

Archaeological assessment and research design Swan Inn

Old Windsor Road to White Hart Drive North West Rail Link

Prepared for Baulderstone Pty Ltd | 11 September 2013





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Archaeological assessment and research design

Final Draft

Report J13006RP1 | Prepared for Baulderstone Pty Ltd | 11 September 2013

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Date	9 August 2013	Date	9 August 2013

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Document Control

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Executive Summary

The North West Rail Link (NWRL) is a priority transport infrastructure project for NSW and will provide a new 23 km electrified passenger rail line between Epping and Rouse Hill. The Project includes eight new stations (Cherrybrook, Castle Hill, Showground, Norwest, Bella Vista, Kellyville, Rouse Hill and Cudgegong Road), a stabling facility and associated infrastructure.

Transport for NSW (TfNSW, the NSW Department of Transport) has commissioned Baulderstone Pty Ltd (BPL) as the managing contractor for the 'Early Works' to allow construction site establishment prior to commencement of the major works for the NWRL. Works at the area from Old Windsor Road to White Hart Drive are expected to include the construction of elevated twin track viaduct structure. Internal access roads will be constructed along the viaduct corridor. Road works for the project will involve major changes to the North West T-Way and the establishment of materials handling, storage and workforce amenity areas.

Heritage constraints were initially indentified in the preliminary phase of the project, specifically the Windsor Road and Old Windsor Road Heritage Precincts and a potential archaeological site located on Mackenzies 1885 plan of Windsor Road (GML 2012a p.39). The rest of the area was identified as cleared paddocks and orchards.

The historical and archaeological research has concluded that the study area contains the potential remains of two locally significant archaeological sites; the White Hart/Swan Inn and associated outbuildings and the cottage and associated buildings of the Stranger family. The archaeological resource has the potential to yield information relating to innkeeping in the nineteenth century including the structure of inn buildings and associated sites and the practice of innkeeping. Additionally the lives of farmers and fruit growers supplying the market in Sydney but located beyond what was then the outskirts of the town, is not well understood. Additionally the Stranger family were well known in the local area and this is an opportunity to investigate what survives archaeologically of their lives.

This archaeological evidence will be totally removed as a result of the NWRL construction.

The recommendations relating to the archaeological resource are to:

- conduct an archaeological test excavation on targeted areas of the site to test the conclusions of this report. The targeted archaeological test excavations to determine the extent of significant archaeological resource. This is the archaeological excavation program;
- prepare a Research Design to guide the archaeological test excavation and frame the approach. The research Design is Attachment A of this document; and
- ensure that if during the course of excavation Aboriginal cultural material is found, work must cease and the indigenous heritage consultant be alerted as per the unexpected finds protocol as part of the Construction Heritage Management Plan.

J13006RP1 E.1

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1 Introduction

1.1 Background

EMGA Mitchell McLennan Pty Ltd (EMM) has been commissioned by Baulderstone Pty Ltd (BPL) to undertake an archaeological program at a portion of the Old Windsor Road to White Hart Drive construction area (Figure 1.1). This report details the archaeological assessment and research design for the archaeological program.

Heritage constraints (Figure 1.2) were initially indentified in the preliminary phase of the project, specifically the Windsor Road and Old Windsor Road Heritage Precincts and a potential archaeological site located on Roderick Baylis Mackenzie's 1885 plan of Windsor Road (GML 2012a, p.39). The rest of the area was identified as cleared paddocks and orchards.

1.2 Project description

The North West Rail Link is a priority transport infrastructure project for NSW and will provide a new 23 km electrified passenger rail line between Epping and Rouse Hill. The Project includes eight new stations (Cherrybrook, Castle Hill, Showground, Norwest, Bella Vista, Kellyville, Rouse Hill and Cudgegong Road), a stabling facility and associated infrastructure (Figure 1.3). The Early Works include site establishment prior to the commencement of the Major Works and can be grouped into the following categories:

- tunnelling construction power high voltage power supplies for construction;
- demolition demolition of a mixture of residential and commercial properties and/or facilities;
- roads and traffic road adjustments, signalling, and existing transport network facilities relocation;
 and
- precinct preparation utilities, services relocations and miscellaneous works.

Transport for NSW (TfNSW, the NSW Department of Transport) has commissioned BPL as the managing contractor for the 'Early Works' to allow construction site establishment prior to commencement of the major works for the NWRL.

The works program specific to the Old Windsor Road to White Hart Drive construction area includes the construction of an elevated twin track viaduct structure. Internal access roads will be constructed along the viaduct corridor. Road works for the project will involve major changes to the North West T-Way and the establishment of materials handling, storage and workforce amenity areas.

1.3 Old Windsor Road to White Hart Drive

Early Work is proposed for the Old Windsor Road to White Hart Drive construction area. The proposed site is approximately 500 m along Windsor Road from the junction of Windsor and Old Windsor Roads to the junction of Windsor Road and White Hart Drive (Figure 1.1).

The affected lots are shown in Table 1.1, with the lots that have been identified as possessing archaeological potential being marked with an asterisk. The construction area boundary for Old Windsor Road to White Hart Drive is shown in Figure 1.1.



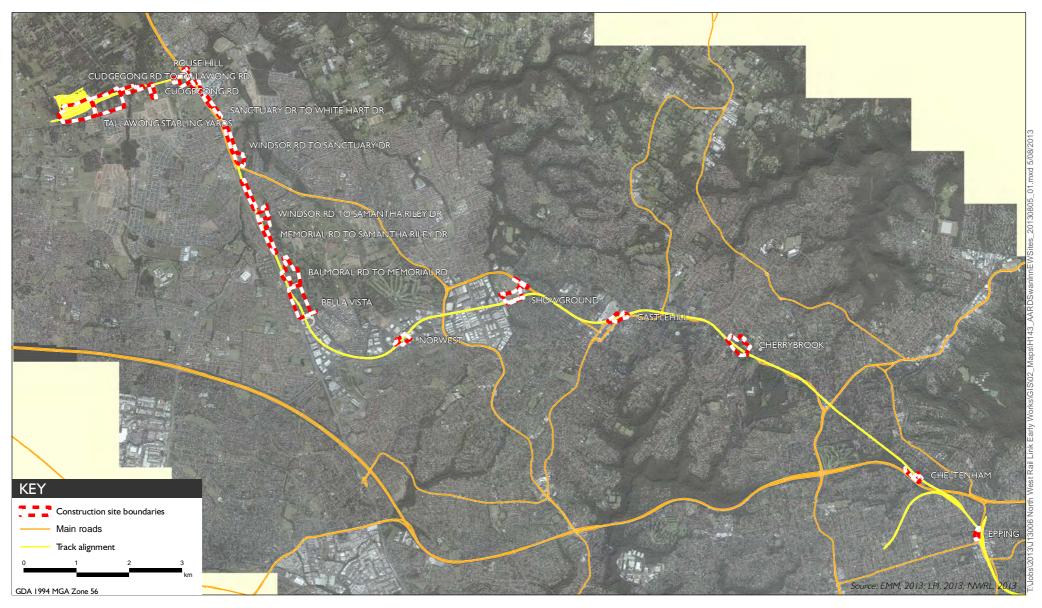


Old Windsor Road to White Hart Drive study area





Archaeological potential - GML 2012





North West Rail Link Early Works sites

Table 1.1 Affected lots

Lot//DP	Lot//DP
312//1107129	2//1031575
1//1129940	3//1129940*
2//1043755*	1//1129940*
16//1043755*	2//1043755*
4//1031575*	5//1031575*
6//1031575*	7//1031575*
8//1031575*	9//1031575*
26//1031575*	27//1031575*
28//1031575*	29//1031575*
30//1031575*	31//1031575*
18//1031575*	19//1031575*
20//1031575*	21//1031575v
22//1031575*	23//1031575*
1//1067179*	2//1067179*
3//1067179*	4//1067179*
12//1031575	29//13822
28//13822	27//13822
2//833071	25//13822
24//13822	23//13822
22//13822	201//802002
19//13822	

1.4 Area of archaeological investigation

The land under investigation (study area) at the Old Windsor Road to White Hart Drive construction area encompasses the portions of the lots noted in Table 1.1 with those requiring archaeological assessment marked with an asterisk.

The study area is located within the new suburb of Beaumont Hills in the Hills Shire Council Local Government Area (LGA); County of Cumberland, parish of Castle Hill. For the purposes of this report, the location will be referred to by its previous name, which is Kellyville.

Heritage items in the vicinity of the study area include:

- "Old Windsor Road" which covers a number of lots and LGAs, and is included on the State Heritage Inventory as an item of local heritage significance and cites the "Heritage Act s.170 NSW State agency heritage register" as the listing;
- "Old Windsor Road and Windsor Road Heritage Precincts" is listed on the Roads and Maritime Services Heritage and Conservation Register (s.170) in the Blacktown City Council LGA;
- "Old Windsor Road" is recorded on the State Heritage Inventory and cites the Blacktown Local Environmental Plan (LEP) 2002 heritage schedule as the listing instrument (the Blacktown City Council heritage schedule 2012 does not include Windsor Road);

- "Road Old Windsor Road 40 metres south of Meurants Lane to the proposed Castlereagh Freeway from Caddies Creek 280 metres southward" is listed on the heritage schedule of the Blacktown LEP 1988;
- Mungerie House, which is located along Old Windsor Road in Lot 1 DP 270520 and is listed on the Heritage Inventory as an item of local heritage significance;
- RH/36 "possibly the site of the Swan Inn" on the Windsor Road and Old Windsor Road Conservation Management Plan 2005 (prepared by Clive Lucas Stapleton 2005);
- a sandstone culvert now beneath the new alignment (2326 on the *Windsor Road and Old Windsor Road Conservation Management Plan 2005* (prepared by Clive Lucas Stapleton 2005);
- three alignment stones now buried beneath Windsor Road (2292, 2294 and 2295 on the Windsor Road and Old Windsor Road Conservation Management Plan 2005(prepared by Clive Lucas Stapleton 2005); and
- the "Caddies Creek Alignment Precinct" (21 on the Windsor Road and Old Windsor Road Conservation Management Plan 2005 (prepared by Clive Lucas Stapleton 2005);

1.5 Legislative context

In 2012, the Early Works were approved under Part 5.1 of the *Environmental Planning and Assessment Act* 1979 (EP&A Act). The planning approval process does not involve the requirement for excavation permit approval under the *Heritage Act* 1977 (s140) but retains the notification for unexpected finds clause (s146) of the Act. The management strategies presented in this report are a response to the Minister's Conditions of Approval (MCoA), which require consultation with the Heritage Council of NSW.

The MCoAs list a number of requirements for heritage including the heritage management tasks EH1 to EH19 in the Heritage Report (GML 2012a) to mitigate the associated impacts. Not all the MCoAs relate to potential archaeological sites but the following relates specifically to this report:

E10. Prior to the commencement of pre-construction and/or construction activities that will impact the historical archaeological sites identified in Table 4.2 of the North West Rail Link EIS: Technical Paper 3 – European Heritage, dated March 2012, the Proponent shall undertake an archaeological excavation program in accordance with the Heritage Council of NSW Archaeological Assessments Guideline (1996) using a methodology prepared in consultation with the Heritage Council of NSW, and to the satisfaction of the Director General. This work shall be undertaken by an appropriately qualified heritage consultant.

Within 2 years of completing the above work, unless otherwise agreed by the Director General, the Proponent shall submit a report containing the findings of the excavations, including artefact analysis and the identification of a final repository for any finds, prepared in consultation with the Heritage Council of NSW and to the satisfaction of the Director General.

This report details the methodology devised for the archaeological excavation program for review and comment from the Heritage Council and the Department of Planning and Infrastructure (DP&I).

1.6 Objectives

This report has been prepared to meet the requirements of the MCoA listed above for the NWRL Early Works Project and the conditions detailed in the Construction Heritage Management Plan (Baulderstone 2013). This report also aims to:

- investigate the historic archaeological resource identified in the North West Rail Link Heritage Zoning Plan (GML 2012a) through historical research;
- determine the likely location of the archaeological resource;
- assess the level of potential for archaeological resources;
- provide a preliminary assessment of significance;
- present appropriate archaeological management strategies for the historic archaeology; and
- provide recommendations on future procedures required to best mitigate impacts on the archaeological resource.

1.7 Research method

This report was prepared in accordance with the *Archaeological Assessment Guidelines* (Heritage Council 1996) as prescribed by the MCoA. This report is also guided by the philosophy of the *Charter for Places of Cultural Significance* commonly known as the *Burra Charter* (Australian International Council on Monuments and Sites, ICOMOS 1999). It has also taken into account the Client's requirements.

Significance and impacts to significance have been assessed using the following guidelines:

- Statements of Heritage Impact Guidelines (Heritage Office 2006);
- Investigating Heritage Significance (Heritage Office 2004);
- Assessing Significance for Historical Archaeological Sites and 'Relics' (Heritage Branch Department of Planning 2009);
- Historical Archaeology Code of Practice (Heritage Office 2006); and
- How to Prepare Archival Records of Heritage Items (Heritage Office 1998).

At this stage the significance assessment is preliminary and based on the historical documentation obtained thus far. If an archaeological field program is determined to be the most appropriate management strategy, the assessment of significance will be updated to reflect new data recovered through excavation.

To determine the likely location, survival and heritage significance of the archaeological resource the following sources were consulted:

- historic maps and plans;
- previous historical or archaeological reports;

- geotechnical investigations of the study area;
- modern and historic aerial photography;
- survey field books and plans;
- probate records;
- primary applications and land title records;
- general histories of the area (secondary sources);
- the NSW Calendar and Post Office Directory; and
- additional local historical resources including rate books.

Research was undertaken using the sources listed below:

- Land and Property Information: title searches;
- Picture Australia for historic photographs;
- Land and Property Information: Six Spatial Information Exchange (online);
- the Mitchell Library;
- the State Records Authority NSW;
- Hornsby Shire Local Studies Library;
- Hills Shire Local Studies Library;
- Trove Newspapers online;
- the Australian Dictionary of Biography online;
- Heritage Branch Library: Consultant reports;
- Archaeology Online: Consultant reports; and
- Miles Lewis: Online database.

1.8 Consultation

A meeting with the Heritage Branch, TfNSW and EMM occurred on 13 June 2013. This meeting presented information on each of the study areas with archaeological potential and the preliminary research and excavation strategies planned for each. The Heritage Branch comments from that meeting noted the requirement that this report be submitted to the Heritage Branch on behalf of the Heritage Council for review and comment.

1.9 Limitations of the investigation

Due to the constraints of project timing there was limited time to conduct research on the study area. A number of resources were consulted, which did not yield the anticipated level of information. Additional research may be required during and after the completion of any excavation and reporting on the excavation results.

1.10 Authorship

This report was written by Rebecca Newell BA (EMM) with assistance from Ryan Desic (EMM). Research was conducted by Rebecca Newell, Ryan Desic (EMM) and Louise Doherty (Heritage Advisory Services). Analysis, report direction and reviews were provided by Pamela Kottaras BA Hons (Archaeology) – Heritage Services Manager (EMM) and David Kelly BTP (Hons) – Senior Environmental Planner (EMM). External review was undertaken by Jillian Comber of Comber Consultants, who is one of the nominated excavation directors.

1.11 Acknowledgments

- Libby Robinson at the Heritage Branch library provided invaluable assistance with locating and providing consultant reports to review;
- members of the Hills Historical society provided assistance with information regarding the White Hart Inn;
- Denis Gojak for assistance with survey plans;
- staff at the State Library and the State Records also provided invaluable assistance;
- Robert Parkinson at the Land and Property Information Division of the Department of Finance and Services for assistance in investigating land titles and early mapping; and
- Castle Hill Local studies librarian Kylie Dobbie for her assistance in researching the Hills area.

2 Historical analysis

2.1 Aboriginal people

The majority of information about the social and cultural structure of Aboriginal society before contact with new settlers comes from accounts made by Europeans. These accounts and observations were made after massive social disruption due to disease and displacement. As a result, this information is often contentious, particularly in relation to language area boundaries. The discussion below is based on information obtained from early settlers and explorers in the Hills area.

The dominant Aboriginal language group for the study area was the Darug (hinterland) (according to Attenbrow 2010 p.34). Their territory extended from the mouth of the Hawkesbury River inland to Mount Victoria, Campbelltown and Liverpool (Tindale 1974). The surrounding landscape, including the Hawkesbury River, would have yielded fresh water and fresh water fish, crustaceans and shellfish. Men and women fished, women hunted small animals such as lizards and snakes while men hunted the larger animals such as kangaroos (GML 2012c, Hornsby Shire Council 2013). This diet was supplemented by edible flowers and plant roots, honey, berries and fruits.

Suitable stone for manufacture of stone tools occurs across the Cumberland Plain. The closest raw material would have been the silcrete of the St Mary's formation at Plumpton Ridge, Eastern Creek and Marsden Park (GML 2012c p.13).

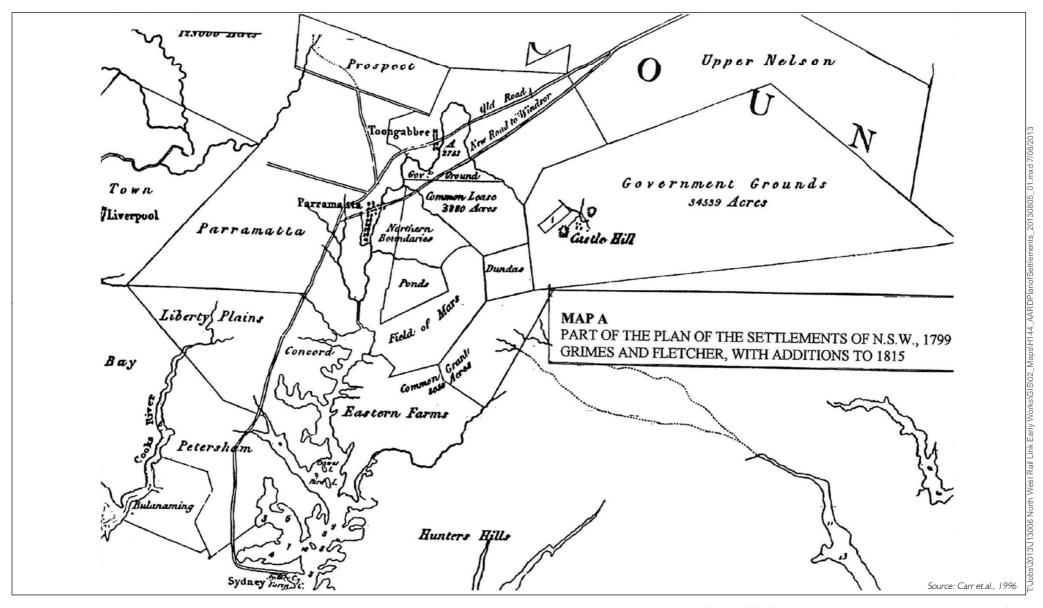
The Aboriginal cultural heritage issues in the study area have been addressed in GML 2012c with further investigation being undertaken by Kelleher Nightingale Consultants (current).

2.2 Historical context

The early settlers ventured to the Kellyville area in search of farming land, however it was considered hilly and difficult to clear (Galea 1983 p.16). The area was first set aside as a government farming area with Castle Hill as the centre (Figure 2.1) however it became too costly to run and Governor Macquarie closed it down (Galea 1983 p.57). Instead they began farming on the flatter land around Rose Hill and Parramatta (Galea 1983 p.16). For many years Kellyville remained a place to pass through on a journey to somewhere else such as Windsor or the Hawkesbury and was not a place where people lived (Galea 1983 p.18). The land was grated to free settlers in the early 1800s and the area became the site of private farming enterprises. Early land holders included John Tivett, John Hillias, George Acres, Hugh Kelly and Michael Hancey. It is possible that Kellyville was named after former convict Hugh Kelly, who on his death was a respected member of the community (Galea 1983 p.57).

Houses were scattered along the main roads, such as Windsor and Old Windsor Roads, but there were no distinct towns or villages between Castle Hill and Windsor. Kellyville was often referred to as 'there or nowhere' or 'nowhere here' or 'there and nowhere else' (Galea 1983 p.30). It is believed bushrangers roamed the area during its time as a government farm (Galea 1983 p.57). The Kellyville Estate subdivision in 1889 resulted in the pattern of many major roads today.

Kellyville was a rural area with production centred on wheat crops, fruit growing and cattle. Early crops also included grapes, however they were wiped out with an outbreak of Phylloxera (Kellyville Public School P&C 1973, p.8). As a result the vineyards were removed and the focus of production shifted to citrus crops that would dominate the Hills District well into the twentieth century. Oranges were by far the most popular to grow though lemons and other citrus varieties also thrived.





Part of the plan of the settlements of NSW 1799 Grimes and Fletcher, with additions to 1815

North West Rail Link Early Works

The largest orchard in the district was that of the Acres family at the site of the Castle Hill Country Club (Kellyville Public School P&C 1973 p.8). It is possible the oranges were called 'Parramatta' which went on to become the basis of all sweet orange stock. Many dairy farms also existed and by 1935 the area along with Camden produced all of Sydney's milk (Kellyville Public School P&C 1973 p.8).

During World War II Kellyville was considered a primary produce area and classified as essential industries. Local Kellyville farmers were refused permission to join the armed forces and produce was required to be delivered to Richmond Air Base for the use of American troops (Ardley 1993 p.45).

Kellyville was provided with a mail service in 1889 first serviced by Miss Pryce as postmistress (Kellyville Public School P&C 1973 p.8). Transport was scarce, but a coach service operated from Castle Hill throughout the eighteenth and nineteenth centuries, to be replaced by a bus in the 1950s which ran every two hours. The first church in the area was the St Stephens Church of England in 1890 on land given by the Acres family. In 1893, a Seventh-day Adventist church was built in Kellyville.

Most early houses were built along main roads such as Windsor and Old Windsor Roads. Inns operated along the coaching routes at various points. Early house construction included wooden slabs with bark roofs and dirt floors (Dallas *et al* 1989 p.53).

Sewer, water and electricity services were a long time in coming to Kellyville. In the 1950s there was a limited area of Kellyville served by sanitary collections. Town water was not available on Windsor Road until the 1940s and later for other streets (Ardley 1993 p.171). Sydney Water records noted that water mains were not extended to this area until the late 1970s.

Development increased steadily in the twentieth century until the 1990s when the Kellyville area was subject to subdivision and the release of many new areas of land for houses. The population increased rapidly and today Kellyville is a large suburb with continuing housing development.

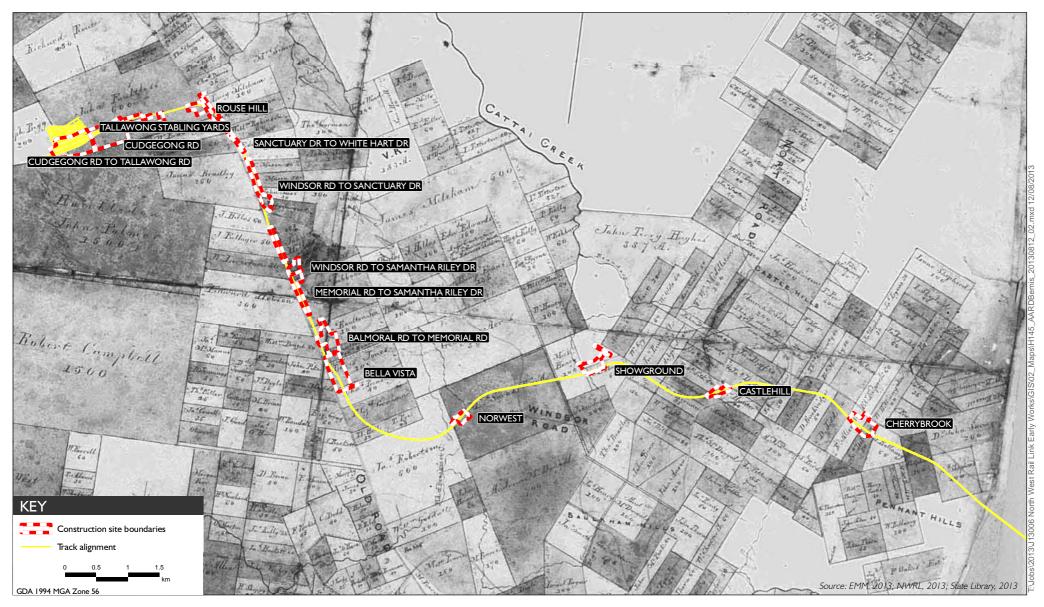
2.3 Development of the study area

2.3.1 Sargent land grant

A portion of the study area was granted to Mary Sargent in 1818. Her name appears on parish maps in the 1840s (Figure 2.2), 1850s (Figure 2.3) 1897 (Figure 2.4) and in 1924 (Figure 2.5). It was leased to Hugh Kelly in 1819. Hugh Kelly obtained title over the land in the 1820s.

Hugh Kelly was convicted of larceny and transported to Australia in 1803 on a ship called the Rolla. He began work for a former Royal Marine turned farmer, Humphrey Evans who had a 130 acre grant in Parramatta. Kelly also received a 60 acre grant for himself adjacent to Evan's property. Evans died in 1805 and by 1810 Kelly had married Evan's widow Mary and obtained title over Evan's property as well. He was recorded in the Sydney Gazette (1815 – 1820) as a supplier of meat to the Government.

Kelly became a wealthy and well known settler and was the owner of an inn called the Bird in Hand. It was located along Windsor Road near the current Wrights Road, outside of the present study area. While he owned land within the study area it does not appear that he owned another inn in this location. He is listed as publican of the Bird in Hand from 1830 to 1835. Kelly also operated a coaching service in 1830. After Mary's death Kelly was married another two times, to Ester Harley who died in a house fire and to another Mary in 1828 when he moved to Goulburn. It is also commonly believed that the area of Kellyville is named after Hugh Kelly (Geographical Names Board of New South Wales 2013 reference 26371).





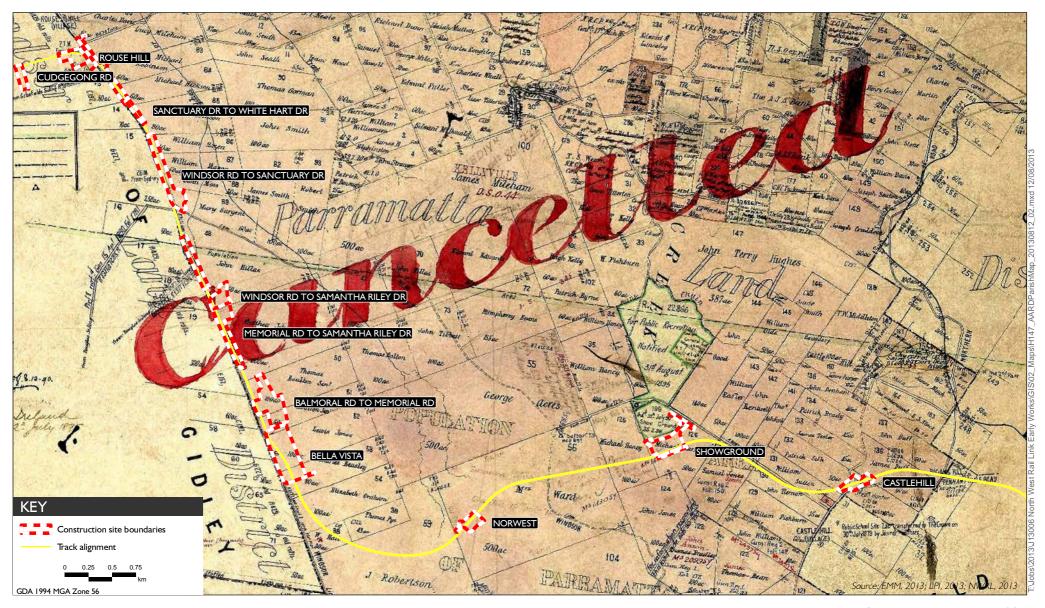
Bemi's Castle Hill Parish Map 1840s

 $\label{eq:North West Rail Link Early Works} \mbox{ Archaeological Assessment and Research Design - Old Windsor Road to White Hart Drive } \mbox{ Figure 2.2}$





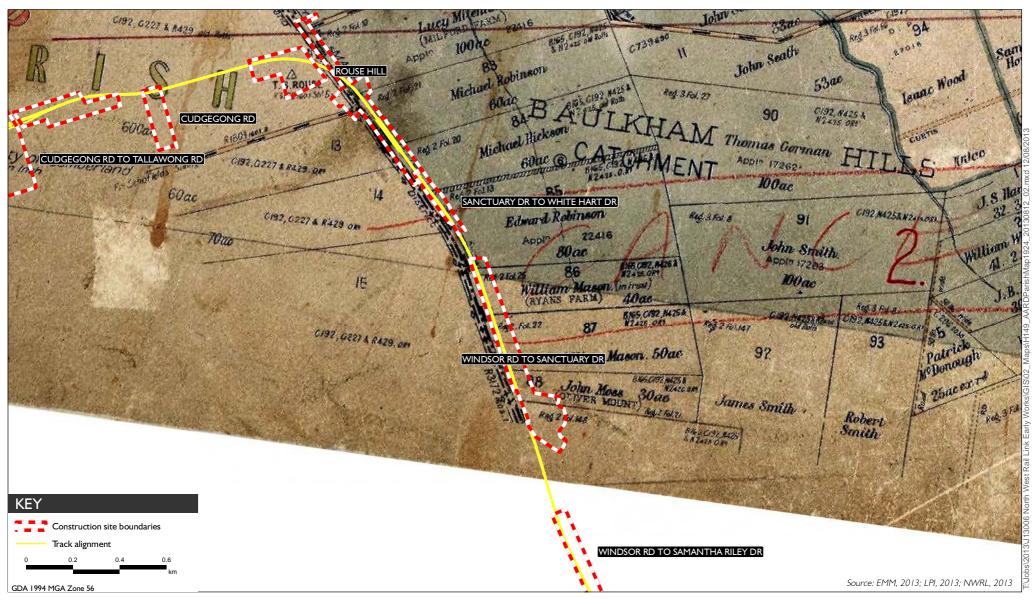
Brownrigg's Castle Hill Parish Map 1850





Castle Hill Parish Map 1897

North West Rail Link Early Works





Castle Hill Parish Map 1924

North West Rail Link Early Works

Archaeological Assessment and Research Design - Old Windsor Road to White Hart Drive

Hugh Kelly passed the land within the study area onto Robert Smith in approximately 1821, who then passed it on to William Smith sometime before 1835. The land was then obtained by Elihu Stranger snr in 1835. Stranger snr made an application for the property in 1896 and was listed as the owner on land title records in 1897.

Elihu Stranger snr was a keen plough man, entering the Champion Ploughing Match in 1874 (*The Australian, Windsor, Richmond and Hawkesbury Advertiser* 1874). In May 1900 Elihu broke up his large holding of 160 acres amongst his family. Portions of the land were transferred to Emma Jane Black (his daughter), George Charles, Elihu Stranger jr, John Stranger, Jemima Stranger, Elizabeth Mary Stranger, Marion Stranger, Dinah Stranger and Margaret Ann Rumery (who may not have been a relation). The Stranger family were orange orchardists (*The Cumberland Argus and Fruitgrowers Advocate* 1896) and on the death of Elihu Stranger in 1903 his family was noted as a household name in connection with the orange growing industry (*The Cumberland Argus and Fruitgrowers Advocate* 1903). He died at his residence on Windsor Road in 1903.

His son John Stranger is noted as making alterations to his house in preparation for his impending marriage (*The Cumberland Argus and Fruitgrowers Advocate* 1893). By 1894 John Stranger had sheds and stables added to the homestead (*The Cumberland Argus and Fruitgrowers Advocate* 1894). George Stranger provided a review of the terrible conditions for the agricultural industry in Kellyville during the year 1906, when the trees were beset by frost eight inches thick on some dams, cold dry winds, drought and dry soil (*The Cumberland Argus and Fruitgrowers Advocate* 1906). George is also featured in an article in 1907 detailing his success with catching fruit flies with kerosene (*The Cumberland Argus and Fruitgrowers Advocate* 1907).

The certificate of title for Margaret Ann Rumery in 1900 shows that she obtained the portion of land at the junction of Windsor and Old Windsor Roads, where an inn was most likely to be located. The Rumerys had another orchard adjoining the Box Hill estate to the south-east. Margaret Rumery transferred the land to Elihu Stranger jr in 1920. Stranger jr transferred the land to David MacCormick of Cremorne, a landholder in 1925.

MacCormick consolidated a large portion of land along Windsor and Old Windsor Roads including the study area and subdivided it for sale. The study area was divided into Lots 32 – 38. They were obtained by Lavinia Wilson (Lot 32 in 1926), George Arthur Beeby (Lot 31 in 1928), Olive May Williams (Lot 33, 34, 35 and 36 in 1932). It appears Lots 37 and 38 were unsold on the death of David MacCormick in 1947 and were transferred to the assignee of the estate Alexander Evan Campbell. By 1948 Lots 37 and 38 were in the possession of Edith Lucy Hammond of Concord. Christopher John Bourke and Eileen Gerrard Sheehan obtained the land as joint tenants in 1953. It appears the pair married soon after and transferred the land as Eileen and Christopher Bourke to Lawrence Alexander Sheehan in 1955. The Sheehan family owned the land until 1965 when it was obtained by Leslie James Muir. It was then transferred to JL and MM Muir Properties Pty Limited in 1972. JL and MM Muir Properties Pty Limited went into liquidation in 2010.

2.3.2 Moss land grant

The adjacent land to the north was owned by John Moss and 30 acres was granted to him in 1810 by Governor Macquarie. His name is shown on parish maps for 1897 (Figure 2.4) and in 1924 (Figure 2.5). This area was also investigated for the possibility that the Swan Inn or associated structures were located on this section of land. The Swan Inn is an elusive establishment and research suggests that the inn at this location was called the "White Hart Inn".

John Moss was appointed a road constable between Sydney and Parramatta (*Sydney Gazette and NSW Advertiser* 1820). Moss transferred the land to Edmund Wright in 1821 and in the same year Edmund Wright transferred the land to Hugh Kelly. In 1823 the land was subject to an assignment between Hugh Kelly and William Cox Esq. William Cox Esq leased the land from a number of people including Jonas Bradley in 1828 and John Allen in 1838. The lease between Cox Esq and Allan was quickly discharged in 1838 and turned into a mortgage. In 1866 the land was transferred from Henry Moses to Rebecca Twiner. In 1881 the land was conveyed from William Turner to R.I Brien a farmer. The Brien family appears to have owned the land into the twentieth century. The land was transferred from Blanche Bertha Whatmore to JN Brimbecom Pty Limited in 1940.

JN Brimbecom Pty Limited transferred the land to Robert Evans in 1952. In 1953 the land was obtained Lawrence Alexander Sheehan along with the adjacent land as discussed above. The land was then obtained by Leslie J Muir in 1965 and transferred to JL and MM Muir Properties Pty Limited in 1972. JL and MM Muir Properties Pty Limited went into liquidation in 2010.

2.3.3 White Hart Inn

The White Hart Inn was owned by William Cox Esq. He built and owned the inn from 1830 until his death in 1836 when the ownership of the White Hart Inn was passed to his son, William Cox jr (Warren *et al* 2006 p.51). The will of William Cox Esq mentions the White Hart Inn, stabling and outbuildings, other parcels of land were given to his son George Cox. The inn has been noted as opposite to the current Merriville Road on Windsor Road on land, originally granted to John Moss and leased from a number of people (Warren *et al* 2006 p.51).

The publican's records at this time record William Cross as publican at the White Hart from 1830-1831. Sarah Tighe, a widow, held the license for the White Hart Inn from 1832-1833. From 1834-1839 Daniel Caulton or Colson held a publicans license for the White Hart Inn located on Windsor Road followed by Hugh McRoberts in 1841-1843. In 1848 John Allan is listed as having a license for the "White Hart, located on Windsor Road in the district of Parramatta". William Anderson became publican from 1853 to 1854, then William Brown from 1855-1858. The stone mounting steps for the White Hart Inn were found by the owners of the property in the 1960s and taken to their house (Warren *et al* 2006 p.51).

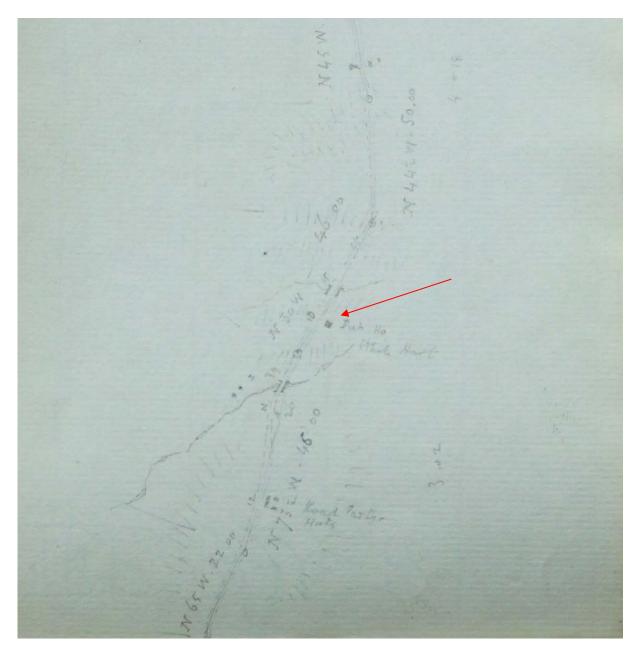
Sarah Tighe went on to manage a pub called "The Emu" in Sydney for another two years after her stint at the helm of the White Hart. She married John Booth in 1839. It is possible they met during her time at the White Hart Inn. John Booth and Sarah were married during his time managing the Royal Oak Inn (now the Mean Fiddler) in the 1840s. Booth lost the property in 1852 due a default on the mortgage (Warren *et al* 2006 p.52).

The White Hart Inn is listed on two surveys during the nineteenth century. It is mentioned in Larmer's field book from 1833 (Photograph 2.1; Figure 2.6). His sketch of Windsor Road shows the location of a White Hart Inn between two creeks. In 1846 Labatt surveyed the Windsor and Old Windsor Roads listing the White Hart Pub with J Allan listed as the publican (Labatt 1846). In Labatt's survey the White Hart Inn is located between 25 and 26 miles from Parramatta. John Allan held a publican's license for the White Hart in 1848 only two years after this survey was completed.

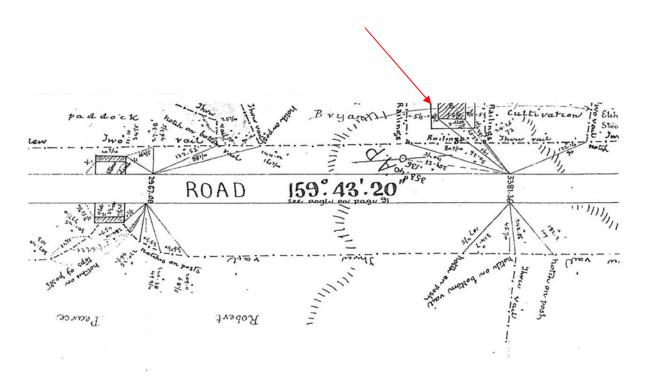
Mackenzie captures a building in this location in his field book and plan of Windsor Road. The building is only partially reproduced because of poor copying of the original field book but it can be determined that it was a brick building, denoted by the "B" in the sketch, and was surrounded by verandahs on at least three sides (Photograph 2.2).

The White Hart Inn is also mentioned in printed news media, particularly the published publican's licenses, which match the issuing of publicans licenses shown above. In 1841 *The Sydney Herald* notes that Hugh McRoberts is "publican of the White Hart on Windsor Road" (*The Sydney Herald* 1841). Daniel Caulton, also mentioned in *The Sydney Herald*, was one of the longest serving publicans at the White Hart Inn (five years). In 1837 a notice appeared in *The Sydney Herald* advertising a lost horse being kept at the White Hart Inn by Daniel Caulton until it could be identified and returned to its owner. The name "White Hart Inn" is also mentioned in other instances. An accident is reported in *The Sydney Herald* (1842) as occurring on the Parramatta side of the White Hart on Windsor Road in which a coach was upset and the bad state of the Windsor Road was deplored by the newspaper. In 1881 the 'Old White Hart Hotel' is listed for auction (*The Australian Windsor Richmond and Hawkesbury Advertiser* 1881).

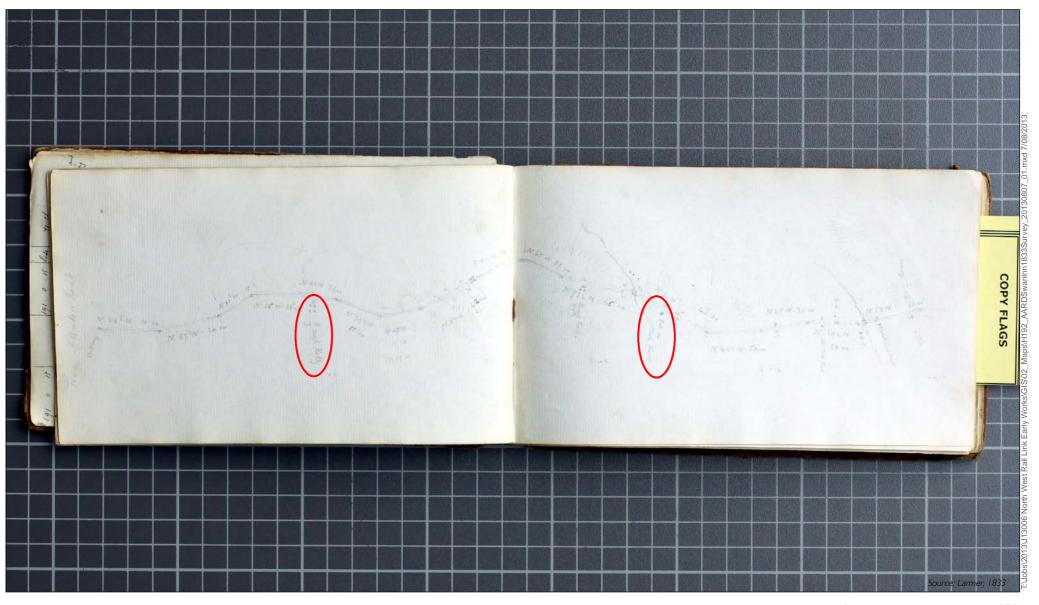
In the auction notice the White Hart is said to be located about nine miles from Parramatta and to be near the orchards of Pearce, Stranger and others. Details of the building are also provided: it is described as a two storey brick building on stone foundations (*The Australian, Windsor Richmond and Hawkesbury Advertiser* 1881). In 1941 the White Hart Roadhouse was the host of a number of dances to raise money for the Lord Mayor's Comforts Fund (*The Cumberland Argus and Fruitgrowers Advocate* 1941).



Photograph 2.1 Detail from Larmer's 1833 survey note book with his sketch of the study area. The White Hart Inn is indicated by a red arrow. Note the water courses crossing the road on either side of the inn. (Source: Larmer Survey of Windsor Road 403 (2-5029))



Photograph 2.2 Excerpt from Mackenzie's 1885 field book. North is to the left and the building that can be seen to the right (indicated by the red arrow) has been assessed to be the White Hart Inn although Mackenzie doesn't name it. It is in the correct location to be the inn if compared with Larmer's survey sketch (Photograph 2.1).





Survey of Windsor Road 1833

2.3.4 Swan Inn

In the 1835 "NSW Calender and Directory" a description of the road from Parramatta to Windsor listed The Swan Inn kept by John Cross. It was considered the halfway point between Windsor and Parramatta and was located 25 miles from Sydney. Rouse Hill House was the next landmark at approximately 27 miles from Sydney.

In 1837 a map of NSW by Robert Dixon (Figure 2.7) shows a building called the Swan Inn just past the junction of Windsor and Old Windsor Roads.

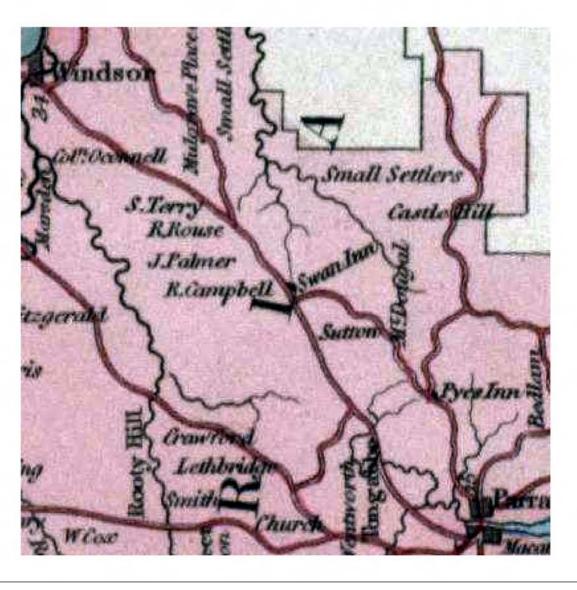
A list of publicans in 1837 is published in *The Windsor and Richmond Gazette* of 1928. The list is based on historical information of persons with publican's licenses for 1873 (*The Windsor and Richmond Gazette* 1928). No Swan Inn is mentioned and of the inns listed as present in the area only the Bird in Hand, proprietor Hugh Kelly, is located near the current study area.

E.G Maundrell (1936) wrote in *The Windsor and Richmond Gazette* that he had rediscovered the site based on the description from the "NSW Calender and Directory". On his visit to the area he found visible foundations of the walls, the cement floor of the verandah and a mounting stone still in position near the end of the verandah. He notes that John Cross may have been listed as the proprietor of the Swan Inn in the Post Office Directories between 1832 and 1838. Searches of the Post Office Directories for these years did not reference a Swan Inn.

2.3.5 Historical aerial photographs of Sargent and Moss land grants

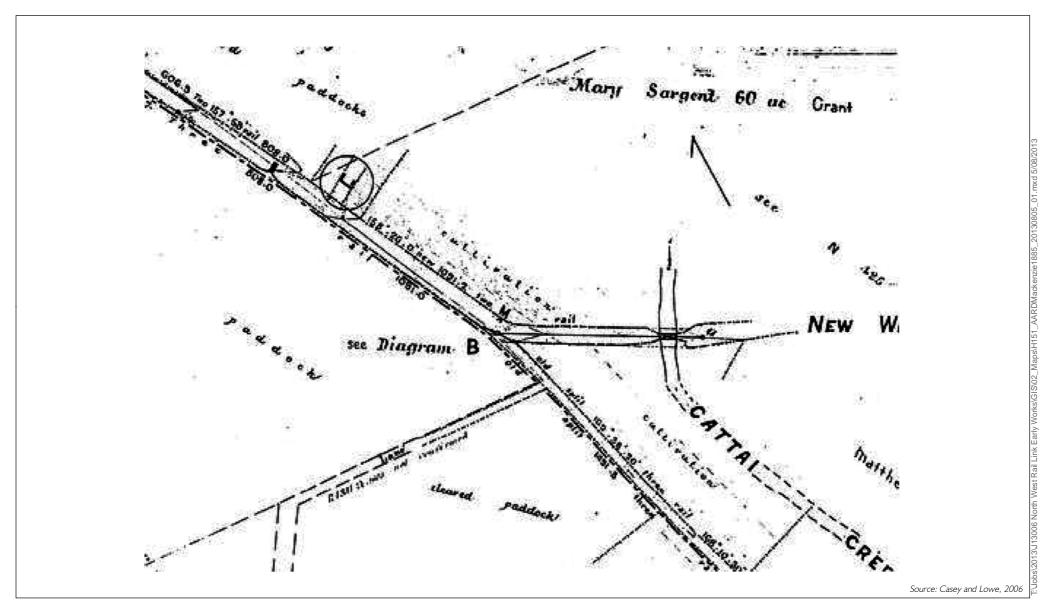
The 1943 (Figure 2.9) and 1947 (Figure 2.10) aerial photographs show a structure approximately 100 m from the junction of Windsor and Old Windsor Roads. The surrounding area is cleared bare paddocks. By 1956 (Figure 2.11) many structures have been added and the land has been subject to disturbance through the creation of driveways and paths through. It is similar in 1961 (Figure 2.12) and 1965 (Figure 2.13) with many buildings still present.

In the 1970 (Figure 2.14) and 1978 (Figure 2.15) aerial photographs the general area remains cleared grassy paddocks with structures located throughout the study area. The section of land at the junction of Windsor and Old Windsor Roads is heavily populated with structures and large areas of cleared and developed land. By 1982 (Figure 2.16) the area in the south of the aerial photograph remains heavily populated, however in the north, a structure visible in the 1956 aerial photograph, appears to be abandoned; in the 1994 aerial photograph (Figure 2.17) this structure is removed. The 2002 aerial photograph (Figure 2.18) shows the increasing housing development surrounding the study area which remains bare in the north and industrialised in the south.

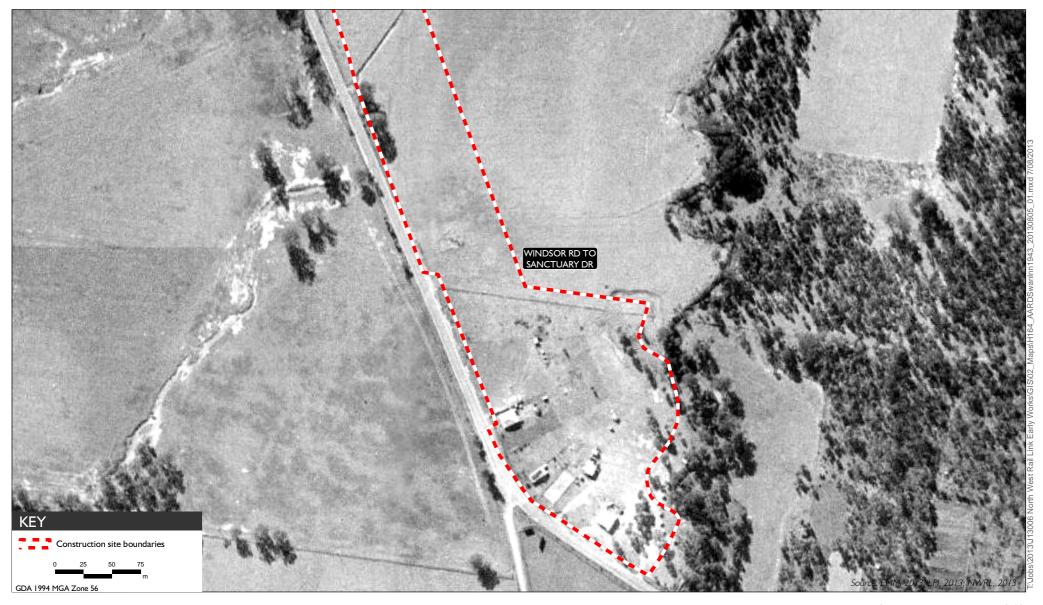


Source: Carr et.al., 1996



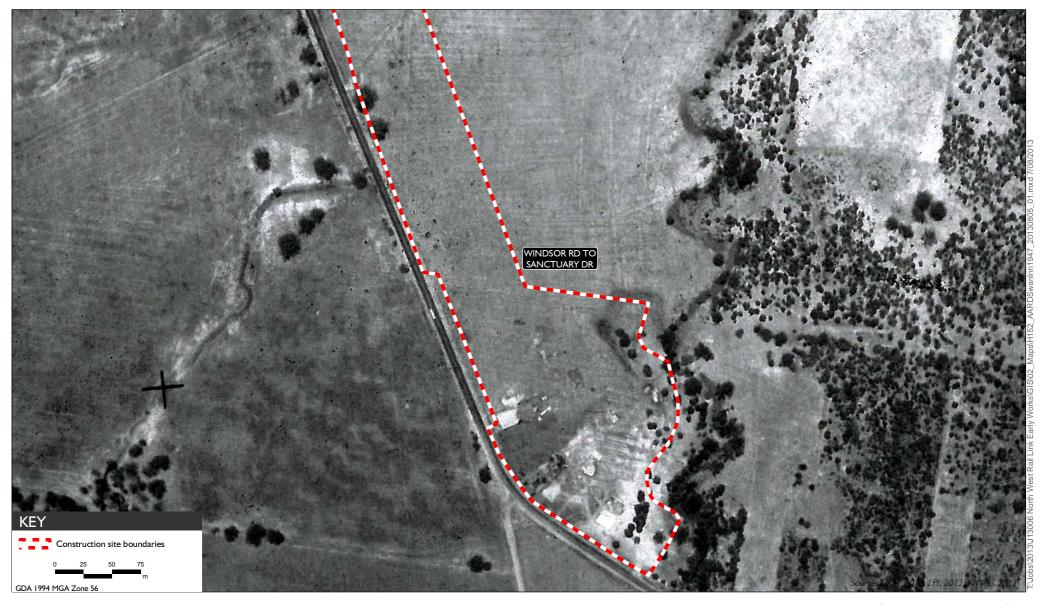






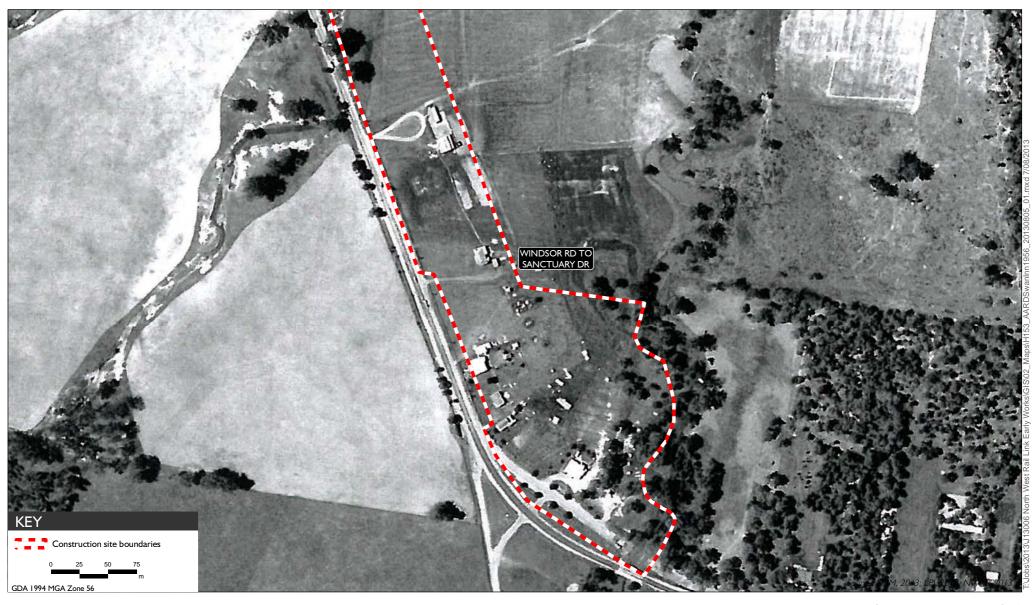


Aerial photograph Windsor and Old Windsor Roads 1943



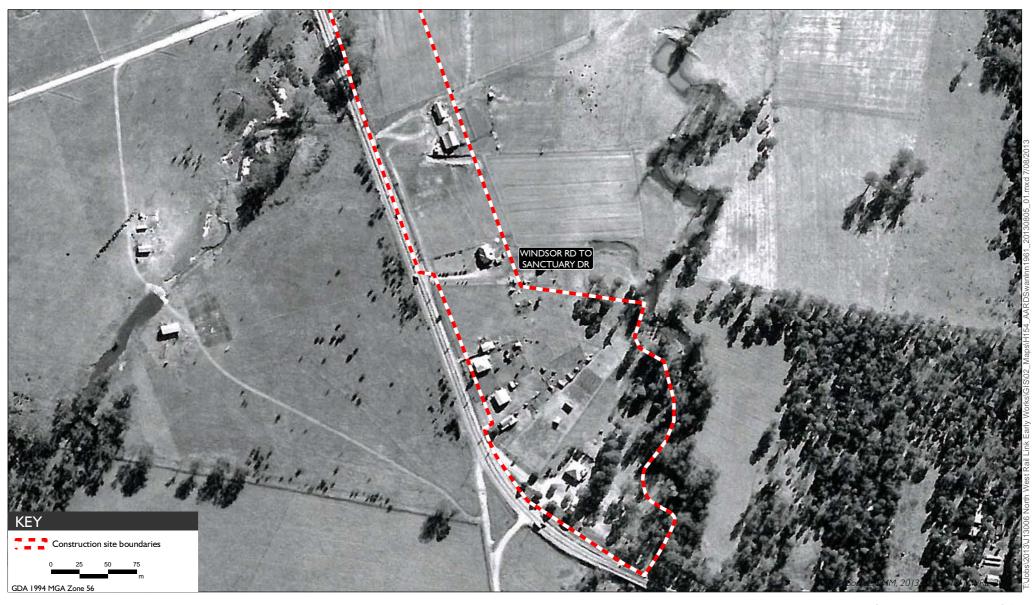


Aerial photograph Windsor and Old Windsor Roads 1947



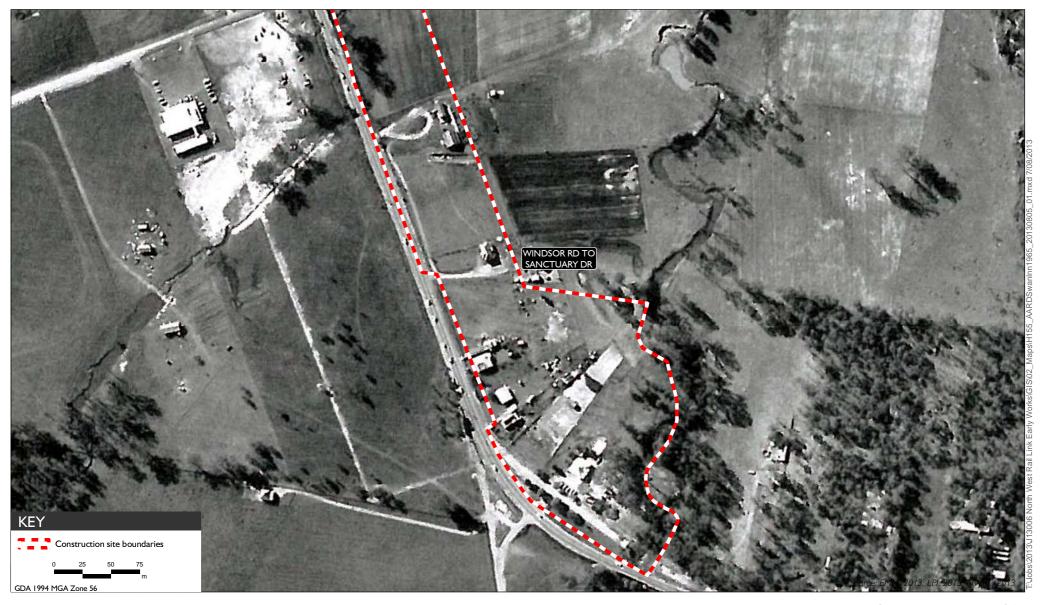


Aerial photograph Windsor and Old Windsor Roads 1956



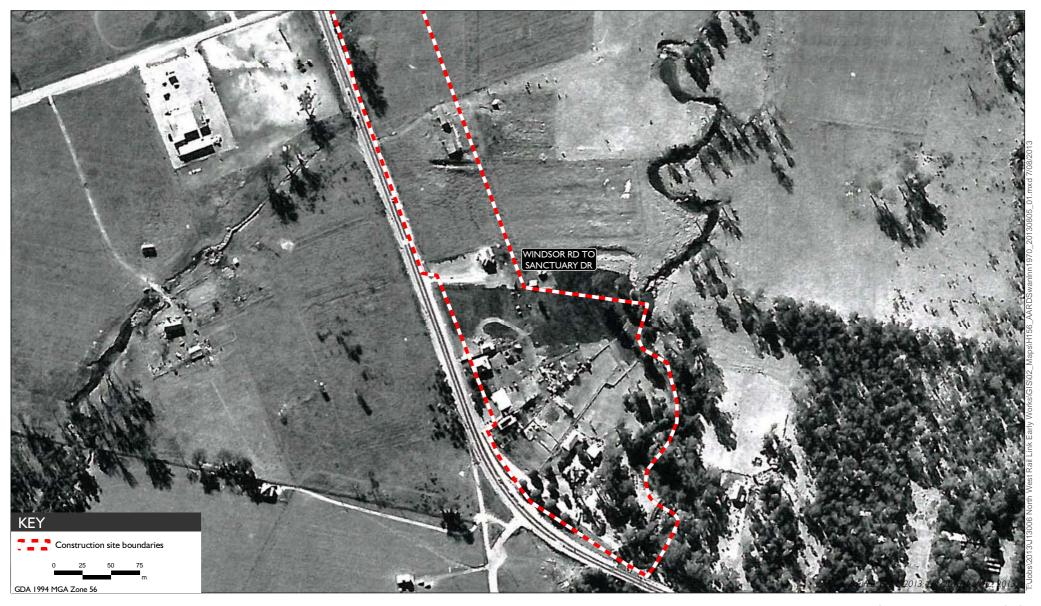


Aerial photograph Windsor and Old Windsor Roads 1961



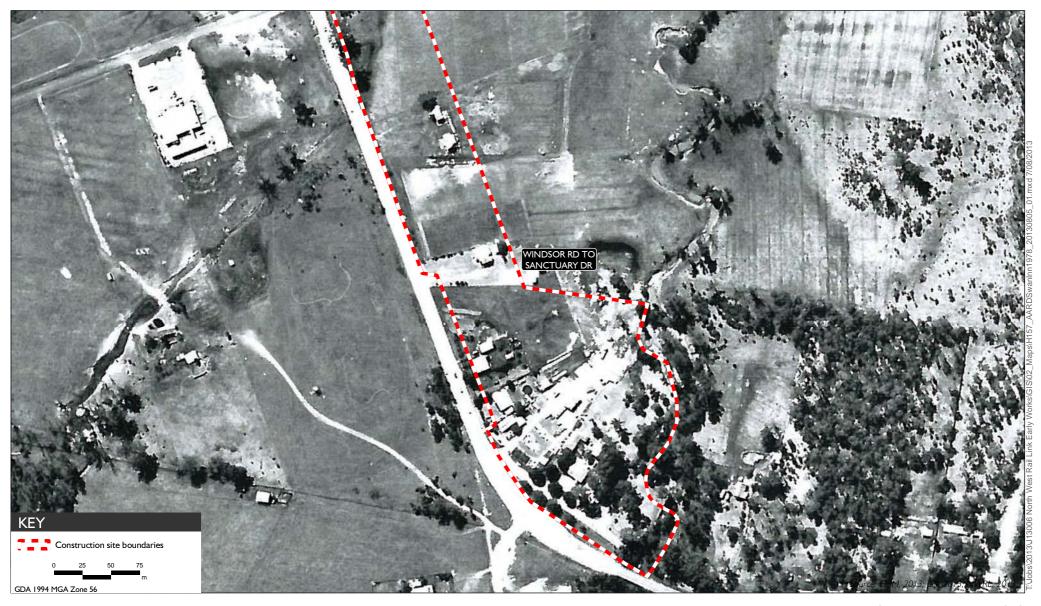


Aerial photograph Windsor and Old Windsor Roads 1965



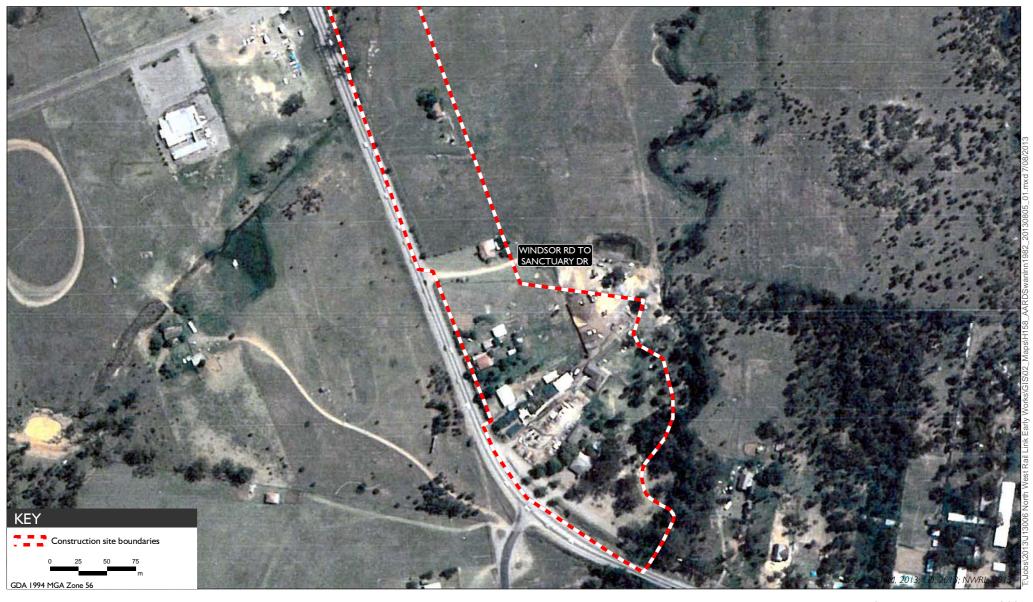


Aerial photograph Windsor and Old Windsor Roads 1970





Aerial photograph Windsor and Old Windsor Roads 1978





Aerial photograph Windsor and Old Windsor Roads 1982





Aerial photograph Windsor and Old Windsor Roads 1994





Aerial photograph Windsor and Old Windsor Roads 2002

2.4 Brief history of inns and inn keeping

Inns and inn keeping have a long history in Australia and quickly followed farmers and explorers in opening up the colony (Dawson, Brown and Ackert 1990 p.8). Along major roads such as Windsor and Old Windsor Roads, inns provided important and well known rest stops, food and accommodation on long journeys around the colony.

Governor Macquarie encouraged the establishment of many inns, known as wayside inns, along roads and travel routes, by granting land with the stipulation that a wayside inn be built on the property. Very early inns were designed as single storey dwellings one room thick. Every room had an entrance from the verandah and there may have been additional facilities for special guests (Freeland 1977 p.96). In addition to the inn building there was likely to have been stable and shed buildings, more than likely of timber slab construction.

The main users of the inn were coach runs operating between large settlements. Coach routes ran along Windsor and Old Winsor Roads and may have stopped at various inns along the way. The Royal Oak Inn (now the Mean Fiddler) was constructed in the 1830s specifically as a Cobb and Co coach inn, which ran a route from Parramatta to Windsor. By the 1840s the amount of wayside inns had increased considerably and competition between the various inns was high. As the colony became more established, the design of inns changed to two-storey buildings constructed of brick or stone (Freeland 1977 pp.101-103). Many inns had developed to include coffee rooms, parlours, full stables and undercover coach parking (Freeland 1977 pp.101-103).

By the 1860s the introduction of railway travel was having an impact on coaching routes. The railway line from Sydney to Richmond was operating by 1864 with a stop to Windsor established soon after. Many inns in the rest of the colony were closed as a result of the growing railway network and the subsequent reduction in demand for coaching. Inns located on the edges of towns such as Windsor would have been able to adapt to service tourists to the area but many smaller inns would not have survived. However, the railway did not come into Rogans Hill to the south until the 1930s and both Windsor and Old Windsor Roads would have remained major travel routes through the nineteenth century. As such the inns along these roads may have lasted until the advent of the car and the faster travel times that would have resulted.

Inns were also a strong part of the community, acting as courthouses, the venue for coronial enquiries, business transactions and other local administrative tasks and social functions (Kirkby 1997 p.30).

2.4.1 Present date

The portion of the land that is subject to this assessment is now owned by TfNSW with a portion in the north owned by Sydney Water. An aerial photograph from 2013 shows the study area as containing commercial industry to the north along with two scattered houses (Figure 2.19).

2.5 Historic themes

The historic themes relevant to the archaeological investigation of the study area were taken from the NSW Heritage Branch website (www.environment.nsw.gov.au/heritage/index.htm). These have been used as a source and starting point in the formulation of research questions for the proposed archaeological monitoring program.

The national historic themes relating to the study area are:

- working;
- developing Australia's cultural life; and
- developing local, regional and national economies.

The NSW historic state themes relating to the study area are:

- accommodation;
- commerce;
- leisure;
- transport;
- domestic life;
- land tenure;
- environment cultural landscape;
- persons; and
- agriculture.





Aerial photograph Windsor and Old Windsor Roads 2013

3 Site evaluation

3.1 Overview from historical research

An evaluation of the study area aids in the identification of archaeological potential as well as the significance of potential relics. It is achieved through a process of analysing the archival sources, historical maps, plans and photographs, comparing historic aerials with modern aerials and the results of the site visit, as well as reviewing previous reports for sites in the vicinity and other like-sites. The following sections address the sources of information that have assisted with the assessment of archaeological potential and assessment of significance.

3.1.1 Aboriginal archaeological investigation

Aboriginal people utilised and passed through the Kellyville area for thousands of years. A due diligence Aboriginal heritage assessment identified the potential for Aboriginal objects in the area of Caddies Creek which is located on the eastern edge of the study area (GML 2012c p.68). A survey identified a potential archaeological deposit (NWRL PAD 10) adjacent to Cattai Creek (GML 2012c p.68).

Archaeological excavations are planned for an area adjacent to Cattai Creek in the north of the study area. At the time of writing this report they have not been completed.

In the event that any subsurface deposits containing Aboriginal relics are found, they are likely to consist of isolated or low density artefacts with disturbed soil profiles. The unexpected finds protocol includes Aboriginal heritage objects and should these objects be found all work will cease in the vicinity of the finds until an assessment of significance can be made in consultation with the registered Aboriginal parties for the project.

3.1.2 Written sources

The historical summary of the study area was compiled using a number of written sources including land titles records, previously prepared histories, newspaper articles and consultant reports. The research undertaken to date confirms the general knowledge available for the area and adds quite some detail about the specific study area.

The historical written sources tell us that the land was occupied by an inn and by the Stranger house. Consultant reports accessed for this report mention the Swan Inn but not the White Hart, making cross-referencing with contemporary reports difficult.

The study area appears to have been the location of one or two inns known as the White Hart Inn and the Swan Inn. The historical records have not been able to definitively identify the location of the inns, or if there were in fact two separate inns in proximity to one another. Tracing the history of the White Hart Inn and the Swan Inn has been hampered by conjecture over the location, owners, publicans and names of the site.

The grants to Mary Sargent and John Moss do not specify the establishment of a wayfarer inn as a condition of the grants. The earliest mention of an inn within the study area is the White Hart Inn, built before 1930 by William Cox and being operated by William Cross in 1830. The Swan Inn is first listed in the NSW Calendar and Directory in 1835 and operated by John Cross. However only a William Cross is listed as the proprietor of the White Hart Inn between 1830 and 1831 not a John Cross. The Swan Inn is named and shown on an 1833 survey sketch (Larmer), after which it disappears from records until it is "rediscovered" by E. G Maudrell in the 1930s as foundations and footings (refer to page 24 of this report). No further information has been forthcoming about the Swan Inn apart from the map location and the 1930s newspaper article and no publican licenses for a Swan Inn are listed along the Windsor or Old Windsor Roads.

The White Hart Inn has a more complete record of publicans from 1830 to 1854; however it is not shown on maps and plans of the area. Newspaper articles also mention the White Hart Inn, including an auction notice which listed the inn as being near the orchards of the Stranger family who were located in the study area.

The compilation of historical evidence suggests that it is likely that the White Hart and Swan inns were the same building with confusion over the name from White Hart (in the publican's records) and the Swan Inn in the newspapers and NSW Calendar and Directory. To add to the confusion, while different first names were used, a Mr Cross was the publican of both inns at the same time (John Cross was publican of the Swan Inn and William Cross was the publican of the White Hart Inn). The suggestion that these inns were the same building with name confusion is strengthened by the listing of the auction of the Old White Hart Inn.

If they were different buildings perhaps the Swan Inn may simply have been a short-lived name or a separate building converted into a house or home for the various farmers who lived in the area.

It may also possible that William Cross and William Cox were the same person and not only built the inn but managed it in its first year as well. However William Cox was a well known and wealthy landholder who from the historical evidence looks likely to have bought the land and the White Hart Inn for profit only, living and working in Sydney.

It is also possible that the White Hart Inn was located in a different area along Windsor and Old Windsor Roads. The written sources do not provide conclusive information as to the location of the site and it is possible that it was not located in the study area.

Another possibility is that after 1858 the White Hart Inn became a house or farm building before being auctioned in the 1880s as noted in *The Windsor and Richmond Gazette* (1881). The name "White Hart Roadhouse" appeared in *The Cumberland Argus and Fruitgrowers Advocate* in 1941, one explanation being that it was once called the White Hart Inn with a name change to accommodate changing travel methods. However it is also possible that the White Hart Roadhouse is located somewhere else along Windsor Road.

Sarah Tighe, the widow who owned the White Hart Inn in the 1830s, can shed light on women's role as innkeepers during the early years of the colony. As noted by Kirkby (1997, p.28) women were not allowed to own property until the 1870s, unless they were widowed or legally separated from their husband. Holding a license was possible for married women and widows, however unmarried women were unable to. Yet many pubs, especially those in rural areas were operated by women (Kirkby 1997, p.28). Many unmarried women got around these restrictions in silent partnerships with their common-law husbands, lovers, relatives or friends (Kirkby 1997, p.29).

Newspaper records also place the White Hart Inn along Windsor Road; however as with the maps this is a general indication and may be outside the current study area. One in particular locates the 'Old White Hart Inn' near the orchards of Stranger and Pearce in the 1880s, suggesting the building was still standing during this time. As detailed above, Elihu Stranger and his family lived near the junction of Windsor and Old Windsor Roads, including the southern portion of the study area and the Pearce family lived opposite the study area along the western side of Windsor and Old Windsor Roads. This would locate the inn towards the northern portion of the study area. There is no evidence to suggest when the inn was demolished or removed. Anecdotal evidence from the Hills Historical Society suggests that the footings of the White Hart Inn were located in the study area during the 1960s and removed.

The evidence accessed for this report strongly suggests that the building that has, in the recent past, been identified as the "Swan Inn" is in actual fact, the "White Hart Inn".

A comparison of inns and inn keeping is detailed in Section 3.1.7.ii.

In addition to inn keeping a large portion of the study area would have been used for agriculture, particularly for citrus that dominated agriculture in the Hills district. The historical records show that the Stranger and Brien families lived in the study area and both were orchardists, helping to characterise the area as a rural and agricultural district well into the twentieth century.

The local soil was considered loamy and good for farming. Citrus and fruit trees thrived and large portions of the Castle Hill and Kellyville areas was turned into orchards (Watson 2010 p.9). This included the study area. Mackenzie's survey plans of 1885 show the study area consisted of orchards, orangeries and cultivated paddocks. By 1947 only small areas of remnant orchard remain (Figure 2.10), but remnants of furrows and tracks of previously cultivated areas remain visible in aerial photographs from the 1920s to the 1930s.

Recent developments in the region include heavy industry and housing. Part of the study area currently has a tile business that has disturbed much of the land close to the Old Windsor Road and Windsor Road junction; however, from approximately 50 m from the junction, the landscape remains generally undeveloped and it is this area that remains of the inn are likely to occur. Crop marks may also survive archaeologically in this area. It is possible that the archaeological remains of sheds and other agricultural buildings have survived, particularly in areas which are less disturbed such as grassed areas. Some of these items are visible on aerial photographs from the 1960s and 1970s however none of these items are visible on aerial photographs from the 1980s onwards.

3.1.3 Maps and plans

The study area was part of the 34,539 acre Government Grounds and used for farm production until approximately 1815. The Government farm and asylum are located approximately 2 km to the east of the study area and it is likely that the study area was used for cattle grazing and crops during this time. While it may be possible that vernacular structures were built illegally, on government grounds, no documentary evidence has been found that suggests this and any evidence of early structures may have survived only in fragmentary form. Subsequent subdivision and cultivation of the land is likely to have disturbed the context of early structures.

The two sections of the study area were alienated in 1810 to John Moss (northern section) and in 1818 to Mary Sargent (southern section). There is little information on their land grants, however it is noted that Moss was a road constable along the Parramatta to Windsor Road. Their land grants appear on parish records into the 1900s. No information has been found in regards to their use of the land or to any structures which may have been present. The sequence of aerial photographs and subsequent land ownership research suggests that the land has been heavily cultivated which may have removed evidence of Moss and Sargent's use of the land, if indeed either proceeded with modifications.

Minimal information has been obtained for the majority of the title holders of the study area from maps and plans, particularly in relation to any structures which may have been present during their holding of the title.

The parish records for this area do not provide any further indication of structures on the study areas. Parish maps are available for 1897, 1905 and 1924 and one map that has not been definitively dated. All parish maps show John Moss and Mary Sargent as the owners of the land.

Larmer's survey note book provides a little more information. The field book dates to 1833 and clearly shows the stretch of Windsor Road (minus the Old Windsor Road alignment) that runs along the study area (Photograph 2.1). At the southern end of the page the words "Peace" or "Trace" "of Windsor Road" are written. Hugh Kelly's "Pub Ho" (Public House) with some structures is visible on the north-east side of the road alignment Moving north-west Larmer recorded "Road Party Huts" that were located to the south-east of a water crossing. The creek at this location has been interpreted to be Caddies Creek where it crosses (new) Windsor Road just before the junction with Old Windsor Road. A traveller would then arrive at the White Hart a little further along the road to the north-west. The inn is shown as a small square with the words "Pub. Ho White Hart" written next to it. A little further along the road is another water crossing, interpreted as a tributary to Caddies Creek and visible on current aerial photography.

An additional point of interest in Larmer's survey field book is that two "Huts" are located further to the north-west on either side of a "Constables Hut". In the first half of the nineteenth century, unauthorised inns and public houses known as "huts" sprung up along new roads. Huts appeared on the Bathurst Road (Great Western Highway) to feed and water travellers and their animals before inns and guest houses were permitted to operate. It is unclear what type of huts Larmer has captured in his survey and it is less likely that they are illegal pubs as they are on either side of a constable's hut, but it is an interesting, if brief, diversion from the search for the White Hart Inn.

Historical maps provide a general indication of the location of the inn. Robert Dixon's map places the location of the "Swan Inn" further than the junction of Windsor and Old Windsor Roads but within the study area. In general inns were located close to and facing the road to provide easy access for patrons, and this would be the most likely location of the inn, along Windsor Road.

Mackenzie's 1885 plan and field books for Windsor and Old Windsor Road shows a brick structure located on the original grant of Mary Sargent. The structure is shown with a wrap-around verandah on three sides and is located on land adjacent to that belonging to Elihu Stranger. By 1885, the inn building may have been used for a different purpose. It is not listed as a hotel or inn in the main plan or the field books (Figure 2.2). The field books provide further details on the structure, including that it is made of brick with a large verandah and a railing fence surrounding it (Figure 2.8). This plan provides an exact location for a structure within the study area which may have been the inn building. Equally however, this building may have been a different structure altogether, built for the farmers and orchardists who lived on the land in the late nineteenth and early twentieth century. Figure 3.7 shows the mostly likely location of this building based on the information from Mackenzie's survey and field books.

The location of the structure shown in the 1885 survey notebook (Figure 2.8) has been located on a modern aerial photograph through a re-calculation of Mackenzie's data. New information suggests that the inn building was in a location that is now beneath the almost centre of Windsor Road. At the very least, outbuildings and other associated relics are likely to survive within the study area. A short report describing the re-calculation methodology is provided in Appendix C; refer to Figures 3.7 and A1 for a schematic representation of the inn location.

Contrary to all other information gathered for this assessment, Dixon's 1836 plan of the colony shows The Swan Inn near the junction of Windsor and Old Windsor Roads. Dixon's plan is the only graphic that shows a building, which appears to be in the study area, called "The Swan Inn" (Figure 2.7).

Little other mapping information was discovered during the investigation. There are no subdivision plans for the study area. Town water and sewerage was not connected until well after the 1920s, thus, it was considered unlikely that water board plans of the area would be present or able to provide further information on the study area. However, since the inn building may have still been standing into the 1950s, Sydney Water maps and plans were considered. However, in the time period available it was not possible to access these plans. Similarly, fire and insurance maps were also considered but relevant information was not obtained. Additional research will be conducted for the excavation report.

3.1.4 Aerial photographs

The historic aerial photographs provide information on structures that were present in the study area at the time the photographs were taken. The earliest aerial photograph of the study area was taken in 1943 (Figure 2.9) and another soon after in 1947 (Figure 2.10) and both show a structure approximately 100 m from the junction of Windsor and Old Windsor Roads. At this stage the land is owned by the Sheehan family, the surrounding area is cleared of vegetation but has a number of buildings scattered across bare paddocks. The 1947 aerial photograph has been overlaid onto the 2013 aerial photograph (Figure 3.2) to show that the majority of the buildings are now located in grassed areas with good potential for archaeological evidence to remain.

By 1956 (Figure 2.11) many structures have been added and the land has been subject to minor disturbance through the creation of driveways and paths through the area. It is similar in 1961 (Figure 2.12) and 1965 (Figure 2.13) with many buildings still present. The study area was obtained by Leslie J Muir in 1965 and transferred to JL and MM Muir Properties Pty Limited in 1972.

In 1970 (Figure 2.14) and 1978 (Figure 2.15) the study area remains cleared of vegetation but retains structures. The section of land at the junction of Windsor and Old Windsor Roads is heavily populated with structures and large areas of cleared and developed land. By 1982 the area in the south of the aerial photograph remains heavily populated with structures, however in the north a structure, visible in the 1956 aerial photograph, survives (Figure 2.16) but has been removed by 1994 (Figure 2.17). The 2002 aerial photograph (Figure 2.18) shows the increasing housing development surrounding the study area, which remains bare in the north and industrialised in the south. The aerial photograph from 2013 (Figure 2.19) shows few changes have occurred, the southern portion of the study area remains industrial with scattered buildings with the northern portion of the study area remains grassed paddocks.

3.1.5 Existing land use and disturbance

There have been few recent developments in the study area. The majority of the study area is grassed paddocks with no developments or large trees and shrubs. The south-eastern portion of the study area is currently being used as a tile, paving and gravel commercial stockpile including showroom, storage and truck turning areas. A restaurant is present at the southern end of the site adjacent to the junction of Windsor and Old Windsor Roads.

The study area has also been subject to varying levels of disturbance from existing utility trenches. Utilities that have disturbed the study area include:

- fibre optic/phone network cables;
- electricity cables; and
- PVC sewerage piping.

The majority of utilities are located in the area around the commercial section of the site in the southern portion of the study area. The impact of the existing utility trenches on the potential archaeological deposit is likely to be low. The disturbance areas for these utilities are largely discrete and isolated, and are unlikely to have significantly affected any potential archaeological deposit. However, there is the possibility for these trenches to have affected the intactness of certain archaeological features or deposits. Services will be investigated prior to the archaeological excavation commencing.

3.1.6 Study area site visit

An inspection of the study area occurred on 25 February 2013 (Photograph 3.2). The majority of the study area was covered by grasses and low shrubs. Grass cover was high. Disturbance was evident at the commercial tiles and paving establishment located near the junction of Windsor and Old Winsor Roads. Caddies Creek runs through the east and north of the study area.

The landscape in the vicinity of the commercial premises (currently Amber Tiles) has a raised, flat appearance, which suggests a platform for construction. The landscape drops away as it gets closer to the creek lines and it is likely that this area gets quite boggy during wet weather and would therefore be unsuitable for long-term buildings occupied by people.



Photograph 3.1 Old Windsor Road to White Hart Drive construction area facing north. The Caddies Creek alignment of the road has been removed to the north of the road sign.

3.1.7 Data from geotechnical investigations

Geotechnical testing was conducted by Coffey Geotechnics in May 2013. Three borehole sites were investigated for the proposed works. The geotechnical sites were located along Old Windsor Road (Figure 3.3).

Borehole (BH) 213 was located at the corner of Windsor and Old Windsor Roads Kellyville south of the study area. It was excavated in May 2013. The first 0.70 m was identified as a fine, pale grey, sandy gravel overlaid on dark brown gravelly sandy clay. The sandy clay lay over a gravelly clay alluvium which reached a depth of 2.70 m. From 2.70 m to 5.70 m mottled orange clay was identified. Bedrock was reached at 6 m.

BH 214 was located adjacent to and on the north side of Amber tiles Kellyville. It was excavated in May 2013. The first 2.50 m was identified as brown silty sand topsoil and fill overlaid on a red brown silty clay residual soil. Bedrock was reached at 2.55 m. BH 214 is located closest to the area identified as the location of the White Hart Inn.

BH 215 was located adjacent to a tributary to Caddies Creek in Rouse Hill. It was excavated in May 2013. The first 2.40 m was identified as brown, mottled grey, silty clay fill overlaid on brown silty clay alluvium overlying between 2.40 m and 3.40 m an orange brown silty clay residual soil. Bedrock was reached at 3.40 m.

The recorded data from the geotechnical samples did not yield material that could be described as artefactual but the "fill" in BH 213 and BH 214 is of interest from an archaeological perspective. This fill sits atop either alluvium or residual soil.

3.1.8 Comparative studies

Comparative studies relevant to this assessment can be grouped into the following themes:

- inn keeping; and
- late nineteenth century vernacular buildings and the orcharding industry.

i Overview of studies in the local area

The local area has been subject to a limited number of archaeological investigations relating to domestic vernacular buildings in the late nineteenth century and beyond. As such, a search of the Heritage Branch library catalogue and other library resources identified only a few relevant previous investigations. Two such investigations include the historical and archaeological study of Kentwell Cottage on Old Northern Road Castle Hill (discussed further in Section 3.1.7.iii) and the archaeological investigation of the Castle Hill Heritage Park which is assessed to be of State significance.

The Castle Hill Heritage Park contains a number of known and potential archaeological sites, including the Third Government Farm, a lunatic asylum and barracks, a church and school, the remains of early dwellings and wells, roads, tracks, fencing, and bridges of the early to mid-nineteenth century. The site was later adapted for orcharding from 1870 to 1930 (GML 2007). The Castle Hill Heritage Park has little comparative value with the current study area as it does not encompass late nineteenth to early twentieth vernacular buildings that were occupied during the orcharding phase of the study area. A midtwentieth century domestic building and cistern remains in the north-east quadrant of the heritage park, however, it is likely to post-date any historical buildings constructed within the study area.

The nearest towns to the study area were Windsor and Parramatta. Investigations of houses and farm buildings have been completed in these towns. However, the differences between town and rural houses would have been strong and it is not clear how useful a comparison of these buildings would be.

The study of inns and inn keeping in the local area has analysed a number of buildings with a number of inns of similar age located in the vicinity. The most prominent of these is the Royal Oak Inn (now the Mean Fiddler) located approximately 2 km from the study area.

The Royal Oak Inn was established in the 1830s at the same time as the subject inn(s) in the study area. The Royal Oak and other inns are discussed in Section 3.1.7.ii.

GML identified the site of the Swan Inn (NWRL heritage site number 13) requiring further background research and potential archaeological excavation or recording works either prior to or in conjunction with construction works (GML 2012a p.73).

This site of the Swan Inn was also identified in the Windsor Road and Old Windsor Road CMP (Clive Lucas Stapleton and Partners 2005) and in the preliminary report on the North West Rail Link as item 79 (Casey and Lowe 2006 p.24).

In its Shire-wide heritage study during the 1990s, the Hills Shire Council considered archaeological sites but apart from Windsor Road itself no sites were listed in the study area.





1947 aerial photograph overlaid onto 2013 aerial photograph





Geotechnical investigations plan

ii Inn keeping

Inns were once very common throughout NSW and were typically placed within the centre of towns and alongside main roads radiating out from Sydney to the north, west and south. Inns played an integral part of the inland transport infrastructure of the nineteenth century. They mark a period of coach transport that required a considerable amount of time spent travelling (when compared to current standards), with stops at inns necessary to cover the vast distances established during the exploratory years of the colony. inns were established to meet the demand of trade, transport by providing workers and travelers with food and accommodation along with stabling and storage for their horses and stock.

Many inns established in NSW during the mid nineteenth century still exist today. This assessment has considered extant inns and previous archaeological investigations of inns to understand the nature of the potential archaeological remains of the Swann Inn site. Comparative analysis also provides an indication of a site's rarity or representative nature. This assessment has attempted to limit comparative analysis to inns constructed c.1820–1860 in accordance with the proposed establishment of the Swann Inn. Geographically, the analysis has used examples of inns from the local area and broader Sydney Region along with inns extending along Sydney's main transport routes in the Blue Mountains and Lithgow to the west, and the Southern Highlands to the south.

The NSW State Heritage Inventory (SHI) lists 104 items under the category of Inn/Tavern. Of those, the following four inns are located within the Hills LGA:

- Box Hill Inn, Rouse Hill (State Heritage Register);
- Royal Oak Inn, Rouse Hill (former) (State Heritage Register);
- Inn (former) at 43 Boundary Rd, Box Hill (Local Government Register); and
- Rumery Homestead, Box Hill (Local Government Register).

Considering the importance of Windsor Road as a major colonial transport route, The Hills LGA has relatively few existing or registered heritage inns. As a comparison, a review of Austral Archaeology's report on the Blue Mountain Inn revealed that 16 inn sites were heritage listed in the Blue Mountains and Lithgow LGA. Subsequently, the current assessment has researched inn sites outside The Hills LGA to provide a greater research sample size.

a. Existing Inns

The Royal Oak Inn, Rouse Hill

In 2005 Matthew Kelly (AHMS) undertook an historical and archaeological assessment of The Mean Fiddler Hotel (former Royal Oak Inn) site at Rouse Hill, NSW. The site is approximately 2 km north of the study area. Historically, the Mean Fiddler Hotel was divided in to five phases of development, which involved the early land grant; occupation of the early house and subsequent Inn (The Royal Oak Inn) to the lapse of the Inn license (1823–1876); post Inn occupation as a residence (1876–1925); upgrading and use as a farmhouse and antique store (1925–1970); and its current function as a restaurant and hotel (post 1970s).

The Royal Oak Inn was purpose built in 1829 by an emancipated convict named Charles Davis. The Inn is considered to be the site of one of the earliest licensed premises in the colony, dating to 1830. The characteristics of the Inn are best described by Kelly:

'(A) Single storey Georgian sandstone inn, with front verandah and a single pitch tiled hip roof over the whole. Street front verandah has doubled timber Doric columns and a simple scalloped valance. Front six-panel door has glazing in the upper four panels, flanked by side lights and surmounted by a large fanlight. French doors open onto the verandah either side of the central front door with shutters. Four panelled doors sit on the outside of the French doors. All doors have sandstone headers and thresholds. The Front elevation of dressed sandstone, sides and rear are random-coursed.

The building has stone cellars below, and sandstock brick extensions to the rear (south-eastern end of inn building) on a lower ground level (originally a kitchen, possible smoke house/ meat preserving room), high roofed open sided area possibly for carriage storage, and large room with a baker's oven, then an attached blacksmith's shop built of timber slab.

Part of the original kitchen wing is incorporated into later additions. The rear verandah is detached from the main roof' (AHMS 2005 p.35).

In 2006 Archnex Designs prepared a conservation management plan for the Mean Fiddler Hotel. This included historical research and drawings of elevations and floor plans. A drawing of The Royal Oak Inn demonstrating the Georgian architecture trend of the early to mid nineteenth century is provided in Figure 3.4. A floor plan of the Inn, and the anecdotal locations of previous outbuildings (Miss Peterson's recollections in Archnex 2006, Appendix A) shows the likely locations of the blacksmiths hut, ballroom, stables, well and outdoor toilet (Figure 3.4).

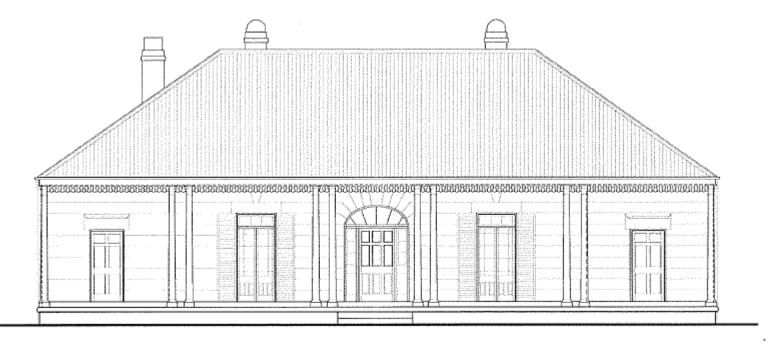
The 2005 AHMS study assessed that the disturbance of the site by subsequent development meant that the archaeological resource was likely to exist only in the form of disturbed occupation deposits within the footprint of the Inn and rear extension. Deeper sub-surface features at the rear (east) of the Inn and extension were likely to take the form of backfilled wells and cesspits.

The Royal Oak Inn is of State Significance.

Box Hill Inn, Box Hill

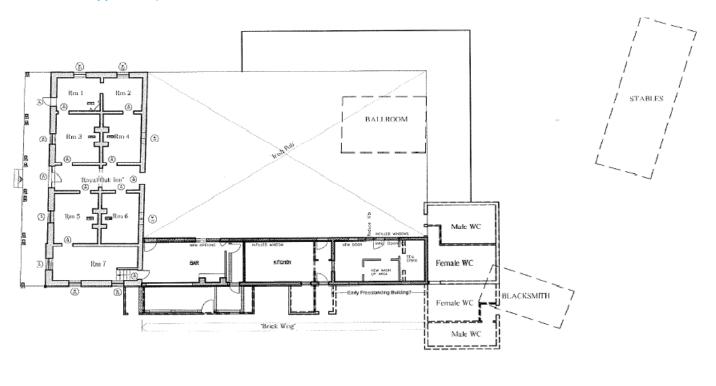
In 2004 Heritage concepts prepared a statement of impact, including historical research, for the Box Hill Inn site located on Windsor Road in Baulkhams Hills. The Box Hill inn was initially indentified as a 'Public House' built c.1840–1842 that is believed to have existed firstly as a family home with a section set aside to sell liquor to the public (Heritage Concepts 2004 p.10). The inn is unused and now in state of disrepair.

Figure 3.3 Elevation drawing of the Royal Oak Inn showing typical rectangular and symmetrical elements of Georgian architecture. (Source: Archnex Designs 2006, Appendix A).



Windsor Road Elevation

Figure 3.4 The Mean Fiddler Layout with potential structures located to the rear and south of the main building (dashed). (Source: Archnex Designs 2006, Appendix A)





Previous studies from the National Trust indicated that the building was constructed c.1825, but no historical evidence was found to support this (Heritage Concepts 2004 p.12). The establishment was granted a liquor license in 1844 until 1848 when it closed to become a dwelling owned by fruit growers. The Inn was constructed as a single storey, free standing brick structure with attic rooms and a timber post verandah. The rooms comprised a main sitting room, bedroom and dining room with a maids room located to the west and a parlour to the east of the sitting room. The Inn building had a detached kitchen which is now accessed by a covered passageway. Other outbuildings included a separate laundry and bathroom offset to the west of the main house, three wells and a timber shed.

The Box Hill Inn is of State Significance.

Inns of the Southern Highlands

In 2009 Chris and Charlotte Web Pty Ltd Heritage Consultants prepared a conservation management plan, including historical research, for the Coach and Horses Inn at Berrima in the Southern Highlands of NSW. The report indicates that the Inn was originally constructed during the late 1830s in the Georgian architectural style that was also typical of the Sydney Region.

The Coach and Horses Inn is a good example of how inns structurally evolved throughout the nineteenth century. The Inn site originally comprised of a two roomed rectangular building constructed in the late 1830s. The Inn originally operated under the sign of the Mail Coach Inn from 1837 to 1839 as a licensed public house and staging post for travel and delivery of mail. Additions were made in the 1850s which included a detached kitchen. An eastern extension to the main building was constructed in the 1880s and included an outdoor privy (Figure 3.5). The additions to the Inn had the effect of off-putting the original Georgian period symmetry of the building. This trend can be seen almost throughout the Inns reviewed in this assessment. To create more livable space, wings were often added to Inns in instances where there was demand for their expansion.

The Coach and Horses Inn (former Mail Coach Inn) is of State Significance.

Other Inns existing within the Southern Highlands Region include the White Horse Inn and the Berrima Inn. The White Horse Inn is a two storey Georgian style inn and is one of the oldest coaching Inns located in Berrima, NSW. The Inn was constructed in 1834 by Edward Davies, but also included the important element of a coach house which was built in 1865. The coach house was used to house the coaches and horses that stopped at the Inn (Chris and Charlotte Web Pty Ltd Heritage Consultants 2009 p.28). The Inn experienced later uses and modification including its function as a private residence, as The Commercial Bank and a restaurant.

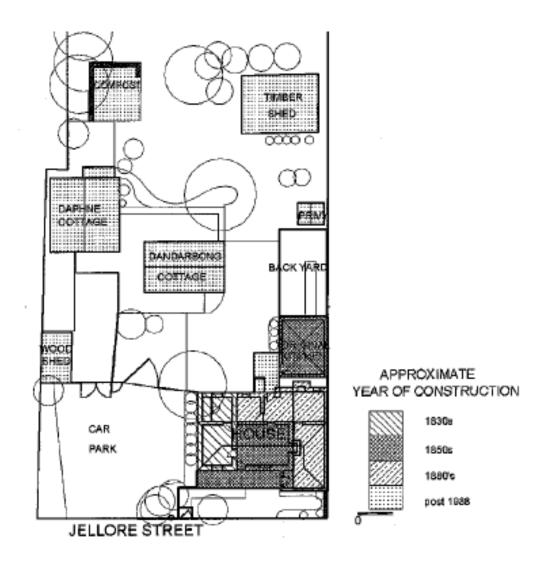
The White Horse Inn is of State Significance.

The Berrima Inn was purpose built as an Inn in 1834. The Inn followed the architectural trend of being constructed in traditional Colonial Georgian cottage style. The Inn was issued the first Inn license in Berrima In 1834 which continued to run until 1848, when it then became a residential dwelling. An extension to mirror the original building was later added to the Inn.

The Berrima Inn is of State Significance.

The Inns identified in the Southern highlands follow the trend of being purpose built as Inns which later underwent extensions and additions in the mid to late nineteenth century, before being used for residential purposes.

Figure 3.5 The Coach and Horses Inn showing the different phases of construction. (Source Chris and Charlotte Web Pty Ltd Heritage Consultants 2009, Figure 10).



Collits Inn, Hartley Vale NSW

In 2001, a conservation management plan, including historical research, was prepared by Christine and Russell Stewart for Collits Inn in Hartley Vale NSW (Lithgow LGA). The report indicates that the inn was constructed in 1823 as a Georgian style building of weatherboard and brick nog construction with a stone flagged verandah. The site consisted of the inn, stables, barn, outbuilding, woolshed, pit toilet and external septic toilet. Collits Inn was the primary hostelry on the Old Western Road until General Surveyor Major Mitchell opened Victoria pass in 1832 (Christine and Russell Stewart 2002). As a result of decreasing demand for the inn's services, it went into decline in the 1840s and was primarily used as a residence and farm. The inn prior to restoration and conservation works in 2001 is shown in Photograph 3.2.

What is its significance? abeben@biosis.com.au



Photograph 3.2 Collit's Inn in 2001 prior to restoration works. (Source: Christine and Russell Stewart 2002, Section 4).

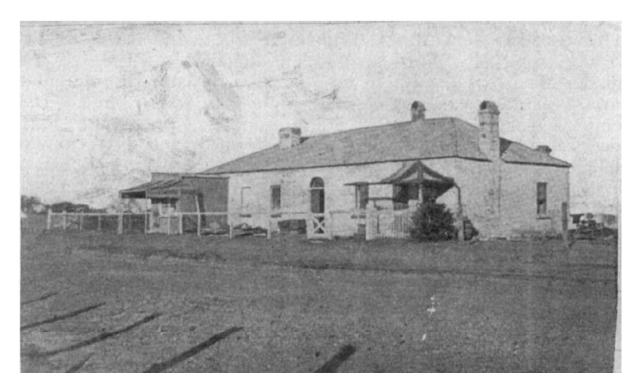
Inn archaeological sites

Blue Mountain Inn

In 2009 Austral Archaeology undertook an archaeological investigation of the Blue Mountain Inn site at 2-12 Wilson St Lawson in response to an upgrade of the Great Western Highway (RTA) that was proposed to run through the site. Historical research identified that the Blue Mountain Inn was purpose built in c.1845 to provide food and accommodation to travellers on the Bathurst Road. The Inn included stock yards, an orchard and outbuildings. The Inn was demolished in 1917 and the site became the location of the Lawson Primary School playing field. The Inn had been demolished to ground level and covered with a layer of topsoil for the purpose of the school ground.

Excavation of the site in 2008 revealed white coarse-grained sandstone blocks representing the front wall of the building with a width of 600 mm. These were considered to be part of the foundations for the Inn. Two verandah flagstones were also present just beneath the turf in Trench 2 of the excavation area. The foundation stones were dated to 1844 and all datable artefacts were consistent with the Inn's occupation from 1845 to 1917. Further remains of the Inn were not investigated as the RTA redesigned the upgrade works to avoid further impacts to the archaeological resource.

The Blue Mountain Inn archaeological site is of local significance and remains intact beneath the playground of Lawson Public School.



Photograph 3.3 Blue Mountain Inn c.1867–1879. (Source: Small Picture File Mitchell Library).

Cox's Depot and Weatherboard Inn, Wentworth Falls

In 1985 Wendy Thorpe undertook an archaeological investigation of the Weatherboard Inn site at Wentworth Falls. Research indicated that the site was originally the location of a weatherboard depot established by William Cox during his road construction program. The building was a main stop for travellers along the new Bathurst Road and became known as 'Weatherboard' due to the hut. From 1814 to 1822 the hut was used as a military post, and a dining room for travellers who used the remainder of the area for camping and stock feeding. The hut burnt down around 1822 and in its place was constructed a weatherboard inn between 1827 and 1829.

The Inn was a licensed single storey 'L' shaped timber building and was constructed on sandstone foundations and consisted of six bedrooms, a kitchen, a parlour, stables and outbuildings. The Inn had timber floors, a shingled roof, open hearths, and a verandah surrounding it (Thorpe 1985 p.18). The Inn would have provided accommodation, stabling and food and was a stage for early coach lines including Cobb & Co. The Inn license lapsed by 1867 and witnessed declined in business after the introduction of the railway. The building was considered to be demolished in the 1880s.

Limited excavation of the Weatherboard Inn was undertaken after the accidental exposure of footings and artefacts by council work. Foundations made of sandstone blocks and sandstock bricks were recovered along with a cultural deposit including ceramics, glass and iron. The sandstone foundations contained distinctive bonding materials. The site was assessed as having high potential for survival of intact parts of the inn, outbuildings, roads and deposits. No further investigation was undertaken because the site was protected, stabilised and reburied and is now part of Pitt Park, owned by Blue Mountains City Council.

The Weatherboard Inn site is of State Significance.

Red Cow Inn Penrith

In 2005 Casey and Lowe Pty Ltd undertook an archaeological investigation of the Red Cow Inn in Penrith NSW. Historical research indicated that the Red Cow Inn was constructed in 1862-1863 along the Western Road, with a liquor license granted in 1864. The Inn was originally a single storey brick structure with an additional storey added in 1882 (Photograph 3.4). The Inn underwent a series of renovations in 1891 and 1899 when at this time the Inn changed ownership.

The archaeological site consisted of the extant Red Cow Inn and associated structures that had previously been demolished. The main archaeological results were found in association with the Red Cow Inn where evidence of older additions and deposits were found. There was also evidence for rebuilding or additions including an early kitchen with footings built from large river cobbles and a later kitchen with a large stone fireplace. Other remains found included a blacksmith's shop to the south of the Red Cow Inn, a cistern and a second timber-lined well.

Artefacts associated with the Red Cow Inn demonstrated its use as a place providing meals and accommodation to travellers along the Western Road. Among these items were large transfer printed serving platters and plates and transfer-printed cups and saucers. The blacksmith's shop showed that the maintenance of rural transport and machinery was a major function of the Inn. Artefacts related to blacksmith's shop included horseshoes, buggy steps, a mould board for a plough, and tools for fixing equipment and shoeing horses.

The Red Cow Inn was assessed to be of Local Significance.



Photograph 3.4 The Red Cow Inn c.1918 in its two-storey form. (Source: Casey & Lowe 2005, p.26).

b. Discussion

Comparative analysis of this small sample demonstrates that many inns were purpose built during the early to mid nineteenth century; however some were also adapted from previous structures (for example the Box Hill Inn, also see Austral Archaeology 2008 p.45). The inns included in this study demonstrate that there was a typical and shared style of architecture that existed in NSW in the early to mid nineteenth century. Inns were typically constructed as single storey Georgian vernacular buildings with verandahs and multiple outbuildings. Inns were commonly modified in the mid to late nineteenth century with additional wings to support more rooms or had a second storey above the original structure.

Inns functioned under their own liquor licenses, and provided food, accommodation, storage, and stabling for travellers, at locations along popular routes. It appears that inns peaked in popularity between 1820 and 1850, with only the more established inns continuing into the late nineteenth century. There is a notable decline in the popularity of inns as the result of growing settlements and railways which began to supersede the need for inns in such large numbers. The function of inns show a trend of being used primarily as private residences in the late nineteenth century after their licenses lapsed. Inns were then either demolished or continued being used under alternate functions into the early twentieth century. The mid to late twentieth century saw extant inns regain some of their original function by being used as restaurants, pubs/hotels, or for accommodation.

The common architectural features and functions of inns built in the early to mid nineteenth century are directly relevant to the archaeological potential of the White Hart Inn site. Comparative analysis can provide information about the materials, deposits and layout of Inn sites that the White Hart Inn may share. Firstly, the archaeological remains are likely to represent a symmetrical and rectangular building typical of the Georgian period of architecture. The later addition of wings comprising of additional rooms are also likely. Additions to the Inns often resulted in off-putting the buildings symmetry and resulted in an "L" or "U" shaped building. As the White Hart Inn is referred to have been a two storey structure, it is possible that an original single structure was modified to include a second storey (as in the instance of the Red Cow Inn).

Sandstone, brick or timber materials are likely to have been used in the construction of the White Hart Inn. The use of timber verandah posts is also likely. In general, flooring of Inns and their external buildings would have been abutted timber, and in some of the earliest structures, floors may have been earthen. These flooring techniques would have allowed for the archaeological accumulation of subfloor deposits.

It is likely that numerous outbuildings would have existed at the Swann Inn site. Stables, stockyards, detached kitchens, outdoor privies, cisterns, wells, and even a blacksmith shop are possible.

Overall, as inns occurred in a reasonably predictable fashion, comparative analysis of other Inn sites is a valuable resource in assessing the archaeological potential of the White Hart Inn

iii Vernacular building and orcharding

The study area included the farms and houses of the Stranger and Brien families during the late nineteenth and early twentieth centuries. Apart from the references to a house on Mackenzie's 1885 plan of Windsor Road, likely belonging to the Stranger family, there is little indication of which structural type this building belonged to. As such, previous investigations of vernacular residences in the region may provide insights into the structure within the study area.

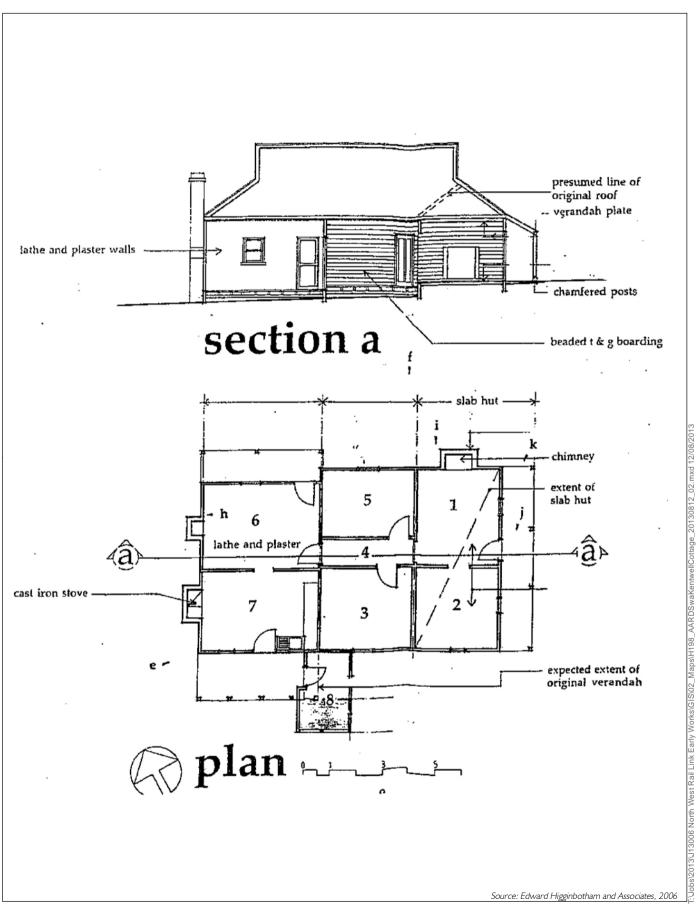
In 2006, an historic and archaeological study was completed for a nearby domestic house and property known as 'Kentwell Cottage' at 244 Old Northern Road Castle Hill (Edward Higginbotham and Associates 2006). This was undertaken in response to a proposed road widening that would impact the site. The Kentwell Cottage property was owned by John Kentwell from 1823, while the house was owned and occupied by the Kentwell family from its construction c. 1857 through to the 1890s and demonstrates the improvement, extension and additions to the cottage. The house was one of the few surviving 'slab' cottages in the Baulkham Hills Shire Council Area: an upstanding single-storey timber cottage with several outbuildings in various states of collapse.

The house was originally a two-roomed wooden slab construction with a shingle roof, later covered with weatherboards and a galvanised iron roof. It was observed that this vernacular design dated back to the first years of historic settlement in Australia (Higginbotham 2006 p. 25). The original house contained a fireplace (with a chimney of sandstock bricks) in the larger room and a smaller bedroom, with possibility of a detached kitchen. Initial weatherboarding of the house was likely to have occurred in the 1890s (based on cladding method and nails; see Higginbotham 2006 p. 30). Kentwell Cottage underwent considerable additions into the twentieth century, and contained eight rooms in total. Outbuildings on the property included a toilet and laundry (each with cement floors), a carport and a shed (Figure 3.6).

Kentwell Cottage was considered to have State significance, and was listed on the Baulkham Hills Council 1991 LEP as an item of local significance only. It was considered that Kentwell Cottage was an item of rare local significance as the majority of slab cottages are found in other local government areas and regions. However, the Hills Shire Council LEP 2012 does not list the Kentwell Cottage in its heritage schedule as it was removed during construction of new apartments, which are now present at 244 Old Northern Road. Kentwell Cottage also had potential to yield important information concerning the structural and technological development of vernacular buildings over time. It was recommended that the house be subject archival recording dismantled and relocated as part of heritage management and conservation. The current assessment was unable to verify whether or not the proposed management measures for Kentwell Cottage were undertaken.

Kentwell Cottage shares similar and historic themes with the current study area as it follows the historical development of the Castle Hill Area from mixed agricultural to fruit growing and orchards. It may also provide insights into the archaeological potential of the cottage and outbuildings built before the twentieth century. Kentwell Cottage and the current study area share a similar context of having vernacular buildings constructed on land used for agriculture and orchards in the late nineteenth century. As such, it is likely that similar construction methods and materials were used for the cottage as those mentioned above for Kentwell Cottage. The previous investigation of Kentwell Cottage may provide information on the nature of the archaeological remains in the study area; however this is based only on the assessment of an existing standing structure. There is therefore limited comparative information on the subsurface potential and survival for the cottage and other outbuildings within the study area.

An historic archaeological assessment was undertaken in June–July 2013 for the NWRL Windsor Road to White Hart Drive section of the project (EMM). This assessment identified two potential archaeological sites relating to a weatherboard cottage and outbuildings constructed in the 1880s. These structures existed within the context of the orcharding industry of the late nineteenth and early twentieth century's. The site was assessed to be of local heritage significance and to have moderate potential for relics relating to a weatherboard structure. Subsequently, a research design and test excavation methodology was prepared to further investigate the potential archaeological resource. The test excavation will aim to answers research questions about the structures, their material and design and the orchardists who inhabited the site. The 2013 EMM assessment at Windsor Road to White Hart Drive section is directly relevant to the current assessment. The research questions relating to the cottage's structure, its date, and the lives of the people who inhabited the residence are also applicable to the current study area. The Stranger family were well known in the locality, particularly for their orcharding and participated in the life of the local area. As such, this assessment may provide information on some of the more notable local characters associated with orcharding, than that of the Windsor Road to White Hart Drive section.





3.2 Archaeological potential

The assessment of the potential for archaeological evidence, known as "archaeological potential", is based on a predictive model that assumes historical archaeological evidence is generally located in close proximity to occupation and activity areas.

"Archaeological potential" refers to an areas potential to contain archaeological relics which fall under the provisions of the *Heritage Act* 1977. This potential is identified through historical research and by judging whether current building or earlier development activities have removed all evidence of known previous lands uses (Heritage Council 1996). From this evidence conclusions are drawn from this section to identify the likely location, survival of the archaeological evidence. The preceding Section 3.1, the "evaluation", is where each area of investigation was analysed to ascertain the potential for the survival of archaeological resources.

3.2.1 Aboriginal occupation

A separate Aboriginal heritage assessment has been completed which identified the potential for Aboriginal archaeological remains in the north of the study area, adjacent to the tributary of Caddies Creek. As a result excavations are planned for this area as part of Early Works activities. The final results of Aboriginal archaeological excavation will be presented in a separate report.

In the event that any subsurface deposits containing Aboriginal relics are found, they are likely to consist of isolated or low density artefacts with disturbed soil profiles. The unexpected finds protocol includes Aboriginal heritage objects and should these objects be found all work will cease in the vicinity of the finds until an assessment of significance can be made in consultation with the registered Aboriginal parties for the project.

3.2.2 Assessment of archaeological potential

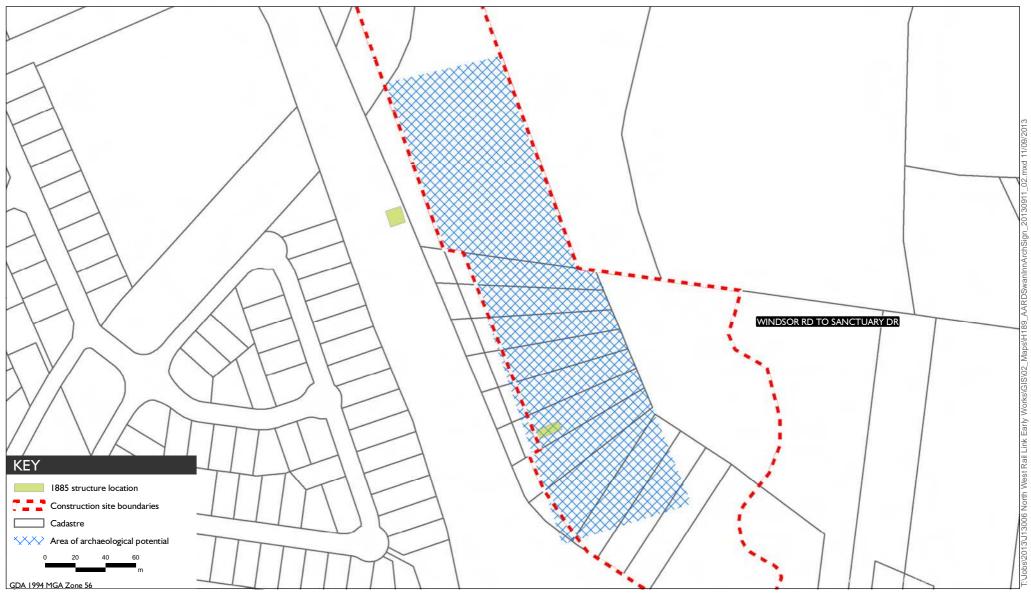
This assessment of archaeological potential has been informed by the evaluation section (Section 3.1), which reviewed historical evidence to arrive at the conclusions. The "best-fit" location of relics is presented in Figure 3.8, which is based on the most accurate information available from the research. There is likely to be some margin of error in the maps and plans in relation to the real location of archaeological deposits. This can be attributed to inaccuracies in historic plans and the difficulties of georeferencing the various historical data sources. This assessment has used the most reliable sources available to identify areas of archaeological potential.

The study area has previously been assessed to have low to medium archaeological potential (GML 2012a p.73). However, the assessment was based on preliminary historical information and only considered the Swan Inn. The GML assessment suggested that part of the site along Windsor Road was likely to have been impacted by the construction of the North West T-Way and that there was some potential for the remains of outbuildings and services to remain (GML 2012a p.40).

The current study has identified additional potential archaeological resources while also discounting some resources suggested by the GML report.

i Early grants

There is no historical evidence of structures or other archaeological deposits within the study area from its use as the Government Grounds or from the early land grants in 1810 until the 1830s. The subsequent use of the site for cropping, farming and commercial tile production make the likelihood of felling, crop growing, structures or other evidence from this early period remaining are extremely low.





Potential remains of archaeological significance

 $North\ West\ Rail\ Link\ Early\ Works$ Archaeological Assessment and Research Design - Old\ Windsor\ Road\ to\ White\ Hart\ Drive Figure 3.7

ii The inn site

An inn building was located within the study area from at least 1833 (Larmer 1833: Figure 3.1; Dixon 1837: Figure 2.7). Based on the historical research the conclusion is drawn that the Swan Inn and the White Hart Inn are likely to be the same building with different names. The publican's records list a White Hart Inn along the Windsor Road between the 1830s and 1850s. No record of the Swan Inn is present in either the publican's records or the Post Office directories; however it is listed on Robert Dixon's map of the area in the 1830s.

The information gathered for this assessment supports the potential presence of archaeological remains of an inn within the study area (Figure 3.8). This portion of the study area has been subject to minimal disturbance and the area remains a grassed paddock with some disturbance evident in the building of a house and the construction of the North West T-Way. This disturbance on the site has possibly affected the front and potentially southern wall of the inn building remains. The topography of the site is likely to have also influenced the site of the inn. The northern portion of the study area is in a floodplain however towards the centre of the study area slightly higher ground is evident. It is possible that the original inn builders may have chosen this area to build to ensure against inundation. Additionally it is possible that structures or relics associated with the inn are located outside the study area for this assessment.

A review of comparative studies in the local area has indicated that the inn and possible outbuildings may have shared common features with inns built in the colony during the same period. It is likely that the inn structure was Georgian in style, possibly vernacular but symmetrical and rectangular, built of sandstone, brick or timber materials. There is the possibility that later additions to the building occurred including the addition of rooms and a second storey. It is likely that numerous outbuildings would have existed at the site. Stables, stockyards, detached kitchens, outdoor privies, cisterns, wells, and even a blacksmith shop are possible.

It is considered that the archaeological potential for inn building and associated structures is high, with some disturbance of the site possible directly adjacent to the North West T-Way.

In summary, the assessment concluded that the following may exist below the ground surface:

- an inn demonstrated by remnants of sandstone or brick foundations, stone flagging, posts holes, framework, subfloor deposits and earthen floor;
- brick as remnants of a fireplace,
- postholes for shed structures including horse stables, killing sheds and stock yards;
- structural materials, including nails and wire;
- cesspits/wells/cisterns;
- dairy;
- rubbish pits and bottle dumps;
- pads for outbuildings such as toilets or laundries;
- remnants of fencing including fence post holes and wire; and
- remnants of a kitchen and/or other garden.

iii Stranger house

Remnants of the house used by the Stranger family may be present in the southern portion of the study area. The most likely location for this is shown in Figure 3.8. The Stranger family lived in the area and would have constructed a number of buildings on their land including a house, outbuildings, sheds and orchards.

It is possible that remnants of these cottages and houses such as walls and subfloor deposits may exist. Houses during this period were built with tongue and groove floorboards, reducing the amount of subfloor deposit that would normally accumulate under other types of floorboards. However, this house was built in a rural setting remote from the city and may have been built using earlier techniques. Therefore, underfloor deposits may exist and if it is found that the house was built prior to the 1870s, there may be the potential for earlier structural evidence such as an earthen floor and slab construction.

A review of comparative studies in the local area has indicated that the cottage and possible outbuildings may share common features with the nearby Kentwell Cottage (see Section 3.6.1).

In summary, the assessment concludes that the following may exist below the ground surface:

- a house demonstrated by remnants of wooden slabs, posts, framework, subfloor deposits and earthen floor;
- bricks as remnants of a fireplace;
- postholes for shed structure;
- structural materials, including nails and wire;
- cesspits/wells/cisterns;
- dairy;
- rubbish pits;
- cement pads for outbuildings such as toilets or laundries; and
- remnants of fencing including fence post holes and wire.

3.3 Heritage significance

The following section presents the statement of significance for the potential archaeological resources at the study area. The statement of significance is based on the guideline *Assessing Heritage Significance* (Heritage Office 2001). No previous statement of heritage significance has been completed for these potential archaeological remains. Analysis in Section 2 and 3 of this report presented a range of evidence regarding the potential archaeological remains which has been used in the assessment of significance.

The concept of cultural significance is defined as "aesthetic, historic, scientific, social or spiritual value for past, present or future generations" (*Burra Charter* 1999: Article 1.2). It identifies that conservation of an item of cultural significance should be guided by the item's level of significance.

Table 3.1 provides a summary of the assessment criteria and their application to the potential archaeological remains. Section 3.4 provides a full statement of significance.

Table 3.1 Statement of significance summary

NSW Heritage criteria (NSW Heritage Act 1977)

Criterion (a) an item is important in the course, or pattern, of NSW's cultural or natural history (or the local area);

The potential archaeological remains at Old Windsor Road to White Hart Drive

White Hart Inn

The potential archaeological resource is historically associated with inns and inn keeping during the early nineteenth century. Inns were an important element of travel and expansion of the colony, serving as rest stops for travellers and their animals and forming a central part of community life. It represents the historical period of coaching and is an early licensed premise in the colony dating to 1830. Information about the inn is well documented and the site has a long occupation history with multiple publicans. The presence of a woman publican at the White Hart Inn can contribute to the understanding of women's experience as publicans during the eighteenth century.

Additionally, the inn is located on the original alignment of one of the oldest roads in the colony and may be able to provide historical information regarding life in along the road. Information from the White Hart Inn can contribute to the knowledge of this important transport link and, in general, the expanding colony and growing settlement. The development of the site as an inn from the 1830s to the 1850s represents the changing nature of inns in response to changes in modes of travel and transport in the nineteenth century.

Archaeological evidence of the 1830s inn demonstrating the historical development of the growth of the colony would be of *state* significance.

Nineteenth century structures and orchards

The potential archaeological resources is historically associated with the late eighteenth and early twentieth century use of the local area particularly orcharding and farming. The agricultural use of the site demonstrates the importance of the region in producing food for the region and was one of many such orchards, none of which survive commercially in the local area.

Evidence of the Stanger family's use of the study area and orcharding would be of *local* historical significance.

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 local area);

White Hart Inn

The White Hart Inn is linked to key people of interest in the local community including the Cox family, Sarah Tighe, and Hugh Kelly. The Cox family were magistrates and farmers respected in the local community, Sarah Tighe was a publican in her own right as well as being married to John Booth, the publican at the Royal Oak Inn (now Mean Fiddler) in the local area. Hugh Kelly owned his own inn on Windsor Road as well as being a farmer and large landholder in the Kellyville area. It is believed that Kellyville was named after Hugh Kelly.

The archaeological remains of the area are unlikely to add to our knowledge of Hugh Kelly who only briefly owned the site in the 1820s.

Archaeological evidence associated with the Cox family and Sarah Tighe, would provide further information of their lives and contribute to an understanding of this locally significant people.

Evidence that demonstrates the lives of the publicans who ran the inn is likely to be of *local associative* significance.

 Table 3.1
 Statement of significance summary

NSW Heritage criteria (NSW Heritage Act 1977)	The potential archaeological remains at Old Windsor Road to White Hart Drive
	Nineteenth century structures and orchards
	The Stranger family were people of interest key to the local orcharding industry. Elihu Stranger was noted as a successful orchardist, keen plough man and stalwart of the district. His sons John and George were also well known in the district providing reviews of the growing conditions each season and providing information on new pest control techniques. They are likely to have built a farm house and associated buildings in the study area.
	Archaeological evidence associated with the Stranger family would provide further information of their lives and contribute to an understanding of this locally significant family.
	Evidence of the Stanger family's use of the study area would be of <i>local</i> associative significance.
Criterion (c) an item is important in demonstrating	White Hart Inn
aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area);	The research conducted to date has not indicated that the potential archaeological resource fulfils this criterion.
	Nineteenth century structures and orchards
	The research conducted to date has not indicated that the potential archaeological resource fulfils this criterion. The expected archaeological resource may include remains of a cottage that is unlikely to be aesthetically significant. However, if evidence survives that demonstrates rudimentary building techniques such as slab construction, these technical aspects of the resource would be of local significance.
	Archaeological evidence of the cottage would be of <i>local</i> significance.
Criterion (d) an item has strong or special	White Hart Inn
association with a particular community or cultural group in NSW for social, cultural or spiritual reasons (or the local area);	The research conducted to date has not indicated that the potential archaeological remains fulfils this criterion.
	Nineteenth century structures and orchards
	The research conducted to date has not indicated that the potential archaeological remains fulfil this criterion.
Criterion (e) an item has potential to yield	White Hart Inn
information that will contribute to an understanding of NSW's cultural or natural history (or the local area);	The subject site is likely to include archaeological resources relating to an inn built in the 1830s and in use until the 1880s as both an inn and possibly a family home. The site has the potential to yield information that would contribute to an understanding of the materials and techniques used to build early colonial inns as well as how structures may have changed their use throughout time. This valuable information is not readily available from other sources as inns of a similar period and use have been subject to modern redevelopments.
	Information gained from the archaeological excavation of the inn complex (to the extent of the study area) is likely to contribute to our understanding of the service that it provided to travellers along the road out of a newly established town in the colony (Sydney) and into the other important settlement at Windsor. Information from

Table 3.1 Statement of significance summary

NSW Heritage criteria (NSW Heritage Act 1977)

The potential archaeological remains at Old Windsor Road to White Hart Drive

archaeological excavation may be able to contribute to an understanding of the social landscape between Sydney and Windsor and further to the Blue Mountains.

Sub floor deposits, wells, cisterns, cesspits and rubbish dumps may yield information on the habits of the patrons and publicans at the site including the roles of women publicans and the changes to public houses during the eighteenth century.

The study area has not undergone extensive modification or development, which is a positive factor for the preservation of the archaeological resources that are expected. As a result, the research potential for spatial analysis of an archaeologically intact inn complex is considered to be exceptionally high. The boundary of any potential archaeological excavation however, is confined by the project boundary, but hypotheses and future questions can be posed through the current archaeological program.

Other questions that have the potential to be addressed by an archaeological excavation of the inn site include those relating to the changing state of the road and its impact on travel from Sydney to the important food producing areas of Windsor and Pitt Town

Evidence from the excavation could be used to compare similar archaeological sites in the local area as well as the inn complexes that remain standing both on Old Windsor and Windsor Roads and in the wider state of NSW.

The research potential of relics associated with the inn complex are likely to be of *state and local* significance.

Nineteenth century structures and orchards

The subject site is likely to contain archaeological resources relating to a vernacular cottage. The site has the potential to yield new information that would contribute to an understanding of land use and possible some insights into the construction techniques and materials used to build the cottage. Information gained from an archaeological excavation of this phase of the site could be used to compare similar archaeological sites in the local area, particularly where related to the once extensive orcharding industry and to contribute to our understanding of a former industry that was important to the growing colony

In addition archaeological evidence relating to the life of the Stranger family that lived there may shed light on their way of life, their economic situation as well as answer questions related to farming in what had been recognised as an important food-producing area on the outskirts of Sydney.

The research potential of relics associated with the Stranger family are likely to be of *local* significance.

Criterion (f) an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the local area); and White Hart Inn

Inn sites have not been extensively studied from an archaeological perspective and there is little known about colonial inns along the Windsor Road. Analysis of some comparable examples are provided in Section 3.1.11.ii of this report but archaeological sites along the alignment of one of the oldest roads in the colony are becoming rarer with the growth in housing and transport needs. While the colony would have been serviced by many inns, those established around

Table 3.1 Statement of significance summary

NSW Heritage criteria (NSW Heritage Act 1977)

The potential archaeological remains at Old Windsor Road to White Hart Drive

the nascent town of Sydney, would have been established early and demolished quickly to make way for the growing city. This is particularly salient on the Old Windsor Road, which connected three of the earliest towns in the colony – Sydney, Parramatta and Windsor. Some inns remain standing but have been subject to continual redevelopment which is likely to have removed archaeological evidence of their early uses. The White Hart Inn has high potential to be an intact archaeological site which has remained undeveloped since the nineteenth century and is rare within NSW. Additionally the potential archaeological remains of may provide rare information on domestic and commercial activity on the site.

Archaeological resources associated with the White Hart Inn are rare at a *state* level.

Nineteenth century structures and orchards

Archaeologically, there is little known about structures and the domestic life of the orcharding industry. The nearby investigation of Kentwell Cottage is the only of its type into housing of this period. Even so, the study was of a standing house and not the archaeological remains. The cottage remnants may provide insight into the important but deleted history of the area.

Relics associated with the Stranger family are rare at a local 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 the local area). White Hart Inn

The potential archaeological remains of the site are likely to be a good representation of the techniques used to construct inn buildings in the 1830s as well as provide information on how these buildings may have changed throughout their use life.

The White Hart Inn would also have been a representative example of rest stops along major arterial roads in the colonial period.

Archaeological resources associated with the White Hart Inn are likely to be representative of early inns in the colony of NSW at a *state* significance.

Nineteenth century structures and orchards

The potential archaeological remains of the cottage are likely to be a good example of a successful orcharding and farming family and their life. The potential archaeological resources are associated with the Stranger family who owned the southern portion of the study area.

Relics associated with the Stranger family are likely to be of *local* representative significance.

3.4 Statement of significance for the potential archaeological remains

The potential archaeological remains of the White Hart Inn are considered to be of State and local heritage significance as an important and rare source of information on early public houses, publicans and travel during the nineteenth century, and in particular, the early nineteenth century prior to train travel. Thus the potential archaeological resources of the White Hart Inn are "relics" as defined by the *Heritage Act 1977*.

Archaeological relics associated with the White Hart Inn would be significant for their ability to demonstrate the historical development of the expanding colony, particularly during the period between the 1830 to the 1850s and up to the 1880s. This historical period encompasses early expansion and settlement, a change in transport technology, the use of convict labour on civic projects and the opportunity for free enterprise in a burgeoning new society. This period encompasses the economic depression of the 1840 as well as the growing economy and evidence of the colony's success with agricultural pursuits.

The site represents an early colonial inn of the period 1830s – 1850s on the road between Parramatta and Windsor; one of the most important roads in the early colony and represents the speed of exploration and expansion of the colony of New South Wales. Until its demolition, the inn would have stood as a representation of the rapid change in transportation technology that reduced travel times from the east to the Hawkesbury and Blue Mountains considerably.

If archaeological resources of the inn survive they have the potential to contribute to our understanding of colonial inns, their functions, fabric and construction specific to this structure.

Information about the domestic and commercial uses of the site as well as the patrons and publicans who inhabited the site is also likely to be present in the archaeological record and would be of local significance.

The potential archaeological resource may also yield information on the changes in use of the building during this period including additions and changes to the inn design and the complex as well as its use when inn operations ceased. The archaeological resources of the inn are rare as many inns of a similar time period have been redeveloped. The site of the White Hart Inn has remained undeveloped and has the potential to contribute valuable comparative information on inns and inn keeping in NSW.

Relics associated with the Stranger family cottage and associated outbuildings are considered to be of local heritage significance. The cottage was the residence of the well known Stranger family for multiple generations. If archaeological resources of the cottage survive, they have the potential to contribute to our understanding of a well-known orchardist's domestic life, at a local level, during the late nineteenth and early twentieth century.

4 Impact assessment

4.1 Impacts from the proposed development

Disturbance in the Old Windsor Road to White Hart Drive construction area will include the excavations required to place the elevated twin track viaduct pillars and road works including major changes to the North West T-Way and the provision of access roads. Impacts to areas of archaeological potential are expected due to the excavation and road works required.

The potential archaeological remains will be impacted by:

- the removal of soil to create the viaduct;
- the levelling of areas surrounding the viaduct to create access tracks;
- the changes to the North West T-Way;
- excavation for services including water, sewer and electricity; and
- the establishment of materials handling and storage areas.

Figure 4.1 shows the development plan for the Old Windsor Road to White Hart Drive study area. It is noted that the current development plan may be revised during construction and installation of the viaduct. However, this is not expected to change the comprehensive impacts to the potential archaeological remains.





Old Windsor Road to White Hart Drive development

5 Conclusions and recommendations

5.1 Conclusions

The Old Windsor Road to White Hart study area has been characterised by its location close to Old Windsor and Windsor Roads making it a likely stopping place and inn site as well as the orcharding and farming the Kellyville and Hills areas are well known for. The study area remained undeveloped in the early colonial period until the White Hart (or Swan Inn) was built there in the 1830s. The study area has also been the site of cottages and farm buildings associated with orchardists prominent in the local area such as the Stranger family.

Research on the nature of structures and potential archaeological sites which may be present in the study area has been hampered by a lack of primary and contradictory information, particularly concerning the location of the White Hart Inn and the connection of the Swan and White Hart Inns.

The southern portion of the study area has been disturbed by the construction of a commercial tile manufacturer; however the northern portion of the study area has remained a cleared and grassy paddock throughout the 1940s to the present day.

The study area has the potential to contain evidence of the former uses of the site in the form of an inn building and associated structures such as stables, cesspits and wells, as well as a cottage used by a farming family prominent in the local area. The inn site has the potential to yield information relating to early colonial inn keeping including information about the commercial and domestic uses of the site as well as information about building techniques and changes to the inn building through time. Archaeological remains of the cottage have the potential to yield information on the lives of farmers and fruit growers supplying the market in Sydney but located beyond what was then the outskirts of the town, particularly the well know Stranger family. This aspect of the archaeology of the local area is not well documented.

This archaeological evidence will be totally removed as a result of the NWRL construction.

5.2 Recommendations

Research undertaken for this report indicates that the potential for relics exists within the identified study area and that these resources may be able to answer questions relating to commercial inn keeping activities, orcharding and farming and about representative families who undertook those activities. The recommendations relating to the archaeological resource are to:

- conduct an archaeological test excavation on targeted areas of the site to test the conclusions of this report. The targeted archaeological test excavations to determine the extent of significant archaeological resource. This archaeological excavation program is provided in Appendix A;
- prepare a Research Design to guide the archaeological test excavation and frame the approach. This Research Design is provided in Appendix A; and
- ensure that if during the course of excavation Aboriginal cultural material is found, work must cease and the indigenous heritage consultant be alerted as per the unexpected finds protocol as part of the Construction Heritage Management Plan.

Glossary of Terms

Many of these definitions use throughout this report have been taken from the *Archaeological Assessments Guidelines* (Heritage Branch 1996).

Archaeological Potential: a sites potential to contain archaeological relics as defined in the Heritage Act 1977. The degree of physical evidence present on an archaeological site usually assessed on the basis of physical evaluation and historical research. It refers to the surviving condition of archaeological sites). Common terms for describing archaeological potential are:

- known archaeological features/sites (high archaeological potential);
- potential archaeological features/sites (medium archaeological potential); and
- no archaeological features/sites (low archaeological potential).

Archaeological Site: a place that contains evidence of past human activity. Below ground archaeological sites may include building foundations, occupation deposits, features, artefacts and relics. Above ground archaeological sites may include buildings, works, or industrial structures that are intact or ruined.

Archaeology: the study of the human past using material evidence.

Archaeological investigation or excavation: the manual excavation of an archaeological site.

Artefact: an object produced by human activity. In historical archaeology the term usually refers to small objects contained within occupation deposits. The term may also encompass food or plant remains and ecological features (for example, pollen).

Conservation: all of the processes of looking after a place so as to retain its cultural significance.

Building: a part of a building, structure or part of a structure.

Heritage: encompasses both Aboriginal and historic heritage including sites that predate European settlement and a shared history since European settlement such as the shared associations in pastoral landscapes as well as associated link with the mission period.

Heritage Item: an item defined under the *Heritage Act* 1977 and assessed as being of local, State and/or National heritage significance

Heritage Significance: a term used to encompass all aspects of significance (see Cultural Significance). Defined in the *Heritage Act* 1977 (Section 4A) as being of State or Local significance in relation to historical, scientific, cultural, social, archaeological, natural or aesthetic value of the item.

Historical Archaeology: in NSW historical archaeology is the study of the physical remains of the past, in association with historical documentation, since European occupation of NSW in 1788.

Item: a place, building, work, relic, moveable object or precinct.

Listing: an item is placed on a statutory heritage list.

Local Significance: in relation to a place, building, work, relic, moveable object or precinct, means significance to an area in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item.

Place: site, area, land, landscape, building or other work group of buildings or other works and may include components, contents, spaces and views.

Potential Archaeological Site: a place which may contain physical evidence of past human activity (see Archaeological Site).

Relic: any deposit 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.

Research Design: a set of questions, which can be investigated using archaeological evidence and a methodology for addressing them. A research design is intended to ensure that archaeological investigations focus on genuine research needs. It is an important tool which ensures that when archaeological resources are destroyed by excavation, their information content can be preserved and can contribute to current and relevant knowledge.

Research Potential: the ability of a site or feature to yield information through archaeological investigation. The significance of archaeological sites is assessed according to their ability to contribute information to research questions.

State Significance: in relation to a place, building, work, relic, moveable object or precinct, means significance to the State in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item. An item can be both of State heritage significance and local heritage significance. An item that is of local heritage significance may or may not be of State heritage significance.

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Abbreviations

Abbreviation	Term
£	Pounds
\$	dollars
AHD	Australian Height Datum
AHIMS	Aboriginal heritage information management system
BOM	Bureau of Meteorology
ВН	borehole
С	circa
cm	centimetres
DP	Deposited Plan
DP&I	Department of Planning and Infrastructure
EMM	EMGA Mitchell McLennan Pty Limited
EP&A Act	Environmental Planning and Assessment Act 1979
GML	Gooden Mackay Logan
km	kilometres
LEP	Local Environmental Plan
LGA	Local Government Area
m	metres
m ²	metres squared
MCoA	Ministers Conditions of Approval
mm	millimetres
NSW	New South Wales
NWRL	North West Rail Link
OEH	Office of Environment and Heritage
PAD	Potential archaeological deposit
RMS	Roads and Maritime Services
SHR	State Heritage Register
t	Tonne
TfNSW	Transport for NSW
TP	Test pit

Appendix A

Research design



A.1 Introduction

A.1.1 Background

EMGA Mitchell McLennan Pty Ltd (EMM) has been commissioned by Baulderstone Pty Ltd (BPL) to undertake an archaeological program at the Old Windsor Road to White Hart Drive construction study area. This report details the research design for the archaeological program.

The requirements for the archaeological program come from the Ministers Conditions of Approval E10. Condition E10 states that:

E10. Prior to the commencement of pre-construction and/or construction activities that will impact the historical archaeological sites identified in Table 4.2 of the North West Rail Link EIS: Technical Paper 3 – European Heritage, dated March 2012, the Proponent shall undertake an archaeological excavation program in accordance with the Heritage Council of NSW Archaeological Assessments Guideline (1996) using a methodology prepared in consultation with the Heritage Council of NSW, and to the satisfaction of the Director General. This work shall be undertaken by an appropriately qualified heritage consultant.

Additionally TfNSW has requested that the archaeological investigations for these sites are completed in the earliest possible timeframe to facilitate a smooth transition between the various stages of the project.

Heritage constraints were initially indentified in the preliminary phase of the project, specifically the Windsor Road and Old Windsor Road Heritage Precincts and a potential archaeological site located on Mackenzies 1885 plan of Windsor Road (GML 2012a p.39). The rest of the area was identified as cleared paddocks and orchards.

Research on the nature of structures and potential archaeological sites which may be present in the study area has been hampered by a lack of primary information as well as contradictory information. Historical records for the site are incomplete and some information from secondary sources has not been able to be verified by primary information.

The southern portion of the study area has been disturbed but the construction of commercial buildings and material stockpiles. The northern portion of the study area has remained cleared paddocks.

The historical and archaeological research has concluded that the study area contains the potential remains of two locally significant archaeological sites; the White Hart/Swan Inn and associated outbuildings and the cottage and associated buildings of the Stranger family. The archaeological resource has the potential to yield information relating to innkeeping in the nineteenth century including the structure of inn buildings and associated sites and the practice of innkeeping. Additionally the lives of farmers and fruit growers supplying the market in Sydney but located beyond what was then the outskirts of the town, is not well understood. Additionally the Stranger family were well known in the local area and this is an opportunity to investigate what survives archaeologically of their lives.

This archaeological evidence will be totally removed as a result of the NWRL construction.

The recommendations relating to the archaeological resource are to:

 conduct an archaeological test excavation on targeted areas of the site to test the conclusions of this report. The targeted archaeological test excavations to determine the extent of significant archaeological resource. This is the archaeological excavation program;

- prepare a Research Design to guide the archaeological test excavation and frame the approach. This is the Research Design; and
- ensure that if during the course of excavation Aboriginal cultural material is found, work must cease and the indigenous heritage consultant be alerted as per the unexpected finds protocol as part of the Construction Heritage Management Plan.

A.1.2 Site location

Early Work is proposed for the Old Windsor Road to White Hart Drive construction area. The proposed site is approximately 500 m along Windsor Road from the junction of Windsor and Old Windsor Roads to the junction of Windsor Road and White Hart Drive (Figure 1.1 of the archaeological assessment report).

The affected lots are shown in Table A.1, with the lots that have been identified as possessing archaeological potential being marked with an asterisk. The construction area boundary for Old Windsor Road to White Hart Drive is shown in Figure 1.1.

Table A.1 Affected lots

Lot//DP	Lot//DP	
312//1107129	2//1031575	
1//1129940	3//1129940*	
2//1043755*	1//1129940*	
16//1043755*	2//1043755*	
4//1031575*	5//1031575*	
6//1031575*	7//1031575*	
8//1031575*	9//1031575*	
26//1031575*	27//1031575*	
28//1031575*	29//1031575*	
30//1031575*	31//1031575*	
18//1031575*	19//1031575*	
20//1031575*	21//1031575v	
22//1031575*	23//1031575*	
1//1067179*	2//1067179*	
3//1067179*	4//1067179*	
12//1031575	29//13822	
28//13822	27//13822	
2//833071	25//13822	
24//13822	23//13822	
22//13822	201//802002	
19//13822		

A.1.3 Limitations

This report deals specifically with items of historical archaeological significance within the study area. Issues related to heritage items outside the scope of the NWRL Project are not covered in this report. A detailed assessment of Aboriginal heritage for the study area is separate to this report.

A.1.4 Author identification

This report has been prepared by Rebecca Newell BA Hons (Archaeology) and Ryan Desic BA Hons (Archaeology). The report was reviewed by Pamela Kottaras BA Hons (Archaeology) – Associate Archaeologist and David Kelly BTP (Hons) – Senior Environmental Planner EMM.

A.2 Development proposal

A.2.1 Project description

The North West Rail Link is a priority transport infrastructure project for NSW and will provide a new 23 km electrified passenger rail line between Epping and Rouse Hill. The Project includes eight new stations (Cherrybrook, Castle Hill, Showground (referred to in some documents as Hills Centre), Norwest, Bella Vista, Kellyville, Rouse Hill and Cudgegong Road), a stabling facility and associated infrastructure (of the archaeological assessment report). The Early Works include site establishment prior to the commencement of the Major Works and can be grouped into the following categories:

- tunnelling construction power high voltage power supplies for construction;
- demolition demolition of a mixture of residential and commercial properties and/or facilities;
- roads and traffic road adjustments, signalling, and existing transport network facilities relocation; and
- precinct preparation utilities, services relocations and miscellaneous works.

Transport for NSW (TfNSW, the NSW Department of Transport) has commissioned BPL as the managing contractor for the 'Early Works' to allow construction site establishment prior to commencement of the major works for the NWRL. Works at the Old Windsor Road to White Hart Drive study area are expected to result in removal of a large amount of soil, which will result in removal of all potential archaeological evidence in the study area.

The works program specific to the Old Windsor Road to White Hart Drive construction area includes the construction of elevated twin track viaduct structure. Internal access roads will be constructed along the viaduct corridor. Road works for the project will involve major changes to the North West Trainsitway and the establishment of materials handling, storage and workforce amenity areas.

A.2.2 Impacts from the proposed development

Disturbance in the Old Windsor Road to White Hart Drive construction area will include the excavations required to place the elevated twin track viaduct pillars and road works including major changes to the North West T-Way and the provision of access roads. Impacts to areas of archaeological potential are expected due to the excavation and road works required.

The potential archaeological remains will be impacted by:

- the removal of soil to create the viaduct;
- the levelling of areas surrounding the viaduct to create access trackes;
- the changes to the North West T-Way;

- excavation for services including water, sewer and electricity; and
- the establishment of materials handling and storage areas.

Figure 4.1 of the archaeological assessment report shows the development plan for the Old Windsor Road to White Hart Drive study area. It is noted that the current development plan may be revised during construction and installation of the viaduct. However, this is not expected to change the comprehensive impacts to the potential archaeological remains.

A.3 Proposed research design and archaeological program

A.3.1 Research design

A research design is a set of research questions developed for a specific site, which contributes to current and relevant knowledge. The questions posed must be responsive to the nature of the archaeological evidence that is likely to be encountered. In addition, the how and where of the excavation is described in this document.

The archaeological assessment for Old Windsor Road to White Hart Drive by EMM (2013) assessed the site as having moderate potential for the remains of an inn building built during the 1820s, associated structures and potentially farm buildings and houses built prior to the 1940s. The significance of the potential archaeological remains of the inn buildings and associated features has been assessed to be of *local* significance. The significance of the potential archaeological remains of the house and farm structures has been assessed to be of *local* significance.

This research design proposes a program of archaeological testing to record the nature and extent of the archaeological resource present at the site. The archaeological program will aim to clarify the archaeological potential of the site by verifying the presence or absence of the remains of a weatherboard house, shed structure and cesspit as well as other possible associated features. This research design also includes a provision for salvage excavation for particular areas of significance.

A.3.2 Research questions

The archaeological remains of interest are those associated with the occupation of the site in the nineteenth and early twentieth century. There are potential archaeological remains of interest related to two separate events at the site: the early nineteenth century White Hart/Swan Inn and the Stranger family house and farm.

The White Hart Inn is within the context of the travels between Sydney and Parramatta to Windsor. It is located close to a major transport route, Windsor and Old Windsor Roads which served as the main route to Windsor from Sydney and Parramatta. Remnants of the inn building, associated structures and deposits have the potential to exist as subsurface relics.

The Stranger family house and farm is within the context of a rural landscape characterised by orchards and farming. There is potential for archaeological remains relating to vernacular structures and occupation deposits to exist within the study area.

From investigations into the disturbance at the site it can be discerned that there has been limited post-depositional development and land use which would remove the site's archaeology. It is possible that the construction of the commercial facilities in the south of the site may have affected the intactness of the potential archaeological resource but it is unlikely to have removed the archaeology completely.

Research questions for the White Hart Inn site have been guided by comparative studies of nineteenth century inns in NSW including the Mean Fiddler (formerly the Royal Oak Inn) located 2 km north of the study area. The report has considered the structural components and physical layout of inn buildings from the nineteenth century as well as their associated outbuildings, sheds and other components in the formulation of site specific research questions.

Research questions for the Stranger family farm have been guided by the comparative study of farm houses and cottages in the Kellyville and Castle Hill areas, particularly Kentwell Cottage. This report has considered the physical and structural layout of the comparative farm buildings and cottages in the formulation of site specific research questions.

Research questions have been guided by historic themes relevant to the site which have been taken for the NSW Heritage Branch website (www.environment.nsw.gov.au/heritage/index.htm). These have been used to ensure that the site may be a comparable resource for previous and future archaeological investigations in NSW and nationally.

The national historic themes relating to the study area are:

- working;
- developing Australia's cultural life; and
- developing local, regional and national economies.

The NSW historic state themes relating to the study area are:

- accommodation;
- commerce;
- leisure;
- transport;
- domestic life;
- land tenure;
- environment cultural landscape;
- persons; and
- agriculture.

i General research questions

Does the archaeological resource verify the assessed potential and significance of the site?

That is:

- i) What is the condition and extent of the surviving archaeological evidence?
- ii) What is the nature of extant archaeological features?

iii) Do the deposits and features contribute new information about the occupation and development of the site?

General questions concerning the settlement of rural north-western Sydney, agricultural economies and the cultural life surrounding these events in the late nineteenth and early twentieth century are also appropriate for comparative purposes.

It should be noted that the archaeological program may uncover a range of information not expected and the research questions are likely to evolve depending upon the type of evidence and artefacts found at the site.

ii Site specific research questions

White Hart Inn

- iv) If physical evidence of the Inn structure or associated outbuildings survive, can the data assist with understanding the spatial organisation of the inn and its associated features? (those that occur within the study area)
- v) Do any structural remains or deposits at the site provide information on the commercial use of the site as an inn building including goods and services offered and the social standing of the inn keepers and patrons? If so, can this information be tied to any particular period or publican?
- vi) Can the structural remains and spatial arrangement of the site provide an insight into the design of the building? If so, is it comparable to other archaeological sites, or existing structures on a local, state or national level?
- vii) Does the archaeological evidence show changes to the inn building over time including evidence of rebuilding or extensions or changes to the use of the site? If so does this use coincide with changes in occupancy as shown in the historic record?
- viii) What does the material cultural assemblage reveal about the publicans and patrons at the site when compared with the assemblages from other sites?
- ix) What do the outbuildings and associated outbuildings tell us about the wider use of the site as a thoroughfare and meeting place for the local community?

Nineteenth century structures and orchards

- x) If physical evidence of the cottage structure or associated outbuildings survive, can the data assist with understanding the spatial organisation of the house and its associated features?
- xi) Do any structural remains or material culture deposits at the site tell us about the social status and standard of living of those who occupied the site? If, so can this information be tied to a particular family, namely the Stranger Family?
- xii) Do the structural remains indicate a specific design or style of vernacular architecture? If so, are they comparable to other archaeological sites, or existing structures on a local, state or national level?
- xiii) Do the structural remains indicate additions or alterations over time, and does this coincide with changes in occupancy as shown in the historic record?

- xiv) Is there evidence of domestic occupation at the site? If so, does the material culture assemblage change through time and with phases of occupation? Is there any historical evidence linking these changes to certain people, occupational phases, or other events?
- xv) Is there any evidence of agricultural produce at the site, especially fruit growing? If so what form does it take and how does the information contribute to our knowledge of the agricultural practices in the area?
- xvi) Does any domestic material deposit provide a link to the local orcharding industry? If so, what can it tell us about people's domestic lives in relation to their work?
- xvii) What does the material cultural assemblage reveal about the owners and occupants of the house, when compared with assemblages from other sites?

A.4 Methodology

An excavation strategy has been prepared which represents the most appropriate archaeological methodology for the archaeological program. This strategy responds to the requirements above, the development plans and the local heritage significance of the site.

As detailed above it has been difficult to ascertain the exact location of the White Hart/Swan Inn and the Stranger family house due to the lack of maps and plans showing the location of the site. A re-calculation of Mackenzie's plan (1885) was undertaken, which places a building, picked up by the surveyor, in the middle of the modern road. The methodology outlining the re-calculation is included as Appendix C of this document and includes an aerial photograph showing the location of the structure.

The building picked up by Mackenzie has been assumed to be the inn but it is not named in the field book. Consequently, archaeological test excavation is the only reliable method to quantify and characterise any potential subsurface deposit. This archaeological management strategy presented here is based on the findings of the archaeological assessment (EMM 2013) and geotechnical testing within the site.

The archaeological investigation of the site will involve the excavation of test trenches targeted at locating specific archaeological evidence, followed by the monitoring of areas within the site that are considered to be lower archaeological sensitivity. There is also a provision for the salvage excavation of areas that have the potential to contribute knowledge that no other site or resource can. The knowledge retrieved from salvage will aim to answer the general and specific research questions provided in the research design.

A.4.1 Archaeological testing

Excavation of test trenches will determine the nature and extent of archaeological features associated with previous structures and may determine the stratigraphy across the site. Areas with existing utility trenches and other previous development areas will be avoided where possible. Targeting predicted deposits with the least known post-disturbance will increase the likelihood of locating intact archaeological evidence. The test excavation will also aim to sample the widest cross-section of features and associated deposit as possible.

Archaeological testing will be designated to the areas where potential archaeological resources have been identified, generally in the southern portion of the study area. Testing is restricted to those areas to be impacted by the NWRL and will not be carried out in areas not impacted or owned by the NWRL. It is possible that relics or structures associated with the inn site may be located outside the area to be impacted by the NWRL. These sites will not be subject to testing and may require further assessment should other impacts be predicted in this area. Testing will target the White Hart/Swan Inn and the Stranger family house. Test trenches will be used and orientated to catch as much information as possible from limited trench dimensions. If testing confirms archaeological evidence, then it will be fully recorded and an assessment will be made on its heritage significance. The archaeological remains and its significance will determine if salvage excavation is warranted.

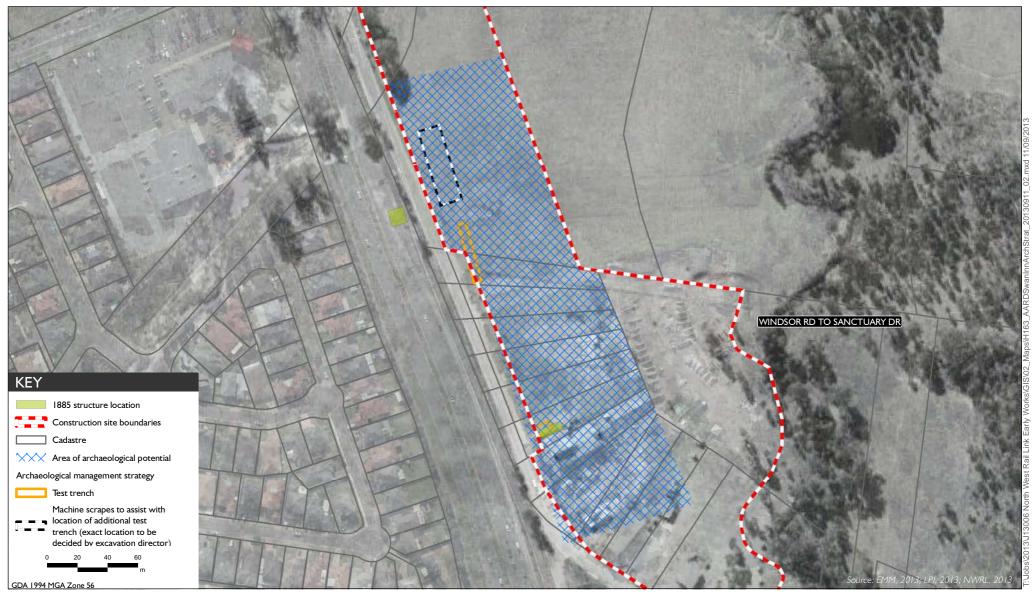
The proposed test pit layout is shown in Figure A.1. The archaeological testing program will be undertaken by:

- Targeting test trenches in order to investigate the archaeological evidence according to historical imagery and plans.
- Test trenching via machine-excavation to a depth the excavation director considers appropriate for finding relics, and also to determine culturally sterile layers.
- Excavating one 6 m by 4 m trench at the predicted location of the White Hart/Swan Inn. This will aim to identify any structural remains, including walls. The width of the trench also has the potential to include occupational deposits inside or outside any structure.
- Excavating one 6 m by 4 m trench at the predicted location of the Stranger family cottage. This will aim to identify any structural remains, including walls. The width of the trench also has the potential to include occupational deposits inside or outside any structure.
- Excavating one 20 m by 2 m trench adjacent to the location of the White Hart/Swan Inn. This will aim to identify associated deposits such as rubbish and bottle dumps and outbuildings.
- Monitoring the removal of any overburden, fill or other culturally non-significant layers until any significant archaeological evidence, occupational surface or structure is identified by a qualified archaeologist.
- Hand excavation by field archaeologists to fully expose or characterise the archaeological evidence.
 The decision to excavate stratigraphically or by feature will be determined in the field based on the archaeological evidence uncovered. For example, cesspits and wells would be excavated as features.
- Recording of remains and deposits according to the detailed recording methodology outlined below.
- Dealing with artefacts according to the artefact methodology outlined below.
- Implementing salvage excavation if sufficient evidence of the presence of archaeological deposits of local significance occur. If the deposits are of state heritage significance, the Heritage Branch will be contacted to review the excavation. Salvage excavation would preferably commence within a week of finishing the test excavation.

Salvage excavations will follow the salvage excavation methodology outlined in Section A.4.2.

Where appropriate, the archaeologist will sample any cultural and non-cultural deposits that may provide significant information regarding the pre and post European environment and occupation of the site. Soil samples will be analysed by a soil specialist.

In the event that evidence of Aboriginal cultural remains are found on site all works in the immediate vicinity of the area will cease and Baulderstone will be contacted. It is anticipated that the Aboriginal test excavations will run concurrently with the historic period test excavation to ensure that data for each report is not inadvertently destroyed. Appropriate measures provided in the NWRL Early Work Aboriginal Cultural Heritage Management Plan will be adhered to before works recommence.





Potential remains of significance and the appropriate archaeological management strategy

North West Rail Link Early Works

Archaeological Assessment and Research Design - Old Windsor Road to White Hart Drive

A.4.2 Salvage excavation methodology

Salvage excavation will be undertaken subsequent to test excavation if significant and intact archaeological resources warranting further excavation are found. Salvage excavation will largely be guided by the nature and extent of the archaeological resources uncovered from test excavation. The basic principles of open area salvage excavation that will be used on the site are:

- salvage excavation will aim to retrieve a level of information relative to the significance and intactness of the archaeological resources;
- salvage excavation will aim to answer research questions provided in the research design;
- salvage excavation will involve the expansion of test trenches to adequately characterise the archaeological evidence initially exposed; and
- a similar methodology to that outlined for the testing will be followed.

A.4.3 Recording methodology

All recording will be undertaken using the following principles:

- the establishment of an appropriate site grid;
- use of surveying techniques for location of remains;
- detailed archaeological scale plans;
- the use of context recording forms and context numbers to record all archaeological information;
- use of Harris matrix as part of the recording program;
- all structural remains, post holes and features will be planned using an established survey point;
- detailed photographic recording;
- collection, labelling, safe storage, washing, sorting and boxing of artefacts.

A.4.4 Artefact methodology

Any artefacts recovered from the site will be the subject of a detailed cataloguing and analysis program, including:

- all artefacts will be catalogued by specialist cataloguers using a system that identifies and allows easy retrieval of the item;
- the specialists' cataloguers will produce reports on the artefacts outlining issues of importance;
- important artefacts will be the subject of materials conservation which would include the gluing of pottery or the conservation of important metal or leather materials; and
- artefacts which are the subject of materials conservation may be used in artefact displays in interpretation of the stations.

The excavation report will contain an analysis of artefacts and their deposits and contexts; the analysis will be illustrated using tables in the final report.

A.4.5 Excavation report

A detailed excavation report will be produced describing the results of the archaeological program. The report will include the artefact analysis and response to research questions.

A.5 Public interpretation of the archaeological program

The information and artefacts from the excavation may be used in interpretation of the site and in displays as part of the new station complex.

The following are suggested ways in which information about the site can be disseminated to be public:

- public information leaflets;
- regular updates on the archaeological program on the NWRL webpage; and
- media releases.

A.6 Aboriginal archaeology

Aboriginal heritage constraints have been identified in the northern area of the site. An Aboriginal heritage excavation is planned for this area but is not the subject of this report.

Should Aboriginal heritage items be identified during historic heritage excavation, works work will cease in the vicinity of the finds until an assessment of significance can be made in consultation with the registered Aboriginal parties for the project.

A.7 Public interpretation in the completed Old Windsor Road to White Hart Drive area

Public interpretation of an item of state significance is an important way to communicate the archaeological and historical information of the historic site. There are a number of themes that the interpretation of the White Hart Inn can utilise. Archaeological resources can be linked to the theme of transport as it is located at the site of both road and rail transportation routes, following the earliest road from Parramatta into the wider areas of NSW as well as themes associated with leisure and women's roles in the eighteenth century.

Interpretation may occur at the site of the archaeological excavation or at an adjacent station complex such as the Rouse Hill or Kellyville stations. Examples of possible public interpretation at stations can be found at Chatswood and Parramatta stations.

Information can be communicated in a number of ways including:

- artefact displays
- information boards regarding the excavation and history of the site;
- archaeological drawings, plans and images;

- artistic interpretations of artefacts or excavation images;
- paving and other building techniques to evoke the form, style or location of archaeological remains; and
- guided tours to the site of archaeological excavations.

A detailed interpretation plan will be prepared based on the outcomes of the archaeological excavations and the design of the structures of the NWRL.

A.8 Personnel

Due to the state heritage significance of this item the nominated excavation director for this site is Jillian Comber. Jillian Comber has extensive experience on sites of state heritage significance and is a fully qualified excavation director. She will be supervising all work 100% of the time.

EMM has also elected to have an excavation co-director assisting the excavation director (Pamela Kottaras of EMM). The excavation co-director would be working closely with one of the primary excavation directors and will not be directing the archaeological excavation without one of the primary excavation directors on site. While it is not a common occurrence, we believe that it is the most practical arrangement to ensure that archaeological work is not held up, while remaining in compliance with the legislative framework underpinning the project. This archaeological site will be seen through to the reporting stage by the Excavation Director active on that site, in this case Jillian Comber.

The following staff will also assist as site supervisors:

- Ryan Desic; and
- Rebecca Newell.

As the major constraint is time, it is intended to have a team of 6 archaeologists on call to complete the test excavation. If relics are uncovered in the proposed test trenches, concurrent excavation may contract the amount of time required on site. The final decision however, rests with the excavation director.

We are intending to use a number of assistants and other staff where required. CV's and references for key personnel listed above are contained in Appendix B.

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J13006RP1 A.14

Appendix B

Curricula vitae







Pamela Kottaras

Associate Archaeologist

Pamela has over 13 years experience as a heritage consultant and leads EMM's heritage service.

Her strengths include project direction and management of complex historic period assessments and heritage impact statements and Aboriginal heritage assessments, site analysis, archival recording, heritage statutory planning and policy review, and major excavation and survey planning and supervision.

Pamela's exceptional communication and interpersonal skills are demonstrated by her strong working relationships with historic and Aboriginal heritage communities, government agencies and clients.

She has undertaken heritage assessments for multiple sectors including: energy, infrastructure and utility providers; and property and construction.

Qualifications and memberships

- Bachelor of Arts (Hons) Prehistoric and Historical Archaeology, University of Sydney, 1997
- Laboratory Technician Certificate, Sydney Technical Collage, 1987
- Australian Society for Historical Archaeology
- Australasian Archaeological Association
- Australia ICOMOS Inc

Career

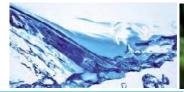
- EMGA Mitchell McLennan, 2013present
- Team Leader Cultural heritage, Biosis Pty Ltd, 2009– 2013
- Consultant, Austral Archaeology, 2004–2009
- Manager, Austral Archaeology, 20072009
- Heritage Consultant, City Plan Heritage, 2003–2004
- Research Assistant, Otto Cserhalmi & Partners Architects, 2001–2003
- Research assistant, Heritech Consulting, 19982001

Representative experience

- Windsor Bridge Replacement Project, historical heritage statement of heritage impacts, Sydney NSW for RMS (Biosis Pty Ltd with CRM)
- Grafton Bridge Duplication Project, non-Aboriginal heritage constraints reports and options report, Grafton NSW for Arup on behalf of RMS (Biosis Pty Ltd)
- Pipehead and Potts Hill Reservoirs 330 kV underground cable: statement of heritage impacts, Sydney NSW for Perram and Partners on behalf of Transgrid (Biosis Pty Ltd)
- Hume Highway Bypass at Tarcutta, archival record of Hambledon Homestead, Humula, Tarcutta Cemetery, Regional NSW for Leighton Contractors on behalf of RTA (Biosis Pty Ltd)



Pamela Kottaras





- Hume Highway Bypass at Tarcutta Unexpected Finds Reports: Tarcutta stock camp and buried bridge, Regional NSW for Leighton Contractors on behalf of RTA (Biosis Pty Ltd)
- Tallawarra Lands Redevelopment, Historical Heritage Assessment, Wollongong NSW for TruEnergy (Biosis Pty Ltd)
- Nundah Bank Third Track, historical heritage assessment and statement of heritage for KMH on behalf of ARTC (Biosis Pty Ltd)
- Erskine Park Archaeological Salvage Excavation, Sydney NSW for RTA (Biosis Pty Ltd)
- Spring Farm Trunk Main, Aboriginal test excavation in accordance with the code of practice, Sydney NSW for Networks Alliance (Biosis Pty Ltd)
- North-West Growth Centre, heritage assessment, Sydney NSW for Sydney Water Corporation (Biosis Pty Ltd)
- Windsor Bridge Options Study: Assessment of Historical Heritage Constraints, Sydney NSW for the RTA (Austral Archaeology Pty Ltd)
- Edmondson Park Wastewater Planning Study, Aboriginal and historical risk assessment, Sydney NSW for SKM on behalf of Sydney Water (Austral Archaeology Pty Ltd)
- Proposed Holroyd Substation: Aboriginal archaeological and cultural assessment, Sydney NSW for SKM on behalf of Transgrid (Austral Archaeology Pty Ltd)
- Stevens Weir Deniliquin: proposal to install a vertical slot fishway statement of heritage impact, Regional NSW for the Department of Water and Energy on behalf of State Water (Austral Archaeology Pty Ltd)
- Great Western Highway Upgrade, Lawson: heritage construction management plan, heritage management report, Regional NSW (RTA with Austral Archaeology Pty Ltd)
- Wollondibby Project, Alpine Way, Jindabyne NSW Preliminary Heritage Advice, Snowy River Shire for Jay Harrison (Austral Archaeology Pty Ltd with City Plan Heritage Pty Ltd)
- Goat Island, conservation management plan. archaeological assessment, site analysis, archaeological policies & recommendations, Port Jackson NSW with Paul Davies Pty Ltd & Geoffrey Britton Environment Design for the National Parks & Wildlife Service (Austral Archaeology Pty Ltd)
- Bonnyrigg House, conservation management plan. archaeological assessment, site analysis and policies, Sydney NSW
 with Paul Davies Pty Ltd & Geoffrey Britton Environment Design for TSP Consulting on behalf of the Department of
 Planning (Austral Archaeology Pty Ltd)
- Proposed Subdivision of Bonnyrigg Male Orphan School Site Bonnyrigg, statement of heritage impact, Sydney NSW with Paul Davies Pty Ltd & Geoffrey Britton Environment Design for TSP Consulting on behalf of the Department of Planning (Austral Archaeology Pty Ltd)









- Holy Trinity (Garrison) Church at Millers Point, archaeological assessment and exemption notification, Sydney NSW (under standard exemption 4) (Anglican Properties Trust with Austral Archaeology Pty Ltd)
- Gogeldrie Weir and Yanco Old Weir, statement of heritage impact & exemption notification, for NSW State Water, Leeton Branch (Austral Archaeology Pty Ltd)
- Australian Technology Park, temporary car parking innovation plaza upper, middle and lower car parks, Sydney NSW for The Australian Technology Park Management Pty Ltd (Austral Archaeology Pty Ltd)
- Australian Technology Park, Bays 3, 4 and 5 north internal fitout: statement of heritage impact and Section 60 application, Sydney NSW for The Australian Technology Park Management Pty Ltd (Austral Archaeology Pty Ltd)
- Australian Technology Park, Bays 6 and 7 north internal fitout: statement of heritage impact and Section 60
 application for APP Corporation Pty Ltd on behalf of Fuji Xerox Australia (Austral Archaeology Pty Ltd)
- North West Transitway Project, Sydney NSW for Leighton Contractors (Austral Archaeology Pty Ltd)
- North West Transitway, archaeological assessments and research designs, for Leighton Contractors (Austral Archaeology Pty Ltd)
- 330–348 George Street, Sydney, archaeological assessment & research design, Sydney NSW for Hemmes Pty Ltd (Austral Archaeology Pty Ltd)
- Boggo Road Gaol: Excavation of Former One Division, Dutton Park, Brisbane Qld for Allom Lovell Architects on behalf of QLD govt (Austral Archaeology)
- 299–305 Sussex Street, Sydney, archaeological assessment & research design, Sydney NSW (City Plan Heritage Pty Ltd)
- University of Sydney School of Information Technologies, archaeological assessments & research design, Sydney NSW (City Plan Heritage Pty Ltd)
- RTA Heritage and Conservation Register Update, analysis & history, Warringah sub-region, NSW for the RTA with City Plan Heritage Pty Ltd)
- Spit Bridge, heritage impact statement review, Sydney NSW (City Plan Heritage Pty Ltd)
- Review Fort Scratchley Historic Site, Newcastle Conservation Management Plan, Newcastle NSW for the Heritage Office, Department of Planning (City Plan Heritage Pty Ltd)
- Review Wallarah and Moonee Collieries Conservation Management Plan, Central Coast NSW for the Heritage Office,
 Department of Planning (City Plan Heritage Pty Ltd)
- Review Dyke Point Conservation Management Plan, Newcastle NSW for the NSW Heritage Office (City Plan Heritage Pty Ltd)



Pamela Kottaras





- Review Tracks into History Conservation Management Plan for the NSW Heritage Office (City Plan Heritage Pty Ltd)
- Review Sewage Pumping Station SP0038, Conservation Management Plan, Sydney Water for the NSW Heritage Office (City Plan Heritage Pty Ltd)
- Review Sewage Pumping Station SP0271, Conservation Management Plan, Sydney NSW for the NSW Heritage Office (City Plan Heritage Pty Ltd)
- Review White Bay Power Station, Conservation Management Plan, Sydney NSW for the NSW Heritage Office (City Plan Heritage Pty Ltd)





Ryan Desic

Archaeologist

Ryan is an archaeologist with consulting and field experience in NSW. He has worked in both historic and Aboriginal and heritage.

He has worked on a number of major Aboriginal and historic archaeological investigations including the Hume Highway Duplication Project and the Barangaroo redevelopment project.

Ryan's key skills are in archaeological excavation and recording, and Aboriginal and historic artefact identification and analysis. His work has involved providing site supervision, field assistance, technical expertise and report writing.

Qualifications

- Bachelor of Arts (Hons) in Prehistoric and Historical Archaeology, University of Sydney, 2009
- Nationally recognised OH&S construction induction White Card

Career

- EMGA Mitchell McLennan, 2012–present
- Archaeologist, subcontractor to multiple Sydneybased heritage companies, 2010–2012

Representative experience

Environmental impact assessments

- Cobbora Coal Project, Cobbora NSW (Cobbora Holding Company)
- Newcastle LNG Gas Storage Facility and Pipeline Project Modification, Tomago NSW (AGL)

Camden Gas Project Modifications, Sydney NSW (AGL)

Reviews of environmental factors

- Gloucester Gas Project Exploration, Wards River pilot testing, Wards River NSW (AGL)
- Cobbora Coal Project, geotechnical investigations, Cobbora NSW (Cobbora Holding Company)

Heritage management plans

 Gloucester Gloucester Gas Project Exploration, aboriginal cultural heritage management plan, Gloucester NSW (AGL Energy)

Archaeological excavations

- Barangaroo Development, historic excavation and on site artefact management, Sydney CBD NSW (Casey and Lowe in association with Bovis Lend Lease)
- Cobbora Coal Project, Aboriginal cultural heritage test excavation, Cobbora NSW (Cobbora Holding Company)
- Hume Highway Duplication Project, Aboriginal excavation Tarcutta-Woomargama NSW (Kelleher Nightingale in association with Roads and Traffic Authority)
- Penrith Lakes Scheme, Aboriginal excavation, Sydney NSW (Penrith Lakes Development Corporation)
- Darling Walk Development, historic excavation, Sydney CBD NSW (Casey and Lowe in association with Bovis Lend Lease)



Ryan Desic





Archaeological excavation reports

- Cobbora Coal Project: Aboriginal cultural heritage test excavation report, Cobbora NSW (Cobbora Holding Company)
- Australand Eastern Creek, Aboriginal cultural heritage test excavation report (Kelleher Nightingale Consulting)

Aboriginal opportunities and constraints

• Hume Coal, opportunities and constraints study, Southern Highlands NSW (Cockatoo Coal)







Rebecca Newell

Archaeologist

Rebecca is an archaeologist with consulting and field experience in NSW and Tasmania. She has worked with industry leaders in both historic (European) and Aboriginal archaeology and heritage.

Her skills are in excavation and field survey techniques, artefact management, public communication and community engagement.

Rebecca has worked on a number of historic and Aboriginal archaeological excavations and surveys. This work has involved providing field assistance, site supervision and providing technical expertise.

Qualifications

- Bachelor of Arts (Hons Class 1) in Archaeology and Heritage Studies, University of Sydney, 2010
- Senior first aid certificate
- Nationally recognised OH&S construction induction certificate White Card

Representative experience

Environmental impact assessments

- Cobbora Coal Project, historic and Aboriginal heritage, Cobbora NSW (Cobbora Holding Company)
- Mount Penny coal mine, historic heritage, Mt Penny NSW (Mt Penny Coal)
- Peppertree Quarry, historic and Aboriginal heritage, Marulan South NSW (Boral Property Group)

Reviews of environmental factors

- Cobbora Coal Project geotechnical investigations, Cobbora NSW (Cobbora Holding Company)
- Hunter Gas Project, pilot testing, Windermere and Monkey Place, Hunter Valley NSW (AGL)

Archaeological excavations

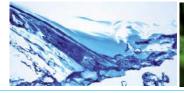
- Cobbora Coal Project, Aboriginal heritage test excavation, Cobbora NSW (Cobbora Holding Company)
- Penrith Lakes Scheme, Aboriginal heritage excavation, Sydney NSW (Penrith Lakes)
- Oatlands Gaol and Mill, historic heritage excavation,
 Oatlands TAS (Southern Midlands Council)
- Cumberland and Gloucester Streets, historic excavation and artefact processing, Sydney CBD NSW (Godden Mackay Logan)
- Rouse Hill House, historic school house excavation, Sydney NSW (Historic Houses Trust)

Aboriginal heritage impact permit (AHIP) applications and due diligence assessments

- Aboriginal heritage due diligence report Peppertree Quarry, Marulan South (Boral Property Group)
- Muswellbrook Sewer AHIP report, Hunter Valley NSW (NSW Public Works)
- Badgally Road, Camden Aboriginal Heritage due diligence report, Sydney NSW (Dart West Developments)



Rebecca Newell





Heritage management plans and strategies

- Sydney Bennelong Stormwater Channel Heritage Management Strategy, Sydney NSW (Kembla Watertech)
- North West Rail Link Early Works Heritage Management Plan, Sydney NSW (Baulderstone)



ARCHAEOLOGY - HERITAGE - MEDIATION - ARBITRATION

Mediator/Arbitrator

Archaeologist/ Heritage Consultant

Adjunct Research Fellow, Flinders University

COMBER CONSULTANTS PTY LTD

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DIRECTOR

TORY STENING

JILLIAN COMBER

ASSOCIATE DIRECTOR, SYSTEMS **DAVID NUTLEY**

ASSOCIATE DIRECTOR, PROJECTS

Affiliations:

Jillian Comber, B.A., Litt.B., P.C.Arb, M.AACAI., M.ICOMOS, J.P.

Guest Lecturer University of Sydney and Flinders University

- Australian Association οf Consulting Archaeologists, Full Member
- Australian Archaeological Association
- Australasian Society of Historical Archaeology
- International Council on Monuments and Sites, **Full Member**
- Australasian Institute of Maritime Archaeology
- Institute of Arbitrators & Mediators Australia
- **NSW Justices Association**

- Historical & Aboriginal Archaeology
- Cultural Heritage Management
- Heritage Advisor
- Alternative Dispute Resolution
- Grade 1 Arbitrator
- **Graded Mediator**
- Expert advice

Relevant Expertise:

Skills:

- Aboriginal and non-Aboriginal site and place management including an understanding of relevant legislation
- Implementation of Heritage Council procedures outlined in the Heritage Manual
- Facilitation of OEH's Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.
- Implementation of OEH's Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW and Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW.
- Heritage Conservation advice.
- Provision of Aboriginal and non-Aboriginal Heritage Management advice for planning and conservation documents.
- Site survey and excavation including background research and AHIMS searches.
- Impact assessment and mitigation.
- Significance assessment & provision of management recommendations.
- Site inductions and site management.
- Land Management Mediation and Arbitration
- Native Title Mediation.
- Provision of expert advice.
- Expert Witness.
- Preparation and delivery of cultural heritage education.

Qualifications:

- B.A (Archaeology/Anthropology)
- Litt.B (Aboriginal & Historical Archaeology)
- PhD Candidate, Sydney University
- Practitioners Certificate in Mediation and Conciliation
- **Professional Certificate in Arbitration**

Summary

Jillian Comber, the Director of Comber Consultants has over 25 years experience in Aboriginal and non-Aboriginal archaeology and cultural heritage management. She is experienced at survey, assessment, monitoring, testing and excavation. She has extensive skills in significance assessment and report writing and can provide the cultural heritage component for conservation management plans, REF's and other planning documents. She has a sound understanding of NSW's planning legislation, policies and procedures.

Jillian has a particular expertise in cultural landscape and open area management. As the Director of the Parramatta Park Trust for five years, Jillian led a team of natural and cultural heritage specialists in the management and conservation of Parramatta Park. Parramatta Park is of national significance and has been inscribed on the World Heritage List. In this role Jillian had full delegated powers from the Heritage Council of NSW.

In addition, Jillian has extensive experience in the management of historical archaeological sites and places. She can provide advice on appropriate management strategies all formulated within best practice management and in accordance with Heritage Council requirements. Jillian undertakes assessments, monitoring and excavation of a broad range of historical archaeologial site types and has held s140 and s60 permits from the NSW Heritage Council, including those listed below. To obtain permits she prepares the research design and permit application and liaises with the Heritage Branch. Her detailed Curriculum Vitae has previously been submitted to the New South Wales Heritage Branch, Department of Planning and is held on their files. Following is an example of permits from the Heritage Council held by Jillian:



Delegated Powers

Delegated powers from the Heritage Council to Jillian Comber in her role as Director of the State heritage listed and World Heritage inscribed Parramatta Park. In this role Jillian supervised conservation works and archaeological monitoring and excavation at the Dairy Precinct, the second oldest extant building in Australia; at the Macquarie Street Gatehouse and other ongoing projects related to landscaping and park maintenance.

s60 permits (Sites listed on the State Heritage Register)

- Permit to undertake archaeological monitoring at Kenmore Hospital site (current) on behalf of Goulburn-Mulwaree Council.
- Permit to undertake archaeological monitoring and excavation at Googong (current) on behalf of CIC Australia
- Monitoring, excavation and conservation of Puckeys Saltworks for Wollongong City Council.
- Permit to undertake archaeological excavations at Newtown Railway Station, on behalf of RailCorp.
- Permit to undertake archaeological monitoring at the Marsden Street Weir and Parramatta Park Weir on behalf of Parramatta City Council.
- Permit to undertake archaeological monitoring and excavation at Mulawa Women's Correctional Facility on behalf of the Department of Commerce.
- Permit to undertake archaeological excavation at Belmore Basin, Wollongong.

s140 permits

- Permit to undertake archaeological monitoring and testing at Belmore Basin for Wollongong City Council.
- Permit to undertake archaeological monitoring at the Captain Cook Hotel, Botany Bay on behalf of Gale Street Pty Limited.
- Permit to undertake archaeological monitoring at Leura Mall.

Jillian can provide advice on which permit is required and whether an Exception would be more suitable.

All of the above projects have been undertaken according to best practice management and in consideration of critical path delivery.

Tenures:

Jillian has held or continues to hold the following tenures:

- Member, Waverley City Council's Heritage Review Panel.
- Part-time Lecturer Sydney University and Flinders University in Aboriginal Cultural Heritage Management
- Former Heritage Advisor to Bourke, Cobar, Parkes, Lachlan and Cowra Shire Councils and Wollongong City Council.
- Past member of Marrickville City Council's Heritage Promotions Committee.
- Previous Lecturer in Aboriginal Cultural Heritage Management at Canberra University.
- Member of the Heritage Office's Experts Workshop in respect of the review of the Heritage Act 1977

Previous Positions:

Jillian has held the following positions

- 1997-2001: Director, Parramatta Park Trust, NSW
- 1994-1997: Regional Manager, Cultural Heritage, Department of Environment & Heritage, Far North Queensland.
- 1992-1994: Cultural Heritage Coordinator, NSW National Parks & Wildlife Service
- 1988-1993: Consultant Archaeologist, NSW

Integrated Management System

Comber Consultants has a certified integrated management system to the requirements of ISO 9001:2008 (quality), ISO 14001:2004 (environmental), OHSAS 18001:2007 (health and safety) and AS/NZS 4801:2001 (health and safety). This is your assurance that Comber Consultants is committed to excellence, quality and best practice and are regularly subjected to rigorous, independent assessments to ensure that we comply with stringent Management System Standard/s.



In all projects, Jillian is supported by the dedicated Comber Consultants team of archaeologists, anthropologists, historian, specialist photographer and administration staff to ensure best practice heritage management. The Comber Consultants team is committed to providing outstanding customer service and is able to work within tight timeframes and budget commitments.



ARCHAEOLOGY - HERITAGE - MEDIATION - ARBITRATION



Tory Stening, BA, MA, JP Associate Director, Projects Senior Archaeologist

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> DIRECTOR JILLIAN COMBER

> > TORY STENING

ASSOCIATE DIRECTOR, SYSTEMS **DAVID NUTLEY**

ASSOCIATE DIRECTOR, PROJECTS

Affiliations:

- Australian Archaeological Association (AAA);
- Australasian Society of Historical Archaeology (ASHA);
- International Council on Monuments and Sites, Full Member (M.ICOMOS);
- Australasian Institute of Maritime Archaeology (AIMA):
- World Archaeological Congress (WAC).

Sample of Relevant Projects:

- Historical archaeological monitoring and excavation of Denmark Cottage, Ashfield for Blue Eagle Construction.
- Historical archaeological excavations at Brighton Lawn Reserve, Belmore Basin, Wollongong for Wollongong City Council (State significance).
- Historical archaeological excavations in respect of the "small miserable hut" at Belgenny Farm, Camden Park Estate, Camden for the Belgenny Farm Trust for Ted Higginbotham (State significance).
- Historical archaeological excavations at the corner of Marsden and Macquarie Streets, Parramatta for Ted Higginbotham.
- Identification and assessment of potential impacts on historic archaeology in respect of the Camden Zone Substation for Endeavour Energy.
- archaeological Historical monitoring excavation at Lawson Town Centre for Blue Mountains City Council.
- Historical archaeological assessment for the upgrade of Kunama Dam, Tumut for Tumut Shire Council.
- Historical archaeological assessment for the extension of St Mary's Church, North Sydney for David Scobie Architects.
- Historical archaeological monitoring and archival recording of the Marsden Street Weir for Parramatta City Council (State significance).

Skills:

- Aboriginal and non-Aboriginal Archaeology
- Cultural Heritage Management
- **Aboriginal Community Consultation**

Relevant Expertise:

- Historical archaeological survey, assessment, monitoring and excavation.
- Identification of impacts and provision of mitigation strategies in respect of historical archaeological sites and places.
- Implementation of historical archaeological procedures and strategies in accordance with best practice management and the NSW Heritage Manual.
- Aboriginal place management including an understanding of relevant legislation.
- Aboriginal community consultation.
- Facilitation of OEH's Aboriginal Consultation Requirements for Proponents 2010.
- Preparation of reports in accordance with OEH's Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW and of Practice for Archaeological Investigation of Aboriginal Objects in NSW.
- Aboriginal site survey and excavation including background research and AHIMS searches.
- Documentation, mapping and predictive modelling.
- Significance assessment & provision of management recommendations.
- Site inductions and site management.
- Delivery of Cultural Heritage Training.
- Critical path delivery of projects;
- Justice of the Peace for New South Wales since 2010:
- Expertise in stone tool identification and analysis.

Qualifications:

- Bachelor of Arts (Archaeology);
- Master of Arts (Archaeology).



Tory Stening, the Associate Director, Projects, of Comber Consultants has over 7 years experience in both Aboriginal and non-Aboriginal archaeology and cultural heritage management. She is experienced in both Aboriginal and non-Aboriginal archaeological survey, assessment, excavation and recording.

Tory has experience in supervising and undertaking historic surveys, assessments, provision of management recommendations, testing and excavations. She is experienced in the cleaning and cataloguing of historical archaeological artefacts using Comber Consultants easily retrievable archaeological cataloguing program.

She has extensive skills in significance assessment and report writing and can provide the cultural heritage component for conservation management plans, REF's and other planning documents. She has a sound understanding of NSW's planning legislation, policies and procedures.

Tory has specialist knowledge and experience in the assessment and management of historic buildings. She has undertaken training in the Conservation of Traditional Buildings and works closely with property owners to ensure best practice conservation management. Tory prepares Statements of Heritage Impact and Conservation Management Plans.

Tory also has an expertise in Aboriginal stone tool analysis with a detailed understanding of the process of stone tool manufacture and is experienced in the cataloguing and analyses of Aboriginal stone tools. She has a Master of Arts (Archaeology) from the University of New England. Her Master's Thesis was an analyses of stone tools excavated at Cowra.

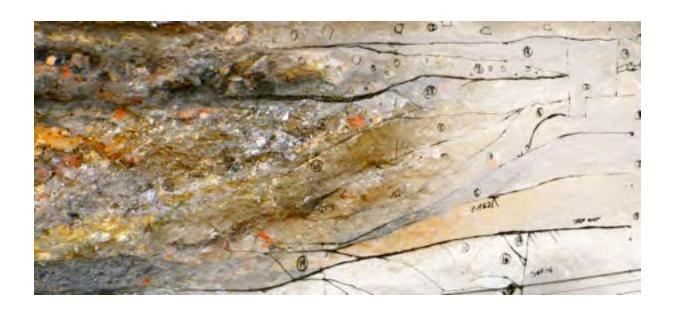
In all projects, Tory is supported by the dedicated Comber Consultants team of archaeologists, anthropologists, historian, specialist photographer and administration staff to ensure best practice heritage management. The Comber Consultants team is committed to providing outstanding customer service and is able to work within tight timeframes and budget commitments.

Comber Consultants has a certified integrated management system to the requirements of ISO 9001:2008 (quality), ISO 14001:2004 (environmental), OHSAS 18001:2007 (health and safety) and AS/NZS 4801:2001 (health and safety). This is your assurance that Comber Consultants is committed to excellence, quality and best practice and are regularly subjected to rigorous, independent assessments to ensure that we comply with stringent Management System Standard/s.



Appendix C							
Mackenzie's 1885 Windsor Road Survey report							





Mckenzie's 1885 Windsor Road survey

White Hart Inn Section

Ireneusz Golka for EMM 9 September 2013

Mackenzie's survey and notes

Mackenzie's field notes for the 1885 Windsor Road re-marking survey were used to plot the section of the survey pertinent to the search for the location of White Hart Inn which is thought to be in the vicinity of current junction of Old Windsor Road and Windsor Road.

The survey for that part of Windsor Road was conducted in southerly direction form ROUSE trig point with alignment to MASON trig point. Bearing between these two points was provided to Mackenzie.

Bearing and distance were measured and noted in degrees-minutes-seconds and links respectively.

Re-plotting of Mackenzie's survey

Two trig point locations were necessary for plotting the survey: ROUSE and MASON. The locations of these points were researched and obtained from New South Wales Government Land & Property Information Spatial Information Exchange portal (six.nsw.gov.au)

MARK NAME	COORDINATES	CLASS	ORDER
TS 3969 ROUSE	GDA94 -33° 41' 21.8" 150° 55' 08.9" MGA 307123. 6270340. 56	U	U
TS 5499 MASON [P]	GDA94 -33° 39' 21.34106" 150° 54' 48.83130" MGA 306532.188 6274040.219 56	2A	0

Table 1 - Trig point coordinates

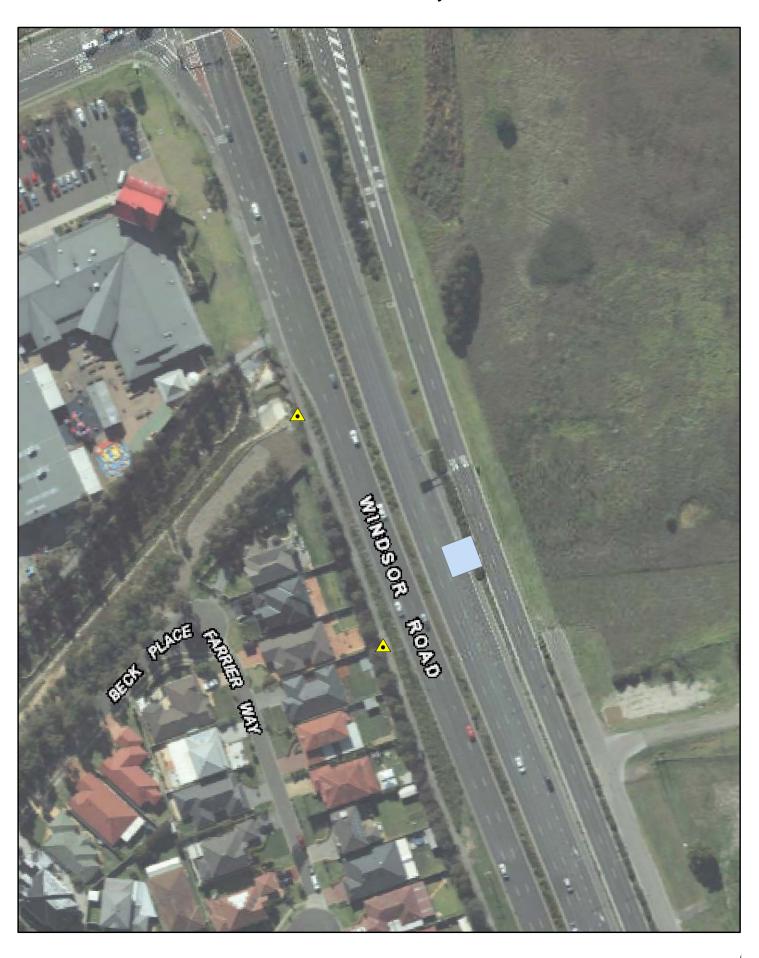
Due to short distances used MGA56 projection coordinates were used for the calculation of the survey traverse and the location of structure thought to be the White Hart Inn. A selection of traverse point locations was checked for errors using geographic coordinates and Vincenty's Direct formula.

Results

Mackenzie appears to have conducted the survey on the western side of Windsor Road which is apparent in the plotted traverse and lack of notes regarding crossing of the road in the field notes. Structure thought to be the White Hart Inn was located under what is now the widened Windsor Road.

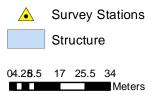
Ireneusz GOLKA 1

Mckenzie's 1885 Windsor Road survey - White Hart Inn section



Author: Ireneusz Golka for EMM

Date: 9/09/2013





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