

# Wilton Precinct Stage 1:

## Historical Heritage Assessment and Statement of Heritage Impact

FINAL REPORT

Prepared for Walker Corporation

25 May 2018

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## Glossary

<b>c.</b>	Circa
<b>CBD</b>	Central Business District
<b>CHL</b>	Commonwealth Heritage List
<b>DA</b>	Development Application
<b>DCP</b>	Development Control Plan
<b>DP</b>	Deposited Plan
<b>EPBC Act</b>	<i>Environmental Protection and Biodiversity Act 1999</i>
<b>EP&amp;A Act</b>	<i>Environmental Planning and Assessment Act 1979</i>
<b>Heritage Act</b>	<i>Heritage Act 1977</i>
<b>LEP</b>	Local Environmental Plan
<b>LGA</b>	Local Government Area
<b>m</b>	Metre
<b>mm</b>	Millimetre
<b>NHL</b>	National Heritage List
<b>NSW</b>	New South Wales
<b>OEH</b>	NSW Office of Environment and Heritage
<b>SoHI</b>	Statement of Heritage Impact
<b>SHR</b>	State Heritage Register
<b>SHI</b>	State Heritage Inventory
<b>Study area</b>	The area of impact for the proposed works
<b>WSEP</b>	Wilton South East Precinct

## Summary

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Biosis Pty Ltd was commissioned by Walker Corporation to undertake an historical heritage assessment and statement of heritage impact of the proposed Wilton South-East Precinct (WSEP) stage 1 development located in Wilton, New South Wales (NSW). Subdivision of the land from RU2 Rural Landscape and RU4 Rural Small Holdings to predominantly Low Density Residential, Medium Density Residential, Local Centre, Business Development, Infrastructure and Environmental Conservation is proposed for the Wilton South-East Precinct development, this assessment will only address the land within the Stage 1 of the proposed development.

The study area encompasses part Lot 75, DP 837310, Lot 2 DP 88145, Lot1 DP 445344, Lot 51 DP 626650, Lot 16 DP 253158 and part Lot 25 DP 253157, located within the suburb of Wilton, Local Government Area (LGA) Wollondilly, Parish of Wilton, County of Camden.

### Heritage values

There were no heritage values identified within the study area however there were two items of significance identified within the vicinity of the study area. These include:

- One state listed heritage item; the Upper Canal System. The curtilage of the heritage item abuts a portion of the southern boundary of the study area.
- One conservation area, the Upper Nepean State Conservation Area. The curtilage of the conservation area abuts a portion of the southern boundary of the study area.

### Impact to heritage values

The impacts upon the Upper Canal System and the Upper Nepean State Conservation Area will include the partial loss of current site settings. However these impacts are considered acceptable from a heritage standpoint as previous impacts have already occurred in the vicinity of both heritage items. The proposed road layout is supported from a heritage perspective as it allows direct access to the canal corridor increasing public awareness of its heritage significance.

The following mitigation measures have been recommended:

#### **Recommendation 1    Interpretative media should be incorporated into the final design of the development**

As the Upper Canal System is a state listed heritage item and the development will directly impact the item; interpretative media should be used to inform the public of the history of the area.

#### **Recommendation 2    Appropriate fencing to be constructed between the development and the Upper Nepean Conservation Area.**

The Upper Nepean Conservation Area is state listed and unauthorised access to this area is prohibited. Therefore there should be appropriate secure fencing erected to deter unauthorised access by both human and domestic animals.

# 1 Introduction

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## 1.1 Project background

Biosis Pty Ltd was commissioned by Walker Corporation to undertake an historical heritage assessment and statement of heritage impact of the proposed Wilton South-East Precinct stage 1 development located in Wilton, New South Wales (NSW) (Figure 1 and Figure 2), referred to as the 'study area' herein. The subdivision of the land from RU2 Rural Landscape and RU4 Rural Small Holdings to predominantly Low Density Residential, Medium Density Residential, Local Centre, Business Development, Infrastructure and Environmental Conservation is proposed for the Wilton South-East Precinct development, this assessment will only address the land within the Stage 1 of the proposed development. of the proposed development. The proposed development will be assessed in accordance with Part 4A of the *Environmental Planning and Assessment Act 1979 NSW* (EP&A Act).

## 1.2 Location of the study area

The study area encompasses part Lot 75, DP 837310, Lot 2 DP 88145, Lot1 DP 445344, Lot 51 DP 626650, Lot 16 DP 253158 and part Lot 25 DP 253157, which is located within the suburb of Wilton, Local Government Area (LGA) Wollondilly, Parish of Wilton, County of Camden (Figure 1). It encompasses approximately 60 hectares of private/public land and the adjacent road reserves. It is currently zoned RU2 – Rural landscape.

## 1.3 Scope of assessment

This report was prepared in accordance with current heritage guidelines including *Assessing Heritage Significance*, *Assessing Significance for Historical Archaeological Sites and "Relics"* and the *Burra Charter*.<sup>1</sup> This report provides a heritage assessment to identify if any heritage items or relics exist within or in the vicinity of the study area. The heritage significance of these heritage items has been investigated and assessed in order to determine the most appropriate management strategy.

The following is a summary of the major objectives of the assessment:

- Identify and assess the heritage values associated with the study area. The assessment aims to achieve this objective through providing a brief summary of the principle historical influences that have contributed to creating the present – day built environment of the study area using resources already available and some limited new research.
- Assess the impact of the proposed works on the cultural heritage significance of the study area.
- Identifying sites and features within the study area which are already recognised for their heritage value through statutory and non – statutory heritage listings.
- Recommend measures to avoid or mitigate any negative impacts on the heritage significance of the study area.

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<sup>1</sup> NSW Heritage Office 2001; NSW Heritage Branch, Department of Planning 2009; Australia ICOMOS 2013



## 1.4 Limitations

This report is based on historical research and field inspections. It is possible that further historical research or the emergence of new historical sources may support different interpretations of the evidence in this report.

Although this report was undertaken to best archaeological practice and its conclusions are based on professional opinion, it does not warrant that there is no possibility that additional archaeological material will be located in subsequent works on the site. This is because limitations in historical documentation and archaeological methods make it difficult to accurately predict what is under the ground.

The significance assessment made in this report is a combination of both facts and interpretation of those facts in accordance with a standard set of assessment criteria. It is possible that another professional may interpret the historical facts and physical evidence in a different way.

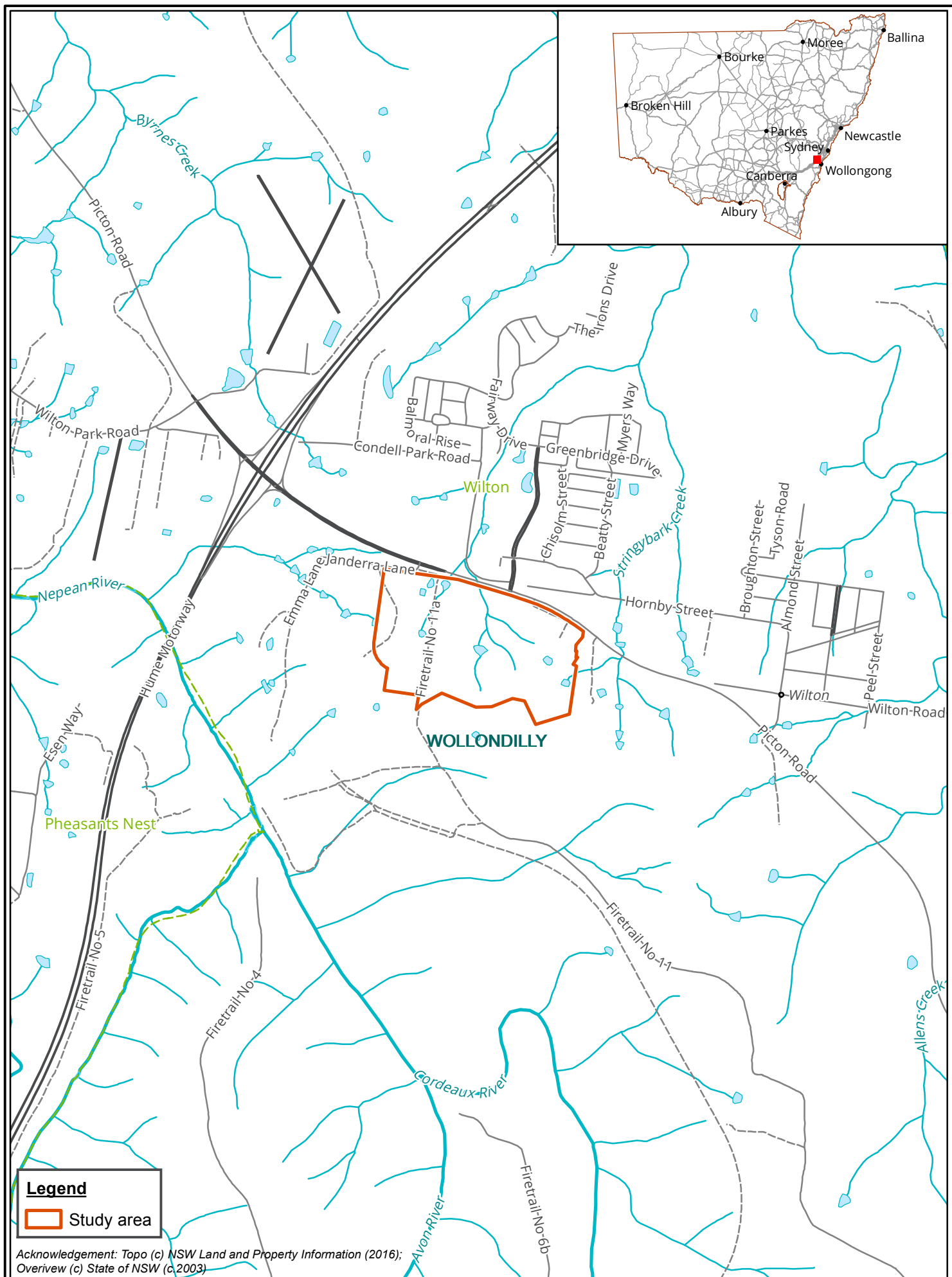
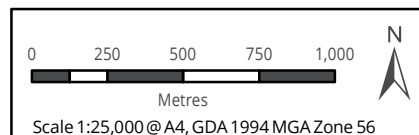


Figure 1: Location of the study area



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Albury, Ballarat, Melbourne,  
Newcastle, Sydney, Wangaratta & Wollongong

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Location: \\bio-data-01\matters\26800s\26867\Mapping\







**Legend**

Study area

Figure 2: Location of study area (proposed works)

0 40 80 120 160 200  
Metres

Scale: 1:3,500 @ A3  
Coordinate System: GDA 1994 MGA Zone 56



Albury, Ballarat, Melbourne,  
Sydney, Newcastle, Wangaratta & Wollongong

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↑  
**Stage 1**

693 Lots



## 2 Statutory framework

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This assessment will support a development application to Wollondilly Shire Council under Part 4A of the *Environmental Planning and Assessment Act 1979 NSW*. In NSW cultural heritage is managed in a three-tiered system: national, state and local. Certain sites and items may require management under all three systems or only under one or two. The following discussion aims to outline the various levels of protection and approvals required to make changes to cultural heritage in the state.

### 2.1 Environmental Protection and Biodiversity Conservation Act 1999

The *Environmental Protection and Biodiversity Act 1999* (EPBC Act) is the national Act protecting the natural and cultural environment. The EPBC Act is administered by the Department of Environment and Energy (DEE). The EPBC Act establishes two heritage lists for the management of the natural and cultural environment:

- The National Heritage List (NHL) contains items listed on the NHL have been assessed to be of outstanding significance and define "critical moments in our development as a nation".<sup>2</sup>
- The Commonwealth Heritage List (CHL) contains items listed on the CHL are natural and cultural heritage places that are on Commonwealth land, in Commonwealth waters or are owned or managed by the Commonwealth. A place or item on the CHL has been assessed as possessing "significant" heritage value.<sup>3</sup>

A search of the NHL and CHL did not yield any results associated with the study area.

### 2.2 NSW Heritage Act 1977

Heritage in NSW is principally protected by the *Heritage Act 1977* (Heritage Act) (as amended) which was passed for the purpose of conserving items of environmental heritage of NSW. Environmental heritage is broadly defined under Section 4 of the Heritage Act as consisting of the following items: "*those places, buildings, works, relics, moveable objects, and precincts, of State or Local heritage significance*". The Act is administered by the NSW Heritage Council, under delegation by the Heritage Division, Office of Environment and Heritage. The Heritage Act is designed to protect both known heritage items (such as standing structures) and items that may not be immediately obvious (such as potential archaeological remains or 'relics'). Different parts of the Heritage Act deal with different situations and types of heritage and the Act provides a number of mechanisms by which items and places of heritage significance may be protected.

#### 2.2.1 State Heritage Register

Protection of items of State significance is by nomination and listing on the State Heritage Register (SHR) created under Part 3A of the NSW *Heritage Act*. The Register came into effect on 2 April 1999. The Register was established under the *Heritage Amendment Act 1998*. It replaces the earlier system of Permanent Conservation Orders as a means for protecting items with State significance.

A permit under Section 60 of the Heritage Act (NSW) is required for works on a site listed on the SHR, except for that work which complies with the conditions for exemptions to the requirement for obtaining a permit. Details of which

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<sup>2</sup> "About National Heritage" <http://www.environment.gov.au/heritage/about/national/index.html>

<sup>3</sup> "Commonwealth Heritage List Criteria"

<http://www.environment.gov.au/heritage/about/commonwealth/criteria.html>

minor works are exempted from the requirements to submit a Section 60 Application can be found in the Guideline "Standard Exemptions for Works requiring Heritage Council Approval". These exemptions came into force on 5 September 2008 and replace all previous exemptions.

There are items and conservation areas listed on the SHR within the vicinity of the study area. The following heritage items are listed:

**Table 1 State listed heritage items within the vicinity of the study area**

Item name	Address	Suburb	LGA	SHR #
<b>Upper Canal System (Pheasants Nest Weir to Prospect Reservoir)</b>	Various	Prospect	Blacktown	01373
<b>Wilton Park</b>	Wilton Park Road	Wilton	Wollondilly	00257
<b>Upper Nepean State Conservation Area</b>	Approximately 20 kilometres west of Wollongong, between Wilton in the north, Mittagong in the west and Robertson in the south in the upper catchment of the Nepean River.	Various	Various	N/A

## 2.2.2 Archaeological relics

Section 139 of the Heritage Act protects archaeological 'relics' from being 'exposed, moved, damaged or destroyed' by the disturbance or excavation of land. This protection extends to the situation where a person has 'reasonable cause to suspect' that archaeological remains may be affected by the disturbance or excavation of the land. This section applies to all land in NSW that is not included on the State Heritage Register.

Amendments to the Heritage Act made in 2009 changed the definition of an archaeological 'relic' under the Act. A 'relic' is defined by the Heritage Act as:

*"Any deposit, object or material evidence:*

*(a) which relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and*

*(b) which is of State or Local significance"*

It should be noted that not all remains that would be considered archaeological are relics under the NSW Heritage Act. Advice given in the Archaeological Significance Assessment Guidelines is that a "relic" would be viewed as a chattel and it is stated that *"In practice, an important historical archaeological site will be likely to contain a range of different elements as vestiges and remnants of the past. Such sites will include 'relics' of significance in the form of deposits, artefacts, objects and usually also other material evidence from demolished buildings, works or former structures which provide evidence of prior occupations but may not be 'relics'."*<sup>4</sup>

If a relic, including shipwrecks in NSW waters (that is rivers, harbours, lakes and enclosed bays) is located, the discoverer is required to notify the NSW Heritage Council.

Section 139 of the Heritage Act requires any person who knows or has reasonable cause to suspect that their proposed works will expose or disturb a 'relic' to first obtain an Excavation Permit from the Heritage Council

<sup>4</sup> NSW Heritage Branch, Department of Planning 2009, 7

of NSW (pursuant to Section 140 of the Act), unless there is an applicable exception (pursuant to Section 139(4)). Excavation permits are issued by the Heritage Council of NSW in accordance with sections 60 or 140 of the Heritage Act. It is an offence to disturb or excavate land to discover, expose or move a relic without obtaining a permit. Excavation permits are usually issued subject to a range of conditions. These conditions will relate to matters such as reporting requirements and artefact cataloguing, storage and curation.

Exceptions under Section 139(4) to the standard Section 140 process exist for applications that meet the appropriate criterion. An application is still required to be made. The Section 139(4) permit is an exception from the requirement to obtain a Section 140 permit and reflects the nature of the impact and the significance of the relics or potential relics being impacted upon.

If an exception has been granted and, during the course of the development, substantial intact archaeological relics of state or local significance, not identified in the archaeological assessment or statement required by this exception, are unexpectedly discovered during excavation, work must cease in the affected area and the Heritage Office must be notified in writing in accordance with section 146 of the Heritage Act. Depending on the nature of the discovery, additional assessment and, possibly, an excavation permit may be required prior to the recommencement of excavation in the affected area.

### 2.2.3 Section 170 Heritage and Conservation Registers

Section 170 of the *Heritage Act* requires that culturally significant items or places managed or owned by Government agencies are listed on departmental Heritage and Conservation Register. Information on these registers has been prepared in accordance with Heritage Division guidelines.

Statutory obligations for archaeological sites that are listed on a Section 170 Register include notification to the Heritage Council in addition to relic's provision obligations.

There are no items within or adjacent to the study area that are entered on a State government instrumentality Section 170 Register.

## 2.3 Environmental Planning and Assessment Act 1979

### 2.3.1 State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (SEPP-SRGC)

Appendix 14 of the SEPP-SRGC contains a schedule of heritage items that are managed by the controls in this instrument. As the project is being undertaken under Part 4 of the EP&A Act, council is responsible for approving controlled work via the development application system. Heritage items in the vicinity of the study area are identified in Figure 4.

The study area is not listed as an item of either local or state significance in the SEPP-SRGC Appendix 14 Schedule 5. There is however one listed item within the vicinity of the study area:

**Table 2 Heritage items listed in the SEPP-SRGC Appendix 14 Schedule 5 within the vicinity of the study area**

Item name	Address	Property description	Significance Item no.	Item no.
Cottage	1090 Argyle Street	Lot 32, DP814280	Local	I275

### 2.3.2 Local Environmental Plan

The Wollondilly LEP contains schedules of heritage items that are managed by the controls in the instrument. As the project is being undertaken under Part 4 of the *EP&A Act*, council is responsible for approving controlled work via the development application system. Heritage items in the vicinity of the study area are identified in Figure 4.

The study area is not listed as an item of either local or state significance on the Wollondilly LEP 2011 Schedule 5. There are however a number of listed items within the vicinity of the study area:

**Table 3 Local heritage items listed on the Wollondilly LEP within the vicinity of the study area**

Item name	Address	Suburb	LGA	LEP #
<b>Aboriginal Shelter Sites (Wilton Park)</b>	80 Condell Park Rd	Wilton	Wollondilly	I285
<b>Cottage</b>	1090 Argyle Street	Wilton	Wollondilly	I275
<b>Cottage</b>	180 Wilton Park Road	Wilton	Wollondilly	I279
<b>Kedron</b>	305 Wilton Park Road	Wilton	Wollondilly	I280
<b>Pheasants Nest Weir (Nepean River)</b>	Nepean River	Wilton	Wollondilly	I278
<b>St Luke's Anglican Church and Cemetery</b>	1095 Argyle Street	Wilton	Wollondilly	I276

The study area is also situated within the vicinity of heritage items and conservation areas of state significance as listed on the Wollondilly LEP:

**Table 4 State heritage items listed on the Wollondilly LEP within the vicinity of the study area**

Item name	Address	Suburb	LGA	LEP #
<b>Wilton Park: Stables, Coachhouse, Water Tanks, Stallion Boxes, Covered Yards</b>	370 Wilton Park Road	Wilton	Wollondilly	I277

### 2.3.3 Wollondilly Development Control Plan 2016

The Wollondilly Development Control Plan 2016 (WDCP) outlines controls to guide development. The WDCP supplements the provisions of the Wollondilly LEP and includes controls for specific urban release areas (Volume 2), the proposed development, WSEP is not included within these specific controls. There are however general conditions (volume 1) relating to developments with regards to heritage. The objectives of heritage conservation are to establish good design principals to guide development to and around heritage items, to ensure development is sympathetic to the overall heritage values and characteristics of the area, to identify local heritage character and heritage elements of the built environment, and to ensure the retention and management of heritage values identified for each conservation area and specific precinct.

The specific controls as outlined in the WDCP that should be considered during the proposed development are outlined below.

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**Subdivision of land containing a heritage item and/or land within a heritage conservation area or a Landscape Conservation Area.**

1. Must not compromise or adversely affect any historic layout of the subject lot and heritage significance of the original lot pattern.
2. Must not compromise the curtilage of any heritage item or significant complimentary building, garden, driveway or other relic.
3. Where a heritage impact assessment is required, it must consider the likely location of future buildings and/or building envelopes.

## **2.4 Summary of heritage listings**

A summary of heritage listings within and in the vicinity of the study area is presented in Table 5 and Figure 4.



**Table 5 Summary of heritage listings within or adjacent to the study area**

Site number	Site name	Address / Property description	Listings		Significance
			Individual item	As a Conservation Area	
#01373	Upper Canal System (Pheasants Nest Weir to Prospect Reservoir)	The Upper Canal forms a major component of the Upper Nepean Scheme. The Upper Nepean Scheme supplies water from the Cataract River at Broughtons Pass to the Crown Street reservoir, a distance of 63.25 miles. The Upper Canal commences by tunnel from Pheasant's Nest Weir on the Nepean River and extends through the Local Government areas of Wollondilly, Liverpool, Holroyd, Fairfield, Campbelltown and Camden. Lot 1 DP 744927 Lot 1 DP 376017 Lot 1 DP 744834	Complex/Group	No	State
	Upper Nepean State Conservation Area	Upper Nepean State Conservation Area is located approximately 20 kilometres west of Wollongong, between Wilton in the north, Mittagong in the west and Robertson in the south in the upper catchment of the Nepean River. Along its western edge the park is bordered by the Hume Motorway and the villages of Bargo, Yanderra and Yerrinbool. To the north is Picton Road and the village of Wilton, and to the south is Robertson. Rural residential development and grazing occur on the fringes of these settlements. There are also areas of Crown land within and adjacent to the park.	N/A	Yes	State

## 3 Historical context

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Historical research has been undertaken to identify the land use history of the study area, to isolate key phases in its history and to identify the location of any built heritage or archaeological resources which may be associated with the study area. The historical research places the history of the study area into the broader context of the County of Camden.

### 3.1 Topography and resources

The study area is located within the Sydney Basin of NSW and is underlain by the horizontal bedded sequence of rocks of the Ashfield shale (member of the Wiannamatta Group) which is then underlain by the Mittagong Formation (interbedded shale, laminate and fine medium grained quartz sandstone). The Mittagong formation overlies the middle Triassic Hawkesbury Sandstone, consisting of medium to coarse grained quartz sandstone with minor shale or laminate bands.<sup>5</sup>

The Ashfield Shale is confined to the upper slopes of spurs with the Hawkesbury Sandstone being located along the lower slopes and gullies. Sandstone is present in lower slope contexts and as steep cliff edges long the course of Allens and Clements Creeks and their associated tributaries and provides good resources for rock art, grinding grooves and rock shelter sites.

Water sources within the study area consist of the lower order Allens creek and Stringybark creek, in addition to several first and second order drainage lines. The Nepean and Cordeaux rivers are less than 1 kilometre south-west of the study area and would have provided useful resources to people in the region.

### 3.2 Aboriginal past

It is generally accepted that Aboriginal peoples have inhabited Australia for at least 65,000 years and possessed a distinctive stone tool assemblage. Dates of the earliest occupation of the continent by Aboriginal people are subject to continued revision as more research is undertaken<sup>6</sup>. The timing for the human occupation of the Sydney Basin is still uncertain. Whilst there is some possible evidence for occupation of the region around 40,000 years ago, the earliest undisputed radiocarbon date from the region comes from a rock shelter site north of Penrith on the Nepean, known as Shaws Creek K2, which has been dated to 14,700 +/- 250 BP<sup>7</sup>. This site is along the Nepean River. To the south, along the coast just north of Shellharbour the site of Bass Point has been dated at 17,101 +/- 750 BP<sup>8</sup>. Closer to the study area on the Woronora Plateau the oldest date for Aboriginal occupation so far recorded is 2,200 +/- 70 BP at Mill Creek 11<sup>9</sup>. Such a 'young' date is more likely a reflection of conditions of archaeological site preservation and sporadic archaeological excavation, than actual evidence of the presence or absence of an Aboriginal population prior to this time.

Our knowledge of Aboriginal people and their land-use patterns and lifestyles prior to European contact is mainly reliant on documents written by non-Aboriginal people. The inherent bias of the class and cultures of these authors necessarily affect such documents. They were also often describing a culture that they did not fully understand, a culture that was in a heightened state of disruption given the arrival of settlers and

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<sup>5</sup> Hazelton et al. 1990

<sup>6</sup> Flood 1999

<sup>7</sup> Attenbrow 2010

<sup>8</sup> Flood 1999

<sup>9</sup> Koettig 1985

disease. Early written records can, however, be used in conjunction with archaeological information and surviving oral histories from members of the Aboriginal community in order to gain a picture of Aboriginal life in the region.

The study area is recognised as being within the traditional lands described as Wodi Wodi. The traditional Wodi Wodi boundary extended from around Stanwell Park to the Shoalhaven River, and as far inland as Picton, Moss Vale and Marulan. The Wodi Wodi spoke the Dharawal language, however Dharawal (Tharwal) was not a word they had heard of or used themselves<sup>10</sup>.

The arrival of settlers in the region and new competition for resources began to restrict the freedom of movement of Aboriginal hunter-gatherer inhabitants from the early 1800's. European expansion along the Cumberland Plain was swift and soon there had been considerable loss of traditional lands to agriculture. This led to violence and conflict between Europeans and Aboriginal people as both groups sought to compete for the same resources. In the Cowpastures region, conflict began following the murder of an Aboriginal woman and her children, which resulted in violent clashes between several Aboriginal men and European settlers between 1814 and 1816<sup>11</sup>. The violence had escalated by 1816 following the outlaw proclamation by Macquarie, resulting in the massacre of 14 Aboriginal people hiding at Appin<sup>12</sup>. This event is known as the 'Appin Massacre' and is regarded as a pivotal part of the history of the destruction of the Aboriginal people in the region.

### 3.3 County of Camden – historical development

#### 3.3.1 Exploration (1795-1805)

The early exploration of the Camden area began in 1795. Cattle of the Sydney Cove settlement were lost soon after arrival in 1788. Years elapsed before various rumours of the herd's whereabouts reached the colonial administration. Henry Hacking was sent out to what is now the Camden area by Governor Hunter, along with a small party, in order to ascertain the truth of these rumours.<sup>13</sup> The results of the investigation led Governor Hunter to travel to the area himself to see the cattle and the country that they were in, which he did in November 1795. It was at this time that the area was nicknamed the Cowpastures, and it is marked as such in a map drawn by Hunter in 1796. A full survey of the area was ordered by Hunter.<sup>14</sup>

The explorer Francis Barallier visited the area in late 1802, noting the richness and fertility of the countryside. Some of the colonial gentry were also attracted to see this area, along with Governor King, who visited in 1803.<sup>15</sup> It was in this way that the area gained its reputation as a fertile land that was good for pastoralism.<sup>16</sup>

#### 3.3.2 Early development (1805-1880s)

Following the arrival of Governor Philip and the First Fleet in 1788, Camden, along with the Cumberland Plain, was quickly sighted as desirable land. By 1799, the population of the burgeoning colony had grown to 2500. Settlements quickly expanded out from the coast further inland, springing up at Prospect, Toongabbie, and Castle Hill, along with the larger, better supported settlement of Windsor. Farming of the Cumberland Plain first took place at Parramatta, expanding into the Hawkesbury in the late 1790s, and taking greater hold there

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<sup>10</sup> Tindale 1974

<sup>11</sup> Liston 1988

<sup>12</sup> Liston 1988

<sup>13</sup> Wrigley 2001

<sup>14</sup> *ibid*

<sup>15</sup> *ibid*

<sup>16</sup> *ibid*, p. 9

with the establishment of settlements laid out under Governor Macquarie. These settlements included Wilberforce, Pitt Town, Windsor, Richmond and Castlereagh.<sup>17</sup>

The Cumberland Plain was mostly given over to grazing land, held in estates, and the Camden region was no exception to this. First granted as Camden Park to John Macarthur in 1805, it was used for cow pastures.<sup>18</sup>

Macarthur's business and property expanded greatly between 1805 and the late 1830s, growing from 5000 acres to 28,000 acres, primarily supported by wool, making it the primary industry in the area.<sup>19</sup> The town of Camden was founded privately in the 1830s, competing with the government-founded town of Narellan.<sup>20</sup>

The founding of the town was not entirely smooth. Macarthur was initially asked, at the suggestion of the Surveyor General, Major Thomas Mitchell, to surrender around 320 acres of his land, in order that the initial settlement might be built on it. Macarthur declined, fearing the establishment of a town in that area would threaten the security of his whole established estate. Two years after his death, in 1836, his sons surveyed the township, and offered it for sale, with the primary sales being held in 1840 and 1841. The initial land release was 100 allotments, each on half an acre of land.<sup>21</sup> This was when the town of Camden came into being. Places were set aside for a church and a hotel, and the establishment of a courthouse soon followed.

Roads had been established to the area before the town was founded. The Sydney to Liverpool road was built in 1814, and was extended to Appin soon after. In 1815, the Appin to Campbelltown route was established; however it was poorly made, and could not withstand weather variability. The alternative was the Cowpastures road, running further west.<sup>22</sup>

It is possible that the site on which Campbelltown was to be built was set aside in 1815, but it was not until 1820 that Governor Macquarie approved the location. Although applications were made in 1821, no land was allocated until 1827, and none released until 1831. In spite of this, Campbelltown was a major gateway to the south from 1822 onwards, with the establishment of a road south to the Illawarra, allowing access to the southern inland districts.<sup>23</sup> At Camden in 1827, the Cowpasture Bridge was built, and a new road through William Hovell's property linked the Cowpastures road to Campbelltown. Soon after the 1831 land release, Campbelltown became firmly established in the local area. By 1858, the railway had opened to Campbelltown, further establishing access to the area. In 1882, a branch line was established to Camden, solving the issues that the area had until that point with the large scale transport of goods.

Local government soon followed the establishment of Camden, with the Camden-Narellan-Campbelltown-Picton District Council established in 1843. Owing to the lack of public funds available for work, and the lack of urban development, the council soon failed and was dissolved after a few years. It was not until 1883 that the notion of a local council again began to gain momentum with a meeting of citizens, and as a result of the action, the Municipality of Camden was incorporated in February of 1889.<sup>24</sup>

### 3.3.3 Early development of Wilton and the study area

The earliest land grants in the Wilton district were issued to Sir Thomas Mitchell (Surveyor General 1828-1855), in 1834. The development of the Wilton district was likely influenced by the establishment of Thomas Mitchell's "Park hall" (property and residence) in Douglas Park, a total of 3800 acres issued in 1835. A town

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<sup>17</sup> Department of Urban Affairs and Planning 1996

<sup>18</sup> *ibid*

<sup>19</sup> *ibid*, p. 10

<sup>20</sup> Department of Urban Affairs and Planning 1996, p. 24

<sup>21</sup> <http://www.camdenhistory.org.au/> Viewed ON 09/03/2018

<sup>22</sup> Biosis Pty Ltd 2010

<sup>23</sup> *ibid*

<sup>24</sup> Wrigley 2001

plan was surveyed in 1842, and lots sold in 1844. In 1855 a land grant for 800 acres was issued to John A. Broughton, which formed the 'Hanging Rock' property. This property lies across from the 'Erins Vale' property. The original land owner is identified as David Chalmers and C.W. Wall, the acquisition of this land probably dates back to the mid 1850's<sup>25</sup>.

Wilton Park, previously owned by colonial poet Charles Tompson, was purchased in the 1880s by Samuel Hordern, of the Sydney merchant family and soon became the centre for Hordern's horse breeding. The stables group at Wilton Park was built around 1892, and the property became one of the leading horse breeding studs in Australia.

In 1855 Wilton was officially declared a town as the population had increased to such a number as to warrant such designation. The population increase was due to the high influx of workers on the Upper Nepean water supply scheme. One of the first engineering feats was the construction of a tunnel about eight kilometres long which passed underneath Wilton and joins weirs at Pheasant's Nest and Broughton Pass. There are a number of air vents at Wilton, which are the only indicators of its existence<sup>26</sup>.

From 1918 to 1926 Wilton was home to many workers on the construction of the Cordeaux Dam. During this period a light railway from Douglas Park to the Nepean River passed through Wilton carrying supplies. In 1872 Wilton gained a Post Office, which also served Douglas Park.

Up to the 1880's the main produce of the Appin-Campbelltown district was wheat, maize, barley and oats. Crops gradually diminished over this time due to lack of soil replenishment, and the increasing impact of 'rust' disease. By the 1800's wheat production had come to a substantial halt, and was replaced by the raising of cattle, sheep and pigs, with the production of hay. Milking cattle was introduced into the area in the 1870's and in the following decades dairying became a dominant regional industry. By 1905, there were eighty to ninety dairies in the Campbelltown region<sup>27</sup>. The farming of cattle and sheep occurred on many properties in the later 1800's and the early 1900's.

### 3.4 The Upper Canal (1880-present)

The Upper Canal System forms a part of the Upper Nepean Scheme, constructed between 1880 and 1888, and supplying water to Sydney from 1888 to the present day. The Upper Canal moves water stored in the catchment dams of the Upper Nepean (Cataract, Cordeaux, Avon and Nepean) to the Prospect Reservoir, which is the major water source for much of metropolitan Sydney. The system has not undergone a great deal of change since its construction, with the exception of maintenance and improvements necessary for its function.<sup>28</sup>

The Upper Nepean Scheme was originally conceived in the 1860s, when a commission into Sydney's water supply was appointed, involving John Smith (Professor of Physics, Sydney University), Edward Moriarty (Engineer in Chief, Harbours and Rivers), Phillip Adams (Deputy Surveyor-General), Francis Grundy (Civil Engineer) and Thomas Moore. In 1869 the recommendation was given by the commission that the Upper Nepean Scheme be undertaken.<sup>29</sup> The works were not immediately undertaken; however, six years later, with the continual growth of Sydney's population, the government decided to seek an independent opinion, bringing Mr W. Clark, an eminent civil engineer, to the colony from England. Clark's assessment was similar to

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<sup>25</sup> Steel 1904

<sup>26</sup> Navin Officer Heritage Consultants 1992

<sup>27</sup> Bayley 1965

<sup>28</sup> <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=4580004> viewed 09/03/2018

<sup>29</sup> Henry 1939

that of the commission, and in 1877 he recommended that the Upper Nepean Scheme would provide the best capacity for future development, while also supplying water at the least expensive rate.<sup>30</sup>

During the construction of the Scheme, Sydney experienced multiple dry seasons, and the water supply from the Botany Swamps, the primary source of water, were running low. During this time, in 1885, the government accepted a proposal from the Hudson Brothers engineering firm (later Clyde Engineering). The proposal involved the construction of a series of temporary cast iron flumes supported by timber trestles to bridge the gaps and creeks over which the canal had not yet been constructed in order to supply water to the Botany Swamps. The "Hudson Emergency Scheme" began operation in 1886 and functioned until the completion of the Upper Nepean Scheme in 1888, whereupon it was deconstructed and sold.<sup>31</sup>

The Nepean System itself, as well as the Upper Canal System, are listed in the State Heritage Inventory, as well as on national lists, as significant examples of 19th century canal construction and hydraulic engineering. It is particularly unique in that it only uses gravity to feed water through the system.<sup>32</sup> After the Nepean and Cataract Tunnels, the Upper Canal System drops a total of 50 m over 54 km, or 0.1 percent grade.<sup>33</sup>

The Upper Canal and its associated components have been comprehensively described in the heritage study and CMP prepared by Higginbotham & Associates.<sup>34</sup> The Upper Canal itself is a mixture of tunnels, canals, and aqueducts extending from Pheasants Nest Weir to Prospect Reservoir. It is approximately 64 km long (39 3/4 miles) in total. The construction of the canals varied, based on the terrain. Some sections were cut straight into bedrock, where the bedrock was appropriate. Others were cut in a V – shape, and lined with either sandstone or shale blocks. These are particularly present where the underlying ground is softer. In other areas, the canal is a U – shape, and lined with sandstone masonry.<sup>35</sup> Tunnels are either lined with bricks or unlined; once again, this is dependent on the underlying geology of the area. Unreinforced concrete was also utilised along some stretches, forming trapezoidal-shaped canals running through soft ground.<sup>36</sup>

After its construction was completed, the Upper Canal was subject to constant change, improvement, and maintenance, continuing to the present day. Initially, the area surrounding the Canal, and much of the Upper Nepean Scheme, was largely rural. Men were assigned cottages along its length to patrol allotments of roughly 8 km and see to any maintenance required. This scheme was phased out in the 1970s in favour of mobile maintenance teams.<sup>37</sup> A part of this reason was the expansion of Sydney, which continues to this day. From the 1940s and 1950s onwards, the Upper Canal was no longer in a rural setting. Housing developments were edging ever closer and issues began to appear in the system, particularly related to drainage and the inability of the historic drainage systems to cope. Increased urbanism has led to other problems, such as vandalism, and traffic accidents, which impact on the water quality of the Canal.<sup>38</sup>

### 3.4.1 Section 1 – Upper Canal

The Upper Nepean Scheme includes, among other items, the Upper Canal, Prospect Reservoir and the Lower Canal. Originally these elements were divided up into one or more maintenance sections. There are 11 sections within the Upper Canal, each section comprises a variable number of precincts. The precincts were

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<sup>30</sup> *ibid*

<sup>31</sup> <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=4580004> viewed on 29/03/2017

<sup>32</sup> <http://www.environment.nsw.gov.au/heritageapp/ViewHeritageItemDetails.aspx?ID=1280006> viewed on 09/03/2018

<sup>33</sup> Sydney Catchment Authority 2013

<sup>34</sup> Edward Higginbotham & Associates 2002

<sup>35</sup> Edward Higginbotham & Associates 2002

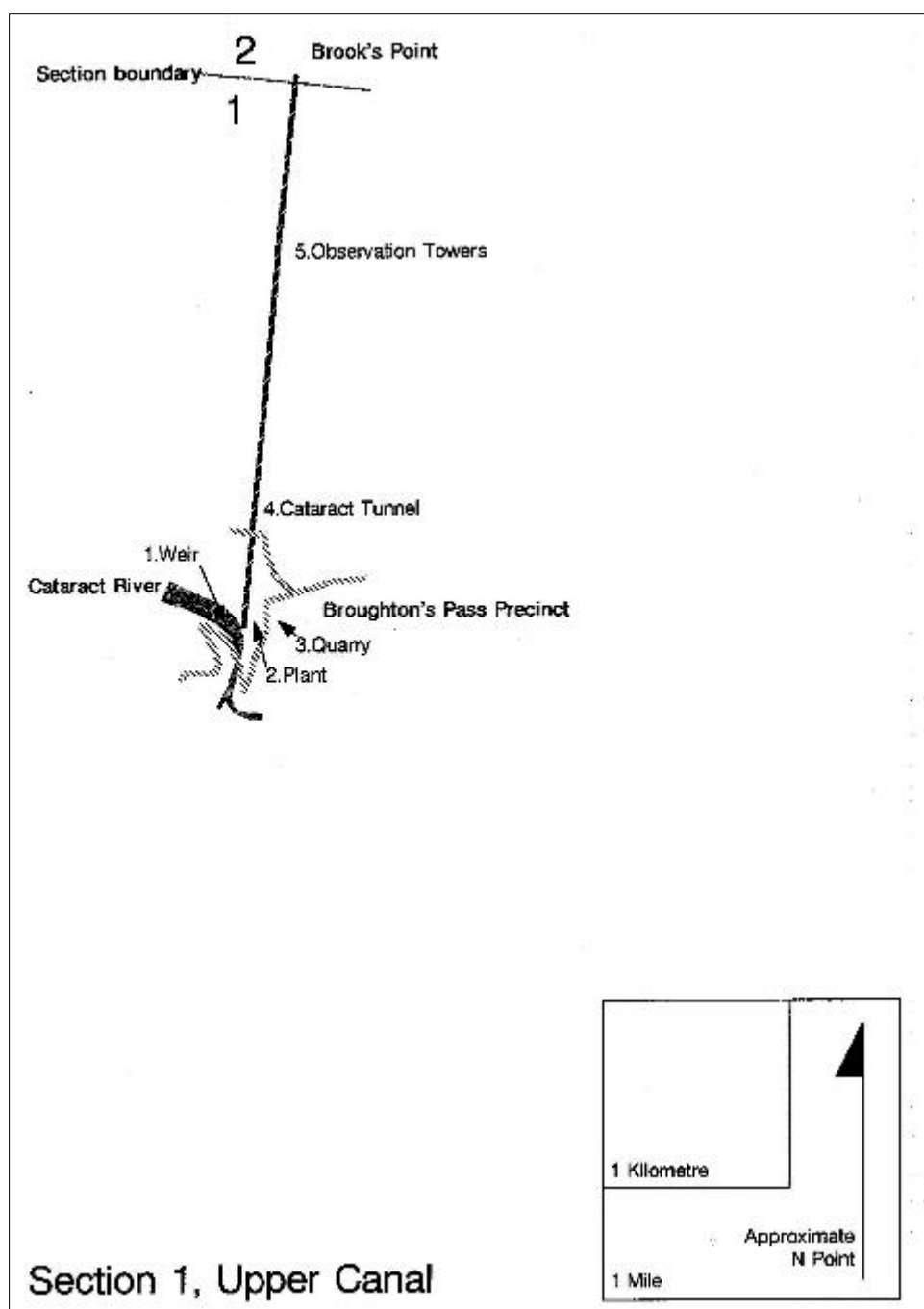
<sup>36</sup> Sydney Catchment Authority 2013

<sup>37</sup> Sydney Catchment Authority 2013

<sup>38</sup> AMBS 2012

determined on the location of groups of items in close proximity. The Upper Canal commences by tunnel from Pheasants Nest Weir on the Nepean River. The Pheasants Nest weir was planned and constructed on the Nepean River, below the confluence of the Nepean River and the Cordeaux River, during the 1870's and 80's. The construction created diversion works which were designed to supply water from a broad catchment area into the Upper Canal and the Sydney water supply. The Cordeaux River catchment area became a part of a series of protected reserves in 1880, 1915 and 1923. The southern boundary of the study area is delineated by the curtilage of section one of the Upper Canal System (Figure 3), which comprises the Nepean Tunnel.





**Figure 3** Section one of the Upper Canal System. Note the beginning of the canal system is actually located at Pheasents nest weir – 7 km west of Cataract River, not shown on the diagram (source: Heritage Assessment Higginbotham & Associates 1992).

### 3.5 Research themes

Contextual analysis is undertaken to place the history of a particular site within relevant historical contexts in order to gauge how typical or unique the history of a particular site actually is. This is usually ascertained by gaining an understanding of the history of a site in relation to the broad historical themes characterising



Australia at the time. Such themes have been established by the Australian Heritage Commission and the NSW Heritage Office and are outlined in synoptic form in New South Wales Historical Themes.<sup>39</sup>

There are 38 State Historical Themes, which have been developed for NSW, as well as nine National Historical Themes. These broader themes are usually referred to when developing sub-themes for a local area to ensure they complement the overall thematic framework for the broader region.

A review of the contextual history has identified one historical theme which relates to the occupational history of the study area.<sup>40</sup> This is summarised in Table 6.

**Table 6 Identified historical themes for the study area**

Australian Theme	NSW Theme	Local Theme
<b>Developing local and regional and national economies</b>	Agriculture	Activities relating to the cultivation and rearing of plant and animal species.

<sup>39</sup> NSW Heritage Council 2001

<sup>40</sup> <http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/themes2006.pdf> viewed on 11/03/2018

## 4 Physical inspection

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A physical inspection of the study area was undertaken on 27 February 2018 attended by Lian Flannery. The principal aims of the survey were to identify heritage values associated with the study area; this included any heritage items (Heritage items can be buildings, structures, places, relics or other works of historical, aesthetic, social, technical/research or natural heritage significance. 'Places' include conservation areas, sites, precincts, gardens, landscapes and areas of archaeological potential).

### 4.1 Site setting

The study area is currently utilised as grazing pastures for cattle. There are a number of man-made dams and the area has been cleared of native vegetation. Currently there is one modern residential dwelling and associated sheds within the study area. The area comprises of gently rolling landform with the southern boundary adjoining the Upper Nepean State Conservation area and the curtilage of the state listed heritage item; Upper Canal System (Pheasants Nest Weir to Prospect Reservoir) located beneath the ground surface also located on a portion of the southern boundary. The northern boundary is delineated by Picton Road with the town of Wilton and new residential developments forming the backdrop to the north. The eastern and western boundaries are characterised as rural farmland with some older residential properties.

#### 4.1.1 Views to and from the study area

It is important to analyse and describe views to and from components within a cultural landscape to help understand how it is experienced and to understand the nature of an evolving landscape. This enables a greater understanding of what aspects of the landscape need to be conserved and protected. Significant views to, from and within the study area are described in this section.

The views associated with the study area are typical of a rural landscape that has been historically used for farming practices (Plate 1 & Plate 2). Wilton village is located to the north east with the newer residential developments located directly to the north (Plate 3), views from the northern boundary of the study area encompass these areas with Picton Road delineating the study area boundary. The southern section of the study area rises to the apex of a ridgeline, with the delineation of the study area comprising of the boundary with the Upper Nepean State Conservation area (Plate 4). This conservation area can be characterised by extensive areas of naturally vegetated land contributing to a chain of reserves that protects conservation values in the rugged coastal hinterland between the Hunter Valley and the Victorian border.



**Plate 1**      **Western view across the study area from the southern boundary**



**Plate 2**      **North west view across the study area from the southern boundary**



**Plate 3**      **Eastern view across the study area from the southern boundary**



**Plate 4**      **View of the Upper Neapean State Conservation area from the southern boundary of the study area**

## 4.2 Archaeological assessment

The potential archaeological resource relates to the predicted level of preservation of archaeological resources within the study area. Archaeological potential is influenced by the geographical and topographical location, the level of development, subsequent impacts, levels of onsite fill and the factors influencing preservation such as soil type. An assessment of archaeological potential has been derived from the historical analysis undertaken during the preparation of this report.

This section discusses the archaeological resource within the study area. The purpose of the analysis is to outline what archaeological deposits or structures are likely to be present within the study area and how these relate to the history of land use associated with the study area.

The historical context presented in this report indicates that the study area does not contain any archaeological deposits. The study area has been in continual use as farming land with one residential modern built structure located within the study area boundary.

## 5 Significance assessment

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An assessment of heritage significance encompasses a range of heritage criteria and values. The heritage values of a site or place are broadly defined as the 'aesthetic, historic, scientific or social values for past, present or future generations'<sup>41</sup>. This means a place can have different levels of heritage value and significance to different groups of people.

The archaeological significance of a site is commonly assessed in terms of historical and scientific values, particularly by what a site can tell us about past lifestyles and people. There is an accepted procedure for determining the level of significance of an archaeological site.

A detailed set of criteria for assessing the State's cultural heritage was published by the (then) NSW Heritage Office. These criteria are divided into two categories: nature of significance, and comparative significance.

Heritage assessment criteria in NSW fall broadly within the four significance values outlined in the Burra Charter. The Burra Charter has been adopted by State and Commonwealth heritage agencies as the recognised document for guiding best practice for heritage practitioners in Australia. The four significance values are:

- Historical significance (evolution and association).
- Aesthetic significance (scenic/architectural qualities and creative accomplishment).
- Scientific significance (archaeological, industrial, educational, research potential and scientific significance values).
- Social significance (contemporary community esteem).

The NSW Heritage Office issued a more detailed set of assessment criteria to provide consistency with heritage agencies in other States and to avoid ambiguity and misinterpretation. These criteria are based on the Burra Charter. The following SHR criteria were gazetted following amendments to the Heritage Act that came into effect in April 1999:

- Criterion (a) - an item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area).
- Criterion (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 cultural or natural history (or the cultural or natural history of the local area).
- Criterion (c) - an item is important in demonstrating the aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).
- Criterion (d) - an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.
- Criterion (e) - an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area).
- Criterion (f) - an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area).

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<sup>41</sup> NSW Heritage Office, 2001

- Criterion (g) - an item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places; or cultural or natural environments; or a class of the local area's cultural or natural places; or cultural or natural environments.

## 5.1 Levels of heritage significance

Items, places, buildings, works, relics, movable objects or precincts can be of either local or State heritage significance, or have both local and State heritage significance. Places can have different values to different people or groups.

### Local heritage items

Local heritage items are those of significance to the local government area. In other words, they contribute to the individuality and streetscape, townscape, landscape or natural character of an area and are irreplaceable parts of its environmental heritage. They may have greater value to members of the local community, who regularly engage with these places and/or consider them to be an important part of their day-to-day life and their identity. Collectively, such items reflect the socio-economic and natural history of a local area. Items of local heritage significance form an integral part of the State's environmental heritage.

### State heritage items

State heritage items, places, buildings, works, relics, movable objects or precincts of State heritage significance include those items of special interest in the State context. They form an irreplaceable part of the environmental heritage of NSW and must have some connection or association with the State in its widest sense.

The following evaluation attempts to identify the cultural significance of the study area. This evaluation of significance is based on the assumption that the site contains intact or partially intact archaeological deposits.

## 5.2 Evaluation of significance

### **Criteria A: An item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area).**

The study area does not display any criteria that is considered important in the course or pattern of NSW's cultural or natural history. The study area has historically been used as farmland as was typical of the local region.

The study area does not satisfies this criterion at **local** or **state** level.

### **Criterion 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 cultural or natural history (or the cultural or natural history of the local area).**

The study area does not hold any present or past associations with the life or works of a person, or group of persons of importance to NSW's cultural or natural history.

The study area does not satisfies this criterion at **local** or **state** level.

### **Criteria 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).**

The study area has historically been used as farmland for grazing cattle with no previous built structures evident within the study area nor has there been any degree of technical achievements associated with the study area.

The study area does not satisfies this criterion at **local** or **state** level.

**Criterion D: An item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.**

The study area does not hold any present or past associations with any particular community, or cultural group of importance to NSW's cultural or natural history.

The study area does not satisfies this criterion at **local** or **state** level.

**Criterion E: An item has the potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area).**

The historical research undertaken has identified the study area as being utilised as farmland with no major technological advancements associated with the study area, nor any persons or cultural groups of interest. The agricultural history of the region has other well documented sources that hold information that can contribute towards the understanding of NSW's cultural and natural history.

The study area does not satisfies this criterion at **local** or **state** level.

**Criterion F: An item possesses uncommon, rare or endangered aspects of the area's cultural or natural history (or the cultural or natural history of the local area).**

The study area does not encompass any uncommon, rare or endangered aspects of the areas cultural or natural history. However it should be noted that the cumulative impacts of future developments will result in the rural agricultural landscape of the late 19<sup>th</sup> and early 20<sup>th</sup> century of NSW and the region to become uncommon, rare and endangered.

The study area does not satisfies this criterion at **local** or **state** level.

**Criterion G: An item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places, or cultural or natural environments. (or a class of the local area's cultural or natural places, or cultural or natural environments).**

The study area is not important in demonstrating the principal characteristics of a class of NSW's cultural or natural places, or cultural or natural environments.

The study area does not satisfies this criterion at **local** or **state** level.

## 5.3 Evaluation of elements which comprise the study area

A five-tier system has been adopted to clarify the significance of elements within the site and is based upon the grading listed in "Assessing Heritage Significance"<sup>42</sup>. In this context, an element is a specific heritage item that contributes to the overall heritage significance of the site. The term interpretation or interpretability is used in the sense of the ability to explain the meaning of the place/item, so as the significance of the place understood. The five tier system is outlined in Table 7.

**Table 7 Grading of significance**

Grading	Justification	Status
Exceptional	Rare or outstanding element directly contributing to an	Fulfills criteria for local and State

<sup>42</sup> NSW Heritage Office 2001



Grading	Justification	Status
	item's local or State listing.	significance.
<b>High</b>	High degree of original fabric. Demonstrates a key element of the item's significance. Alterations do not detract from significance.	Fulfills criteria for local or State listing.
<b>Moderate</b>	Altered or modified elements. Elements with little heritage value, but which contribute to the overall significance of the item.	Fulfills criteria for local or State listing.
<b>Little</b>	Alterations detract from significance. Difficult to interpret.	Does not fulfill criteria for local or State listing.
<b>Intrusive</b>	Damaging to the item's heritage significance.	Does not fulfill criteria for local or State listing.

This assessment has identified that the study area does not contain any elements of significance however the boundary of the study area borders the curtilage of two items of state significance. This five tier system has been used to evaluate the elements which adjoin the study area, a significance grading for each element is presented in Table 8.

**Table 8 Schedule of element significance**

Element	NSW Heritage Criteria	Assessment	Significance Grading
<b>Upper Nepean State Conservation Area</b>	N/A	<p><b>Natural values</b></p> <ul style="list-style-type: none"> <li>The park has diverse vegetation, with 34 separate communities including seven threatened ecological communities.</li> <li>The park supports a significant population of koalas and populations of another 31 threatened terrestrial native animal species and eight threatened plant species.</li> <li>A series of upland swamps occurs across the southern end of the park.</li> </ul> <p><b>Drinking water catchment values</b></p> <ul style="list-style-type: none"> <li>The park contributes high quality raw water to the drinking water supply for greater Sydney, the Illawarra and Wollondilly Shire.</li> <li>The area provides a long-standing example of an integrated catchment management and water supply regime.</li> </ul> <p><b>Landscape values</b></p> <ul style="list-style-type: none"> <li>The park forms part of the Woronora Plateau, listed as a Landscape Conservation Area in recognition of its significant natural heritage values, and is part of</li> </ul>	High



Element	NSW Heritage Criteria	Assessment	Significance Grading
		<p>an important link to other protected areas, including the World Heritage-listed Greater Blue Mountains.</p> <ul style="list-style-type: none"> <li>The undisturbed landscape is of regional and state significance in terms of its size, proximity to major urban populations, historical tenure over 130 years as part of the metropolitan catchment area and relative absence of damaging land uses.</li> <li>The park's diverse topography and landscape features, including river gorges, exposed scarps, closed valleys and forests, clearly display the geomorphological and ecological processes taking place.</li> </ul> <p><b>Cultural heritage values</b></p> <ul style="list-style-type: none"> <li>The region is of significance to freshwater Dharawal (or Tharawal) People and inland Gundungurra Aboriginal People, providing a physical and cultural link between them.</li> <li>The park's undisturbed landscape protects a rich and diverse sample of Aboriginal cultural heritage.</li> <li>The park adjoins important State Heritage-listed examples of dam building and associated water infrastructure dating from the late 19th and early 20th century, at Pheasants Nest Weir, Nepean Dam and Avon Dam.</li> <li>The park has numerous potential archaeological and historical sites, associated with dam building, former agricultural use, mining and other activities.</li> </ul>	
<b>Upper Canal System</b>	SHR criteria a, b, e, and f	<p>The Upper Nepean Scheme has functioned as part of the main water supply system for Sydney since 1888. Apart from the augmentation and development in supply and other improvements, the Upper Canal and Prospect Reservoir portions of the Scheme have changed little and in most cases operate in essentially the same way as was originally envisaged.</p> <p>The construction of the Upper Nepean Scheme made the big advance from depending on local water sources to harvesting water in upland catchment areas, storing it in major dams and transporting it to the city by means of major canals and pipelines.</p> <p>The Upper Nepean Scheme provides detailed and varied</p>	Exceptional

Element	NSW Heritage Criteria	Assessment	Significance Grading
		<p>evidence of engineering construction techniques prior to the revolution inspired by reinforced concrete construction. Although concrete was later used to improve the durability of the System, much of the earlier technology is still evident along the canal. It also provides extensive evidence of the evolution of engineering practice, such as the replacement of timber flumes by wrought iron flumes to be followed by concrete flumes. The early utilisation of concrete for many engineering purposes of the System, also demonstrates the growing emergence of an engineering technology based upon man-made materials. Many of the original control installations such as the 'Stoney gates', stop logs, penstocks, gate valves are still in service and continue to illustrate the technology of the time.</p> <p>The Upper Nepean Scheme is unique in NSW, being the only extensive canal, reservoir and dam network to supply a large city and its population with fresh water from a distant source in the hinterland. This type of water supply system is also rare in Australia and only has major comparative examples in other countries.</p>	

## 5.1 Statement of Significance – study area

The study area comprises a rural landscape that has been utilised for farming practices since the early 20<sup>th</sup> century. The history of the study area does not indicate any former built structures or other uses, therefore this assessment has concluded that the study area does not hold any significance at either a local or state level.

As part of the study area boundary borders two items of state significance the statement of significance for both is presented below.

### 5.1.1 Upper Nepean State Conservation area – Statement of significance

The park protects an area that is significant regionally and nationally for its biodiversity, landscape and water catchment values. The Metropolitan Special Area, together with adjoining lands, forms a large parcel of contiguous bushland that has been protected for over a century. This long-term protection has helped maintain significant biodiversity and Aboriginal cultural heritage values in a relatively undisturbed state and allowed collection of high quality water.<sup>43</sup>

<sup>43</sup> NSW National Parks and Wildlife Service 2017

### 5.1.2 Upper Canal system - Statement of significance

The Upper Canal System is significant as a major component of the Upper Nepean Scheme. As an element of this Scheme, the Canal has functioned as part of Sydney's main water supply system since 1888. Apart from maintenance and other improvements, the Upper Canal has changed little.

As part of this System, the Canal is associated with Edward Moriarty, Head of the Harbours and Rivers Branch of the NSW Public Works Department.

The Canal is aesthetically significant, running in a serpentine route through a rural bushland setting as an impressive landscape element with sandstone and concrete-lined edges;

The Canal is significant as it demonstrates the techniques of canal building, and evidence of engineering practice. The Canal as a whole is an excellent example of 19th century hydraulic engineering, including the use of gravity to feed water along the canal.<sup>44</sup>

The Upper Nepean Scheme is significant because:

- In its scope and execution, it is a unique and excellent example of the ingenuity of late 19th century hydraulic engineering in Australia, in particular for its design as a gravity-fed water supply system.
- It has functioned as a unique part of the main water supply system for Sydney for over 100 years, and has changed little in its basic principles since the day it was completed.
- It represented the major engineering advance from depending on local water sources to harvesting water in upland catchment areas, storing it in major dams and transporting it the city by means of major canals and pipelines.
- It provides detailed and varied evidence of the engineering construction techniques prior to the revolution inspired by reinforced concrete construction, of the evolution of these techniques (such as the replacement of timber flumes with wrought iron and then concrete flumes), and of the early use of concrete for many engineering purposes in the system.
- The scheme possesses many elements of infrastructure which are of world and national renown in technological and engineering terms.
- Many of the structural elements are unique to the Upper Nepean Scheme.<sup>45</sup>

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<sup>44</sup> B Cubed Sustainability 2006

<sup>45</sup> Edward Higginbotham & Associates 2002

## 6 Statement of heritage impact

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This SoHI has been prepared to address impacts resulting from the proposed redevelopment of the study area.

This assessment has identified that the study area does not contain any items of heritage significance however the southern and eastern boundary borders the curtilage of two items of state significance. The state listed Upper Canal System (Pheasants Nest Weir to Prospect Reservoir) and the Upper Nepean State Conservation Area. Therefore the following will address impacts to these two heritage items that may result from the proposed development.

The SoHI identifies the level of impact arising from the proposed development and discusses mitigation measures which must be taken to avoid or reduce those impacts. This section of the report has been prepared in accordance with the Heritage Manual guideline *Statements of Heritage Impact*.<sup>46</sup>

### 6.1 Proposal details

The proposed development, the Wilton South East Precinct (WSEP) will include rezoning of land from RU2 Rural Landscape and RU4 Rural Small Holdings to predominantly R2 Low Density Residential and Medium Density Residential, Local Centre, Business Development, Infrastructure and Environmental Conservation. This assessment addresses stage one of the overall project only and does not provide impact statements for the other stages of the proposed development.

Details of the proposed development are outlined in appendix A.

### 6.2 Assessing impact to heritage item(s)

#### 6.2.1 Discussion of heritage impact(s)

The discussion of impacts to heritage can be centered upon a series of questions which must be answered as part of a SoHI which frame the nature of impact to a heritage item. The Heritage Manual guideline *Statements of Heritage Impact* includes a series of questions to indicate the criterion which must be answered<sup>47</sup>. These are:

- *How is the proposed curtilage allowed around the heritage item appropriate?*
- *Could future development that results from this subdivision compromise the significance of the heritage item? How has this been minimised?*
- *Could future development that results from this subdivision affect views to, and from, the heritage item? What has been done to minimise negative affects?*

#### 6.2.2 Quantifying heritage impact(s)

Based upon the discussion of Impacts to heritage items, impact to these items can be quantified under three main categories: direct impacts, indirect impacts and no impact. These kinds of impacts are dependent on the proposed impacts, nature of the heritage item and its associated curtilage.

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<sup>46</sup> Heritage Office and Department of Urban Affairs & Planning 1996

<sup>47</sup> *ibid*

## **Direct impacts**

Direct impacts are where the completion of the proposed development will result in a physical loss or alteration to a heritage item which will impact the heritage value or significance of the place. Direct impacts can be divided into whole or partial impacts. Whole impacts essentially will result in the removal of a heritage item as a result of the development where as partial impacts normally constitute impacts to a curtilage or partial removal of heritage values. For the purposes of this assessment direct impacts to heritage items have been placed into the following categories:

- Physical impact - whole: where the development will have a whole impact on a heritage item resulting in the complete physical loss of significance attributed to the item.
- Physical impact - partial: where the project will have a partial impact on an item which could result in the loss or reduction in heritage significance. The degree of impact through partial impacts is dependent on the nature and setting of a heritage item. Typically these impacts are minor impacts to a small proportion of a curtilage of an item or works occurring within the curtilage of a heritage item which may impact on its setting (i.e. gardens and plantings).

## **Indirect impacts**

Indirect impacts to a heritage item relate to alterations to the environment or setting of a heritage item which will result in a loss of heritage value. This may include permanent or temporary visual, noise or vibration impacts caused during construction and after the completion of the development. Indirect impacts diminish the significance of an item through altering its relationship to its surroundings; this in turn impacts its ability to be appreciated for its historical, functional or aesthetic values. For the purposes of this assessment impacts to heritage items have been placed into the following categories:

- Visual impact
- Noise impact
- Vibration impact

## **Cumulative impacts**

Cumulative impacts relate to minimal or gradual impacts from a single or multiple developments upon heritage values. A cumulative impact would constitute a minimal impact being caused by the proposed development which over time may result in the partial or total loss of heritage value to the study area or associated heritage item. Cumulative impacts may need to be managed carefully over the prolonged period of time.

## **No impact**

This is where the project does not constitute a measurable direct or indirect impact to the heritage item.

## **6.3 Assessment of impacts**

A discussion, assessment and mitigation of Impacts to heritage items located within or adjacent to the study area is presented in Table 9.

**Table 9 Assessment of impacts to heritage items either within or adjacent to the study area**

Heritage Item	Significance	Discussion	Assessment	Mitigation measures
The Upper Canal System	State	The Upper Nepean System traverses the WSEP. Within the WSEP the Upper Nepean System consists of the Nepean Tunnel which passes beneath the town of Wilton. As such it is a subterranean item with limited surface infrastructure beyond one sandstone ventilation shaft within WSEP. A review of the planning proposal and proposed subdivision layout indicates that the land associated with the Upper Nepean System is not proposed to be subdivided however there are two roads that cross the item. This will have a direct impact upon the curtilage of the item. Several open spaces around the Upper Nepean System curtilage are proposed for educational and interpretive purposes.	Direct – physical impact - partial	Clear delineation of heritage boundaries/no go zones during the proposed development. Curtilages around heritage items not be compromised or reduced in any way. Roads should be designed where possible to run along the boundary of the land leaving the site clear of development and visible to the community. Open spaces to be used for the placement of interpretative media outlining the importance of the heritage item.
Upper Nepean State Conservation Area	N/A	The Upper Nepean State Conservation Area borders the southern boundary of WSEP. Aspects of the conservation area that contribute towards its significance include natural, landscape and cultural values. Whilst WSEP does not traverse into the curtilage of the conservation area the cumulative impacts of subdivision and subsequent development will reduce the setting of the conservation area. The ridge line that forms the southern boundary between WSEP and the conservation area encompasses significant views towards the conservation area.	Indirect – Visual impact	Clear delineation of heritage boundaries/no go zones during the proposed development. Curtilages around heritage items not be compromised or reduced in any way. Open spaces to be used for the placement of interpretative media outlining the importance of the heritage item and enabling the public to access the views and vistas of the conservation area.

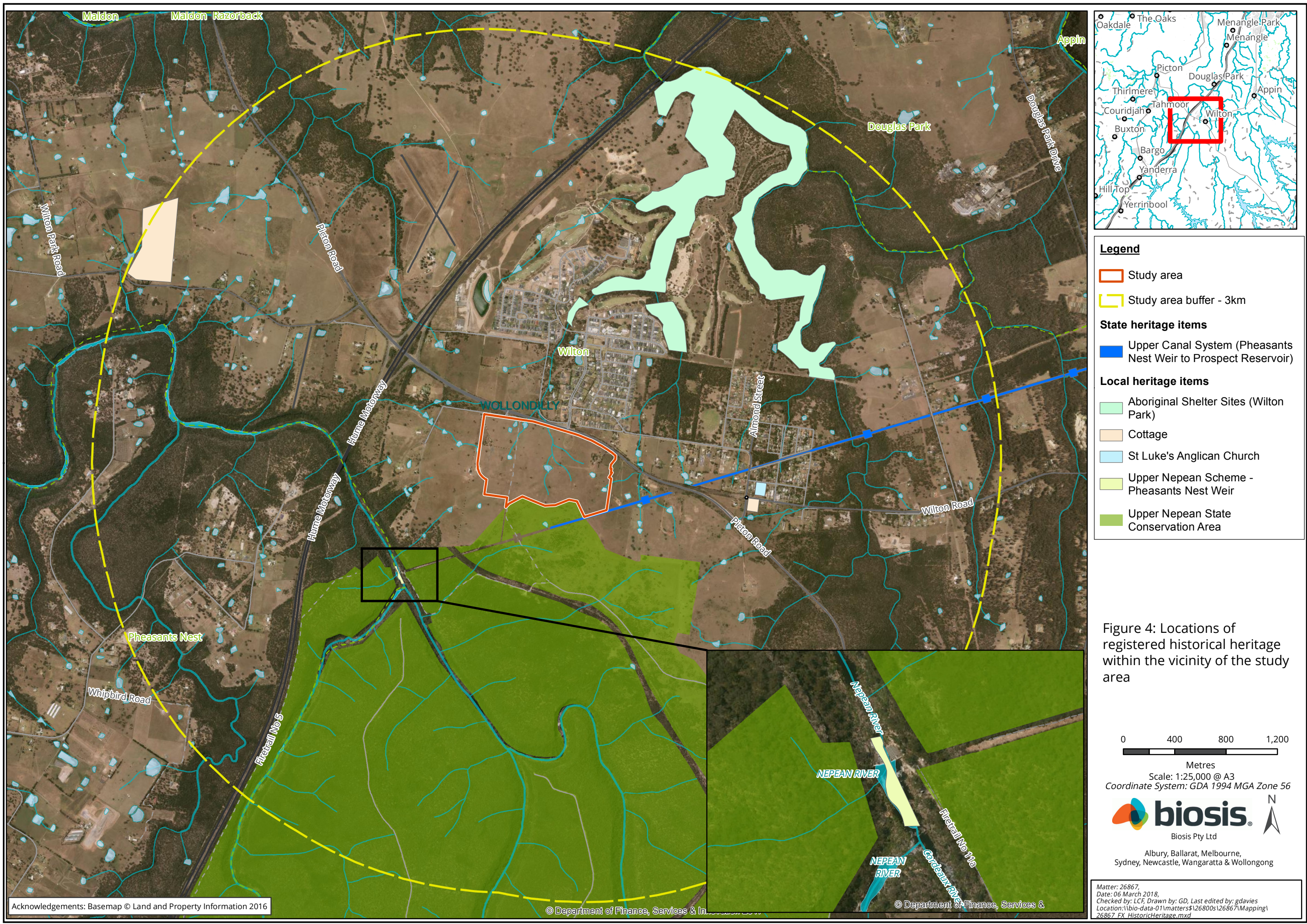
## 6.4 Statement of heritage impact

The proposed WSEP stage one does not encompass any heritage items within the study area boundary. However, there are two items of significance located on the southern boundary. The state listed Upper Canal System and the Upper Nepean State Conservation Area. This assessment has identified that WSEP stage one will have direct impacts (partial) upon these two items.

The impacts upon the Upper Nepean System will include the loss of the current site setting of the heritage item. This impact is consistent to that which has already occurred within Wilton Village. The heritage item, which is subterranean at this portion, does include one element of above ground works, located within its current curtilage, located near the study area. The setting of the heritage item since its construction has not substantially changed and thus forms part of its significance.

The impacts that will occur to the Upper Nepean State Conservation Area include potential edge impacts and some loss of its current setting. The conservation area contributes to NSW's significant biodiversity, landscape and water catchment values. Where the encroachment of developments occurs towards the curtilage of the conservation area, this contributes to a cumulative impact upon the item, reducing some of the significant values associated with the conservation area. The scale of the adjoining development is comparatively minor as a ridge line visually separates the Conservation area and the proposed development, and edge impacts can be addressed through appropriate fencing.







## 7 Conclusions and recommendations

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### 7.1 Conclusions

This assessment has identified that no items of heritage significance are located within the study area however there are two items of significance located within the vicinity that will be impacted upon by the WSEP. These items have been previously assessed as containing significance at a state level. The impacts associated with the development of WSEP will result in the partial loss of significance for these items through the loss of views and vistas associated with these items. However these impacts are considered acceptable from a heritage standpoint as previous impacts have already occurred in the vicinity of both heritage items. The proposed road layout is supported from a heritage perspective as it allows direct access to the canal corridor increasing public awareness of its heritage significance.

### 7.2 Recommendations

These recommendations have been formulated to respond to Walker Corporation requirements and the significance of the site. They are guided by the ICOMOS *Burra Charter* with the aim of doing as much as necessary to care for the place and make it useable and as little as possible to retain its cultural significance.<sup>48</sup>

The proposed Stage one development may proceed without further heritage constraints following the implementation of the below recommendation.

#### **Recommendation 1 Interpretative media should be incorporated into the final design of the development**

As the Upper Canal System is a state listed heritage item and the development will directly impact the item; interpretative media should be used to inform the public of the history of the area.

#### **Recommendation 2 Appropriate fencing to be constructed between the development and the Upper Nepean Conservation Area.**

The Upper Nepean Conservation Area is state listed and unauthorised access to this area is prohibited. Therefore there should be appropriate secure fencing erected to deter unauthorised access by both human and domestic animals.

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<sup>48</sup> Australia ICOMOS 2013

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## Appendices

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## Appendix 1 Proposed development design

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