (outside of the project area) passed to his son Henry Bayly (Old Form Torrens Register Vol.7515 Fol.35). The remaining property, later known as *Fluers* was sold to Richard Jones in 1826 (SHI *Bayly Park-House*). Henry Bayley assumed the role of head of the household after his mother died in 1821, continuing to oversee the running of his father's farm until its sale and caring for his younger siblings (Paine 2014).

Between 1829 and 1830, Henry Bayly made a brief trip to England to escort his brothers Charles and Nicholas to school so they could complete their gentleman's education (Stewart n.d.). Henry Bayly married Hannah Lawson, second daughter of William Lawson, upon his return in 1830 (*The Sydney Gazette and New South Wales Advertiser* 1830, 3). Henry Bayley continued to oversee his *Bayly Park* until he moved to Mudgee c.1840 (Paine 2014; New South Wales Government Gazette 1833, 459; 1840, 120). It appears that William Wentworth acquired *Bayly Park* at this time (the occupant/ title holder history for this property between prior to 1951 was not found), but the 1912 to 1919 property title for Lot 23 indicates Lot 24 was owned by R.S. Hamilton (Old Form Torrens Register Vol.2253 Fol.198). R.S. Hamilton is named as a landholder in the area from at least 1910 and in 1880 a J. Hamilton is associated with "Bailey Park", South Creek (New South Wales Government Gazette 1880, 4927; Government Gazette of the State of New South Wales 1910, 5309).

The 1957 aerial photograph (Plate 4.2) of the area indicates that much of the property remained wooded or was left to scrub. The frontage on Luddenham Road was cleared and a trackway is visible through the centre of the property travelling north towards the linear feature in Lot 23. A small structure was present in the north east of the property, opposite the house on Lot 24 DP331426 (Figure 4.1). A small homestead was established on the property between 1947 and 1956.

In 1951 the property was purchased as part of larger landholdings by Fredrick Charles Kennett and Janet Brown Kennett, farm and produce agents from Collaroy (Old Form Torrens Register Vol.6355 Fol.167,168). The property remained in the Kennett family until at least 1960 (Old Form Torrens Register Vol.7773 Fol.207). Timber cutting appears to have been the focus of the Kennett's activity on the property as aerial photographs show the vegetation on the was systematically cleared between 1957 and 1961. The property was repeatedly planted and cleared over the 1960s and 1970s. A second homestead was constructed in the north of the property between 1970 and 1975, both houses remain on the property.

iii Crooke's grant

Mary Crooke was granted the 30 acres (12 ha) of Lot 25 (Plate 4.1) in June of 1823 (Old Form Torrens Register Vol.2365 Fol.39-41). Despite the small footprint of the property, Crooke grazed 800 sheep and 150 cattle and was the overseer of a convict mechanic labourer (Paul Davies Pty Ltd 2007c, 198). Mary's son, Henry York, had a small property near Luddenham (Paul Davies Pty Ltd 2007c, 153). In 1828 Mary was granted 90 acres (36 ha) known as Mount Pleasant, which Henry worked on her behalf (Paul Davies Pty Ltd 2007c, 153, 198).

After Mary's death in 1842, the property was purchased by her neighbour William Cosgrove (*Nepean Times*, 1933, p. 1; Old Form Torrens Register Vol.2365 Fol.39-41). In 1913 William Cosgrove, John Charles Henry Cosgrove, both of Bredbo, and Cooma Auctioneer James Hugh Montague are listed as the property title holders (Old Form Torrens Register Vol.2375 Fol.234). The property was sold to Charles Robert Melbourne Brown and Sutton Lambert, both farmers from St Marys, in 1913 (Old Form Torrens Register Vol.2375 Fol.234). John Napoleon Ryan took over the title in 1921 and the property remained in the Ryan family into the 1960s (Old Form Torrens Register Vol.7074

Fol.31). The Ryans appear to have had some financial trouble in the late 1950s as the property title was held by Leicester Samuel Eiggins between 1956 and 1961.

The 1957 aerial photograph shows the homestead fronting Luddenham Road in Lot 2 DP 219794 (Figure 4.1), had been constructed on the property at this time. Further outbuildings were constructed over the property over the 1970s, but few changes occurred until the late 1980s when a second homestead was constructed to the west of the original house.



Source: EMM (2022); Nearmap (2021); DFSI (2021)

- KEY**
- Study area
 - Watercourse/drainage line
 - Cadastral boundary

Project area reference

221-319 Luddenham Road, Orchard Hills
 Historical assessment and statement of heritage impact
 Figure 4.1



\\hemmsvr1\hemms3\2020\200753_Luddenham Road SSD stage 1\GIS\02_Maps\JHHA\G004_Maps\JHHA\G004_ProjectAreaReference_20220310_02.mxd 10/03/2022

5 Evaluation of the project area

5.1 Key findings

Archival research and analysis of these data suggest the following:

- the project area encompasses four historical lots granted to free settlers and military officers between 1809 and 1823. Three of these properties— Lot 23 (Blaxland’s grant), Lot 24 (Bayly’s grant) and Lot 25 (Cooke’s grant);
- the majority of land within the project area functioned as grazing pasture over the nineteenth century, with potential areas of small-scale agriculture;
- the properties were subdivided and permanently settled over the twentieth century;
- Lot 1 DP1099147 was Blaxland’s grant and has been substantially developed; it is expected to have low potential to reveal archaeological sites;
- Lot 1 DP396972 was subdivided in 1956 and contains multiple mid-twentieth century standing buildings. The standing building has the potential to fulfil criteria for heritage significance. The archaeological potential of the property predicted to be low;
- Lots 1–4 DP520117 has two periods of subdivision and development. The area was subdivided from Blaxland’s grant in 1950. The extant early twentieth century house was present on Lot 2 with outbuilding across the other lots prior to subdivision and has the potential to fulfil criteria for heritage significance. Additional standing buildings were constructed after subdivision into the four lots in 1960. The archaeological potential of these properties is predicted to be low;
- Lot 24 DP331426 was subdivided from Blaxland’s grant in 1935 and contains an early to mid-twentieth century standing building. The standing building has been assessed by Paul Davis (2007) and did not meet the threshold for local significance. The archaeological potential of this property is predicted to be low;
- Lot 242 DP1088991 was Bayly’s grant and contains two mid-twentieth century standing buildings. The property is rural in character but heavy timber cutting over the twentieth century suggests low archaeological potential; and
- Lot 2 DP 219794 was Crooke’s grant and contains an early to mid-twentieth century standing building. The standing building has the potential to fulfil criteria for heritage significance. The archaeological potential of this property is predicted to be low.

5.2 Background

Site evaluation is the analysis of the sources available to assess the landscape in the project area by addressing the potential for archaeological resources, the contribution that the built environment makes, and the assessment of significance of each site and of the project area as a whole. The results of this section directly inform the assessment of potential, significance and therefore, impacts.

This historical heritage landscape assessment was guided by a combination of archival research and previous field survey. The following sections discusses visible and potential sites based on these sources.

5.3 Land use summary

The landscape of the project area was originally Cumberland Plain Woodland supported by South Creek and its smaller tributaries. The project area is in the country of the Gomerrigal-Tongarra Clan of the Darug people. The properties within the project area were granted to free settlers and military officers between 1809 and 1823. The land was cleared or partially cleared for cattle and sheep grazing and by 1810 barns, stockyards, stock keepers' huts had been constructed, along with a possible a pass along South Creek. Luddenham Road was established. Small scale agricultural planting and structures relating to farming, ie fences, were likely constructed over the nineteenth century. The properties were permanently occupied, and homesteads were constructed between c.1913 and 1947. Blaxland's 1809 grant was subdivided in 1947, 1956 and 1960. Pastoral activities were scaled back and houses, outbuildings and horse agistment pastures were constructed over the late twentieth century. The properties of the project area retain the rural character of the area, which has roots in the early twentieth century.

5.4 Significant cultural landscapes

Cultural landscapes come in different forms, from having the appearance of wilderness to countryside to urban areas. The common factor that all cultural landscapes possess is they are a moment in time in a continuum of change created by human action s (Meinig 1979).

Cultural landscapes can be broadly defined as designed, evolved or associative (Australia ICOMOS nd), with designed landscapes being largely represented by gardens; evolved landscapes by development; and associative landscapes being more indebted to the intangible, the religious or sacred. Cultural landscapes are also dynamic (Stuart 1997, p.28), regardless of the pace of change.

The significance of a landscape is dependent on how it reflects values of the heritage standards in Australia and the Burra Charter, which was developed to reflect the values of the community. Interpretability is an important factor, i.e the ability of a landscape to tell a story is a socially and scientifically valuable attribute. So, while all human interactions with nature result in the formation of cultural landscapes, significance varies depending on what values can be identified and interpreted.

The cultural landscape of the project area is has evolved over time through different phases of land use. The woodland around South Creek would have played an important role in the lives of the Darug people. The access to South Creek and rich soils of the region supported European settlement and pastoralism. Farming activities cleared the woodland, creating a landscape dominated by grazing pasture and agricultural land. The large estates were subdivided over the late nineteenth and early twentieth century and small homesteads were constructed over the landscape. The current landscape of the project area reflects the pastoral and farming history of Orchard Hills.

5.5 Archaeological potential

5.5.1 Introduction

This section provides a summary of the archaeological potential of the study area. Matters contributing to the project area's archaeological potential are addressed with a discussion of early land grants, subdivision, late twentieth century development and historical impacts/site development.

i Early land grants

The survey and administration of land grants in the early nineteenth century created the footprint of the present-day Orchard Hills. The security of government issued land grants allowed the land holders to invest in their land. The investment within the project area likely varied, as the grantees— Blaxland, Bayly, and Crooke— also held

property outside of the project area. Historical records indicate that stock was run on the properties, and as such, it is possible that fences, stockyards, water access, barns, huts and homesteads were present over the project area.

ii Subdivision

Changes in historical landownership over the late nineteenth and early twentieth led to the permanent occupation of the project area. A review of landholders indicates grazing and other farming activities continued over the project area. The first phase of subdivision occurred from 1935 and small farmhouses were constructed on Lots 1-4 DP520117, Lot 24 DP331426 and Lot 2 DP 219794. The houses remain present in the project area. The 1957 aerial photograph shows formalised plantings, small agricultural plots, fenced paddocks, dams and outbuildings associated with the farmhouses.

iii Late twentieth century development

The second phases of subdivision within the project area occurred between 1950 and 1960. The subdivision led to a change in land use. Small scale farming, timber-getting, and associated production appears to have occurred over the project area prior to the 1960s. Construction on the horse agistment paddocks and associated structures began on Lot 1 DP1099147 between 1956 and 1962. To the east, Lot 1 DP396972 was subdivided in 1956, a small homestead and large sheds were initially constructed over the property and structures were demolished and new structured constructed as the property changed hands. The four Lots on Luddenham Road were subdivided in 1960 and the original outbuildings of the Lot 2 house were removed. Houses were constructed on the four lots from the mid-1970s and small-scale farming activities continued over these lots.

5.5.2 Previous Studies

Lot 1 DP 1099147 and Lot 242 DP 1088991 have previously been subject to archaeological walkover survey (EMM 2020). No archaeological resources, or works were found.

5.5.3 Historical impacts and archaeological potential

The landscape of the project area has undergone variable change of use since the early 1800s and therefore has experienced varied historical impacts. As such, historical impacts and archaeological sensitivity will be discussed by property lot.

i Lot 1 DP1099147

Lot 1 DP1099147 was part of Blaxland's 1809 grant. The property was cleared and turned over to paddock. The 1947 aerial photograph shows a dark linear feature (potentially associated with the road through Lot 242 DP1088991) and remnants of ploughing in the south eastern portion of the property. The construction of the horse agistment paddocks c.1960 cleared and developed much of the property, altering the landscape. The north west corner of the appears to have minimal impacts to the historical landscape but the alignment of the unnamed creek in this area has changed over time.

The impact of the agistment paddocks and previous survey of the property lot suggests development affected any archaeological potential. As such, the archaeological potential of this area of the project area is predicted to be low.

ii Lot 1 DP396972

Lot 1 DP396972 was part of Blaxland's 1809 grant. The property was subdivided in 1956. The 1957 aerial photograph shows the property had been cleared and divided into paddocks. The first buildings on the property were constructed in 1956; a corrugated iron roof structure survives on the property from this period. Additional

structures were constructed and demolished between the 1960s and 1980s. The southern portion of the property was converted to sports fields in the late 1980s. The northern section of the property is cleared paddock.

The construction and demolition of structures and construction of sports fields have likely impacted archaeological resources if they existed, as such, the archaeological potential of the property is predicted to be low.

The standing structures may be of heritage significance (Figure 5.1).

iii [Lot 1 DP520117](#)

Lot 1 DP520117 was part of Blaxland's 1809 grant. The property was cleared and turned over to paddock. Two structures, including an animal shed/barn and paddock, are visible on the southern boundary of this Lot in the 1947 aerial photograph, the northern portion of the lot is paddock. It is possible these structures are associated with Lot 2. One of the structures was demolished prior to 1961 and water tank placed in the area. The current house and dam were constructed in the early 1980s. Greenhouses/sheds, which no longer survive, were constructed in the north of the property in the early 1990s.

The development of the current house and sheds from the early 1980s would have impacted archaeological resources if they existed, as such, the archaeological potential of the property is predicted to be low,

iv [Lot 2 DP520117](#)

Lot 2 DP520117 was part of Blaxland's 1809 grant. The property was cleared and turned over to paddock. The 1947 aerial photograph indicates a small farmhouse, outbuilding, garden and linear planting were established on the property by this time. The farmhouse survives into the present. Further outbuildings were construction over the late twentieth century, which also survive on the site.

There is no evidence of archaeological resources being present in this section of the project area. Therefore, the archaeological potential of this property is predicted to be low.

v [Lot 3 DP520117](#)

Lot 3 DP520117 was part of Blaxland's 1809 grant and was subdivided in 1956. The 1957 aerial photograph shows the property had been cleared, divided into paddocks and the extant dams installed. A shed or barn was constructed on the south boundary by 1978.

There is no evidence of archaeological resources being present in this section of the project area. Therefore, the archaeological potential of this property is predicted to be low.

vi [Lot 4 DP520117](#)

Lot 4 DP520117 was part of Blaxland's 1809 grant. The property was cleared and turned over to paddock. The 1947 aerial photograph does not show structures in this area. A house was constructed in the south west corner of the property in the 1970s, a dam was also dug close to Luddenham Road. Much of the lot was converted to orchard in the late 1980s and the property began to be developed from 1994 to form its current state. At present a complex of buildings is located in the west of the lot and orchard plantings are located in the eastern portion of the property.

The development of the property and orchard have likely impacted archaeological resources, if they existed. As such, the archaeological potential of this section of the project area is predicted to be low.

vii [Lot 24 DP331426](#)

Lot 24 DP331426 was part of Blaxland's 1809 grant. The property was subdivided in 1935. The 1947 aerial photograph indicates a small farmhouse, outbuilding, garden and linear planting were established on the property

by this time. The farmhouse and outbuilding survives into the present. It does not appear that intensive farming occurred over the property. Current aerial imagery shows considerable debris over property, i.e. building material, tires.

There is no evidence of archaeological resources being present in this section of the project area. Therefore, the archaeological potential of this property is predicted to be low.

The standing building has been assessed by Paul Davis (2007) and did not meet the threshold for local significance

viii [Lot 242 DP1088991](#)

Lot 242 DP1088991 was part of Bayly's 1809 grant. The property appears to have been partially cleared of brush with clearing activities focused on the Luddenham Road frontage. The 1947 aerial photograph shows a road had been constructed from the Warragamba pipeline, to the south of the project area, north through the property and into Blaxland's grant. A small homestead was constructed on the site by 1956 and a second homestead constructed to the north west by 1978. The western portion of the property was subject to cycles of timber clearing and replanting over the late twentieth century.

The repeated clearing and replanting activities have impacted archaeological resources. Prior survey of this property did not find relics. As such, the archaeological is predicted to be low.

ix [Lot 2 DP219794](#)

Lot 2 DP219794 was part of Crooke's 1823 grant. The 1947 aerial photograph shows the property had been cleared and a farmhouse and outbuildings had been constructed fronting Luddenham Road. The farmhouse and outbuildings survive into the present. It appears a small building may have been located towards the western end of the property in the 1960s, and to the north west in the 1980s. The current house to the west of the property was constructed in the early 1990s. Current aerial imagery indicates the property is being used as a car/scrap yard.

There is no evidence of archaeological resources being present in this section of the project area. Therefore, the archaeological potential of this property is predicted to be low.

The standing farmhouse fronting Luddenham Road may be of heritage significance (Figure 5.1).

5.6 [Statement archaeological potential](#)

Seven of the nine lots that have been considered in this report were assessed through field survey; two were not. The results of the field survey, combined with the documentary research indicate that the potential for relics (historical archaeological sites of significance) is low.

5.7 [Comparative analysis](#)

5.7.1 [Review of similar sites](#)

In order to understand the relative significance of the place, that is, how rare or representative it may be, like-sites are reviewed for comparison to the values identified in archival research and field assessment conducted for this report. The following sites have been drawn from the Penrith LEP 2010.

i [Bayley Park- House 919-929 Mamre Road, Kemps Creek, \(Bayley Park- House is listed as locally significant on the SHI but is not listed in the current Penrith LEP 2010\).](#)

Bayley Park was granted to Nicholas Bayley (Bayly) in 1810 and by 1814 the property held "a noble mansion with gardens and cultivated grounds". Bayley Park was sold to Richard Jones in 1826. Jones is a noted contributor to the

colonial industry and his imported pure bred Saxon sheep were kept on Bayley Park, then known as *Fleurs*. The farm was subdivided in 1888.

The mansion has been altered over time but the creekside pastureland setting of the house demonstrates nineteenth century estate planning including landmark plantings. The property is argued to be significant for its connection to the development of large pastoral and agricultural estates in the region over the nineteenth century and the association with the Bayley (Bayly) and Jones families.

ii [Mamre, Mamre Road, St Mary's \(SHI 00264\)](#)

[Austral Archaeology Pty Ltd Archaeological & Cultural Heritage Consultants 2015, MAMRE HOUSE, 181-275 MAMRE ROAD ST MARYS, NEW SOUTH WALES Historical Archaeological Excavation Report, Section 60 Permit Number: 2015/S60/85, prepared for NSW Planning and Environment.](#)

Mamre is part of the land granted to Reverend Samuel Marsden in 1804. Marsden contributed to the development of the colonial wool industry breeding sheep at Mamre. The farm passed to Charles Marsden in 1824 before being purchased by Richard Rouse in 1828 and later was owned by the Fitzgerald family. The property is maintained by the Sisters of Mercy, Parramatta.

Mamre is significant as an intact example of a pre-1860s estate and homestead on the Cumberland Plain, its association with the Marsden, Rouse and Fitzgerald families. The property also has the potential to yield significant information regarding early colonial life and farming.

The original Georgian Mamre homestead is extant on the property and is considered an iconic feature of the St Mary's Landscape. Austral Archaeology (2015) excavated around the verandahs of Mamre house. The excavations revealed twentieth century disturbance and no evidence of earlier structures.

iii [Hadley Park, 14-278 Old Castlereagh Road, Castlereagh \(SHI 02009\)](#)

Hadley Park was granted to Martin Mentz (also Mintz or Mince) in 1803. An extant slab farmhouse constructed c.1810, outbuildings and gardens are present on the property. Changes and additions to the farmhouse have occurred over the long occupation period of the property and additional farm buildings have been added as the focus of farming changed over the nineteenth and twentieth century.

Hadley Park sits within the Nepean floodplain. The surrounding landscape retains its agricultural character and is considered a significant layered cultural landscape. The farmhouse and landscape are considered to have aesthetic value.

iv [Glenmore, 754-760 Mulgoa Road, Mulgoa \(SHI 00074\)](#)

Glenmore formed part of the Mulgoa Valley property granted to the Luttrell family in 1809. The grant was sold to neighbor William Cox in 1815. Cox used the land for pastoral pursuits and also established orchards and vineyards. The extant house and gardens were constructed in 1825.

Glenmore is significant as a relatively intact rural landscape. The house and gardens are considered a landmark on Mulgoa road and are a rare example of an early nineteenth century estate which has been adapted for changing use over time. The site also has the potential archaeological resources which may contribute to understandings of colonial farming and lifeways.

v [Federation farmhouse, 330 Eighth Avenue, Llandilo \(PLEP 2010 I676\)](#)

The federation farmhouse is located on Samuel Terry's 1818 grant known as *Terry Brook*. The grant was subdivided to form Llandilo Estate in the 1860s, which in turn was subdivided in 1888 and developed into orchard blocks. The

farmhouse is a simple Federation symmetrical brick cottage with sheeted roof and small garden compound set in open paddock.

The farmhouse demonstrates the continuation of the regional rural economy over multiple generations and is a rare example of a pre-1940s farmhouses surviving in Llandilo.

vi Cottage and outbuildings, 268 Seventh Avenue, Llandilo (PLEP 2010 I676)

The cottage and outbuildings group are located on the banks of South Creek within Samuel Terry's 1818 grant known as *Terry Brook*. The grant was subdivided to form Llandilo Estate in the 1860s, which in turn was subdivided in 1888 and developed into orchard blocks. The cottage, constructed soon after subdivision, is a simple brick and timber cottage with sheeted roof and verandah set in a rural paddock setting. The buildings of the site are classed into two groups, the house group with slab shed and barn and c. 1930s dairy group.

The cottage and outbuildings group are a good example of a rural nineteenth century farmhouse and is significant is the only example known in the region. The group contributes to the history of rural settlement in Llandilo area. The site is associated with Samuel Terry and Mr Sullivan who developed the orchard industry in Llandilo.

vii Weatherboard cottage, 410-450 Castlereagh Road, Agnes Banks (PLEP 2010 I660)

The nineteenth century weatherboard cottage is located on Castlereagh Road. The symmetrical weatherboard cottage has sheeted hipped roof and interwar verandah and is set in open paddock.

The cottage demonstrates successive development along Castlereagh Road and is a typical example of a rural cottage of its era. The item contributes to the historic built character of the area.

5.7.2 Analysis

Bayly and Hadley Park, Mamre and Glenmore have associations with individuals who contributed to the development of the Penrith LGA and New South Wales. The project area has strong associations to important individuals and families but these associations are incidental. The northern property formed part of Gregory Blaxland's beef production activities and later become part of the Wentworth family's farming scheme. The southern lots were part of the Bayly's Kemps Creek estate and the holdings of Mary Crooke, a known early settler in the area.

The comparative sites are associated with early land grants within their respective regions and the continued occupation of these colonial country estates is considered significant. The properties within the project area were among the first land grants in the Orchard Hills area and continue to retain a rural character. The Blaxland and Bayly grants were minor portions of the lands acquired by Blaxland, Bayly, and Wentworth. As such, the properties lack extant early nineteenth century structures and identifiable colonial landscape construction/manipulation seen in Bayly Park, Mamre, Hadley Park and Glenmore. Whilst the landscape contributes to the significance of the comparative sites, it is the standing homesteads which anchor the history of these four estate sites to the landscape and which are the focus of the significance assessments.

Few rural farmhouses and cottages are listed on the Penrith LEP. Of those that are listed the majority date to the late nineteenth century or the first decades of the twentieth century. The farmhouses are considered significant as they demonstrate the continuation of the rural economies in their respective regions over multiple generations. The date of the houses within the project area are unclear, but the structures do contribute to the rural history and character of Luddenham Road.



Source: EMM (2022); Nearmap (2022); DFSI (2021)

- KEY**
- Study area
 - Watercourse/drainage line
 - Cadastral boundary
 - Farmhouse - possible built potential

Archaeological potential

221-319 Luddenham Road, Orchard Hills
 Historical assessment and statement of heritage impact
 Figure 5.1

\\hemmsv1\hemms3\2020\200753_Luddenham Road SSD stage 1\GIS\02_Maps\JHA\G005_Archaeological potential_20220310_02.mxd 10/03/2022

6 Assessment of significance

6.1 The significance framework

In NSW, historical value is ascribed to buildings, places, archaeological sites and landscapes modified in the Australian historical period for purposes other than traditional Aboriginal use. The assessment of heritage significance is based on the *Burra Charter* (Australia ICOMOS 2013) and further expanded upon in *Assessing Heritage Significance* (NSW Heritage Manual Heritage Office 2001). The heritage manual lists seven criteria to identify and assess heritage values that apply when considering if an item is of state or local heritage significance, which are set out in Table 6.1. It also identifies the heritage gradings for which items (or features or components) that were recorded on site have been assessed against, which are set out in Table 6.2, and which provide context for each individual item’s contribution to the cultural landscape. The result of the assessments of significance may determine that an individual component does not meet the threshold for local or State significance as an individual item, but that it does contribute to the significance of the cultural landscape.

The criteria against which heritage significance have been assessed are reproduced in Table 6.1. Gradings of significance are reproduced in Table 6.2. The assessment of relics is hypothetical as their existence as intact and substantial sites is predicted.

Table 6.1 NSW heritage assessment criteria Inclusion/Exclusion

Criterion	Explanation	Inclusion/Exclusion
a)	An item is important in the course or pattern of NSW’s (or the local area’s) cultural or natural history (Historical Significance).	<ul style="list-style-type: none"> • shows evidence of a significant human activity • is associated with a significant activity or historical phase • maintains or shows the continuity of a historical process or activity
b)	An item has strong or special association with the life or works of a person, or group of persons of importance in NSW’s (or the local area’s) cultural or natural history (Associative Significance).	<ul style="list-style-type: none"> • shows evidence of a significant human occupation • is associated with a significant event, person, or group of persons
c)	An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area) (Aesthetic Significance).	<ul style="list-style-type: none"> • shows or is associated with, creative or technical innovation or achievement • is the inspiration for a creative or technical innovation or achievement • is aesthetically distinctive • has landmark qualities • exemplifies a particular taste, style or technology
d)	An item has a strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons (Social Significance).	<ul style="list-style-type: none"> • is important for its associations with an identifiable group • is important to a community’s sense of place
e)	An item has the potential to yield information that will contribute to an understanding of NSW’s (or the local area’s) cultural or natural history (Research Significance).	<ul style="list-style-type: none"> • has the potential to yield new or further substantial scientific and/or archaeological information

Table 6.1 NSW heritage assessment criteria

Inclusion/Exclusion

Criterion	Explanation	
		<ul style="list-style-type: none"> • is an important benchmark or reference site or type • provides evidence of past human cultures that is unavailable elsewhere
f)	An item possesses uncommon, rare or endangered aspects of NSW's (or the local area's) cultural or natural history (Rarity).	<ul style="list-style-type: none"> • provides evidence of a defunct custom, way of life or process • demonstrates a process, custom or other human activity that is in danger of being lost • shows unusually accurate evidence of a significant human activity • is the only example of its type • demonstrates designs or techniques of exceptional interest • shows rare evidence of a significant human activity important to a community
g)	An item is important in demonstrating the principal characteristics of a class of NSW's (or the local area's) cultural or natural places or environments (Representativeness).	<ul style="list-style-type: none"> • is a fine example of its type • has the principal characteristics of an important class or group of items • has attributes typical of a particular way of life, philosophy, custom, significant process, design, technique or activity • is a significant variation to a class of items • is part of a group which collectively illustrates a representative type • is outstanding because of its setting, condition or size • is outstanding because of its integrity or the esteem in which it is held

Source: *Assessing heritage significance* (NSW Heritage Office 2001, p.9).

Table 6.2 NSW heritage assessment gradings

Grading	Justification	Status
Exceptional	Rare or outstanding element directly contributing to an item's local or state significance.	Fulfils criteria for local or State listing.
High	High degree of original fabric. Demonstrates a key element of the item's significance. Alterations to not detract from significance.	Fulfils criteria for local or State listing.
Moderate	Altered or modified elements. Elements with little heritage value, but which contribute to the overall significance of the item.	Fulfils criteria for local or State listing.

Table 6.2 NSW heritage assessment gradings

Grading	Justification	Status
Little	Alterations detract from significance. Difficult to interpret.	Does not fulfil criteria for local or State listing.
Intrusive	Damaging to the item’s heritage significance.	Does not fulfil criteria for local or State listing.

Source: *Assessing heritage significance* (NSW Heritage Office 2001, p.11).

6.1.1 Assessment of sites in the development footprint

Table 6.3 Assessment of significance

Criterion	Assessment
a) Historical	<p>The project area is associated with the expansion of settlement along the Nepean River and the establishment of early agricultural and pastoral pursuits needed to support the growing colony. The project area forms part of early land grants in the Orchard Hills region and represents a continuity of rural activity that reflect the changing function of the Orchard Hills— from colonial cattle grazing to pastoralism and mixed farming over the twentieth century and the breeding and training of racehorses during the latter half of the twentieth century. Moreover, the properties of the projects area associated with notable individuals in the history of New South Wales.</p> <p>Meets the threshold for local significance.</p>
b) Associative	<p>The property contains two property lots with strong associations with individuals and families that played a significant role in the history of New South Wales.</p> <p>Lot 1 DP1099147 is strongly associated with explorer Gregory Blaxland. The property was granted to Blaxland who grazed cattle on the land to supply fresh meat for colonists and the Government Store. The property is also associated with the establishment of Luddenham Road and the neighbouring Lee Holme was the starting point of Blaxland, Lawson and Wentworth’s expedition over the Blue Mountains.</p> <p>Lot 242 DP1088991 is strongly associated with Naval Officer Nicholas Bayly. The land was granted to Bayly and formed part of the Bayly family landholdings. The property was part of the childhood home of grazier Nicholas Paget Bayly and first warden of the Mudgee Shire Henry Bayly.</p> <p>Both properties also have strong associations with government official and surgeon D’Arcy Wentworth and his son explorer William Wentworth, who held the land from c.1820 until 1912.</p> <p>Despite this, evidence of these associations have not been identified within the project area.</p> <p>Does not meet this criterion at this time.</p>
c) Aesthetic	<p>The project area contributes to the rural cultural landscape of Luddenham Road. The early twentieth century farmhouses may have aesthetic or technological significance.</p> <p>Does not meet this criterion at this time.</p>
d) Social	<p>Does not meet this criterion at this time.</p>
e) Research	<p>The properties have the potential to contribute to understandings of colonial pastoralism and changing land use and farming practices over time.</p> <p>Does not meet this criterion at this time.</p>
f) Rarity	<p>The surviving early twentieth century farmhouses may be rare example of pre-WWII structures along Luddenham Road.</p> <p>Does not meet this criterion at this time.</p>
g) Representativeness	<p>The project area is representative of a rural site with long occupation history within Penrith Local Government Area.</p>

Table 6.3 Assessment of significance

Criterion	Assessment
	Meets the threshold for local significance.

i Statement of significance

The project area potential meets the threshold for local significance for ability to demonstrate a continuous connection to the rural economy and successive development of Orchard Hills and Luddenham Road. The project area is strongly associated with Gregory Blaxland, Mary Crooke and the Bayly and Wentworth families, notable individuals in the Orchard Hills region and New South Wales more broadly. The area contributes to the rural character of Luddenham Road and is representative of long occupied rural estates in the Penrith region.

The project area has the potential to contribute to understandings of colonial pastoralism and evolving rural land use over time. The early to mid-nineteenth century houses present within the project area contribute to the occupation history Luddenham Road and may have aesthetic and/or technological significance. Further survey is needed to determine the rarity of pre-WWII houses along Luddenham Road.

7 Management measures

7.1 Heritage management objectives

The overriding objective in managing heritage significance is the avoidance of impacts. Avoidance removes the need for mitigation or amelioration and is in keeping with the philosophy of the *Burra Charter 2013* (Australia ICOMOS 2013).

In all cases where significant heritage values may be affected by a project, it is prudent to take a precautionary approach by excising the construction disturbance footprint where it intersects with heritage items or with areas that have been identified as having potential to contain relics.

An overarching strategy to protect heritage significance within the development footprint has been followed to date and will continue as needed through adoption of a precautionary approach. This approach will continue to be applied for all activities that could impact on heritage items or potential heritage items. That is, the items will either be completely excluded from the development footprint, or its heritage values will be investigated and recorded prior to the works if its removal is appropriate.

7.1 Measures to avoid and minimise impacts

Many of the impacts associated with the project cannot be avoided but where possible, particularly in the event of relics, management to ensure that they are not destroyed without mitigation has been identified. In other cases, there may be flexibility to align to avoid impacts. A summary of measures to avoid and minimise impacts is provided in Table 7.1.

Table 7.1 Measures to avoid and minimise impacts

Category	Site/site type	Measures to avoid and minimise
Built heritage	Farm buildings	At present the farm buildings identified in the project area are of contributory significance. The built heritage items within the project area have not been subject to survey, as such the significance of these items is currently unknown. If found to meet the relevant heritage criteria efforts to avoid impacts to built heritage should be implemented.
	Luddenham Road	Care can be taken to avoid impacts to the heritage item.
Relics and archaeological resources	All property Lots	The preferred heritage management approach would be to avoid impacts to relics. Relics have not been definitively identified in any location within the project area, but the potential for their existence ranges from low to moderate. Avoiding these potential sites is not possible as their locations, if they exist, have not been verified. It may be possible to adjust sections of the proposed development the pipeline alignment within the 20 m buffer on either side but would need the input of the engineering and design team.

7.2 Management measures

7.2.1 Historic heritage management plan

Include all management measures and project obligations in an Historical Heritage Management Plan (HHMP) and detail the requirements. A process will also be included in the HHMP, and strictly enforced, to ensure that all personnel working on the site and all decision-makers undergo a heritage induction and understand their obligations with respect to the project approval.

7.3 Proposed management measures

The management measures outlined in Table 7.2 would be applied to each of the properties based on the impact type, and ability to apply each of the measures.

7.3.1 Description of management measures

The HHMP will include a range of management measures as described in Table 7.2.

Table 7.2 Description of management measures

Management measures	Description
Avoid	Items to be avoided will be identified because of their proximity to project activities. These items will be made no-go areas and will be identified in the HHMP and the heritage induction.
Archaeological survey	The project area, including standing buildings, should be surveyed by a qualified historical archaeologist prior to works. If relics are identified specific management measures may be implemented.

Table 7.2 Description of management measures

Management measures	Description
Archival photography	<p>An archival record in the form of digital photography will be prepared to capture the pre-construction state of the landscape; the images will capture fields/paddocks, surviving stockyards and ramps, road and tracks, and general landscape features within the project area.</p> <p>The aim of the archival record is to capture the project area before changes occur. The subject of the photography should be general in nature and photographs taken during the field surveys should be incorporated to form one digital report, with minimal text, and referencing the SoHI.</p> <p>The documents listed below are for general guidance as a complete archival record report with printed photographs and a separate report is not required – it is acceptable for the report to be submitted and used as a digital document. This SoHI is an archive of the project area but high resolution digital SLR photographs were not taken of all features, as survey recording was completed using Survey123. The report should include a basic plan showing where the photographs were taken from, a photographic catalogue and reference to the SoHI for detailed information. Photographs should be representative of the project area and be kept to a minimum (as the ease of digital photography can result in an overabundance of photographs that need to be catalogued and mapped). Individual items such as survey trees in close proximity to the project area should be photographed to show the historical modifications.</p> <p>The record of the photographs, and any other data relating to the history of the project should be provided to Penrith City Council local studies library (or equivalent).</p> <p>A copy of the archival photographs and related material should be lodged with the Heritage NSW library for access to researchers also.</p> <p>The archival records will be prepared generally in accordance with the following guiding documents:</p> <ul style="list-style-type: none"> • Photographic recording of heritage items using film or digital capture (Heritage Office 2006); and • How to prepare archival records of heritage items (NSW Heritage Office 1998). <p>Note that an archival record is not limited to photographic capture and may include other material such as drawings, historic plans and oral history to be added when the opportunity arises external to this project. If photographs are taken during construction activities, they too should be considered for inclusion.</p>
Unexpected finds protocol	<p>An unanticipated finds protocol will be refined in the HHMP to provide guidance to construction personnel should works uncover objects and fabric that may indicate relics.</p> <p>Work will stop if objects such as bonded bricks, timber or stones appearing in formation indicating a wall or floor for instance are found, or if soil with artefacts concentrations, is excavated. Items that appear to be small rubbish pits or burning pits may part of a stock camp – these finds will also stop work. A description of the types of finds that will stop works will be determined prior to construction as part of the HHMP and staff involved in excavation work will be informed about how to apply it.</p> <p>The unanticipated finds protocol will include actions such as:</p> <ul style="list-style-type: none"> • work will immediately but temporarily cease within 5 m of the find and the site supervisor or appropriate responsible person will be informed; • an archaeologist will be contacted to assess the find, where relevant, and determine if it is clearly a relic or has moderate to high potential to be a relic (this may require additional research); • if the find is determined to be a relic, a section 146 notification (under the Heritage Act) is to be forwarded to the Heritage Council who will be consulted on the appropriate management measure; and • if the find is assessed and is not a relic, work inside the area that was made a no-go area can re-commence. <p>Appropriate management measures range from do nothing to archaeological excavation.</p>

Table 3 Proposed site management measures

Lot/DP	Address	Site type	Significance	Impact type	Project modifications	Management or mitigation options
Lot 1 DP1099147	221-227 Luddenham Road	Built - agistment paddocks; landscape	Local contributory – not listed	Physical – demolition	To be determined	Unexpected finds protocol
Lot 1 DP396972	299-231 Luddenham Road	Built – cultural centre; outbuildings; sports fields; paddocks; landscape	Local contributory – not listed	Physical – demolition	To be determined	Field survey to determine if the built items have any heritage significance prior to determining management measures
Lot 1 DP520117	233-249 (233A) Luddenham Road	Built – c.1980s house; outbuildings; paddocks; landscape	Local contributory – not listed	Physical – demolition	To be determined	Unexpected finds protocol
Lot 2 DP520117	251-261 Luddenham Road	Built – early twentieth century house; outbuildings; paddocks; landscape	Local contributory – not listed	Physical – demolition	To be determined	Unexpected finds protocol
Lot 3 DP520117	263-273 Luddenham Road	Built –outbuilding; paddocks; landscape	Local contributory – not listed	Physical – demolition	To be determined	Unexpected finds protocol
Lot 4 DP520117	275-285 (275A) Luddenham Road	Built – post 1970s structures; outbuilding; paddocks; orchard; landscape	Local contributory – not listed	Physical – demolition	To be determined	Unexpected finds protocol
Lot 24 DP331426	287 Luddenham Road	Built – early twentieth century house; outbuildings; paddocks; landscape	Local contributory – not listed	Physical – demolition	To be determined	Unexpected finds protocol
Lot 242 DP1088991	289-317 Luddenham Road	Built – mid to late twentieth century houses; landscape	Local contributory – not listed	Physical – demolition	To be determined	Unexpected finds protocol

Table 3 **Proposed site management measures**

Lot/DP	Address	Site type	Significance	Impact type	Project modifications	Management or mitigation options
Lot 2 DP219794	319-325 Luddenham Road	Built – early and late twentieth century houses; outbuildings; paddocks; landscape	Local contributory – not listed	Physical – demolition	To be determined	Field survey to determine if the built items have any heritage significance prior to determining management measures

7.4 Recommendations

7.4.1 Additional field survey

The following recommendations have been made for the project area.

- a field survey will be undertaken to inspect the built items identified in the following lots, then a determination will be made on their heritage significance (if any) and the mitigation measures;
 - Lot 1 DP 396972; and
 - Lot 2 DP 219794.
- no further assessment is required for the following lots; however an unexpected finds and human remains protocol (Section 7.4.2 and Section 7.4.4) will be in place ; and
 - Lot 1 DP 1099147;
 - Lot 24 DP 331426
 - Lot 1-4 DP 520117; and
 - Lot 242 DP 1088991.

7.4.2 Consolidate reports with field results

The final report should be the consolidation of this report, the report prepared by EMM in 2020, and the field results for the two lots that have been added to the project area.

7.4.3 Unexpected finds protocol

The unanticipated finds protocol will include actions such as:

- work will immediately but temporarily cease within 5 m of the find and the site supervisor or appropriate responsible person will be informed;
- an archaeologist will be contacted to assess the find, where relevant, and determine if it is clearly a relic or has moderate to high potential to be a relic (this may require additional research);
- if the find is determined to be a relic, a section 146 notification (under the Heritage Act) is to be forwarded to the Heritage Council who will be consulted on the appropriate management measure;
- if the find is assessed and is not a relic, work inside the area that was made a no-go area can re-commence; and
- appropriate management measures range from do nothing to archaeological excavation.

7.4.4 Human remains

In the event that known or suspected human remains (generally in skeletal form) are encountered during the activity, the following procedure will be followed immediately upon discovery:

- all work in the immediate vicinity will cease and the find will be immediately reported to the work supervisor who will advise the Environment Manager or other nominated senior staff member;
- the Environment Manager or other nominated senior staff member will promptly notify the police (as required for all human remains discoveries);
- the Environment Manager or other nominated senior staff member will contact OEH for advice on identification of the human remains;
- if it is determined that the human remains are Aboriginal ancestral remains, the Local Aboriginal Land Council will be contacted, and consultative arrangements will be made to discuss ongoing care of the remains; and
- if it is determined that the human remains are not Aboriginal ancestral remains, further investigation will be conducted to determine if the remains represent a historical grave or if police involvement is required.

7.5 Conclusion

The project area has a continuous history of rural and economic development in Orchard Hills. The original plots of land were granted to Blaxland and Bayly, both prominent figures in the regional area of Penrith and surrounds; however they do not hold any significant connection to the properties themselves. The area contributes to the rural character of Luddenham Road and is representative of long occupied rural estates in the Penrith region, which is why the structures within Lot 1 DP 396972 and Lot 2 DP 219794 will be surveyed to appropriately assess whether they hold any heritage significance.

After completing the background research, it has been concluded that the potential for relics, in the project area, is low.

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