# APPENDIX B5

## Construction Heritage Management Sub-plan

## Foxground and Berry bypass

**September 2017**

# Document control

| | |
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| File name | CHMP RevF September 2017 |
| Report name | Construction Heritage Management Sub-plan<br>Foxground and Berry bypass |
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Plan approved by:

| | | |
|---|---|---|
| *Michael Phillips-Ryder* | *Jacob Cooper* | *Ryan Whiddon* |
| Contractor Project Director | Contractor EM | RMS representative |

# Revision history

| Revision | Date | Description | Approval |
|---|---|---|---|
| F | 11/09/17 | Updated to reflect impacts to H25 and project personnel. | |
| E | 26/10/15 | Construction phase revision<br>Updated with minor editorial changes (tracked) to Sections 3, 4, 6 and 7. | |
| D | 27/08/14 | Fourth draft in response to DP&E comments.<br>Updated Glossary / Abbreviations to include 'Secretary' and amended 'Director General'.<br>Amended Table 2-1 CoA B36(e)(i)i and CoA B36(e)(i)ii<br>Added Appendix B and C | |
| C | 21/07/14 | Third draft for review and approval by RMS and ER. All comments addressed.<br>Minor formatting changes to ensure consistency between plans. | |
| B | 24/06/14 | Second draft for OEH (Archaeology) review | |
| | 11/06/14 & 11/07/14 | Second draft for OEH (Heritage Division) review | |
| | 12/06/14 | Second draft presented at Aboriginal Focus Group | |
| | 20/05/14 | Second draft for RMS review following incorporation of comments received 19/05/14. | |
| A | 08/05/14 | Draft for RMS and ER review | |

# Distribution of controlled copies

| Copy no. | Issued to | Version |
|---|---|---|
| 1 | RMS – Ryan Whiddon | Rev F |
| 2 | Project ER – Toby Hobbs | Rev F |
| 3 | Fulton Hogan – Michael Phillips Ryder | Rev F |

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# Glossary / Abbreviations

| | |
|---|---|
| AFG | Aboriginal Focus Group |
| Ancillary facility | Defined by the Project Approval as a temporary facility for construction, including for example an office and amenities compound, construction compound, batch plant (concrete or bitumen), materials storage compound, maintenance workshop, testing laboratory. |
| CEMP | Construction Environmental Management Plan |
| CHMP | Construction Heritage Management Sub-plan |
| CNVMP | Construction Noise and Vibration Management Sub-plan |
| CoA | Condition of approval |
| DEC | Department of Environment and Conservation |
| DECCW | Department of Environment, Climate Change and Water |
| Director General | Director General of the NSW Department of Planning and Infrastructure (or delegate). Now the Secretary of the Department of Planning and Environment. |
| DP&E | Department of Planning & Environment |
| EA | Environmental Assessment |
| EP&A Act | *Environmental Planning and Assessment Act 1979* |
| EPBC Act | *Environmental Protection and Biodiversity Conservation Act 1999* |
| EWMS | Environmental Work Method Statements |
| NPW Act | *National Parks and Wildlife Act 1974* |
| OEH | Office of Environment and Heritage |
| PAD | Potential archaeological deposit |
| PASA | Potential archaeologically sensitive areas |
| Project, the | The Princes Highway Upgrade - Foxground and Berry Bypass Project, defined as "*The construction and operation of approximately 11.6 kilometres of two lane divided carriageways (with the exception of the cutting through Toolijooa Ridge which comprises two lanes plus a climbing lane in each direction), with provisions for the possible future widening to three lanes within the road corridor (if required in the future).*" |
| RMS | Roads and Maritime Services |
| Secretary | Secretary of the Department of Planning and Environment. |
| SICPH CL | Southern Illawarra Coastal Plain and Hinterland Cultural Landscape |
| SoC | Revised Statement of Commitments included in the Submissions Report |
| SoHI | Statement of Heritage Impact |
| TRACL | Toolijooa Ridge Aboriginal Cultural Landscape |

# 1 Introduction

## 1.1 Purpose

This Construction Heritage Management Sub-plan (CHMP) describes how Fulton Hogan will avoid, minimise and manage impacts to Aboriginal and non-Aboriginal heritage during construction of the Foxground and Berry bypass Project (the Project).

This CHMP has been prepared to address the requirements of the Minister's Conditions of Approval (CoA), the RMS Statement of Commitments (SoC), the mitigation measures listed in the *Foxground and Berry bypass Environmental Assessment* (EA) (AECOM, 2012) and applicable legislation.

This CHMP has been prepared by Alexander Beben (BA Hons, MA), Senior Archaeologist of Biosis Pty Ltd, who is an appropriately qualified heritage consultant in both Aboriginal and non-Aboriginal heritage.

## 1.2 Background

The *Princes Highway upgrade – Foxground and Berry bypass Environmental Assessment* (AECOM, 2012) assessed the impacts of construction of the Project on Aboriginal and non-Aboriginal heritage.

As part of EA development, a detailed Aboriginal and non-Aboriginal cultural heritage assessment was prepared to address the Director General's Requirements issued by the then Department of Planning. The assessments were included in the EA as:

- *Volume 2 Appendix J Technical paper: Aboriginal heritage*, and
- *Volume 2 Appendix K Technical Paper: Non-Aboriginal (historic) heritage.*

## 1.3 Structure of CHMP

This CHMP is part of Fulton Hogan's environmental management framework for the Project and is supported by other documents such as the *RMS Standard Management Procedure – Unexpected Heritage Items* and environmental work method statements. The review and document control processes for this CHMP are described in Chapter 10 of the CEMP.

## 1.4 Consultation for preparation of the CHMP

This CHMP has been developed in consultation with the OEH (Heritage Division), OEH (Archaeology) and the registered Aboriginal stakeholders. A summary of consultation undertaken during the preparation of this CHMP is provided in Appendix A2 of the CEMP.

Ongoing consultation will be undertaken in accordance with RMS's Procedure for Aboriginal Cultural Heritage Consultation and Investigation (PACHCI) (November 2011).

# 2 Legal and other requirements

## 2.1 Legislation

Legislation relevant to heritage management includes:

- *Environmental Planning and Assessment Act 1979* (EP&A Act)
- *National Parks and Wildlife Act 1974* (NPW Act)
- *Heritage Act 1977* (Heritage Act)
- *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act) (Commonwealth), and
- *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Commonwealth).

Relevant provisions of the above legislation are explained in the register of legal and other requirements included in Appendix A1 of the CEMP.

## 2.2 Guidelines and standards

The main guidelines, specifications and policy documents relevant to this CHMP include:

- Roads and Maritime Services D&C Specification *G36 – Environmental Protection*
- Roads and Maritime Services *Standard Procedure – Unexpected Archaeological Finds* (November 2011)
- Roads and Maritime Services *Biodiversity Guidelines: Guide 2 Exclusion zones* (RTA 2011)
- *Procedure for Aboriginal Cultural Heritage Consultation* and Investigation (Roads and Maritime Services, 2011)
- *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC, July 2005)
- *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW, 2010) (for reference only)
- *Altering Heritage Assets* (Heritage Office and DUAP 1996)
- *Assessing Significance for Archaeological Heritage Sites and Relics* (NSW Heritage Branch Department of Planning)
- RTA *Heritage Guidelines* (March 2004)
- *Archaeological Assessment Guidelines* (NSW Heritage Office and NSW Department of Urban Affairs and Planning 1996)
- NSW Government's *Aboriginal Participation in Construction Guidelines* (2007)
- *How to Prepare Archival Recording of Heritage Items* (Heritage Office, 1998)
- *Photographic Recording of Heritage Items Using Film or Digital Capture* (Heritage Office 2006), and
- *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* (1999).

## 2.3 Minister's Conditions of Approval

The CoA relevant to this CHMP are listed in Table 2-1 below. A cross reference is also included to indicate where the condition is addressed in this CHMP or other project / environmental management documents.

**Table 2-1 Conditions of Approval relevant to this CHMP**

| CoA No. | Condition Requirements | Document Reference |
|---|---|---|
| CoA B36 | As part of the Construction Environment Management Plan for the Project required under condition B35, the Proponent shall prepare and implement the following sub plan(s): | This CHMP |
| | (e) a **Construction Heritage Management Sub-plan** to detail how construction impacts on Aboriginal and non-Aboriginal heritage will be avoided, minimised and managed. The sub-plan shall be prepared by an appropriately qualified heritage consultant(s) and be developed in consultation with the Heritage Council of NSW, the OEH (Aboriginal heritage), and registered Aboriginal stakeholders (for Aboriginal heritage), and include, but not necessarily be limited to: | Section 1.1<br>Chapter 4<br>Chapter 5 |
| | (i) In relation to **Aboriginal Heritage**: | |
| | i. details of management measures and strategies for protection, salvage, and/or conservation of sites and items that will be directly or indirectly impacted during construction (including further archaeological investigations, salvage measures and/ or measures to protect unaffected sites during construction works in the vicinity); | Additional investigation and salvage of Aboriginal heritage will be undertaken by RMS *prior* to commencement of construction and in accordance with the report titled 'Aboriginal Cultural Heritage Investigations: *Detailed Salvage Strategy for Aboriginal Archaeological Salvage Excavation and Detailed Historical Research Methodology'*, provided in Appendix B.<br>Heritage mitigation measures for protection of sites *during* construction are detailed in Chapter 5 and Appendix A – RMS Standard Management Procedure – Unexpected Heritage Items |
| | ii. procedures for dealing with previously unidentified Aboriginal objects (excluding human remains) including cessation of works in the vicinity, assessment of the significance of the item(s) and determination of appropriate mitigation measures including when works can re-commence by a suitably qualified archaeologist in consultation with the department, OEH and registered Aboriginal stakeholders and assessment of the consistency of any new Aboriginal heritage impacts against the approved impacts of the Project, and notification to the OEH, in accordance with section 89A of the *National Parks and Wildlife Act 1974*, and the department; | Appendix A – RMS Standard Management Procedure – Unexpected Heritage Items |

| CoA No. | Condition Requirements | Document Reference |
|---|---|---|
| | iii. procedures for dealing with human remains, including cessation of works in the vicinity and notification of the department, NSW Police Force, OEH and registered Aboriginal stakeholders and not recommencing any works in the area unless authorised by the department and/ or the NSW Police Force; and | Appendix A – RMS Standard Management Procedure – Unexpected Heritage Items |
| | iv. induction processes (identification, protection) for construction personnel (including procedures for keeping records of inductions) and procedures for ongoing Aboriginal consultation and involvement; and | Section 6.2<br>Section 1.4 |
| | (ii) In relation to **non-Aboriginal Heritage**: | |
| | i. details of management measures and strategies for protection, excavation, archival recording and/or conservation of heritage items that will be directly or indirectly impacted during construction (including measures to protect unaffected items during construction works in the vicinity); | Additional investigation, excavation and archival recording of non-Aboriginal heritage will be undertaken by RMS *prior* to commencement of construction and in accordance with the report titled '*Archaeological Investigation Report*', provided in Appendix C.<br>Heritage mitigation measures for protection of sites *during* construction are detailed in Chapter 5 and Appendix A – RMS Standard Management Procedure – Unexpected Heritage Items |
| | ii. procedures for dealing with previously unidentified items of heritage significance, including cessation of works in the vicinity, assessment of the significance of the item(s) and determination of appropriate mitigation measures including when works can re-commence by a suitably qualified and experienced archaeologist in consultation with the department and the Heritage Council of NSW and assessment of the consistency of any new non-Aboriginal heritage impacts against the approved impacts of the Project and notification of the Heritage Council of NSW, in accordance with Section 146 of the *NSW Heritage Act 1977*, and the department; | Appendix A – RMS Standard Management Procedure – Unexpected Heritage Items |
| | iii. procedures for dealing with human remains, including cessation of works in the vicinity and notification of the department, NSW Police Force, the Heritage Council of NSW and not recommencing any works in the area unless authorised by the department, and/ or the NSW Police Force; and | Appendix A – RMS Standard Management Procedure – Unexpected Heritage Items |
| | iv. heritage induction processes (identification, protection) for construction personnel (including procedures for keeping records of inductions). | Section 6.2 |
| CoA C15 | This approval does not allow the Proponent to destroy, modify or otherwise physically affect human remains as part of the Project. | Chapter 5<br>Appendix A – RMS Standard Management Procedure – Unexpected Heritage Items |

| CoA No. | Condition Requirements | Document Reference |
|---|---|---|
| CoA C16 | The Proponent shall not destroy, modify or otherwise physically affect Aboriginal sites A3, A20, A37 – A39, and MFT 13-23 and non-Aboriginal sites H25, H26, H51, H52, H58, and H59. | Chapter 5 |
| CoA C17 | Identified impacts to heritage (both Aboriginal and non-Aboriginal), shall be minimised to the greatest extent practicable through both detailed design and construction, particularly with regard to Aboriginal sites A13, A14, A18 and TRACL, and historic sites H13, H20, H54, H62, H63 and the Southern Illawarra Coastal Plain and Hinterland Cultural Landscape. Where impacts are unavoidable, works shall be undertaken in accordance with the actions to manage heritage construction impacts required by condition B36 (e) and under the guidance of an appropriately qualified heritage specialist. | Chapter 5<br>Minimising impacts to Aboriginal and non-Aboriginal heritage will also be considered during the detailed design phase.<br>UDLP |
| CoA C18 | The proponent shall not destroy, modify or otherwise physically affect any heritage items outside the approved Project footprint, unless otherwise agreed by the Director General in accordance with Condition C32 of this Project Approval. | Chapter 5<br>CEMP Section 3.7 Project modifications and refinements<br>CEMP Appendix A5 – Ancillary facilities assessment |
| CoA C19 | The measures to protect Aboriginal or historic heritage sites near or adjacent to the Project during construction shall be detailed in the Heritage Management Sub-plan required under condition B36 (e). | Chapter 5 |

## 2.4 Statement of commitments

Relevant SoC are listed Table 2-2 below. This includes reference to required outcomes, the timing of when the commitment applies, and a cross reference as to where the commitment is addressed in this CHMP or other project / environmental management documents.

**Table 2-2 Statements of Commitment relevant to this CHMP**

| Outcome | Ref # | Commitment | Timing | CHMP Reference |
|---|---|---|---|---|
| Manage impacts on Aboriginal heritage | AH1 | Aboriginal sites identified to be conserved will be managed as environmentally sensitive areas. | Pre-construction and construction | Chapter 5<br>Sensitive Area Plans |
| Any unknown Aboriginal objects and/or | AH4 | If any skeletal remains or unknown Aboriginal objects or places are encountered, works that would potentially impact the find will stop immediately. Works will not re-commence until appropriate clearance has been received. | Pre-construction and construction | Appendix A – RMS Standard Management Procedure – Unexpected Heritage Items |

| Outcome | Ref # | Commitment | Timing | CHMP Reference |
|---|---|---|---|---|
| places encountered are assessed | AH5 | All construction personnel will receive training in the management of Aboriginal cultural materials, including legal obligations, the application of protocols and the recognition of Aboriginal cultural materials. | Pre-construction and construction | Section 6.2 |
| Minimise impacts on non-Aboriginal | NA3 | Non-Aboriginal sites identified to be conserved will be managed as environmentally sensitive areas. | Pre-construction and construction | Chapter 5<br>Sensitive Area Plans |
| | NA4 | If any unknown non-Aboriginal heritage items are encountered, all works that would potentially impact the find will stop immediately. Works will not recommence until appropriate clearance has been received. | Pre-construction and construction | Appendix A – RMS Standard Management Procedure – Unexpected Heritage Items |

# 3 Existing environment

The following sections summarise what is known about Aboriginal and non-Aboriginal heritage within and adjacent to the Project corridor based on information provided in:

- EA Section 7.7 Aboriginal cultural heritage
- EA Section 7.8 Non-Aboriginal (historic) heritage
- EA *Volume 2 Appendix J Technical paper: Aboriginal heritage*, and
- EA *Volume 2 Appendix K Technical Paper*: *Non-Aboriginal (historic) heritage.*
- Princes Highway Upgrade: Foxground & Berry Bypass – Aboriginal Historical and Cultural Assessment (Waters Consultancy, 2015)
- "Summary effects of construction modifications to the approved concept plan in vicinity of Heritage sites GBH16, GBH15 and GBH14; Foxground Berry Bypass." CHMA, 2015)

## 3.1 Aboriginal cultural heritage

### 3.1.1 Historic context

Many modern researchers use the term Dharawal or Tharawal to refer to the tribal group within the Illawarra. Amongst contemporary local Aboriginal people the term Wodi Wodi is preferred. The Aborigines of the Nowra region refer to themselves as Wandiwandian people.

Boundaries between local bands and clans were flexible and permeable, allowing groups to move around. The Aboriginal people of the Shoalhaven banded together for specific activities, were together for a time, and then split apart. Later they formed new groups which most likely had at their core a number of closely-related families.

It is likely that Aboriginal groups were able to maintain their structure throughout the early period of European settlement. In response to European settlement, Aboriginal groups may have sought refuge, established camps either at a distance or close to European properties, been partially integrated into maritime or pastoral activities, or remained on the fringes of European communities.

As the land-use patterns of the new colonists intensified, there would have been a demand on natural resources, and the food sources of the Aboriginal people would have diminished radically. In the 1840s and 1850s, the introduction of dairy farming further reduced the availability of game in the Shoalhaven District. The issuing of rations by the government encouraged a clustering of people into camps, which would have caused some breaking down of the previous social structures. By the 1880s, it appears as if most of these structures were weakening and Aboriginal people were being pressed into reserves or missions.

### 3.1.2 Local Aboriginal Land Councils

The project and the surrounding area falls within three Local Aboriginal Land Council (LALC) boundaries. These are Illawarra LALC, the Jerringa LALC and the Nowra LALC.

### 3.1.3 Aboriginal cultural heritage

Based on literature and database review, field surveys, test excavations and consultation with Aboriginal stakeholders, as described in the EA, 29 Aboriginal heritage items were identified within the Project area. These comprised two lithic artefact occurrences (G2B A3 and G2B A38), twenty three potential archaeologically sensitive areas (PASAs) (PASA12-29 and PASA 40-44), and four non-archaeological recordings of places of Aboriginal cultural heritage significance.

The non-archaeological recordings comprise three places relating to historical events or occupation (The 'Little Mountain' or 'Dicky Wood's Meadow' battle ground (G2B A13), Aboriginal Encampments at 'Brookside' (Broughton Village) (G2B A14) and Berry (G2B A39)), and one cultural landscape, the Toolijooa Ridge Aboriginal cultural landscape (TRACL).

It should be noted that the most contemporary study in relation to these non-archaeological Aboriginal heritage areas (Waters, 2015) included consultation with the "cultural heritage knowledge holders" as nominated by the Aboriginal stakeholders who are registered with the project AFG. Subsequent to the EA submission, the confirmed cultural significance for areas A13, A14, A39 and TRACL has been revised as highlighted in Table 3-1 below.

Two generalised Aboriginal cultural heritage values are recognised - large and old growth fig trees and Aboriginal burial sites. Twelve large or old growth fig trees have been identified in or near to the project area (MFT12 – 23).

Table 3-1 lists the Aboriginal heritage recordings, and where identified, their archaeological significance and identified impacts. The general location of Aboriginal culturally significant places and landscapes in relation to the Project is shown on Figure 3-1.

**Table 3-1 Aboriginal archaeological recordings**

| Site ID* | Recording type | Local significance | Impact |
|---|---|---|---|
| G2B A3 | Aboriginal artefact occurrence | Low | No impact |
| **G2B A13** | Ethno-historic place (Dicky Wood's Meadow Battle ground) | High | Direct impact – partial |
| **G2B A14** | Ethno-historic place (Brookside Aboriginal historic encampment) | No known significance | Direct impact – partial |
| **G2B A15** | Archaeological deposit | Low | Direct impact – full |
| **G2B A16** | Archaeological deposit | Moderate | Direct impact – partial |
| **G2B A17** | Archaeological deposit | Low | Direct impact – partial |
| **G2B A18** | Archaeological deposit | Moderate | Direct impact – partial |
| **G2B A19** | Archaeological deposit | Low | Direct impact – partial |
| G2B A20 | Archaeological deposit | Low | No impact |
| **G2B A21** | Archaeological deposit | Low | Direct impact – partial |
| **G2B A22** | Archaeological deposit | Moderate | Direct impact – full |
| **G2B A23** | Archaeological deposit | Low | Direct impact – full |
| **G2B A24** | Archaeological deposit | Moderate | Direct impact – full |
| **G2B A25** | Archaeological deposit | Low | Direct impact – partial |
| **G2B A26** | Archaeological deposit | Moderate | Direct impact – full |
| **G2B A27** | Archaeological deposit | Low | Direct impact – partial |
| **G2B A28** | Archaeological deposit | Moderate | Direct impact – partial |
| **G2B A29** | Archaeological deposit | Moderate to high | Direct impact – partial |
| **G2B A30** | Archaeological deposit | Moderate to high | Direct impact – partial |
| **G2B A31** | Archaeological deposit | Moderate to high | Direct impact – partial |
| **G2B A32** | Archaeological deposit | Moderate | Direct impact – partial |
| **G2B A33** | Archaeological deposit | Moderate | Direct impact – partial |

| Site ID* | Recording type | Local significance | Impact |
|---|---|---|---|
| **G2B A34** | Archaeological deposit | Low | Direct impact – partial |
| **G2B A35** | Archaeological deposit | Low | Direct impact – full |
| **G2B A36** | Archaeological deposit | Moderate | Direct impact – full |
| G2B A37 | Archaeological deposit | Low | No impact |
| G2B A38 | Aboriginal artefact occurrence and associated PAD | Low | No impact |
| G2B A39 | Ethno-historic place (Aboriginal historical encampments at Berry) | Medium | No impact |
| G2B PAD1 | Potential archaeological deposit | Low to high** | Direct impact – partial |
| TRACL | Aboriginal Cultural Landscape (Toolijooa Ridge) an ethno- historic place | Medium | Direct impact – partial |
| **MFT12** | Fig tree | | Direct impact – full |
| MFT13 | Fig tree | | No impact |
| MFT14 | Fig tree | | No impact |
| MFT15 | Fig tree | | No impact |
| MFT16 | Fig tree | | No impact |
| MFT17 | Fig tree | | No impact |
| MFT18 | Fig tree | | No impact |
| MFT19 | Fig tree | | No impact |
| MFT20 | Fig tree | | No impact |
| MFT21 | Fig tree | | No impact |
| MFT22 | Fig tree | High | No impact |
| MFT23 | Fig tree | | No impact |

** The Site ID of recordings subject to impact (Direct impact – full and Direct impact – partial) are shown in Bold.*

*** In the absence of any surface or subsurface artefact data, it is not possible to provide a significance assessment for this recording. The significance listed in the table is based on test excavation results elsewhere along the Project corridor and the predictive model.*

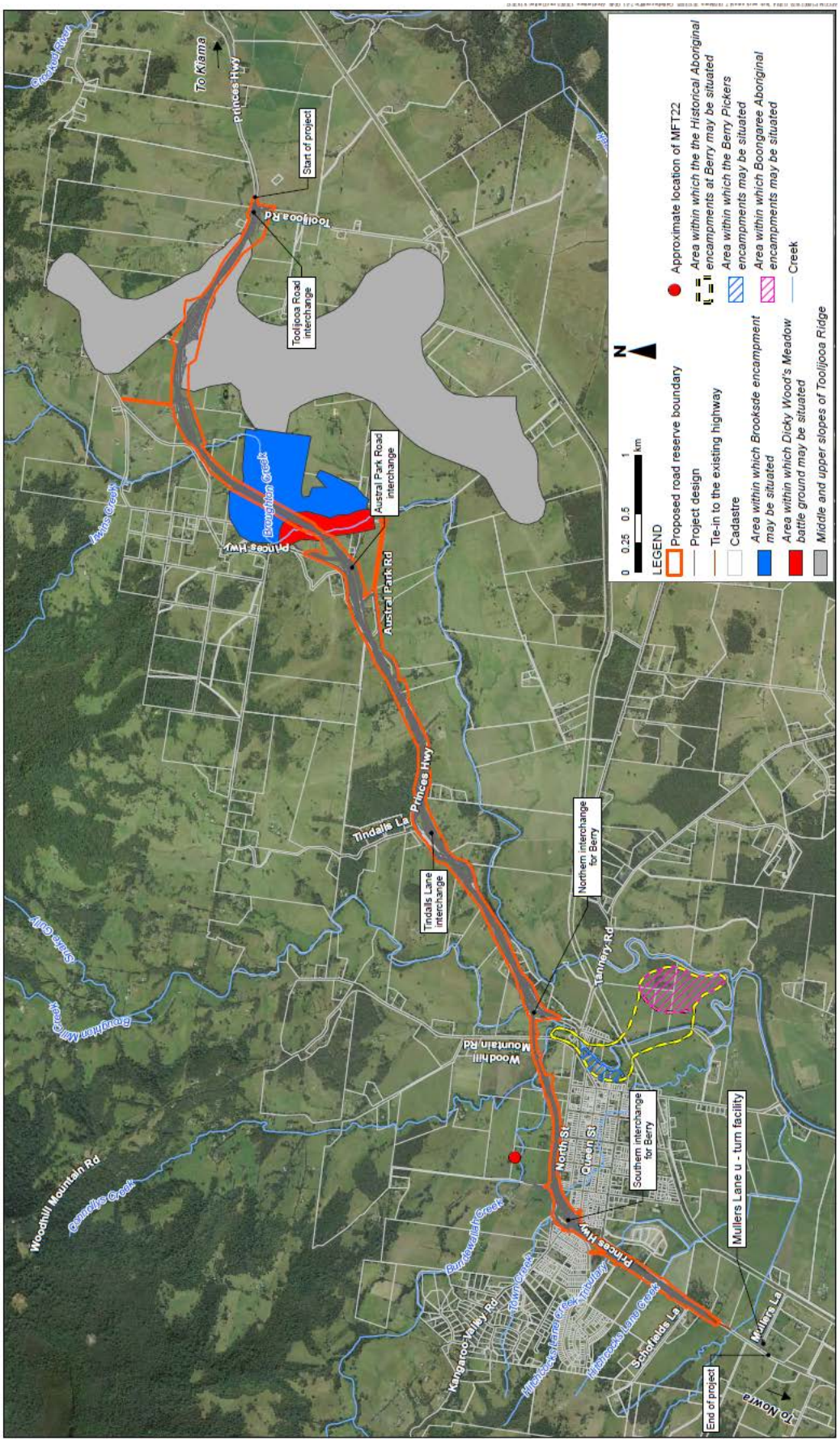


**Figure 3-1 General location of Aboriginal culturally significant places and landscapes**

## 3.2 Non-Aboriginal heritage

Forty non-Aboriginal field recordings were identified within the Project area, as listed in Table 3-2 and shown on Figure 3-2. Seven of these recordings were found not to have heritage significance against the assessment criteria specified by the Heritage Council of NSW. The remaining 33 recordings were found to have heritage significance (32 of local significance and one of State significance) and are therefore classified as heritage items. Table 3-2 also lists identified impacts in relation to non-Aboriginal heritage items.

It should be noted that since the project approval, the concept design alignment at the northern entry into Berry (inclusive of temporary traffic staging works) has been refined in response to community consultation. This results in the existing remnant pavement (H15) being directly impacted in full, rather than partially as per the approved EA. The revised design allows the setting and proximity of the road alignment to the Mananga Homestead (H16) to be retained to a greater extent than that of the approved concept by retaining the avenue of trees and a greater portion of the original road alignment. This refinement has been deemed consistent with the project approval.

Full details in relation to the most contemporary non-Aborignal heritage investigations in relation to the "Mananga streetscape" can be found in the report ""Summary effects of construction modifications to the approved concept plan in vicinity of Heritage sites GBH16, GBH15 and GBH14; Foxground Berry Bypass" (CHMA, 2015). This report follows on from archaeological investigations conducted in the area by Biosis, who found that the remnant highway identified as H15 "does not meet any significance criterion at state or local levels for its archaeological values". This has been reflected in Table 3-2 accordingly.

**Table 3-2 Non-Aboriginal field recordings**

| Site ID* | Name/Location | Significance | Impact |
|---|---|---|---|
| G2B H10 | Early C20th Cottage (72 North St. Berry) | Below threshold | Not applicable |
| **G2B H11** | Federation Cottage c.1894 (77 North St. Berry) | Local | Whole direct impact |
| G2B H12 | Remnant portion of C20th highway (N. Berry wayside stop) | Below threshold | Not applicable |
| **G2B H15** | Remnant portion of C20th highway (Adjacent to Mananga homestead) | Local | Whole direct impact |
| G2B H18 | Remnant portion of C20th highway (near and opposite Tindalls Lane intersection) | Below threshold | Not applicable |
| G2B H20 | Remnant portion of C20th highway (Broughton) | Local | No significant impact |
| **G2B H21** | Remnant portion of C20th highway (Broughton) | Local | Whole direct impact |
| G2B H24 | Remnant portion of C20th highway | Below threshold | Not applicable |
| G2B H26 | Remnant portion of C20th highway | Local | No significant impact |
| G2B H57 | Remnant portion of C20th highway (intersection of Highway and Tindalls Lane) | Below threshold | Not applicable |
| G2B H13 | Burnett Estate Workers Cottage c.1917 (143 North St. Berry) | Local | Indirect impact |
| **G2B H14** | Archaeological deposit (former C19th *Broughton Creek* town buildings) | Local | Partial direct impact |

| Site ID* | Name/Location | Significance | Impact |
|---|---|---|---|
| G2B H16 | Mananga, 1894, Queen Anne style homestead, former Berry Estate Manager's Residence (A40 Princes Highway. Berry) | Local | Indirect impact |
| G2B H17 | *Hillview* homestead (2nd half C19th) former Berry Estate tenant farm) (A111 Princes Highway Berry) | Local | Indirect impact |
| **G2B H19** | Remnant portion of C19th road (West of Gembrook Lane) | Local | Whole direct impact |
| **G2B H22** | Remnant portion of C19th road | Local | Whole direct impact |
| **G2B H23** | Remnant portion of C19th road | Local | Whole direct impact |
| G2B H27 | Remnant portion of C19th road | Local | No significant impact |
| **G2B H30** | Remnant portion of C19th road | Local | Whole direct impact |
| **G2B H55** | Remnant portion of C19th road (north/upslope of *Mananga* homestead) | Local | Whole direct impact |
| G2B H25 | *Sedgeford* homestead, 1902, (A495 Princes Highway, Broughton Village) | Local | Partial indirect impact |
| **G2B H28** | *Brookside* homestead (A540 Princes Highway. Broughton Village) | Local | Partial direct impact and indirect impact |
| G2B H29 | C20th concrete bridge, 1935, (Princes Highway. Broughton Creek) | Local | Indirect impact |
| G2B H45 | *Glenvale* homestead, former Berry Estate tenant farm (A371 Princes Highway. Broughton) | Local | No significant impact |
| G2B H47 | Former St Patrick's Convent, and St Patrick's Church and grounds (80 North St. Berry) | Local | Indirect impact |
| G2B H48 | Potential archaeological deposit, former Berry Estate tenant farm (now Greystanes Lodge) | Local (subject to confirmation through test excavation) | Indirect impact and potential direct impact |
| G2B H49 | *Oakleigh* homestead (59 Woodhill Mountain Rd. Berry) | Local | Indirect impact |
| G2B H50 | *Clare Moy* Cottage (342 Princes Highway. Toolijooa) | Below threshold | Not applicable |
| G2B H51 | *Graham Park* former agricultural research institution (8, 9 and 13 Schofields Lane, Berry) | State | No significant impact |
| G2B H52 | Potential archaeological deposit, former Berry Estate tenant farm (A441 Princes Highway. Broughton Village) | Local (subject to confirmation through test excavation) | No significant impact |
| **G2B H53** | Potential archaeological deposit, former Berry Estate tenant farm structure and indeterminate rock rubble alignment (Toolijooa Ridge) | Local (subject to confirmation through test excavation) | Whole direct impact |
| **G2B H54** | Remnant C19th dry stone wall (former highway boundary, Toolijooa Ridge) | Local | Partial direct impact and indirect impact |
| G2B H56 | Farmhouse and Dairy (disused), early to mid C20th, (117 North St., Berry) | Local | Indirect impact |
| G2B H58 | Uniting Church Hall (formerly Wesleyan Chapel), 1884, Victorian Carpenter Gothic style, (69 Albert St, adj. to North St) | Local | No significant impact |
| G2B H59 | Archaeological deposit and remnant plantings, former early C19th homestead (Broughton Village) | Local | Indirect impact |

| Site ID* | Name/Location | Significance | Impact |
|---|---|---|---|
| G2B H60 | Skid mounted work-site shed | Local | No significant impact |
| **G2B H61** | Quarried rock outcrop, Broughton | Local | Whole direct impact |
| G2B H62 | Avenue of Poplar trees | Local | Indirect impact |
| **G2B H63** | Mark Radium Park | Local | Partial direct impact |
| **SICPH CL** | Southern Illawarra Coastal Plain and Hinterland Cultural Landscape | Local | Partial direct impact and indirect impact |

** The Site ID of recordings subject to impact (partial direct impact and whole direct impact) are shown in Bold.*

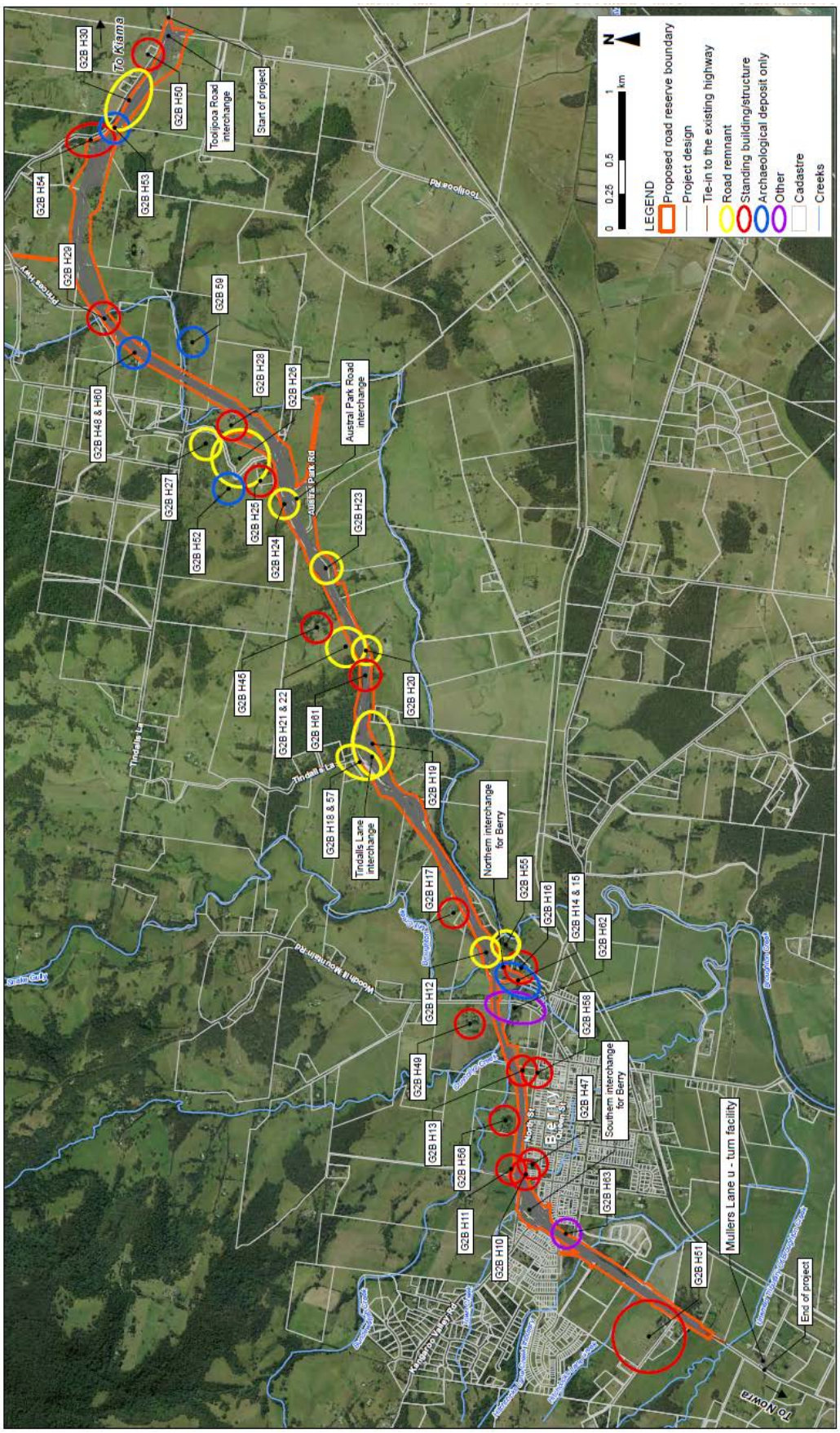


**Figure 3-2 General location of non-Aboriginal heritage recordings**

# 4 Environmental aspects and impacts

The key construction activities and the associated potential impacts to heritage values (both Aboriginal and non-Aboriginal) were identified through a risk management approach. The consequence and likelihood of each activity's impact on the environment was assessed to prioritise its significance. The results of this risk assessment are included in Appendix A3 of the CEMP.

## 4.1 Aboriginal cultural heritage impacts

### 4.1.1 Impacts on heritage recordings

The potential impacts of the Project on Aboriginal heritage recordings include:

- a direct impact and disturbance to the entire site or the majority of a site containing Aboriginal objects due to the construction of the Project (i.e. the footprint of the upgraded highway);
- a direct impact and disturbance to the entire site or the majority of a site containing Aboriginal objects within proposed areas for ancillary facilities situated outside of the Project corridor;
- complete or varying degrees of impact and / or disturbance to items with Aboriginal cultural significance which do not fall into the category of an Aboriginal object, such as mature fig trees; and
- indirect impact to Aboriginal objects, or non-Aboriginal objects with Aboriginal cultural value, such as from development related changes to the landscape or scenic context of a site or item.

Of the 42 recordings listed in Table 3-1, 16 would not be impacted by the Project, 18 would be partially impacted and eight fully impacted. The Site ID of recordings subject to impact are shown in Bold. All of those fully impacted consist of archaeological deposits, with the exception of one fig tree (MFT12) which has been approved for direct impact, however design modifications have been implemented to conserve the tree. All cultural material will be dealt with in accordance with the Care Agreement for Aboriginal Objects, which was entered into with relevant parties.

The Aboriginal heritage recordings remaining after salvage, as confirmed by RMS (refer Section 5), will be mapped on the Sensitive Area Plans (Appendix A6 of the CEMP).

### 4.1.2 Impacts on the cultural landscape

The Project would have impacts on the following cultural landscape values:

- the cutting at Toolijooa Ridge;
- the potential loss of one large fig tree (MFT12);
- the loss of some areas of native vegetation which may include plants known to have traditional uses;
- substantial modification of natural landforms within the Project area, through the construction of road platforms and cuttings.

The Project has the potential to impact the cultural values of the Toolijooa Ridge Aboriginal Cultural Landscape (TRACL). The physical, visual and potential habitat changes across Toolijooa Ridge resulting from the Project would impact the Aboriginal cultural values of the ridgeline. The stakeholders have resolved that damage to the ridge should be minimised.

Approximately 1.4 km of the Project would traverse the higher slopes of the Toolijooa Ridge and its associated side spurs. Impacts would include the carriageway formation, deep cuttings and visually prominent embankments.

These impacts would affect the Aboriginal cultural values of the landscape. The cutting through the ridge would alter the profile from various viewing angles. The visual continuity of the crest of the ridge would also be impacted. The presence of the Project corridor would prevent vehicles and pedestrians travelling along the ridge crest, which is notable given the value of the ridge as a former pathway.

The vegetation clearance required for the Project would reduce the current extent of vegetation cover. Aboriginal stakeholders have expressed concern that this may also impact habitat values.

## 4.2 Non-Aboriginal heritage impacts

The potential impacts of the Project on non-Aboriginal heritage can be categorised as follows:

- a whole or complete degree of direct impact to a heritage item resulting in the physical loss of the item;
- partial or minor direct impact to heritage item(s);
- indirect impacts, such as to the contextual and landscape values associated with an item;
- indirect impact to items of movable heritage which could be moved to avoid direct impact and as a consequence lose contextual integrity; and
- no significant impact. This category involves instances where the development would either not pose an impact to a heritage item (direct or indirect) or any impacts would be insignificant and would not reduce the heritage value or significance of the item.

The concept design upon which the EA is based was developed and refined with reference to known and potential cultural heritage constraints. As a consequence, the detailed design now avoids many items which would have been impacted in earlier designs.

Of the 34 non-Aboriginal heritage items listed in Table 3-2, 19 would not be directly impacted, five would be partially impacted, and ten wholly impacted. The Site ID of recordings subject to impact are shown in Bold. Of those not directly impacted, 13 occur within 50 metres of the construction footprint and 11 would be subject to indirect impacts relating to their landscape contexts.

Statements of Heritage Impact (SoHI) have been prepared for the impacted items. Overall, the impacts were found to be acceptable, subject to the implementation of management recommendations described in Section 5 following.

Graham Park (G2B H51) is a former agricultural institution and is located southwest of Berry on the Princes Highway. It is the only site of state significance located within the Project area. Heritage features at the site relate to the entrance structures and include gates, pillars and a sculpture of a bull. While this site is located within 50 metres of the construction footprint, it is not expected to be directly impacted by the Project.

The non-Aboriginal heritage recordings remaining after salvage, as confirmed by RMS (refer Section 5), will be mapped on the Sensitive Area Plans (Appendix A6 of the CEMP).

# 5 Environmental mitigation measures

Specific mitigation measures to address impacts on Aboriginal and non-Aboriginal heritage are outlined in Table 5-1.

**Table 5-1 Heritage mitigation measures**

| ID | Mitigation Measure | Timing | | Responsibility |
|---|---|---|---|---|
| | | PC | C | |
| **GENERAL** | | | | |
| CHMM1 | Manage Aboriginal and non-Aboriginal sites identified to be retained and protected as environmentally sensitive areas. In this regard, erect exclusion fencing and signage to ensure that environmentally sensitive areas are protected in accordance with the RMS *Biodiversity guidelines: Guide 2 – Exclusion Zones* (RTA, 2011) and map these sites on Sensitive Area Plans. | | ✓ | Project / Site Engineers<br>Foreman<br>Environmental Manager<br>Environmental Officer |
| CHMM2 | Adopt and follow the RMS *Standard Management Procedure – Unexpected Heritage Items* (Roads and Maritime Services, 2013) in the event that unexpected cultural Aboriginal and non-Aboriginal heritage finds are encountered during construction, including human remains. | ✓ | ✓ | All personnel and contractors |
| CHMM3 | Do not destroy, modify or otherwise physically affect any heritage items outside the approved Project footprint. | | ✓ | All personnel and contractors |
| CHMM4 | Engage with the local Aboriginal community through the Aboriginal Focus Group on a regular basis during construction. | | ✓ | Environmental Manager |
| CHMM5 | Include inspection of exclusion fencing in the Environmental Inspection Checklist. | ✓ | ✓ | Environmental Manager |
| CHMM6 | Where work will occur in close proximity to Aboriginal and non-Aboriginal heritage sites include mitigation measures from this table in the EWMS, to minimise potential impacts. | | ✓ | Environmental Officer |
| CHMM7 | Ensure landscape plans consider the cultural heritage values of the area. | | ✓ | Environmental Manager<br>Design Team |
| **ESTABLISHMENT AND MAINTENANCE OF EXCLUSION ZONES** | | | | |
| CHMM8 | Review the Sensitive Area Plans and conduct site visit with surveyor and Environmental Manager (or delegate) to identify and mark exclusion zone boundaries. Temporarily flag exclusion zone fencing locations through spray paint or high visibility tape or wooden markers. If exclusion zone boundaries cannot be identified, advice will be sought from the Project Archaeologist. | ✓ | | Environmental Manager (or delegate)<br>Surveyor |
| CHMM9 | Where whole or partial impacts to a heritage site have been approved, determine the exclusion zone boundaries by the extent of approved impacts to the heritage site boundary. If exclusion zone boundaries cannot be identified, advice will be sought from the Project Archaeologist. | ✓ | | Environmental Manager (or delegate) |
| CHMM10 | Ensure exclusion zone boundaries are practical and consider the topography or the intrusion of features of the landscape. Where practicable, a wider perimeter is preferred to a narrower one to ensure harm is avoided to the heritage sites identified. | ✓ | | Environmental Manager (or delegate) |

| ID | Mitigation Measure | Timing | | Responsibility |
|---|---|---|---|---|
| | | PC | C | |
| CHMM11 | Where details on Sensitive Area Plans are insufficient or smaller exclusion zones are needed, seek advice from the project archaeologist to determine appropriate boundaries. | ✓ | | Environmental Manager (or delegate) |
| CHMM12 | Erect exclusion fencing in a practical manner which facilitates both the protection of the heritage site and ability of construction activities to proceed unhindered. | ✓ | | Environmental Manager (or delegate) Foreman |
| CHMM13 | Monitor effectiveness and condition of exclusion fencing weekly. | | ✓ | Environmental Officer |
| CHMM14 | Remove exclusion fencing once construction activities have ceased in the vicinity and no further impacts are likely to occur. Seek approval to remove exclusion fencing from Environmental Manager. | | ✓ | Environmental Officer Foreman |
| **ABORIGINAL HERITAGE** | | | | |
| CHMM15 | To ensure Aboriginal sites are not destroyed, modified or otherwise physically affected, erect exclusion fencing between the zone of construction activity and any adjacent Aboriginal site, or portion of the site and/or archaeological deposit to define an exclusion zone for vehicles, material storage or other actions likely to result in ground disturbance. This will apply to sites: G2B A3, G2B A20, G2B A37, G2B A38, G2B A39 and MFT 13-23. | ✓ | ✓ | Environmental Manager (or delegate) Foreman |
| CHMM16 | To minimise identified impacts to Aboriginal heritage to the greatest extent practicable, particularly with regard to G2B A13, G2B A14, and G2B A18, restrict traffic to designated haul routes. | | ✓ | Environmental Officer Foreman |
| CHMM17 | To minimise identified visual impacts to TRACL, re-establish native vegetation in accordance with the Urban Design and Landscape Plan. | | ✓ | Environmental Officer Foreman |
| CHMM18 | If an area is required for ancillary activities (not associated with significant ground disturbance) and there are remaining archaeological deposits, apply additional hard stand gravels to protect any remaining archaeological deposits, as required. | | ✓ | Environmental Manager (or delegate) Foreman |
| CHMM19 | Map Aboriginal heritage recordings remaining after salvage, as confirmed by RMS, on Sensitive Area Plans. | ✓ | | Environmental Manager (or delegate) |
| CHMM20 | Implement relevant mitigation measures from further archaeological investigations, salvage and archival recording as required. | | ✓ | Environmental Manager (or delegate) |
| **NON-ABORIGINAL HERITAGE** | | | | |
| CHMM21 | To ensure non-Aboriginal sites are not destroyed, modified or otherwise physically affected, erect exclusion fencing between the zone of construction activity and any adjacent non-Aboriginal sites. This will apply to sites: G2B H25, G2B H26, G2B H51, G2B H52, G2B H58 and G2B H59. | ✓ | ✓ | Environmental Manager (or delegate) Foreman |
| CHMM22 | To minimise identified visual impacts to G2B H13 (Burnett Estate Workers Cottage) and Southern Illawarra Coastal Plain and Hinterland Cultural Landscape (SICPH CL), re-establish vegetation in accordance with the Urban Design and Landscape Plan. | | ✓ | Environmental Officer Foreman |
| CHMM23 | Avoid direct impacts to G2B H20 (Remnant portion of C20th highway). This item is located outside the construction footprint. | | ✓ | Environmental Officer Foreman |

| ID | Mitigation Measure | Timing | | Responsibility |
|---|---|---|---|---|
| | | PC | C | |
| CHMM24 | Only impact G2B H54 (Remnant C19th dry stone wall) to the extent that is required for construction, within the approved Project footprint as determined by Environmental Manager. Avoid impacts to the remaining extent of G2B H54. | | ✓ | Environmental Manager<br>Foreman |
| CHMM25 | Erect exclusion fencing for items G2B H54 (remaining extent of dry stone wall). | | ✓ | Environmental Manager (or delegate)<br>Foreman |
| CHMM26 | Erect exclusion fencing around the northern most Poplar tree in the tree avenue G2B H62. While all six poplar trees in this avenue are located outside the construction footprint, the northern most tree is located approximately 10m away from the project boundary and therefore will be fenced. (The next closest tree is 125m away from the project boundary and will not be fenced). | | ✓ | Environmental Officer<br>Foreman |
| CHMM27 | Avoid impacts to G2B H63 (Mark Radium Park) where practicable. | | ✓ | Environmental Officer |
| CHMM28 | Map non-Aboriginal heritage recordings remaining after salvage, as confirmed by RMS, on Sensitive Area Plans. | ✓ | | Environmental Manager (or delegate) |
| CHMM29 | Implement relevant mitigation measures from further archaeological investigations, salvage and archival recording as required. | | ✓ | Environmental Manager (or delegate) |
| CHMM30 | Prepare a Blast Management Plan to address potential risks and control measures in accordance with Section 4 of *AS2187.2-2006 Australian Standard Explosives – Storage and Use, Part 2: Use of Explosives.* Consider potential impacts on heritage items as part of the Blast Management Plan. | ✓ | | Project Engineer<br>Environmental Manager |

[1] PC means pre-construction

[2] C means construction

# 6 Compliance management

## 6.1 Roles and responsibilities

Fulton Hogan's Project Team organisational structure and overall roles and responsibilities are outlined in Section 4.1 of the CEMP. Specific responsibilities for the implementation of environmental controls are detailed in Table 5-1 of this CHMP. In addition, the roles and responsibilities of the Project Archaeologist are detailed below.

### 6.1.1 Project Archaeologist

The environmental responsibilities of the Project Archaeologist are to:

- Assist in consultation, advice, liaison with Aboriginal and non-Aboriginal stakeholders and observation of construction works, as required.

## 6.2 Training

All employees, contractors and utility staff working on site will undergo site induction training relating to Aboriginal and non-Aboriginal heritage management issues, including:

- requirements of this CHMP
- relevant legislation
- roles and responsibilities for heritage management
- location of identified heritage sites, including those outside the approved project footprint
- proposed heritage mitigation measures including those outlined in Chapter 5 of this CHMP. In particular, the identification of exclusion zones and erection and maintenance of exclusion fencing
- basic identification skills for Aboriginal and non-Aboriginal artefacts and human remains
- the cultural significance of Dicky Wood's Meadow (G2B A13), Berry pickers encampment areas (A39) and Toolijooa Ridge Aboriginal Cultural Landscape (TRACL)
- procedure to follow in the event of an unexpected heritage item find during construction works (*Roads and Maritime Services Standard Management Procedure – Unexpected Heritage Items* (October 2013) (refer to Appendix A))
- procedure to follow in the event of discovery of human remains during construction works (*Roads and Maritime Services Standard Management Procedure – Unexpected Heritage Items* (October 2013) (refer to Appendix A)), and
- Penalties and non-compliance with this CHMP.

Further details regarding staff induction and training are outlined in Chapter 5 of the CEMP.

## 6.3 Monitoring and inspections

Regular monitoring and inspections will be undertaken during construction in accordance with the table below. Additional requirements and responsibilities in relation to inspections are documented in Sections 8.1 and 8.2 of the CEMP.

**Table 6-1 Monitoring and inspection**

| Monitoring details | Record | Responsibility | Frequency |
|---|---|---|---|
| Inspection of exclusion fencing; exclusion signage; and adherence to exclusion zones when works are being undertaken in the vicinity. | Environmental Inspection Checklist | Environmental Officer | Weekly |
| | Site diary where there is a non-compliance that is not resolved immediately | Foreman | Daily |
| Vibration monitoring when construction activities are being undertaken in the vicinity of non-Aboriginal heritage items that may impact the item | Refer to the CNVMP. | Environmental Officer<br>Foreman | When working in the vicinity of heritage items to be retained – determined on a site by site basis using the Construction Vibration Safe Working Distances provided in Appendix H of the CNVMP or the Blast Management Plan provided in Appendix D of the CNVMP. |

## 6.4 Non-conformances

Non-conformances will be dealt with and documented in accordance with Section 8.5 of the CEMP.

## 6.5 Complaints

Complaints will be recorded and addressed in accordance with Section 6.3 of the CEMP and the Community Communication Strategy (CCS).

## 6.6 Audits

Audits (both internal and external) will be undertaken to assess the effectiveness of environmental controls, compliance with this CHMP, CoA and other relevant approvals, licenses and guidelines. Audit requirements are detailed in Section 8.4 of the CEMP.

# 7 Review and improvement of CHMP

The CHMP will be reviewed annually to ensure compliance with legislative requirements and its suitability and effectiveness for the project.

The review may be in the form of:

- a formal management review
- a second party audit, and/or
- an inclusion as a separate item at a site meeting.

The Environmental Manager can review and update the CHMP more regularly where:

- significant changes in construction activities occur
- where targets are not being achieved, or
- in response to audits and nonconformity reports.

Minor changes to the CHMP will be approved by the Environmental Representative in accordance with Section 1.7 of the CEMP.

In addition, relevant mitigation measures from further archaeological investigations, prior to and during construction will be incorporated into this CHMP as required.

# Appendix A
RMS Standard Management Procedure – Unexpected Heritage Items

Transport Roads & Maritime Services

# STANDARD MANAGEMENT PROCEDURE

## Unexpected Heritage Items

**October 2013**

# About this release

| | |
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| Prepared by | Environmental Officer (Heritage) | Gretta Logue |
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| Final | 1 November 2011 | First Draft |
| Revised | 23 July 2012 | Amended to reflect that (a) unexpected finds do not include items covered by a relevant approval; (b) Aboriginal people must be consulted where an unexpected find is likely to be an Aboriginal object; (c) the Department of Planning and Infrastructure must be notified in accordance with Step 5 of this procedure for Part 3A and Part 5.1 projects. |
| Revised | 09 October 2013 | Amended to clarify that the procedure applies to all types of unexpected heritage items, not just archaeological items. The procedure introduces the term ‘Historic Items’ to cover both ‘archaeological relics’ and ‘other historic items’ such as works, structures, buildings and movable objects. The title of the document has been amended to better reflect this clarification. |

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## Please note

This procedure applies to all development and activities concerning roads, road infrastructure and road related assets undertaken by Roads and Maritime.

For advice on how to manage unexpected heritage items as a result of activities related to maritime infrastructure projects, please contact the Senior Environmental Specialist (Heritage).

# Contents

# Unexpected heritage items procedure

## 1. Purpose

This procedure has been developed to provide a consistent method for managing unexpected heritage items (both Aboriginal and non-Aboriginal) during Roads and Maritime activities. This procedure includes Roads and Maritime's heritage notification obligations under the *Heritage Act 1977* (NSW), *National Parks and Wildlife Act 1974* (NSW), *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth) and the *Coroner's Act 2009* (NSW).

This document provides relevant background information in Section 3, followed by the technical procedure in Sections 6 and 7. Associated guidance referred to in the procedure can be found in Appendices A-H.

## 2. Scope

This procedure assumes that an appropriate level of Aboriginal and non-Aboriginal heritage assessment has been undertaken prior to project approval or determination. Such assessment would have identified all heritage items, including areas of archaeological potential, likely to be present within the project area.

In some cases, despite appropriate and adequate investigation, unexpected heritage items may be encountered during the project construction phase. When this happens, this procedure must be followed. This procedure provides direction on when to stop work, where to seek technical advice and how to notify the regulator, if required.

**This procedure applies to all Road and Maritime construction and maintenance activities**

This procedure **applies to**:

- The discovery of any unexpected heritage item (usually during construction), where Roads and Maritime does not have approval to disturb that item.
- All Roads and Maritime projects that are approved or determined under Part 3A (including Transitional Part 3A Projects), Part 4, Part 5 or Part 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), or any development that is exempt under the Act.

This procedure must be followed by Roads and Maritime staff, alliance partners (including local council staff working under Road Maintenance Council Contracts, [RMCC]), developers under works authorisation deeds or any person undertaking Part 5 assessment for Roads and Maritime.

This procedure **does not apply** to:

- The legal discovery and disturbance of heritage items as a result of investigations being undertaken in accordance with OEH's *Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW* (2010); an Aboriginal Heritage Impact Permit (AHIP) issued under the *National Parks and Wildlife Act 1974*; or an approval issued under the *Heritage Act 1977*[1].

[1] RMS' heritage obligations are incorporated into the conditions of heritage approvals.

- The legal discovery and disturbance of heritage items as a result of investigations (or other activities) that are required to be carried out for the purpose of complying with any environmental assessment requirements under Part 3A (including Transitional Part 3A Projects) or Part 5.1 of the EP&A Act.
- The legal discovery and disturbance of heritage items as a result of construction related activities, where the disturbance is permissible in accordance with an AHIP[2]; an approval issued under the *Heritage Act 1977*; or the Minister for Planning's conditions of project approval.

All Construction Environment Management Plans (CEMPs) must make reference to and/or include this procedure (often included as a heritage sub-plan). Where approved CEMPs exist they must be followed in the first instance. Where there is a difference between approved CEMPs and this procedure, the approved CEMP must be followed. Where an approved CEMP does not provide sufficient detail on particular issues, this procedure should be used as additional guidance. When in doubt always seek environment and legal advice on varying approved CEMPs.

# 3. Types of unexpected heritage items and their legal protection

The roles of project, field and environmental staff are critical to the early identification and protection of unexpected heritage items. Appendix A illustrates the wide range of heritage discoveries found on Roads and Maritime projects and provides a useful photographic guide to this early identification. Subsequent confirmation of heritage discoveries must then be identified and assessed by technical specialists (usually an archaeologist).

An 'unexpected heritage item' means any unanticipated discovery of an actual or potential heritage item, for which Roads and Maritime does not have approval to disturb[3].

These discoveries are categorised as either:

(a) Aboriginal objects

(b) Historic (non-Aboriginal) heritage items

(c) Human skeletal remains.

The relevant legislation that applies to each of these categories is described below.

## 3.1 Aboriginal objects

The *National Park and Wildlife Act 1974* protects *Aboriginal objects* which are defined as:

> "*any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the*

[2] RMS *Procedure for Aboriginal cultural heritage consultation and investigation* (2011) recommends that Part 4 and Part 5 projects that are likely to impact Aboriginal objects during construction seek a whole-of-project AHIP. This type of AHIP generally allows a project to impact known and potential Aboriginal objects within the entire project area, without the need to stop works. It should be noted that an AHIP may exclude impact to certain objects and areas, such as burials or ceremonial sites. In such cases, the project must follow this procedure.

[3] Disturbance is considered to be any physical interference with the item that results in it being destroyed, defaced, damaged, harmed, impacted or altered in any way (this includes archaeological investigation activities).

*occupation of that area by persons of non Aboriginal extraction, and includes Aboriginal remains*"[4].

Examples of Aboriginal objects include stone tool artefacts, shell middens, axe grinding grooves, pigment or engraved rock art, burials and scarred trees.

**IMPORTANT!**

**All Aboriginal objects, regardless of significance, are protected under law.**

If any impact is expected to an Aboriginal object, an Aboriginal Heritage Impact Permit (AHIP) is usually required from the Office of Environment and Heritage (OEH)[5]. Also, when a person becomes aware of an Aboriginal object they must notify the Director-General of OEH about its location[6]. Assistance on how to do this is provided in Section 7 (Step 5).

## 3.2 Historic heritage items

Historic (non-Aboriginal) heritage items may include:

- Archaeological 'relics'
- Other historic items (i.e. works, structures, buildings or movable objects).

### 3.2.1 Archaeological relics

The *Heritage Act 1977* protects *relics* which are defined as:

"*any deposit, artefact, object or material evidence that relates to the settlement of the area that comprises NSW, not being Aboriginal settlement; and is of State or local heritage significance*"[7].

Relics are archaeological items of local or state significance which may relate to past domestic, industrial or agricultural activities in NSW, and can include bottles, remnants of clothing, pottery, building materials and general refuse.

**IMPORTANT!**

**All relics are subject to statutory controls and protections.**

If any impact is expected to a relic, a heritage approval is usually required from the NSW Heritage Council[8]. Also, when a person discovers a relic they must notify the NSW Heritage Council of its location[9]. Advice on how to do this is provided in Section 7 (Step 5).

[4] Section 5(1) *National Park and Wildlife Act 1974*.
[5] Except when Part 3A, Division 4.1 of Part 4 or Part 5.1 of the *EP&A Act* applies.
[6] This is required under s89(A) of the *National Park and Wildlife Act 1974* and applies to **all projects** assessed under Part 3A, Part 4, Part 5 *and Part 5.1* of the *EP&A Act*, including exempt development.
[7] Section 4(1) *Heritage Act 1977*.
[8] Except when Part 3A, Division 4.1 of Part 4 or Part 5.1 of the *EP&A Act* applies.
[9] This is required under s146 of the *Heritage Act 1977* and applies to **all projects** assessed under Part 3A, Part 4, Part 5 and Part 5.1 of the *EP&A Act*, including exempt development.

### 3.2.2 Other historic items

Some historic heritage items are not considered to be 'relics'; but are instead referred to as works, buildings, structures or movable objects. Examples of these items that Roads and Maritime may encounter include culverts, historic road formations, historic pavements, buried roads, retaining walls, tramlines, cisterns, fences, sheds, buildings and conduits. Although an approval under the *Heritage Act 1977* may not be required to disturb these items, their discovery must be managed in accordance with this procedure.

As a general rule, an archaeological relic requires discovery or examination through the act of excavation. An archaeological excavation permit under Section 140 of the *Heritage Act 1977* is required to do this. In contrast, 'other historic items' either exist above the ground's surface (e.g. a shed), or they are designed to operate and exist beneath the ground's surface (e.g. a culvert).

Despite this difference, it should be remembered that relics can often be associated with 'other heritage items', such as archaeological deposits within cisterns and underfloor deposits under buildings.

## 3.3 Human skeletal remains

Human skeletal remains can be identified as either an Aboriginal object or non-Aboriginal relic depending on ancestry of the individual (Aboriginal or non-Aboriginal) and burial context (archaeological or non-archaeological). Remains are considered to be archaeological when the time elapsed since death is suspected of being 100 years or more. Depending on ancestry and context, different legislation applies.

As a simple example, a pre-contact archaeological Aboriginal burial would be protected under the *National Park and Wildlife Act 1974*, while a historic (non-Aboriginal) archaeological burial within a cemetery would be protected under the *Heritage Act 1977*. For these cases, the relevant heritage approval and notification requirements described in the above sections 3.1 and 3.2 would apply. In addition to the *National Park and Wildlife Act 1974*, finding Aboriginal human remains also triggers notification requirements to the Commonwealth Minister for Sustainability, Environment, Water, Populations and Communities (SEWPC) under s20(1) of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth).

**IMPORTANT!**

**All human skeletal remains are subject to statutory controls and protections.**

All bones must be treated as potential human skeletal remains and work around them must stop while they are protected and investigated urgently.

However, where it is suspected that less than 100 years has elapsed since death, the human skeletal remains come under the jurisdiction of the State Coroner and the *Coroners Act 2009* (NSW). Such a case would be considered a 'reportable death' and under legal notification obligations set out in s35(2); a person must report the death to a police officer, a coroner or an assistant coroner as soon as possible. This applies to

all human remains less than 100 years old[10] regardless of ancestry (ie both Aboriginal and non-Aboriginal remains). Public health controls may also apply.

Guidance on what to do when suspected human remains are found is provided in Appendix F.

[10] Under s19 of the *Coroners Act 2009*, the coroner has no jurisdiction to conduct an inquest into reportable death unless it appears to the coroner that (or that there is reasonable cause to suspect that) the death or suspected death occurred within the last 100 years.

# 4. Responsibilities

The following roles and responsibilities are relevant to this procedure.

| Role | Definition/responsibility |
|---|---|
| Aboriginal Cultural Heritage Advisor (ACHA) | Provides Aboriginal cultural heritage advice to project teams. Acts as Aboriginal community liaison for projects on cultural heritage matters. Engages and consults with the Aboriginal community as per the Roads and Maritime *Procedure for Aboriginal Cultural Heritage Consultation and Investigation*. |
| Aboriginal Sites Officer | Is an appropriately trained and skilled Aboriginal person whose role is to identify and assess Aboriginal objects and cultural values. For details on engaging Aboriginal Sites Officers, refer to Roads and Maritime *Procedure for Aboriginal Cultural Heritage Consultation and Investigation*. |
| Archaeologist (A) | Professional consultant, contracted on a case-by-case basis to provide heritage and archaeological advice and technical services (such as reports, heritage approval documentation etc). |
| Environment Manager Regional Maintenance Delivery (EM-RMD) | Ensures Regional Maintenance Delivery staff are aware of the Unexpected Heritage Items Protocol for Maintenance Staff and the Unexpected Heritage Item Recording Form 418. Supports the Regional Maintenance Delivery Section Manager during the implementation of this procedure and ensures reporting of unexpected heritage items through environment management systems. |
| Project (on-call) Archaeologist | Professional consultant contracted for the implementation phase of a construction project to provide heritage and archaeological advice and technical services when required. Major projects with complex heritage issues often have a Project archaeologist. |
| Project Manager (PM) | Ensures all aspects of this procedure are implemented. The PM can delegate specific tasks to a construction environment manager, Roads and Maritime site representatives or regional environment staff, where appropriate. |
| Regional Environment Staff (RES) | Provides advice on this procedure to project teams. Ensuring this procedure is implemented consistently by supporting the PM. Supporting project teams during the uncovering of unexpected finds. Reviewing archaeological management plans and liaising with heritage staff and archaeological consultants as needed. |
| Registered Aboriginal Parties (RAPs) | RAPs are Aboriginal people who have registered with Roads and Maritime to be consulted about a proposed Roads and Maritime project or activity in accordance with OEH's Aboriginal cultural heritage consultation |

| | |
|---|---|
| | requirements for proponents (2010). |
| Section Manager - Regional Maintenance Delivery (SM-RMD) | Liaises with RES, EM-RMD and heritage staff during the discovery of unexpected heritage items and the implementation of this procedure. |
| Senior Environmental Specialist (Heritage) (SES(H)) | Provides technical assistance on this procedure and archaeological technical matters, as required. Reviewing the archaeological management plans and facilitating heritage approval applications, where required. Assists with regulator engagement, where required. |
| Team Leader - Regional Maintenance Delivery (TL-RMD) | Ensures Regional Maintenance Delivery staff stop work in the vicinity of an unexpected heritage item. Completes Unexpected Heritage Item Recording Form 418 and notifies SM-RMD. |
| Technical Specialist | Professional consultant contracted to provide specific technical advice that relates to the specific type of unexpected heritage find (eg a forensic or physical anthropologist who can identify and analyse human skeletal remains). |

# 5. Acronyms

The following acronyms are relevant to this procedure.

| Acronym | Meaning |
|---|---|
| AHIP | Aboriginal Heritage Impact Permit |
| ASO | Aboriginal Site Officer |
| CEMP | Construction Environment Management Plan |
| DSEWPC | Commonwealth Department of Sustainability, Environment, Water, Populations and Communities |
| EPRG | Environmental Planning and Regulatory Group. *Please note at the time of finalisation EPRG became part of Environment Protection Authority* |
| OEH | Office of Environment and Heritage |
| PACHCI | Procedure for Aboriginal Cultural Heritage Consultation and Investigation |
| RAP | Registered Aboriginal Party/ies |
| RMD | Regional Maintenance Delivery |
| RMCC | Road Maintenance Council Contracts |
| RMS | Roads and Maritime |

# 6. Overview of the procedure

On discovering something that could be an unexpected heritage item ('the item'), the Project Manager must implement the following procedure with the assistance of the regional environment staff and Roads and Maritime heritage staff, where required.

There are eight steps in the procedure. These steps are shown briefly in Figure 1 below and explained in detail in Section 7.

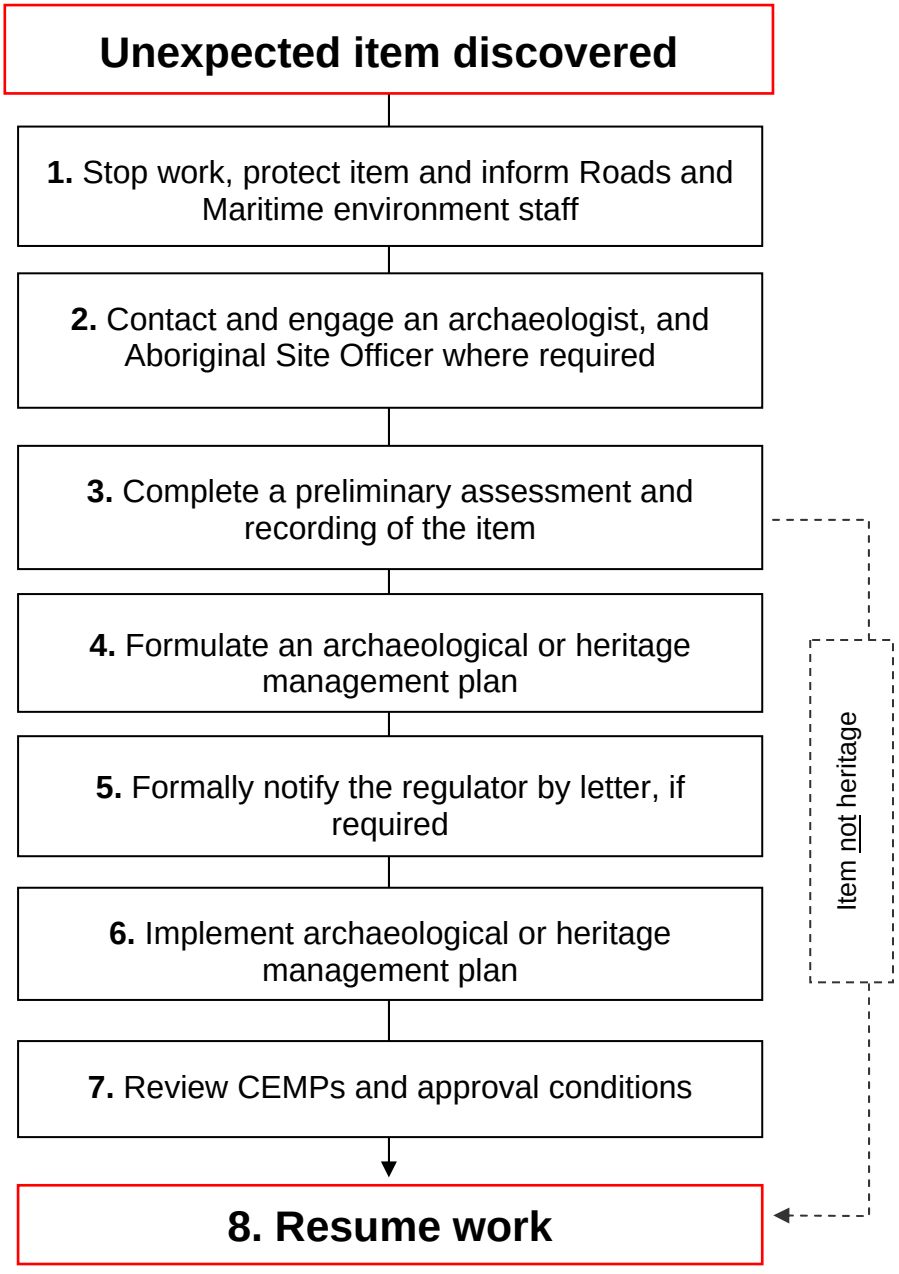



**Figure 1**: Overview of steps to be undertaken on the discovery of an unexpected heritage item.

# 7. Unexpected heritage items procedure

**Table 1:** Specific tasks to be implemented following the discovery of an unexpected heritage item.

*Aboriginal Cultural Heritage Advisor (ACHA); Aboriginal Sites Officer (ASO); Archaeologist (A); Project Manager (PM); Regional Environment Staff (RES); Registered Aboriginal Parties (RAPs); Senior Environmental Specialist (Heritage) (SES(H)).*

| Step | Task | Responsibility | Guidance & Tools |
|---|---|---|---|
| **1** | **Stop work, protect item and inform Roads and Maritime environment staff** | | |
| 1.1 | Stop all work in the immediate area of the item and notify the PM. | All | **Appendix A** (Identifying Unexpected Heritage items) |
| 1.2 | Maintenance crews are required to follow the *Unexpected Heritage Items Protocol for Maintenance Staff* outlined in Appendix B and return to this procedure when directed by that protocol. | TL-RMD | **Appendix B** (Unexpected Heritage Items Protocol for Maintenance Staff) **Appendix C** (Unexpected Heritage Item Recording Form 418) |
| 1.3 | Take a number of photographs that captures the general context and specific detail of the item. | PM | **Appendix D** (Photographing Unexpected Heritage items) |
| 1.4 | Inform relevant Roads and Maritime regional environment staff, Senior Environmental Specialist (Heritage) and Regional Aboriginal Cultural Heritage Advisor (where the item is thought to be an Aboriginal object). | PM | **Appendix E** (Key Environmental Contacts) |
| 1.5 | Delineate and protect the item with appropriate (high visibility) fencing, where practical. | PM | |

| Step | Task | Responsibility | Guidance & Tools |
|---|---|---|---|
| 1.6 | No further interference, including works, ground disturbance, touching or moving the item must occur to the item or within the protected area. | PM | |
| 1.7 | Inform all site personnel of the protected area (a new environmentally sensitive zone). | PM | |
| 1.8 | Where, at this stage, the item is reasonably suspected to be human remains proceed directly to notifying the local police who may take command of all or part of the site. Where the item does not involve human remains, continue progressing through this procedure. | PM | **Appendix F** (Uncovering Bones) |
| 1.9 | Report the item as a 'Notifiable Event' in accordance with the Roads and Maritime *Incident Classification and Reporting Procedure*. Also implement any additional reporting requirements related to the project's approval and CEMP. | PM/RES | RMS Incident Classification and Reporting Procedure |
| **2** | **Contact and engage an archaeologist, and Aboriginal site officer where required** | | |
| 2.1 | Contact the Project (on-call) Archaeologist to discuss the location and extent of the item and to arrange a site inspection, if required. The project CEMP contains contact details of the Project Archaeologist. | PM/RES | Also see **Appendix E** (Key Environmental Contacts) |
| 2.2 | Where there is no project archaeologist engaged for the project, engage a suitably qualified and experienced archaeological consultant to undertake a site inspection, conduct a preliminary assessment and prepare an archaeological or heritage management plan. Lists of consultants are available from online sources, including the yellow pages. Regional environment staff and Roads and Maritime heritage staff can also advise on appropriate consultants. | PM/RES | Online lists of heritage consultants:<br>• OEH List<br>• AACAI List |
| 2.3 | Where the item is likely to be an Aboriginal object, arrange for an Aboriginal Sites Officer to inspect the find. Generally, this person would be a Sites Officer from the relevant local Aboriginal land council. If an alternative contact person (ie a RAP) has been nominated as a result of previous consultation, then that person is to be contacted. | PM/ACHA | |
| 2.4 | If requested, provide photographs of the item taken at Step 1.3 to the archaeologist, and Aboriginal Sites Officer if relevant. | PM/RES | **Appendix D** (Photographing |

| Step | Task | Responsibility | Guidance & Tools |
|---|---|---|---|
| | | | Unexpected Heritage items) |
| **3** | **Preliminary assessment and recording of the find** | | |
| 3.1 | In a minority of cases, the archaeologist (and Aboriginal Sites Officer, if relevant) may determine from the photographs that no site inspection is required because no archaeological constraint exists for the project (*eg the item is not a 'relic', a 'heritage item' or an 'Aboriginal object*'). Any such advice should be provided in writing by the archaeologist (eg via email) and confirmed by the Project Manager. | A/PM/ASO | Proceed to Step 8 |
| 3.2 | Arrange site access for the archaeologist (and Aboriginal Sites Officer, if relevant) to inspect the item as soon as practicable. In the majority of cases a site inspection is required to conduct a preliminary assessment. | PM | |
| 3.3 | Subject to the archaeologist's assessment (and the Aboriginal Sites Officer's assessment, if relevant), work may recommence at a set distance from the item. This is to protect any other archaeological material that may exist in the vicinity, which has not yet been uncovered. Existing protective fencing established in Step 1.5 may need to be adjusted to reflect the extent of the newly assessed protective area. No works are to take place within this area once established. | A/PM/ASO | |
| 3.4 | The archaeologist (and Aboriginal Sites Officer, if relevant) may provide advice after the site inspection and preliminary assessment that no archaeological constraint exists for the project (*eg the item is not a 'relic', a 'heritage item' or an 'Aboriginal object'*). Any such advice should be provided in writing by the archaeologist, (and Aboriginal Sites Officer if relevant) (eg via email) and confirmed by the Project Manager. | A/PM/ASO | Proceed to Step 8 |
| 3.5 | Where required, seek additional specialist technical advice (such as a forensic or physical anthropologist to identify skeletal remains). Regional environment staff and/or Roads and Maritime heritage staff can provide contacts for such specialist consultants. | PM/RES | **Appendix E** (Key Environmental Contacts) |
| 3.6 | Where the item has been identified as a 'relic', 'heritage item' or an 'Aboriginal object' the archaeologist should record the item on a proforma recording form. | A | • Aboriginal site recording form<br>• Non-Aboriginal site |

| Step | Task | Responsibility | Guidance & Tools |
|---|---|---|---|
| | | | recording form |
| 3.7 | The regulator can be notified informally by telephone at this stage by the archaeologist or Project Manager (or delegate). Any verbal conversations with regulators must be noted on the project file for future reference. | PM/A | |
| **4** | **Prepare an archaeological or heritage management plan** | | |
| 4.1 | The archaeologist must prepare an archaeological or heritage management plan (with input from the Aboriginal Sites Officer, where relevant) shortly after the site inspection. This plan is a brief overview of the following: (a) description of the feature, (b) historic context, if data is easily accessible, (c) likely significance, (d) heritage approval and regulatory notification requirements, (e) heritage reporting requirements, (f) stakeholder consultation requirements, (g) relevance to other project approvals and management plans etc. | A/ASO | **Appendix G** (Archaeological/ Heritage Advice Checklist) |
| 4.2 | In preparing the plan, the archaeologist with the assistance of regional environment staff must review the CEMP, any heritage sub-plans, any conditions of heritage approvals, any conditions of project approval (and or Minister's Conditions of Approval) and heritage assessment documentation (eg Aboriginal Cultural Heritage Assessment Report). This will outline if the unexpected item is consistent with previous heritage/project approval(s) and/or previously agreed management strategies. The Project Manager and regional environment staff must provide all relevant documents to the archaeologist to assist with this. Discussions should occur with design engineers to consider if re-design options exist and are appropriate. | A/RES/PM | **Appendix G** (Archaeological/ Heritage Advice Checklist) |
| 4.3 | The archaeologist must submit this plan as a letter, brief report or email to the Project Manager outlining all relevant archaeological or heritage issues. This plan should be submitted to the Project Manager as soon as practicable. Given that the archaeological management plan is an overview of all the necessary requirements (and the urgency of the situation), it should take no longer than two working days to submit to the Project Manager. | A | |

| Step | Task | Responsibility | Guidance & Tools |
|---|---|---|---|
| 4.4 | The Project Manager must review the archaeological or heritage management plan to ensure all requirements can reasonably be implemented. Seek additional advice from regional environment staff and Roads and Maritime heritage staff, if required. | PM/RES/SES (H) | |
| **5** | **Notify the regulator, if required.** | | |
| 5.1 | Review the archaeological or heritage management plan to confirm if regulator notification is required. It may state notification is not required. | PM/RES/SES (H) | Proceed to Step 6 |
| 5.2 | If notification is required, complete the template notification letter. | PM | **Appendix H** (Template Notification Letter) |
| 5.3 | Forward the draft notification letter, archaeological or heritage management plan and the site recording form to regional environment staff and Senior Environmental Specialist (Heritage) for review, and consider any suggested amendments. | PM/RES/SES (H) | |
| 5.4 | Forward the signed notification letter to the relevant regulator (ie notification of relics must be given to the Heritage Branch of OEH, while notification for Aboriginal objects must be given to the Environmental Protection and Regulation Group of OEH). Informal notification (via a phone call or email) to the regulator prior to sending the letter is appropriate. The archaeological management plan and the completed site recording form must be submitted with the notification letter. For Part 3A and Part 5.1 projects, the Department of Planning and Infrastructure must also be notified. | PM | **Appendix E** (Key Environmental Contacts) |
| 5.5 | A copy of the final signed notification letter, archaeological or heritage management plan and the site recording form should be kept on file by the Project Manager and a copy sent to the Senior Environmental Specialist (Heritage). | PM | |
| 5.6 | If requested by the regulator, arrange a site inspection of the item for them. | PM | |
| **6** | **Implement archaeological or heritage management plan** | | |
| 6.1 | Modify the archaeological or heritage management plan to take into account any additional advice resulting from notification and discussions with the regulator. | A/PM | |

| Step | Task | Responsibility | Guidance & Tools |
|---|---|---|---|
| 6.2 | Implement the archaeological or heritage management plan. Where impact is expected, this would include such things as a formal assessment of significance and heritage impact assessment, preparation of excavation or recording methodologies, consultation with registered Aboriginal parties, obtaining heritage approvals etc, if required. | PM/RAPs | PACHCI Stage 3 |
| 6.3 | Where heritage approval is required contact regional environment staff for further advice and support material. Please note time constraints associated with heritage approval preparation and processing. Project scheduling may need to be revised where extensive delays are expected. | PM/RES | |
| 6.4 | For Part 3A/Part 5.1 projects, assess whether heritage impact is consistent with the project approval or if project approval modification is required from the Department of Planning and Infrastructure. Seek advice from regional environment staff and Environment Branch specialist staff if unsure. | PM/RES | |
| 6.5 | Where statutory approvals (or project approval modification) are required, impact upon relics and/or Aboriginal objects must not occur until heritage approvals are issued by the appropriate regulator. | PM | |
| 6.6 | Where statutory approval (or Part 3A/Part 5.1 project modification) is not required and where recording is recommended by the archaeologist, sufficient time must be allowed for this to occur. | PM | |
| 6.7 | Ensure short term and permanent storage locations are identified for archaeological material or other heritage material is removed from site, where required. Interested third parties (eg museums or local councils) should be consulted on this issue. Contact regional environment staff and Senior Environmental Specialist (Heritage) for advice on this matter, if required. | PM | |
| 6.8 | Ensure all archaeological excavation and/or heritage recording are completed prior to Roads and Maritime project work resuming. | PM | |
| **7** | **Review CEMPs and approval conditions** | | |
| 7.1 | Clarify regulator expectations around written authorisation to commence project work. | PM | |

| Step | Task | Responsibility | Guidance & Tools |
|---|---|---|---|
| | This may relate to situations where human remains are found or when they request to review preliminary archaeological excavation reports or heritage assessments prior to the resumption of Roads and Maritime project work. Where this is not explicit in heritage approval conditions, expectations should be clarified directly with the regulator. | | |
| 7.2 | Update the CEMP, site mapping and project delivery program as appropriate with any project changes resulting from final heritage management (eg retention of heritage item, salvage of item). Updated CEMPs must incorporate additional conditions arising from any heritage approvals, and Aboriginal community consultation if relevant. Include any changes to CEMP in site induction material and update site workers during toolbox talks. | PM | |
| **8** | **Resume work** | | |
| 8.1 | Seek written clearance to resume project work from regional environment staff and the archaeologist (and regulator, if required). Clearance would only be given once all archaeological excavation and/or heritage recommendations (where required) are complete. Resumption of project work must be in accordance with the all relevant project/heritage approvals/determinations. | RES/A/PM | |
| 8.2 | If required, ensure archaeological excavation/heritage reporting and other heritage approval conditions are completed in the required timeframes. This includes artefact retention repositories, conservation and/or disposal strategies. | PM/A | |
| 8.3 | Forward all heritage/archaeological assessments, heritage location data and its ownership status to the Senior Environmental Specialist (Heritage). They will ensure all heritage items in Roads and Maritime ownership and/or control are considered for the Roads and Maritime S170 Heritage and Conservation Register. | PM/SES(H) | |
| 8.4 | If additional unexpected items are discovered this procedure must begin again from Step 1. | PM | |

# 8. Seeking advice

Advice on this procedure should be sought from regional environment staff in the first instance, and then Roads and Maritime heritage policy officers, where required. Roads and Maritime staff can contact Roads and Maritime regional environment staff for advice on this procedure at any time. Contractors and alliance partners should ensure their own project environment managers are aware of and understand this procedure. Regional environment staff can assist non-Roads and Maritime project environment managers with enquires concerning this procedure.

**IMPORTANT!**

**RMS staff and contractors are not to seek advice on this procedure directly from OEH without first seeking advice from regional environment staff and heritage policy staff.**

Technical archaeological or heritage advice regarding the unexpected item should be sought from the contracted archaeologist. Technical specialist advice can also be sought from heritage policy staff within Environment Branch to assist with the preliminary archaeological identification and technical reviews of heritage/archaeological reports.

# 9. Related information

**Contact details:** Manager, Environmental Policy, Environment Branch, 02 8588 5740

**Effective date:** 1 November 2011

**Review date:** Final + 12 months

This procedure should be read in conjunction with:

- RTA *Incident Classification and Reporting Procedure*.
- Roads and Maritime's *Procedure for Aboriginal Cultural Heritage Consultation and Investigation*.
- RTA *Heritage Guidelines 2004.*
- RTA *Environmental Impact Assessment Guidelines.*

This procedure replaces:

- Procedure 5.5 ("*unexpected discovery of an archaeological relic or Aboriginal object*") outlined in the RTA's *Heritage Guidelines* 2004.

Other relevant reading material:

- NSW Heritage Office (1998), *Skeletal remains: guidelines for the management of human skeletal remains*.
- Department of Environment and Conservation NSW (2006), *Manual for the identification of Aboriginal remains.*
- Department of Health (April 2008), *Policy Directive: Burials - exhumation of human remains*[11].

[11] http://www.health.nsw.gov.au/policies/pd/2008/pdf/PD2008_022.pdf

# 10. List of appendices

The following appendices are included to support this procedure.

| | |
|---|---|
| Appendix A | Identifying Unexpected Heritage items |
| Appendix B | Unexpected Heritage Items Protocol for Maintenance Staff |
| Appendix C | Unexpected Heritage Item Recording Form 418 |
| Appendix D | Photographing Unexpected Heritage Items |
| Appendix E | Key Environment Contacts |
| Appendix F | Uncovering Bones |
| Appendix G | Archaeological Advice Checklist |
| Appendix H | Template Notification Letter |

# Appendix A

## Identifying unexpected heritage items

The following images can be used to assist in the preliminary identification of a potential unexpected items (both Aboriginal and non-Aboriginal) during construction and maintenance works. Please note this is not a comprehensive typology.

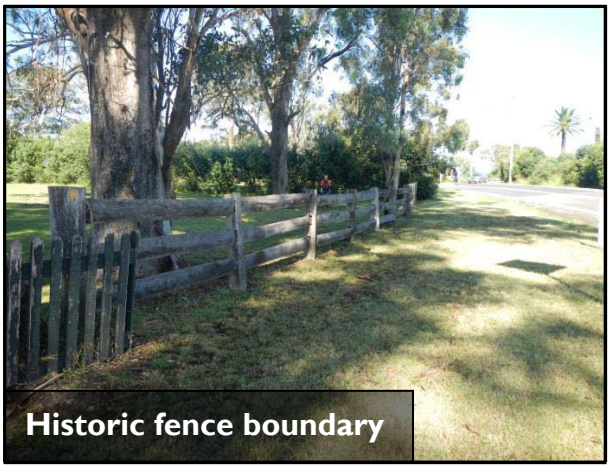

**Top left hand picture continuing clockwise:** Stock camp remnants (Hume Highway Bypass at Tarcutta); Linear archaeological feature with post holes (Hume Highway Duplication), Animal bones (Hume Highway Bypass at Woomargama); Cut wooden stake; Glass jars, bottles, spoon and fork recovered from refuse pit associated with a Newcastle Hotel (Pacific Highway, Adamstown Heights, Newcastle area).


**Top left hand picture continuing clockwise:** Woodstave water pipe with tar and wire sealing (Horsley Drive); Tram tracks (Sydney); Brick lined cistern (Clyde); Retaining wall (Great Western Highway, Leura).


**Top left hand picture continuing clockwise:** Road pavement (Great Western Highway, Lawson); Sandstone kerbing and guttering (Parramatta Road, Mays Hill); Telford road (sandstone road base, Great Western Highway, Leura); Ceramic conduit and sandstone culvert headwall (Blue Mountains, NSW); Corduroy road (timber road base, Entrance Road, Wamberai).

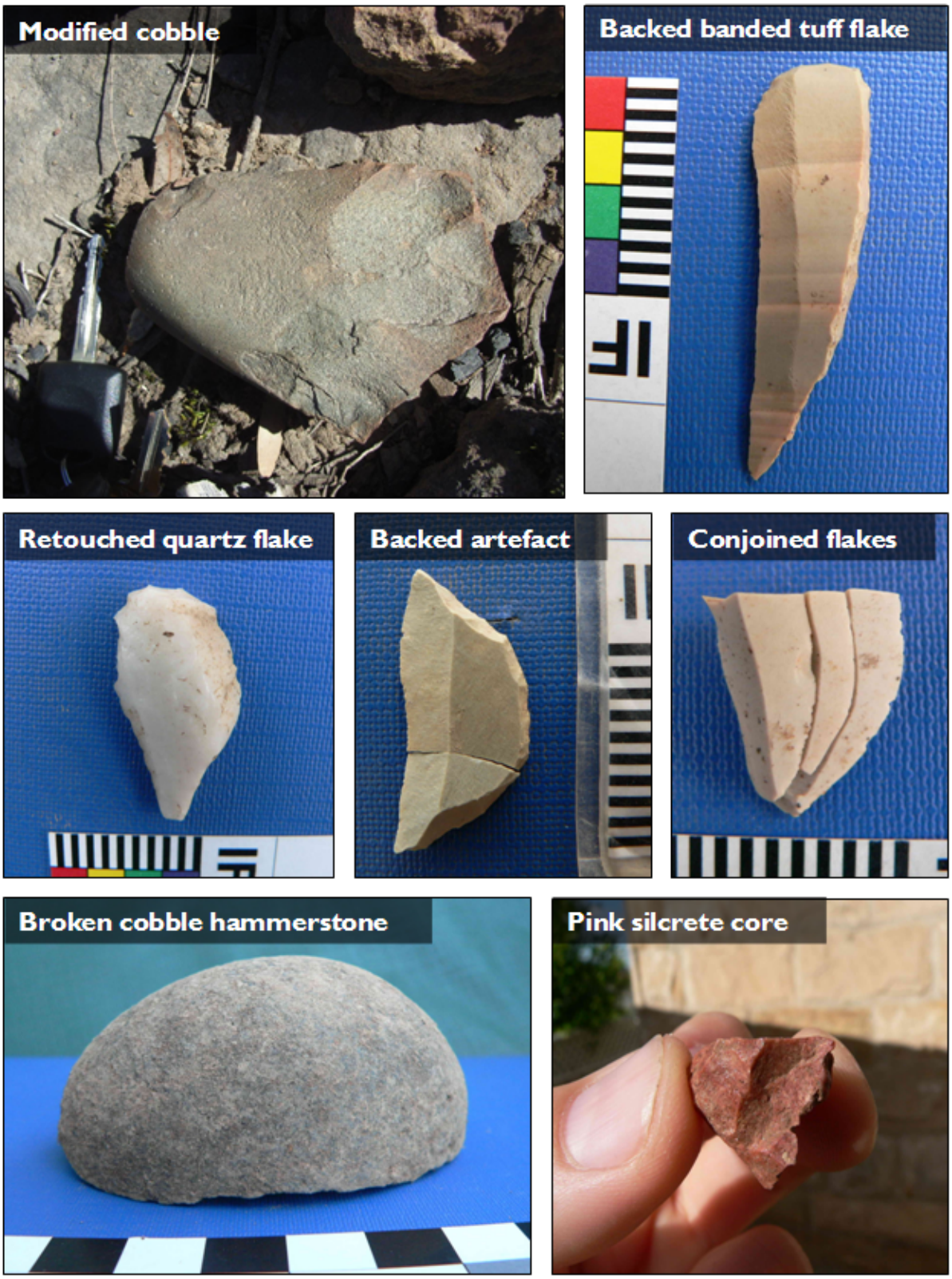

**Top left hand corner continuing clockwise:** Alignment Pin (Great Western Highway, Wentworth Falls); Survey tree (MR7, Albury); Survey tree (Kidman Way, Darlington Point, Murrumbidgee); Survey tree (Cobb Highway, Deniliquin); Milestone (Great Western Highway, Kingswood, Penrith); Alignment Stone (near Guntawong Road, Riverstone). Please note survey marks may have additional statutory protection under the *Surveying and Spatial Information Act 2002*.







**Top left hand corner continuing clockwise:** Remnant bridge piers (Putty Road, Bulga); Wooden boundary fence (Campbelltown Road, Denham Court); Dairy shed (Ballina); Golden Arrow Mine Shaft.

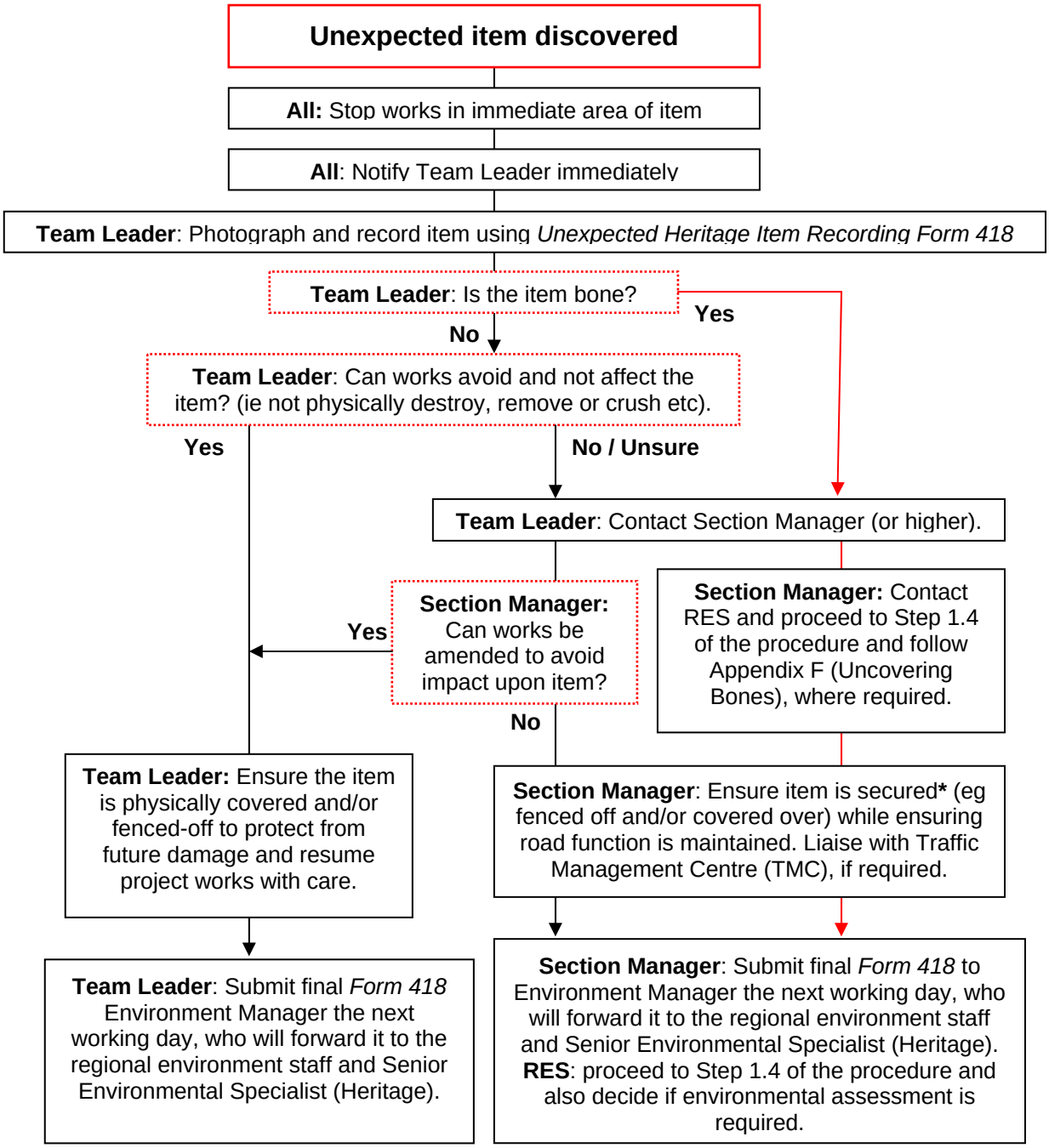



**Top left hand corner:** Culturally modified stone discovered on Main Road 92, about two kilometres west of Sassafras. The remaining images show a selection of stone artefacts retrieved from test and salvage archaeological excavations during the Hume Highway Duplication and Bypass projects from 2006-2010.

# Appendix B

## Unexpected Heritage Items Protocol for Maintenance Staff

Regional Maintenance Delivery staff undertake routine maintenance works such as patching, cleaning, line marking and milling within the road reserve. In addition, these works are often undertaken at night on urban thoroughfares. This protocol has been developed to ensure that disruption to traffic is minimised if an unexpected item is encountered when carrying out such maintenance works.




*In the case of an archaeological item, appropriate temporary covering of the find is something that may protect it from further damage and that can be removed quickly the next day without

damage from re-excavation. For example geofabric and loose, dry asphalt, or a metal plate. Certain unexpected finds (such as human remains) should not be covered with loose material as the re-excavation process is likely to cause further damage to the find. Fencing and immediate action is appropriate in these rare cases.

# Appendix C

Unexpected Heritage Item Recording Form 418

| Transport Roads & Maritime Services | **Unexpected Heritage Item Recording Form** | **418** |
|---|---|---|

| | | | |
|---|---|---|---|
| **Date:** | | **Recorded by** | |
| **Project Name:** | | | |

| | |
|---|---|
| **Description of works being undertaken**<br>(eg Removal of failed pavement by excavation and pouring concrete slabs in 1m x 1m replacement sections). | |
| **Description of exact location of item**<br>(eg Within the road formation on Parramatta Road, east bound lane, at the corner of Johnston Street, Annandale, Sydney). | |
| **Description of item found**<br>(eg Metal tram tracks running parallel to road alignment. Good condition. Tracks set in concrete, approximately 10cms (100 mm) below the current ground surface). | |

**Sketch**
(Provide a sketch of the item's general location in relation to other road features so its approximate location can be mapped without having to re-excavate it. In addition, please include details of the location and direction of any photographs of the item taken).

**Action Taken** (Tick either A *or* B)

| | | | | | |
|---|---|---|---|---|---|
| **A.** | Unexpected item **will not** be affected by maintenance works | ☐ | **B.** | Unexpected item **will be** affected by maintenance works | ☐ |

**A. Describe if and how works were amended to avoid impact to the item and the action taken to cover the item.**

**B. Describe how works will affect the item.** (eg Milling is required to be continued to 200 mm depth to ensure road pavement requirements are met. Milling to required depth would affect the top 50 mm of potential heritage pavement).

| **Attach photographs.** (Take a number of close up and general photographs so anyone off site can understand the location of the item, the material it is made from and any distinguishing features). |
|---|
| |

| | |
|---|---|
| **Team Leader Signature** | |

**Action:** Refer issue to Section Manager (or higher) immediately where 'B' has been ticked.

*To be completed by Section Manager*

| | |
|---|---|
| **Describe any further considerations to amend project works to avoid unexpected item and if impact is still anticipated.** | |
| **Describe action taken to secure site temporarily** | |
| **Section Manager signature** | |

**Action:** Escalate to environment and heritage policy staff where impact to item cannot be avoided.

# Appendix D

## Photographing unexpected heritage items

**✋ Removal of the item from its context (eg excavating from the ground) for photographic purposes is not permitted.**

Photographs of unexpected items in their current context (*in situ*) may assist heritage staff and archaeologists to better identify the heritage values of the item. Emailing good quality photographs to specialists can allow for better quality and faster heritage advice. The key elements that must be captured in photographs of the item include its position, the item itself and any distinguishing features. All photographs must have a scale (ruler, scale bar, mobile phone, coin) and a note describing the direction of the photograph.

### Context and detailed photographs

It is important to take a general photograph (Figure 1) to convey the location and setting of the item. This will add much value to the subsequent detailed photographs also required (Figure 2).

**Figure 2:** Close up detail of the sandstone surface showing material type, formation and construction detail. This is essential for establishing date of the feature.

**Figure 1:** Telford road uncovered on the Great Western Highway (Leura) in 2008.

### Photographing distinguishing features

Where unexpected items have a distinguishing feature, close up detailed photographs must be taken of this, where practicable. In the case of a building or bridge, this may include diagnostic details architectural or technical features. See Figures 3 and 4 for examples.

**Figure 3:** Ceramic bottle artefact with stamp.

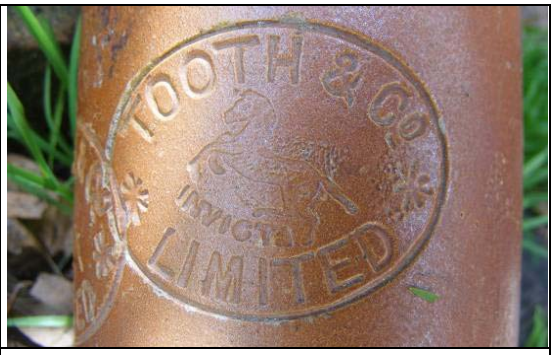



**Figure 4:** Detail of the stamp allows '*Tooth & Co Limited*' to be made out. This is helpful to a specialist in gauging the artefact's origin, manufacturing date and likely significance.

### Photographing bones

The majority of bones found on site will those of be recently deceased animal bones often requiring no further assessment (unless they are in archaeological context). However, if bones are human, Roads and Maritime must contact the police immediately (see Appendix F for detailed guidance). Taking quality photographs of the bones can often resolve this issue quickly. Heritage staff in Environment Branch can confirm if bones are human or non-human if provided with appropriate photographs. Ensure that photographs of bones are not concealed by foliage (Figure 5) as this makes it difficult to identify. Minor hand removal of foliage can be undertaken as long as disturbance of the bone does not occur. Excavation of the ground to remove bone(s) should not occur, nor should they be pulled out of the ground if partially exposed. Where sediment (adhering to a bone found on the ground surface) conceals portions of a bone (Figure 6) ensure the photograph is taken of the bone (if any) that is not concealed by sediment.

**Figure 5**: Bone concealed by foliage.

**Figure 6**: Bone covered in sediment

Ensure that all close up photographs include the whole bone and then specific details of the bone (especially the ends of long bones, the *epiphysis*, which is critical for species identification). Figures 7 and 8 are examples of good photographs of bones that can easily be identified from the photograph alone. They show sufficient detail of the complete bone and the epiphysis.

**Figure 7:** Photograph showing complete bone.


**Figure 8:** Close up of a long bone's epiphysis.

# Appendix E

## Key environmental contacts

| | | |
|---|---|---|
| Hunter region | Environmental Manager (Hunter) | 4924 0281 |
| | Aboriginal Cultural Heritage Advisor | 4924 0383 |
| Northern region | Environment Manager (North) | 6640 1072 |
| | Aboriginal Cultural Heritage Advisor | 6604 9305 |
| Southern region | Environmental Manager (South) | 6492 9515 |
| | Aboriginal Cultural Heritage Advisor | 4221 2767 |
| South West region | Environment Manager (South West) | 6937 1634 |
| | Aboriginal Cultural Heritage Advisor | 6937 1647 |
| Sydney region | Environment Manager (Sydney) | 8849 2516 |
| | Aboriginal Cultural Heritage Advisor | 8849 2006 |
| Western region | Environment Manager (West) | 6861 1628 |
| | Aboriginal Cultural Heritage Advisor | 6861 1658 |
| Pacific Highway Office | Environment Manager | 6640 1375 |
| Hume Highway Office | Senior Environment Manager | 6923 3419 |
| Regional Maintenance Delivery | Environment Manager | 9598 7721 |
| Environment Branch | Senior Environmental Specialist (Heritage) | 8588 5754 |

### Heritage Regulators

| | |
|---|---|
| Heritage Branch<br>Office of Environment and Heritage<br>Locked Bag 5020<br>Parramatta NSW 2124<br>Phone: (02) 9873 8500 | Minister for Sustainability, Environment, Water, Populations and Communities<br>GPO Box 787<br>Canberra ACT 2601<br>Phone: (02) 6274 1111 |
| Office of Environment and Heritage (Sydney Metropolitan)<br>Planning and Aboriginal Heritage Section<br>PO Box 668<br>Parramatta NSW 2124<br>Phone: (02) 9995 5000 | Office of Environment and Heritage (North Eastern NSW)<br>Planning and Aboriginal Heritage Section<br>Locked Bag 914<br>Coffs Harbour NSW 2450<br>Phone: (02) 6651 5946 |
| Office of Environment and Heritage (North Western NSW)<br>Environment and Conservation Programs<br>PO Box 2111<br>Dubbo NSW 2830<br>Phone: (02) 6883 5330 | Office of Environment and Heritage (Southern NSW)<br>Aboriginal Heritage Protection Section<br>PO Box 733<br>Queanbeyan NSW 2620<br>Phone: (02) 6229 7000 |

### Project-Specific Contacts

| Position | Name | Phone Number |
|---|---|---|
| Project Manager | | |
| Site/Alliance Environment Manager | | |
| Regional Environmental Officer | | |
| Aboriginal Cultural Heritage Advisor | | |
| Consultant Archaeologist | | |
| Local Police Station | | |
| OEH: Environment Line | | 131 555 |

# Appendix F

## Uncovering bones

**All matters relating to uncovering bones and RMS' human remains notification obligations should involve RMS regional environment and heritage staff. They will guide Project Managers through occurrences of uncovering bones.**

This appendix provides Project Managers with advice (1) on what to do on first uncovering bones (2) the range of human skeletal notification pathways and (3) additional considerations and requirements when managing the discovery of human remains.

### 1. First uncovering bones

Stop all work in the vicinity of the find. All bones uncovered during project works should be **treated with care and urgency** as they have the potential to be human remains. Therefore they must be identified as either human or non-human as soon as possible by a qualified forensic or physical anthropologist. These specialist consultants can be sought by contacting regional environment staff and/or heritage staff at Environment Branch.

On the very rare occasion where it is *instantly obvious* from the remains that they are human, the Project Manager (or a delegate) should **inform the police by telephone** prior to seeking specialist advice. It will be obvious that it is human skeletal remains where there is no doubt, as demonstrated by the example in Figure 1. Often skeletal elements in isolation (such as a skull) can also clearly be identified as human. Note it may also be obvious that human remains have been uncovered when soft tissue and clothing are present.

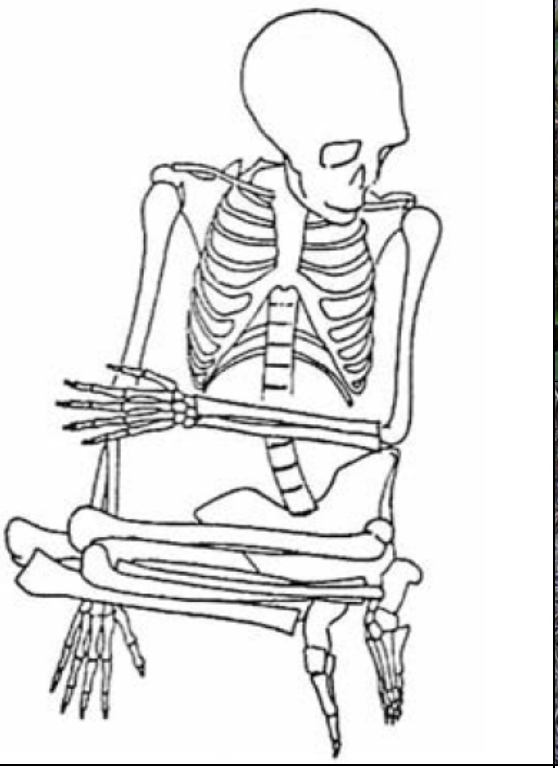


**Figure 1:** Schematic of a complete skeleton that is 'obviously' human[12].


**Figure 2:** Disarticulated bones that require assessment to determine species.

[12] After Department of Environment and Conservation NSW (2006), *Manual for the identification of Aboriginal Remains*: 17.

This preliminary phone call is to let the police know that Roads and Maritime is undertaking a specialist skeletal assessment to determine the approximate date of death which will inform legal jurisdiction. The police may wish to take control of the site at this stage. If not, a forensic or physical anthropologist must be requested to make an on-site assessment of the skeletal remains.

Where it is not 'obvious' that the bones are human (in the majority of cases, illustrated by Figure 2), specialist assessment is required to establish the species of the bones. Photographs of the bones can assist this assessment if they are clear and taken in accordance with guidance provided in Appendix D. Good photographs often result in the bones being identified by a specialist without requiring a site visit; noting they are nearly always non-human. In these cases, non-human skeletal remains must be treated like any other unexpected archaeological find.

If the bones are identified as human (either by photographs or an on-site inspection) a technical specialist must determine the likely ancestry (Aboriginal or non-Aboriginal) and burial context (archaeological or forensic). This assessment is required to identify the legal regulator of the human remains so **urgent notification** (as below) can occur. Preliminary telephone or verbal notification by the Project Manager or regional environment staff is considered appropriate. This must be followed up later by Roads and Maritime's formal letter notification as per Appendix H when a management plan has been developed and agreed to by the relevant parties.

## 2. Range of human skeletal notification pathways

The following is a summary of the different notification pathways required for human skeletal remains depending on the preliminary skeletal assessment of ancestry and burial context.

**A. Human bones are from a recently deceased person (*less than* 100 years old).**

**☑ Action**
A police officer must be notified immediately as per the obligations to report a death or suspected death under s35 of the *Coroners Act 2009* (NSW). It should be assumed the police will then take command of the site until otherwise directed.

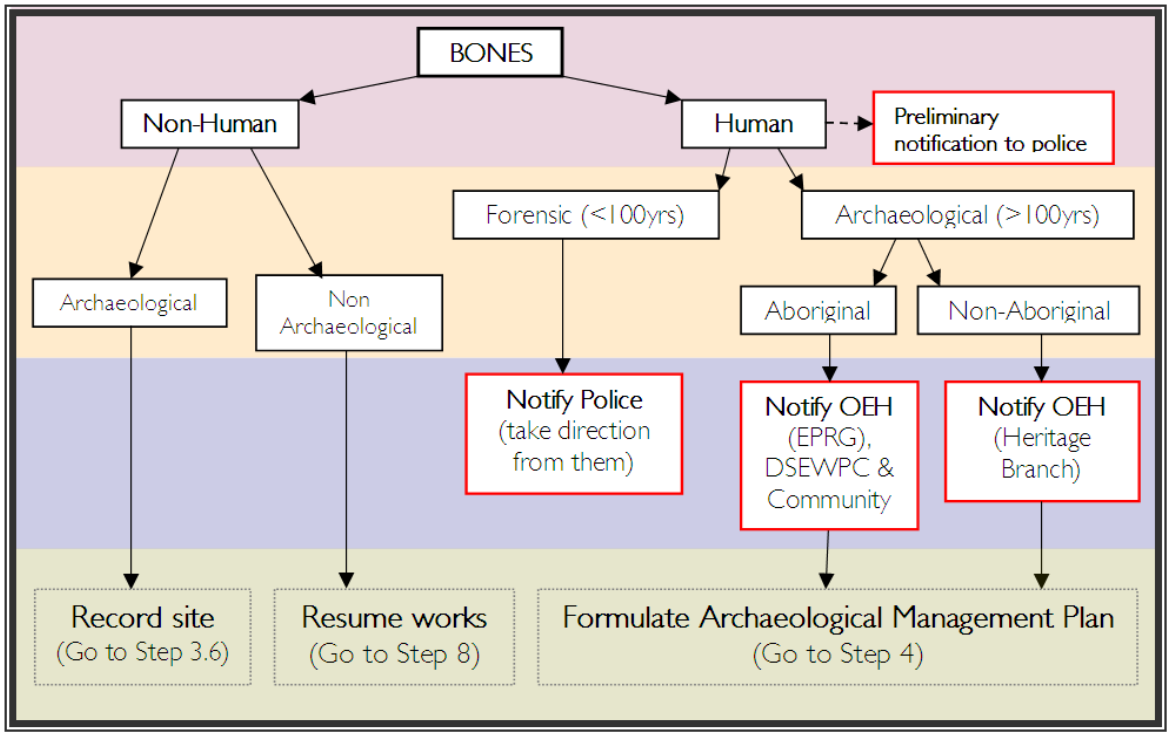
**B. Human bones are archaeological in nature (*more than* 100 years old) and are likely to be *Aboriginal* remains.**

**☑ Action**
The OEH (*EPRG*) and the RMS Aboriginal Cultural Heritage Advisor (ACHA) must be notified immediately. The ACHA must contact and inform the relevant Aboriginal community stakeholders who may request to be present on site. Relevant stakeholders are determined by the RTA's *Procedure for Aboriginal Cultural Heritage Consultation and Investigation*.

**C. Human bones are archaeological in nature (*more than* 100 years old) and likely to be *non-Aboriginal* remains.**

**☑ Action**
The OEH (Heritage Branch, Conservation Team) must be notified immediately.

The simple diagram below summarises the notification pathways on finding bones.




After the appropriate verbal notifications (as described in B and C), the Project Manager must proceed through the *Unexpected Heritage Items Procedure* to formulate an archaeological management plan (Step 4). Note no archaeological management plan is required for forensic cases (A), as all future management is a police matter. Non-human skeletal remains must be treated like any other unexpected archaeological find and so must proceed to recording the find as per Step 3.6.

### 3. Additional considerations and requirements

Uncovering archaeological human remains must be managed intensively and needs to consider a number of additional specific issues. These issues might include facilitating culturally appropriate processes when dealing with Aboriginal remains (such as repatriation and cultural ceremonies). Roads and Maritime's ACHA can provide advice on this and how to engage with the relevant Aboriginal community. Project Managers, more generally, may also need to consider overnight site security of any exposed remains and may need to manage the onsite attendance of a number of different external stakeholders during assessment and/or investigation of remains. Project Managers may also be advised to liaise with local church/religious groups and the media to manage community issues arising from the find. Additional investigations may be required to identify living descendants, particularly if the remains are to be removed and relocated.

If exhumation of the remains (from a formal burial or a vault) is required, Project Managers should also be aware of additional approval requirements under the *Public Health Act 1991* (NSW). Specifically, Roads and Maritime is required to apply to the Director General of NSW Department of Health for approval to exhume human remains as per Clause 26 of the *Public Health (Disposal of Bodies) Regulation 2002* (NSW)[13]. Further, the exhumation of such remains needs to consider health risks such as infectious disease control, exhumation procedures and reburial approval and registration. Further guidance on this matter can be found at the NSW Department of Health website.

In addition, due to the potential significant statutory and common law controls and prohibitions associated with interfering with a public cemetery, project teams are

[13] This requirement is in addition to heritage approvals under the *Heritage Act 1977*.

advised, when works uncover human remains adjacent to cemeteries, to confirm the cemetery's exact boundaries.

# Appendix G

## Archaeological/Heritage advice checklist

The archaeologist must advise the Project Manager of an appropriate archaeological or heritage management plan as soon as possible after site inspection (see Step 4). An archaeological or heritage management plan can include a range of activities and processes, which differ depending on the find and its significance. In discussions with the archaeologist the following checklist can be used by the Project Manager and the archaeologist as a prompt to ensure all relevant archaeological issues are considered when developing this plan. This will allow the project team to receive clear and full advice to move forward quickly and in the right direction. Archaeological and/or heritage advice on how to proceed can be received in a letter or email outlining all relevant archaeological and/or heritage issues.

| | **Required** | **Outcome/notes** |
|---|---|---|
| **Assessment and investigation** | | |
| • Assessment of significance | Yes/No | |
| • Assessment of heritage impact | Yes/No | |
| • Archaeological excavation | Yes/No | |
| • Archival photographic recording | Yes/No | |
| **Heritage approvals and notifications** | | |
| • AHIPs, Section 140, S139 exceptions etc | Yes/No | |
| • Regulator relics/objects notification | Yes/No | |
| • Roads and Maritime's S170 Heritage and Conservation Register listing requirements | Yes/No | |
| • Compliance with CEMP or other project heritage approvals | Yes/No | |
| **Stakeholder consultation** | | |
| • Aboriginal stakeholder consultation requirements and how it relates to RTA *Procedure for Aboriginal Cultural Heritage Consultation and Investigation* (PACHCI). | Yes/No | |
| • Advice from regional environmental staff, Aboriginal Cultural Heritage Advisor, Roads and Maritime heritage team. | Yes/No | |
| **Artefact/ heritage item management** | | |
| • Retention or conservation strategy (eg items may be subject to long conservation and interpretation)<br>• Disposal strategy (eg former road pavement)<br>• Short term and permanent storage locations (interested third parties should be consulted on this issue). | Yes/No | |
| • Control Agreement for Aboriginal objects. | Yes/No | |

| Program and budget | |
|---|---|
| • Time estimate associated with archaeological or heritage conservation work. | |
| • Total cost of archaeological/heritage work. | |

# Appendix H

Template notification letter

[Select and type date]

[Select and type reference number]

[Select and type file number]

[Insert recipient's name and address, see **Appendix E**]

[Select and type salutation and name],

**Re: Unexpected heritage item discovered during Roads and Maritime Services project works.**

I write to inform you of an unexpected [select: relic, heritage item or Aboriginal object] found during Roads and Maritime Services construction works at [insert location] on [insert date]. [Where the regulator has been informally notified at an earlier date by telephone, this should be referred to here].

This letter is in accordance with the notification requirement under [select: Section 146 of the *Heritage Act 1977* (NSW) or Section 89(A) of the *National Parks and Wildlife Act 1974* (NSW) **NB:** There may be not be statutory requirement to notify of the discovery of a 'heritage Item that is not a relic or Aboriginal object].

**NB:** On finding Aboriginal human skeletal remains this letter must also be sent to the Commonwealth Minister for Sustainability, Environment, Water, Populations and Communities (SEWPC) in accordance with notification requirements under Section 20(1) of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth).

[Provide a brief overview of the project background and project area. Provide a summary of the description and location of the item, including a map and image where possible. Also include how the project was assessed under the *Environmental Planning and Assessment Act 1979* (NSW) (eg Part 5). Also include any project approval number, if available].

Roads and Maritime Services [*or contractor*] has sought professional archaeological advice regarding the item. A preliminary assessment indicates [provide a summary description and likely significance of the item]. Please find additional information on the site recording form attached.

Resulting from these preliminary findings, Roads and Maritime Services *[or contractor]* is proposing [provide a summary of the proposed archaeological/heritage approach (eg develop archaeological research design (where relevant), seek heritage approvals, undertake archaeological investigation or conservation/interpretation strategy). Also include preliminary justification of such heritage impact with regard to project design constraints and delivery program].

The proposed approach will be further developed in consultation with a nominated Office of Environment and Heritage [select either EPRG/Heritage Branch, Conservation Team] staff member.

Please contact me if you have any input on this approach or if you require any further information.

Yours sincerely

[Sender name and position]

[Attach the archaeological/heritage management plan and site recording form].

# Appendix B

Aboriginal Cultural Heritage Investigations: Detailed Salvage Strategy for Aboriginal Archaeological Salvage Excavation and Detailed Historical Research Methodology

# PRINCES HIGHWAY UPGRADE, FOXGROUND AND BERRY BYPASS PROJECT

## ABORIGINAL CULTURAL HERITAGE INVESTIGATIONS

## Detailed Salvage Strategy for Aboriginal Archaeological Salvage Excavation and Detailed Historical Research Methodology

Prepared for Roads and Maritime Services

July 2014

Ref. 1327

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## Document Information

| | |
|---|---|
| Project Name | Princes Highway Upgrade, Foxground and Berry Bypass Project<br>Detailed Salvage Strategy for Aboriginal Archaeological Salvage Excavation and Detailed Historical Research Methodology |
| Project Number | 1327 |
| Status | Draft |
| Revision | 0.5 |
| Client Name | Roads and Maritime Services (RMS) |
| Recipient | Steve Zhivanovich (Project Director) |
| Issue Date | 7 July 2014 |
| Prepared by | Dr Matthew Kelleher; Alison Nightingale; Ben Anderson |
| Approved by | Dr Matthew Kelleher; Alison Nightingale |

## Contents

## Figures



## Tables

# 1 Introduction

The Princes Highway Upgrade – Foxground and Berry bypass project (the project) was approved by the Minister for Planning and Infrastructure on 22 July 2013. Project Approval was issued to Roads and Maritime Services (RMS) under Section 75J of the *Environmental Planning and Assessment Act 1979* subject to the Minister's Conditions of Approval (MCoA) being met. The project has been declared to be both a major project and critical infrastructure.

The RMS project is for the upgrade of 11.6 kilometres of the Princes Highway between Toolijooa Road north of Foxground and Schofields Lane south of Berry (the study area) to achieve a four lane divided highway with median separation. The project includes the bypasses of Foxground and Berry. The study area for the approved upgrade route for the road upgrade is shown on Figure 1.

Archaeological investigations undertaken as part of the Environmental Assessment for the proposed upgrade (Navin Officer Heritage Consultants Pty Ltd 2012) and recent geotechnical investigations (New South Wales Archaeology Pty Ltd 2013) have identified a number of Aboriginal archaeological sites and areas of moderate to high archaeological potential.

To assist in meeting conditions of approval relating to Aboriginal heritage, detailed historical research, further archaeological investigation, preparation of a salvage strategy and archaeological excavation works were required prior to the commencement of pre-construction and construction activities affecting identified sites impacted by the Princes Highway upgrade, Foxground and Berry bypass project.

Required tasks include:

- Detailed historical research for heritage item G2B A13, A14, A39 and TRACL;
- Archaeological investigation and reporting on site G2B PAD1 and other potential archaeological deposits;
- Salvage strategy preparation;
- Archaeological salvage excavation program (G2B A13, A14, A16, A18, A24, A29, A30, A31, A32, A33, A36, PAD1 and TRACL);
- Aboriginal stakeholder consultation;
- Artefact analysis; and
- Salvage excavation report, incorporating results of test excavation.

RMS engaged Kelleher Nightingale Consulting (KNC) to undertake the above tasks for the project.

## 1.1 Methodology Aim

The methodology presented in this document outlines an archaeological excavation program for the identified sites and potential archaeological deposits (PADs) along the Foxground and Berry bypass project and detailed historical research for heritage items G2B A13, A14, A39 and Toolijooa Ridge Aboriginal Cultural Landscape (TRACL). The methodology is designed to target questions related to how Aboriginal people used their land (e.g. hilltops, colluvial slopes, estuarine margins, alluvial terraces) and how these various topographic elements work together to form an Aboriginal cultural landscape. The archaeology of Aboriginal landscapes can be interpreted as functioning like a home, each landform – hill, creek, ridge and river bank – is a like a room in a house. Each room has various uses and significance. It is the aim of this methodology to uncover the archaeology of these 'past rooms' and explore the Aboriginal landscape. KNC recognises that contemporary Aboriginal people have a close connection and understanding of the land and look forward to working with Aboriginal people during the archaeology program with the aim of highlighting the cultural value of the landscape.

For the identified sites, the goal of the excavation program is to obtain a representative sample of the archaeology that will be impacted by the upgrade project.

## 1.2 Management Strategies

Management strategies and procedures developed in this report specify how identified sites will be managed during the project, how to manage changes to the project and allow a provision for responding to unexpended finds. Consultation with the Aboriginal community is an important part of heritage management and the process for further consultation is outlined.

## 1.3 Methodology Review

A 28 day review and comment period of the proposed methodology has been allowed for in accordance with the RMS *Procedure for Aboriginal Cultural Heritage Consultation and Investigation* (PACHCI).

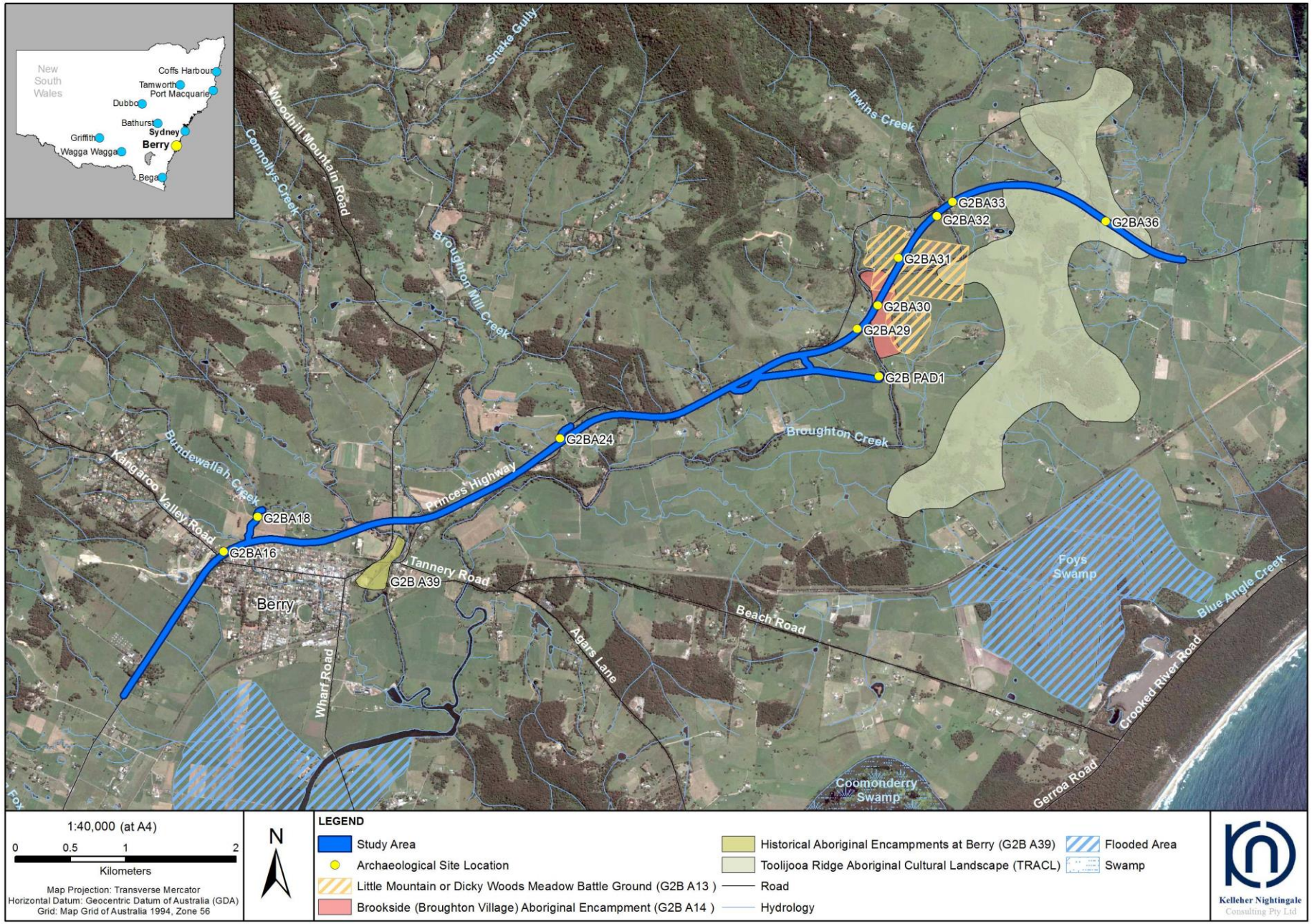



**Figure 1. Study area, Aboriginal archaeological sites and cultural areas included in detailed salvage strategy**

## 1.4 Scope of works

The scope of works for the archaeological excavation program and detailed historical research has been outlined by the Minister's Conditions of Approval (MCoA) Part B – Prior to Construction, conditions B18, B20, B21 and B36(e)(i)i and MCoA Part C – During Construction, condition C17 relating to Aboriginal heritage impacts (refer table below).

| MCoA | Detail (relating to Aboriginal heritage) | Where addressed in this document |
|---|---|---|
| | **Heritage Impacts** | |
| | **Built and Landscape Heritage** | |
| B18 | Prior to the commencement of preconstruction and construction works in proximity to the following items … G2B A13, A14, A39, TRACL and MFT 12 the Proponent shall complete all archival recordings, including photographic recording. In addition detailed historical research shall be undertaken for the following items … G2B A39.<br>This work shall be undertaken by an experienced heritage consultant, in accordance with the guidelines issued by the Heritage Council of NSW. The areas containing these items shall be clearly identified and/or fenced until the completion of the archival recordings. Within 6 months of completing the above work, the Proponent shall submit a report containing the archival recordings and the historical research, where required, to the Director General, the Heritage Council of NSW, the local Council and the local Historical Society. | Section 4 (specific to detailed historical research for G2B A39) |
| | **Archaeology (Aboriginal and non-Aboriginal)** | |
| B20 | Prior to the commencement of pre-construction and construction activities affecting Aboriginal site G2B PAD 1 the Proponent shall: | Section 6 |
| B20(a) | undertake archaeological investigation of this site using a methodology generally consistent with testing undertaken for the Environmental Assessment, and prepared in consultation with the OEH (Aboriginal heritage) and the Aboriginal stakeholders; and | Section 2<br>Section 6 |
| B20(b) | report on the results of the archaeological investigation, including recommendations (such as for further archaeological work) in consultation with the OEH and to the satisfaction of the Director General, and shall include, but not necessarily be limited to: | Section 6 |
| B20(b)(i) | consideration of measures to avoid or minimise disturbance to Aboriginal objects where objects of moderate to high significance are found to be present; | Section 6<br>Sections 8 and 9 |
| B20(b)(ii) | where impacts cannot be avoided, recommendations for any further investigations under condition B21; and | Section 6<br>Sections 8 and 9 |
| B20(b)(iii) | management and mitigation measures to ensure there are no additional impacts due to pre-construction and construction activities. | Section 6<br>Sections 8 and 9 |
| B21 | Prior to the commencement of pre-construction and construction activities affecting sites G2B A16, A18, A24, A29, A30, A31, A32, A33, A36, and G2B PAD1 the proponent shall: | Section 6 |
| B21(a) | develop a detailed salvage strategy, prepared in consultation with the OEH (Aboriginal heritage) and the Aboriginal stakeholders. The investigation program shall be prepared to the satisfaction of the Director General; and | Section 6 |
| B21(b) | undertake any further archaeological excavation works recommended by the results of the Aboriginal archaeological investigation program. | Section 6 |
| | Within twelve months 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 Aboriginal Site Impacts Recording Forms (ASIR), and the identification of final storage location for all Aboriginal objects recovered (testing and salvage), prepared in consultation with the Aboriginal stakeholders, the OEH (Aboriginal heritage) and to the satisfaction of the Director General. | Section 6<br>Section 9 |
| | Note: where archaeological testing has occurred as part of the Environmental Assessment and the results are included in the documents listed in condition A1(b) the sites tested must still form part of the final report prepared under B21(b). | Section 6 |
| B36(e)(i)i | Details of management measures and strategies for protection, salvage, and/or conservation of sites and that will be directly or indirectly impacted during construction (including further archaeological investigations, salvage measures and/or measures to protect unaffected sites during construction works in the vicinity) | Section 6<br>Section 9 |
| C17 | Identified impacts to heritage (both Aboriginal and non-Aboriginal), shall be minimised to the greatest extent practicable through both detailed design and construction, particularly with regard to Aboriginal sites A13, A14, A18 and TRACL…. Where impacts are unavoidable, works shall be undertaken in accordance with the actions to manage heritage construction impacts required by condition B36(e) and under the guidance of an appropriately qualified heritage specialist. | Section 6<br>Section 9 |

This methodology for the required archaeological excavation program for sites G2B A13, A14, A16, A18, A24, A29, A30, A31, A32, A33, A36, PAD1 and TRACL and detailed historical research for G2B A39 has been prepared in consultation with the Office of Environment and Heritage (OEH) (Aboriginal heritage) through Jackie Taylor, Team Leader Aboriginal Heritage - South East, Regional Operations Group (South Branch), Queanbeyan and registered Aboriginal stakeholders.

# 2 Aboriginal Community Involvement

RMS is committed to effective consultation with Aboriginal communities regarding activities which may impact on Aboriginal cultural heritage. The RMS PACHCI has been developed to provide a consistent means of effective consultation for RMS activities across NSW. The PACHCI is compliant with Office of Environment and Heritage (OEH) requirements and guidelines.

The proposed methodology and field program has been developed in consultation with and with participation of the registered Aboriginal stakeholders.

## 2.1 Stakeholder Consultation

Registered Aboriginal stakeholders have been involved in the previous study of Aboriginal heritage for the Environmental Assessment and geotechnical investigations. Project Approval requires continued consultation with registered Aboriginal stakeholders in regards to the excavation methodology and program. RMS and KNC both value Aboriginal stakeholder consultation.

The formal consultation process included:

- ongoing consultation with local Aboriginal community;
- Aboriginal Focus Group (AFG) meeting to be held on 12 June 2014, at which the proposed excavation methodologies and management strategies were presented and discussed; and
- a copy of the draft methodology provided to registered Aboriginal stakeholders for at least a 28 day review and comment period (19 May – 27 June 2014).

As listed in the Environmental Assessment, there are 107 Aboriginal stakeholder groups and individuals registered for consultation on the Foxground and Berry bypass project. Registered Aboriginal stakeholders on the project are listed in the table below.

**Table 1. Registered Aboriginal stakeholders**

| Title | First name | Last name | Organisation |
|---|---|---|---|
| Mr | Tony | Acton | |
| Mr | Shane | Acton | |
| Mr | Richard | Archibald | Wollongong Northern District Aboriginal Corp |
| Mr | Keith | Ball | Wadi Wadi Coomaditchie Aboriginal Corp |
| Mr & Mrs | Keith and Heather | Ball | Wadi Wadi Coomaditchie Aboriginal Corp |
| Ms | Natalie | Beckett | Nowra LALC, Yuin Traditional Owner |
| Mr | Dean | Bell | Yurwang Gundna Consultant |
| Mr | Don | Bell | |
| Mrs | Ruth | Bell | Buru Ngunnwal Traditional Elders Group |
| Mr | Tyronne | Bell | |
| Ms | Veronica | Bird | Aboriginal Liaison Officer Shellharbour City Council |
| Mr | Cohen | Blair | |
| Ms | Djarkin | Blair | |
| Mr | Leeroy | Boota | |
| Ms | Taminya | Boota | |
| Mr | Aaron | Broad | |
| Mr | Bart | Brown | KEJ Aboriginal Corp |
| Ms | Lorraine | Brown | Coomaditchie United Aboriginal Corp |
| Mr | Reuben | Brown | KEJ Aboriginal Corp |
| Mr | Richard | Campbell | |
| Mr | Paul | Charles | Killila Site Consultants |
| Mr | Greg | Coe | |
| Mr | Graham | Connolly | Jerrinja Traditional Owners |
| Mr | Bob | Davis | |
| Mr | Greg | Davis | |
| Mr | James | Davis | Illawarra Elders Wodi Wodi Corp. |
| Ms | Karon | Davis | Illawarra Elders Wodi Wodi Corp. |
| Ms | Lisa | Davis | |
| Mr | Lyle | Davis | |
| Mr | Richard | Davis | Illawarra ITEC |

| Title | First name | Last name | Organisation |
|---|---|---|---|
| Mrs | Sheryl | Davis | |
| Mr | Jason | Davison | |
| Mr | Stewart | Davison | |
| Ms | Sally | Dellitson | |
| Mrs | Joyce | Donovan | |
| Mrs | Mavis | Errington | |
| Ms | Charmain | Evans | |
| Mr | Mick | Farrett | |
| Mr | Rodney | Freeman | |
| Ms | Pam | Glover | |
| Mr | Shannon | Glover | |
| Mr | Andrew | Harvey | CEO Jerrinja LALC |
| Mr | Robert | Harvey | |
| Mr | Steve | Henry | |
| Mr | William | Henry | |
| Ms | Holly | Herring | Yurwang Gundana Consultant |
| Mr | Bronson | Ireland | |
| Mrs | Judith | Ireland | |
| Ms | Nicole | Ireland-Vuaceva | |
| Mrs | Gwenda | Jarrett | Yunimyna Industries & Logistics |
| Mr | Kelvin | Jarrett | |
| Mr | Kristian | Jarrett | |
| Mr | Mick | Jarrett | |
| Mr | Stan | Jarrett | CEO, Nowra LALC |
| Ms | Wendy | Kelley | |
| Mr | Roy | Kennedy | Chairman Illawarra LALC |
| Ms | Julie | Luland | |
| Mr | Ali | Maher | |
| Mr | Geoff | Maher | |
| Mrs | Maria | Maher | |
| Mr | Damien | Maher-Pagett | |
| Mr | Steven | Marsden | |
| Mr | Bob | Maynard | CEO Jerrinja LALC |
| Ms | Elizabeth | Miller | |
| Mr | Robert | Miller | |
| Mr | Lionel | Mongta | NPW Elder |
| Mrs | Mary | Mongta | Traditional Owner |
| Ms | Margaret | Mongta | |
| Mr | Anthony | Moore | |
| Mr | Chris | Moran | |
| Mr | Donald | Moran | |
| Mr | Edward | Moran | |
| Ms | Irene | Moran | |
| Ms | Kim | Moran | |
| Mr | Robert | Moylan | Coomaditchie United Aboriginal Corp |
| Mr | Matthew | Naylor | |
| Mr | Robert | Naylor | |
| Mr | Glenn | Pagett | |
| Mr | John | Pagett | |
| Mr | Johnathan | Pagett | |
| Mr | Rick | Pagett | |
| Mr | Shayne | Pegett | |
| Ms | Sheree | Rankmore | Illawarra Aboriginal Corp |
| Ms | Angelia | Reid | |
| Ms | Sharralyn | Robinson | CEO Illawarra LALC |
| Ms | Jenny | Sajkovic | Wollongong NIAC |
| Ms | Phoebe | Sajkovic | Wollongong NIAC |
| Mr | Sonny | Simms | Nowra LALC |
| Mr | C | Smith | |
| Mr | Mah | Spanda | |
| Mr | Clayton | Stewart | |

| Title | First name | Last name | Organisation |
|---|---|---|---|
| Mr | Elliott | Stewart | |
| Ms | Gwendoline | Stewart | |
| Ms | Jodie | Stewart | |
| Ms | Keira | Stewart | Illawarra Local Aboriginal Land Council |
| Ms | Lila | Stewart | |
| Ms | Marie | Stewart | Nowra LALC, Yuin Traditional Owner |
| Mr | Paul | Stewart | Nowra LALC, Yuin Traditional Owner |
| Mr | Roy | Stewart | |
| Ms | Kristy | Thomas | Coomaditchie United Aboriginal Corp |
| Mr | David | Thulin | |
| Ms | Leanne | Tungai | |
| Mr | Noel | Webster | |
| Mr | Dennis | Wellington | Jerrinja Land Council |
| Mr | Gordon | Wellington | Shoalhaven Elders Corp. Chair. |
| Mr | Noel | Wellington | Jerrinja LALC |
| Mr | Kone | Williams | |

# 3 Landscape Context

The archaeology of study area is dominated by effects of water erosion. Where erosion is controlled intact archaeology may survive, however over the majority of the study area erosion will have disturbed the archaeological soil context. Erosion results from the prominent escarpment along the western border facilitating a substantial movement of energy in the form of water and soil, which traverses the study area out to the coastal fringe. This energy transfer has effectively moved soils and heritage objects across the study area.

The key landscape component of the archaeological salvage of Foxground and Berry bypass is to locate intact soil profiles. Archaeological salvage in accordance with the Project Approval should be undertaken where intact soil profiles and identified archaeology co-exist.

Understanding the geomorphology of the study area is therefore important to understanding the archaeology. To this extent, the study area is situated in two landscape contexts: eastern Toolijooa Ridge and western Broughton Creek plain and associated hills.

Toolijooa Ridge is the highest portion (c.100m AHD) of the study area. The ridge is the locally dominant feature, which bisects the coastal plain. The slope of the ridge and accumulated Wattamolla Road soils (Figure 2) containing Podzolic soils have some archaeological potential where favourable depositional features exist, especially where colluvial activity is minimal related to underlying geology (Figure 3). Where erosion is controlled, away from moderate to steep gradients, Podzolic soils exhibit the ability to curate archaeological objects. Archaeological objects should be expected where natural junction points or vistas funnel movement towards a specific location, such as a level hilltop above a valley entrance.

In the western section erosion and fluvial activity play a major influence on the survivability of archaeological material. Along the elevated hills bordering the Broughton Creek plain the soils are highly susceptible to movement, some of which may be extreme over time such as sheet erosion and general mass movement. Coolangatta soils on the hills are sands with stiff clays exhibiting extreme soil erosion as a result of low soil consolidation. The soils are active, with low wet-bearing strength. Archaeological potential on these hills is low as it would be assumed that even where heritage objects are found the context could not be authenticated.

Within the Broughton Creek plain soils are a Shoalhaven landscape unit exhibiting fluvial gravel, sand, silts and clays. The erosion hazard of Shoalhaven soils is moderate and is generally intact unless impacted by flooding. In this manner, archaeology of the Broughton Creek plain is reflective of relative elevation. Archaeologically favourable locations within the plain are slightly higher than the surrounding area, less susceptible to high energy flooding and generally exhibit lower levels of inundation – for example terraces, levees and slopes at the base of ridges. The raised landmasses are the places most likely to contain intact archaeology.

## 3.1 Archaeological Flood Energy Modelling

Flood modelling data indicates a relationship exists between the flood extent area and artefact density associated with creek systems (based on test excavation data). Within the flood extent area, frequent isolated finds and low artefact densities are common (cf. EA Appendix J test results). This is due to erosion and deposition caused by flooding events which have redeposited artefacts in this area. Soil landscapes subject to high levels of erosion would be unlikely to retain Aboriginal objects and areas where sediment is deposited likely contain Aboriginal objects that are without spatial context. These processes distort our perception of Aboriginal land use through the spatial distribution of known sites.

Concentrations of archaeological information occur on the flood margins, areas that span the interface between the flood extent area and surrounding landform, especially relatively raised landforms. Water sources would have been focal points for Aboriginal people due to the accessibility of resources at these locations. As such, higher artefact densities would be expected in these areas however the best preservation of archaeological information – in contrast to the mere presence of artefacts – will be on the topographic flood margins where water energy would not impact preservation. It should be understood that the gathering and hunting areas of the interzone (the area between the escarpment and the coast), while not necessarily resource poor, had to compete against far richer environments making it less attractive to long term occupation. The focusing potential for coastal and escarpment settings is high in comparison to the liminal interzone of the study area. Statistically, the best archaeological potential of the interzone is within the narrow confines of the Broughton Creek valley, where micro-topographic elements (relative elevation, low gradients, hard basal geology and stable soils) exist and focus on key junction points (e.g. raised, isolated terraces on creek bends situated outside the high energy flood zone.)

Managing archaeology along creek systems of the interzone requires a careful assessment of the dual impacts of erosion and flooding when identifying significant archaeological deposits. Artefacts are likely to be present near creeks, ubiquitous even, however intact and valuable archaeological information is statistically probable only on low gradient, low energy flood margins.

Flood modelling (derived flood exceedance) for the palaeo environmental context of the Foxground to Berry bypass landscape with identified archaeological objects indicates that only a limited preservation of intact archaeology will occur where sites exist outside of flood energy zones (Figure 4). Consideration of the flood energy zones has facilitated the tailoring of more precise salvage methodologies. Derived flood exceedance margins are shown on salvage area maps to assist the methodology (Figures 7-10). These maps show that potential for intact archaeological deposit is greatest on the margins of the flood area resting on defined landforms.

Careful consideration of the integrity of the soils will be paramount when assessing the intactness of the archaeological deposit for sites within the study area.

**Moderate Archaeological Potential**
Sites located on flood margins with defined landforms where micro-topographic variables, especially relative elevation (e.g. terraces. levee) and geology (sandstone barriers which redirect energy) will determine the extent of impact of flood energy include (Figure 4):

- G2B A13 (Dicky Woods Meadow Battle Ground)
- G2B A14 (Brookside Aboriginal Encampment)
- G2B A30
- G2B A31
- G2B A32
- G2B A33

These locations exhibit moderate potential for intact archaeological deposit.

Sites within the flood zone where geology may have influenced the dynamics and energy of flooding include (Figure 3):

- G2B PAD1 (junction of Permian sandstone and Quaternary Alluvium)

This area exhibits moderate potential for intact archaeological deposit.

**Low Archaeological Potential**
Sites on the margin of the flood zone but not on defined landforms include (Figure 4):

- G2B A16
- G2B A18
- G2B A29

These locations exhibit less potential for intact archaeological deposit.

Sites where erosion and colluvial forces will determine integrity of the deposit include (Figures 2 and 4):

- G2B A24
- G2B A36
- TRACL (Toolijooa Ridge Aboriginal Cultural Landscape)

These sites exhibit low potential for intact archaeological deposit.

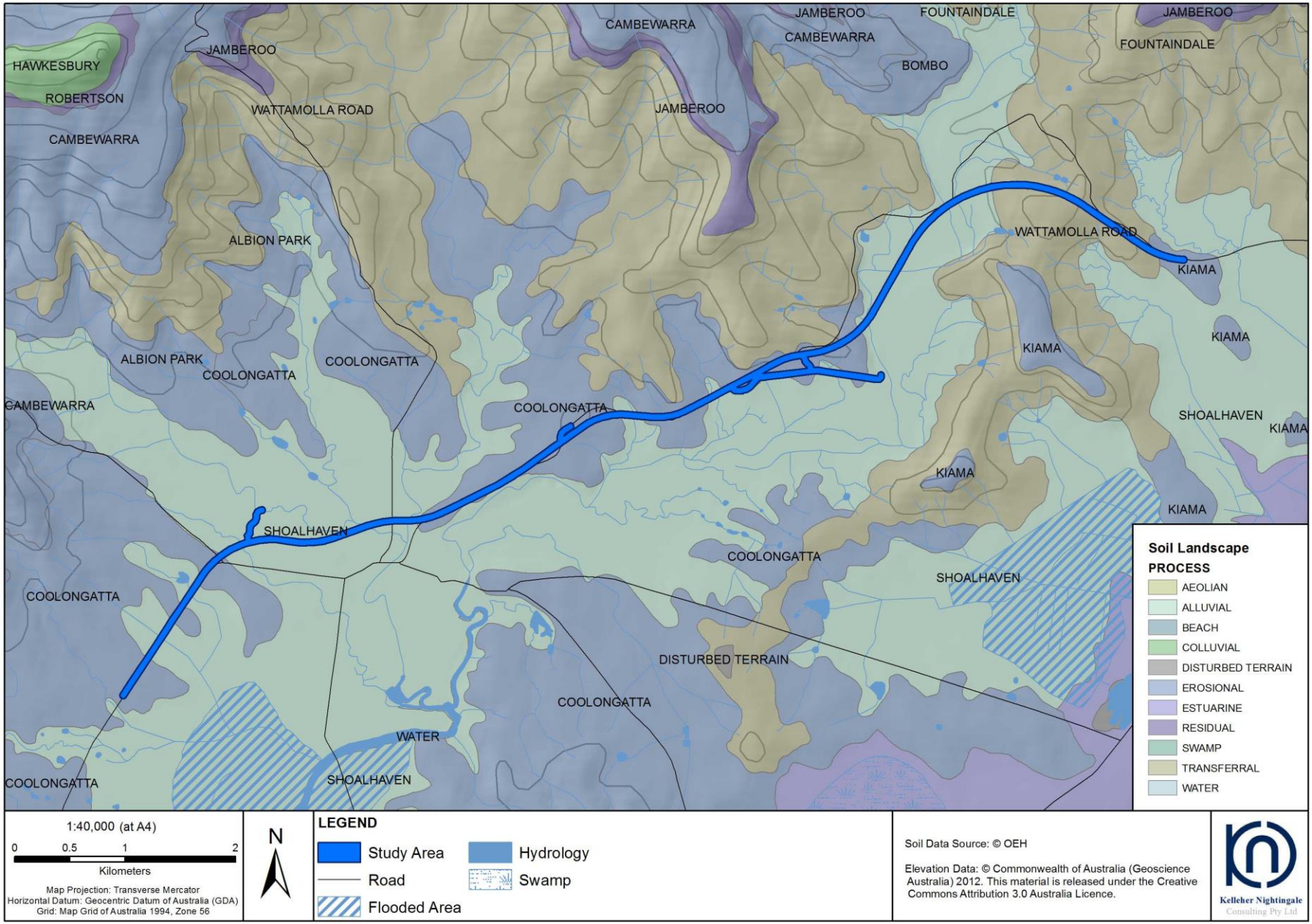



**Figure 2. Major soil landscapes of the study area**

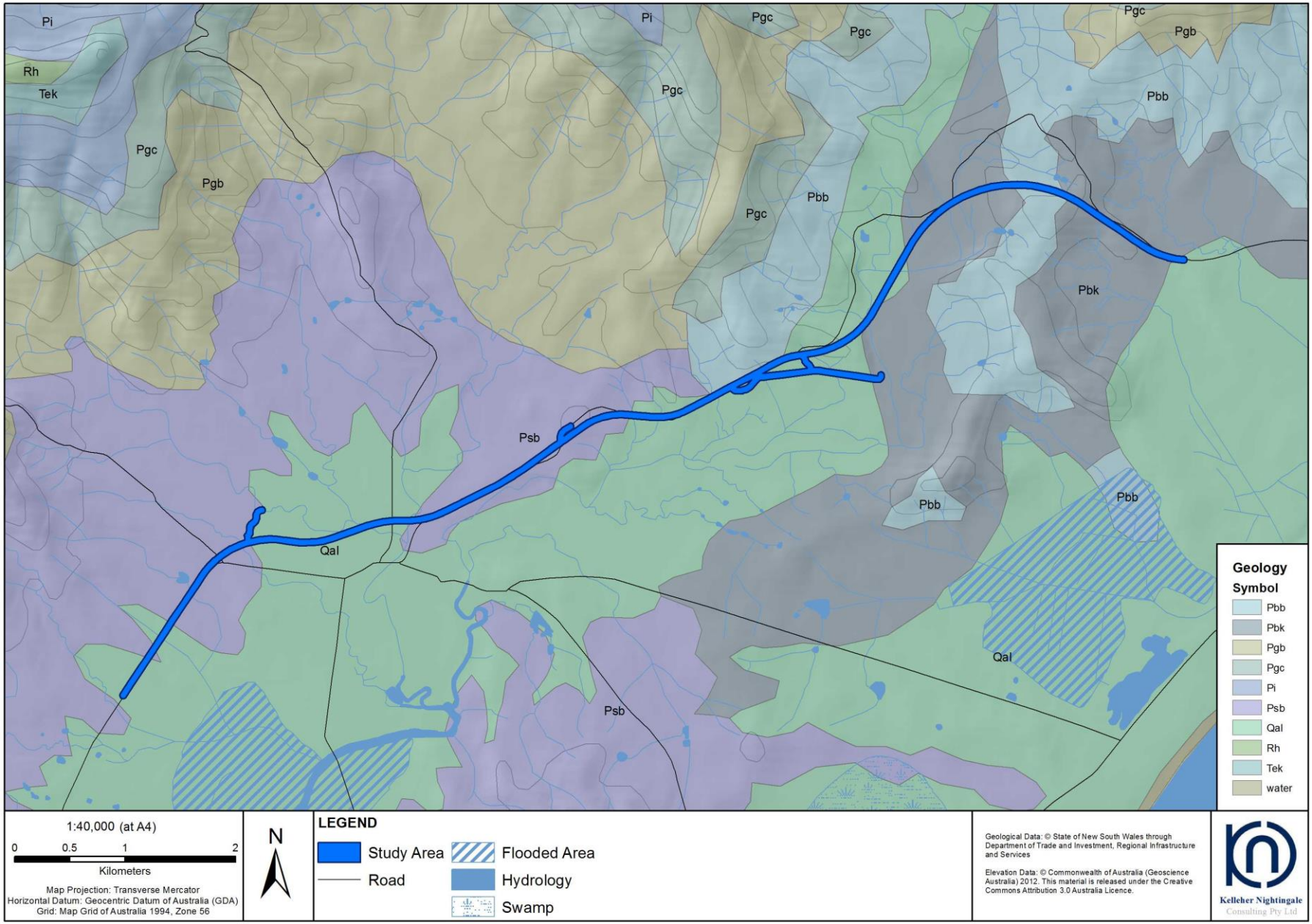



**Figure 3. Geology of the study area**

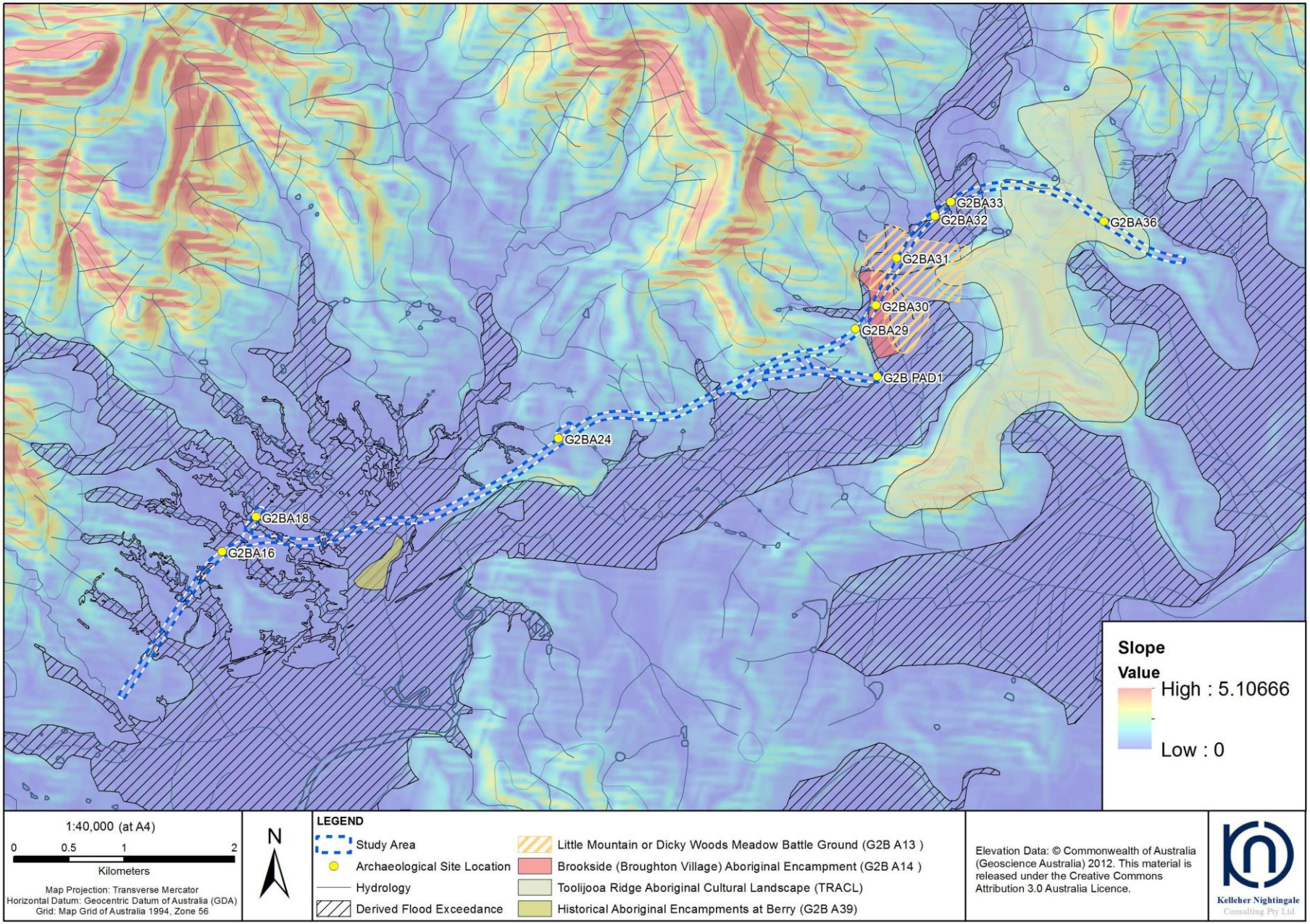



**Figure 4. Derived flood exceedance modelling of the study area (palaeo-flood impacts)**

# 4 Aboriginal Cultural Assessment

An assessment of Aboriginal cultural heritage of the Foxground and Berry bypass was undertaken as part of the EA. Four culturally sensitive locations were identified during the EA (Figure 5). Three of the four locations would be partially impacted by the project. Impacts to identified culturally sensitive locations were minimised to the greatest extent practicable through detailed design; however, some impacts were unavoidable. Mitigation of the impact [following MCoA B36(e)(i)i and C17] will encompass the salvage of information from the cultural areas including historical research (section 4) and were appropriate salvage excavation (sections 6 and 9).

Construction activities will result in a partial impact to three culturally sensitive locations:

- G2B A13 Little Mountain or Dicky Woods Meadow battle ground
- G2B A14 Brookside (Broughton Village) Aboriginal encampment
- Toolijooa Ridge Aboriginal Cultural Landscape (TRACL)

Construction activities are also located near the fourth Aboriginal cultural site:

- G2B A39 Historical Aboriginal encampments at Berry

**Methodology Historical Research**

Further detailed historical assessment will be undertaken to ensure a complete understanding of the important culturally sensitive locations in accordance with the Project Approval. The detailed historic research will be undertaken in accordance with the methodology (this document) and archaeology program. Kate Waters (Waters Consultancy Pty Ltd), a qualified historian with particular experience in Aboriginal cultural heritage assessment, will undertake the detailed historical research of G2B A13, A14, A39 and TRACL as part of the Aboriginal cultural heritage investigations and archaeological salvage program.

The proposed approach for assessing the identified cultural areas would build on the existing research and analysis through historical research into available sources of information. It is envisaged that potential sources of historical information would include: archival land records; historical manuscripts; newspaper accounts; field recordings; site records; and photographic evidence. The documentary and audio-visual holdings of the following institutions would be investigated:

- Berry & District Historical Society Inc. local historical holdings;
- Mitchell Library of NSW historical manuscripts;
- National Library of Australia archival holdings;
- OEH site and assessment records;
- AIATSIS documentary and audio-visual material; and
- SRNSW archival land records.

Analysis of the historical information would be undertaken to:

- assess the historical evidence relating to the encampments;
- identify specific heritage items within each of the identified cultural areas;
- provide locational data on the identified heritage items;
- clarify the heritage values of the identified heritage items;
- provide an updated heritage assessment and statement of significance on the identified heritage items; and
- produce recommendations for the management of the identified heritage items.

The research and heritage significance assessment would be undertaken in line with the ICOMOS guidelines (as provided for by the Heritage Council of NSW) and the Aboriginal cultural heritage assessment guidelines produced by the NSW OEH (Heritage Division), as applicable. The assessment would be undertaken in consultation with the OEH Heritage Branch as warranted. The detailed historical research would be carried in consultation with registered Aboriginal stakeholders.

A draft report incorporating the historical research and heritage significance assessment would be prepared and provided for review. Feedback from stakeholders would be considered prior to finalisation of the report. The draft and final reports would include:

- an overview of the historical research findings in context;
- a significance assessment of cultural areas as a complex (if appropriate);
- the identification and locational mapping of heritage items within cultural areas;
- detailed historical assessment of source material for each identified heritage item;
- an assessment of the heritage value(s) of each identified heritage item;
- a statement of significance for each identified heritage item; and
- recommendations for the management of identified heritage value(s) within cultural areas.

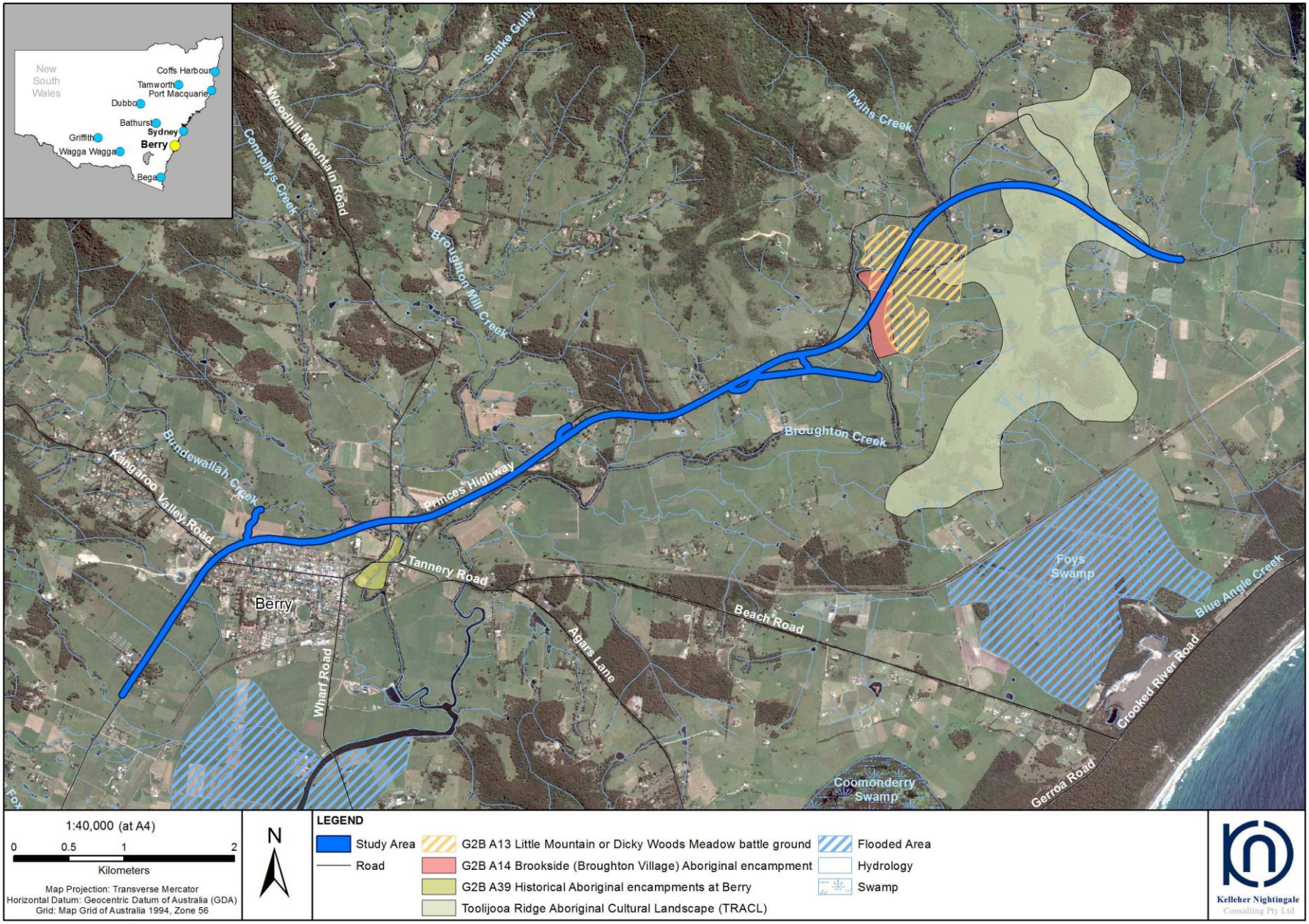



**Figure 5. Areas of cultural sensitivity**

# 5 Archaeology Assessment

## 5.1 EA Archaeological Assessment

Archaeological survey and test excavation was undertaken of the project corridor as part of the EA. Nine archaeological sites and one area of potential archaeological deposit (PAD) were identified as impacted by the highway upgrade. The archaeological assessment is detailed in a comprehensive report (Foxground and Berry bypass, Princes Highway upgrade, Volume 2 – Appendix J, 2012) and a summary of the relevant findings is presented here.

Additional information about the study area was outlined in: *Gerringong to Bomaderry Princes Highway Upgrade, Foxground and Berry Bypass, Geotechnical Testing Program, Salvage Excavation Report* (New South Wales Archaeology Pty Ltd 2013).

The identified archaeological sites and PAD are shown on Figure 6. Detailed locations are shown in Figures 7-10. Relevant geologic maps are attached as Appendix C.

## 5.2 Archaeological Sites

**G2B A16**
This site is located on the north east facing slopes of a low spurline adjacent to Town Creek. The slight terrace yielded 14 artefacts from a mixed deposit. The highest artefact density was 7/$m^2$ with an average of 1.1/$m^2$. The site exhibited some potential for intact soils and further subsurface deposits across the unexcavated parts of the terrace near to Kangaroo Valley Road, which straddle an erosional soil formation. This sliver of soil is the most intact portion of the site as it represents the flood margin of Town Creek. Salvage activities will focus on determining the intactness of the terrace/margin and distribution of the identified deposit.

The geomorphic context of G2B A16 is Quaternary Alluvium overlain by sandy alluvial/humic deposits. This combination of soil and bedrock generally only yields artefacts on intact terraces above the primary floodplain. Despite the depth of alluvial deposits, intact archaeology should be anticipated within the upper 20-40cm, as deeper deposits will likely be modified by past (<1000 years) high energy events associated with the development of the plain.

Salvage excavation undertaken as part of the geotechnical assessment found low artefact densities (2.4/$m^2$) and some disturbance within the site and increased artefact numbers near Kangaroo Valley Road indicative of an undefined terrace margin. These findings correlate with the landscape assessment and flood modelling indicating low levels of archaeological sensitivity.

Salvage activities will determine 1) the intactness of the deposit and 2) salvage a representative sample of intact deposit.

**G2B A18**
This site is located on a terraced embankment on the south bank of Bundewallah Creek. The embankment yielded 41 artefacts from a mixed deposit. The highest artefact density was 10/$m^2$ with an average of 0.8/$m^2$. The site exhibited some potential for intact soils away from the creek channel adjacent to the property access track. Salvage activities will focus on determining the intactness of the terrace and distribution of the identified deposit.

The geomorphic context of G2B A18 is Quaternary Alluvium overlain by sandy alluvial/humic deposits. This combination of soil and bedrock generally only yields artefacts on intact terraces above the primary floodplain. Mapping indicates that G2B A18 may be situated too low within the floodplain for intact deposit to survive. If intact archaeology is present within the alluvial deposits, it will exist within the upper 20-40cm, as deeper deposit will likely be modified by past (<1000 years) high energy events associated with the development of the plain.

Salvage activities will determine 1) the intactness of the deposit and 2) salvage a representative sample of intact deposit.

**G2B A24**
This site is located on the crest and south western slopes of a prominent spurline knoll near a minor drainage line to Broughton Creek. The crest yielded 19 artefacts from an erosional deposit marked by the contours of the hill. The highest artefact density was 13/$m^2$ with an average of 3/$m^2$. The site's potential for intact soils is limited to the upper slopes and deflated crest due to highly erosive Coolangatta soils. This limits the spatial extent of the site to a relatively small portion of ground parallel with the existing highway. Moreover, deflated crest formations such as G2B A24 can be expected to yield a limited spatial spread of archaeology when intact, with most information reaching a diminished return after 10$m^2$.

The geomorphic context of G2B A24 is a Permian sandstone/siltsone overlain by decomposing sandstone on stiff clays. This combination of soil and bedrock is highly volatile in archaeological terms and only yields artefacts on deflated surfaces. The deflation of the soil is evidence of intactness for extremely erosive soils. Depth of deposit on deflated surface will be limited to approximately 25cm.

Salvage excavation undertaken as part of the geotechnical assessment found significant disturbance and no artefactual material within the deposit, which was highly eroded, indicating low archaeological sensitivity.

Salvage activities will determine 1) the deflation level and intactness of the deposit and 2) salvage a representative sample of intact deposit.

**G2B A29, G2B A30, G2BA31**

These three sites represent one archaeological complex along the banks of Broughton Creek and a prominent tributary. The junction of the waterways is a focus point for past activity. The banks and flats yielded 56 artefacts from an alluvial deposit. The highest artefact density was 11/$m^2$ with an average of 0.8/$m^2$. The site complex exhibited potential for intact soils on minor terraces notable by deviation within the palaeo creek channel. Salvage activities will focus on determining the intactness of the terrace and distribution of the identified deposit.

The geomorphic context of G2B A29, A30 and A31 site complex is Quaternary Alluvium overlain by sandy/humic deposits. This combination of soil and bedrock generally only yields artefacts on intact terraces above the primary floodplain. The close proximity to Broughton Creek means that the complex will have been 'washed' or impacted by relatively high energy flood events. The flooding may have disturbed the archaeological deposit and caused a secondary distribution of archaeological material. Excavations within the site complex will need to assess the homogenisation level of the soils and relationship between artefacts to ascertain the intactness of the sites. The western portion of the complex sits on an erosional soil and may have better integrity. Despite the depth of alluvial deposits, intact archaeology should be anticipated within the upper 20-40cm, as deeper deposit will likely be modified by past (<1000 years) high energy events associated with the development of the plain.

Salvage excavation undertaken as part of the geotechnical assessment found moderate artefact densities of 5.8/$m^2$ with very localised micro-topographic relief. Intact archaeological deposit was limited to those areas clear of the flood zone (see pockets shown in Figure 9). Archaeological sensitivity within the G2B A29, A30 and A31 site complex is linked to remnant soils on marginal landforms and is unlikely to be extensive, however pockets of intact deposit may be present.

Salvage activities will determine 1) the intactness of the deposit and 2) salvage a representative sample of intact deposit.

**G2B A32, G2B A33**

These two sites represent one archaeological complex along the banks of Broughton Creek, topographically defined by a small set of drainage channels on the east side of the creek which form a minor terrace/levee near G2B A33. This portion of Broughton Creek is channelled by Permian formations, which funnels both water and archaeological activity south along the line of the creek. Remnant archaeology can be expected on terraced margins raised above the primary flood channel. Test excavation along the creek banks/margins and terrace yielded 27 artefacts from an alluvial deposit. The highest artefact density was 7/$m^2$ with an average of 1.2/$m^2$. The terraced margins exhibited potential for intact soils especially on the terrace between the creek and drainage channels (east bank). Salvage activities will focus on determining the intactness of the terrace and distribution of the identified deposit.

The geomorphic context of the G2B A32 and A33 site complex is Permian sandstone/siltsone overlain by sandy alluvial/humic deposits. This combination of soil and bedrock generally only yields artefacts on intact terraces above the primary floodplain. The close proximity to Broughton Creek means that the complex will have been 'washed' or impacted by relatively high energy flood events. The Permian geology indicates the flood energy is on average higher than Quaternary inundation energy further downstream. The flooding may have disturbed the archaeological deposit and caused a secondary distribution of archaeological material. Excavations within the site complex will need to assess the homogenisation level of the soils and relationship between artefacts to ascertain the intactness of the sites. Despite the depth of alluvial deposits, intact archaeology should be anticipated within the upper 20-50cm, as deeper deposit will likely be modified by past (<1000 years) high energy events associated with the development of the plain.

Salvage excavation undertaken as part of the geotechnical assessment found moderate artefact densities of c.20/$m^2$ associated with localised topographic relief. The findings underscore the value of the EA identified terrace/levee formation as retaining archaeological deposit. The intactness of the site outside the identified remnant pockets of deposit (such as the geotechnical test square) will form a key factor in the salvage program. If the landform proves to exhibit intactness en mass the complex will have high archaeological value.

Salvage activities will determine 1) the intactness of the deposit and 2) salvage a representative sample of intact deposit.

**G2B A36**

This site is located on Toolijooa Ridge and traverses a slope which runs down to the Crooked River catchment. Test excavation along the ridge and terrace yielded 12 artefacts from a degrading deposit. The highest artefact density was 4/$m^2$ with an average of 0.5/$m^2$. The low numbers of artefacts indicate a very limited used of the ridge and is consistent with the area being culturally identified as a pathway. Salvage excavation will determine the intactness of the soil and examine the influence of colluvial and erosional soil movement. Archaeologically, a representative sample from a ridgetop setting requires a targeted sample (as a diminished information return will be reached quickly).

The geomorphic context of G2B A36 is Permian sandstone/siltstone overlain by sandy/humic deposits. This combination of soil and bedrock generally only yields intact archaeological deposit where a deflationary process exists outside of colluvial and erosional (sheet) soil activity. In other words, archaeological deposit requires stability within the soil, if the soil suffers from significant horizontal movement the deposit will be disturbed. The archaeological key for ridgetop settings is finding locations with no upper slope activity, which allows artefacts to remain relatively in situ. Intact archaeology should be anticipated within the upper 20cm, as deeper deposit will be an indication of colluvial activity and shallow deposits evidence of erosional activity.

Salvage excavation undertaken as part of the geotechnical assessment found significant disturbance and low artefact densities (2.1/$m^2$) within the deposit, which was highly eroded, indicating low archaeological sensitivity.

Salvage activities will determine 1) the intactness of the deposit and 2) salvage a representative sample of intact deposit.

**Potential Archaeological Deposits**

**G2B PAD1**

This area of archaeological potential is located on the western bank of Broughton Creek, south of sites G2B A29, A30 and A31. The location exhibits potential based on its proximity to the creek and known archaeological deposits to the north. Intact archaeological deposit may exist on the raised margins along Broughton Creek. Test excavation will focus on determining the intactness of the terrace and distribution of the identified deposit.

The geomorphic context of G2B PAD1 is Quaternary Alluvium overlain by sandy alluvial/humic deposits. This combination of soil and bedrock generally only yields artefact on raised surfaces above the primary floodplain. The close proximity to Broughton Creek means that the area will have been 'washed' or impacted by relatively high energy flood events. Flooding may have disturbed the archaeological deposit and caused a secondary distribution of archaeological material (if present). Test excavations within the PAD will need to assess the homogenisation level of the soils and relationship between artefacts to ascertain the intactness of the deposit. Despite the depth of alluvial deposits, intact archaeology should be anticipated within the upper 20-40cm, as deeper deposit will be modified by past (<1000 years) high energy events associated with the development of the plain.

Archaeological excavation will determine 1) the intactness and nature of the deposit. Test excavation results will be collated into a report outlining the archaeological investigation, including recommendations. And if significant archaeology is present 2) salvage a representative sample of intact deposit.

**Aboriginal Cultural Areas**
Three area of Aboriginal cultural sensitivity are located within the project boundary. Each of the cultural areas exhibits some level of archaeological sensitivity.

**G2B A13 Little Mountain or Dicky Woods Meadow battle ground**
**G2B A14 Brookside (Broughton Village) Aboriginal encampment**
These areas are part of the Broughton Creek complex associated with G2B A30 and A31. The site complex exhibited potential for intact soils on minor terraces notable by deviation within the palaeo creek channel. Salvage activities will focus on determining the intactness of the terrace and distribution of the identified deposit.

The geomorphic context of G2B A13 and A14 are Quaternary Alluvium overlain by sandy/humic deposits. This combination of soil and bedrock generally only yields artefacts on intact terraces above the primary floodplain. The close proximity to Broughton Creek means that the complex will have been 'washed' or impacted by relatively high energy flood events. The flooding may have disturbed the archaeological deposit and caused a secondary distribution of archaeological material. The western portion of the complex sits on an erosional soil and may have better integrity.

Salvage activities, further historic research and knowledge holder insight will determine 1) the spatial distribution of the deposit and 2) salvage a representative sample of cultural objects.

**Toolijooa Ridge Aboriginal Cultural Landscape (TRACL)**
This area is located on Toolijooa Ridge and traverses a slope which runs down to the Crooked River catchment. The area is identified a cultural transit way. Salvage excavation will investigate the intactness of the soil and examine the influence of colluvial and erosional soil movement. Archaeologically, the sampling of TRACL will require a series of squares distributed over the site to recover the expected transit depositional pattern.

The geomorphic context of TRACL is Permian sandstone/siltstone overlain by sandy/humic deposits. This combination of soil and bedrock generally yields intact archaeological deposit where a deflationary process exists outside of colluvial and erosional (sheet) soil activity. In other words, cultural objects will exist where the soil matrix is stable. The archaeological key for ridgetop settings is finding locations with no upper slope activity, which allows artefacts to remain relatively in situ. Intact archaeology should be anticipated within the upper 20cm, as deeper deposit will be an indication of colluvial activity and shallow deposits evidence of erosional activity.

Salvage activities, further historic research and knowledge holder insight will determine 1) the spatial distribution of the deposit and 2) salvage a representative sample of cultural objects.

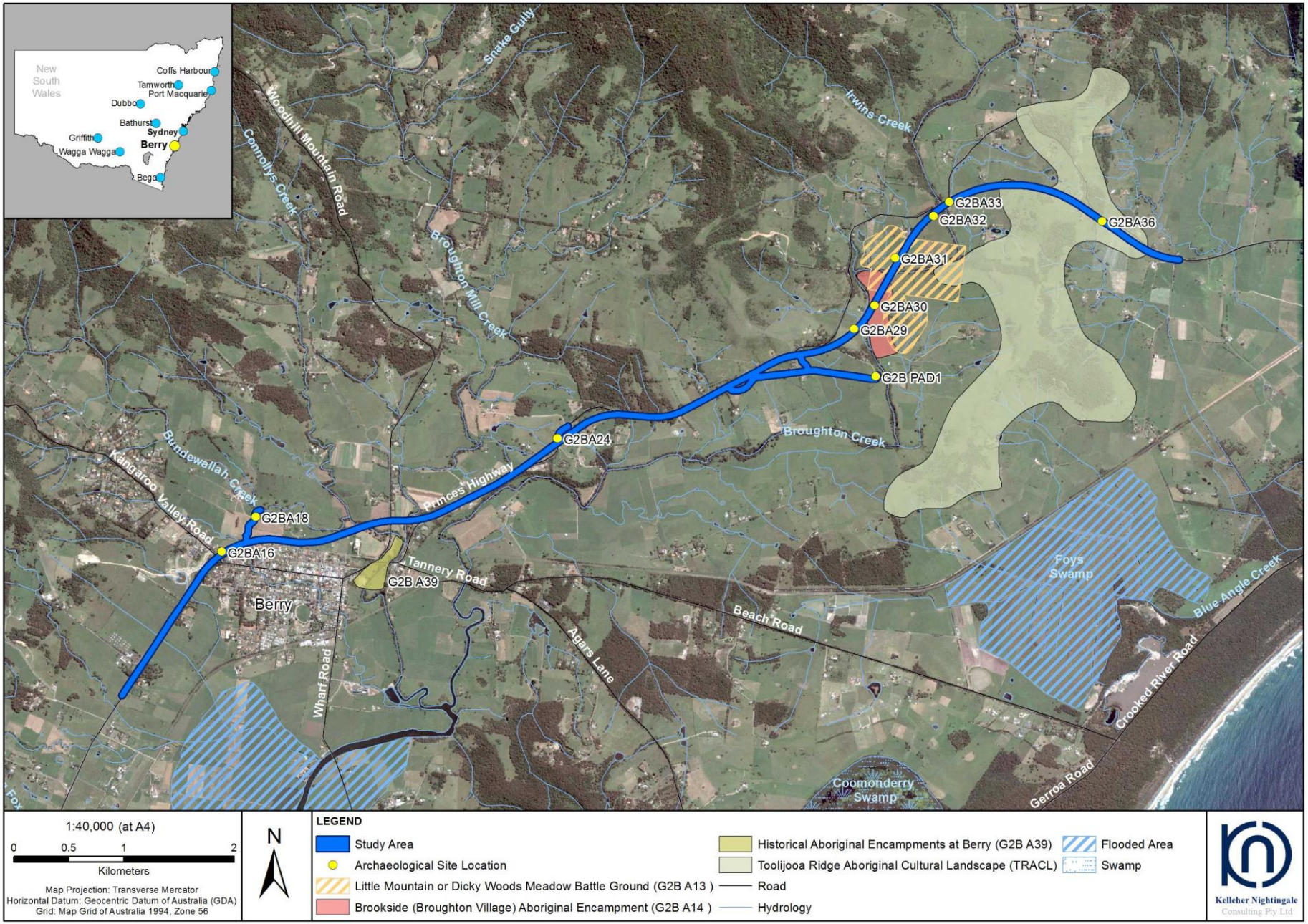



**Figure 6. Archaeological sites, PAD and cultural areas in the study area requiring mitigation**

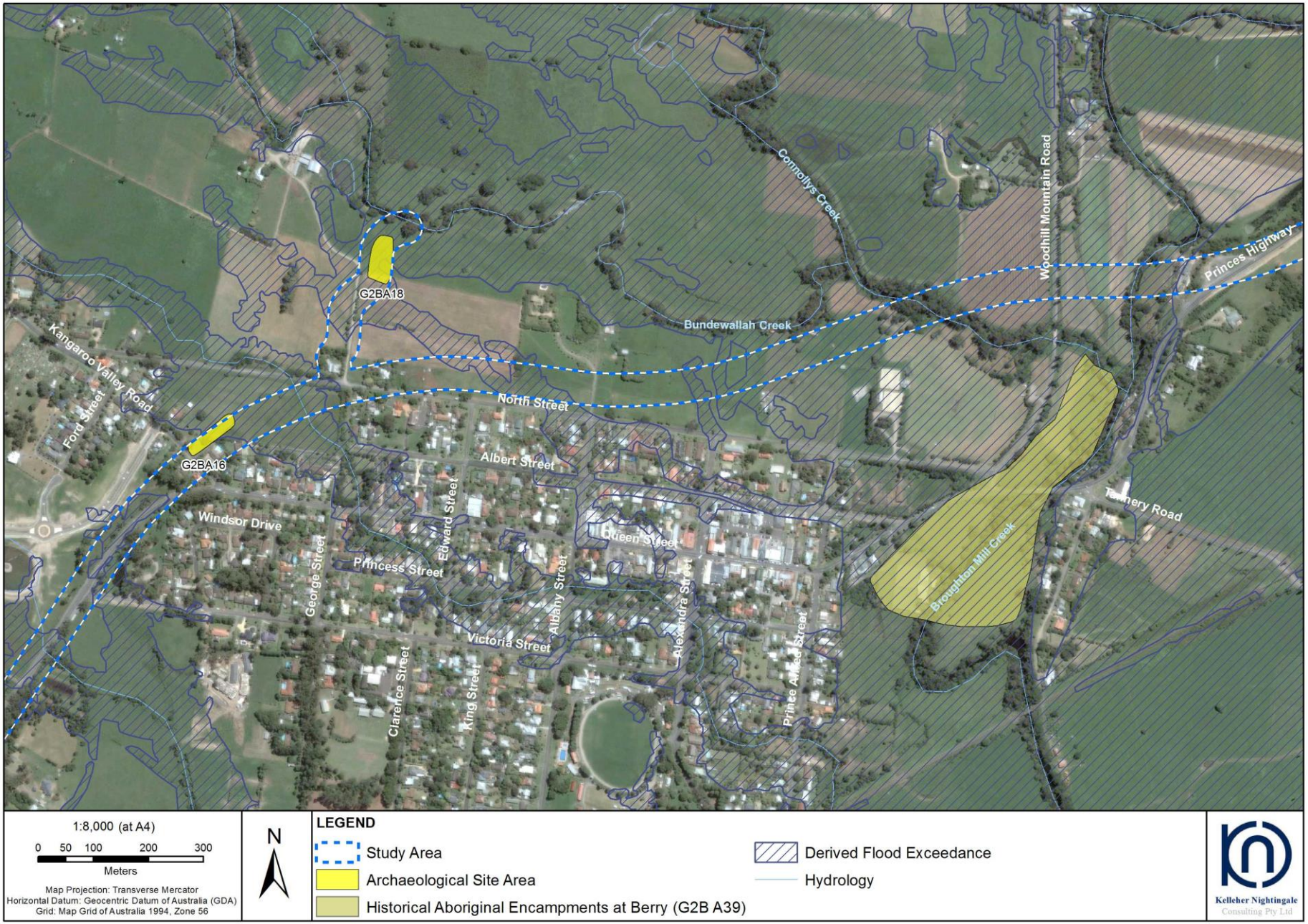



**Figure 7. Site G2B A16 and G2B A18 (flood margins)**

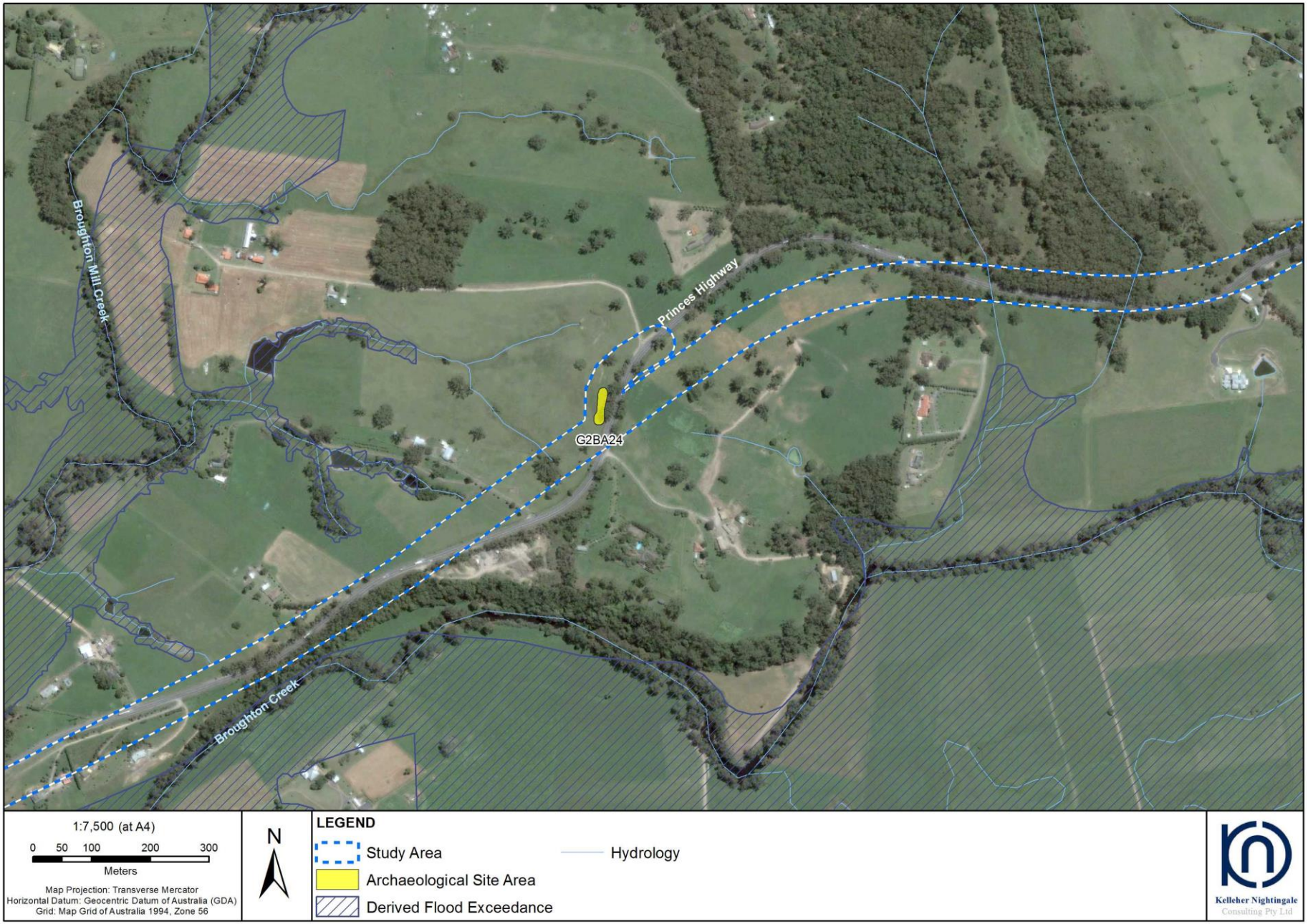



**Figure 8. Site G2B A24 (hilltop)**

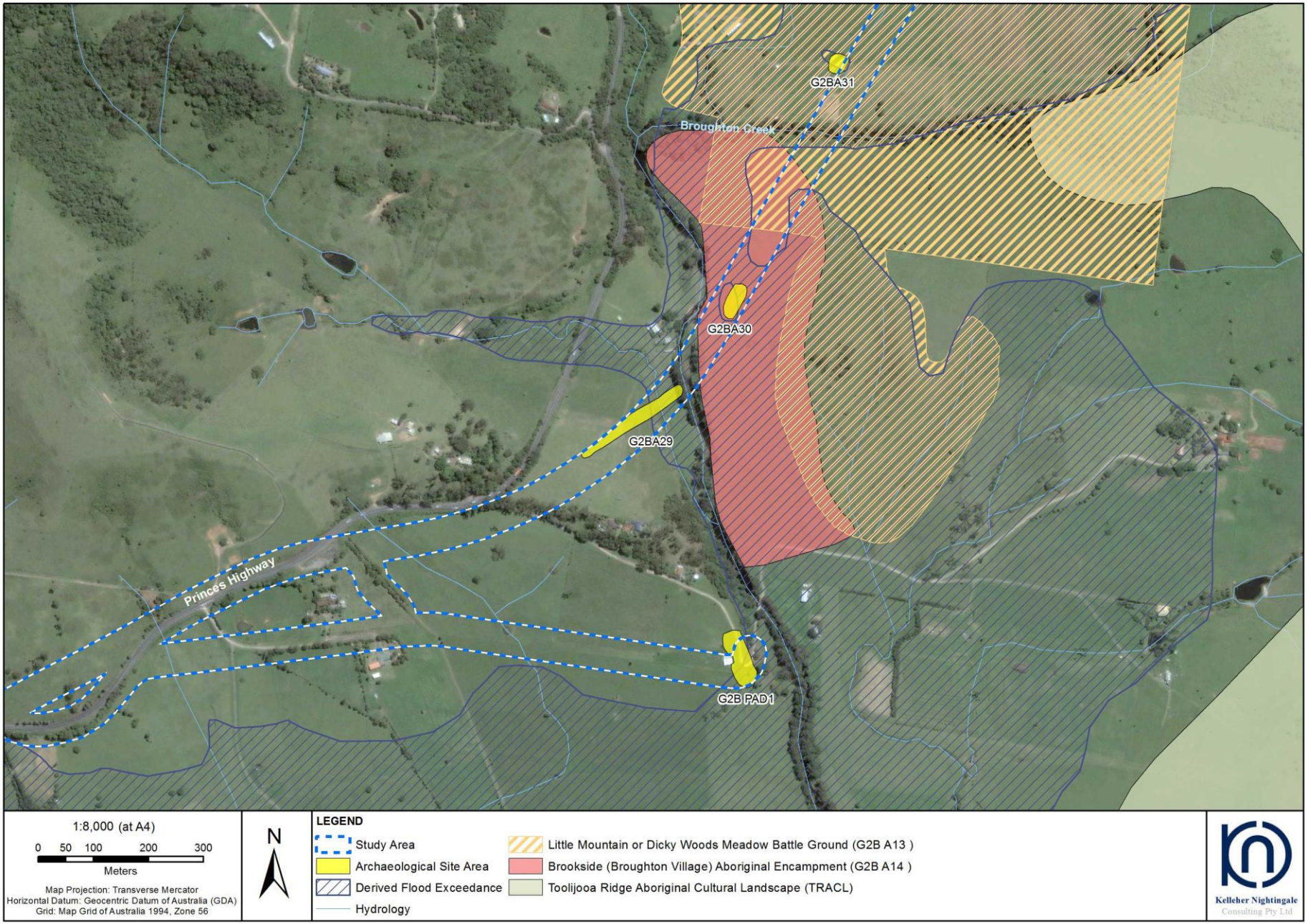



**Figure 9. Sites G2BA13, G2BA14, G2BA29, G2BA30, G2BA31 (terraces) and G2BPAD1 (sandstone and creek margin)**

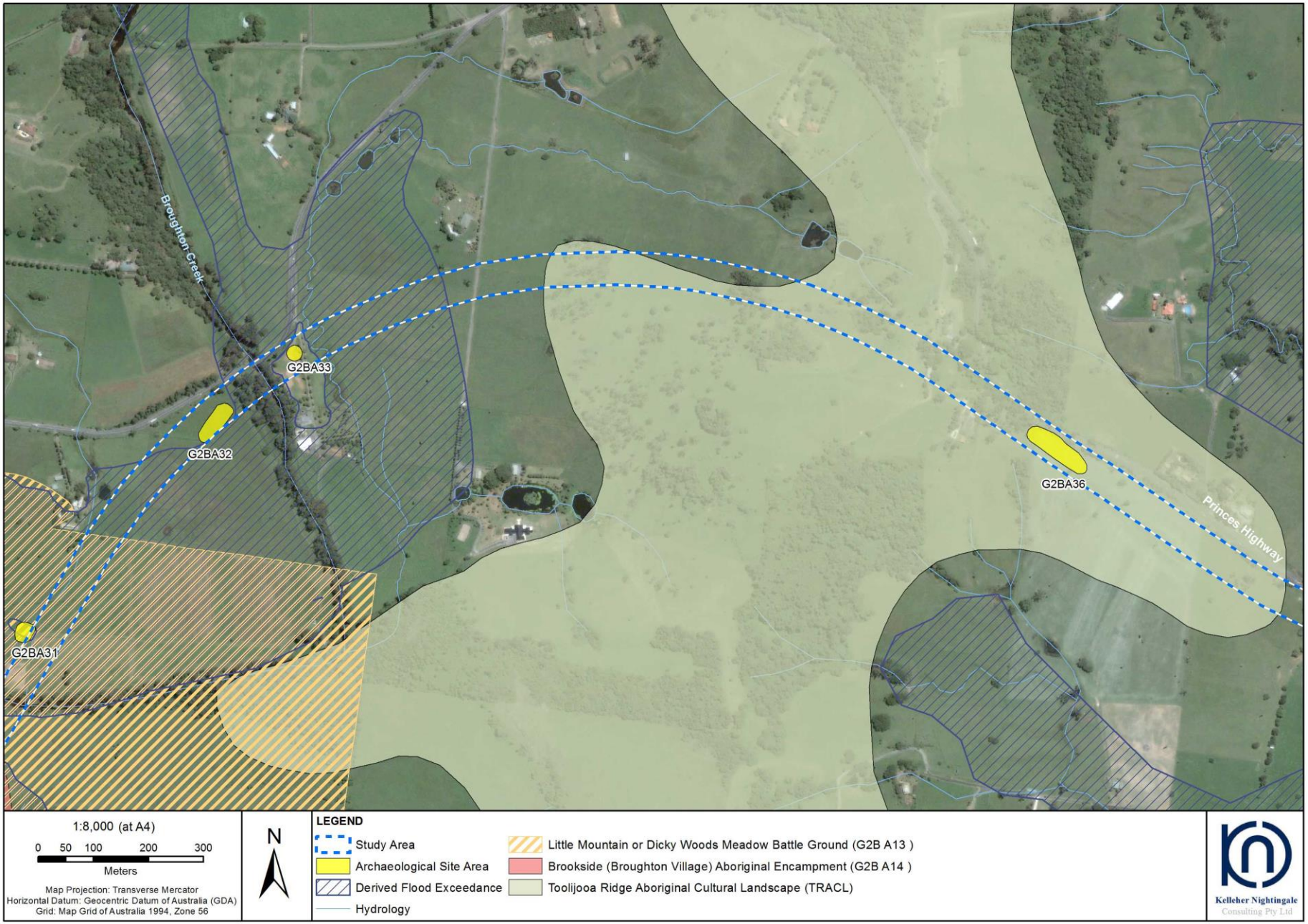



**Figure 10. Sites G2B A32, G2B A33 (terraces), G2B A36 (hilltop) and TRACL (hilltop)**

# 6 Archaeological Methodology

## 6.1 Research Aims

The main aim of this excavation program is:

- To recover a representative sample of the archaeological and cultural deposit present in areas identified as archaeological sites, area of archaeological potential or within cultural areas within the boundary of the Approved Project.

The further aim of the excavation program will be to determine the integrity, extent, spatial distribution and nature of the deposit.

- Determining the integrity of the deposit involves assessing the degree of disturbance which is present.
- Determining the extent of the site involves identifying the boundaries associated with the identified archaeological deposit.
- Assessing the spatial distribution involves identifying the presence/absence of archaeological material across identified land forms (e.g. elevated ground, terraces, low rises, gullies).
- The nature of the site refers to the type of activities indicated by the artefactual material (e.g. primary production, domestic knapping, hunting camps). The goal will be to retrieve assemblages from specific activities (e.g. selective knapping, heat treatment) if such activities are present.
- Retrieved assemblages will be compared with results from other relevant archaeological projects in order to assess significance.
- Assess significance of potential archaeological deposit G2B PAD1 and produce a report on the results of the archaeological investigation, including recommendations.

The results of the excavation program will enable an informed assessment of the archaeological significance of the Princes Highway upgrade between Foxground and Berry. Previous test excavation undertaken as part of the EA confirmed that archaeology exists within the boundary of the Approved Project. The aim of the salvage program is to recover a representative sample of this heritage material where it is found to be intact.

Excavation will focus on assessing:

- terraced landforms along Bundewallah and Broughton Creeks (G2B A13, G2B A14, G2B A16, G2B A18, G2B A29, G2B A30, G2B A31, G2B A32, G2B A33 and G2B PAD1)
- ridges and slopes above the Broughton Creek valley (G2B A24, G2B A36 and TRACL).

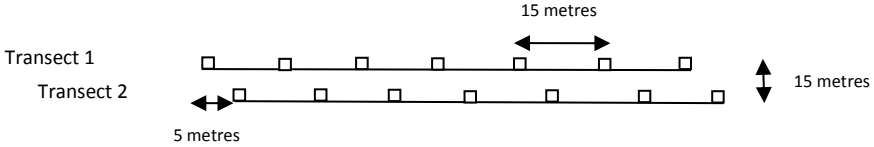
Excavation will be limited to the construction corridor, however extensive experience with the archaeology of road corridors indicates that such archaeologically random slices through the landscape offer statistically significant transects for investigation. In other words, we can expect to generate useful and meaningful information as a result of the excavation program.

## 6.2 Excavation Areas

Excavation areas are identified as: G2B A13, G2B A14, G2B A16, G2B A18, G2B A24, G2B A29, G2B A30, G2B A31, G2B A32, G2B A33, G2B A36, G2B PAD1 and TRACL.

## 6.3 Field Methods

In order to achieve the most robust and comparable result, KNC advocates an open area salvage excavation. The first step, Phase 1, in open area salvage is to establish the statistical boundaries of the archaeological deposit by excavating systematically placed $1m^2$ squares along transects at previously identified site locations. This approach is designed to salvage the spatial properties of the site as shown in the lithic continuum. In other words, we are recording the spread of activities across the site/landscape. In practice a series of $1m^2$ squares are excavated on a grid (15m between squares) overlain on the site to mark the spread of lithics and related geomorphic activity.

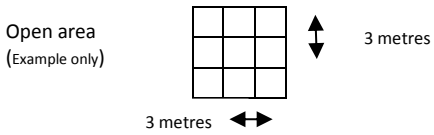


KNC estimate approximately 3-5m$^2$ will be excavated at each site location as part of the Phase 1 assessment to supplement existing EA test data. Where no test data exists, Phase 1 testing will require approximately 15-25m$^2$ of excavation per landform. The MGA coordinates will be recorded for each square to enable three dimensional modelling. Statistical salvage following this method is highly beneficial because it creates a robust inter-site sample, sufficiently random, critical for regional comparative analysis. No other method is as efficient or effective.

**Plate 1. Manual excavation of 1m$^2$ archaeological squares**

Next Phase 2 open area salvage will be undertaken where intact deposit is found associated with one or more of the following indicators of information bearing deposits: significant quantities of artefacts (>10), variations in raw material, unusual artefacts, chronologic material and/or taphonomic indicators. In this context chronologic material is anything that can be used to date artefacts or deposit: charcoal or charcoal bearing deposit (e.g. hearth ash), sandy deposit, gravels (e.g. aluminium feldspar).

Phase 2 open area excavation will be undertaken on a connected single grid.




Phase 2 open area salvage of significant intact deposit will expand to encompass entire activity areas. It is anticipated that a minimum of 160 squares will be excavated during the entire program.

All of the deposit will be wet sieved on 5.0mm and 2.5mm nested sieves. All artefacts will be collected and bagged. Squares will be backfilled with a clean fill. The location of each excavation square will be identified on a surveyed plan of the site. Soil and carbon samples will also be collected for analysis. Detailed geomorphological analysis will be undertaken where appropriate.

**Plate 2. Sieving archaeological deposit**

Individual excavation squares measuring 1m² will be hand excavated in stratigraphic units (Unit A and Unit B, etc). Squares will be excavated until the basal layer or culturally sterile deposit is reached (usually 20cm for erosional and 20-40cm for alluvial soils). Excavation of the soils associated with the area indicates no archaeological stratigraphy within units. As such the A1 and A2 soil layers are culturally one layer (suffering from cyclical soil transfer resulting in a mixed cultural profile within the soil) and can be salvaged as one unit where possible. Basic geomorphic assessment will also be undertaken as part of the profile analysis. The geomorphic assessment will include 50mm micro-core samples extracted from the base of the excavation area to assist in determining soil taphonomy. Geomorphic soil sampling may also be undertaken to map subsurface soils to ascertain the boundaries of culturally sensitive landforms.

The location of each excavated square will be identified on a surveyed plan of the site. Stratigraphic sections detailing the stratigraphy and features within the excavated deposit would be drawn and all squares would be photographed. Carbon or other samples for dating will be collected and analysed if appropriate. Soil samples as well as thin section profiles (where feasible) would also be collected. The stratigraphy of all excavated areas will be fully documented and appropriate records will be archived.

## 6.4 Analysis

Artefacts recovered during the salvage excavation program will be analysed on-site to enable evidence based decisions regarding the quantity of excavation at each archaeological site and immediate input from Aboriginal stakeholders. Excavations will cease when sufficient information has been obtained.

Artefacts would be analysed on a comparable level with previous analyses of excavated assemblages. Information derived from this analysis; in particular the identification of specific artefact types, and their distributions and associations; will be used to put together interpretations about how sites were used, where sites were located across the landscape, the age of sites and to assess cultural heritage values. By comparing different areas it will be possible to determine whether there were differences in the kinds of activities carried out and if different activities were related to different landforms.


**Plate 3. Example lithic artefacts: quartz flake, chert point and basalt hammerstone**

A range of stone artefacts may be present across the salvage areas and the analysis would expand accordingly to account for artefact variability. All information would be recorded in database form (MS Excel). Various types of evidence would be used to determine the kinds of activities that were carried out. A short description of the proposed analysis is outlined below.

- Field analysis would record basic data, such as material type, number and any significant technological characteristics, such as backing or bipolar techniques; added to this would be any provenance data such as pit ID and spit number.
- Detailed (laboratory) analysis would entail recording a larger number of characteristics for each individual artefact. These details would be recorded in matrices suitable for comparative analysis (e.g. multivariate and univariate) of the excavated assemblage on a local and regional basis.
- Lithic characteristics to be recorded cover a range of basic information but are not limited to these categories (see example below). For transparency, terms and category types would in large part be derived from Holdaway and Stern (2004).

**Table 2. Lithic Recording Characteristics**

| Sample Categories | | |
|---|---|---|
| Record Number | % Cortex | Flake Type |
| Pit ID | Length | Termination Type |
| Spit Number | Width | Core Type |
| Count | Thickness | Number of Scars (Core) |
| Raw Material | Weight | Scar Type (Core) |
| Colour | Modification | Shape of Flake |
| Quality | Reduction Type | Platform Type |

The analysis of artefacts recovered during the excavation program would be undertaken in a transparent and replicable fashion so as to permit the comparison of the entire excavated assemblage with data from other areas. This would also allow for an interpretation of the study area's archaeological significance. The analysis will include the results of archaeological testing undertaken as part of the Environmental Assessment in accordance with the MCoA.

# 7 Field Team

KNC is comprised of highly qualified and experienced archaeologists with experience in all aspects of Aboriginal archaeological assessment and management, including surface survey, test and salvage excavations, sensitivity mapping, significance and impact assessment and site management.

KNC directors, Dr Matthew Kelleher and Alison Nightingale, will be responsible for the excavation program. Dr Matthew Kelleher is the project and excavation director. Matthew has extensive experience in managing large scale archaeological excavations and research projects.

Kate Waters will lead research regarding further historical assessment and Aboriginal cultural heritage investigations.

Senior KNC archaeologists Mark Rawson and Stirling Smith with manage day to day excavation activities.

**Table 3. Project Personnel**

| Person | Role | Tasks |
|---|---|---|
| Dr Matthew Kelleher | Director / Archaeologist | Project director, excavation director, coordinate team, liaison with community, RMS and OEH, lithic analysis, assessment and reporting |
| Alison Nightingale | Director / Archaeologist | Project manager, coordinate team, liaison with community, RMS and OEH, assessment and reporting |
| Kate Waters | Aboriginal Cultural Historian | Liaison with community, RMS and OEH, assessment and reporting |
| Mark Rawson | Senior Field Archaeologist | Senior excavation supervisor, lithic analysis and reporting |
| Stirling Smith | Senior Field Archaeologist | Senior excavation supervisor, lithic analysis and reporting |
| Archaeologists (3) | Field Archaeologists | Excavation program |

## 7.1 Aboriginal Stakeholder Participation

The RMS PACHCI advocates a 1:1 ratio for field archaeologists to Aboriginal sites officers. In this regard the program will require (5) Aboriginal site officers per day for the duration of the excavation. Each Aboriginal organisation will be requested to nominate site officers and trainee site officers to participate in the excavation program (if they have not already nominated personnel). RMS Aboriginal Cultural Heritage Advisor Joanne Damcevski will compile a list of qualified personnel. KNC will make a roster from the list for the program and will liaise with personnel as appropriate.

# 8 Mitigation Strategies

Four culturally sensitive areas were identified within or immediately adjacent to the Princes Highway Upgrade – Foxground and Berry bypass Project. Three of the four areas are partially impacted by the Approved Project.

Nine archaeological sites and one PAD identified within the Princes Highway Upgrade – Foxground and Berry bypass project area will be at least partially impacted by the Approved Project.

Specific mitigation strategies for each cultural area, site and PAD are outlined in the following tables.

**Table 4. Areas of cultural sensitivity impacts and mitigation for the Foxground and Berry bypass**

| Areas of Cultural Sensitivity | | | | | |
|---|---|---|---|---|---|
| **Site** | **Type** | **Description** | **Significance** | **Impact Assessment** | **Mitigation Strategy** |
| G2B A39<br>Historic Aboriginal encampments at Berry | Historic encampments | Documentary and oral evidence indicates that there were at least two phases of Aboriginal encampment in the Berry area located at the 'Meadow' on the north side of the junction of Broughton and Broughton Mills Creek and a temporary seasonal encampment by Aboriginal crop pickers east of Berry on the Broughton Mills Creek flats. | High | No impact | Detailed historical research shall be undertaken in accordance with Project Approval. If site is impacted salvage excavation will be undertaken. |
| G2B A13<br>Dicky Woods Meadow battle ground | Ethno-historic place | Little Mountain or Dicky Woods Meadow battle ground is an area of cultural sensitivity in the vicinity of the Broughton Village.<br>The area was a main Aboriginal battle field, where many battles were fought; many Aboriginal people were killed and buried on the land, according to available information. | High | Will be impacted (partial) | Project Approval requires impacts to heritage to be minimised to the greatest extent practicable through both detailed design and construction, particularly with regard to site G2B A13. Where impacts are unavoidable salvage excavation and detailed historical research shall be undertaken. |
| G2B A14<br>Brookside Aboriginal historic encampment | Aboriginal encampment | Aboriginal people were reported to have camped along the banks of Broughton Creek in the vicinity of Broughton Village. | High | Will be impacted (partial) | Project Approval requires impacts to heritage to be minimised to the greatest extent practicable through both detailed design and construction, particularly with regard to site G2B A14. Where impacts are unavoidable salvage excavation and detailed historical research shall be undertaken. |
| TRACL<br>Toolijooa Ridge Aboriginal Cultural Landscape | Natural landscape feature | Toolijooa Ridge is a locally prominent ridgeline which extends across the coastal plain south from Currys Mountain, to Toolijooa and Harley Hill.<br>Local information identifies the ridge as containing an Aboriginal trail which had its origins in Foxground. | High | Will be impacted (partial) | Project Approval requires impacts to heritage to be minimised to the greatest extent practicable through both detailed design and construction, particularly with regard to TRACL. Where impacts are unavoidable salvage excavation and detailed historical research shall be undertaken. |

**Table 5. Archaeological Site/PADs Impacts and Mitigation for the Foxground and Berry bypass**

| Archaeological Sites | | | | | |
|---|---|---|---|---|---|
| **Site** | **Type** | **Description** | **Significance** | **Impact Assessment** | **Mitigation Strategy** |
| G2B A16 | Artefact Scatter | This site is located on a terrace bordering Town Creek. Test excavation identified an archaeological deposit of low-moderate integrity with a mean artefact density of 1.1/$m^2$. Potential for further subsurface archaeology is low to moderate. | Low-Moderate (where intact) | Will be impacted (partial) | Salvage excavation required. |
| G2B A18 | Artefact Scatter | This site is located on an embankment bordering Bundewallah Creek. Test excavation demonstrated a mean artefact density of 0.8/$m^2$ in this location, with the deposit displaying moderate integrity. | Moderate (where intact) | Will be impacted (partial) | Project Approval requires impacts to heritage to be minimised to the greatest extent practicable through both detailed design and construction, particularly with regard to site G2B A18. Where impacts are unavoidable salvage excavation shall be undertaken. |
| G2B A24 | Artefact Scatter | This site is located on the south western slope of a prominent knoll near a minor drainage line to Broughton Creek. Test excavation demonstrated a mean artefact density of 3/$m^2$ in this location, with the deposit displaying low-moderate integrity. | Low-Moderate (where intact) | Will be impacted (partial) | Salvage excavation required. |
| G2B A29 | Artefact Scatter (complex) | This site is located on the terraces and slope of Broughton Creek. The site is part of a complex of three archaeological sites. Test excavation demonstrated a mean artefact density of 0.8/$m^2$ in this location, with the deposit displaying moderate integrity. | Moderate (where intact) | Will be impacted (partial) | Salvage excavation required. |
| G2B A30 | Artefact Scatter (complex) | This site is located on the terraces and slope of Broughton Creek. The site is part of a complex of three archaeological sites. Test excavation demonstrated a mean artefact density of 0.8/$m^2$ in this location, with the deposit displaying moderate integrity. | Moderate (where intact) | Will be impacted (partial) | Salvage excavation required. |
| G2B A31 | Artefact Scatter (complex) | This site is located on the terraces and slope of Broughton Creek. The site is part of a complex of three archaeological sites. Test excavation demonstrated a mean artefact density of 0.8/$m^2$ in this location, with the deposit displaying moderate integrity. | Moderate (where intact) | Will be impacted (partial) | Salvage excavation required. |
| G2B A32 | Artefact Scatter (complex) | This site is located on the terraces and slope of Broughton Creek associated with minor drainage channels. The site is part of a complex of two archaeological sites. Test excavation demonstrated a mean artefact density of 1.2/$m^2$ in this location, with the deposit displaying moderate integrity. | Moderate (where intact) | Will be impacted (partial) | Salvage excavation required. |
| G2B A33 | Artefact Scatter (complex) | This site is located on the terraces and slope of Broughton Creek associated with minor drainage channels. The site is part of a complex of two archaeological sites. Test excavation demonstrated a mean artefact density of 1.2/$m^2$ in this location, with the deposit displaying moderate integrity. | Moderate (where intact) | Will be impacted (partial) | Salvage excavation required. |

| Archaeological Sites | | | | | |
|---|---|---|---|---|---|
| **Site** | **Type** | **Description** | **Significance** | **Impact Assessment** | **Mitigation Strategy** |
| G2B A36 | Artefact Scatter | This site is located on Toolijooa Ridge and traverses a slope which runs down to the Crooked River catchment. Test excavation demonstrated a mean artefact density of 0.5/$m^2$ in this location, with the deposit displaying moderate integrity. | Moderate (where intact) | Will be impacted (partial) | Salvage excavation required. |
| G2B PAD1 | PAD | Area of PAD located on the terraces and slopes of Broughton Creek. The area is located near an archaeological site complex near G2B A29, A30 and A31. Area is located on the possible margin of the primary flood plain. | Low - Moderate | Will be impacted (partial) | Excavation required assessing the nature and extent of archaeology.<br><br>Test excavation results will be collated into a report outlining the archaeological investigation, including recommendations.<br><br>Where required undertake salvage excavation. |

# 9 Management Procedures

The proponent will manage Aboriginal heritage for the Princes Highway upgrade Foxground and Berry bypass project in accordance with the Conditions of the Project Approval, conditions B18, B20, B21, B36(e) and C17.

Meeting the Minister's Conditions of Approval (MCoA) requires:

- MCoA B18 – historic research of Aboriginal historic encampment at Berry G2B A39
- MCoA B20 – test excavation and reporting for Aboriginal archaeological site G2B PAD1
- MCoA B21 –develop a salvage strategy prepared in consultation with OEH and Aboriginal stakeholders. The salvage strategy will be prepared to the satisfaction of the Director General
- MCoA B21 – undertake any further archaeological excavation works recommended in the salvage strategy
- MCoA B21 – complete an excavation report within 12 months of completing the salvage excavation
- MCoA B36(e) – undertake further archaeological investigations for impacted portions of cultural areas
- MCoA C17 – where impacts to Aboriginal heritage is unavoidable, works shall be undertaken in accordance with B36(e).

This methodology outlines the process for addressing the above steps to assist in meeting MCoA B18, B20, B21, B36(e) and C17.

Project Approval also includes conditions related to construction impacts on Aboriginal heritage. RMS has also made a number of commitments in relation to minimising or mitigating further impacts on Aboriginal heritage. The management procedures outlined in this section are designed to assist RMS in meeting those commitments and fulfilling the MCoA in regard to Aboriginal heritage. In the event of an inconsistency between the Project Approval and the management procedures the conditions of Project Approval shall prevail.

## 9.1 Proposed Changes to Approved Projects

RMS recognises that in the course of undertaking the bypass project, design alterations or other changes to the Approved Project may be required.

Sections 9.2 – 9.5 below outline the processes that the Proponent must follow to ensure that any changes to the Approved Project which may impact on Aboriginal cultural heritage are dealt with consistently and with ongoing consultation with Aboriginal stakeholders and relevant government agencies.

## 9.2 Management Policy for Aboriginal Heritage

The policy for the management and conservation of Aboriginal heritage in relation to salvage activities and construction activities (or fencing, geotechnical investigations, minor clearing, establishing site compounds, adjustment to services/utilities etc.) is described below:

Responsibility for compliance with Management Policy

1. The Proponent must ensure all of its employees, contractors and subcontractors and agents are made aware of and comply with this management policy.
2. The Proponent must appoint a suitably qualified and experienced environmental manager who is responsible for overseeing the activities related to this management policy.
3. The Proponent must appoint a suitably qualified and experienced Archaeologist who is responsible for overseeing, for and on behalf of the Proponent, the archaeological activities relating to the project.

Operational constraints

4. Where archaeological excavation has been nominated for impacted sites, PADs or cultural areas, no construction activities (or fencing, geotechnical investigations, minor clearing, establishing site compounds, adjustment to services/utilities etc.) can occur on the lands to be investigated until the relevant archaeological excavation at the nominated site have been completed. This restriction only relates to the specifically identified portion of an archaeological site/PAD/cultural area to be excavated and not the entire archaeological site/PAD/cultural area (unless specified). Construction activities may proceed on the portion of a site/PAD/cultural area not designated for salvage provided they do not impact or impede the archaeological excavation and that the area to be excavated is identified in consultation with the Archaeologist prior to the commencement of those construction activities.

5. Prior to the commencement of early works activity (e.g. fencing, minor clearing, establishing site compounds etc.) a construction heritage site map identifying Aboriginal sites to be excavated must be prepared. The construction heritage site map should be prepared to the satisfaction of RMS.
6. All employees, contractors, subcontractors and agents carrying out early works activities (e.g. fencing, minor clearing, geotechnical investigations, establishing site compounds etc.) must undertake a Project induction (including the distribution of a construction heritage site map) to ensure that they have an understanding and are aware of the Aboriginal heritage issues affecting the activity.

Areas of Cultural Sensitivity, Aboriginal archaeological sites, objects and PADs to be impacted

7. The areas of cultural sensitivity, archaeological sites, objects and PADs identified as being impacted by construction activities are listed in Table 4 and Table 5 of this report and are in accordance with the Project Approval.

Human Remains

8. This management policy does not authorise any damage of human remains.
9. If potential human remains are disturbed the Proponent must follow the procedures outlined in section 9.3 below.

Salvage Activities

10. Archaeological salvage excavation where appropriate must be carried out in accordance with the Project Approval.

Involvement of Aboriginal groups and/or individuals

11. Opportunity must be provided to the registered Aboriginal stakeholders to be involved in the following activities:
    a. assist with the excavation as outlined in Section 6.

Conservation of salvaged Aboriginal objects

12. Any salvaged Aboriginal objects must be relocated as soon as practicable to a temporary storage location pending discussions with RMS and Aboriginal stakeholders in relation to a permanent storage location.
13. In the event that Aboriginal stakeholders choose to undertake a care agreement for the salvaged Aboriginal objects the Proponent must assist in the permit application process.
14. In the event that a suitable storage location cannot be identified the Proponent must request in writing that OEH identify a suitable storage location.
15. If reburial occurs, pursuant to s.89A of the *National Parks and Wildlife Act 1974* the location of each reburial area must be notified in writing to OEH as soon as practicable after reburial occurs.

Reporting requirements

16. A written archaeological excavation report must be provided to RMS within a reasonable time in accordance with the Project Approval following the completion of the archaeological program.

Notification and reporting about incidents that breach this management policy

17. Incident reporting requirements in accordance with the Project Approval is to include Aboriginal heritage.
18. Where RMS reasonably suspects that an incident has occurred that contravenes the management policy presented here the Proponent must prepare a written report within a reasonable time detailing that incident. The report must describe
    a. the nature of the incident
    b. the notification of the environmental manager and specialist where required
    c. the nature and location of relevant Aboriginal objects, with reference to and provision of maps and photographs where appropriate
    d. the impact of the incident on Aboriginal objects, with the appropriate specialist input where required
    e. the measures which have been taken or will be taken to prevent a reoccurrence of the incident.

## 9.3 Procedures for Handling Human Remains

- **Note that Project Approvals do not include the destruction of Aboriginal remains**

This section outlines the procedure for handling human remains in accordance with the Skeletal Remains – Guidelines for the Management of Human Skeletal Remains under the *Heritage Act 1977* (NSW Heritage Office 1998) and the Aboriginal Cultural Heritage Standards and Guidelines Kit (NPWS 1997). In the event that construction activity reveals possible human skeletal material (remains), the following procedure is to be followed:

1. as soon as remains are exposed, all work is to halt at that location immediately and the Project environmental manager on site is to be immediately notified to allow assessment and management;

i. stop all activities; and
ii. secure the site.

2. contact police, the discovery of human remains triggers a process which assumes that they are associated with a crime. The NSW Police retain carriage of the process until such time as the remains are confirmed to be Aboriginal or historic;
3. Department of Planning and Environment (DP&E), as the approval authority, will be notified when human remains are found;
4. once the police process is complete and if remains are not associated with a contemporary crime contact DP&E. DP&E will determine the process, in consultation with OEH and/or the Heritage Office as appropriate;
   i. if the remains are identified as Aboriginal, the site is to be secured and DP&E and all Aboriginal stakeholders are to be notified in writing. DP&E will act in consultation with OEH as appropriate. OEH will be notified in writing according to DP&E instructions; or
   ii. if the remains are identified as non-Aboriginal (historical) remains, the site is to be secured and the DP&E is to be contacted. DP&E will act in consultation with the Heritage Divison as appropriate. The Heritage Divison will be notified in writing according to DP&E instructions;
5. once the police process is complete and if the remains are identified as not being human work can recommence once the appropriate clearances have been given.

## 9.4 Procedure for proposed changes to Approved Projects

A proposed change to the Approved Project (such as an alteration of the current design, the location of ancillary facilities) within the project corridor may result in a:

- Reduced impact to Aboriginal cultural heritage; or an
- Increased impact to Aboriginal cultural heritage.

Note: the use of the word impact in this section is defined as an impact on the significance of Aboriginal cultural heritage rather than simply an increased physical impact.

To ensure consistency with the Approved Project and this document any change in the overall impact on Aboriginal cultural heritage will need to be considered. The process to determine consistency is outlined in section 9.4.1 below.

Where a proposed change to the Approved Project occurs outside of the project boundary considered for the EA further heritage assessment will be required to determine if there would be an impact on Aboriginal cultural heritage and whether this represents a modification to the Approved Project (outlined below).

Test excavation in accordance with the field methods outlined in section 6.3 (and consistent with the EA) will be undertaken to assess the potential impact on areas exhibiting some archaeological potential.

### 9.4.1 Changes in heritage impact

Where the Proponent seeks to make a change to the design and construction of the Approved Project which changes the assessed impact on Aboriginal cultural heritage the Proponent will need to prepare an assessment of the new impacts of this work in consultation with the appointed Archaeologist. The continued involvement of the Aboriginal stakeholders in this process is outlined in section 9.5.

- New impacts consistent with previously identified impacts

If a proposed change to the Approved Project is considered to have a neutral or lesser significant impact on Aboriginal cultural heritage than that identified in this document it would be considered a consistent impact.

If the proposed change is considered to be consistent with the Approved Project RMS may approve the change with no requirements to seek further approval. However, in certain circumstances, further consultation with Aboriginal stakeholders may still be required (see section 9.5 below).

- New impacts inconsistent with previously identified impacts

If a proposed change to the Approved Project is considered to have a more significant impact on Aboriginal cultural heritage than that identified in the EA it would be considered an inconsistent impact.

If the proposed change is considered inconsistent with the assessed impact on Aboriginal cultural heritage, as detailed in the Project Approval, RMS would require an amendment to the mitigation measures agreed in this report. If this proposed change is considered inconsistent with the Approved Project RMS would require a modification of the Approved Project. Further consultation with Aboriginal stakeholders will be undertaken (see 9.5 below).

## 9.5 Process for continued consultation with Aboriginal stakeholders

The extent to which RMS will continue to consult with Aboriginal stakeholders is dependent upon the level of impact and whether the area was assessed as part of the EA. The types of potential impacts are identified as reduced impacts, increased impacts or unknown impacts.

**a) Reduced or neutral impact**
If as a result of alterations to the project design a previously identified impact to an Aboriginal heritage item is reduced or neutral then no further consultation is required.

If as a result of alterations to the project design an impact to an Aboriginal heritage item is proposed that results in a reduced impact on the overall heritage significance of the study area (i.e. the cumulative impact is reduced), then further consultation with Aboriginal stakeholders will be undertaken. This consultation may entail a phone call and phone log of comments received or the provision of a report for comment (10 working days).

**b) Increased Impact**
Where as a result of alterations to the project design an impact on Aboriginal heritage is considered to be greater than identified by the Approved Project further consultation will be undertaken. This consultation will either entail a phone call and phone log of comments received or the provision of a report for comment (10 working days).

**c) Unknown impacts: Assessment process**
Where a proposed change is an area located outside of the project boundary assessed as part of the Approved Project the impact on Aboriginal cultural heritage is considered to be unknown. This area would require preliminary assessment to determine any impacts upon Aboriginal heritage. Should no impacts be identified then no consultation with Aboriginal stakeholders is required. Should potential impacts be identified consultation with Aboriginal stakeholders will be undertaken. This consultation will entail the provision of a report for stakeholder comment (10 working days) detailing the impacts and mitigation strategies proposed.

## References

Navin Officer Heritage Consultants Pty Ltd, 2013. Gerringong to Bomaderry Princes Highway Upgrade, Foxground and Berry Bypass Geotechnical Testing Program: Aboriginal Cultural Heritage Assessment. Prepared for Roads and Maritime Services.

Navin Officer Heritage Consultants Pty Ltd, 2012. Foxground and Berry bypass, Princes Highway Upgrade. Volume 2 Appendix J. Technical paper: Aboriginal heritage - Foxground and Berry bypass Aboriginal cultural heritage assessment. Prepared for AECOM Australia Pty Ltd on behalf of Roads and Maritime Services.

Navin Officer Heritage Consultants Pty Ltd, 2011. Princes Highway Foxground and Berry Bypass, Toolijooa Road to Schofields Lane, Archaeological Subsurface Testing Program – Aboriginal Heritage, Methodology. Prepared for AECOM Australia Pty Ltd on behalf of Roads and Maritime Services.

New South Wales Archaeology Pty Ltd, 2013. Gerringong to Bomaderry Princess Highway Upgrade, Foxground and Berry Bypass, Geotechnical Testing Program. Draft. Prepared for Roads and Maritime Services.

Roads and Maritime Services, 2011. *Roads and Maritime Services procedure for Aboriginal cultural heritage consultation and investigation*. RMS/Pub. 11.012 ISBN 978 1 922040 18 3.

# Appendix A Aboriginal Stakeholder Comments

No comments were received from Aboriginal stakeholders during the consultation process.

## Appendix B AFG Minutes

# MEETING NOTES

Transport Roads & Maritime Services

**Name of meeting:** Foxground and Berry bypass project Aboriginal Focus Group (AFG)

**Location of meeting:** The Pavilion, Kiama

**Meeting facilitator:** Ron de Rooy (RD)

**Date:** 12 June 2014 **Time:** 10 am to 2 pm

**Attendees:** Representatives from Roads and Maritimes Services (RMS), Fulton Hogan (FH), Kelleher Nightingale Consulting (KNC) (see Appendix A).

| Item no. | Details |
|---|---|
| 1. | **Welcome to country/acknowledgement**<br>Welcome to country and acknowledgement was presented by Anthony Moore and Joanne Damcevski (JD). |
| 2. | **Introductions and apologies**<br>Attendees introduced themselves, their organisations and roles. |
| 3. | **Outline meeting agenda**<br>Ron De Rooy (RD) provided an overview of the meeting agenda and introduced Fulton Hogan as the successful tenderer to design and build the Foxground and Berry bypass (FBB). |
| 4. | **Overview of project**<br>Chris Peat (CP) presented a project overview including project features, scope of works, progress to date, artist impressions of the Berry and Kangaroo Valley bridges, and proposed community consultation. CP advised that FH will send the AFG invitations to all community information sessions and consultation workshops.<br><br>An attendee asked if it was possible to name the Berry bridge.<br>RD advised that the bridge had not been formally named and this may be possible. Attendees advised it was not possible to name a bridge after a living person but there was a deceased person in the Illawarra aboriginal community they were considering. RD advised there were also possible opportunities for incorporating aboriginal art into Kangaroo Valley Bridge. |
| 5. | **Archaeological and other assessments**<br>Matthew Kelleher (MK) from KNC provided an overview of the Aboriginal Heritage Salvage Excavation Methodology including salvaging artefacts, location of sites along the new road alignment and techniques for salvaging artefacts.<br><br>A map was shown of the alignment with 9 sites, 1 pad and other cultural areas located in and adjacent to the road corridor. |

| | |
|---|---|
| | MK advised that geology and flooding will dictate what artefacts survive. An archaeological flood model has been developed which gives an indication of sites that are intact and other sites which have artefacts impacted by the movement of water and flooding.<br><br>Soil images were shown depicting the humous and homogenous layers, clays, black soils, disturbances, and characteristics deemed ideal for finding artefacts.<br><br>**Location of sites**<br>A flyover of sites G2BA16 to G2BA36 was shown to attendees, explaining the following:<br><br>• G2BA16 – is a site near Town Creek which has been identified by the AFG.<br>• G2BA18 – this site has a greater chance artefacts surviving and intact materials.<br>• G2BA24 – this site is on a ridge away from flood areas but has been impacted by previous construction and farming activities.<br>• G2BA29 and 30 – this area has cultural features and homogenous soils impacted by events.<br>• G2BA31 – some archaeology in this location has been impacted by flooding and movement of water.<br>• G2BA 32 and 33 – there are some deposits in upper and lower sections with only limited impacts from extreme events.<br>• G2BA36 – soils at this location have been impacted by erosion and farming.<br><br>Meeting attendees asked if there was a significant tree at G2BA32. MK advised he will check and advise the AFG.<br><br>**Techniques**<br>MK noted that he is hoping to find stone tools, their values and information content. Digging and sieving will be done by hand as this gives better recovery rates than using machinery.<br><br>MK advised that archaeological works would be commencing in approximately three weeks' time. Site Officers (SO) would be engaged for an eight week period with the selection process being undertaken by RMS.<br><br>Attendees asked how many SOs would be required each day. MK advised that there would be five SOs working one-on-one with an archaeologist. RD explained that Site Officer engagement will be discussed later in the meeting as per agenda item 5. |
| **6.** | **Historical assets**<br>Kate Waters (KW) from KNC was introduced to the meeting and explained she was collecting information about camps, mapping camps more accurately, and assessing their cultural and historical value. KW would be undertaking an analysis of archives, reports, histories, and records, and would also like to meet with and interview elders and other persons within the local indigenous community. KW will provide her contact details to the AFG. |

| | |
|---|---|
| 7. | **Construction Heritage Management Sub Plan**<br>Irina Kliger (IK) provided an overview of the Construction Heritage Management Plan, in particular, the challenges involved with identifying boundaries of heritage items, maintaining exclusion fencing during construction, and managing unexpected finds in accordance with RMS' procedures.<br><br>IK advised that after heritage investigations and salvage operations have concluded construction will be able to commence. The construction team will be informed where sites and exclusion zones are located, and sensitive area maps will be developed along the entire road alignment. Workers will also be trained via the site induction and dedicated toolboxes.<br><br>IK advised that an Aboriginal Cultural Awareness video had been used for training for the Gerringong upgrade (GU). There is a possible opportunity to create a similar video for FBB. |
| 8. | **Site Officer applications**<br>JD stated that applications were closing on Friday 27 June at COB. It was reiterated that there would be approximately 8 weeks' work with five SO positions, one of which is a trainee role.<br><br>Attendees discussed issues with past behaviour of SOs. RD advised that RMS has a Duty of Care and includes a Code of Conduct which needs to be adhered to by all RMS employees and contractors. |
| 9.. | **Aboriginal Participation**<br>RD advised that RMS had a compulsory aboriginal participation component for the Gerringong Upgrade (GU) and FBB.<br><br>Byron Fitzgerald (BF) discussed the strengths and weaknesses of the program on GU and that a different approach will be used for FBB. Cara Freeman (CF) was introduced to the meeting and would be responsible for managing employment on FBB. Cara advised there will be more indigenous employment opportunities on FBB.<br><br>Attendees discussed the issue of indigenous persons employed for a short time only and with job networks. There was a concern that workers may not be able to finish certifications and apprenticeships. BF discussed the contract with the Master Builder Association where workers can be apprenticed to different employers ensuring they complete their qualifications.<br><br>It was requested that another focus group meeting be held after the archaeological and historical assessment works had been completed to discuss employment on FBB. This was noted. CF advised that all groups will be contacted and given the opportunity to apply for employment, ensuring adherence to equal employment opportunity requirements. This would be undertaken closer to major construction commencing.<br><br>The successes on the FH Sapphire project were discussed. Attendees asked if there were any employment opportunities on that project. Andrew McCrae, FH Sapphire Project Director, advised that the project was close to completion with staff demobilising.<br><br>Attendees asked who would be responsible for traffic management on FBB. BF advised this was Traffic Logistics but FH would be utilising other companies on the project.<br><br>Attendees asked how many indigenous persons were currently employed on GU. CF advised there were approximately 8 to 10 persons who self-identified as being indigenous. The meeting discussed this issue. |

| | |
|---|---|
| **10.** | **General business**<br>No general business was noted. |
| **11.** | The meeting closed at 12.40pm. |
| **12.** | **Appendices**<br>**A.** Attendance sheet. |

# APPENDIX A
# ATTENDEE LIST

| | | | |
|---|---|---|---|
| **Name of meeting:** | Aboriginal Focus Group (AFG) for the Foxground and Berry Bypass | | |
| **Location of meeting:** | The Pavilion – Kiama | | |
| **Meeting facilitator:** | Ron de Rooy/ Matthew Kelleher | | |
| **Date** | Thursday 12 June 2014 | **Time:** | 10.00 am – 1.00 pm |

**Attendees**

| | |
|---|---|
| Joanne Damcevski | RMS |
| Andrew McRae | Fulton Hogan |
| Cara Freeman | Fulton Hogan |
| Byron Fitzgerald | Fulton Hogan |
| Ricky Holmes | Community member |
| Anthony Moore | AFG Member |
| Coral Reynolds | Fulton Hogan |
| Chris Peat | Fulton Hogan |
| Leanne Tungai | Community member |
| Richard Campbell | Gunnamaa Dream'n |
| Craig Tungai | Illawarra Local Aboriginal Lands Council |
| Troy Tungai | Gunnamaa Dream'n |
| Saman Liyanaarachchi | RMS |
| Barry Gunther | RMS |
| Ali Maher | National Koori Site Consultants |
| Paul Charles | Kullila Site Consultants |
| Steve Kirby | Kullila Site Consultants |
| Geoff Maher | Kullila Site Consultants |
| Alison Nightingale | Kelleher Nightingale Consulting Pty Ltd |
| Kate Waters | Kelleher Nightingale Consulting Pty Ltd |
| Natalie Beckett | Nowra Local Aboriginal Land Council |
| Jason Davison | Nowra Community member |
| Jodie Stewart | Community member |
| Ron de Rooy | RMS |
| Michelle Toms | RMS |
| Matthew Kelleher | Kelleher Nightingale Consulting Pty Ltd |
| **Apologies** | |
| Allan Davis | Community member |

Aboriginal Focus Group meeting notes Page 5 of 5

# Appendix C Geomorphic Context (soil landscapes)

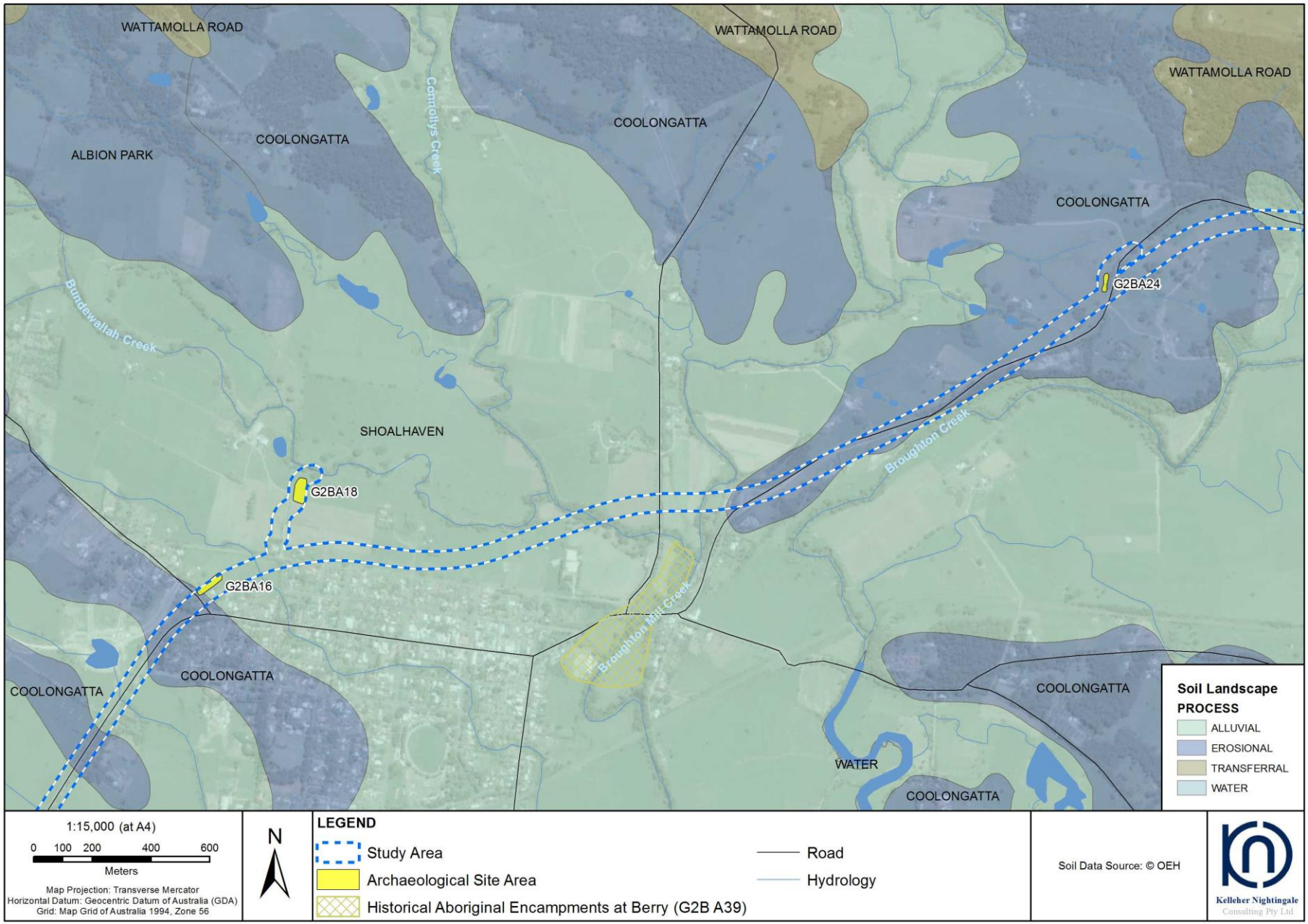



**Figure 11. Soil landscapes in relation to archaeological sites and cultural areas within the study area requiring mitigation**

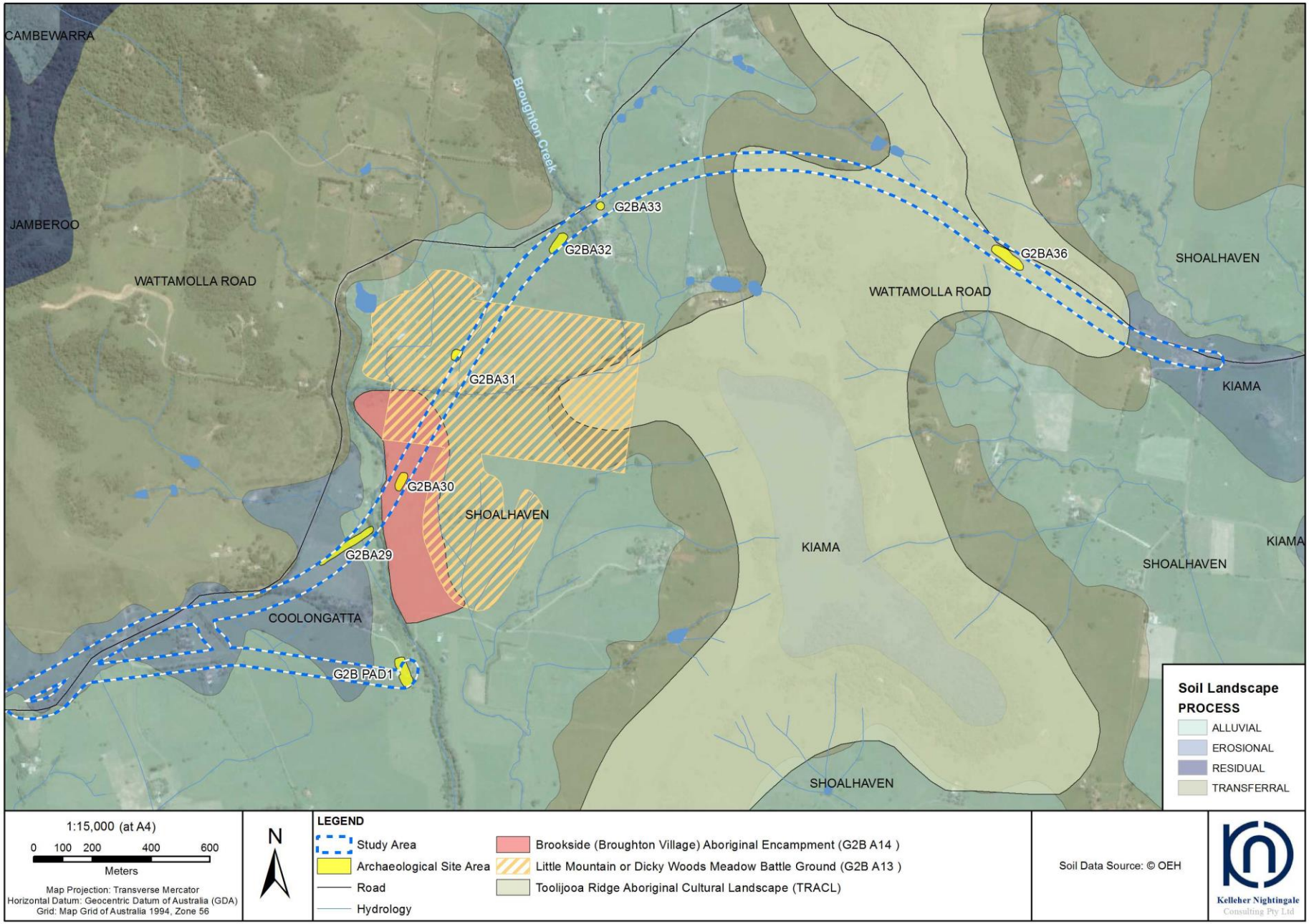



**Figure 12. Soil landscapes in relation to archaeological sites and cultural areas within the study area requiring mitigation**

# Appendix C
Archaeological Investigation Report

# Foxground and Berry Bypass: Archaeological Investigation Report

**Prepared for Roads and Maritime Services**

**12 August 2014**

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| Report to: | Roads and Maritime Services |
| Prepared by: | Alexander Beben, James Cole, Francis Wiig and Nicole Castle of the Wollongong office. |
| Biosis matter no.: | 17911 |

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| Reviewer: | Iain Stuart, JCIS Consultants |
| Mapping: | Ashleigh Pritchard |
| Project: | Foxground to Berry Bypass |
| Biosis Project No.: | 17911 |
| Report Title: | Foxground to Berry Bypass Archaeological Investigation Report. |
| LGA: | Shoalhaven |

| Revision | Prepared | Internal Review | External Review | Amended |
|---|---|---|---|---|
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| Revision | Issued | Name | Signed |
|---|---|---|---|
| DR02 | 13/08/2014 | Alex Beben | Electronic |

# Acknowledgements

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- Iain Stuart, JCIS Consultants
- Dr Siobhan Lavelle, Heritage Division
- Saman Liyanaarachchi, Roads and Maritime Services
- Steve Zhivanovich, Roads and Maritime Services
- Michelle Toms, Roads and Maritime Services

# Abbreviations

| | |
|---|---|
| c. | Circa |
| CoA | Conditions of Approval |
| DP & E | Department of Planning and Environment |
| GPS | Global Positioning System |
| ICOMOS | International Council on Monuments and Sites |
| m | Metre |
| mm | Millimetre |
| NOHC | Navin Officer Heritage Consultants |
| NSW | New South Wales |
| OEH | Office of Environment and Heritage, Department of Premier and Cabinet |
| SHR | State Heritage Register |

# Contents

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# Executive Summary

Roads and Maritime Services (Roads and Maritime) is undertaking a series of upgrades to sections of the Princes Highway between Gerringong and Bomaderry in order to provide a continuous four land divided highway between Waterfall and Jervis Bay Road, Falls Creek. The Foxground and Berry Bypass project involves an 11.6 km upgrade of the existing highway between Toolijooa Road north of Foxground and Schofields Lane south of Berry and will involve bypasses of Foxground and Berry (see Figure 1).

Project approval, subject to conditions was granted on 22 July 2013, under Part 3A of the *Environmental Planning and Assessment Act 1979*. Conditions of Approval (CoA) B17, B18, B19, B21 and B22 require Roads and Maritime to undertake further heritage work. These conditions of approval are based upon the recommendations contained within the *Foxground and Berry Bypass Non-Aboriginal (historic) Heritage Assessment* prepared by Navin Officer Heritage Consultants Pty Ltd (NOHC, 2012). A total of 13 heritage items of local significance have been identified as requiring archaeological investigation in accordance with Conditions B19 and B22 of the project approval. The results of the archaeological investigations encompass archaeological sites identified within the ancillary facilities, which are subject to approvals under CoAs

The archaeological investigation of the heritage items can be divided into three groups: Remnant portions of previous road alignments (G2B H15, H19, H21, H22, H23, H30, H35), former tenant farmers dwellings (G2B H11, 28, 48 and 49) and the former Broughton Creek Village (G2B H14).

The results from the archaeological investigations for G2B H19, H22, H23, H30 and H55 conform with these primary source accounts as little evidence of road surfaces was encountered. Whilst several sources were cited in the original assessment refer to the construction of numerous and substantial culverts and bridges along the Broughton Creek Road.[1] Whilst substantial culverts and infrastructure were not present within any of the nineteenth century road alignments subject to investigation, drainage ditches were identified at G2B H22, H23 and H30. These were present to one side (H22 and H30) or at both sides (H23) of the former road alignment. These linear features were simple in construction and were presumably were constructed during the original clearing works or as part of subsequent maintenance activities. No artefacts were identified which could provide any chronological dating of the roads.

No archaeological evidence of any kind was identified at G2B H28, H48 or H53 indicating that either the structures identified on historical mapping were inaccurately mapped or archaeological remains have been substantially removed through modern disturbances at these sites. Excavations at G2B H11 (East and West) and G2B H49 did identify substantial archaeological remains; however whether these are associated with tenant farms is debatable. None of the excavations identified any underfloor deposits or structural evidence of hearths. The excavations at G2B H49 identified a large number of diffuse post holes and features which have been heavily truncated through modern land use activities. Although limited evidence of wall cuts were present the size of the post holes indicates that the trench identified the site was most likely the location of several permutations of small agricultural structures. The excavations at G2B H11 – East identified post holes and stone feature, however the post holes had been disturbed through rabbit burrowing. The stone feature (006) at G2B H11 – East, whilst substantial may represent a small surface used to reinforce the ground surface against cattle movement.

The results at G2B H14 were not in line with the expectations of the area containing archaeological remains of a Carpenters Cottage, Butter Factory, Overseer's Cottage, Court House, Council Chambers and Church. If such buildings existed on the site and as it appears they were demolished and removed there would surely be greater evidence of their existence in the form of postholes and demolition rubble. Both these features are lacking from the

[1] The Sydney Mail, 4 May 1872: p558 cited in NOHC 2012: 39.

archaeological record. The archaeological evidence does suggest that there was some form of drain on both sides of the road pavement. Based on measuring of the existing drain on the eastern side of the road, the drain on the western side probably extended out 3 m from the edge of the bitumen road surface. It is possible that building frontages may have been located 1 m to 2 m further west of the old road. This does not explain the absence of evidence over the whole site. In particular, the butter factory would have required substantial foundations in particular large concrete footings to mount machinery used in butter production and cooling. It is rare for these types of footings to be removed without any archaeological trace. Due to the paucity of archaeological evidence at G2B H14, the results of the archaeological investigations do not allow for a detailed discussion of the research questions proposed in the archaeological methodology and research design for the project.

The archaeological investigations have assisted the analysis of 19 th and 20 th century road building techniques at G2B H19, H22, H23, H30, and H55. The archaeological remains associated with agricultural activities dating to the 19 th and early 20 th century at G2B H11 and H48. The archaeological investigations have been successful in determining that archaeological resources will not be adversely impacts be the proposed development. The archaeological investigations have determined that no archaeological resources of significance are located within the Project Area.

The following recommendations have been formulated based upon the results of the archaeological investigations:

**Recommendation 1** **The project can proceed with no further archaeological constraints**

The archaeological investigations have determined that no archaeological resources of significance are located within the Project Area.

**Recommendation 2** **Curation of artefacts recovered from archaeological investigations**

None of the artefacts recovered as part of the archaeological investigations are considered to have significance at a state or local level. The artefacts are common in nature and are unlikely to improve upon existing museum collections.

**Recommendation 3** **Interpretation Plan**

The archaeological investigation did not yield any results which would significantly improve the interpretation of the history of the Shoalhaven area. There is no requirement for the results of the archaeological investigations to be incorporated into any interpretive works being undertaken as part of the project.

# 1 Introduction

## 1.1 Project Background

Roads and Maritime Services (Roads and Maritime) is undertaking a series of upgrades to sections of the Princes Highway between Gerringong and Bomaderry in order to provide a continuous four land divided highway between Waterfall and Jervis Bay Road, Falls Creek. The Foxground and Berry Bypass project involves an 11.6 km upgrade of the existing highway between Toolijooa Road north of Foxground and Schofields Lane south of Berry and will involve bypasses of Foxground and Berry (see Figure 1).

Project approval, subject to conditions was granted on 22 July 2013, under Part 3A of the *Environmental Planning and Assessment Act 1979*. Conditions of Approval (CoA) B17, B18, B19, B21 and B22 require Roads and Maritime to undertake further heritage work. These conditions of approval are based upon the recommendations contained within the *Foxground and Berry Bypass Non-Aboriginal (historic) Heritage Assessment* prepared by Navin Officer Heritage Consultants Pty Ltd (NOHC, 2012). A total of 13 heritage items of local significance have been identified as requiring archaeological investigation in accordance with Conditions B19 and B22 of the project approval. The results of the archaeological investigations encompass archaeological sites identified within the ancillary facilities, which are subject to approvals under CoAs

Biosis Pty Ltd has been commissioned by Roads and Maritime to undertake Archaeological Investigations, Archival Recordings and Historical Research for Non-Aboriginal sites for the Princes Highway Upgrade Foxground and Berry Bypass.

This report presents the findings of archaeological investigations undertaken to satisfy CoA's B19 and B22. Other heritage related conditions of approval B17, B18, B20 and B21 relate to the archival recording, further detailed historical research and Aboriginal investigations and are not addressed as part of this report but are addressed in:

- Biosis. 2014, *Archival Recordings for the Foxground and Berry Bypass Non-Aboriginal Heritage Impacts*,. report to Roads and Maritime Services.
- Biosis 2014,. *Foxground to Berry Bypass Historic Period Assessment and Statement of Heritage Impact for Items G2B H60, G2B H61, G2B H63 and SICPH CL*,. report to Roads and Maritime Services.

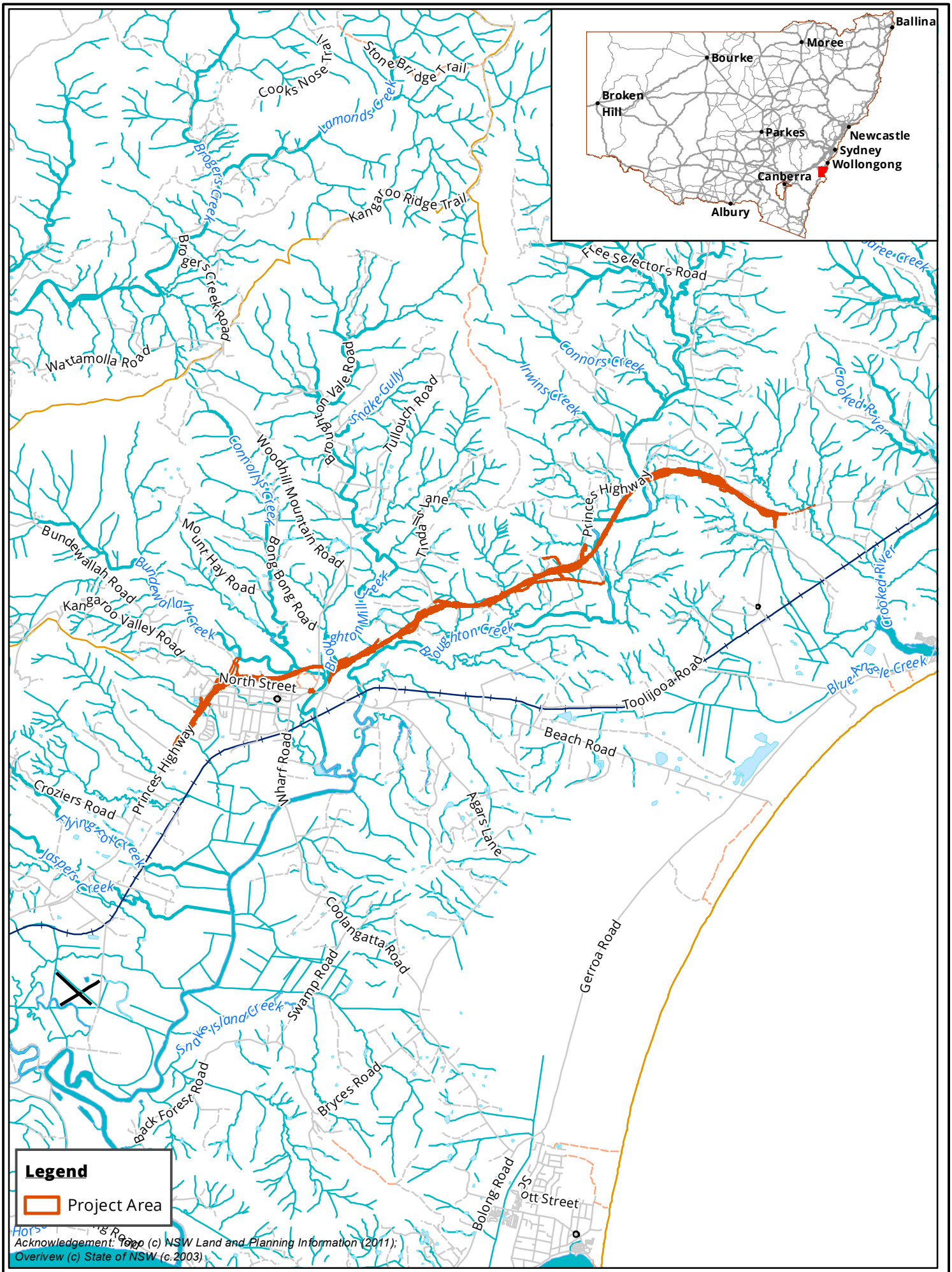


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Figure 1: Location of the Project Area in a regional context

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Date: 06 August 2014,
Checked by: SJG, Drawn by: ANP, Last edited by: apritchard
Location:P:\17900s\17911\Mapping\Archaeological Investigation Report\

0 0.75 1.5 2.25 3
Kilometers

N

Scale 1:75,000@A4, GDA 1994 MGA Zone 56

## 1.2 Conditions of Approval

This report presents the results of archaeological investigations undertaken to satisfy the CoAs, these are outlined in Table 1. The archaeological work required as part of the project CoAs is also presented in Table 1.

**Table 1: Conditions of approval pertinent to archaeological investigation.**

| Condition | Requirements |
|---|---|
| **B.19** | Prior to pre-construction and construction impacts affecting G2B H15, H19, H21, H22, H23, H30 and H55 the Proponent shall carry out further historical and physical archaeological investigations in relation to these road alignments, in consultation with the department and the Heritage Council of NSW, to the satisfaction of the Director- General. These investigations must:<br>a) Undertake archaeological investigations in accordance with condition B22.<br>b) Provide for the detailed analysis of any heritage items discovered during the investigations.<br>c) Include management options for these heritage items (including options for relocation and display).<br>d) If the findings of the investigations are significant, provide for the preparation and implementation of a heritage interpretation plan. |
| **B.22** | Prior to the commencement of pre-construction and construction activities affecting non-Aboriginal sites H11, H14,H19,H23, H28, H30, H48, H49, H53, and H55, the Proponent shall:<br>(a) Undertake an Historic archaeological investigation program in accordance with the Heritage Council's Archaeological Assessments Guideline (1996) using a methodology prepared, in consultation with the OEH (Heritage Branch), and to the satisfaction of the Director-General. This work should be undertaken by an archaeological heritage consultant approved by the Director-General. The nomination for the Excavation Director shall demonstrate ability to comply with the Heritage Council's Criteria for the Assessment of Excavation Directors (July 2011).<br>(b) Report on the results of the non-Aboriginal archaeological investigation program, including recommendations (such as for further archaeological work), in consultation with the Heritage Branch, OEH and to the satisfaction of the Director General, and shall include, but not necessarily be limited to:<br>i. consideration of measures to avoid or minimise disturbance to archaeology, where archaeology of non-Aboriginal archaeological significance is found to be present;<br>ii. where impacts cannot be avoided, recommendations for any further investigations for archaeology of historical archaeological significance; and<br>iii. management and mitigation measures to ensure there are no additional impacts due to pre-construction and construction activities.<br>(c) Undertake any further archaeological excavation works recommended by the results of the non-Aboriginal archaeological investigation program.<br>Within 12 months 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 finds, prepared in consultation with the OEH (Heritage branch) and to the satisfaction of the Director General.<br>Note: where archaeological testing has occurred as part of the environmental assessment and the results are included in the documents listed in condition A1(b) the sites tested must still form part of the methodology and final report prepared for the non-Aboriginal archaeological investigation program. |

## 1.3 Methodology

A total of 13 heritage items assessed as being of local significance were identified as requiring archaeological investigation in accordance with Conditions B19 and B22 of the project approval (see Table 2).

The methodology proposed for the archaeological investigations is based upon the assessment, conclusions and recommendations presented in the *Foxground and Berry Bypass, Princes Highway Upgrade, Environmental Assessment Volume 2 Appendix K, Technical Paper: Non Aboriginal (historic) Heritage* report (NOHC, 2012). . A limited amount of further detailed historical research was undertaken to build upon these conclusions. The methodology proposed for the archaeological investigations is included in Appendix A – Methodology.

**Table 2: List of Heritage Items subject to archaeological investigation including description and level of impact as of May 2014.**

| Reference No. | Name and description of features to be recorded | Impact |
|---|---|---|
| **G2B H11** | GlenDevon, Federation House, 77 North Street, Berry. A Federation house with a number of additions. | Whole of site |
| **G2B H14** | Archaeological deposit (former 19 th century Broughton Creek town buildings). A number of former town structures were located on the eastern side of the former highway alignment (G2B H15). These include the Berry Butter Factory (1889), Overseers Cottage (1858), Court House (1870s) and the Council Chambers (1868) and Carpenters Cottage. | Partial impact |
| **G2B H15** | Remnant 195 m portion of 20 th century highway. Ceased use as part of highway in 1955 now used as an access road for adjacent residential lots. | Partial impact |
| **G2B H19** | Remnant 430 m portion of 19 th century road. Poorly preserved part of the original Berry Estate Road. | Whole of site |
| **G2B H21** | Remnant 120 m portion of 20 th century highway. The alignment includes a 90 degree bend and upslope embankment which has been revegetated. | Whole of Site |
| **G2B H22** | Remnant 460 m portion of 19 th century road. Consists of a part of the original Berry Estate Road including shallow cutting. | Whole of site |
| **G2B H23** | Remnant 320 m portion of 19 th century road. Consists of a part of the original Berry Estate Road, road is evident as a shallow relief and through differences in grass cover. | Whole of site |
| **G2B H28** | Brookside Homestead. The main residential buildings occur outside the construction footprint, acquisition for the project includes a southern outbuilding and associated platforms. | Partial impact |
| **G2B H30** | Remnant 530 m portion of 19 th century road. Consists of a well preserved portion of the Berry Estate Road, the road platform can be identified through side ditches and variably shallow ground relief. The eastern end is bordered by gum trees. | Whole of site |
| **G2B H48** | Potential Archaeological Deposits, former Berry Estate tenant farm, homestead, currently redeveloped into a modern farm building. Remaining archaeological items are likely to be substantially disturbed. | Partial impact – compound/office |
| **G2B H49** | Oakleigh farmhouse. Inter War Bungalow style farmhouse. | Whole of site – compound/office |
| **G2B H53 PAD** | Potential archaeological deposit associated with a former Berry Estate tenant farm structure to the east of Toolijooa Ridge. The site includes indeterminate rock rubble adjacent to the former 19 th Century Road alignment. | Whole of site |

| Reference No. | Name and description of features to be recorded | Impact |
|---|---|---|
| **G2B H55** | Small, 30 m remnant portion of 19 th century road which has substantially impacted by recent road works and the Eastern Gas Pipeline. | Whole of site |

For the purposes of the archaeological investigation heritage items were divided into three categories:

1) Remnant 19 th and 20 th Century road alignments (G2B H15, H19, H21, H22, H23, H30 and H55).

2) Potential remains from 19 th century tenant farms (G2B H11, H28, H53, H48 and H49).

3) The Broughton Creek Village (G2B H14).

A separate methodology was be implemented for each of these categories and can be summarised as follows:

- A program of archaeological investigation at selected and representative locations on 19 th and 20 th century road alignments was undertaken at sites G2B H15, H19, H21, H22, H23, H30 and H55. This aimed to record any ditch profiles, subsurface foundations and/or former surface treatments.
- Test excavations were conducted at G2B H11, H28, H48, H49 and H53 in order to identify any remains associated with former Berry Estate tenant farms. These test excavations were conducted with the aim of identifying and recording any archaeological features and relics which may be present. Where substantial archaeological features were encountered; the test trenches were expanded into open area excavations.
- An open area excavation was conducted at G2B H14 to identify and record any archaeological features and relics which may be present. All archaeological remains associated with the village encountered were inspected to document sequences of occupation, property boundaries, site functions and activity areas.

The methodology used in the preparation of this report is broadly consistent with the guidelines of the New South Wales (NSW) Heritage Office and the principles outlined in the Australia International Council on Monuments and Site (ICOMOS) Charter for Places of Cultural Significance (the Burra Charter). The terminology used in this report is consistent with the NSW Heritage Manual and the definitions contained in the Burra Charter. In accordance with CoA B.22 the archaeological methodology was reviewed and approved by NSW Heritage Division and the Department of Planning and Environment (DP&E) prior to the commencement of excavation works.

## 1.4 Reporting Structure

The report has been structured to address the findings of the archaeological investigations in conjunction with the archaeological methodology and its requirements. It follows the following structure:

- **Section 1** - Introduction to the project, its requirements, methodology, contributors and limitations.
- **Section 2, 3 and 4** – Results of archaeological investigations for the Remnant portions of previous road alignments (Section 2), tenant farms (Section 3) and Broughton Creek Village (Section 4). Archaeological results are discussed in accordance with the methodology under which it was excavated. These sections include a description of archaeological features and deposits and recovered artefacts.
- **Section 5** – Contains an assessment of significance for all sites subject to archaeological investigation (this considers archaeological resources only and does not influence the significance of built heritage items).
- **Section 6** – Presents the conclusions from the archaeological investigations and recommendations relating to further works.
- **Section 7** – References.

- **Appendices** – Methodology (Appendix A), Artefact Catalogue (Appendix B), Artefact Photographs (Appendix C) and Contexts (Appendix D).

## 1.5 Investigators and Contributors

This report was prepared by Alexander Beben, Senior Archaeologist, Biosis with assistance from Dr Samantha Gibbins, James Cole and Francis Wiig.( Archaeologists,Biosis). This report has been reviewed by Dr Iain Stuart, Partner, JCIS Consultants who is the nominated Excavation Director for this project. Mapping for this report was undertaken by Ashleigh Pritchard (GIS Operator, Biosis).

The archaeological investigation were directed by Dr Iain Stuart(JCIS Consultants, Excavation Director) with assistance from the following Biosis staff - Martin Lawler (Site Supervisor), Dr Samantha Gibbins (Site Supervisor), Michael Lever, James Cole, Nicole Castle and Lyn O'Brien (Archaeologists ).

## 1.6 Limitations of the report

The scope of the archaeological methodology used during the current investigations extends only to the historical archaeological potential and significance of the subject site. It does not consider the built environment. The archaeological investigation methodology used is principally based upon the findings and conclusions of the *Foxground and Berry Bypass Non-Aboriginal (historic) Heritage Assessment* prepared by NOHC. As a result, Biosis cannot take any responsibility for errors or inaccuracies in the information contained within the NOHC report.

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

Maps and plans used in this archaeological methodology may be subject to inaccuracies caused through surveyor error during their creation and/or later reproduction. All mapping has been georeferenced in ArcGIS to determine the spatial location of the project area. Biosis is not responsible for any inaccuracies or omissions in the original mapping which may influence the implementation of this archaeological methodology.

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

# 2 Remnant portions of previous road alignments

This section discusses the archaeological methodology for undertaking investigations on the remains of previous road alignments within the Project Area.

## 2.1 Background

The *Foxground and Berry Bypass, Princes Highway Upgrade, Environmental Assessment Volume 2 Appendix K, Technical Paper: Non Aboriginal (historic) Heritage* identified six portions of 19 th century road dating to circa (c.) 1856 – 1870 (G2B, H15, H21, H22, H23, H30 and H55) and one piece of 20 th century road (G2B H19) as having heritage values suitable for archaeological investigation. These are sections of road which have been replaced by new sections of road on a new alignment, thus preserving the abandoned section and associated fabric.

Nineteenth century Berry Estate roads appear to have been identified by NOHC through a review of 19 th century mapping and field surveys. A comprehensive historical timeline for road building within the Project Area is presented in section 4.1.6 of the *Foxground and Berry Bypass, Princes Highway Upgrade, Environmental Assessment Volume 2 Appendix K, Technical Paper: Non Aboriginal (historic) Heritage.* A summary of this timeline is outlined in Table 4.

The condition and intactness of the 19 th century roads within the Project Area is variable. These sites can be characterised broadly as a series of linear depressions, ditches, benched hillslopes and tree avenues located adjacent to the existing Princes Highway. The realignments of the roads appear to have occurred progressively from the 1850s to the 1890s in order to provide a longer and more angular alignment, involving switch-backs and deviations around spurs. This reduced the grade of the road and avoided various property boundaries formed through the subdivision of the Berry Estate.

The remnant sections of the 19 th Century Berry Estate road have been identified as possessing local significance for their representative, associative and technological heritage value. NOHC assessed that roads are relatively rare examples of a transport corridor that was locally important as a private road and as the first inland route that bypassed Seven Mile Beach. The 19 th century road remnants have an association with Messrs Alexander and David Berry, who were of local importance due to their prominent role in European settlement. The roads have the potential to yield information, through archaeological excavation and survey that would contribute to an understanding of 19 th century road construction and usage.

A section of 20 th century road (G2B H21) which consists of a revegetated 90 degree bend and upslope embankment has been assessed as having heritage significance by NOHC. G2B H21 has been assessed as being a representative example of early 20 th century highway design, construction and modification. As such, G2B H21 has the potential to yield information regarding standards in early 20 th century road design and construction. With the exception of H15, which was bitumenised for use as an access road to nearby properties), the remaining 19 th century roads fell into disuse once new alignments were established. H15 is still in use as an access track and represents the most recent alignment to still be in use.

## 2.2 Research Questions

As discussed, there were a number of road construction techniques being utilised in NSW during the 19 th and 20 th century. Documentary evidence presented in the NOHC report details changes in alignment and a chronology for the establishment of roads within the region and the rough dates for the abandonment of sections. These abandoned sections are considered to have archaeological potential in that they are likely to contain evidence of

road building techniques of a past era and to have research potential through their ability to answer questions about road building techniques as practiced (rather than as prescribed in text books).

As identified in the historical research, the excavation of the road alignments has the potential to answer the following research questions:

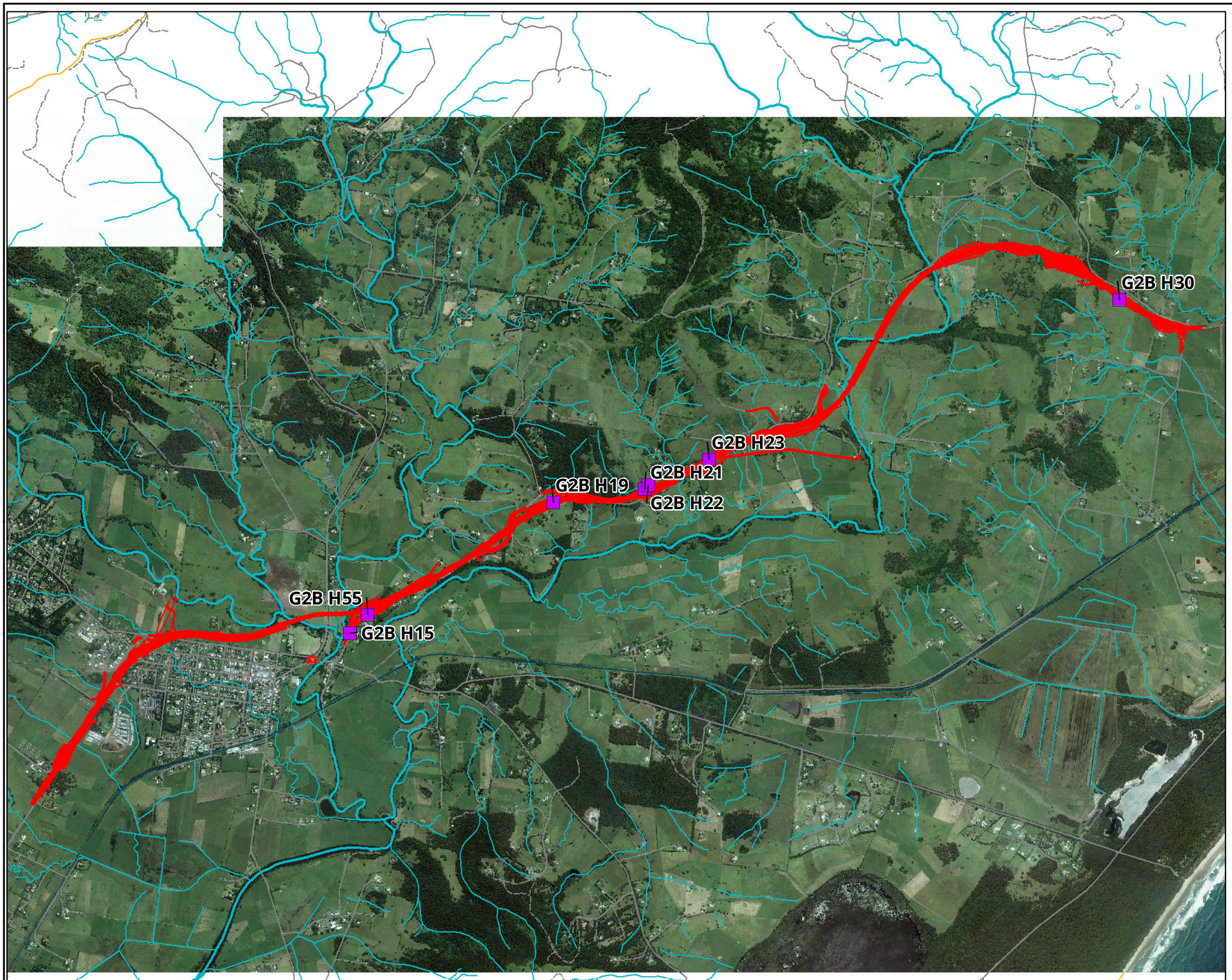
- What is the nature, extent and significance of archaeological remains of associated with 19 th and early-20 th century road alignments within the Project Area?
- What variations are there in the construction techniques utilised for the construction of the roads and how do these correlate with known road construction techniques of the period?
- Is it possible to demonstrate a chronology for the construction, maintenance and use of these road alignments?

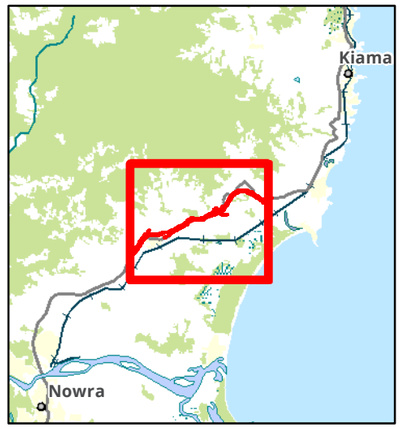
The archaeological research questions which could be answered through archaeological investigations relate to the construction and maintenance techniques utilised for the road alignments: specifically, whether these conform to the standard road building techniques of the period.

## 2.3 Excavation Methodology

To answer the above research questions a program of archaeological investigation was undertaken at selected and representative locations within sites G2B H15, H19, H21, H22, H23, H30 and H55. Trench locations were recorded with a Trimble Geo7X GPS and post-processed to 0.1 m accuracy. The overall location of the trenches is shown in Figure 2.

Excavation was undertaken by a mechanical excavator fitted with a toothless mud bucket under archaeological supervision. The machine excavation removed the deposits with regard to their stratigraphic order. Levels were recorded using a combination of automatic level and sub-metre accurate GPS which determined the level height. At the conclusion of the test excavations the trenches were backfilled and the turf was re-established.




**Legend**

- Site Mid Points
- Alignment

Acknowledgements: Imagery provided by Roads and Maritime Services

**Figure 2: Location of G2B H15, H19, H21, H22, H23, H30 and H55**

0 300 600 900 1,200 1,500

Metres

Scale: 1:30,000 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

N

Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne, Sydney, Wangaratta & Wollongong

*Matter: 17911*
*Date: 08 August 2014,*
*Checked by: AJB, Drawn by: ANP, Last edited by: apritchard*
*Location:P:\17900s\17911\Mapping\Archaeological Investigation Report\17911_AI_F2_Sites*

## 2.4 Nineteenth Century Roads

### 2.4.1 G2B H19

The excavation at this site consisted of a 1.2 by 10 m trench excavated across the road alignment identified in the NOHC report. In the field the physical evidence for H19 was not immediately obvious. The precise location of H19 was determined by using a combination of aerial photograph and field inspection to determine the most likely location and the trench was sited to cut across a large area to allow for minor variations in site location.

The trench contained three deposits with no archaeological features (such as road surfaces or side drains) present. The excavation of G2B H19 did not recover any artefacts. Detailed descriptions of these deposits are detailed inTable 3, the location of the trench in relation to the site listing detailed in Figure 3. The excavation of G2B H19 did not recover any artefacts.

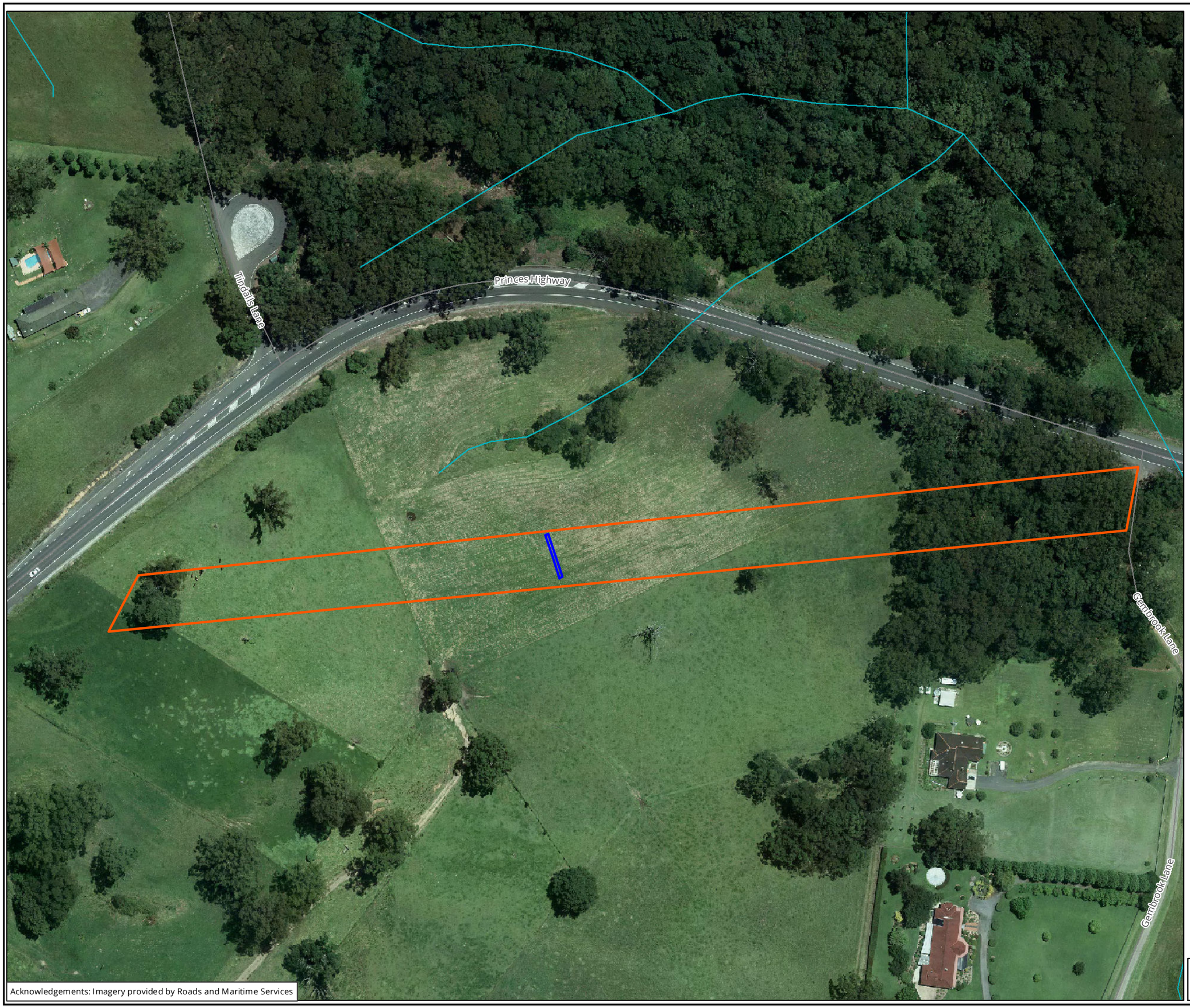
**Table 3: Contexts identified at G2B H19**

| Context No. | Type | Description |
|---|---|---|
| **Archaeological Deposits** | | |
| **001** | Deposit | 10YR 4/2 Grey brown, 150–200mm thick, silty loam, grass and roots present. Gradual merging horizon with 002. |
| **002** | Deposit | 10YR 4/2 Dark yellowish brown, 50–120mm Thick, sandy loam. Clear horizon onto 003 |
| **003** | Deposit | 2.5 YR 4/8 Red, 50–120mm thick, Clay (coherent and plastic). Infrequent charcoal inclusions. Deposit forms the archaeologically sterile extent of excavation and was not fully excavated |

See Plate 1 for a pre-excavation photograph and Plate 2 for a post excavation road profile.

**Plate 1: East facing pre-excavation photograph of G2B H19, 2 m scale (Source: Biosis, 2014)**

**Plate 2: East facing post-excavation photograph of G2B H19, 1 m scale (Source: Biosis, 2014)**




Acknowledgements: Imagery provided by Roads and Maritime Services

**Figure 3: Location of archaeological excavations within G2B H19**

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### 2.4.2 G2B H22

The grid reference for the location of this segment of the road in the NOHC report pointed to an otherwise unremarkable field with no evidence of a road however a farm track 25 m to the south appears to be on the alignment of the old road and this area was chosen for the archaeological investigation. The location of this track better conforms to the information on the historic plans.

The excavation at this site consisted of a 1.2 by 10 m trench excavated across the road alignment identified in the NOHC report. The trench contained two deposits and one feature, consisting of a ditch [003] and associated fill (004). Detailed descriptions of these deposits are detailed in Table 4. The excavation of G2B H22 did not recover any artefacts. The excavation of G2B H22 failed to recover any artefacts, the location of the trench in relation to the site listing detailed in Figure 4.

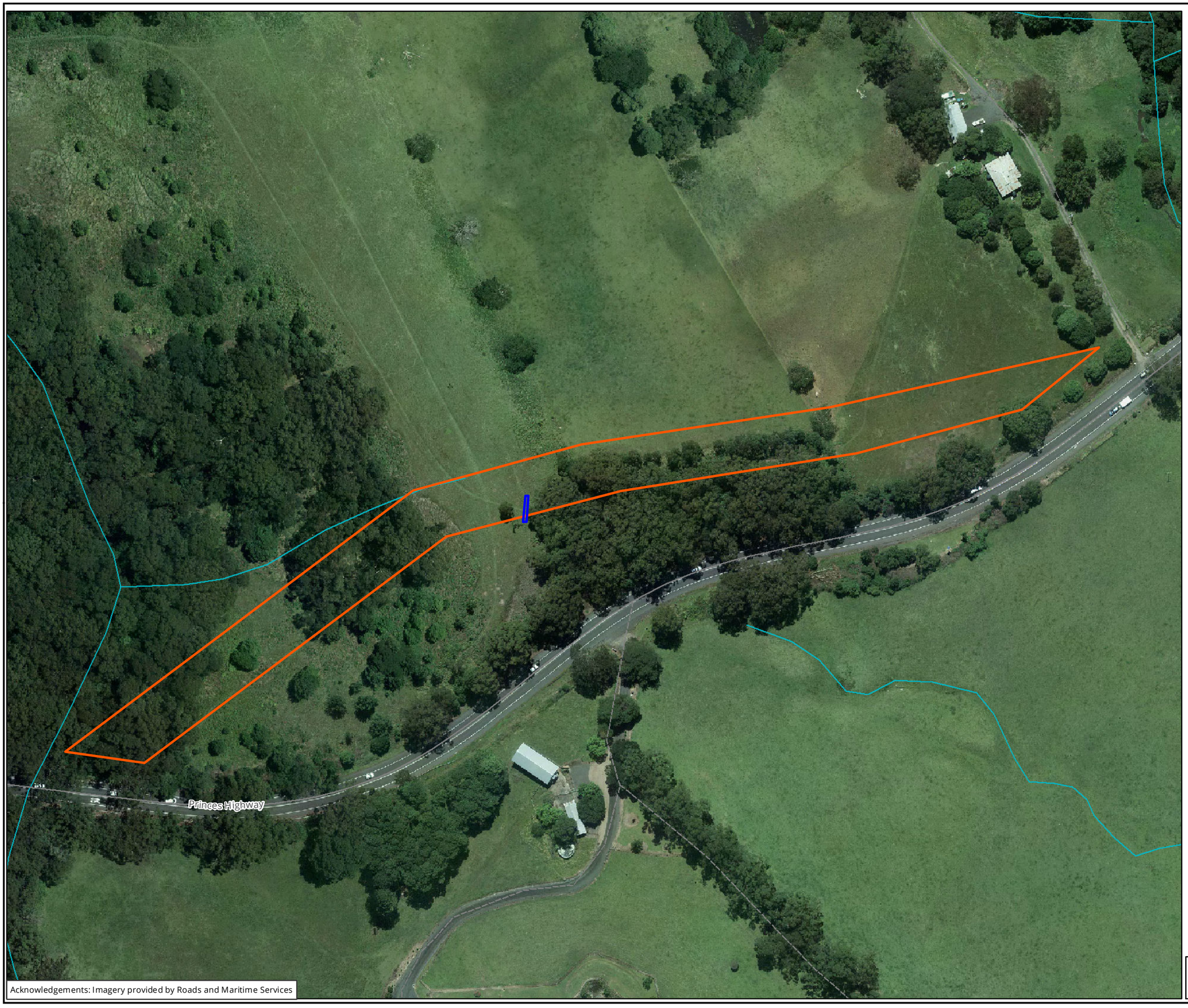
**Table 4: Contexts identified at G2B H22**

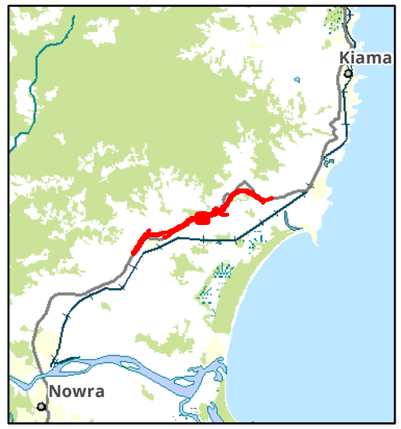
| Context No. | Type | Description |
|---|---|---|
| **Archaeological Deposits** | | |
| **001** | Deposit | 10YR 4/3 brown organic topsoil, 160–300 mm thick, silty loam. Grass and root inclusions with clear interface with deposit 002. |
| **002** | Deposit | 10YR 6/6 brownish yellow friable silty clay deposit. Represented an archaeologically sterile layer at the base of the trench. |
| **Archaeological Features** | | |
| **003** | Cut | 2.2 x 0.5 m deep asymmetric cut with straight, steep sides on northern side, cutting into natural slope. Gentle shelving cut on south side. Cut into 002 for ditch, filled by 004. |
| **004** | Fill | 10YR 4/1 Dark grey, slightly clayey silt, 500–550 mm. Moderately diffuse horizons, tree roots present. Appears to be a mixture of deposits 001 and 002, used to fill cut 003. |

See an oblique excavation photograph for Plate 3 and Plate 4 for an excavated section of the road profile showing cut 002.

**Plate 3: East facing oblique photograph of G2B H22, 1 m scale (Source: Biosis, 2014)**


**Plate 4: Section archaeological feature 003 of G2B H22, 1 m scale (Source: Biosis, 2014)**




**Legend**

- G2B H22 Trench
- Historic Alignment

**Figure 4: Location of archaeological excavations within G2B H22**

0 10 20 30 40 50

Metres

Scale: 1:1,500 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

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### 2.4.3 G2B H23

The excavation at this site consisted of a 1.2 by 10 m trench excavated across the road alignment identified in the NOHC report. The trench contained two deposits and two features, these consisted of northern and southern ditch features cut into the archaeologically sterile deposit either side of the G2B H23 road alignment to provide drainage. These consist of cut 003 which was filled by 004 and cut 005 which was filled by 005-008. The excavation of G2B H23 did not recover any artefacts. Detailed descriptions of these deposits are detailed in Table 5, the location of the trench in relation to the site listing detailed in Figure 5.

**Table 5: Contexts identified at G2B H23**

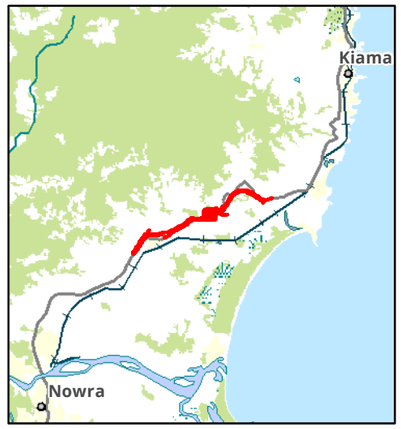
| Context No. | Type | Description |
|---|---|---|
| **Archaeological Deposits** | | |
| **001** | Deposit | 10YR 3/2 Very dark greyish brown clayey loam, 150–250 mm in depth. Grass and root inclusions with a clear interface with 002. |
| **002** | Deposit | 10YR 5/4 Yellowish brown sandy clay, 250 mm thickness slightly. Archaeologically sterile layer at which point excavation ceased. |
| **Archaeological Features** | | |
| **003** | Cut | Linear ditch feature. Overall depth 640mm below surface tapers from 1.1 m wide to 0.6 m wide. Flattened U-shaped base. Cut into 002 for ditch at southern end of trench. |
| **004** | Fill | 10YR 4/4 Dark yellowish brown thick clay, 160 mm in depth. Clearly distinct from overlying 001 context, diffuse to underlying 007 context. Fill for cut 003. |
| **007** | Fill | 10YR 4/3 Brown sandy clay, 180 mm thick. Moderately clear, distinct interface with 008. Frequent charcoal inclusions. Part of the fill for 003, underlies 004 and overlies 008. |
| **008** | Fill | 10YR 3/3 Dark brown clayey sand. Clear, distinct interface with 007. Small gravel inclusions (less than 5 mm), frequent stone inclusions (less than 30 mm). Represents an archaeologically sterile layer and the limit of excavation. |
| **005** | Cut | Linear ditch feature,. 1 m wide by 0.5 m deep with sloped sides. Cut into 002 for ditch at northern end of trench. |
| **006** | Fill | 10YR 3/2 Dark grey, fine moist silty deposit, 350–500 mm thick in depth. Clear distinct interface with 002. Fill for cut 005, present at base of cut. |

An oblique post-excavation photograph of G2B H23 can be seen in Plate 5. A scale section of cut 003 and plan photograph of cut 005 can be seen in Plate 6 and Plate 7 respectively.

**Plate 5: Oblique post excavation photograph facing east with 1 m scale showing cuts 003 and 005 for G2B H23 (Source: Biosis, 2014).**

**Plate 6: South-east facing section of cut 003 with 1 m scale (Source: Biosis, 2014)**

**Plate 7: North facing photograph of cut 005 in plan, 1 m scale (Source: Biosis, 2014)**


**Legend**

- G2B H23 Trench
- Historic Alignment

Acknowledgements: Imagery provided by Roads and Maritime Services

**Figure 5: Location of archaeological excavations within G2B H23**

0 10 20 30 40 50

Metres

Scale: 1:1,500 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

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### 2.4.4 G2B H30

The excavation at this site consisted of a 1.2 m by 21 m trench excavated across the road alignment identified in the NOHC report. The trench contained three deposits and one feature, consisting of a linear drainage ditch. The excavation of G2B H30 did not recover any artefacts. Detailed descriptions of these deposits are detailed in Table 6, the location of the trench in relation to the site listing detailed in Figure 6.

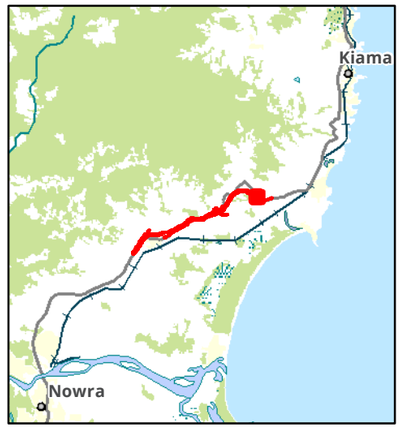
**Table 6: Contexts identified at G2B H30**

| Context No. | Type | Description |
|---|---|---|
| **Archaeological Deposits** | | |
| **001** | Deposit | 10YR 3/3 dark brown friable silt topsoil, 100–150 mm in depth. Root inclusions with a merging interface between 001 and 002. |
| **002** | Deposit | 10YR 3/4 dark yellowish brown, 150–200 mm in depth. Charcoal and dried leached clay inclusions (reddish to ochre); deposit has a clear, distinct interface with 003. |
| **003** | Deposit | 10YR 4/6 dark yellowish brown clay, extends depth of trench (thickness of 150–200 mm excavated). Includes leached clay similar to 002, although less frequent. |
| **004** | Deposit | 10YR 7/2, mid yellow fine friable clay, 300–400 mm thick, not fully excavated. Undulating varied horizon. Represents the archaeologically sterile layer at which excavation ceased. |
| **Archaeological Features** | | |
| **005** | Cut | Shallow linear feature representing a cut or track. The cut is 500 mm in depth from the top of the trench with shallow tapered sides and a flat rounded base. The cut was made into 004. |
| **006** | Fill | Fill for 005. 10YR 3/3 dark brown friable silt topsoil, 100–150 mm in depth. |

Post excavation photograph of the trench can be seen in Plate 8 and section of cut 005 in Plate 9.


**Plate 8: North-east facing post excavation photograph of G2B H30 with 1 m scale (Source: Biosis, 2014).**


**Plate 9: South-east facing section of cut 005 with 1 m scale (Source: Biosis, 2014).**


**Legend**

G2B H30 Trench

Historic Alignment

**Figure 6: Location of archaeological excavations within G2B H30**

0 20 40 60 80 100

Metres

Scale: 1:2,000 @ A3

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### 2.4.5 G2B H55

The excavation at this site consisted of a 1.2 by 10 m trench excavated across the road alignment identified in the NOHC report. The trench contained five deposits which formed a topsoil, subsoil and missed clay deposits in the base of the trench. The excavation of G2B H55 did not recover any artefacts. Detailed descriptions of these deposits are detailed inTable 7, the location of the trench in relation to the site listing detailed in Figure 7.

**Table 7: Contexts identified at G2B H55**

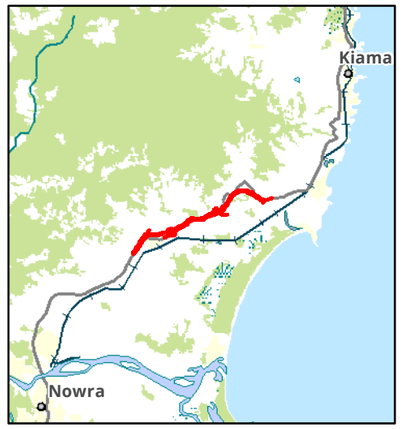
| Context No. | Type | Description |
|---|---|---|
| **Archaeological Deposits** | | |
| **001** | Deposit | 7.5YR 4/2 brown sandy loam topsoil, 200 –300 mm thick. Undulating, diffuse interface with 002, caused by tree roots. Grass and root inclusions. |
| **002** | Deposit | 10YR 6/4 light yellowish brown silty clay loam, 100–380 mm thick across western half of trench only. Clear interface with 003, 004 and 005. |
| **003** | Deposit | 10YR 6/4 light-medium clay, plastic, smooth, 50–140 mm thick across western half of trench. Clear interface with 002. The deposit forms the archaeological sterile extent of the trench in the western part of the trench, not fully excavated. |
| **004** | Deposit | 10YR 8/1 white silty clay loam, 50–120 mm thick, localised patch in centre-east of trench. The deposit forms the archaeological sterile extent of the trench in the centre-west part of the trench, not fully excavated. |
| **005** | Deposit | 10YR 6/8 brownish yellow sandy clay loam, 50–260 mm thick across eastern half of trench. The deposit forms the archaeological sterile extent of the trench in the centre-west part of the trench, not fully excavated. |

The road alignment and landform prior to excavation can be seen in Plate 10, along with a post-excavation photograph and section in Plate 11 and Plate 12 respectively.

**Plate 10: West facing pre-excavation photograph of trench, 2 m scale (Source: Biosis, 2014).**

**Plate 11: North facing post excavation photograph of trench, 1 m scale (Source: Biosis, 2014).**

**Plate 12: West facing section of trench, 2 m scale (Biosis, 2014).**


**Legend**

G2B H55 Trench

Historic Alignment

**Figure 7: Location of archaeological excavations within G2B H55**

0 5 10 15 20 25

Metres

Scale: 1:500 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

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## 2.5 Twentieth Century Roads

### 2.5.1 G2B H15

The excavation at this site consisted of a 1.2 by 10 m trench excavated across the road alignment identified in the NOHC report. The trench contained seven deposits and no features and no artefacts were recovered. Detailed descriptions of these deposits are detailed in Table 8, the location of the trench in relation to the site listing detailed in Figure 8.

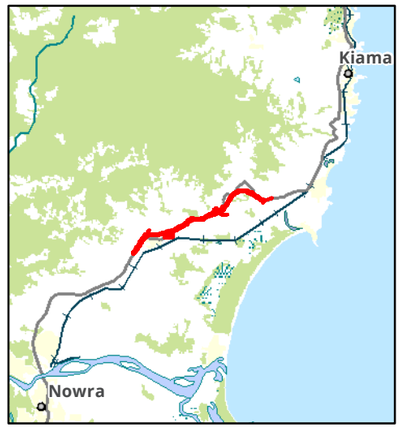
**Table 8: Contexts identified at G2B H15**

| Context No. | Type | Description |
|---|---|---|
| **Archaeological Deposits** | | |
| **001** | Deposit | 10YR 4/4 yellowish brown sandy loam topsoil, 100 mm in depth. Frequent small gravel inclusions. Thins out over the eastern part of the trench where 002 appears. |
| **002** | Deposit | Dark grey road base of compacted gravel and bitumen, maximum thickness 150 mm. Gravel is around 10 mm in size. |
| **003** | Deposit | Compact road base comprised primarily of 80 per cent blue metal, mostly less than 30 mm long, maximum thickness 120 mm. |
| **004** | Deposit | 10YR 5/4 yellowish brown sandy clay loam, 110 mm in depth across western half of trench. Frequent small stone inclusions. |
| **005** | Deposit | 10YR 4/6 yellowish brown compact sandy clay loam, 200 mm in depth across eastern half of trench. |
| **006** | Deposit | 10YR 3/2 dark brown clay loam coherent and smooth, infrequent charcoal inclusions. Same as G2BH14 context 036 and equivalents. |
| **007** | Deposit | 10YR 3/6 Yellowish brown clay loam. Same as G2B H14 context 038 and equivalents (012, 017, 026, 030, 034). |

A pre-excavation photograph showing the metalling associated with G2B H15 is in Plate 13 and section of the road layers is in Plate 14.

**Plate 13: East facing pre-excavation photograph of G2B H15 with 2 m scale (Source: Biosis, 2014)**


**Plate 14: South facing section of G2B H15 with 2 m scale (Source: Biosis, 2014).**


**Legend**

- G2B H15 Trench
- Historic Alignment

Acknowledgements: Imagery provided by Roads and Maritime Services

**Figure 8: Location of archaeological excavations within G2B H15**

0 7 14 21 28 35

Metres

Scale: 1:704 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

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### 2.5.3 G2B H21

The excavation at this site consisted of a 1.2 by 10 m trench excavated across the road alignment identified in the NOHC report. The trench contained four deposits and no features. The excavation of G2B H21 did not recover any artefacts suitable for analysis. Detailed descriptions of these deposits are detailed in Table 9 the location of the trench in relation to the site listing detailed in Figure 9.

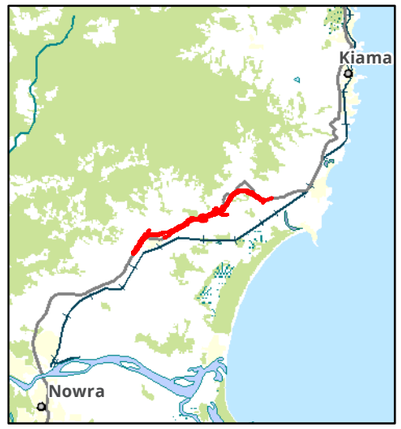
**Table 9: Contexts identified at G2B H21**

| Context No. | Type | Description |
|---|---|---|
| **Archaeological Deposits** | | |
| **001** | Deposit | Topsoil - 10YR 4/3 Brown, 0–50 mm fine sandy loam |
| **002** | Deposit | 10YR 5/4 Yellowish brown, 50–150 mm, light sandy clay loam. Numerous inclusions – small to medium sized cobblestones (120 x 90 x 70 mm – 50 x 30 x 50 mm) |
| **003** | Deposit | 10YR 5/4 Yellowish brown, 150-420 mm Slightly sandy clay. Extends to the base of excavation |
| **004** | Deposit | Sandstone bedrock - 10YR 7/4 Very pale brown, 200-500 mm sloping down from northern extremity of trench. |

See Plate 15 for a post excavation photograph of G2B H21 and Plate 16 for an excavated section of the road profile.

**Plate 15: North facing oblique photograph of G2B H21 with 2 m scale (Source: Biosis, 2014).**

**Plate 16: West facing section of G2B H21 with 2 m scale (Source: Biosis, 2014).**


**Legend**

Historic Alignment

**Figure 9: Location of archaeological excavations within G2B H21**

0 5 10 15 20 25

Metres

Scale: 1:500 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

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## 2.6 Discussion

Based upon the results of the archaeological investigation it is possible to answer a number of the research questions proposed in section 2.2.

The *Foxground and Berry Bypass, Princes Highway Upgrade, Environmental Assessment Volume 2 Appendix K, Technical Paper: Non Aboriginal (historic) Heritage* (NOHC, 2012) presents a detailed account of the chronology of road building within the Project Area. The primary source descriptions of the 19 th century road depict them as being rough, unformed and in places indistinct from cleared paddocks. The results from the archaeological investigations for G2B H19, H22, H23, H30 and H55 conform to these primary source accounts as little evidence of road surfaces was encountered. Whilst several sources were cited in the original assessment refer to the construction of numerous and substantial culverts and bridges along the Broughton Creek Road.[2] Whilst substantial culverts and infrastructure were not present within any of the 19 th century road alignments subject to investigation, drainage ditches were identified at G2B H22, H23 and H30. These were present to one side (H22 and H30) or at both sides (H23) of the former road alignment. These linear features were simple in construction and were presumably were constructed during the original clearing works or as part of subsequent maintenance activities.

No artefacts were identified which could provide any chronological dating of the roads. However, analysis of crown plans identifies all alignments excavated as pre-dating 1892 and would have become disused shortly after as these depict a new route.[3] Based upon an analysis of road building techniques in NSW, the results of the archaeological investigations broadly confirm with known practices in road building during this period. The archaeological results indicate that the 19 th century roads appears to have consisted of a cleared route with only the natural soil as a surface with ditches cut into the clay sub-soil clay to aid drainage. Whilst macadamised and sandstone bases were used in road building during this period, this appears to have taken place for significant routes and more heavily populated parts of the colony. No evidence of early macadam surfaces, sandstone surfaces or stone culverts was identified during the archaeological investigation which confirms this hypothesis. The archaeological results indicate that road building techniques within the Project Area were very simple, even more do than the standard techniques utilised in from the 1860s onwards where a cheap process of constructing roads was implemented through cutting down the table drain along the edges of the road and adding extra metal on the centre.[4] Whilst drains were present no evidence of surfaces or metalling was detected.

The 20 th century alignments of road subject to archaeological investigation at G2B H15 and G2B H21 also conform to known construction techniques utilised during this period. The archaeological investigation identified that these alignments consisted of a bitumen surface, based upon several compacted layers of metalling. In general, the roads were constructed on top of the natural spoil horizons within a graded cut to establish drainage. The excavated twentieth century alignments do highlight the advances in road construction techniques from the 19 th century to the 20 th century, however this may also be indicative of the increases in population and road used between these periods as few advances in road building technology have been made since the European settlement of Australia. Road building techniques are more likely dictated by necessity than technology with resources being allocated for substantial road networks to meet current or anticipated demand.

The results of the archaeological investigations relating to the 19 th and 20 th century road alignments illustrate the limited contribution archaeological data can make to research questions concerning the technology being implemented and evolution of road building techniques. These questions are better suited to being answered through documentary sources and historical accounts unless there is a dearth of primary sources, in which case archaeological investigation may present a solution. In this instance, the archaeological data confirms the primary source accounts thereby reducing the contribution of archaeological data to this debate.

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[2] The Sydney Mail, 4 May 1872: p558 cited in NOHC 2012: 39.

[3] Crown Plan R4586881 "confirmed roads"

[4] ibid

# 3 Former Tenant Farmers Dwellings

## 3.1 Background

The NOHC report identified that the Project Area traverses the former Berry Estate, established by Alexander Berry and Edward Wollstonecraft in 1822 as "Cullengatty Farm". A comprehensive contextual history of land grants and the development of the Berry Estate are presented in NOHC section 4.1.3 to 4.1.5. G2B H11 has been subject to a separate assessment *'Glen Devon' Cultural Heritage Assessment Documentary and Physical Investigation: Supplementary Investigation Environmental Assessment Princes Highway Foxground and Berry Bypass* (NOHC, 2013) which presents a detailed overview of the sites occupation and current physical configuration.

Berry developed his land along the British model of a landed estate in the UK with a steward or manager who managed the estate and dealt with issues on the spot and a series of tenants who farmed the land. The NOHC report and the conditions of approval have identified that several current dwelling sites within the Project Area are associated with former tenant farms which were dispersed across the estate; this includes G2B H11, H28, H48, H49 and H53. A review of historical mapping undertaken for this assessment has identified that G2B H11, H48, H49 and H53 PAD were cited in close proximity to former tenant farm buildings.

Despite their nomination in the conditions of approval, there is no reference in the NOHC report relating to archaeological potential associated with G2B H28. To supplement the NOHC report and formulate an archaeological methodology, Biosis undertook extensive searches of parish and crown plans held by the NSW Department of Lands. These searches have not identified any evidence for prior occupation within the Project Area.

For the earlier buildings on these sites which date to the late 19 th to early 20 th century they are unlikely to yield additional information on the dwelling beyond that obtained through their archival recording. Therefore the archaeological work solely focused on the early tenant farmers dwellings.

## 3.2 Research Questions

The research question relating to these properties revolves around the nature of the tenanted farms within the Project Area. The historical excavations represent an opportunity to gather archaeological information pertaining to the occupation and structural configuration of these dwellings and present a comparative analysis. Research questions relating to this would consider:

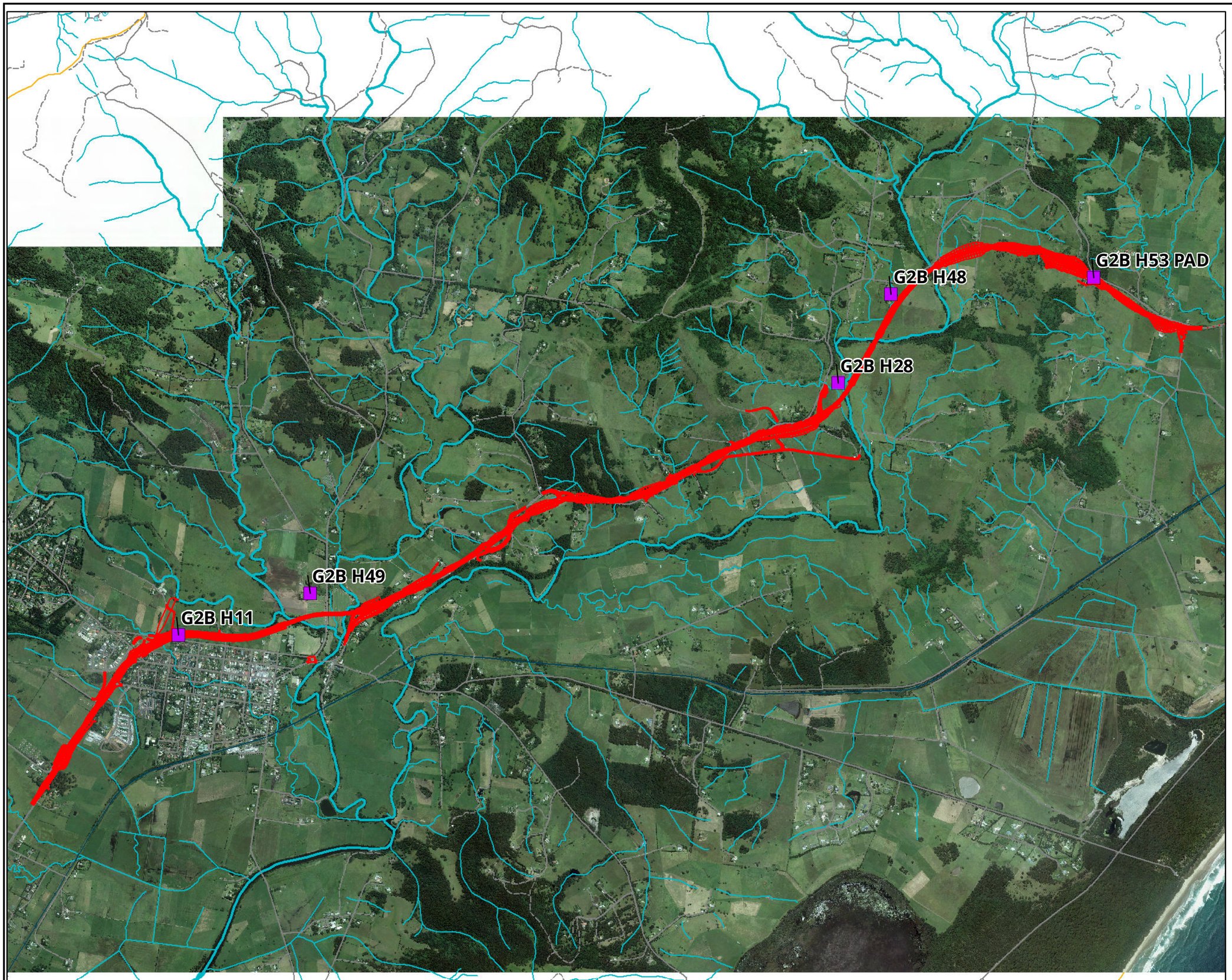
- To what extent are tenant farms associated with the Berry Estate present within the Project Area? What can the findings from the tenant farms tell us about the nature and economics of the farms prior to the advent of dairying in the 1880-1890 period?
- How were the tenant farms occupied and constructed? How did these tenant farms compare to other small farms on freehold land and what are the differences between them?
- What are the similarities between the tenanted farms, their construction and occupation? Is there any evidence of conformity which suggests overarching control by Berry and his superintendents?

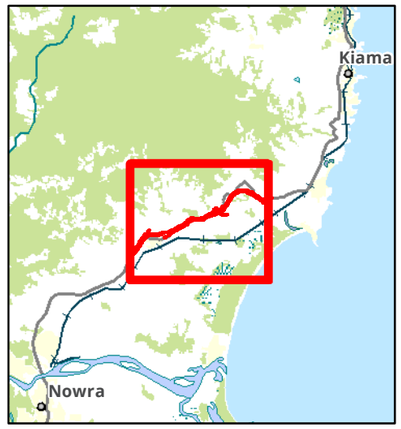
## 3.3 Excavation Methodology

To answer the above research questions a program of archaeological investigation was undertaken at selected and representative locations within sites G2B H11, H28, H49 and H53. Trench locations were recorded with a Trimble

Geo7X GPS and post-processed to 0.1 m accuracy. The location of the tenant farm archaeological investigations within the Project Area is shown in Figure 10.

Excavation was undertaken by a mechanical excavator fitted with a toothless mud bucket under archaeological supervision. The machine excavation removed the deposits with regard to their stratigraphic order. Levels were recorded using a combination of automatic level and sub-metre accurate GPS which determined the level height. At the conclusion of the test excavations the trenches were backfilled and the turf was re-established. Due to the similarities in the features a selection of these were sampled in order to define that nature and extent of archaeological remains.




**Legend**

- Site Mid Points
- Alignment

Acknowledgements: Imagery provided by Roads and Maritime Services

**Figure 10: Location of G2B H11, H28, H48, H49 and H53 in relation to the Project Area**

0 300 600 900 1,200 1,500

Metres
Scale: 1:30,000 @ A3
*Coordinate System: GDA 1994 MGA Zone 56*

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## 3.4 G2B H11 - GlenDevon

The excavation at this site consisted of two trenches (East and West) excavated within the extents of G2B H11 as identified in the NOHC report.

### 3.4.1 G2B H11 – East

G2B H11 - East consisted of an 11.2 by 9.8 m open area trench containing four deposits and 31 features (with associated fills), these consisted of a series of linear features and post holes. A detailed description of these deposits is located within Table 10.

**Table 10: Archaeological deposits identified through the excavation of G2B H11- East**

| Context No. | Type | Description |
|---|---|---|
| **Archaeological Deposits** | | |
| **001** | Deposit | 7.5YR 3/2 dark brown silty loam topsoil, 130 mm in depth. Grass and root inclusions with moderately clear interface with 002. |
| **002** | Deposit | 10YR 3/3 dark brown silty loam, 130–340 mm in depth. Some root inclusions with moderately clear interface with 003. |
| **003** | Deposit | 5YR 4/4 reddish brown clayey silty loam, 340–460 mm depth. No inclusions, but the deposit is cut by stone feature 005. |
| **004** | Deposit | 5YR 4/6 yellowish red clayey silt. Deposit represents the archaeologically sterile extent of excavation. All post hole features cut into 004. |

Archaeological features identified at G2B H11 - East consisted of 31 cut features each with a single fill. Archaeological features are detailed in Appendix D. The location of the trench is identified in Figure 11 and a plan of archaeological features is presented in Figure 12.

The archaeological features identified at G2B H11 - East consist of 30 post holes between 100 mm and 540 mm in diameter. The majority of post holes were small in diameter with an average diameter of 200 mm. Post-holes were generally circular to oval in shape and filled by a similar dark brown silty loam. The majority of features displayed disturbance through rabbit burrowing which obscured the interpretation of the features. The only other feature [005] is a 1.02 m by 6.9 m irregular rectangular feature filled with a single layer of moderately well packed, undressed stones.

The lack of occupational deposits or a hearth structure indicates that these features are likely to represent outbuildings and agricultural structures rather than the remains of the tenant farm. There is insufficient detail to provide much further interpretation for these features. The excavation of G2B H11 - East recovered 63 artefacts. Following the completion of the excavation these artefacts have been cleaned, photographed and entered into a database. With the exception of a timber post (046) and non-diagnostic ceramic (046) the artefacts were not stratified and lacked any discernible grouping. Artefacts identified through the excavation of G2B H11 - East are described in detail in Table 11. A comprehensive analysis of artefacts recovered as part of the excavation works is contained within Appendix B, photographs are included in Appendix C. See Plate 17, Plate 18 and Plate 19 for post excavation photographs of G2B H11- East.

**Table 11: Artefacts recovered from the excavation of G2B H11 - East**

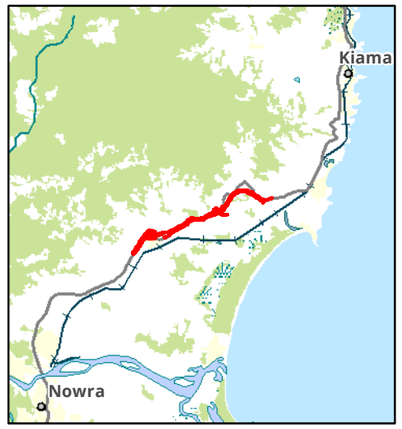
| Context No. | Fabric | Description |
|---|---|---|
| **001** | Iron | One broken piece of iron hoe. Heavily corroded. |
| **001** | Blue Glass | One fragment bright blue glass. Flat piece with rippled surface. |
| **001** | Colourless Glass | One fragment clear glass. Could be tumble. |
| **001** | Ceramic | Seven ceramic fragments - bowl, plate, platter. |
| **001** | Ceramic | Ten decorated ceramic fragments – Four blue stripes along rim, brown pattern along rim of base, blue ropey pattern along rim, blue flowers and geometric pattern, white textured pattern, partial makers mark. |
| **001** | Green Glass | One light green glass graduated stopper. |
| **001** | Brown Glass | Four fragments brown glass, bottle. Two fragments are conjoinable. |
| **001** | Green Glass | One fragment green glass. Bottom of bottle. |
| **001** | Olive/Dark-olive Glass | Three fragments olive glass. Bottle. |
| **001** | Colourless Glass | One fragment clear glass. |
| **001** | Green Glass | Eight fragments light green glass. Bottle/jar. |
| **001** | Iron | One Broken piece of flat iron (70mm x 100mm). Heavily corroded. |
| **002 & 002** | Ceramic | Three fragments decorated ceramic (blue patterns), likely from different vessels. Probably bowls or serving ware. |
| **002 & 003** | Green Glass | One mouth fragment of green glass bottle. |
| **003** | Ceramic | Two ceramic fragments |
| **003** | Ceramic | Three decorated ceramic fragments - three blue stripes along outside rim, blue pattern. |
| **003** | Green Glass | One fragment green glass. |

| Context No. | Fabric | Description |
|---|---|---|
| **003** | Olive/Dark-olive Glass | Six fragments olive/dark olive glass. From bottle/jar. |
| **005** | Tin | One tin belt buckle |
| **014** | Ceramic | Two decorated ceramic fragments - purple plants pattern and blue pattern. |
| **014** | Ceramic | One ceramic fragment, probably plate. |
| **046** | Ceramic | One fragment white ceramic bowl/wide mug? |
| **046** | Wood | Two pieces of wood, with bark |


**Plate 17: South facing post-excavation photograph of G2B H11 – East with 1 m scale, [005] and (006) is clearly visible (Source: Biosis, 2014).**


**Plate 18: Post excavation photograph showing detail of [005] and (006) with 1 m scale (Source: Biosis, 2014)**


**Plate 19: West facing photograph of the main cluster of postholes at G2B H11 – East with 1 m scale (Source: Biosis, 2014).**


**Legend**

H11 – East Trench

Site Mid Points

**Figure 11: Location of Trench in relation to H11 – East**

0 7.5 15 22.5 30 37.5

Metres

Scale: 1:741 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

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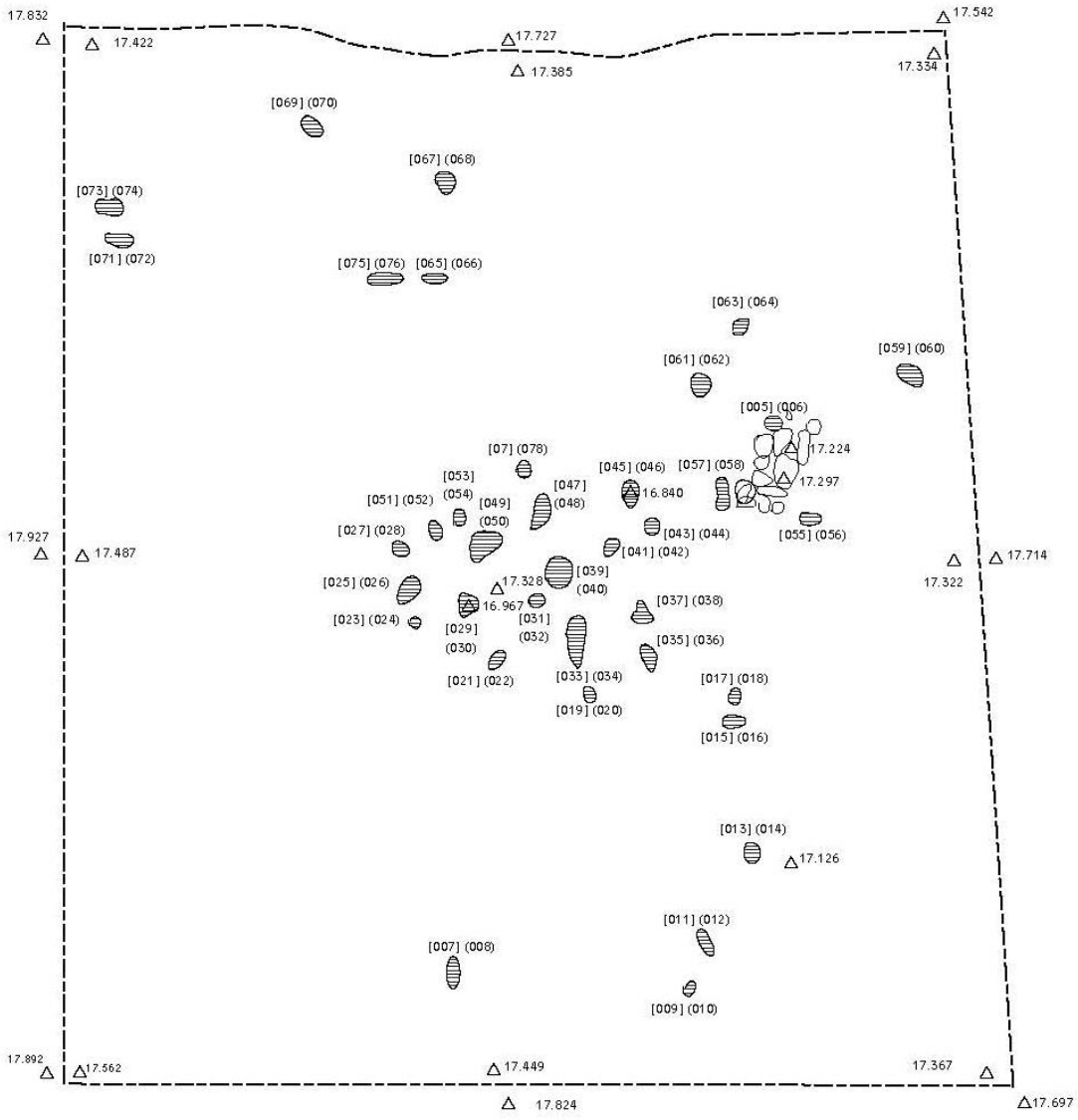


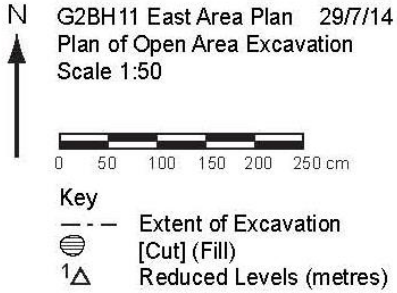




**Figure 12: Plan of archaeological deposits and features identified within G2B H11 East area**

### 3.4.2 G2B H11 – West

G2B H11 - West contained five deposits and 13 features, these consisted of a series of linear cuts, post holes and demolition fills. Detailed descriptions of these deposits are detailed in Table 12 and a stratigraphic matrix outlines the relationships between these deposits and archaeological features in Figure 13. The location of the G2B H11 – West trench is identified in Figure 14 and a plan documenting the trench configuration is in Figure 15.

The archaeological remains within this trench appear to consist of three discrete phases of activity. Masking the all structural archaeological remains post-dating its abandonment was a deposit of dark clay silt containing frequent ceramics and glass (005). All of the archaeological features were concentrated at the south end of the trench. The lowest archaeological horizon was a burnt layer, visible as lenses of distinctive bright red clay silt, masked by an ashy surface (010) containing ceramics. This surface was sealed by a structure based on bedding deposits of clay, clay with pebbles and clay with rubble (016). The footings of clay and pebbles (016) appear to represent three to four sides of a rectangular structure enclosing a space some 3.6 m north south by 1.8 m east west. The only surviving walling material (018) was located in the north-west corner of the trench. The floor of the structure was sealed by a layer of clay – puddled grey clay (014) and silty clay (013).

On the east side, a substantial pad of clay and rubble (015), 2.65 m by 1.80 m had been constructed. This was a similar material to that of (016) but consisted of coarse rubble rather than pebbles. A rectangular posthole [011] has been set into the surface of (015). This has some massive stone packing on its south and west sides. The position of the posthole bisects the north–south alignment of the enclosed space defined by the clay floor and surrounding clay and pebble bedding. Despite the present of structural remains at G2B H11- West the archaeological remains do not seem to indicate the present of a residential dwelling, rather footings and hard stands for agricultural structures such as a tank or trough or other structure that required sealing.

The excavation of G2B H14 – West recovered 404 artefacts, these all consisted of late 19 th to mid-20 th century domestic artefacts with limited diagnostic value. Following the completion of the excavation these artefacts have been cleaned, photographed and catalogued. The artefacts were identified in a number of contexts and fills relating to the site complex.

Of the artefacts uncovered four are whole; these consist of a green glass stopper, a ceramic bead, a rusty bolt and a complete doorknob and fastener. The remaining 400 artefacts are small fragments with little analytical value. In terms of materials, the artefacts consisted of 46 ceramic (43.81 per cent), 13 green glass (12.38 per cent), eight Iron (8.57 per cent) and seven colourless glass (6.67per cent). Remaining artefacts number at less than three in each category but comprise of assorted glasses, metal and wood artefacts. The majority (26.67 per cent) of artefacts came from the topsoil and subsoil (001 and 002), however contexts 006, 010 and 012 all contained between 12.38 per cent, 10.48 per cent and 11.43 per cent of the artefacts respectively. The composition and densities of artefacts generally indicate a slow build up of household refuse within adjacent paddocks from numerous nearby residential dwellings. From the artefact assemblage it is reasonable to assume that the agricultural features present within G2B H11 – West were in use during the late 19 th and early 20 th century. Whilst cleaning the surface of context 003 an Aboriginal silcrete flake was identified.

A comprehensive recording of artefacts recovered as part of the excavation works is contained within Appendix B, photographs are included in Appendix C. See Plate 20 and Plate 21 for post excavation photographs of G2B H11-West.

**Table 12: Contexts identified in G2B H11 - West**

| Context No. | Type | Description |
|---|---|---|
| **Archaeological Deposits** | | |
| **001** | Deposit | 7.5YR 3/2 dark brown, friable silty loam topsoil, 0-130mm in depth. Topsoil with root inclusions. |
| **002** | Deposit | 5YR 3/2 Dark reddish brown silty loam, 130 –260 mm depth. Soil horizon has a gently merging interface with 003. |
| **003** | Deposit | 5YR 3/4 dark reddish brown clayey silt, 260–340 mm in depth, Soil horizon has a merging interface with 004M. |
| **004** | Deposit | 5YR 3/4 Dark reddish brown, silty clay, from 340 mm to base of excavation, full extent unknown. Extends from northern extent of trench to 22.8 m. Gently merging interface with 005. |
| **005** | Deposit | 10YR 3/2 Very dark greyish brown clayey silt deposit. The deposit is a mixed demolition debris, with sandstone fragments as inclusions; a course sandy clay mortar (10YR 7/3 Very pale brown) and charcoal inclusions. Possibly contains a fragmentary wall footing which begins 22.8 m out from northern extent of trench 1, continues for several metres. |
| **006** | Deposit | 10YR 3/2 Very dark greyish brown clayey silt deposit. The deposit is a mixed demolition debris, with sandstone fragments as inclusions; a course sandy clay mortar (10YR 7/3 Very pale brown) and charcoal inclusions. Higher density of artefacts encountered, which have bee bagged separately. |
| **Archaeological Features** | | |
| **007** | Cut | 5 m x 3 m x 150 mm. Linear cut feature, rectangular in plan, exposed to north, south and west of clay deposit 013/014. Shallow cut feature filled by clay and pebble deposit 016 (unexcavated) |
| **008** | Deposit | 7.5YR 6/4 light brown fill of linear cut feature 007. |
| **009** | Deposit | 7.5YR 4/3 brown clay construction fill underneath 008. |
| **010** | Deposit | 7.5YR 2.5/2 very dark brown silty loam, ash deposit beneath 009 and 013 |
| **011** | Cut | 420 mm x 420 mm irregularly shaped cut feature lined with large stones - possibly a post hole. |
| **012** | Fill | 5YR 4/4 reddish brown silty loam, includes small stones (less than 50mm). Fill of 011 |
| **013** | Deposit | 5YR 5/4 mixed reddish clay, 50 mm thick with some crushed stone inclusions |
| **014** | Deposit | 7.5YR 4/1 dark grey 300-450 mm. 1.45 m east-west x 1.80m north-south. Lies to north of clay deposit 013, which it probably overlies Sharp boundary between 014 and 016, |

| Context No. | Type | Description |
|---|---|---|
| | | diffuse boundary with 013. |
| **015** | Deposit | 5YR 5/4 reddish compacted clay, 300–450 mm in depth. Fill of 019. |
| **016** | Deposit | 7.5YR 4/2 mixed predominantly brown compacted clay with limestone pebbles and occasional charcoal flecks. Deposit has a well defined interface defined boundary with clay layers 013/014 and overlying deposit 006 and 005. |
| **017** | Deposit | 7.5YR 4/2 mixed – predominantly brown compacted clay with rare limestone pebbles. Deposit is orientated 0.50m east -west x 4.75 m north-south. Diffuse interface with 016 to east (016 has a higher pebble/stone content). |
| **018** | Deposit | 7.5YR 4/1 mixed predominantly dark grey clay with angular and sub-rounded limestone fragments (up to 350mm across). Deposit is orientated 0.75 east-west by 0.50 m north-south. |
| **019** | Cut | 1.72 x 2.65 m, oval cut feature with straight west side (abutting clay deposits 013/014). Cut for clay and rubble deposit 015 |
| **020** | Deposit | 7.5YR 3/4 mixed dark brown clay silt with occasional charcoal flecks. Sharply defined contact with overlying deposits 013 and 014 and underlying 021. Deposit is orientated 9.0 m east-west x 7.5 m north-south. |
| **021** | Deposit | 10R 4/8 red clay silt 50–100mm in depth. Sharply defined contact with overlying deposit 010. |

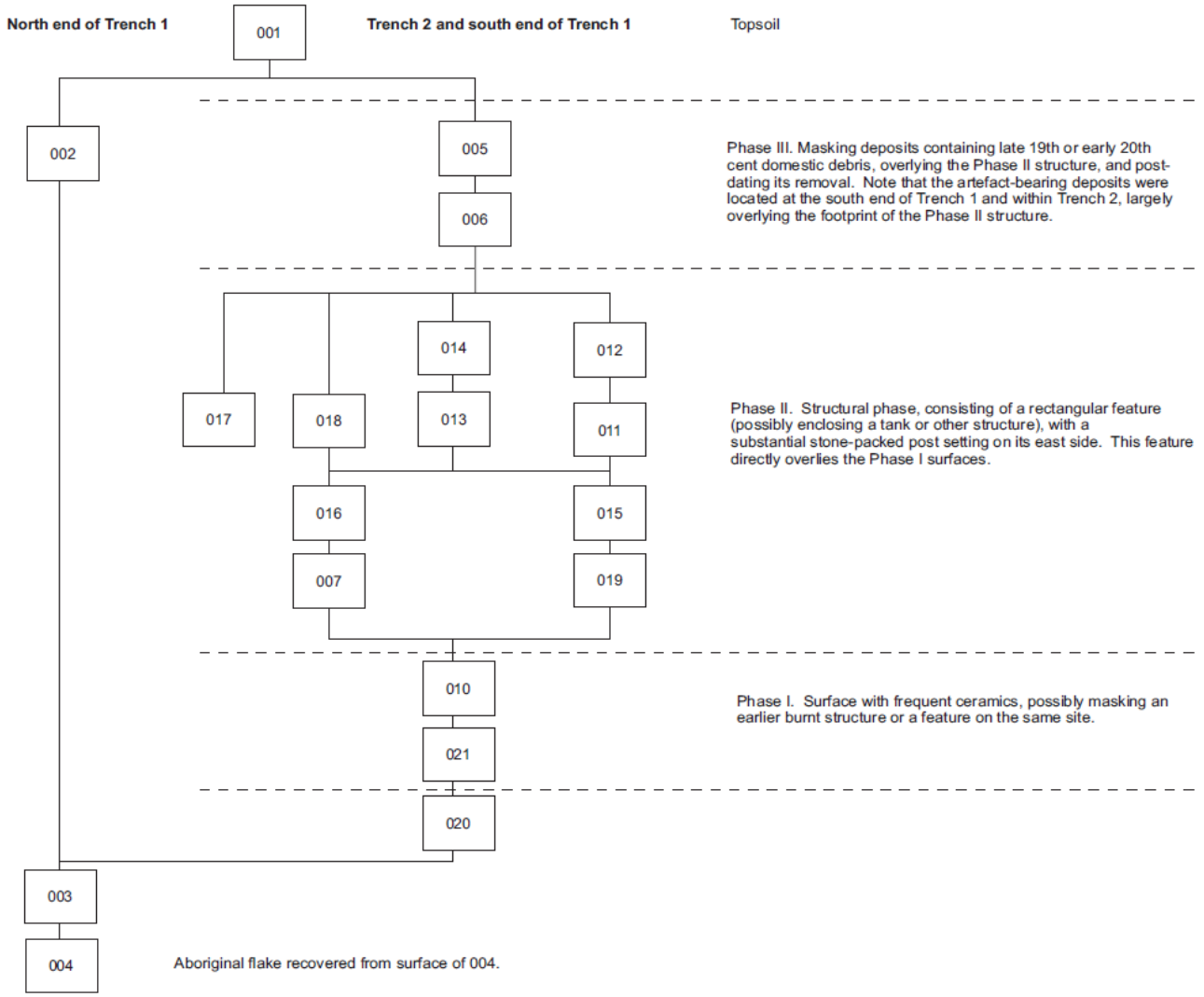
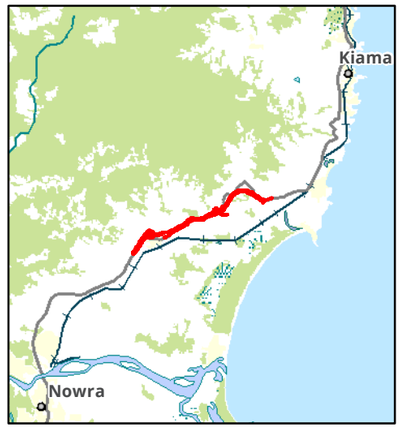



**Figure 13: Stratigraphic Matrix for G2B H11 -West (Source: Biosis, 2014)**


**Plate 20: South facing post excavation photograph of G2B H11 - West with 1 m scale (Source: Biosis, 2014).**


**Plate 21: North facing post excavation photograph of G2B H11 - West 1 m scale (Source: Biosis, 2014).**


**Legend**

- H11 – West Trench
- Site Mid Points

**Figure 14: Location of Trench in relation to G2B H11 - West**

0 5 10 15 20 25

Metres
Scale: 1:500 @ A3
*Coordinate System: GDA 1994 MGA Zone 56*

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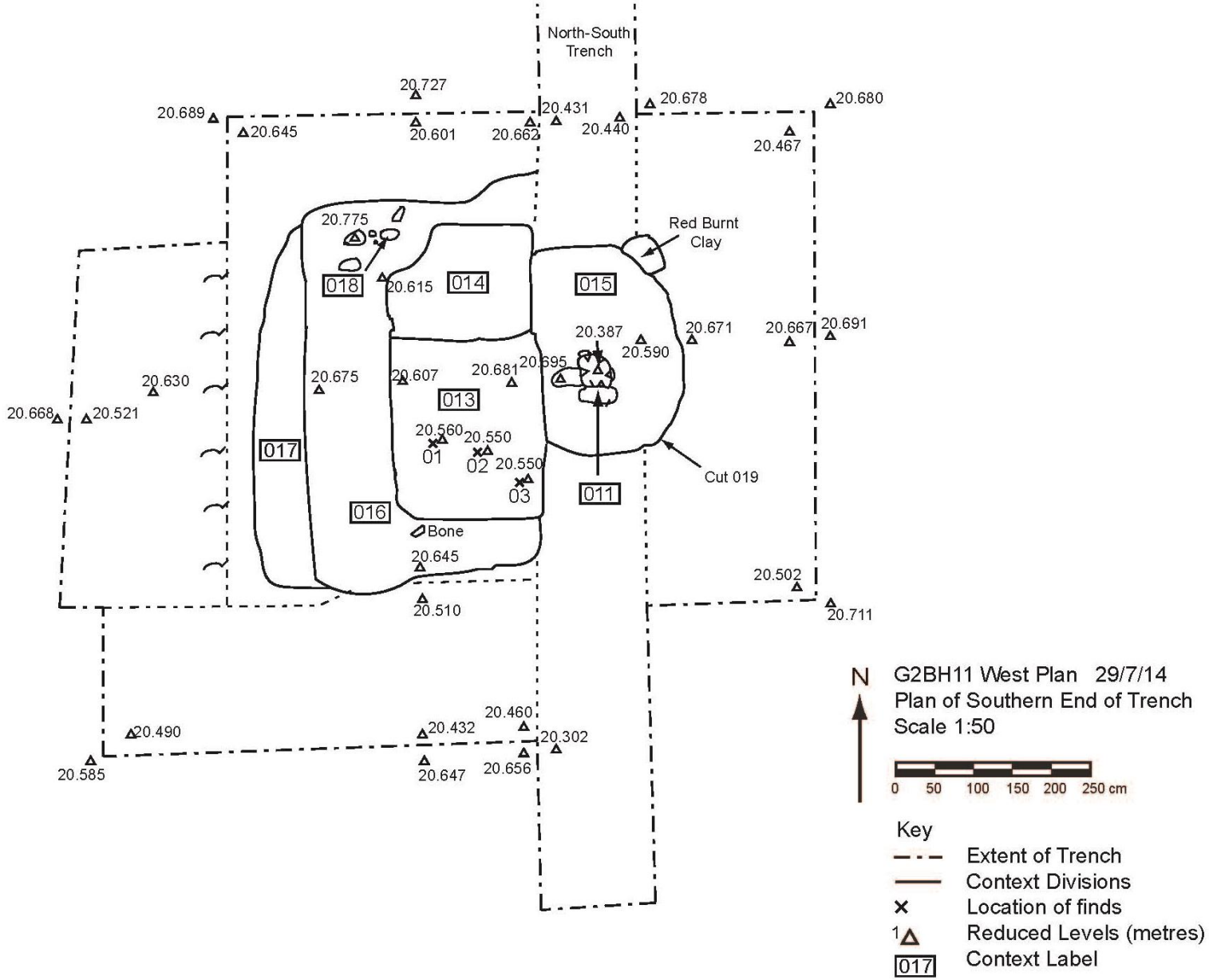



**Figure 15: Plan of archaeological deposits and features identified within G2B H11 - West**

## 3.5 G2B H28 – Brookside

The excavations at G2B H28 consisted of a 1.3 m by 6.7 m trench which contained a single deposit and no archaeological features. No artefacts were recovered as part of the excavation of G2B H28. The location of the trench can be seen in Figure 16. Detailed descriptions of these deposits are detailed in Table 13.

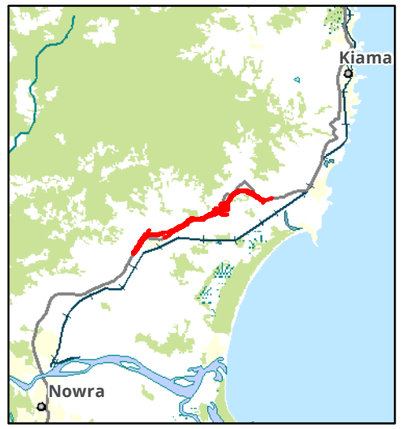
See Plate 22 for a pre-excavation photograph and Plate 23 for an excavated section of the road profile.

**Table 13: Contexts identified in G2B H28**

| Context No. | Type | Description |
|---|---|---|
| **Archaeological Deposits** | | |
| **001** | Deposit | 10YR3/3 Dark brown silty loam, fine and structure less, 260–320 mm in depth covering entirety of area. Grass and root inclusion. Excavation ceased at 320 mm as the area was considered to be archaeologically sterile. |

**Plate 22: East facing photograph of G2B H28 showing entire stripped area (Source: Biosis, 2014)**

**Plate 23: West facing photograph of G2B H28 showing excavated deposits with 1 m scale (Source: Biosis, 2014)**


**Legend**

- G2B H28 Trench
- Site Mid Points

**Figure 16: Location of archaeological trench in relation to G2B H28**

0 7.5 15 22.5 30 37.5

Metres

Scale: 1:750 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

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## 3.6 G2B H48 – Potential Archaeological Deposit

The investigation of G2B H48 consisted of the excavation of five trenches in order to inspect the entirety of the property. The ability to implement the stripping of larger areas of topsoil was inhibited by the presence of underground services, buildings and a lack of archaeological features necessitating investigation. All trenches were 1.2 m wide, however overall lengths differed with Trench 1 (16.20 m), Trench 2 (19.7 m), Trench 3 (6.7 m), Trench 4 (27.2 m) and Trench 5 (8.7 m). These trenches contained three uniform deposits, with the only features relating to modern services. The location of these trenches can be seen inFigure 17.

Detailed descriptions of these deposits are detailed in Table 14. No artefacts were recovered from the excavation of the trenches.

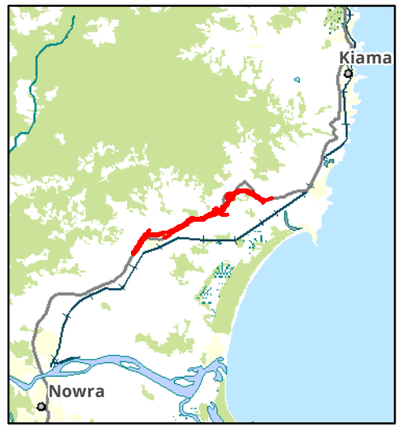
**Table 14: Contexts identified in G2B H48**

| Context No. | Type | Description |
|---|---|---|
| **Archaeological Deposits** | | |
| **001** | Deposit | 10YR4/2 dark greyish brown friable clayey silt, 0–110 mm in depth. Topsoil with grass root inclusions, gently merges horizon with 002. This context is present in Trenches 1, 2, 3, 4 and5. |
| **002** | Deposit | 10YR3/3 dark brown clayey silt, 110–200 mm in depth. The deposit has root inclusions and merges gently with 003. This context is present in Trenches 1, 2, 3, 4 and 5. |
| **003** | Deposit | 10YR4/4 dark yellowish brown (mottled) clayey silt 200 –480 mm (base of excavation) slightly. Deposit includes occasional fragments of decayed sandstone. This context is present in Trenches 1, 2, 3, 4 and 5. |
| **Archaeological Features** | | |
| **004** | Cut | Linear cut for the electricity cable located at eastern end of Trench 1, cutting through in a north-south direction, 550 x 1200 mm. Cuts through contexts 1, 2 and 3. |
| **005** | Fill | Unexcavated fill of context 4, same material as context 1. Unexcavated electricity cables. |
| **006** | Cut | Linear cut is located midway between Trenches 1 and 2, and in the eastern end of Trench 3, 3000 m (southern side), 4000 mm (northern side) from eastern edge of Trench 1. Cut is 470 mm in depth and cuts into context 1, 2 and 3. |
| **007** | Fill | Unexcavated fill of context 6 (sheathed cable). Same as context 1 topsoil. |
| **008** | Cut | Linear cut for water cable, orientated east-west through trench 4 (north-south-S). |
| **009** | Fill | Fill of context 8, unexcavated, water cable orientated east-west through Trench 4 (north-south). |

Sample photographs for G2B H48 include Plate 24 and a post-excavation photograph and Plate 25 for an excavated section showing deposits.


**Plate 24: Post-excavation photograph of Trenches 2 and 3 at G2B H48, 1 m scale (Source: Biosis, 2014).**


**Plate 25: Section photograph showing deposits within G2B H48 from Trench 4, 1 m scale (Source: Biosis, 2014)**


**Legend**

- G2B H48 Trench
- Site Mid Points

**Figure 17: Location of trenches within G2B H48**

0 5 10 15 20 25

Metres
Scale: 1:500 @ A3
*Coordinate System: GDA 1994 MGA Zone 56*

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## 3.7 G2B H49 – Oakleigh

The archaeological investigations at G2B H49 – Oakleigh identified a total of two deposits, with 68 features with associated fills. The excavation area consisted of an area of 20 m by 20 m; its location is displayed in Figure 19.

Due to the complexity of features the excavation areas were divided into four areas (A, B, C and D). The main cluster of features were located within Area C, this appears to have been a small building has been reconstructed on several occasions as there was no discernible pattern to its size or orientation. No occupational deposits were identified and no hearth structures appeared to be present. There was almost no instance of features cutting one another and no finds, so establishing a chronology was not possible. All features were heavily truncated which severely limits the ability to interpret vertical profiles.

Several long, narrow rectilinear cuts on that alignment [051], [053], [059] and [101] and apparent beam slot [134] with corresponding cuts [133], [136] and [138] may indicate wall, however the cuts were so insubstantial that positive identification was not possible. It is entirely possible that any structures at this location were entirely raised on stumps; if this was the case then little evidence of wall footings would have survived. Given the size of the postholes, these would not have contained posts large enough to support a sizeable structure, this, in addition to the absence of sub-floor deposits indicates that the archaeological features at G2B H49 either represents a small insubstantial outbuilding or a series of fences which have been realigned on multiple occasions. A detailed description of archaeological deposits and features is detailed in Appendix C. A stratigraphic matrix is located in Figure 18 and plan of the trench in Figure 19 and a plan of archaeological features is presented in Figure 20.

The excavation of G2B H49 recovered 557 artefacts. Following the completion of the excavation these artefacts have been cleaned, photographed and catalogued. The majority of artefacts consisted of 338 ceramic fragments (60.68%) followed by 88 green glass fragments (15.79 per cent), 49 colourless glass fragments (8.79 per cent). The remainder of the assemblage consists of other glass types, brick, iron pieces, stoneware and wood. The majority of artefacts (547) are fragments, the majority of which are small and non-diagnostic, with little analytical value. Patterns on the ceramics are generic printed patters commonplace in the 19 th to early 20 th century. Only 10 artefacts within the assemblage are classified as whole, five of these are generic iron artefacts such as nails and spikes. The remaining whole artefacts consist of a three opaque glass jars, one colourless glass bottle and a clay ball stopper. One of the opaque glass jars is marked "Property of Marmite Company" which places it as later than 1912, when the product was first introduced into Australia. Another opaque jar is marked "Pond's" which would appear to indicate that it was a makeup container once containing Pond's Cream, an American product popular in Australia in the 1920's. None of these artefacts are from stratified contexts, however the products are broadly consistent with domestic refuse dating to the early t20 th century and most likely relates to the current Oakleigh residence.

The majority of artefacts (46.25 per cent) were unstratified, having been identified during mechanical excavation of the topsoil and subsoil. The remaining artefacts were identified within four contexts. The largest quantity of artefacts was identified in context 001 (topsoil) contained 27.50 per cent, followed by context 002 (subsoil) contained 21.25 per cent. The remaining four artefacts consist of two parts of a wooden post excavated from the fill of a post-hole [061]. This post hole [061] also contained a fragment of heavy brown stoneware. Whilst this fragment is small, it is from a form of generic stoneware storage vessels which were commonly used in the late 19 th and early 20 th century.

A comprehensive analysis of artefacts recovered as part of the excavation works is contained within Appendix B, photographs are included in Appendix C. Sample photographs for G2B H49 include a post-excavation photographs of Areas A, B, C and D and a sample post hole. These are Plate 26 to Plate 29.

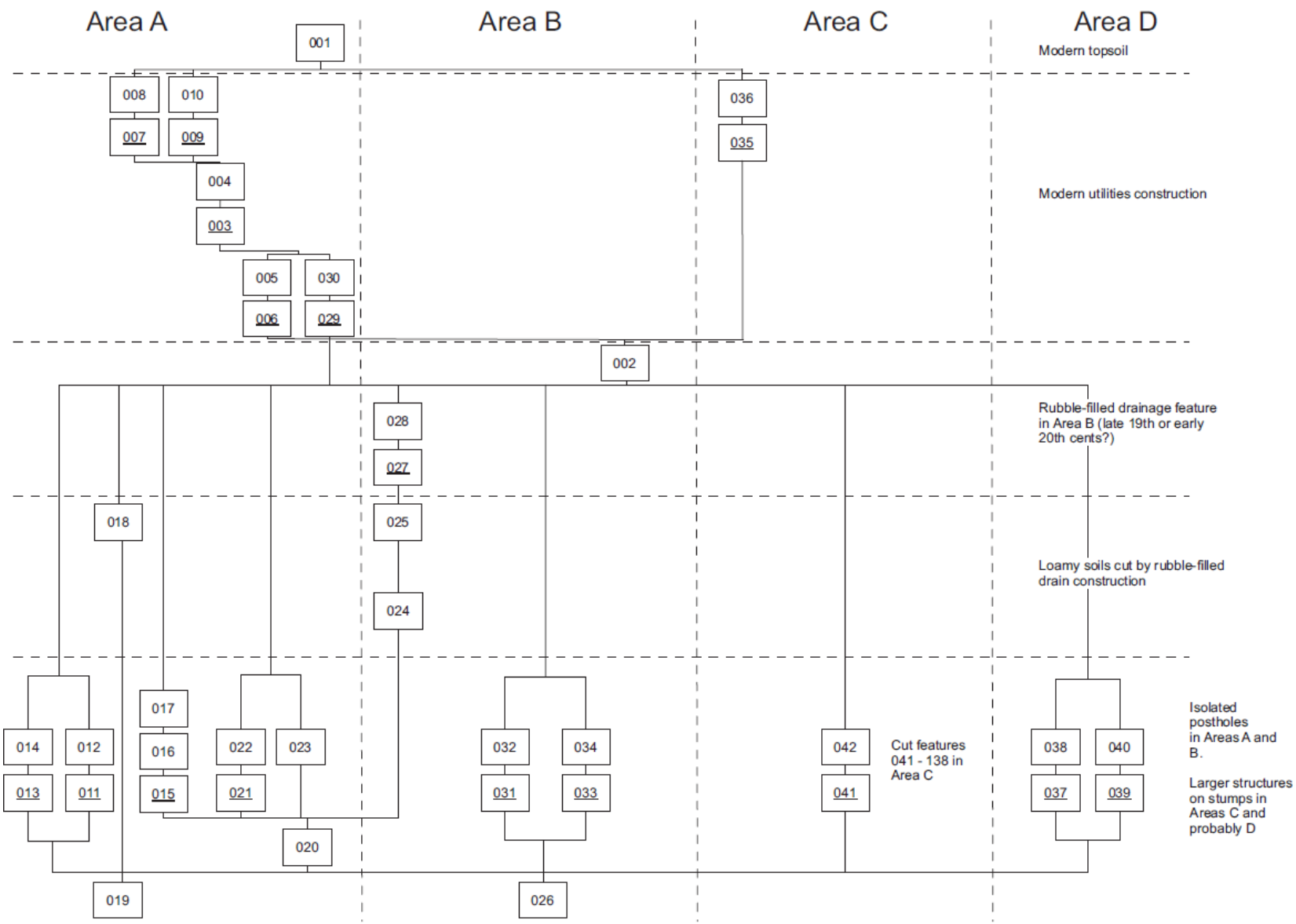


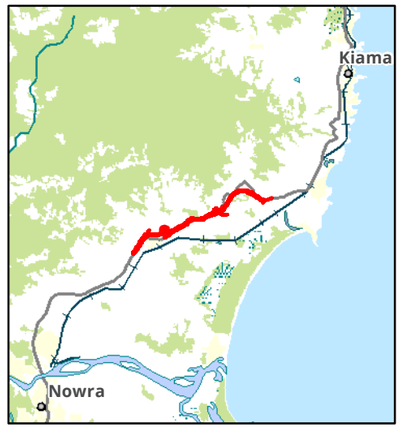

**Figure 18: Stratigraphic matrix for archaeological features within G2B H49 (Source: Biosis, 2014).**

**Plate 26: North-west facing photograph of Areas A to C showing post-holes and rubble feature with 1 m scale (Source: Biosis, 2014).**

**Plate 27: West facing photograph of Area C showing post-holes with 1 m scale (Source: Biosis, 2014).**


**Plate 28: East facing post excavation photograph of Area D with post holes and1 m scale. (Source: Biosis 2014)**


**Plate 29: Post excavation photograph of post hole with insitu timber. 1 m scale. (Source: Biosis, 2014)**


**Legend**

G2B H49 Trench

Site Mid Points

**Figure 19: Location of archaeological investigations at G2B H49**

0 5 10 15 20 25

Metres

Scale: 1:500 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

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Acknowledgements: Imagery provided by Roads and Maritime Services

## 3.8 G2B H53 – Potential Archaeological Deposit

At G2B H53 excavations consisted of an irregular shaped 20.3 x 5m trench which contained three deposits and no features. The irregular shape was excavated to seek stratified archaeological deposits and avoid disturbance to tree roots at the site. Detailed descriptions of these deposits are detailed in Table 15. No artefacts were recovered as part of the excavation of G2B H53. The location of the trench is identified within Figure 21.

**Table 15: Contexts identified in G2B H53**

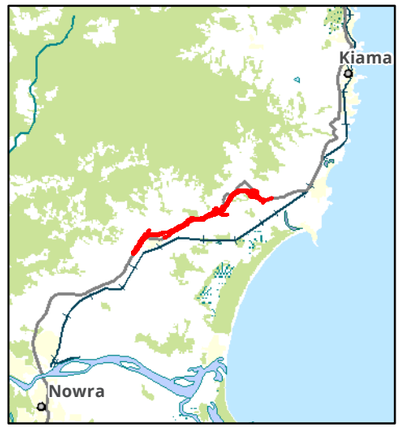
| Context No. | Type | Description |
|---|---|---|
| **Archaeological Deposits** | | |
| **001** | Deposit | 7.5YR4/1 dark grey friable silt topsoil, 0–110 mm in depth. Root inclusions and large cobble (>20 x 15 x 20 cm) inclusions. Gently merging horizon with 002. |
| **002** | Deposit | 7.5YR 4/2 brown silty loam topsoil layer, 110 –260 mm in depth. |
| **003** | Deposit | 7.5YR4/2 brown compact silt, 260 –310mm in depth. Charcoal and root inclusions. Deposit continues to the base of the trench. |

A pre-excavation photograph and selection of photographs detailing the extent of excavations can be seen in Plate 30, Plate 31 and Plate 32.

**Plate 30: West facing pre excavation photograph of G2B H53, 1 m scale (Source: Biosis, 2014).**

**Plate 31: North-west facing post excavation photograph of G2B H53, 1 m scale (Source: Biosis, 2014).**

**Plate 32: North facing post excavation photograph of G2B H53, 1 m scale (Source: Biosis, 2014).**


**Legend**

- G2B H53 PAD Trench
- Site Mid Points

**Figure 21: Location of excavations in relation to G2B H53**

0 5.5 11 16.5 22 27.5

Metres
Scale: 1:550 @ A3
*Coordinate System: GDA 1994 MGA Zone 56*

Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne, Sydney, Wangaratta & Wollongong

*Matter: 17911*
*Date: 08 August 2014,*
*Checked by: AJB, Drawn by: ANP, Last edited by: apritchard*
*Location:P:\17900s\17911\Mapping\Archaeological Investigation Report\17911_AI_F22_G2B H53*

Acknowledgements: Imagery provided by Roads and Maritime Services

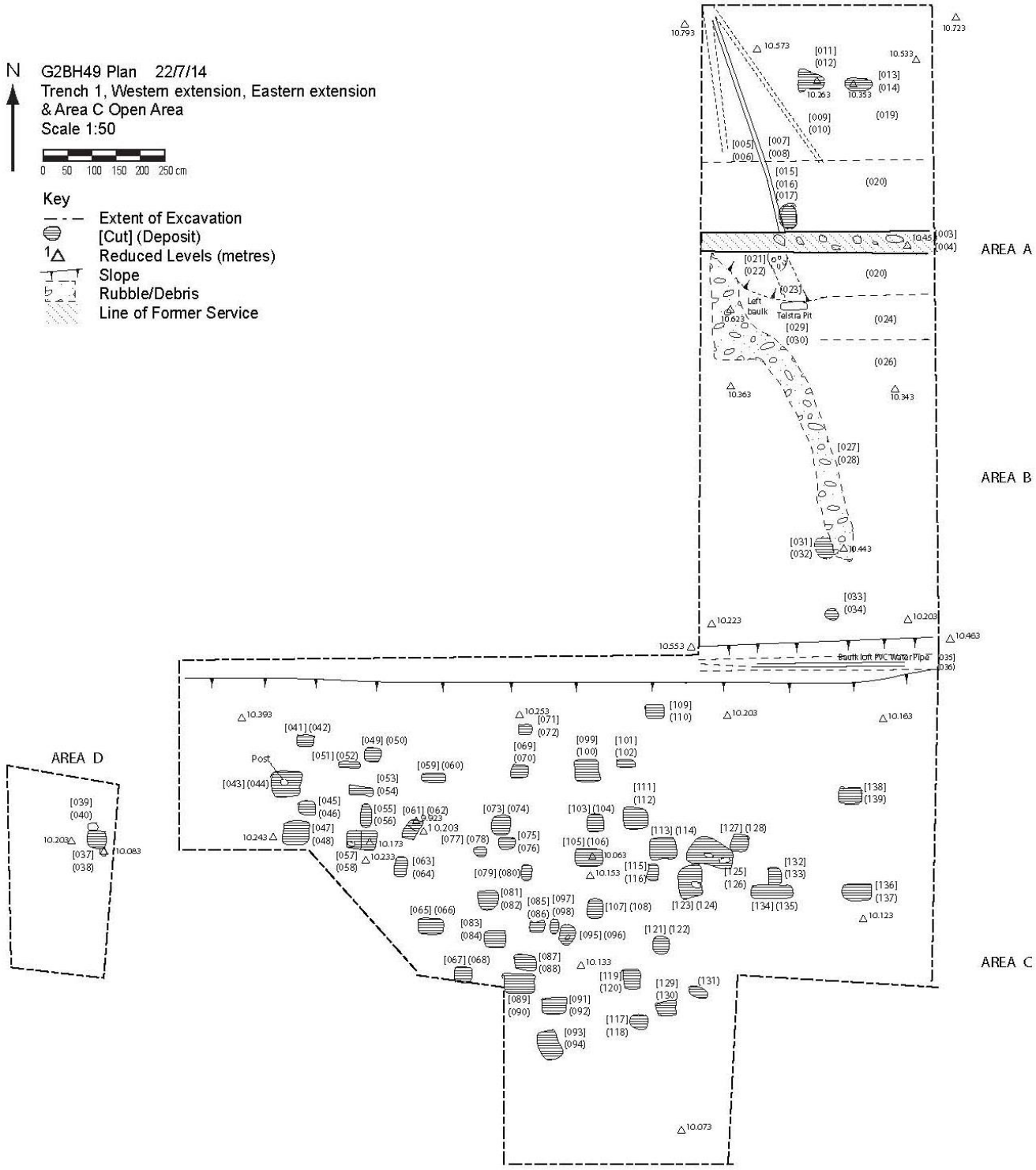



**Figure 20: Plan of archaeological deposits and features identified within G2B H49 (Source: Biosis, 2014).**

## 3.9 Discussion

From the results of the excavations of G2B H11, H28, H48, H49 and H53 it is possible to address the research questions proposed in Section3.2. No archaeological evidence of any kind was identified at G2B H28, H48 or H53 indicating that either the structures identified on historical mapping were inaccurately mapped or archaeological remains have been substantially removed through modern disturbances at these sites.

Excavations at G2B H11 (East and West) and G2B H49 did identify substantial archaeological remains; however whether these are associated with tenant farms is debatable. None of the excavations identified any underfloor deposits or structural evidence of hearths. The excavations at G2B H49 identified a large number of diffuse post holes and features which have been heavily truncated through modern land use activities. Although limited evidence of wall cuts were present the size of the post holes indicates that the trench identified the site was most likely the location of several permutations of small agricultural structures. The excavations at G2B H11 – East identified post holes and stone feature, however the post holes had been disturbed through rabbit burrowing. The stone feature (006) at G2B H11 – East, whilst substantial may represent a small surface used to reinforce the ground surface against cattle movement. Examples seen at local properties display similar characteristics in terms of the size, shape and composition of the stone used (see Plate 33). If correct, this may indicate that the post holes and features within G2B H14- East represent a cattle run rather than a structure.


**Plate 33: Comparison between feature 006 at G2B H11 – East and example of stone surface within cattle run observed locally during excavations (Source: Biosis 2014).**

The archaeological features at G2B H11 – West indicate a three phase set of activities, including a demolition layer and evidence of burning. Despite high densities of 19 th century domestic artefacts being identified within the demolition layer, the features identified appear to represent a series of hard standing areas upon which structures and facilities would have been placed.

Whilst the structures and features identified during the archaeological investigations are likely to date to the 19 th century, they are unlikely to represent tenant farms. ]The features identified however, to shed some light on the construction of agricultural facilities within the Berry tenant farms, which seem to have been substantial structures placed upon well constructed pads. The numerous post holes identified at G2B H11 and G2B H49 appear to indicate that structures were refreshed frequently. Furthermore, the archaeological investigations indicate that more than dwellings were depicted on the 19 th century mapping with agricultural structures and complexes obviously featuring prominently.

# 4 G2B H14 - Broughton Creek Village

## 4.1 Background

The NOHC report presents an analysis of documentary evidence for Broughton Creek Village in (Section 4.1.4). A program of test excavation was undertaken on the site and are summarised in section 6 of the NOHC report. A 1870s plan of the village indicates multiple buildings were present at this location, identified by NOHC as a Carpenters Cottage, Butter Factory, Overseer's Cottage, Court House, Council Chambers and Church. Additional research conducted by Biosis at the NSW Department of Lands has not revealed specific information pertaining to buildings or properties located at Broughton Creek Village. The village is all located under a single title with no records of individual properties present. A review of the old system and Primary Application packet identified a list of tenants, however there was no map showing the locations of individual buildings.

Archaeological salvage was recommended within the construction footprint associated with G2B H14 for the area to be lowered in addition to monitoring of construction works for the area beneath the present road surface. The site visit conducted by Biosis has indicated that archaeological remains are unlikely to occur underneath the remains of the old road alignment (dating to c1860s). The buildings were likely to be set back from the carriageway of the road. As a result, Biosis planned to undertake an open area excavation between the current Princes Highway and old alignment which has the highest potential to contain intact archaeological structural and depositional remains.

The excavations undertaken by NOHC are not fully reported in their report. It appears a "series" of 1 m square test pits were excavated and as archaeological material was found these were expanded. There was no summary reporting of stratigraphy or archaeological contexts or archaeological features uncovered. There was little attempt made to address research questions concerning the identification of structures thought to have been located at G2B H14 or ascertain the comparative chronology of archaeological features. The excavation methodology employed by NOHC was unsuitable for investigating to probable location buildings due to the low likelihood associated with identifying buildings through excavating 1m test pits as it is difficult to discern archaeological features and complex stratigraphy without a broader understanding of the surrounding geomorphology.

The NOHC report summarised the results of the excavation as follows:[5]

> *"The test excavation program at G2B H14 has demonstrated that there are sections, albeit limited areas, of relatively intact deposits from the turn of the nineteenth-twentieth century. Examples of such deposits include the cobbled floor identified in F30-F31, artefacts in association with the old ground surface identified in B60-C61 and A64-C64, the post hole identified in C80 and the burnt layers and associated artefacts in B100 and D100-E100. There are also examples of more disturbed deposits that, while compromised in integrity, appear to contain artefacts that have the potential to provide information about the chronology and function of the site (e.g. at F20 and F39-F40). However, the northernmost portion of the site, around C110 and E120, appears to be largely sterile below the cap of modern fill.*
>
> *On the basis of historical research, including analysis of aerial photographs and available maps, it appears that the archaeological deposits at G2B H14 relate primarily to an area of street frontage, as opposed to the site of prior structures. There is however potential for traces of the eastern limits of buildings to occur along the western margins of the site, in the vicinity of A30-B80. The differences in archaeological features and associated artefact assemblages across the site may also be indicative of a series of street blocks, which could potentially be confirmed through additional excavations along a north-south, transect.*

[5] NOHO 2013:94

*In summary, archaeological deposits at G2B H14 are assessed as having potential to provide information on the following aspects of the site's history:*

- *The width of the street frontage and the activities that took place in this area.*
- *The location of individual buildings or portions of their eastern limits.*
- *The location of individual lot boundaries that extend east to west across the site.*
- *Differing site functions across these lots.*
- *Overall site chronology from the mid nineteenth to mid twentieth-century."*

## 4.2 Research Questions

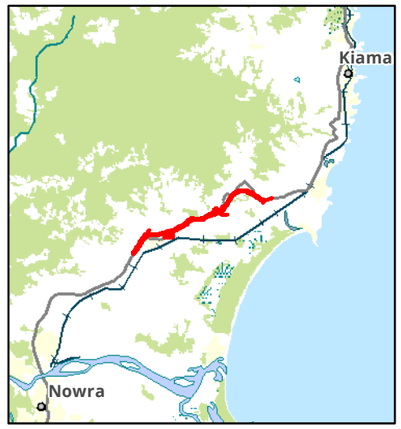
The purpose of the archaeological methodology is to clearly articulate the anticipated outcomes from a program of work; what questions we are asking of the program and how the work will be undertaken to address these questions. In the case of the program of salvage excavation proposed for G2B H14 several questions are proposed as the operating framework. These are:

- To what extent does the project area contain archaeological remains relating to the Broughton Creek Village? Are sufficient archaeological profiles present so as to establish dates or specific associations for archaeological evidence revealed in them?
- Is it possible to identify changes in the configuration of the village?
- If present, what can depositional remains from Broughton Village site tell us about the lifestyles and economy of people who lived in and frequented in the area?
- How does this contrast between the various structures located within the village and the tenant farms?

## 4.3 Excavation Methodology

To answer the above research questions a program of archaeological investigation was undertaken at selected locations within sites G2B H14. Whilst originally an open excavation program for the entire site was proposed, at the request of RMS, impacts to the five trees located at the centre of the site were avoided. This resulted in seven trenches located between the trees which constitute the majority of the recorded site. Trench locations were recorded with a Trimble Geo7X GPS and post-processed to 0.1 m accuracy. The overall location of the trenches is shown in Figure 22.

Excavation was undertaken by a mechanical excavator fitted with a toothless mud bucket under archaeological supervision. The machine excavation removed the deposits with regard to their stratigraphic order. Levels were recorded using a combination of automatic level. The use of sub-metre accurate GPS at G2B H14 was limited by the tree canopy. At the conclusion of the test excavations the trenches were backfilled and the land surface was reestablished.


**Legend**

G2B H14 Trench

Historic Alignment

**Figure 22: Location and extent of archaeological excavations within G2B H14**

0 7.5 15 22.5 30 37.5

Metres

Scale: 1:750 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

N

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Acknowledgements: Imagery provided by Roads and Maritime Services

*Matter: 17911*
*Date: 08 August 2014,*
*Checked by: AJB, Drawn by: ANP, Last edited by: apritchard*
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The excavation at this site consisted of seven trenches excavated within the extents of G2B H14 as identified in the NOHC report. The trenches contained a range of deposits, but features consist of drainage features, gravel fills and two possible post holes. Evidence from the site indicates that it has been subject to extensive modification through the construction of the modern highway which has left the site archaeologically sterile. No evidence of entrance ways or structures was identified during the excavations. Detailed descriptions of these deposits are detailed in Table 16.

**Table 16: Contexts identified in G2B H14**

| Context No. | Type | Description |
|---|---|---|
| **Trench 1** | | |
| **001** | Deposit | 7.5YR 3/2 dark brown sandy loam, variable depth, between 50-300 mm over the whole site, with an average depth of 150-250 mm. Some patches of gravel and charcoal inclusions present |
| **002** | Deposit | 10YR 3/1 dark brown fine sandy loam, coherent and sticky 300-600 mm in depth. Charcoal inclusions present. Slopes down toward the west. |
| **003** | Deposit | Strip of sub-angular cobblestones, extends north-west–south-east across excavation area of 6.2 x 1.5 m – maximum length/width of feature, although it is patchy in areas. Deposit around cobbles is coloured 7.5YR 2.5/3 |
| **004** | Deposit | 7.5YR 3/2 dark brown Silty loam with fine gravel inclusions (forming 65 per cent of the deposit). Less than 50 mm in depth. Possibly a test pit backfill, as the dimensions of the patch were around 1 x1 m. |
| **005** | Deposit | Bluestone gravel (80 per cent) patch, extending across site in isolated occurrences. 50 mm thick at a depth of 100–200 mm. Possibly old road base. |
| **006** | Deposit | 10YR 3/3 brown clay loam, relatively coherent, 150-200 mm in depth. Plant and grass root inclusions extends across western 1/3 of excavation area. |
| **Trench 2** | | |
| **007** | Deposit | Remnants of previous test pit dug by NOHC. Distinct cut line and dark brown fill |
| **008** | Deposit | 10YR 3/1 dark brown fine sandy loam, coherent and sticky 300–600 mm in depth. Charcoal inclusions present. Slopes down toward the west. |
| **009** | Cut & Fill | 40x 30 cm possible post hole, rectilinear in shape. Contains pieces of wood (up to 80 mm), some of which are burnt (up to 50 mm in size). Did not extend deeper than 008 |
| **010** | Cut & Fill | 10x 12 cm possible post hole, square in shape. Completely burnt, comprised of dense charcoal. Did not extend deeper than 008, most likely a tree root. |
| **011** | Fill | 120x 40 cm appeared to be a burnt fallen beam, possibly associate with 009. Comprised primarily of charcoal chunks up to 60 mm long. Did not extend deeper than 008, most likely a tree root. |

| Context No. | Type | Description |
|---|---|---|
| **012** | Deposit | 10YR 3/6 Dark yellow brown, clay loam. Extends across entirety of area. Natural clay |
| **Trench 3** | | |
| **013** | Deposit | 10YR 5/3 yellowish brown clay loam. From 150 -280 mm in depth. Small gravel inclusions (less than 5 mm) 5 per cent, occasional larger stone inclusions. |
| **014** | Deposit | 7.5YR 3/2 dark brown loam, 100–200mm in depth. Diffuse horizon to 001, clear to 015. Covers entire excavation area. |
| **015** | Deposit | 10YR 3/1 dark brown fine sandy loam, coherent and sticky 500-700 mm in depth. Charcoal inclusions present. Slopes down toward the west. |
| **016** | Structure | Steel pipe, running east–west across northern end of excavation area, 5.4 m long by 2 cm diameter. Present within 015. |
| **017** | Deposit | 10YR 3/6 Dark yellow brown, clay loam. Extends across entirety of area. Natural clay. |
| **Trench 4** | | |
| **018** | Deposit | 10YR 5/4 yellowish brown mottled clay loam, 50 mm in depth. Present across western 1/3 of excavation area. |
| **019** | Deposit | 5YR 3/1 Dark brown sandy loam, 100 -150mm in depth. Frequent small gravel inclusions (less than 10 mm) 5 per cent, 10per cent small cobble inclusions (less than 100mm). Present across entire area. |
| **020** | Structure | Running north-east–south-west, 2.4 x 0.25 m fragments of a terracotta drain, walls of the pipe are 25 mm thick. |
| **021** | Cut/Fill | Remains of a NOHC test pit. |
| **022** | Cut/Fill | 7.5YR 3/2 dark brown sandy loam, loose. Frequent small cobble inclusions (less than 100mm), and terracotta pipe fragments. Cut and fill for drain feature 020. Adjoins 023, 024 and northern end. |
| **023** | Cut/Fill | 10YR 4/4 Yellow brown Sandy loam just coherent. 1 m wide, frequent small gravel inclusions (4 mm). |
| **024** | Cut/Fill | 7.5YR3/2 dark brown sandy loam just coherent, 35 cm wide. No notable inclusions. |
| **025** | Deposit | 10YR 3/1 dark brown fine sandy loam, coherent and sticky 100-150mm in depth. Charcoal inclusions present. Slopes down toward the west. |
| **026** | Deposit | 10YR 3/6 Dark yellow brown, clay loam. Extends across entirety of area. Natural clay. |
| **Trench 5** | | |
| **027** | Deposit | 5YR 3/1 Dark brown sandy loam, 10–150 mm in depth. Frequent small gravel inclusions |

| Context No. | Type | Description |
|---|---|---|
| | | (less than 10 mm) 5per cent, 10per cent small cobble inclusions (less than 100 mm). Present across entire area. Levelling fill. |
| **028** | Deposit | 10YR 5/8 yellowish brown sandy clay loam, just coherent. 200 mm in depth, frequent gravel inclusions (less than 10 m). Covers western 2/3 of excavation area. |
| **029** | Deposit | 10YR 3/1 dark brown fine sandy loam, coherent and sticky 300-600mm in depth. Charcoal inclusions present. Slopes down toward the west. |
| **030** | Deposit | 10YR 3/6 Dark yellow brown, clay loam. Extends across entirety of area. Natural clay. |
| **Trench 6** | | |
| **031** | Deposit | 10YR 5/4 Yellowish brown mottled clay loam, 50 mm in depth. Frequent small gravel inclusions (less than 10 mm) 5–10%. Patchy across excavation area |
| **032** | Deposit | 5YR 3/1 Dark brown sandy loam, 50–100mm in depth. Frequent small gravel inclusions (less than 10 mm) 5 per cent, 10per cent small cobble inclusions (less than 100 mm). Levelling fill |
| **033** | Deposit | 10YR 3/1 dark brown fine sandy loam, coherent and sticky 250 mm in depth. Charcoal inclusions present. Slopes down toward the west. Present across entire area |
| **034** | Deposit | 10YR 3/6 Dark yellow brown, clay loam. Extends across entirety of area. Natural clay. |
| **Trench 7** | | |
| **035** | Deposit | 10YR 5/3 yellowish brown mottled clay loam, 60  mm in depth. Frequent small gravel inclusions (less than 5mm). |
| **036** | Deposit | 10YR 3/1 dark brown fine sandy loam, coherent and sticky 550-380mm in depth. Charcoal inclusions present. Slopes down toward the west. Present across entire area. |
| **037** | Deposit | 10YR 4/3 yellowish brown fine sandy loam, 80 mm in depth. No inclusions. Extends over western half of excavation area. |
| **038** | Deposit | 10YR 3/6 Dark yellow brown, clay loam. Extends across entirety of area. Natural clay. |

Pre and Post excavation photographs of G2B H14 are displayed in Plate 34 and Plate 35.


**Plate 34: Pre-excavation photograph of G2B H14 (Source: Biosis, 2014).**


**Plate 35: North facing section photograph of Trench 1 (Source: Biosis, 2014).**

The excavation of G2B H14 recovered 42 artefacts. Following the completion of the excavation these artefacts have been cleaned, photographed and catalogued. None of the artefacts can from defined fills; the majority were identified during excavation from within natural deposits, which has made provenance uncertain. Artefacts identified through the excavation of G2B H14 are described in detail in Table 17. A comprehensive analysis of artefacts recovered as part of the excavation works is contained within Appendix B, photographs are included in Appendix C.

**Table 17: Artefacts recovered from the excavation of G2B H14**

| Context Number | Fabric | Description |
|---|---|---|
| **005** | Ceramic | One fragment white ceramic. Plate. |
| **005** | Colourless Glass | One small fragment clear glass. Bottle/jar. |
| **005** | Green Glass | Three fragments of light green glass. Bottle/jar. |
| **001** | Colourless Glass | 26 fragments of clear glass. From jar or bowl? 14 pieces have patterned texture. |
| **001** | Olive Glass | 11 fragments olive glass. Likely from same bottle/jar. |

## 4.4 Discussion

Clearly the results at H14 were not in line with the expectations of the area containing archaeological remains of a Carpenters Cottage, Butter Factory, Overseer's Cottage, Court House, Council Chambers and Church. If such buildings existed on the site and as it appears they were demolished and removed there would surely be greater evidence of their existence in the form of postholes and demolition rubble. Both these features are lacking from the archaeological record.

The archaeological evidence does suggest that there was some form of drain on both sides of the road pavement. Based on measuring of the existing drain on the eastern side of the road, the drain on the western side probably extended out 3m from the edge of the bitumen road surface. It is possible that building frontages may have been located 1 to 2 m further west of the old road. This does not explain the absence of evidence over the whole site. In particular, the butter factory would have required substantial foundations in particular large concrete footings to mount machinery used in butter production and cooling. It is rare for these types of footings to be removed without any archaeological trace.

Due to the paucity of archaeological evidence at G2B H14, the results of the archaeological investigations do not allow for a detailed discussion of the research questions proposed in the archaeological methodology and research design for the project. The suspected location of G2B H14 or "Broughton Village" as identified in the NOHC report appears to have been heavily impacted through the construction of the Princess Highway and its associated drainage. This appears to have disturbed any archaeological evidence which may have been present even that associated with entrance and egress points from local residences such as Mananga.

Despite the levels of disturbance, the low densities of finds and truncated archaeological remains indicates that there is a high likelihood that Broughton Creek Village and any associated residences may have been located in an alternative location. The only viable location based upon the historical mapping in the NOHC report would be further along the Princess Highway, closer to the current township of Berry. If this is case, this would place the location of Broughton Creek Village outside of the Project Area and away from impacts associated with the project.

From the perspective of the overall project the absence of significant archaeological remains from this area means that road construction work can proceed without any further archaeological work.

# 5 Assessment of Significance

In the NOHC report identified the 13 sites subject to archaeological investigation as having the potential to contain archaeological remains of local significance. Following the completion of the archaeological investigations the level of significance attributed to each archaeological site is required to be re-evaluated in conjunction with the significance of the artefacts retrieved.

## 5.1 Background to assessing significance

An assessment of archaeological site significance encompasses a range of heritage criteria and values. The heritage values of a site or place are broadly defined as the 'aesthetic, historic, scientific or social values for past, present or future generations'[6]. This means a place can have different levels of heritage value and significance to different groups of people.

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

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

Heritage assessment criteria in NSW fall broadly within the four significance values outlined in the Australia ICOMOS Burra Charter.[7] The Burra Charter has been adopted by State and Commonwealth heritage agencies as the recognised document for guiding best practice for heritage practitioners in Australia.

The assessment criteria rely on the following four values.

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

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

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

**Criterion (b) -** an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area).

**Criterion (c) -** an item is important in demonstrating the aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).

---

[6] ICCOMOS 2013

[7] ibid

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

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

**Criterion (f) -** an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area).

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

## 5.2 Levels of Heritage Significance

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

### Local heritage items

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

### State heritage items

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

The following evaluation attempts to identify the cultural significance of heritage items located within the Project Area. This significance is based on the assumption that the site contains intact or partially intact archaeological deposits.

## 5.3 Evaluation of Significance

The following section contains significance assessments for the heritage items for which archaeological investigations have been undertaken. These assessments only evaluate the significance of archaeological deposits and features, the levels of significance attributed to built items at these sites remains unchanged. Assessments of significance for these heritage items are presented in Sections 5.1 and 5.2.

**Table 18: Assessments of significance for archaeological deposits and features following archaeological investigation.**

| Biosis ID | Statement |
|---|---|
| **Criterion A: An item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area)** | |
| **G2B H11** | Whilst archaeological remains and artefacts at G2B H11 were identified, these were common in nature and have been determined to represent the remains of agricultural structures. As a result, the archaeological remains at G2B H11are not important in the course or pattern of the cultural or natural history of NSW or Shoalhaven. This criterion is not met. |
| **G2B H14** | No archaeological remains were identified at G2B H53. This criterion is not met. |
| **G2B H15** | The archaeological remains at G2B H15 are not important in the course or pattern of the cultural or natural history of NSW or Shoalhaven. This criterion is not met. |
| **G2B H19** | The archaeological remains at G2B H19 are not important in the course or pattern of the cultural or natural history of NSW or Shoalhaven. This criterion is not met. |
| **G2B H21** | The archaeological remains at G2B H21 are not important in the course or pattern of the cultural or natural history of NSW or Shoalhaven. This criterion is not met. |
| **G2B H22** | The archaeological remains at G2B H22 are not important in the course or pattern of the cultural or natural history of NSW or Shoalhaven. This criterion is not met. |
| **G2B H23** | The archaeological remains at G2B H23 are not important in the course or pattern of the cultural or natural history of NSW or Shoalhaven. This criterion is not met. |
| **G2B H28** | No archaeological remains were identified at G2B H28. This criterion is not met. |
| **G2B H30** | The archaeological remains at G2B H23 are not important in the course or pattern of the cultural or natural history of NSW or Shoalhaven. This criterion is not met. |
| **G2B H48** | No archaeological remains were identified at G2B H28. This criterion is not met. |

| Biosis ID | Statement |
|---|---|
| **G2B H49** | Whilst archaeological remains and artefacts at G2B H49 were identified, these were common in nature and have been determined to represent the remains of agricultural structures. As a result, the archaeological remains at G2B H11are not important in the course or pattern of the cultural or natural history of NSW or Shoalhaven. This criterion is not met. |
| **G2B H53** | No archaeological remains were identified at G2B H28. This criterion is not met. |
| **G2B H55** | The archaeological remains at G2B H55 are not important in the course or pattern of the cultural or natural history of NSW or Shoalhaven. This criterion is not met. |
| **Criterion B: An Item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area)** | |
| **G2B H11** | The archaeological remains and artefacts at G2B H11 do not have a special association with the life or works of a person or group of persons of importance in NSW or Shoalhaven. This criterion is not met. |
| **G2B H14** | No archaeological remains were identified at G2B H53. This criterion is not met. |
| **G2B H15** | The archaeological remains and artefacts at G2B H15 do not have a special association with the life or works of a person or group of persons of importance in NSW or Shoalhaven. This criterion is not met. |
| **G2B H19** | The archaeological remains and artefacts at G2B H19 do not have a special association with the life or works of a person or group of persons of importance in NSW or Shoalhaven. This criterion is not met. |
| **G2B H21** | The archaeological remains and artefacts at G2B H21 do not have a special association with the life or works of a person or group of persons of importance in NSW or Shoalhaven. This criterion is not met. |
| **G2B H22** | The archaeological remains and artefacts at G2B H19 do not have a special association with the life or works of a person or group of persons of importance in NSW or Shoalhaven. This criterion is not met. |
| **G2B H23** | The archaeological remains and artefacts at G2B H23 do not have a special association with the life or works of a person or group of persons of importance in NSW or Shoalhaven. This criterion is not met. |

| Biosis ID | Statement |
|---|---|
| **G2B H28** | No archaeological remains were identified at G2B H28. This criterion is not met. |
| **G2B H30** | The archaeological remains and artefacts at G2B H30 do not have a special association with the life or works of a person or group of persons of importance in NSW or Shoalhaven. This criterion is not met. |
| **G2B H48** | No archaeological remains were identified at G2B H28. This criterion is not met. |
| **G2B H53** | No archaeological remains were identified at G2B H53. This criterion is not met. |
| **G2B H55** | The archaeological remains and artefacts at G2B H55 do not have a special association with the life or works of a person or group of persons of importance in NSW or Shoalhaven. This criterion is not met. |
| **Criterion D: An item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons** | |
| **G2B H11** | The archaeological remains and artefacts at G2B H11 do not have a special association with a particular community or cultural group in NSW or Shoalhaven for social, cultural or spiritual reasons. This criterion is not met. |
| **G2B H14** | The archaeological remains and artefacts at G2B H14 do not have a special association with a particular community or cultural group in NSW or Shoalhaven for social, cultural or spiritual reasons. This criterion is not met. |
| **G2B H15** | The archaeological remains and artefacts at G2B H15 do not have a special association with a particular community or cultural group in NSW or Shoalhaven for social, cultural or spiritual reasons. This criterion is not met. |
| **G2B H19** | The archaeological remains and artefacts at G2B H19 do not have a special association with a particular community or cultural group in NSW or Shoalhaven for social, cultural or spiritual reasons. This criterion is not met. |
| **G2B H21** | The archaeological remains and artefacts at G2B H21 do not have a special association with a particular community or cultural group in NSW or Shoalhaven for social, cultural or spiritual reasons. This criterion is not met. |
| **G2B H22** | The archaeological remains and artefacts at G2B H22 do not have a special association with a particular community or cultural group in NSW or |

| Biosis ID | Statement |
|---|---|
| | Shoalhaven for social, cultural or spiritual reasons. This criterion is not met. |
| **G2B H23** | The archaeological remains and artefacts at G2B H23 do not have a special association with a particular community or cultural group in NSW or Shoalhaven for social, cultural or spiritual reasons. This criterion is not met. |
| **G2B H28** | No archaeological remains were identified at G2B H28. This criterion is not met. |
| **G2B H30** | The archaeological remains and artefacts at G2B H30 do not have a special association with a particular community or cultural group in NSW or Shoalhaven for social, cultural or spiritual reasons. This criterion is not met. |
| **G2B H48** | No archaeological remains were identified at G2B H48. This criterion is not met. |
| **G2B H49** | The archaeological remains and artefacts at G2B H49 do not have a special association with a particular community or cultural group in NSW or Shoalhaven for social, cultural or spiritual reasons. This criterion is not met. |
| **G2B H53** | No archaeological remains were identified at G2B H53. This criterion is not met. |
| **G2B H55** | The archaeological remains and artefacts at G2B H55 do not have a special association with a particular community or cultural group in NSW or Shoalhaven for social, cultural or spiritual reasons. This criterion is not met. |
| **Criterion E: An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area)** | |
| **G2B H11** | The archaeological remains and artefacts at G2B H11 do have the potential to yield information which can contribute to the understanding of agricultural history of the Shoalhaven area; however this contribution would be limited and is unlikely to be able to answer any significant research questions on the topic which cannot be answered by other sources. This criterion is not met. |
| **G2B H14** | No archaeological remains were identified at G2B H14. This criterion is not met. |
| **G2B H15** | The archaeological remains and artefacts at G2B H15 whilst representing early road building techniques are not substantial or distinctive enough to yield information that will contribute to an understanding of NSW or the Shoalhaven's cultural or natural history. This criterion is not met. |

| Biosis ID | Statement |
|---|---|
| **G2B H19** | The archaeological remains and artefacts at G2B H19 whilst representing early road building techniques are not substantial or distinctive enough to yield information that will contribute to an understanding of NSW or the Shoalhaven's cultural or natural history. This criterion is not met. |
| **G2B H21** | The archaeological remains and artefacts at G2B H21 whilst representing early road building techniques are not substantial or distinctive enough to yield information that will contribute to an understanding of NSW or the Shoalhaven's cultural or natural history. This criterion is not met. |
| **G2B H22** | The archaeological remains and artefacts at G2B H22 whilst representing early road building techniques are not substantial or distinctive enough to yield information that will contribute to an understanding of NSW or the Shoalhaven's cultural or natural history. This criterion is not met. |
| **G2B H23** | The archaeological remains and artefacts at G2B H23 whilst representing early road building techniques are not substantial or distinctive enough to yield information that will contribute to an understanding of NSW or the Shoalhaven's cultural or natural history. This criterion is not met. |
| **G2B H28** | No archaeological remains were identified at G2B H28. This criterion is not met. |
| **G2B H30** | The archaeological remains and artefacts at G2B H30 whilst representing early road building techniques are not substantial or distinctive enough to yield information that will contribute to an understanding of NSW or the Shoalhaven's cultural or natural history. This criterion is not met. |
| **G2B H48** | No archaeological remains were identified at G2B H48. This criterion is not met. |
| **G2B H49** | The archaeological remains and artefacts at G2B H49 do have the potential to yield information which can contribute to the understanding of agricultural history of the Shoalhaven area; however this contribution would be limited and is unlikely to be able to answer any significant research questions on the topic which cannot be answered by other sources. This criterion is not met. |
| **G2B H53** | No archaeological remains were identified at G2B H53. This criterion is not met. |
| **G2B H55** | The archaeological remains and artefacts at G2B H55 whilst representing early road building techniques are not substantial or distinctive enough to yield information that will contribute to an understanding of NSW or the Shoalhaven's cultural or natural history. This criterion is not met. |
| **Criterion F: An item possess uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area)** | |
| **G2B H11** | The archaeological remains and artefacts identified at G2B H11 do not possess uncommon, rare or endangered aspects of NSW or the Shoalhaven's |

| Biosis ID | Statement |
|---|---|
| | cultural or natural history. |
| **G2B H14** | No archaeological remains were identified at G2B H14. This criterion is not met. |
| **G2B H15** | The archaeological remains identified at G2B H15 do not possess uncommon, rare or endangered aspects of NSW or the Shoalhaven's cultural or natural history. |
| **G2B H19** | The archaeological remains identified at G2B H19 do not possess uncommon, rare or endangered aspects of NSW or the Shoalhaven's cultural or natural history. |
| **G2B H21** | The archaeological remains identified at G2B H21 do not possess uncommon, rare or endangered aspects of NSW or the Shoalhaven's cultural or natural history. |
| **G2B H22** | The archaeological remains identified at G2B H22 do not possess uncommon, rare or endangered aspects of NSW or the Shoalhaven's cultural or natural history. |
| **G2B H23** | The archaeological remains identified at G2B H23 do not possess uncommon, rare or endangered aspects of NSW or the Shoalhaven's cultural or natural history. |
| **G2B H28** | No archaeological remains were identified at G2B H53. This criterion is not met. |
| **G2B H30** | The archaeological remains identified at G2B H30 do not possess uncommon, rare or endangered aspects of NSW or the Shoalhaven's cultural or natural history. |
| **G2B H48** | No archaeological remains were identified at G2B H53. This criterion is not met. |
| **G2B H49** | The archaeological remains and artefacts identified at G2B H49 do not possess uncommon, rare or endangered aspects of NSW or the Shoalhaven's cultural or natural history. |
| **G2B H53** | No archaeological remains were identified at G2B H53. This criterion is not met. |

| Biosis ID | Statement |
|---|---|
| **G2B H55** | The archaeological remains identified at G2B H55 do not possess uncommon, rare or endangered aspects of NSW or the Shoalhaven's cultural or natural history. |
| **Criterion G: An item is important in demonstrating the principal characteristics of a class of NSW's Cultural or natural places; or Cultural or natural environments (or a class of the local area's Cultural or natural places; or Cultural or natural environments)** | |
| **G2B H11** | The archaeological remains and artefacts identified at G2B H11 are not important in demonstrating the principal characteristics of a class of NSW or Shoalhaven's cultural or natural places. |
| **G2B H14** | No archaeological remains were identified at G2B H53. This criterion is not met. |
| **G2B H15** | The archaeological remains identified at G2B H15 are not important in demonstrating the principal characteristics of a class of NSW or Shoalhaven's cultural or natural places. |
| **G2B H19** | The archaeological remains identified at G2B H19 are not important in demonstrating the principal characteristics of a class of NSW or Shoalhaven's cultural or natural places. |
| **G2B H21** | The archaeological remains identified at G2B H21 are not important in demonstrating the principal characteristics of a class of NSW or Shoalhaven's cultural or natural places. |
| **G2B H22** | The archaeological remains identified at G2B H22 are not important in demonstrating the principal characteristics of a class of NSW or Shoalhaven's cultural or natural places. |
| **G2B H23** | The archaeological remains identified at G2B H23 are not important in demonstrating the principal characteristics of a class of NSW or Shoalhaven's cultural or natural places. |
| **G2B H28** | No archaeological remains were identified at G2B H28. This criterion is not met. |
| **G2B H30** | No archaeological remains were identified at G2B H30. This criterion is not met. |
| **G2B H48** | No archaeological remains were identified at G2B H48. This criterion is not met. |

| Biosis ID | Statement |
|---|---|
| **G2B H49** | The archaeological remains and artefacts identified at G2B H49 are not important in demonstrating the principal characteristics of a class of NSW or Shoalhaven's cultural or natural places. |
| **G2B H53** | No archaeological remains were identified at G2B H53. This criterion is not met. |
| **G2B H55** | The archaeological remains identified at G2B H55 are not important in demonstrating the principal characteristics of a class of NSW or Shoalhaven's cultural or natural places. |
| **Statement of significance** | |
| **G2B H11** | G2B H11 does not meet any significance criterion at state or local levels for its archaeological or artefactual values. |
| **G2B H14** | G2B H11 does not meet any significance criterion at state or local levels for its archaeological or artefactual values. |
| **G2B H15** | G2B H11 does not meet any significance criterion at state or local levels for its archaeological values. |
| **G2B H19** | G2B H11 does not meet any significance criterion at state or local levels for its archaeological values. |
| **G2B H21** | G2B H11 does not meet any significance criterion at state or local levels for its archaeological values. |
| **G2B H22** | G2B H11 does not meet any significance criterion at state or local levels for its archaeological values. |
| **G2B H23** | G2B H11 does not meet any significance criterion at state or local levels for its archaeological values. |
| **G2B H28** | G2B H11 does not meet any significance criterion at state or local levels for its archaeological values. |
| **G2B H30** | G2B H11 does not meet any significance criterion at state or local levels for its archaeological values. |
| **G2B H48** | G2B H11 does not meet any significance criterion at state or local levels for its archaeological values. |
| **G2B H49** | G2B H11 does not meet any significance criterion at state or local levels for its archaeological or artefactual values. |

| Biosis ID | Statement |
|---|---|
| **G2B H53** | G2B H11 does not meet any significance criterion at state or local levels for its archaeological values. |
| **G2B H55** | G2B H11 does not meet any significance criterion at state or local levels for its archaeological values. |

# 6 Conclusions and Recommendations

## 6.1 Conclusions

The archaeological investigations have assisted the analysis of 19 th and 20 th century road building techniques at G2B H19, H22, H23, H30, and H55. The archaeological remains associated with agricultural activities dating to the 19 th and early 20 th century at G2B H11 and H48. The archaeological investigations have been successful in determining that archaeological resources will not be adversely impacts be the proposed development.

## 6.2 Recommendations

The following recommendations have been formulated based upon the results of the archaeological investigations:

**Recommendation 1** **The project can proceed with no further archaeological constraints**

The archaeological investigations have determined that no archaeological resources of significance are located within the Project Area.

**Recommendation 2** **Curation of artefacts recovered from archaeological investigations**

None of the artefacts recovered as part of the archaeological investigations are considered to have significance at a state or local level. The artefacts are common in nature and are unlikely to improve upon existing museum collections.

**Recommendation 3** **Interpretation Plan**

The archaeological investigation did not yield any results which would significantly improve the interpretation of the history of the Shoalhaven area. There is no requirement for the results of the archaeological investigations to be incorporated into any interpretive works being undertaken as part of the project.

# 7 References


Barker, P. 1982. *Techniques of archaeological excavation*, *2nd edition*. Batsford, London.

M. Davies & IS. Buckley, 1987. *Port Arthur Conservation Project Archaeological Procedures Manual*, Department of Lands, Parks and Wildlife, Tasmania, Occasional Paper No. 13

Harris, E. 1979. *Principles of archaeological stratigraphy*. Academic Press London.

Kass, T. 2006. *Roads and Traffic Authority Heritage and Conservation Register – Thematic History – Second Edition*. Published by the Roads and Traffic Authority.

Navin Officer Heritage Consultants 2013 *'Glen Devon' Cultural Heritage Assessment Documentary and Physical Investigation: Supplementary Investigation Environmental Assessment Princes Highway Foxground and Berry Bypass.* Report prepared for Roads and Maritime Services.

Navin Officer Heritage Consultants 2012. *Foxground and Berry Bypass, Princes Highway Upgrade, Environmental Assessment Volume 2 Appendix K, Technical Paper: Non Aboriginal (historic) Heritage.* Report prepared for Roads and Maritime Services.

NSW Heritage Branch 2001, revised 2004, 2006 *Photographic recording of Heritage Items using Film or Digital capture.* Department of Urban Planning and Development.

**Documentary Sources**

Plan of the Berry Estate (ZM Series 4000/1 ML MSS315/Map 17)

1892 Roads in the Berry Estates, Parishes of Broughton and Cooloomgatta (Department of Lands: Crown Plan 424716-03).

# 8 Appendices

## 8.1 Appendix A – Methodology

# Foxground and Berry Bypass: Archaeological Methodology

**Prepared for Roads and Maritime Services**

**1 July 2014**

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## Document information

| | |
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| Report to: | Roads and Maritime Services |
| Prepared by: | Alexander Beben of the Wollongong office. |
| Biosis matter no.: | 17911 |

## Document Control

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| Reviewer: | Iain Stuart, JCIS Consultants |
| Mapping: | Ashleigh Pritchard |
| Project: | Foxground to Berry Bypass |
| Biosis Project No.: | 17911 |
| Report Title: | Foxground to Berry Bypass Archaeological Methodology. |
| LGA: | Shoalhaven |

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| Revision | Issued | Name | Signed |
|---|---|---|---|
| DR02 | 21/05/2014 | Alex Beben | Electronic |
| FIN01 | 01/07/2014 | Alex Beben | Electronic |

# Acknowledgements

Biosis gratefully acknowledges the contributions of the following people and organisations (listed alphabetically) in preparing this report:

- Iain Stuart, JCIS Consultants
- Dr Samantha Gibbins, Biosis
- Dr Siobhan Lavelle, Heritage Division
- Saman Liyanaarachchi, Roads and Maritime Services
- Michelle Toms, Roads and Maritime Services

# Abbreviations

| | |
|---|---|
| c. | Circa |
| CHL | Commonwealth Heritage List |
| DGRs | Director General's Requirements |
| DP | Department of Planning |
| DP | Deposited Plan |
| EA | Environmental Assessment |
| EPA | Environment Planning and Assessment |
| REF | Review of Environmental Factors |
| LEP | Local Environmental Plan |
| m | Metre |
| mm | Millimetre |
| SoHI | Statement of Heritage Impact |
| OEH | Office of Environment and Heritage, Department of Premier and Cabinet |
| SHI | State Heritage Inventory |
| SHR | State Heritage Register |

# Contents



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# 1 Introduction

## 1.1 Project Background

Roads and Maritime Services (Roads and Maritime) is undertaking a series of upgrades to sections of the Princes Highway between Gerringong and Bomaderry in order to provide a continuous four land divided highway between Waterfall and Jervis Bay Road, Falls Creek. The Foxground and Berry Bypass project involves an 11.6 kilometre upgrade of the existing highway between Toolijooa Road north of Foxground and Schofields Lane south of Berry and will involve bypasses of Foxground and Berry.

Project approval, subject to conditions was granted on 22 July 2013, under Part 3A of the Environmental Planning and Assessment Act 1979. Conditions of Approval B17, B18, B19, B21 and B22 require Roads and Maritime to undertake further heritage work. These conditions of approval are based upon the recommendations contained within the *Foxground and Berry Bypass Non-Aboriginal (historic) Heritage Assessment* prepared by Navin Officer Heritage Consultants Pty Ltd. A total of 13 heritage items of local significance have been identified as requiring archaeological investigation in accordance with Conditions B19 and B22 of the project approval.

Biosis Pty Ltd has been commissioned by Roads and Maritime to undertake Archaeological Investigations, Archival Recordings and Historical Research for Non-Aboriginal sites for the Princes Highway Upgrade Foxground and Berry Bypass.

This report presents an archaeological methodology for completing these investigations. Other heritage related conditions of approval B17, B18, B20 and B21 relate to the archival recording, further detailed historical research and Aboriginal investigations and are not addressed as part of this report

## 1.2 Report Methodology

This report has been based on the information presented in the *Foxground and Berry Bypass Non-Aboriginal (historic) Heritage Assessment* prepared by Navin Officer Heritage Consultants Pty Ltd for Roads and Maritime. The Foxground and Berry Bypass report involved historical research, surveys and test excavations, significance assessments and statement of heritage impacts for all heritage items identified within the project area. The current report builds upon this body of information through presenting supplementary research to allow research questions to be proposed and an archaeological methodology to be implemented which will answer these questions and satisfy the conditions of approval (see Table 1).

**Table 1: Conditions of approval pertinent to this archaeological methodology.**

| Condition | Requirements |
|---|---|
| **B.19** | Prior to pre-construction and construction impacts affecting G2B H15, H19, H21, H22, H23, H30 and H55 the Proponent shall carry out further historical and physical archaeological investigations in relation to these road alignments, in consultation with the department and the Heritage Council of NSW, to the satisfaction of the Director- General. These investigations must:<br>a) Undertake archaeological investigations in accordance with condition B22.<br>b) Provide for the detailed analysis of any heritage items discovered during the investigations.<br>c) Include management options for these heritage items (including options for relocation and display).<br>d) If the findings of the investigations are significant, provide for the preparation and implementation of a heritage interpretation plan. |

| Condition | Requirements |
|---|---|
| **B.22** | Prior to the commencement of pre-construction and construction activities affecting non-Aboriginal sites H11, H14,H19,H23, H28, H30, H48, H49, H53, and H55, the Proponent shall:<br>(a) Undertake an Historic archaeological investigation program in accordance with the Heritage Council's Archaeological Assessments Guideline (1996) using a methodology prepared, in consultation with the OEH (Heritage Branch), and to the satisfaction of the Director-General. This work should be undertaken by an archaeological heritage consultant approved by the Director-General. The nomination for the Excavation Director shall demonstrate ability to comply with the Heritage Council's Criteria for the Assessment of Excavation Directors (July 2011).<br>(b) Report on the results of the non-Aboriginal archaeological investigation program, including recommendations (such as for further archaeological work), in consultation with the Heritage Branch, OEH and to the satisfaction of the Director General, and shall include, but not necessarily be limited to:<br>i. consideration of measures to avoid or minimise disturbance to archaeology, where archaeology of non-Aboriginal archaeological significance is found to be present;<br>ii. where impacts cannot be avoided, recommendations for any further investigations for archaeology of historical archaeological significance; and<br>iii. management and mitigation measures to ensure there are no additional impacts due to pre-construction and construction activities.<br>(c) Undertake any further archaeological excavation works recommended by the results of the non-Aboriginal archaeological investigation program.<br>Within 12 months 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 finds, prepared in consultation with the OEH (Heritage branch) and to the satisfaction of the Director General.<br>Note: where archaeological testing has occurred as part of the environmental assessment and the results are included in the documents listed in condition A1(b) the sites tested must still form part of the methodology and final report prepared for the non-Aboriginal archaeological investigation program. |

Additional documentary sources investigated include primary archival sources including historic maps, plans and photographs, and newspapers. Specifically, this includes information held at the NSW Department of Lands (such as Crown Plans, Torrens and Old System Titles, Primary Applications and Primary Application Packets). Information on the Alexander Berry Estate has been inspected at the NSW Mitchell Library including subdivision plans.

## 1.3 Archaeological methodology Objectives

The following is a summary of the major objectives of the archaeological methodology:

- Build upon the findings of the *Foxground and Berry Bypass Non-Aboriginal (historic) Heritage Assessment* prepared by Navin Officer Heritage Consultants Pty Ltd and undertake further detailed historical research to propose a research framework for investigating archaeological sites identified in the conditions of approval.
- The archaeological methodology aims to achieve this objective through:

- Provide a brief summary of the archaeological sites identified in the *Foxground and Berry Bypass Non-Aboriginal (historic) Heritage Assessment* prepared by Navin Officer Heritage Consultants Pty Ltd.
- Present further detailed historical research to characterise the archaeological resource for the thirteen sites identified in the conditions of approval.
- Propose a research framework and corresponding archaeological methodology for the completion of physical archaeological investigations for the thirteen sites.
- Outline reporting tasks and deliverables to be undertaken following the completion of the physical archaeological work

## 1.4 Investigators and Contributors

This report was prepared by Alexander Beben, Senior Archaeologist, with assistance from Dr Samantha Gibbins, Archaeologist at Biosis Pty Ltd. This report has been reviewed by Dr Iain Stuart, Partner, JCIS Consultants who is the nominated Excavation Director for this project.

The archaeological investigation will be directed by Dr Iain Stuart who has and currently holds both section 60 and 140 permits under the NSW Heritage Act. A copy of the letter and email submitted to Heritage Division stating his qualifications and experience in relation to the proposed methodology is attached in Appendix 2.

## 1.5 Consultation

Clause B22(a) of the conditions of approval states that archaeological investigations should be completed using a methodology prepared, in consultation with the OEH (Heritage Branch), and to the satisfaction of the Director-General. Table 2 details the consultation that has been completed during the preparation of this assessment.

**Table 2: Consultation with regulatory bodies.**

| Milestone | Medium | Detail of communications | Summary of outcomes |
|---|---|---|---|
| **Initial Consultation - 14 May 2014 to 20 May 2014** | Phone and emails | Initial discussion of the project and its status | Arrangements made that a meeting could be held shortly after receipt of archaeological methodology. |
| **Submission of methodology – 21 May** | Email | Archaeological Methodology emailed by Iain Stuart to Siobhan Lavelle | Archaeological Methodology received. |
| **Consultation meeting with Heritage Division to discuss methodology – 2 June 2014** | Meeting and Email | Siobhan Lavelle provided comment on the Archaeological Methodology. | Methodology proposed is considered appropriate. In the event that there are State significant finds during the works, heritage Division will expect notification, further discussion and consideration of appropriate interpretation. Comments incorporated into Archaeological Methodology. |

## 1.6 Limitations of the report

The scope of this archaeological methodology extends only to the historical archaeological potential and significance of the subject site. It does not consider the built environment.

The archaeological methodology is principally based upon the findings and conclusions of the *Foxground and Berry Bypass Non-Aboriginal (historic) Heritage Assessment* prepared by Navin Officer Heritage Consultants Pty Ltd (NOHC). As a result, Biosis cannot take any responsibility for errors or inaccuracies in the information contained within the NOHC report.

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

Maps and plans used in this archaeological methodology may be subject to inaccuracies caused through surveyor error during their creation and/or later reproduction. All mapping has been georeferenced in ArcGIS to determine the spatial location of the project area. Biosis is not responsible for any inaccuracies or omissions in the original mapping which may influence the implementation of this archaeological methodology.

# 2 Archaeological Methodology

A total of 13 heritage items of local significance have been identified as requiring archaeological investigation in accordance with Conditions B19 and B22 of the project approval (see Table 3). The methodology proposed for this task is based upon the conclusions presented in the *Foxground and Berry Bypass, Princes Highway Upgrade, Environmental Assessment Volume 2 Appendix K, Technical Paper: Non Aboriginal (historic) Heritage* and further detailed historical research undertaken to build upon these conclusions.

**Table 3: List of Heritage Items requiring archaeological investigation including description and level of impact.**

| Reference No. | Name and description of features to be recorded | Impact |
|---|---|---|
| **G2B H11** | *GlenDevan,* Federation House, 77 North Street, Berry. A Federation house with a number of additions. | Whole of Site |
| **G2B H14** | Archaeological deposit (former 19th century Broughton Creek town buildings). A number of former town structures were located on the eastern side of the former highway alignment (G2B H15). These include the Berry Butter Factory (1889), Overseers Cottage (1858), Court House (1870s) and the Council Chambers (1868) and Carpenters Cottage. | Partial Impact |
| **G2B H15** | Remnant 195 metre portion of 20th century highway. Ceased use as part of highway in 1955 now used as an access road for adjacent residential lots. | Partial Impact |
| **G2B H19** | Remnant 430 metre portion of 19th century road. Poorly preserved part of the original Berry Estate Road. | Whole of Site |
| **G2B H21** | Remnant 120 metre portion of 20th century highway. The alignment includes a 90 degree bend and upslope embankment which has been revegetated. | Whole of Site |
| **G2B H22** | Remnant 460 metre portion of 19th century road. Consists of a part of the original Berry Estate Road including shallow cutting. | Whole of Site |
| **G2B H23** | Remnant 320 metre portion of 19th century road. Consists of a part of the original Berry Estate Road, road is evident as a shallow relief and through differences in grass cover. | Whole of Site |
| **G2B H28** | Brookside Homestead. The main residential buildings occur outside the construction footprint, acquisition for the project includes a southern outbuilding and associated platforms. | Partial Impact |
| **G2B H30** | Remnant 530 metre portion of 19th century road. Consists of a well preserved portion of the Berry Estate Road, the road platform can be identified through side ditches and variably shallow ground relief. The eastern end is bordered by gum trees. | Whole of Site |
| **G2B H48** | Potential Archaeological Deposits, former Berry Estate tenant farm, homestead, currently redeveloped into a modern farm building. Remaining archaeological items are likely to be substantially disturbed. | Partial Impact – Compound/Office |
| **G2B H49** | Oakleigh farmhouse. Inter War Bungalow style farmhouse. | Whole of Site – Compound/Office |
| **G2B H53 PAD** | Potential archaeological deposit associated with a former Berry Estate tenant farm structure to the east of Toolijooa Ridge. The site includes indeterminate rock rubble adjacent to the former 19th Century Road alignment. | Whole of Site |

| Reference No. | Name and description of features to be recorded | Impact |
|---|---|---|
| **G2B H55** | Small, 30 metre remnant portion of 19th century road which has substantially impacted by recent road works and the Eastern Gas Pipeline. | Whole of Site |

For the purposes of archaeological investigation the heritage items fall into three categories:

1) Remnant 19th and 20th Century road alignments (G2B H15, H19, H21, H22, H23, H30 and H55),

2) Potential remains from 19th century tenant farms (G2B H11, H28, H53, H48 and H49) and

3) The Broughton Creek Village (G2B H14).

A separate methodology will be implemented for each and can be summarised as follows:

- A program of archaeological investigation at selected and representative locations on 19th and 20th century road alignments at sites G2B H15, H19, H21, H22, H23, H30 and H55. This would aim to record any ditch profiles, subsurface foundations and/or former surface treatments.
- Test excavations will be conducted at G2B H11, H28, H48, H49 and H53 in order to identify any remains associated with former Berry Estate tenant farms. These test excavations would aim to identify and record any archaeological features and relics which may be present. Should substantial archaeological features be identified, these would be expanded into open area excavations.
- An open area excavation is to be conducted at G2B H14 to identify and record any archaeological features and relics which may be present. Should archaeological remains associated with the village be encountered, the sequence of occupation, property boundaries, site functions and activity areas will be documented.

Each of these archaeological methodologies is discussed in accordance with the *Foxground and Berry Bypass, Princes Highway Upgrade, Environmental Assessment Volume 2 Appendix K, Technical Paper: Non Aboriginal (historic) Heritage* and further detailed historical research undertaken by Biosis. This is used to provide a research framework to guide the archaeological investigations.

The location of proposed trenches at each site are detailed in Appendix 1.

### Consultation with Land Owners

Properties requiring access are either privately owned or owned by Roads and Maritime Services. Private owners or Roads and Maritime Services tenants were approached to obtain consent to enter properties.

Initial notification letters were sent out to all the residents and/or land owners on 1 May 2014 via Express Mail in order to inform them of the upcoming works and contact details. Follow up phone calls were made to each of the land owner/tenant in order to inform them of the start and end dates of archival recording and archaeological excavations. No major issues were raised by tenants. Some of the tenants requested that all the gates should be shut all the time and that no heavy machinery movement is permitted in the event of heavy rain. All of the comments were noted and requests will be incorporated in the procedures prior to excavations.

## 2.1 Remnant portions of previous road alignments

This section discusses the archaeological methodology for undertaking investigations on the remains of previous road alignments within the project area.

### 2.1.1 Synopsis of the Previous Investigation

The *Foxground and Berry Bypass, Princes Highway Upgrade, Environmental Assessment Volume 2 Appendix K, Technical Paper: Non Aboriginal (historic) Heritage* identified six portions of 19th Century Road dating to c. 1856 – 1870 (G2B H15, H21, H22, H23, H30 and H55) and one piece of 20th Century Road (G2B H19) as having heritage values suitable for archaeological investigation. These are sections of road which have been replaced by new sections of road on a new alignment thus preserving the abandoned section and associated fabric.

Nineteenth century Berry Estate roads appear to have been identified by NOHC through a review of 19th Century mapping and field surveys. A comprehensive historical timeline for road building within the Project Area is presented in section 4.1.6 of the *Foxground and Berry Bypass, Princes Highway Upgrade, Environmental Assessment Volume 2 Appendix K, Technical Paper: Non Aboriginal (historic) Heritage.* A summary of this timeline is outlined in Table 4.

The condition and intactness of the 19th Century roads within the Project Area is variable. These sites can be characterised broadly as a series of linear depressions, ditches, benched hillslopes and trees avenues located adjacent to the existing Princes Highway. The realignments of the roads appear to have occurred progressively from the 1850's to the 1890's in order to provide a longer and more angular alignment, involving switch-backs and deviations around spurs. This reduced the grade of the road and avoided various property boundaries formed through the subdivision of the Berry Estate.

The remnant sections of the 19th Century Berry Estate road have been identified as possessing local significance for their representative, associative and technological heritage value. NOHC assessed that roads are relatively rare examples of a transport corridor that was locally important as a private road and as the first inland route that bypassed Seven Mile Beach. The 19th century road remnants have an association with Messrs Alexander and David Berry, who were of local importance due to their prominent role in European settlement. The roads have the potential to yield information, through archaeological excavation and survey that would contribute to an understanding of nineteenth century road construction and usage.

A section of 20th century road (G2B H21) which consists of a revegetated 90 degree bend and upslope embankment has been assessed as having heritage significance by NOHC. G2B H21 has been assessed as being a representative example of early twentieth century highway design, construction and modification. As such, G2B H21 has the potential to yield information regarding standards in early twentieth century road design and construction.

### 2.1.2 Further Detailed Historical Research

The *Foxground and Berry Bypass, Princes Highway Upgrade, Environmental Assessment Volume 2 Appendix K, Technical Paper: Non Aboriginal (historic) Heritage* (NOHC) presents a detailed account of the chronology of road building within the Project Area. The NOHC report includes primary source descriptions of the 19th Century road as being rough, unformed and in places indistinct from cleared paddocks. However, several sources are cited which refer to the construction of numerous and substantial culverts and bridges.[1] The descriptions relating to the 19th Century road alignments presented in NOHC[2] appear to be broadly consistent with the road construction practices of the period. However, there is little discussion of road building techniques in comparison with NSW road building themes.[3]

---

[1] The Sydney Mail, 4 May 1872: p558 cited in NOHC 2012: 39.

[2] ibid

[33] ibid

From the visual inspection of the road alignments undertaken on 9 May 2014 and the historical accounts of the Broughton Creek Road the early 19th century road appears to have consisted of a cleared route with only the natural soil as a surface. Macadamised and sandstone bases were used during this period but for more important roads closer to colonial centre;, accordingly, there is no evidence for early macadam roads within the Project Area.

Further alterations and amendments to the Broughton Creek Road would have been undertaken in accordance with broader road building practices for country roads[4], most likely with a telford base with one or two coats of waterbound macadam. From the 1860s onwards a cheap process of constructing roads was implemented through cutting down the table drain along the edges of the road and adding extra metal on the centre.[5] The majority of roads were surfaced with four to five inch stones as a base course over which a finer ballast course was laid. The fine ballast layer was then packed down by traffic after which a running surface of gravel was laid. Where clay occurred, a formation of clay mixed with blue metal was used. Drains were cut along the high side of the road to catch surface drainage and carry it away before it damaged the road surface. Aerials of the Project Area indicate that the current alignment of the Princes Highway was still being maintained in this manner in the 1960's.

### 2.1.3 Research Questions

As discussed, there were a number of road construction techniques being utilised in NSW during the nineteenth and twentieth century. Documentary evidence presented in the NOHC report details changes in alignment and a chronology for the establishment of roads within the region and the rough dates for the abandonment of sections. These abandoned sections are considered to have archaeological potential in that they are likely to contain evidence of road building techniques of a past era and to have research potential through their ability to answer questions about road building techniques as practiced (rather than as prescribed in text books).

As identified in the historical research, the excavation of the road alignments has the potential to answer the following research questions:

- What is the nature, extent and significance of archaeological remains of associated with nineteenth and early-twentieth century road alignments within the Project Area?
- What variations are there in the construction techniques utilised for the construction of the roads and how do these correlate with known road construction techniques of the period?
- Is it possible to demonstrate a chronology for the construction, maintenance and use of these road alignments?

The archaeological research questions which could be answered through archaeological investigations relate to the construction and maintenance techniques utilised for the road alignments: specifically, whether these conform to the standard road building techniques of the period.

### 2.1.4 Excavation Methodology

To answer the above research questions a program of archaeological investigation at selected and representative locations within sites G2B H15, H19, H21, H22, H23, H30 and H55 will be undertaken. This would aim to record any ditch profiles, subsurface foundations and/or former surface treatments.

Archaeological excavations will consist of **one 1.2 x 10m** trench excavated across **each road alignment** where the road alignment is visible. A total of seven trenches will be excavated to complete this task.

**Excavation and Recording Techniques**

[4] RTA Heritage and Conservation Register – Thematic History – Second Edition 2006: p.24-25

[5] ibid

Excavation would be undertaken using standard archaeological processes with the aim of removing each stratigraphic layer (or context) in the order in which it was deposited. All excavations will be undertaken in accordance with the following methodology:

- All excavation will be conducted in stratigraphic sequence; the reduction of all occupational/natural deposits will be by stratigraphic unit. This will be undertaken using either machine or hand excavation.
- Should identifiable modern fills be encountered within the trenches these deposits will be machine excavated until occupational or natural depositional horizons are encountered, this stage of excavation will be conducted by the Excavation Director. All machine excavation from this point forward will use a smooth edged mud bucket to scrape back the deposits which cap the archaeologically significant structural and depositional remains.
- Excavation will be undertaken until natural deposits are encountered or where it is determined that further excavation will not yield beneficial diagnostic information.
- Artefacts would be collected and bagged with reference to their stratigraphic location.

The following recording system is based upon that described in the first Port Arthur Manual (Davies and Buckley 1987) and will employ the following recording mechanisms:

- The excavation locations will be recorded with a DGPS and post-processed to sub 1cm accuracy.
- A Survey control for the site would be established, including main and subsidiary datums, a grid system tied to the Map Grid of Australia and the development grid, as well as the cadastre. Further datums for vertical control will be established to allow all trenches to be surveyed in to a nearby point. These will be tied back to Australian Height Datum.
- Surveying techniques for establishing the location of remains and artefacts identified will be undertaken using either a level or a DGPS whichever gives the most precise result.
- Each deposit of sediment or material will be recorded as a context and the relationship between each context will be recorded.
- Stratigraphy and Archaeological features would be recorded through the preparation of plan and sections.
- A comprehensive digital photographic record will be prepared[6].
- The stratigraphic relationships between contexts would be described through the compilation of a Harris Matrix[7].
- Analysis of fabric and detailed recording of the remains on context sheets according to best practice standards.

Because of the site history, it is not expected that hazardous material such as friable asbestos cement will be encountered but if such material is encountered the archaeological work would be guided by Work Cover Occupational Health & Safety guidelines for dealing with such material. Biosis does not propose to retain any hazardous materials.

Finds conservation, analysis and reporting requirements are detailed in Section 2.4 and Section 2.5.

[6] NSW Heritage Branch 2001, revised 2004, 2006

[7] Harris 1979

### 2.1.5 Stockpiling of Removed Soil During All Excavations

Turf and topsoil will be removed by mechanical excavator or hand and stockpiled at a safe distance from the edge of excavation. The toe of stockpile will be at least 0.5m from the test pit edge. Spoil will be stockpiled on the downhill side where possible and the area will be fenced off with the silt fence to ensure that silt does not move in the event of rain. The majority of excavations soil will be stockpiled for at most a couple of days at a time and the excavated pits will be backfilled after the completion of the excavation. The trenches will be reinstated through placing the turf over the topsoil to vegetate. Uncompleted test pits will be fenced off.

## 2.2 Former Tenant Farmers Dwellings

The NOHC report identified that the Project Area traverses the former Berry Estate, established by Alexander Berry and Edward Wollstonecraft in 1822 as "Cullengatty Farm". A comprehensive contextual history of land grants and the development of the Berry Estate is presented in NOHC section 4.1.3 to 4.1.5. G2B H11 has been subject to a separate assessment Navin Officer Heritage Consultants 2013 *'Glen Devon' Cultural Heritage Assessment Documentary and Physical Investigation: Supplementary Investigation Environmental Assessment Princes Highway Foxground and Berry Bypass* which presents a detailed overview of the sites occupation and current physical configuration.

Berry developed his land along the British model of a landed estate in the UK with a steward or manager who managed the estate and dealt with issues on the spot and a series of tenants who farmed the land. The NOHC report and the conditions of approval have identified that several current dwelling sites within the Project Area are associated with former tenant farms which were dispersed across the estate; this includes G2B H11, H28, H48, H49 and H53. A review of historical mapping undertaken for this assessment has identified that G2B H11, H48, H49 and H53 PAD were cited in close proximity to former tenant farm buildings (see Plate 1 to Plate 4).

Despite their nomination in the conditions of approval, there is no reference in the NOHC report relating to archaeological potential associated with G2B H28. To supplement the NOHC report and formulate an archaeological methodology, Biosis has undertaken extensive searches of parish and crown plans held by the NSW Department of Lands. These searches have not identified any evidence for prior occupation within the project area.

For the earlier buildings on these sites which date to the late nineteenth to early twentieth century they are unlikely to yield additional information on the dwelling beyond that obtained through their archival recording. Therefore the archaeological work solely focuses on the early tenant farmers dwellings.

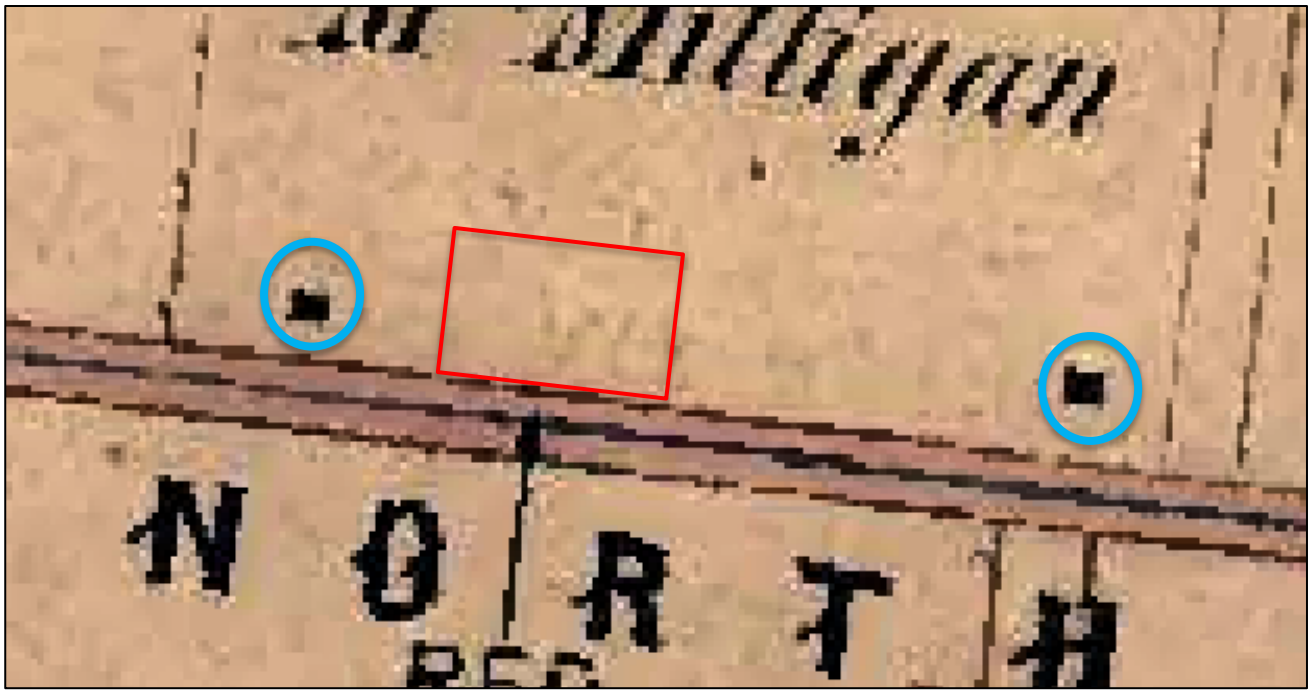


**Plate 1: Location of G2B H11 (red rectangle) and associated tenant farms (blue circles), closer analysis has identified that these are not located near the existing twentieth century building of Glen Devon (G2B H11). Source: 1892 Roads in the Berry Estates, Parishes of Broughton and Cooloomgatta (Department of Lands: Crown Plan 424716-03).**

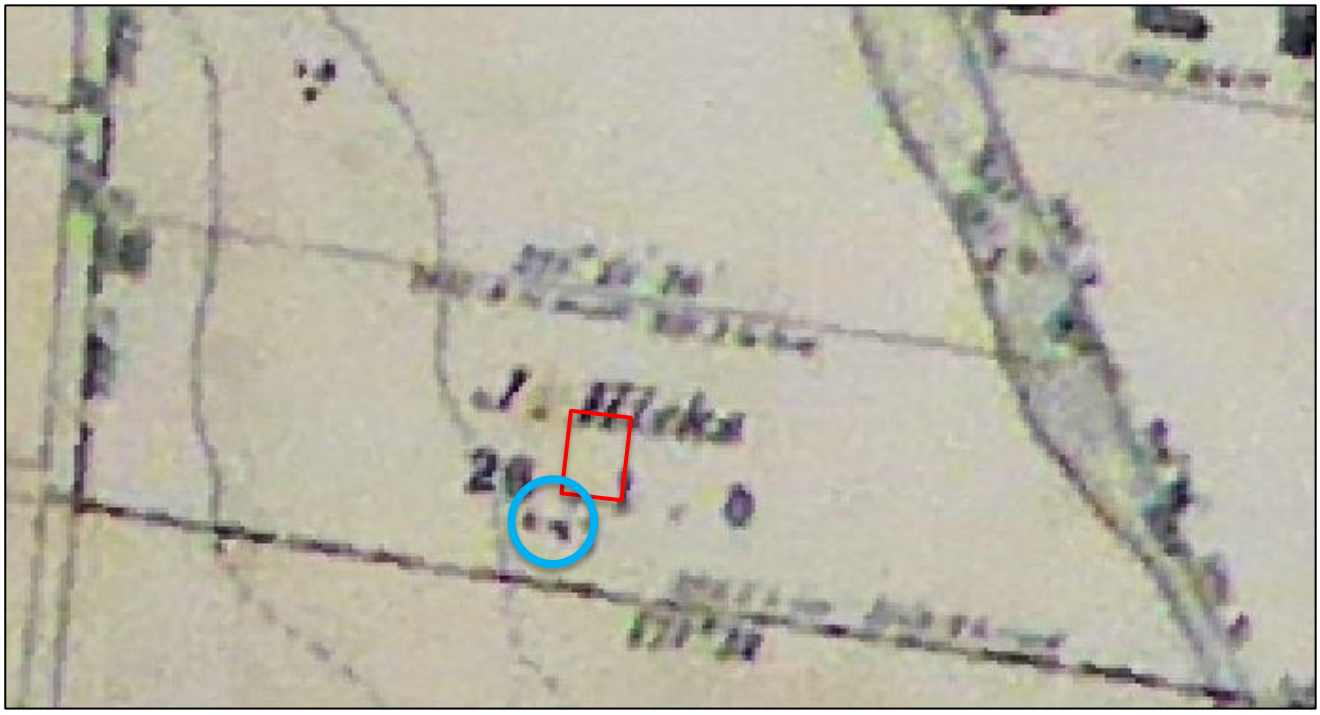

**Plate 2: Location of G2B H48 (red rectangle) and associated tenant farms (blue circle), there appears to be several issues with this mapping with the creeks being improperly mapped. This had made it impossible to accurately georeference this image. Analysis of the property boundaries indicates that the tenant farms are located to the south-west of the modern buildings. Source: Plan of the Berry Estate (ZM Series 4000/1 ML MSS315/Map 17)**

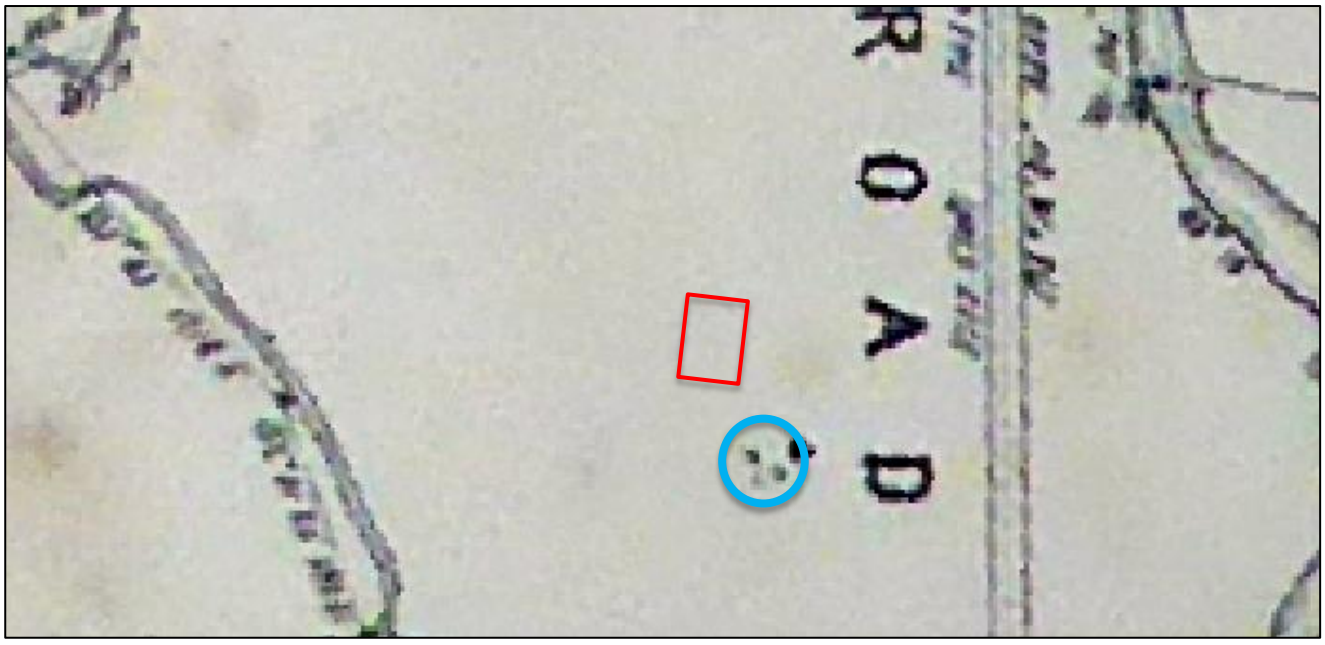


**Plate 3: Location of G2B H49 (red rectangle) and associated tenant farms (blue circle), there appears to be several issues with this mapping with the creeks being improperly mapped. This had made it impossible to accurately georeference this image. Analysis of the property boundaries indicates that the tenant farms are located approximately 40m south-east of the modern buildings. Source: Plan of the Berry Estate (ZM Series 4000/1 ML MSS315/Map 17)**

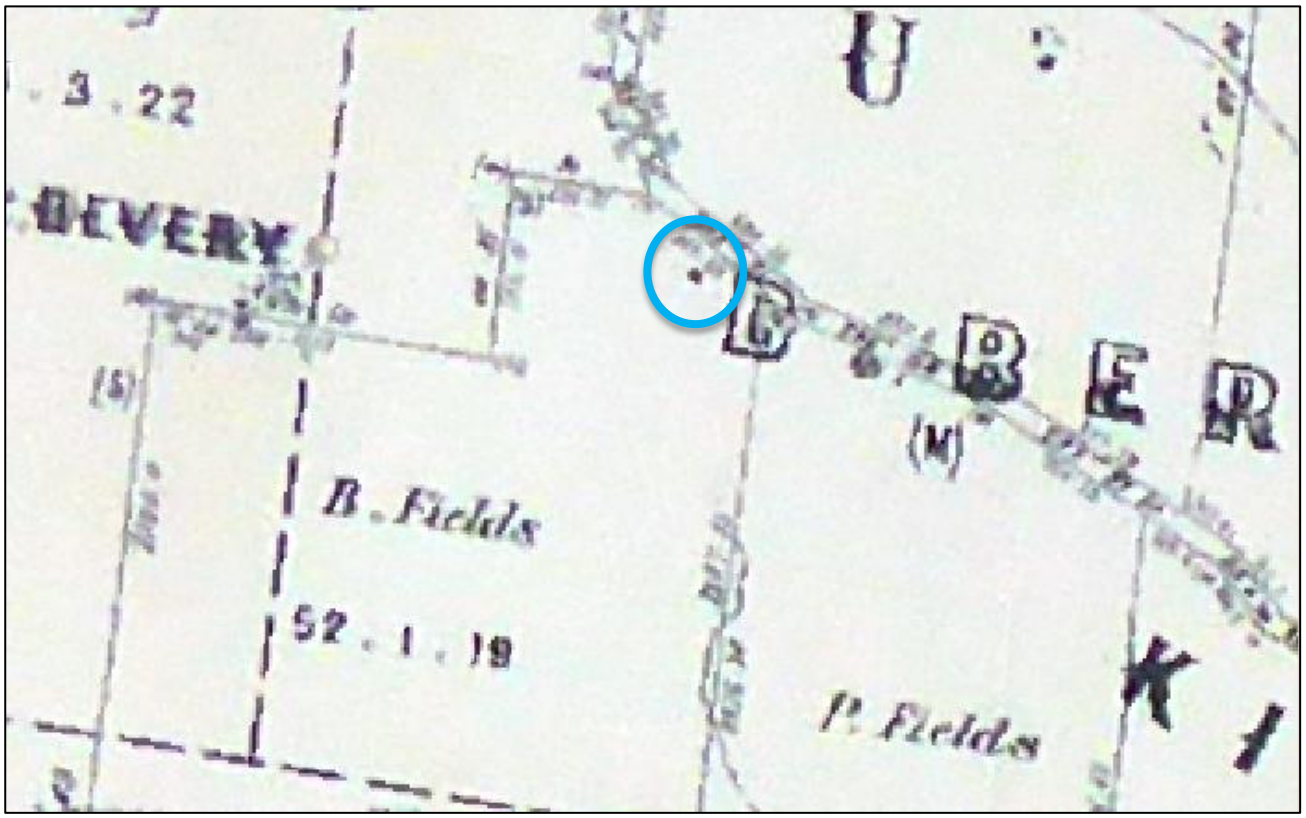


**Plate 4: Location of G2B H53 PAD tenant farm (blue circle), there appears to be several issues with this mapping with the creeks being improperly mapped. This had made it impossible to accurately georeference this image. Analysis of the property boundaries indicates that the tenant farm is located at**

**the site of the NOHC coordinates. Source: Plan of the Berry Estate (ZM Series 4000/1 ML MSS315/Map 17)**

### 2.2.1 Research Questions

The research question relating to these properties revolves around the nature of the tenanted farms within the Project Area. The historical excavations represent an opportunity to gather archaeological information pertaining to the occupation and structural configuration of these dwellings and present a comparative analysis. Research questions relating to this would consider:

- To what extent are tenant farms associated with the Berry Estate present within the Project Area? What can the findings from the tenant farms tell us about the nature and economics of the farms prior to the advent of dairying in the 1880-1890 period?
- How were the tenant farms occupied and constructed? How did these tenant farms compare to other small farms on freehold land and what are the differences between them?
- What are the similarities between the tenanted farms, their construction and occupation? Is there any evidence of conformity which suggests overarching control by Berry and his superintendents?

### 2.2.2 Excavation Methodology

The purpose of this stage of the excavation methodology is to establish the nature of potential archaeological remains relating to tenant farms within the Project Area. Given the uncertainty around the precise location of suspected tenant farms, the archaeological investigations will consist of large shallow trenches designed to remove the top soil and reveal any subsurface archaeological structures or deposits (referred to as "top soil testing". The removal of top soil will be undertaken at undisturbed locations within G2B H11, H28, H48, H49 and H53. The purpose of this is to quickly identify archaeological profiles concealed by vegetation and the upper depositional profile. Given the shallow nature of soils within the project area, this approach should enable potential archaeological remains of tenant farms to be identified and targeted for investigation through open area excavations. The size and justification for the removal of topsoil and their positioning is as follows:

- *G2B H11* – archaeological test trenches to be excavated as a **10m x 10m** area to be excavated within the location of identified tenant farms identified in Plate 1. The purpose of these trenches will be to test the areas identified as containing former tenant farmer dwellings.
- *G2B H28* – **10m x 25m** area is to be sited in the impact corridor south of the existing buildings. This trench will test whether there is any potential for structural or occupational deposits within the Project Area. No buildings or structures have been identified through the historical research undertaken by NOHC or Biosis; therefore this trench is being excavated to satisfy the conditions of approval.
- *G2B H48* – Given the levels of disturbance present and uncertainties relating to the location of potential tenant farmer dwellings at the property, Biosis proposes to excavate a **30m x 30m** area identified in Plate 2, which equates to the area between the modern house and out buildings and swimming pool at the rear of the property. Due to the uncertain nature of the disturbance and location of tenant farms at this location, these trenches are designed to be dispersed in order to identify whether any tenant farms were present within this location.
- *G2B H49* – The location of the tenant farms at this location fall within the area of garden to the south of the property. It is unlikely that any archaeological remains further to this south of this location will have survived due to the farming of turf (and associated cutting activities) which would have heavily displaced any archaeological remains at this location. A **20m x 20m** area will be excavated at in an undisturbed portion of this location.

- *G2B H53 PAD* – According to the documentary sources reviewed the tenant farm at this location is cited at the location identified as G2B H53 PAD, a cleared area to the south of the modern building at this location. A visual inspection by Biosis identified the rubble identified in the NOHC report as G2B H53 PAD however archaeological remains are unlikely due to the slope and shallow nature of the soils at this location. A **5m x 20m** area is to be excavated at the location identified in Plate 4.

It is intended to excavate these area to a maximum depth of 0.25m, however this may need to be revised in the event that archaeological structures or deposits are encountered. Should substantial archaeological remains be located the removal of topsoil will cease and open area salvage excavation will commence to establish the nature of the structural and depositional archaeological remains. Testing of topsoil horizons may cease or be heavily reduced where it can be established that archaeological remains of significance are unlikely occur.

**Stage 2: Salvage Excavation**

Based on the results of the top soil testing, Biosis will determine whether salvage excavations are required for portions of the above sites. At present Biosis believes that open excavation will be required should any of the following criteria be met by the top soil testing:

- Complex and/or substantial remains of local significance are identified which warrant further investigation.
- Potential archaeological remains are identified and further investigation is required to ascertain their nature, extent, and significance.

In the event that salvage of archaeological remains or monitoring of bulk earthworks is warranted, this will be undertaken through expanding the test pits into an open excavation which reveals the extent of all archaeological remains. Excavation will be undertaken through a combination of machine and manual excavation. Should intact archaeological structures or deposits be exposed then machine excavation at that point will cease and the archaeological material will be investigated by conventional manual archaeological techniques under the direction of the nominated Excavation Director. Following initial open area excavations should features or deposits of potential significance be detected, then it may be necessary to widen the trench to allow these to be investigated and recorded.

**Excavation and Recording Techniques**

Excavation would be undertaken using open area techniques[8] with the aim of removing each stratigraphic layer (or context) in the order in which it was deposited. All trenches (included salvage areas) investigated as part of the test excavation will conform to the following methodology:

- Should identifiable modern fills be encountered within the trenches these deposits will be machine excavated until occupational or natural depositional horizons are encountered, this stage of excavation will be conducted by the Excavation Director. All machine excavation from this point forward will use a smooth edged mud bucket to scrape back the deposits which cap the archaeologically significant structural and depositional remains.
- Following the initial period of monitored machine excavation the site will be evaluated by the Excavation Director. The location of some of the trenches may have to be adjusted should the areas located prove to be unsuitable (i.e. unexpected services, heavy disturbance, dangerous materials etc.).
- Excavation of trenches will be conducted in stratigraphic sequence; the reduction of all occupational/natural deposits will be by stratigraphic unit. This will be undertaken using either machine or hand excavation.

[8] Barker 1983

- Each trench will be excavated until natural deposits are encountered, or significant in situ structural or depositional remains prevent further excavation, or where it is determined that further excavation will not yield beneficial diagnostic information.
- Artefacts would be collected and bagged with reference to their stratigraphic location.
- Once excavation is completed the trenches will be lined with geotextile and markers left at the base of the trench indicating the excavation date before being backfilled.

The following recording system is based upon that described in the first Port Arthur Manual[9] and will employ the following recording mechanisms:

- Trench locations will be recorded with a DGPS and post-processed to sub 1cm accuracy. A site grid will be established and surveying techniques for establishing the location of remains and artefacts identified will be undertaken.
- A Survey control for the site would be established, including main and subsidiary datums, a grid system tied to the Map Grid of Australia and the development grid, as well as the cadastre. Further datums for vertical control will be established to allow all trenches to be surveyed in to a nearby point. These will be tied back to Australian Height Datum.
- Detailed archaeological scale plans and sections of the site and individual features. Archaeological features would be recorded through the preparation of plan and sections. Structural elements such as brick walls and timber posts would be recorded in situ to observe phases in construction and removed in stratigraphic sequence.
- Rubble fill will only be recorded only where it provides specific information regarding masonry and construction (i.e. wall finishes, material etc.).
- A comprehensive digital photographic record.[10]
- The stratigraphic relationships between contexts would be described through the compilation of a Harris Matrix.[11]
- Analysis of fabric and detailed recording of the remains on context sheets according to best practice standards.

Because of the site history, it is not expected that hazardous material such as friable asbestos cement will be encountered but if such material is encountered the archaeological work would be guided by Work Cover Occupational Health & Safety guidelines for dealing with such material. We do not propose to retain any hazardous materials.

Contingency for Excavation at Depth in the event a well is encountered:

Given the dates of occupation associated with the tenant farms there is the potential for wells to be present within the project area. Therefore, contingencies for excavation at depth have been considered as part of this methodology. This will be completed through systematically reducing the well in appropriate increments by machine and hand. Given the depth of the potential archaeological resource, stepping of the trench may be required. If stepping of the trench is undertaken, this will only occur after all archaeological remains have been investigated, recorded and removed. The following will apply:

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[9] Davies and Buckley 1987

[10] NSW Heritage Branch 2001, revised 2004, 2006

[11] Harris 1979

- In the event of evidence of occupation occurring near the 1.2 metre depth cut off for safe excavation, it will be necessary to step or shore the pits to provide a safe work environment.
- The exact nature of the extent and the depth of that expansion will be dependent on the ground characteristics and stability during excavation. Relevant NSW Work Cover excavation guidelines will be used to guide any excavation, stepping and shoring of deposits at depth.
- Where safe work practices differ from the excavation permit methodology, safe work practice and a safe work environment will be take precedence over any archaeological considerations.
- At depth certain test pits may be considered to be a confined space under NSW Occupational Health and Safety legislation. Should any test pits be identified as constituting a confined space then these will only be excavated by members of staff with appropriate training.

### 2.2.3 Stockpiling of Removed Soil During All Excavations

Turf and topsoil will be removed by mechanical excavator or hand and stockpiled at a safe distance from the edge of excavation. The toe of stockpile will be at least 0.5m from the test pit edge. Spoil will be stockpiled on the downhill side where possible and the area will be fenced off with the silt fence to ensure that silt does not move in the event of rain. The majority of excavations soil will be stockpiled for at most a couple of days at a time and the excavated pits will be backfilled after the completion of the excavation. The trenches will be reinstated through placing the turf over the topsoil to vegetate. Uncompleted test pits will be fenced off.

## 2.3 Broughton Creek Village (G2B H14)

The NOHC report presents an analysis of documentary evidence for Broughton Creek Village in (Section 4.1.4). A program of test excavation was undertaken on the site and are summarised in section 6 of the NOHC report. A 1870s plan of the village indicates multiple buildings were present at this location, identified by NOHC as a Carpenters Cottage, Butter Factory, Overseer's Cottage, Court House, Council Chambers and Church. Additional research conducted by Biosis at the NSW Department of Lands has not revealed specific information pertaining to buildings or properties located at Broughton Creek Village. The village is all located under a single title with no records of individual properties present. A review of the old system and Primary Application packet identified a list of tenants, however there was no map showing the locations of individual buildings.

Archaeological salvage was recommended within the construction footprint associated with G2B H14 for the area to be lowered and under the road platform. The site visit conducted by Biosis has indicated that archaeological remains are unlikely to occur underneath the road platform given the extent of disturbance which has taken place within this area. As a result, Biosis is proposing to undertake an open area excavation between the current Princes Highway and old alignment which has the highest potential to contain intact archaeological structural and depositional remains.


**Plate 5: Configuration of Broughton Creek Village according to NOHC 2012: Figure 6.1, page 81. The Red annotation denotes the approximate area of open area excavation.**

The excavations undertaken by Navin Office are not fully reported in their report. It appears a "series" (27?) of 1m square test pits were excavated and as archaeological material was found these were expanded. There was no summary reporting of stratigraphy or archaeological contexts or archaeological features uncovered. There was little attempt made to address research questions about identifying structure know from the historical evidence to have been located there and the comparative chronology of archaeological features. The excavation methodology of excavating numerous test trenches was in fact unsuitable for investigating questions relating to buildings as it is almost impossible to identify buildings in this way as it is difficult to relate contexts from one "test pit" to another and similarly to determine whether any archaeological features are part of the same structure or another one.

The NOHC report summarised the results of the excavation as follows:[12]

> *"The test excavation program at G2B H14 has demonstrated that there are sections, albeit limited areas, of relatively intact deposits from the turn of the nineteenth-twentieth century. Examples of such deposits include the cobbled floor identified in F30-F31, artefacts in association with the old ground surface identified in B60-C61 and A64-C64, the post hole identified in C80 and the burnt layers and associated artefacts in B100 and D100-E100. There are also examples of more disturbed deposits that, while compromised in integrity, appear to contain artefacts that have the potential to provide information about the chronology and function of the site (eg at F20 and F39-F40). However, the northernmost portion of the site, around C110 and E120, appears to be largely sterile below the cap of modern fill.*
>
> *On the basis of historical research, including analysis of aerial photographs and available maps, it appears that the archaeological deposits at G2B H14 relate primarily to an area of street frontage, as opposed to the site of prior structures. There is however potential for traces of the eastern limits of buildings to occur along the western margins of the site, in the vicinity of A30-B80. The differences in archaeological features and associated artefact assemblages across the site may also be indicative of a series of street blocks, which could potentially be confirmed through additional excavations along a north-south transect.*
>
> *In summary, archaeological deposits at G2B H14 are assessed as having potential to provide information on the following aspects of the site's history:*
>
> - *The width of the street frontage and the activities that took place in this area.*
> - *The location of individual buildings or portions of their eastern limits.*
> - *The location of individual lot boundaries that extend east to west across the site.*
> - *Differing site functions across these lots.*
> - *Overall site chronology from the mid nineteenth to mid twentieth-century."*

### 2.3.1 Research Questions

The purpose of the archaeological methodology is to clearly articulate the anticipated outcomes from a program of work; what questions we are asking of the program and how the work will be undertaken to address these questions. In the case of the program of salvage excavation proposed for G2B H14 several questions are proposed as the operating framework. These are:

- To what extent does the project area contain archaeological remains relating to the Broughton Creek Village? Are sufficient archaeological profiles present so as to establish dates or specific associations for archaeological evidence revealed in them?
- Is it possible to identify changes in the configuration of the village?
- If present, what can depositional remains from Broughton Village site tell us about the lifestyles and economy of people who lived in and frequented in the area? How does this contrast between the various structures located within the village and the tenant farms?

### 2.3.2 Excavation Methodology

Given the research questions the most appropriate excavation methodology is to use open area excavation using a combination of machine and hand excavation with the aim of opening a large area to identify and record the archaeological remains of structures and associated features (such as pits).

[12] NOHO 2013:94

The open area excavation will consist of an open area excavation110m by 15m covering the entire area. This will be bounded by the Princes Highway and the old alignment which is now utilised as access to the adjacent properties. The excavation will avoid the mature trees located in the centre of the road verge with a 1.5m buffer being extended around the trunk of the tree. Excavation would be undertaken using open area techniques[13] with the aim of removing each stratigraphic layer (or context) in the order in which it was deposited. The salvage area at G2B H14 will conform to the following methodology:

- The initial excavation work will consist of the removal of the topsoil layer be machine (using a batter bucket) under archaeological supervision. For logistical reasons this will be done in halves – with one half the site excavated in the first week, followed by the second half the following week.
- Following the initial period of monitored machine excavation the excavated surface will be cleaned by hand and potential features recorded and excavated as determined by the Excavation Director.
- Should identifiable modern fills be encountered within the trenches these deposits will be machine excavated until occupational or natural depositional horizons are encountered, this stage of excavation will be conducted by the Excavation Director.
- Excavation of site will be conducted in stratigraphic sequence; the reduction of all occupational/natural deposits will be by stratigraphic unit. This will be undertaken using either machine or hand excavation.
- Each archaeological feature will be excavated until natural deposits are encountered, or there is some other reason to discontinue excavation (e.g the presence of services)
- Artefacts would be collected and bagged with reference to their stratigraphic location (i.e. context).
- Once excavation is completed the site will be backfilled.

The following recording system is based upon that described in the first Port Arthur Manual (Davies and Buckley 1987) and will employ the following recording mechanisms:

- The site would be surveyed using a cm accurate GPS.
- A Survey control for the site would be established, including main and subsidiary datums, a grid system tied to the Map Grid of Australia and the development grid, as well as the cadastre. Further datums for vertical control will be established to allow all archaeological features to be surveyed in to a nearby point. These will be tied back to Australian Height Datum.
- Archaeological recording would be based on contexts with details of every context recorded on a pro-forma context sheet. All features and archaeological finds would be related to the context.
- Archaeological features and structural elements are collections of features.
- Detailed archaeological scale plans and sections of the site and individual features. Archaeological features would be recorded through the preparation of plan and sections. Structural elements such as brick walls and timber posts would be recorded in situ to observe phases in construction and removed in stratigraphic sequence.
- Rubble fill will only be recorded only where it provides specific information regarding masonry and construction (i.e. wall finishes, material etc).
- A comprehensive digital photographic record.[14]

[13] Barker 1983

[14] NSW Heritage Branch 2001, revised 2004, 2006

- The stratigraphic relationships between contexts would be described through the compilation of a Harris Matrix.[15]
- Analysis of fabric and detailed recording of the remains on context sheets according to best practice standards.

Because of the site history, it is not expected that hazardous material such as friable asbestos cement will be encountered but if such material is encountered the archaeological work would be guided by Work Cover Occupational Health & Safety guidelines for dealing with such material. We do not propose to retain any hazardous materials.

Contingency for Excavation at Depth in the event a well is encountered:

Given the dates of occupation associated with the tenant farms there is the potential for wells to be present within the project area. Therefore, contingencies for excavation at depth have been considered as part of this methodology. This will be completed through systematically reducing the well in appropriate increments by machine and hand. Given the depth of the potential archaeological resource, stepping of trench may be required. If stepping of the trench is undertaken, this will only occur after all archaeological remains have been investigated, recorded and removed. The following

- In the event of evidence of occupation occurring near the 1.2 metre depth cut off for safe excavation, it will be necessary to step or shore the pits to provide a safe work environment.
- The exact nature of the extent and the depth of that expansion will be dependent on the ground characteristics and stability during excavation. Relevant NSW Work Cover excavation guidelines will be used to guide any excavation, stepping and shoring of deposits at depth.
- Where safe work practices differ from the excavation permit methodology, safe work practice and a safe work environment will be take precedence over any archaeological considerations.
- At depth certain test pits may be considered to be a confined space under NSW Occupational Health and Safety legislation. Should any test pits be identified as constituting a confined space then these will only be excavated by members of staff with appropriate training.

### 2.3.3 Stockpiling of Removed Soil during All Excavations

Turf and topsoil will be removed by mechanical excavator or hand and stockpiled at a safe distance from the edge of excavation. The toe of stockpile will be at least 0.5m from the test pit edge. Spoil will be stockpiled on the downhill side where possible and the area will be fenced off with the silt fence to ensure that silt does not move in the event of rain. The majority of excavations soil will be stockpiled for at most a week at a time and the excavated pits will be backfilled after the completion of the excavation. The trenches will be reinstated through placing the turf over the topsoil to vegetate. Uncompleted test pits will be fenced off.

G2B H14 is located within the vicinity of a number of mature trees. The excavation proposes to avoid these trees through not conducting excavations within the drip line of each tree (approximately 5m). Prior to excavations commencing the drip line of each tree will be demarcated to ensure machinery does not enter this area or impact upon the trunk, branches or root systems associated with them.

Care will be taken during the on site works to place site huts, portaloo's, spoil and machinery away from the access road to the properties to the east of the proposed works. This can reasonably be achieved through utilising portions of the site which are not proposed for excavation.

[15] Harris 1979

### 2.3.4 Impacts to Traffic on the Princes Highway during excavation

Excavation activities at G2B H14 will take place within the southbound road shoulder of the Princes Highway. Biosis has obtained a Road Occupancy Licence (ROL) (SR5573) to conduct excavation works within 3 metres proximity of the Princes Highway in a 90kmph zone. This ROL includes a Roadworks Speed Zone Authorisation to reduce the 90kmph speed zone to 40kmph during the period of excavation activities between 9:00 and 16:00. Traffic control measures including traffic personnel, road signage, cones, barrier boards and bollards which will be employed in accordance with the Traffic control plan submitted as a part of the ROL application. The reduction in speed zone and traffic control measures will impact upon the south bound traffic on the Princes Highway and may result in a slower movement of traffic during excavation activities. Excavation activities will cause a minor increase in vehicles accessing and egressing from the site onto the Princes Highway. Vehicles involved in the initial mobilisation and de-mobilisation of the site (mechanical excavator, transport of temporary site building and erection of temporary fencing) will be able to use the private road immediately east of G2B H15 before accessing and egressing from the site onto the Princes Highway and will occur on the first and last day of the excavation period. Vehicles and personnel involved in traffic control and the set up and dismantling of signage will be accessing and egressing from the site onto the Princes Highway in the morning and in the afternoon during the excavation period.

Biosis propose to engage Traffic Management Services (Aust) Pty Ltd, an approved Roads and Maritime Services contractor to implement the traffic control measures for the project.

## 2.4 Finds Conservation

Any artefacts recovered from the excavation will be recorded as inclusions in specific contexts. The artefacts will be retrieved from the site, stored in labeled context boxes and will be analysed within three months of the completion of the excavation. The latter will include cleaning, cataloguing and photography where appropriate. The information will be included in the analysis of the results of this excavation. The artefacts will be lodged with the local historical society or local Museum depending on the significance and conservation requirements of the artefacts encountered.

#### During Field Work

A simple computerised archaeological database will be used as the cataloguing and inventory software for artefacts.

Primary artefact processing [sort into fabric / wash, brush or other cleaning / raw counts / labelled bagging / data entry] is to be undertaken as part of the field program. This will necessitate an artefact processing 'lab' being set up in the field. As far as possible, artefact cleaning and cataloguing will occur on site during the excavation. The cataloguing will be a simple catalogue of material by type and context.

The collection as a whole would then be evaluated in connection with the results of the excavation to develop a plan for further artefact analysis. This will allow the artefact analysis to focus on artefacts from relevant stratigraphic contexts.

#### Post-Excavation Analysis

Specific artefact processing routines are to be developed for all artefact types. As an example, glass will be primarily sorted by colour into black cylindrical / black case / olive – green tint / clear / etc. The next stage of sorting will be minimum number of individual [MNI] counts for defined aggregates of stratigraphic units. Specialist analyses will then be undertaken on classes of material [fabric type or artefact function], with all data being added to the database.

Authoritative and experienced analysts will be sought to undertake typological and descriptive work if available, or to peer review the analysis. Provision will also be made for students and researchers to catalogue parts of the collection under supervision.

Assemblages from each element will be described in terms of their quantity, representation of different fabric and forms and other broad descriptive characteristics. More importantly, the assemblages will be interpreted according to possible functional evidence of how people lived and interacted with each other. This form of analysis is qualitative rather than quantitative, relying upon interpreting how artefacts are used in their social context.

**Collection Management Policy**

Artefact material recovered will be analysed in response to what is recovered and the research questions posed earlier. Different retention methods and processing depending on its information potential will be undertaken. These will be decided once the excavation works have clarified the situation regarding artefacts.

A materials conservator will be engaged to assist in preparing artefact processing and storage protocols and for advice on recovery of delicate remains.

Hazardous materials will be recorded by photographs and discarded appropriately.

Building materials will be recorded photographically and catalogued and a small sample of items kept for further analysis and the remaining items discarded.

Once the scope of the artefact collection is established, a further discard policy will be developed in consultation with the Heritage Branch, Department of Planning identifying what materials are to be discarded, retained only as samples, retained for long-term storage and retained for possible display. Following confirmation of the policy, the collection will be culled and the remainder prepared for long-term storage.

Roads and Maritime will negotiate with relevant heritage groups (e.g. Berry Historical Society) to establish the preferred recipient of the permanent artefact collection regarding storage, conservation, curation and display of the collection.

## 2.5 Reporting

Report on the results of the non-Aboriginal archaeological investigation program, including recommendations (such as for further archaeological work), in consultation with the Heritage Branch, OEH and to the satisfaction of the Director General, and shall include, but not necessarily be limited to:

- Consideration of measures to avoid or minimise disturbance to archaeology, where archaeology of non-Aboriginal archaeological significance is found to be present;
- Where impacts cannot be avoided, recommendations for any further investigations for archaeology of historical archaeological significance; and
- Management and mitigation measures to ensure there are no additional impacts due to pre-construction and construction activities.

To address the above points, Biosis will produce a Historical archaeological assessment and investigation report for items G2B H11, H14, H15, H19, H21, H22, H23, H28, H30, H48, H49, H53 and H55 which complies with the requirements of the NSW Heritage Division. Dependent on the findings of the excavation, the final archaeological report will also include the following points:

- The compiled results of areas investigated and contexts or units encountered.

- A stratigraphic matrix and discussion of the sites phasing.
- GIS and CAD mapping where appropriate to illustrate the findings.
- A detailed description of the excavation results including discussion on phasing and possible land use.
- An artefact catalogue compiled on a commercially available computer database designed to reflect the research questions.
- A functional analysis of artefacts uncovered with reference to their provenance and pertinence to research questions.
- A synthesis of results to allow for comparison to other sites.
- Additional historical research to aid understanding of the archaeological evidence.
- A detailed interpretation of the results and addressing of the research questions.
- Illustration of significant artefacts in drawn or photographic form, and a photographic archive of excavation in progress.

A draft of the Historical archaeological assessment and investigation reportwill be submitted in MS Word format including all appendices to Roads and Maritime, OEH and P&I and will be subject to 2 rounds of comments. The final report including all appendices and colour figures to be submitted as four hard copies, one bound copy and two electronic copies on CD will be made to each of the above agencies.

## 2.6 Unexpected Recovery of State Significant Finds

If at any point State significant finds are encountered during the works, Heritage Division will be notified and further discussion regarding consideration of appropriate interpretation will be undertaken.

# 3 References


Barker, P. 1982. *Techniques of archaeological excavation*, *2nd edition*. Batsford, London.

M. Davies & IS. Buckley, 1987. *Port Arthur Conservation Project Archaeological Procedures Manual*, Department of Lands, Parks and Wildlife, Tasmania, Occasional Paper No. 13

Harris, E. 1979. *Principles of archaeological stratigraphy*. Academic Press London.

Kass, T. 2006. *Roads and Traffic Authority Heritage and Conservation Register – Thematic History – Second Edition*. Published by the Roads and Traffic Authority.

Navin Officer Heritage Consultants 2013 *'Glen Devon' Cultural Heritage Assessment Documentary and Physical Investigation: Supplementary Investigation Environmental Assessment Princes Highway Foxground and Berry Bypass.* Report prepared for Roads and Maritime Services.

Navin Officer Heritage Consultants 2012. *Foxground and Berry Bypass, Princes Highway Upgrade, Environmental Assessment Volume 2 Appendix K, Technical Paper: Non Aboriginal (historic) Heritage.* Report prepared for Roads and Maritime Services.

NSW Heritage Branch 2001, revised 2004, 2006 *Photographic recording of Heritage Items using Film or Digital capture.* Department of Urban Planning and Development.

**Documentary Sources**

Plan of the Berry Estate (ZM Series 4000/1 ML MSS315/Map 17)

1892 Roads in the Berry Estates, Parishes of Broughton and Cooloomgatta (Department of Lands: Crown Plan 424716-03).

# 4 Appendix 1: Location of Proposed Trenching

# PLAN SHOWING
# NON ABORIGINAL HERITAGE SITES
# HW1 - PRINCES HIGHWAY

**Reduction Ratio** 1:10000

Lengths are in metres

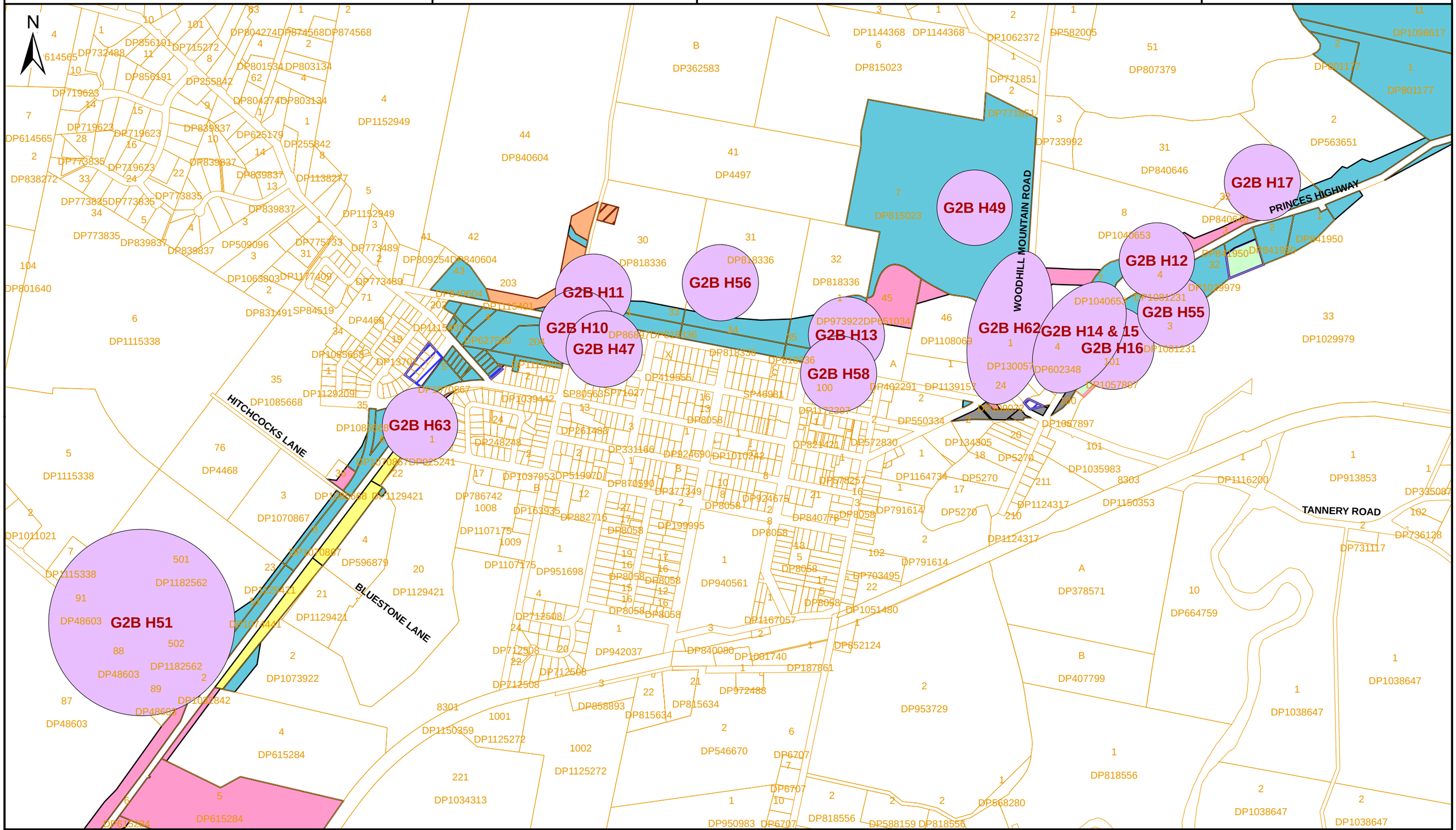
**ROADS & MARITIME SERVICES**
**MAJOR INFRASTRUCTURE**

**LGA:** SHOALHAVEN CITY **Locality:** BERRY
**Parish:** COOLANGATTA **County:** CAMDEN

**SKETCH**

**0001 404 SK 0002A**

**DRAWN** 25/06/2014




Dimensions and positions of improvements in relation to the boundaries are subject to final survey
Offsets are 90° to property boundaries

0 125 250 500 Metres

Transport Roads & Maritime Services
NSW GOVERNMENT



**Legend**

Proposed Trenching

Site Mid Points

**G2B H11**

0 10 20 30 40 50

Metres

Scale: 1:1,250 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

N

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*Location:P:\17900s\17911\Mapping*
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Acknowledgements: Imagery provided by Roads and Maritime Services



**Legend**

- Proposed Trenching
- Site Start Points
- Site Mid Points
- Site End Points

**G2B H14 & 15**

0 7.5 15 22.5 30 37.5

Metres

Scale: 1:750 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

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**Legend**

Proposed Trenching

**G2B H19**

0 2.5 5 7.5 10 12.5

Metres

Scale: 1:250 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

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**Legend**

- Proposed Trenching
- Site Mid Points
- Site End Points

**G2B H21**

0 2.5 5 7.5 10 12.5

Metres
Scale: 1:250 @ A3
*Coordinate System: GDA 1994 MGA Zone 56*

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G2B H23

G2B H22
(10m x
1.2m)


**Legend**

Proposed Trenching

Site Mid Points

**G2B H22**

0 2.5 5 7.5 10 12.5

Metres

Scale: 1:250 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

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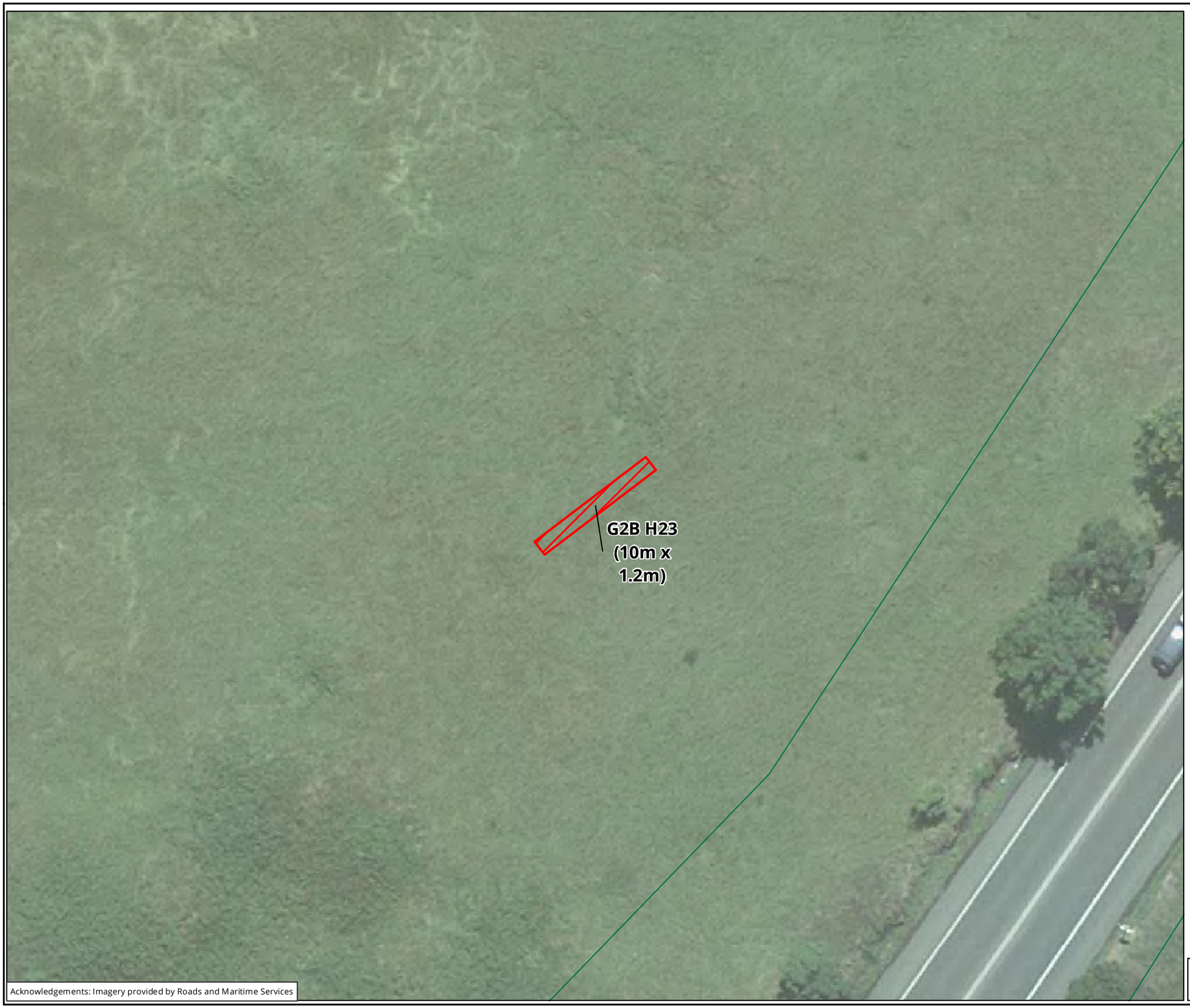



**Legend**

Proposed Trenching

**G2B H23**

0 2.5 5 7.5 10 12.5

Metres
Scale: 1:250 @ A3
*Coordinate System: GDA 1994 MGA Zone 56*

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**Legend**

Proposed Trenching

**G2B H28**

0 2.5 5 7.5 10 12.5

Metres

Scale: 1:250 @ A3

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**Legend**

Proposed Trenching

Site Mid Points

## G2B H30

0 2.5 5 7.5 10 12.5

Metres

Scale: 1:250 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

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**Legend**

- Proposed Trenching
- Site Mid Points

**G2B H48**

0 2.5 5 7.5 10 12.5

Metres

Scale: 1:250 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

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*17911 Proposed Trenching 20140630*

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**Legend**

- Proposed Trenching
- Site Mid Points

**G2B H49**

0 2.5 5 7.5 10 12.5

Metres

Scale: 1:250 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

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*Location:P:\17900s\17911\Mapping*
*17911 Proposed Trenching_20140630*

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**Legend**

Proposed Trenching

Site Mid Points

**G2B H53**

0 2.5 5 7.5 10 12.5

Metres

Scale: 1:250 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

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*Checked by: [Cons.], Drawn by: [GIS], Last edited by: apritchard*
*Location:P:\17900s\17911\Mapping*
*17911 Proposed Trenching 20140630*

Acknowledgements: Imagery provided by Roads and Maritime Services



**Legend**

Proposed Trenching

Site Mid Points

**G2B H55**

0 2.5 5 7.5 10 12.5

Metres

Scale: 1:250 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

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*17911 Proposed Trenching_20140630*

Acknowledgements: Imagery provided by Roads and Maritime Services

# 5 Appendix 2: Nominated Excavation Director

ABN 15 673 291 522

PO Box 2397
Burwood North
NSW 2134
Ph/Fax (02) 9701 0191
info@jcis.net.au
Heritage Office www.jcis.net.au

Our Ref 14-005

1 July 2014

Dr Siobhan Lavelle
Senior Team Leader Archaeological Heritage
in the Conservation Branch,
Heritage Division, OEH
Locked Bag 5020
PARRAMATTA NSW 2124

C/o Ms Katrina Stankowski
Acting Senior Team Leader Archaeological Heritage
Via email mailto:Katrina.Stankowski@environment.nsw.gov.au

Dear Siobhan,

The Department of Planning and Environment (DOPE) requires that I formally submit my resume to the Heritage Division so I can be Excavation Director for the Berry By Pass project which BIOSIS and I are teaming on and which we have consulted with the Heritage Division about.

Therefore please find attached a short resume which outlines relevant recent experience and addresses the Heritage Divisions Criterion for being an Excavation Director.

If you want to discuss this matter further, please do not hesitate to contact Dr Iain Stuart on 9701 0191 or by email iain_stuart@optusnet.com.au

**Dr Iain Stuart**
Partner

# DR IAIN M STUART
**PARTNER: JCIS CONSULTANTS**

Dr Stuart has over 25 years' professional experience in historical archaeology, archaeological survey and assessment, heritage management, historical research, industrial archaeology, cultural landscapes, maritime archaeology, conservation planning and management, archaeological excavation, site analysis, Aboriginal archaeology, community liaison and consultation. He has worked for Government and in private industry.

**Education:**

- Bachelor of Arts (Hons) La Trobe University 1979
- Master of Environmental Science, Monash University 1988
- Doctor of Philosophy, University of Sydney 2000

**Employment:**

- Northern Territory Museum, 1980-1981
- Victoria Archaeological Survey, 1982-1993
- NSW Heritage Office, 1993, 2008
- HLA-Envirosciences Pty. Ltd., 1994 -2004
- Godden Mackay Logan, 2005-2006
- JCIS Consultants, 2006 –
- NSW Heritage Branch, 2008

**Professional Affiliations:**

- Australasian Society for Historical Archaeology (elected Board Member 2010)
- Society for Industrial Archaeology
- ICOMOS Australia (full member)
- National Trust of Australia (NSW) Industrial Heritage Committee (Chair 2005-2010)
- The International Committee for the Conservation of the Industrial Heritage (elected Board Member 2009 —).

**Qualifications and experience Relevant to the Excavation Directors Role:**

**Criterion 1**

I have a Doctorate in Archaeology from the University of Sydney and over 25 years of professional experience.

Although I am not a member of AACA, I am a full member of Australia ICOMOS and TICCIH International.

**Criterion 2**

I have a demonstrated understanding of NSW Heritage legislation through my education and through my experience working in the NSW Heritage Branch (as it was), assessing and issuing permits and applications.

I currently hold two Section 60 Permits and several Section 140/139(4) Permits as well as working under consent conditions issued by the Department of Planning on two major infrastructure projects.

**Criterion 3**

I have supervised a number of complex archaeological projects, such as the project at the Greta Train Support Facility in the Hunter Valley which is similar in size to the current project at Berry.

I have the technical skills to develop research designs and programs of archaeological work that address both the client's requirements and the requirements of the NSW Heritage Division.

**Criterion 4**

I have had no complaints from the Heritage Council about my completion of work under past and current approvals.

**Representative Projects Relating to Archaeological Excavation**

**Aboriginal Heritage:**

- I worked for ten years with the Victorian Archaeological Survey of which about five years were involved in Aboriginal Heritage. During my employment with HLA-Envirosciences, from 1994 to 2004, I held several permits for sub-surface testing under the provisions of the NPWS Act. I am competent and experienced in recognising Aboriginal objects.

**Historical Archaeology:**

- Archaeological Assessment and Monitoring, Hoechst Site, St Peters
- Archaeological Assessment and Monitoring, Drains at Prince Alfred Sidings, Redfern
- Archaeological Assessment and Salvage Excavations, former Brickworks, Metford
- Archaeological Excavations, 101A-105 George Street, Parramatta

- Historical Archaeological Monitoring of contamination testing, Defence Site, Maribyrnong.
- Archaeological Excavation and Archival Recording of The Stables, the Priory, Gladesville.
- Archaeological Excavations, former Commercial Mill, Aldi Site, Yass.
- Archaeological Assessment of mining remains at Sunny Corner.
- Excavation Director – Archaeological Salvage Excavations at Cabrini, Westmead.
- Excavation Director – Test excavations at Bridge Street Sub-division, Schofields.
- Excavation Director – Archaeological Monitoring and Salvage Archaeology at Eveleigh Workshops.
- Excavation Director – sub-surface testing at the South Grafton Bridge site (with BIOSIS for RMS).
- Excavation Director – excavations of miners' hut sites, Greta Train Support Facility (Pacific National).
- Excavation Director – sub-surface testing at the Dry Boat Storage Facility, Rozelle (with BIOSIS).
- Excavation Director – sub-surface testing at Thompsons Square, Windsor (with BIOSIS).
- Provision of on-going heritage advice to the Epping to Thornleigh Third Track Project (for Artefact and ETT), including responding to unexpected discoveries of archaeological remains.

## 8.2 Appendix B – Finds Catalogue

| Context | Sub Lot No. | Artefact Group | Artefact Category | Artefact Type | Artefact Description | Material | Mark | Remarks | Whole Ct. | Frag Ct. | MNI | Condition |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **G2B H14** | | | | | | | | | | | | |
| **Context 001** | - | Domestic | Misc. Containers | Container | Jar | Colourless Glass | | 26 x fragments of clear glass. From jar or bowl? 14 pieces have patterned texture. | 0 | 26 | 1 | Fragment |
| **Context 001** | - | Personal | Misc. Containers | Container | Bottle/Jar | Olive Glass | | 11 x fragments olive glass. Likely from same bottle/jar. | 0 | 11 | 1 | Fragment |
| **Context 005** | - | Domestic | Food Prep/Consumption | Tableware | Plate | Ceramic | | 1 x fragment white ceramic. Plate. | 0 | 1 | 0 | Fragment |
| **Context 005** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Colourless Glass | | 1 x small fragment clear glass. Bottle/jar. | 0 | 1 | 1 | Fragment |
| **Context 005** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Green Glass | | 3 x fragments of light green glass. Bottle/jar. | 0 | 3 | 1 | Fragment |
| **G2B H11** | | | | | | | | | | | | |
| **Context 001** | East | Activities | Tools | - | - | Iron | | 1x Broken piece of iron hoe. Heavily corroded. | 0 | 1 | 0 | Fragment |
| **Context 001** | East | Domestic | - | - | Indefinite | Blue Glass | | 1 x fragment bright blue glass. Flat piece with rippled surface. | 0 | 1 | 1 | Fragment |
| **Context 001** | East | Domestic | Food Prep/Consumption | Drinking Vessel | - | Colourless Glass | | 1 x fragment clear glass. Could be tumble. | 0 | 1 | 1 | Fragment |
| **Context 001** | East | Domestic | Food Prep/Consumption | Tableware | Bowl | Ceramic | | 7 x ceramic fragments - bowl, plate, platter. | 0 | 7 | 3 | Fragment |
| **Context 001** | East | Domestic | Food Prep/Consumption | Tableware | Plate | Ceramic | | 10 x decorated ceramic fragments - 4 blue stripes along rim, brown pattern along rim of base, blue ropey pattern along rim, blue flowers and geometric pattern, white textured pattern, partial makers mark. | 0 | 10 | 8 | Fragment |
| **Context 001** | East | Domestic | Food Storage | - | Stopper | Green Glass | | 1 x Light green glass graduated stopper. | 1 | 0 | 0 | Complete |
| **Context 001** | East | Domestic | Misc. Containers | Container | Bottle | Brown Glass | | 4 x fragments brown glass, bottle. 2 fragments are conjoinable. | 0 | 4 | 1 | Reconstructable/Fragment |
| **Context 001** | East | Domestic | Misc. Containers | Container | Bottle | Green Glass | | 1 x fragment green glass. Bottom of bottle. | 0 | 1 | 1 | Fragment |
| **Context 001** | East | Domestic | Misc. Containers | Container | Bottle | Olive/Dark-olive Glass | | 3 x fragments olive glass. Bottle. | 0 | 3 | 1 | Fragment |
| **Context 001** | East | Domestic | Misc. Containers | Container | Bottle/Jar | Colourless Glass | | 1 x fragment clear glass. | 0 | 1 | 1 | Fragment |
| **Context 001** | East | Domestic | Misc. Containers | Container | Bottle/Jar | Green Glass | | 8 x fragments light green glass. Bottle/jar. | 0 | 8 | 3 | Fragment |
| **Context 001** | East | Undefined Use | - | - | - | Iron | | 1 x Broken piece of flat iron (70mm x 100mm). Heavily corroded. | 0 | 1 | 1 | Fragment |
| **Context 002** | East | Domestic | Food Prep/Consumption | Container | Bottle | Green Glass | | 1x Mouth fragment of green glass bottle. | 0 | 1 | 1 | Fragment |

| Context | Sub Lot No. | Artefact Group | Artefact Category | Artefact Type | Artefact Description | Material | Mark | Remarks | Whole Ct. | Frag Ct. | MNI | Condition |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Context 002** | East | Domestic | Food Prep/Consumption | Tableware | Bowl | Ceramic | | 3 x fragments decorated ceramic (blue patterns), likely from different vessels. Probably bowls or serving ware. Machine excavated. | 0 | 3 | 3 | Fragment |
| **Context 003** | East | Domestic | Food Prep/Consumption | Tableware | - | Ceramic | | 2 x ceramic fragments | 0 | 2 | 2 | Fragment |
| **Context 003** | East | Domestic | Food Prep/Consumption | Tableware | Bowl | Ceramic | | 3 x decorated ceramic fragments - 3 blue stripes along outside rim, blue pattern. | 0 | 3 | 3 | Fragment |
| **Context 003** | East | Domestic | Misc. Containers | Container | Bottle/Jar | Green Glass | | 1 x fragment green glass. | 0 | 1 | 1 | Fragment |
| **Context 003** | East | Domestic | Misc. Containers | Container | Bottle/Jar | Olive/Dark-olive Glass | | 6 x fragments olive/dark olive glass. From bottle/jar. | 0 | 6 | 1 | Fragment |
| **Context 005** | East | Personal | Clothing | - | Belt buckle | Tin | | 1 x tin belt buckle | 0 | 1 | 1 | Complete |
| **Context 014** | East | Domestic | Food Prep/Consumption | Tableware | Bowl | Ceramic | | 2 x decorated ceramic fragments - purple plants pattern and blue pattern. | 0 | 2 | 2 | Fragment |
| **Context 014** | East | Domestic | Food Prep/Consumption | Tableware | Plate | Ceramic | | 1 x ceramic fragment, probably plate. | 0 | 1 | 0 | Fragment |
| **Context 046** | East | Domestic | Food Prep/Consumption | Tableware | Bowl | Ceramic | | 1 fragment white ceramic bowl/wide mug? | 0 | 1 | 1 | Fragment |
| **Context 046** | East | Structural | - | - | - | Wood | | 2 x pieces of wood, with bark | 0 | 2 | 1 | Fragment |
| **None** | East | Domestic | - | - | - | Opaque-white Glass | | 1 x small fragment white opaque glass. | 0 | 1 | 2 | Fragment |
| **None** | East | Domestic | - | - | - | Pink Glass | | 1 x small fragment of pink glass. | 0 | 1 | 1 | Fragment |
| **None** | East | Domestic | Food Prep/Consumption | Container | Jar | Black Glass | | 1 x fragment of base of black glass jar. | 0 | 1 | 6 | Fragment |
| **None** | East | Domestic | Food Prep/Consumption | Drinking Vessel | Mug | Stoneware | | 1 x stoneware fragment (handle), probably from mug. Brown/tan/blue colour. | 0 | 1 | 1 | Fragment |
| **None** | East | Domestic | Food Storage | Container | Jar | Green Glass | | 1 x fragment (whole rim) of light green glass jar | 0 | 1 | 1 | Fragment |
| **None** | East | Domestic | Misc. Containers | - | - | Ceramic | | 2 x small fragments white ceramic. | 0 | 2 | 1 | Fragment |
| **None** | East | Domestic | Misc. Containers | Tableware | Bowl | Ceramic | | 4 x fragments decorated (blue pattern) ceramic, bowl/mug/containers. | 0 | 4 | 1 | Fragment |
| **None** | East | Domestic | Misc. Containers | Tableware | Bowl | Ceramic | | 9 x fragments of white ceramic, bowl/plate/serving ware. | 0 | 9 | 1 | Fragment |
| **Context 002** | West | Domestic | Food Storage | Container | Large Storage Vessel | Redware | | 1 x fragment redware rim. Large storage container. | 0 | 1 | 1 | Fragment |
| **Context 002** | West | Domestic | Food Prep/Consumption | - | Bowl | Opaque-white Glass | | 7 x fragments white opaque glass - bowl, plate, and knob? | 0 | 7 | 5 | Fragment |
| **Context 002** | West | Domestic | Food Prep/Consumption | - | Lid | Tin | | 1 x white tin billy lid. Heavily corroded. | 0 | 1 | 1 | - |

| Context | Sub Lot No. | Artefact Group | Artefact Category | Artefact Type | Artefact Description | Material | Mark | Remarks | Whole Ct. | Frag Ct. | MNI | Condition |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Context 002** | West | Domestic | Food Prep/Consumption | Tableware | Plate | Ceramic | | 18 x decorated ceramic fragments - white embossed, blue plants, blue flowers and ropey pattern around rim, green plants, brown outline of human Asian figures, light blue stripe around rim, dark blue stripe around rim (thick and thin), portion of makers mark | 0 | 18 | 10 | Fragment |
| **Context 002** | West | Domestic | Furnishings | Furniture | Drawer Pull | Ceramic | | 1 x white ceramic drawer pull. | 0 | 1 | 1 | Fragment |
| **Context 002** | West | Domestic | Misc. Containers | Container | Bottle/Jar | Colourless Glass | | 8 x fragments glass - 1 melted, 1 flat, 1 slightly opaque, 1 with partial embossed text. | 0 | 8 | 3 | Fragment |
| **Context 002** | West | Domestic | Misc. Containers | Container | Bottle/Jar | Green Glass | | 13 x fragments light green glass. | 0 | 13 | 4 | Fragment |
| **Context 002** | West | Domestic | Misc. Containers | Container | Bottle/Jar | Green Glass | | 4 x fragments green glass. 1 with partial embossed text. | 0 | 4 | 1 | Fragment |
| **Context 002** | West | Domestic | Misc. Containers | Container | Bottle/Jar | Olive/Dark-olive Glass | | 2 x fragments olive/dark olive glass. | 0 | 2 | 2 | Fragment |
| **Context 002** | West | Personal | Misc. Beads | Jewellery | Bead | Ceramic | | 1 x light blue ceramic bead. | 1 | 0 | 0 | Complete |
| **Context 002** | West | Structural | - | - | Tile | Ceramic | | 1 x Fragment of black ceramic tile. Possibly part of fireplace. Measures overall ~110mm x 120mm x 40mm. | 0 | 1 | 1 | Fragment |
| **Context 002** | West | Structural | Hardware | - | Bolt | Iron | | 1 x complete but rusty bolt and nut. Heavily corroded. | 1 | 0 | 1 | Complete |
| **Context 002** | West | Structural | Hardware | - | Doorknob | Iron | | 1 x Complete doorknob and fastener. Measures ~ 120mm x 150mm x 25mm. Heavily corroded. | 1 | 0 | 0 | Complete |
| **Context 002** | West | Structural | Hardware | - | Nail | Iron | | 1 x small or broken rusty iron nail. Heavily corroded. | 0 | 1 | 1 | Complete/Fragment |
| **Context 003** | West | Domestic | Food Prep/Consumption | Tableware | Plate | Stoneware | | 4 x fragments stoneware - plate bowl. | 0 | 4 | 3 | Fragment |
| **Context 003** | West | Domestic | Misc. Closures | Tableware | Bowl | Ceramic | | 46 x ceramic fragments - plate, bowl, mug, serving dishes. | 0 | 46 | 3 | Fragment |
| **Context 003** | West | Domestic | Misc. Containers | Container | Bottle/Jar | Green Glass | | 2 x fragments light green glass. | 0 | 2 | 2 | Fragment |
| **Context 003** | West | Domestic | Storage | Kitchen | Large Storage Vessel | Ceramic | | 1 x ceramic fragment of base of large storage container. | 0 | 1 | 1 | Fragment |
| **Context 005** | West | Activities | Hardware | Indefinite | - | Metal | | 1 length of metal (~80mm x 20mm). Flat and folded over along both lengths. Heavily corroded. | 0 | 1 | 0 | Complete/Fragment |
| **Context 005** | West | Domestic | Food Prep/Consumption | Tableware | Bowl | Ceramic | | 16 x ceramic fragments - bowl, plate, platter, mug. | 0 | 16 | 4 | Fragment |
| **Context 005** | West | Domestic | Misc. Containers | Container | Bottle/Jar | Green Glass | | 3 x fragments light green glass. | 0 | 3 | 0 | Fragment |
| **Context 005** | West | Structural | Hardware | - | Nail | Iron | | 1 x iron nail. Heavily corroded. | 0 | 1 | 0 | Complete |

| Context | Sub Lot No. | Artefact Group | Artefact Category | Artefact Type | Artefact Description | Material | Mark | Remarks | Whole Ct. | Frag Ct. | MNI | Condition |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Context 006** | West | Activities | Indefinite | - | - | Iron | | 1 x fragment iron. Small curved piece. Heavily corroded. | 0 | 1 | 1 | Fragment |
| **Context 006** | West | Domestic | Food Prep/Consumption | Drinking Vessel | Mug | Ceramic | | 2 x fragments decorated (1 or 2 red stripes) white ceramic. Probably 2 pieces, 1 from bowl and 1 from mug. | 0 | 2 | 1 | Fragment |
| **Context 006** | West | Domestic | Food Prep/Consumption | Kitchen | Large Storage Vessel | Redware | | 1 x fragment red pottery. Possibly from storage vessel. | | 1 | 1 | Fragment |
| **Context 006** | West | Domestic | Food Prep/Consumption | Tableware | Bowl | Ceramic | | 9 x colourer/decorated ceramic fragments - solid pink, blue geometric and flower pattern brown flower pattern, brown text, white textured patterns. | 0 | 9 | 5 | Fragment |
| **Context 006** | West | Domestic | Food Prep/Consumption | Tableware | Bowl | Ceramic | | 2 x fragments decorated (2 blue stripes around outside of vessel) white ceramic. | 0 | 2 | 1 | Fragment |
| **Context 006** | West | Domestic | Food Prep/Consumption | Tableware | Bowl | Ceramic | | 7 x fragments of decorated ceramic. Varying patterns - pink pattern, pink flowers, brown plants, blue leaves, blue geometric pattern, blue flowers with rope around rim. Bowl, plate, mug? | 0 | 7 | 6 | Fragment |
| **Context 006** | West | Domestic | Food Prep/Consumption | Tableware | Plate | Ceramic | | 9 x white ceramic fragments - plate platter, bowl. | 0 | 9 | 3 | Fragment |
| **Context 006** | West | Domestic | Food Prep/Consumption | Tableware | Plate | Ceramic | | 40 x fragments white/cream ceramic. Likely kitchen or tableware, including a plate. | 0 | 40 | 5 | Fragment |
| **Context 006** | West | Domestic | Misc. Containers | Container | Bottle/Jar | Colourless Glass | | 3 x fragments clear glass. | | 3 | 1 | Fragment |
| **Context 006** | West | Domestic | Misc. Containers | Container | Bottle/Jar | Dark-olive Glass | | 3 x fragments of dark olive glass. | 0 | 3 | 1 | Fragment |
| **Context 006** | West | Domestic | Misc. Containers | Container | Bottle/Jar | Green Glass | | 2 x fragments light green glass. | 0 | 2 | 1 | Fragment |
| **Context 006** | West | Domestic | Misc. Containers | Container | Jar Lid | Brown Glass | | 1 x brown glass fragment. Round ball shape on broken base, probably jar lid with handle. | 0 | 1 | 1 | Fragment |
| **Context 006** | West | Domestic | Misc. Containers | Tableware | Bowl | Stoneware | | 1 x fragment light grey stoneware from rim of bowl. | 1 | 1 | 1 | Fragment |
| **Context 010** | West | Activities | - | - | Wire | Copper-alloy | | 1 x fragment copper wire. Heavily corroded. | 0 | 1 | 1 | Fragment |
| **Context 010** | West | Domestic | Food Prep/Consumption | Tableware | Bowl | Ceramic | | 10 x fragments of decorated ceramic. Varying patterns - 2 red stripes on rim, blue plants, blue pattern, brown pattern around outside rim. | 0 | 10 | 0 | Fragment |
| **Context 010** | West | Domestic | Food Prep/Consumption | Tableware | Bowl | Ceramic | | 9 x fragments ceramic. Likely from bowl, mug, plate or serving ware. | 0 | 9 | 1 | Fragment |
| **Context 010** | West | Domestic | Food Prep/Consumption | Tableware | Bowl | Ceramic | | 1 x fragment decorated (pink stripe along outside of rim) ceramic. | 0 | 1 | 0 | Fragment |
| **Context 010** | West | Domestic | Misc. Containers | Container | Bottle/Jar | Green Glass | | 2 x fragments light green glass. | 0 | 2 | 1 | Fragment |

| Context | Sub Lot No. | Artefact Group | Artefact Category | Artefact Type | Artefact Description | Material | Mark | Remarks | Whole Ct. | Frag Ct. | MNI | Condition |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Context 010** | West | Domestic | Misc. Containers | Decorative Item | Jar | Colourless Glass | | 3 x fragments crystal cut patterned glass. Likely a fancy container. | 0 | 3 | 0 | Fragment |
| **Context 010** | West | Domestic | Misc. Containers | Drinking Vessel | Mug | Ceramic | | 3 x fragments white ceramic, probably from same mug. | 0 | 3 | 1 | Fragment |
| **Context 010** | West | Domestic | Misc. Containers | Tableware | Bowl | Ceramic | | 1 x ceramic fragment, | 0 | 1 | 1 | Fragment |
| **Context 010** | West | Domestic | Storage | Container | Knob | Colourless Glass | | 4 x fragments clear glass from knob. | 0 | 4 | 1 | Fragment |
| **Context 010** | West | Faunal | Bone | Animal | Animal | Bone | | 1 x fragment animal bone. | 0 | 1 | 1 | Fragment |
| **Context 010** | West | Personal | Food Prep/Consumption | Tableware | Platter | Ceramic | | 1 x fragment of decorated ceramic. Blue pattern of landscape/scenery. Fragment is flat so could be plate or platter. | 0 | 1 | 1 | Fragment |
| **Context 012** | West | Domestic | Food Prep/Consumption | Container | - | Colourless Glass | | 1 x fragment clear glass. | 0 | 1 | 1 | Fragment |
| **Context 012** | West | Domestic | Food Prep/Consumption | Container | Bottle | Green Glass | | 3 x fragments light green glass. Possibly from bottle. | 0 | 3 | 1 | Fragment |
| **Context 012** | West | Domestic | Food Prep/Consumption | Container | Bottle/Jar | Dark-olive Glass | | 1 x fragment of dark green glass, likely from bottle/jar. | 0 | 1 | 1 | Fragment |
| **Context 012** | West | Domestic | Food Prep/Consumption | Container | Jar | Black Glass | | 1 x fragment (rim?) of black glass jar. | 0 | 1 | 1 | Fragment |
| **Context 012** | West | Domestic | Food Prep/Consumption | Drinking Vessel | Mug | Ceramic | | 1 x fragment (handle) of white ceramic mug. | | 1 | 1 | Fragment |
| **Context 012** | West | Domestic | Food Prep/Consumption | Serving | Platter | Ceramic | | 1 x fragment white ceramic. Possibly corner of platter? | | 1 | 1 | Fragment |
| **Context 012** | West | Domestic | Food Prep/Consumption | Tableware | - | Ceramic | | 1 x very small fragment decorated (pink line and pattern) ceramic. | | 1 | 1 | Fragment |
| **Context 012** | West | Domestic | Food Prep/Consumption | Tableware | - | Ceramic | | 2 x small white ceramic fragments. | 0 | 2 | 1 | Fragment |
| **Context 012** | West | Domestic | Food Prep/Consumption | Tableware | - | Ceramic | | 3 x fragments white/grey ceramic. | 0 | 3 | 1 | Fragment |
| **Context 012** | West | Undefined Use | - | - | - | Opaque-white Glass | | 1 x fragment opaque glass. | 0 | 1 | 1 | Fragment |
| **Context 012** | West | Undefined Use | Misc. Metal Items | - | - | Iron | | 1 x piece of iron. Possibly bent nail? Heavily corroded. | 0 | 1 | 1 | Complete/Fragment |
| **Context 012** | West | Undefined Use | Misc. Metal Items | - | Undefined | Iron | | 1 x piece iron. Heavily corroded. | 0 | 1 | 1 | Complete/Fragment |
| **Context 013** | West | Domestic | Food Prep/Consumption | Drinking Vessel | Tumbler | Pink Glass | | 1 x Base of pink ridged glass tumbler. | 0 | 1 | 1 | Complete/Fragment |
| **Context 013** | West | Domestic | Misc. Containers | Drinking Vessel | Mug | Ceramic | | 9 x fragments white ceramic, likely from same mug. | 0 | 9 | 1 | Fragment |
| **Context 013** | West | Faunal | Bone | Animal | Animal | Bone | | 6 x fragments animal bone. | 0 | 6 | 1 | Fragment |
| **Context 016** | West | Domestic | Food Prep/Consumption | Drinking Vessel | Mug | Ceramic | | 8 x fragments of decorated (blue pattern) ceramic, possibly from single mug. | 0 | 8 | 1 | Fragment |

| Context | Sub Lot No. | Artefact Group | Artefact Category | Artefact Type | Artefact Description | Material | Mark | Remarks | Whole Ct. | Frag Ct. | MNI | Condition |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Context 016** | West | Domestic | Food Prep/Consumption | Tableware | - | Ceramic | | 1 x fragment of white ceramic, possible plate base? | 0 | 1 | 1 | Fragment |
| **Context 016** | West | Domestic | Food Prep/Consumption | Tableware | Bowl | Ceramic | | 1 x fragment of decorated (blue pattern) ceramic, probably bowl. | 0 | 1 | 1 | Fragment |
| **Context 016** | West | Domestic | Food Prep/Consumption | Tableware | Bowl | Ceramic | | 1 x fragment of grey ceramic, probably a bowl. | 0 | 1 | 1 | Fragment |
| **Context 016** | West | Domestic | Food Prep/Consumption | Tableware | Bowl | Ceramic | | 4 x fragments of white ceramic object, probably bowl. | 0 | 4 | 1 | Fragment |
| **Context 016** | West | Domestic | Food Prep/Consumption | Tableware | Plate | Ceramic | | 2 x fragments of decorated (blue pattern along rim) ceramic, probably from single plate. | 0 | 2 | 1 | Fragment |
| **Context 016** | West | Domestic | Food Prep/Consumption | Tableware | Plate | Ceramic | | 1 x fragment yellow ceramic, probably plate rim. | 0 | 1 | 1 | Fragment |
| **Context 016** | West | Domestic | Misc. Containers | Drinking Vessel | Mug | Ceramic | | 1 x fragment white ceramic, possibly mug. | 0 | 1 | 1 | Fragment |
| **Context 016** | West | Faunal | Bone | Animal | Animal | Bone | | 4 x fragments animal bone. | 0 | 4 | 1 | Fragment |
| **Context 14** | West | Domestic | Food Storage | Container | Jar | Ceramic | | 2 x conjoinable fragments of ceramic jar. | 0 | 2 | 1 | Reconstructable/Fragment |
| **None** | West | Domestic | Misc. Containers | Drinking Vessel | Mug | Ceramic | | 10 x ceramic fragments. Varying patterns - brown flowers/plants, red stripe along rim, green plants, blue flowers, blue geometric, blue ropey pattern, white figured. | 0 | 10 | 0 | Fragment |
| **None** | West | Personal | Misc. Containers | Container | Jar | Blue Glass | | 2 x fragments light blue glass. Container is square or rectangle. | 0 | 2 | 1 | Fragment |
| **None** | West | Domestic | Misc. Containers | Container | Jar | Black Glass | | 1 x fragment of base of black glass jar. | 0 | 1 | 1 | Fragment |
| **G2B H14** | | | | | | | | | | | | |
| **Context 001** | - | Domestic | Misc. Containers | Container | Bottle | Brown Glass | | 21 x fragments brown glass. Likely from same bottle. | 0 | 21 | 1 | Fragment |
| **Context 001** | - | Domestic | Misc. Containers | Container | Bottle | Brown Glass | | 21 x fragments brown glass. Bottle. | 0 | 21 | 1 | Fragment |
| **Context 001** | - | Domestic | Misc. Containers | Container | Bottle | Green Glass | | 2 x fragments dark green glass. Bottle. | 0 | 2 | 1 | Fragment |
| **Context 001** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Colourless Glass | | 1 x Partial base fragment, clear glass. Bottle/jar. Partial embossed text on base. | 0 | 1 | 1 | Fragment |
| **Context 001** | - | Industrial | - | - | Pipe | Earthenware | | 1 x fragment earthenware sewer pipe. | 0 | 1 | 1 | Fragment |
| **Context 001** | - | Structural | Hardware | - | Bolt | Iron | | 1 x bolt with nut and 2 washers. Heavily corroded. | 1 | 0 | 0 | Complete |
| **Context 001** | - | Structural | Hardware | - | Spike | Iron | | 1 x fragment of iron spike. Heavily corroded. | 0 | 1 | 1 | Fragment |
| **Context 003** | - | Activities | - | - | Horseshoe | Iron | | 1 x complete iron horseshoe. Heavily corroded. | 1 | 0 | 0 | Complete |

| Context | Sub Lot No. | Artefact Group | Artefact Category | Artefact Type | Artefact Description | Material | Mark | Remarks | Whole Ct. | Frag Ct. | MNI | Condition |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Context 007** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Green Glass | | 2 x fragments light green glass. Bottle/jar. | 0 | 2 | 1 | Fragment |
| **Context 013** | - | Domestic | Misc. Containers | Container | Bottle | Colourless Glass | | 1 x Bottom half of clear glass bottle. | 0 | 1 | 1 | Fragment |
| **Context 013** | - | Structural | Materials | - | - | Brick | | 1 x brick fragment. | 0 | 1 | 1 | Fragment |
| **Context 014** | - | Domestic | Misc. Containers | Container | Cordial Bottle | Earthenware | | 4 x fragments (mouths) of tan coloured cordial earthenware bottles. | 0 | 4 | 4 | Fragment |
| **Context 015** | - | Activities | - | - | Horseshoe | Iron | | 1 x complete horseshoe. Heavily corroded. | 1 | 0 | 0 | Complete |
| **Context 015** | - | Domestic | Food Prep/Consumption | Tableware | Plate | Ceramic | | 6 x fragments ceramic, plate. 2 fragments are decorated with pink flowers/leaves around rim. | 0 | 6 | 1 | Fragment |
| **Context 015** | - | Domestic | Misc. Containers | Container | Bottle | Olive Glass | | 8 x fragments olive glass. Likely from same bottle. | 0 | 8 | 1 | Reconstructable/Fragment |
| **Context 015** | - | Domestic | Misc. Containers | Container | Bottle | Olive Glass | | 1 x fragment olive glass bottle. | 0 | 1 | 1 | Fragment |
| **Context 015** | - | Domestic | Misc. Containers | Container | Jar | Green Glass | | 1 x fragment light green glass. Jar? | 0 | 1 | 1 | Fragment |
| **Context 018** | - | Domestic | Misc. Containers | Container | Bottle | Colourless Glass | | 1 x Almost complete clear glass bottle. "Agee PYREX Feeder" embossed on one side and "ounces" with line and number markers embossed on the other. | 1 | 0 | 0 | Complete |
| **Context 019** | - | Domestic | Misc. Containers | Container | Cordial Bottle | Earthenware | | 1 x Neck/shoulder fragment of tan coloured earthenware bottle. | 0 | 1 | 0 | Fragment |
| **Context 019** | - | Industrial | - | - | Pipe | Earthenware | | 1 x fragment sewer or water pipe. | 0 | 1 | 1 | Fragment |
| **Context 020** | - | Industrial | - | - | Pipe | Earthenware | | 24 x fragments of earthenware drainage pipe. | 0 | 0 | 0 | Fragment |
| **Context 025** | - | Structural | Materials | - | - | Brick | | 2 x fragments red brick. | 0 | 2 | 1 | Fragment |
| **Context 028** | - | Activities | - | - | Horseshoe | Iron | | 1 x iron horseshoe. Heavily corroded. | 1 | 0 | 0 | Complete |
| **Context 031** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Colourless Glass | | 1 x fragment clear glass. Bottle/jar. | 0 | 1 | 1 | Fragment |
| **Context 031** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Green Glass | | 7 x fragments light green glass. Bottle/jar. 22 fragments have partial text, embossed. | 0 | 7 | 1 | Fragment |
| **G2B H49** | | | | | | | | | | | | |
| **Context 001** | - | Activities | - | - | - | Cast-iron | | 1 x iron ring with broken fastener. Likely used for agriculture. Ring measures ~ 105mm in overall diameter. Heavily corroded. | 0 | 1 | 0 | Fragment |
| **Context 001** | - | Domestic | Food Prep/Consumption | Tableware | Bowl | Ceramic | | 33 x fragments of white ceramic. Bowl, plate, platter, mug. | 0 | 33 | 3 | Fragment |
| **Context 001** | - | Domestic | Food Prep/Consumption | Tableware | Bowl | Ceramic | | 6 x fragments decorated ceramic - brown flowers and geometric pattern around rim, blue flowers blue stripes on mug handle. | 0 | 6 | 4 | Fragment |

| Context | Sub Lot No. | Artefact Group | Artefact Category | Artefact Type | Artefact Description | Material | Mark | Remarks | Whole Ct. | Frag Ct. | MNI | Condition |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Context 001** | - | Domestic | Food Prep/Consumption | Tableware | Plate | Ceramic | | 13 x fragments white ceramic. Plate, mug, bowl. | 0 | 13 | 3 | Fragment |
| **Context 001** | - | Domestic | Food Prep/Consumption | Tableware | Plate | Ceramic | | 3 x fragments white ceramic. Plate, mug. | 0 | 3 | 1 | Fragment |
| **Context 001** | - | Domestic | Food Prep/Consumption | Tableware | Plate | Ceramic | | 6 x fragments decorated ceramic - blue/green stripe around rim, brown flowers, blue flowers, partial makers mark, curly engraving around rim. | 0 | 6 | 5 | Fragment |
| **Context 001** | - | Domestic | Food Prep/Consumption | Tableware | Plate | Ceramic | | 13 x fragments decorated ceramic - 1 or 2 blue stripes around the rim, blue geometric pattern, brown flower pattern, blue flower pattern, pink flowers with green leaves and brown stripe around rim, partial makers mark. | 0 | 13 | 12 | Fragment |
| **Context 001** | - | Domestic | Food Prep/Consumption | Tableware | Platter | Ceramic | | 35 x fragments white ceramic. Platter, plate, bowl, mug. | 0 | 35 | 4 | Fragment |
| **Context 001** | - | Domestic | Food Storage | Container | Large Storage Vessel | Stoneware | | 7 x fragments heavy cream stoneware. Large storage vessel. | 0 | 7 | 1 | Fragment |
| **Context 001** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Brown Glass | | 1 x fragment brown glass. Bottle/jar. | 0 | 1 | 1 | Fragment |
| **Context 001** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Brown Glass | | 1 x fragment brown glass. Bottle/jar. | 0 | 1 | 1 | Fragment |
| **Context 001** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Colourless Glass | | 6 x fragments clear glass. Bottle/jar. | 0 | 6 | 2 | Fragment |
| **Context 001** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Colourless Glass | | 8 x fragments clear glass. Bottle/jar. 1 fragment of bottle/jar is ridged. | 0 | 8 | 3 | Fragment |
| **Context 001** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Colourless Glass | | 20 x fragments clear glass. Bottle/jar. | 0 | 20 | 2 | Fragment |
| **Context 001** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Green Glass | | 30 x fragments light green glass. 2 fragments have finger pad sized indents. | 0 | 30 | 3 | Fragment |
| **Context 001** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Green Glass | | 1 x fragment light green glass. Semi-opaque. | 0 | 1 | 1 | Fragment |
| **Context 001** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Green Glass | | 6 x fragments blue/green glass. Bottle/jar. | 0 | 6 | 1 | Fragment |
| **Context 001** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Green Glass | | 2 x fragments light green glass. Bottle/jar. | 0 | 2 | 1 | Fragment |
| **Context 001** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Green Glass | | 1 x fragment light green glass. Bottle/jar. | 0 | 1 | 1 | Fragment |
| **Context 001** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Green Glass | | 1 x small fragment light green glass. Bottle/jar. | 0 | 1 | 1 | Fragment |
| **Context 001** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Olive Glass | | 4 x olive glass fragments. Bottle/jar. | 0 | 4 | 1 | Fragment |
| **Context 001** | - | Personal | Misc. Containers | Container | Bottle/Jar | Opaque-white Glass | | 4 x fragments opaque clear glass. Bottle/jar. Possibly cream jar. | 0 | 4 | 1 | Fragment |
| **Context 002** | - | Domestic | Food Prep/Consumption | - | Stopper | Clay | | 1 x clay ball stopper. Measures ~16mm diameter. | 1 | 0 | 0 | Complete |

| Context | Sub Lot No. | Artefact Group | Artefact Category | Artefact Type | Artefact Description | Material | Mark | Remarks | Whole Ct. | Frag Ct. | MNI | Condition |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Context 002** | - | Domestic | Food Prep/Consumption | Drinking Vessel | Mug | Ceramic | | 15 x fragments white ceramic. Mug, plate, bowl. | 0 | 15 | 3 | Fragment |
| **Context 002** | - | Domestic | Food Prep/Consumption | Tableware | Bowl | Ceramic | | 67 x fragments of white or cream ceramic. Bowl, plate, platter, mug. | 0 | 67 | 3 | Fragment |
| **Context 002** | - | Domestic | Food Prep/Consumption | Tableware | Plate | Ceramic | | 19 x fragments of decorated ceramics - teal stripe along rim, with thin gold stripes inside, blue plant patterns, brown plant patterns, green leafy patterns, blue flower patterns, blue buildings with curlycues around rim, dark blue with brown handle, pink g | 0 | 19 | 14 | Fragment |
| **Context 002** | - | Domestic | Food Prep/Consumption | Tableware | Plate | Ceramic | | 3 x fragments decorated ceramic - blue pattern. Plate? | 0 | 3 | 2 | Fragment |
| **Context 002** | - | Domestic | Food Prep/Consumption | Tableware | Platter | Ceramic | | 3 x fragments decorated (blue flower and geometric pattern). Probably serving platter. | 0 | 3 | 1 | Fragment |
| **Context 002** | - | Domestic | Food Storage | Container | Large Storage Vessel | Stoneware | | 4 x fragments thick cream stoneware. Rough texture on inside of vessel. | 0 | 4 | 1 | Fragment |
| **Context 002** | - | Domestic | Misc. Containers | Container | Bottle | Brown Glass | | 10 x fragments thick dark brown glass, bottle. Base has embossed makers mark on bottom "S & C". | 0 | 10 | 1 | Fragment |
| **Context 002** | - | Domestic | Misc. Containers | Container | Bottle | Green Glass | | 3 x fragments dark green glass, bottle. | 0 | 3 | 1 | Fragment |
| **Context 002** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Brown Glass | | 1 x fragment brown glass. Partial text embossed. | 0 | 1 | 1 | Fragment |
| **Context 002** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Brown Glass | | 4 x fragments brown glass. 1 fragment has embossed text (one letter). | 0 | 4 | 1 | Fragment |
| **Context 002** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Colourless Glass | | 3 x fragments clear glass. Bottle/jar. | 0 | 3 | 1 | Fragment |
| **Context 002** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Colourless Glass | | 1 x fragment clear glass, bottle/jar. | 0 | 1 | 1 | Fragment |
| **Context 002** | - | Domestic | Misc. Containers | Container | Bottle/Jar | Green Glass | | 8 x fragments light green glass, bottle/jar. | 0 | 8 | 2 | Fragment |
| **Context 002** | - | Personal | Misc. Containers | Container | Bottle | Colourless Glass | | 1 x small clear glass bottle. Measures 75mm high x 40mm wide. | 1 | 0 | 0 | Complete |
| **Context 002** | - | Personal | Misc. Containers | Container | Jar | Opaque-white Glass | | 1 x fragment opaque white glass, small jar. | 0 | 1 | 1 | Fragment |
| **Context 002** | **-** | **Structural** | **Materials** | **-** | **-** | **Brick** | | **3 x fragments red brick.** | **0** | **3** | **1** | **Fragment** |
| **Context 062** | **-** | **Domestic** | **Food Storage** | **Container** | **Large Storage Vessel** | **Stoneware** | | **1 x fragment heavy cream stoneware. Large storage vessel.** | **0** | **1** | **1** | **Fragment** |
| **Context 062** | **-** | **Structural** | **Materials** | **-** | **-** | **Wood** | | **1 x fragment wooden post. Measures ~230mm x 100mm x 60mm.** | **0** | **1** | **0** | **Fragment** |
| **Context 062** | **-** | **Structural** | **Materials** | **-** | **-** | **Wood** | | **1 x fragment of wooden post. Measures ~ 240mm x 100mm x 80mm** | **0** | **1** | **1** | **Fragment** |

| Context | Sub Lot No. | Artefact Group | Artefact Category | Artefact Type | Artefact Description | Material | Mark | Remarks | Whole Ct. | Frag Ct. | MNI | Condition |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Context 124 | - | Domestic | Food Prep/Consumption | Tableware | - | Ceramic | | 1 x fragment decorated (brown flowers) ceramic. | 0 | 1 | 1 | Fragment |
| None | | Domestic | - | - | - | Cast-iron | | 1 x large shaped iron piece (possibly whole). Shaped like leaf with stem. Measures ~260mm x 110mm (max dimensions). Heavily corroded. | 1 | 0 | 0 | Complete/Fragment |
| None | - | Activities | - | - | - | Iron | | 4 x fragments flat sheets of iron. Heavily corroded. | 0 | 4 | 1 | Fragment |
| None | - | Activities | Tools | - | Handle | Iron | | 1 x portion of iron/metal bucket handle. Heavily corroded. | 0 | 1 | 1 | Fragment |
| None | - | Activities | Tools | - | Handle | Iron | | 2 x complete iron bucket handles. Heavily corroded. | 2 | 0 | 0 | Complete |
| None | - | Domestic | - | - | Indefinite | Green Glass | | 1 x small light green glass fragment, rounded with finger pad sized indents. Possibly from platter? | 0 | 1 | 1 | Fragment |
| None | - | Domestic | Food Prep/Consumption | Container | Bottle/Jar | Green Glass | | 3 x fragments of light green glass, bottle/jar. | 0 | 3 | 1 | Fragment |
| None | - | Domestic | Food Prep/Consumption | Container | Stopper | Green Glass | | 1 x fragment of green glass graduated bottle stopper. | 0 | 1 | 1 | Fragment |
| None | - | Domestic | Food Prep/Consumption | Drinking Vessel | Mug | Ceramic | | 18 x white ceramic fragments, mug, bowl, plate. | 0 | 18 | 2 | Fragment |
| None | - | Domestic | Food Prep/Consumption | Drinking Vessel | Mug | Opaque-white Glass | | 2 x fragments white opaque glass, mug. | 0 | 2 | 1 | Fragment |
| None | - | Domestic | Food Prep/Consumption | Tableware | Bowl | Ceramic | | 1 x small ceramic fragment, light blue, dark blue, brown glaze bowl. | 0 | 1 | 1 | Fragment |
| None | - | Domestic | Food Prep/Consumption | Tableware | Bowl | Ceramic | | 9 x fragments decorated ceramics - white embossed patterns, blue with white and brown embossed patterns, brown plant patterns, red stripe, brown and blue, blue/green pattern, pink geometric pattern around inside rim and portion of a makers mark. | 0 | 9 | 8 | Fragment |
| None | - | Domestic | Food Prep/Consumption | Tableware | Bowl | Ceramic | | 63 x fragments of cream or white ceramic. Bowl, plate, platter, mug. | 0 | 63 | 5 | Fragment |
| None | - | Domestic | Food Prep/Consumption | Tableware | Plate | Ceramic | | 1 x fragment decorated ceramic. Plate. Blue stripe around rim. | 0 | 1 | 1 | Fragment |
| None | - | Domestic | Food Prep/Consumption | Tableware | Plate | Ceramic | | 28 x fragments decorated ceramic - green plants, blue plants, brown plants, blue buildings, flowers with curlyuces around rim, brown flowers with geometric pattern around rim, white embossed curlycue around rim. Plate, bowl, platter, mug. | 0 | 28 | 9 | Fragment |
| None | - | Domestic | Food Storage | Container | Jar | Opaque-white Glass | | 3 x conjoinable fragments of opaque white glass. "Property of marmite company" embossed on bottom of | 1 | 0 | 0 | Reconstructable/Fragment |

| Context | Sub Lot No. | Artefact Group | Artefact Category | Artefact Type | Artefact Description | Material | Mark | Remarks | Whole Ct. | Frag Ct. | MNI | Condition |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | jar. | | | | |
| None | - | Domestic | Food Storage | Container | Large Storage Vessel | Stoneware | | 5 x fragments heavy cream stoneware. 2 can be conjoined. Rough surface on inside of vessel. | 0 | 5 | 1 | Reconstructable/Fragment |
| None | - | Domestic | Misc. Containers | Container | - | Black Glass | | 1 x fragment of black glass, container. | 0 | 1 | 1 | Fragment |
| None | - | Domestic | Misc. Containers | Container | - | Green Glass | | 4 x fragments blue/green or green glass. Bottle/jar. | 0 | 4 | 2 | Fragment |
| None | - | Domestic | Misc. Containers | Container | Bottle | Green Glass | | 9 x fragments of dark green glass, bottle. | 0 | 9 | 1 | Fragment |
| None | - | Domestic | Misc. Containers | Container | Bottle | Olive Glass | | 1 x fragment of olive glass, bottle. | 0 | 1 | 1 | Fragment |
| None | - | Domestic | Misc. Containers | Container | Bottle/Jar | Brown Glass | | 7 x fragments of brown glass, bottle. 2 fragments have partial embossed text. | 0 | 7 | 1 | Fragment |
| None | - | Domestic | Misc. Containers | Container | Bottle/Jar | Colourless Glass | | 4 x fragments clear glass,. Bottle/jar. 1 fragment has partial embossed text. | 0 | 4 | 2 | Fragment |
| None | - | Domestic | Misc. Containers | Container | Bottle/Jar | Colourless Glass | | 7 x fragments of clear glass, bottle/jar. 1 fragment has partial embossed text. | 0 | 7 | 1 | Fragment |
| None | - | Domestic | Misc. Containers | Container | Bottle/Jar | Green Glass | | 17 x fragments light green glass. Bottle/jar. 1 base fragment has embossed "784". | 0 | 17 | 4 | Fragment |
| None | - | Domestic | Misc. Containers | Container | Bottle/Jar | Green Glass | | 1 x small fragment green glass, bottle/jar. | 0 | 1 | 1 | Fragment |
| None | - | Domestic | Misc. Containers | Container | Bottle/Jar | Olive/Dark-olive Glass | | 1 x fragment dark olive glass. Bottle/jar | 0 | 1 | 1 | Fragment |
| None | - | Domestic | Misc. Containers | Container | Bottle/Jar | Pink Glass | | 2 x fragments pink glass. Bottle/jar or drinking glass. | 0 | 2 | 2 | Fragment |
| None | - | Domestic | Misc. Containers | Container | Jar | Colourless Glass | | 1 x clear glass jar. Measures 70mm high x 50mm diameter. | 1 | 0 | 0 | Complete |
| None | - | Domestic | Misc. Containers | Container | Lid | Ceramic | | 1 x ceramic lid fragment, with portion of knob. | 0 | 1 | 1 | Fragment |
| None | - | Personal | Grooming/Health | Container | Cream/Crème Jar | Opaque-white Glass | | 1 x opaque white glass jar. "Ponds" mark on the bottom. Cream jar. | 1 | 0 | 0 | Complete |
| None | - | Personal | Misc. Containers | Container | Jar | Opaque-white Glass | | 12 x fragments opaque white glass, from jars. | 0 | 12 | 2 | Fragment |
| None | - | Structural | - | - | Spike | Iron | | 1 x iron spike. Heavily corroded. | 1 | 0 | 0 | Complete |
| None | - | Structural | Hardware | - | Nail | Iron | | 1 x complete nail, bent. Heavily corroded. | 1 | 0 | 0 | Complete |
| None | - | Structural | Hardware | - | Spike | Iron | | 1 x iron spike, slightly bent. Heavily corroded. | 1 | 0 | 0 | Complete |
| None | - | Structural | Materials | - | - | Brick | | 1 x brick fragment. | 0 | 1 | 1 | Fragment |

| Context | Sub Lot No. | Artefact Group | Artefact Category | Artefact Type | Artefact Description | Material | Mark | Remarks | Whole Ct. | Frag Ct. | MNI | Condition |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| None | - | Structural | Materials | - | - | Brick | | 1 x small brick fragment. | 0 | 1 | 1 | Fragment |
| None | - | Structural | Misc. Metal Items | - | Spike | Iron | | 1 x Iron spike. Heavily corroded. | 1 | 0 | 0 | Complete |

## 8.3 Appendix C – Finds Photographs


**Plate 36: G2BH11 East 002 and 003 Machine excavated**


**Plate 37:G2BH11 East Context 001**


**Plate 38: G2BH11 East Context 001**


**Plate 39: G2BH11 East Context 003**

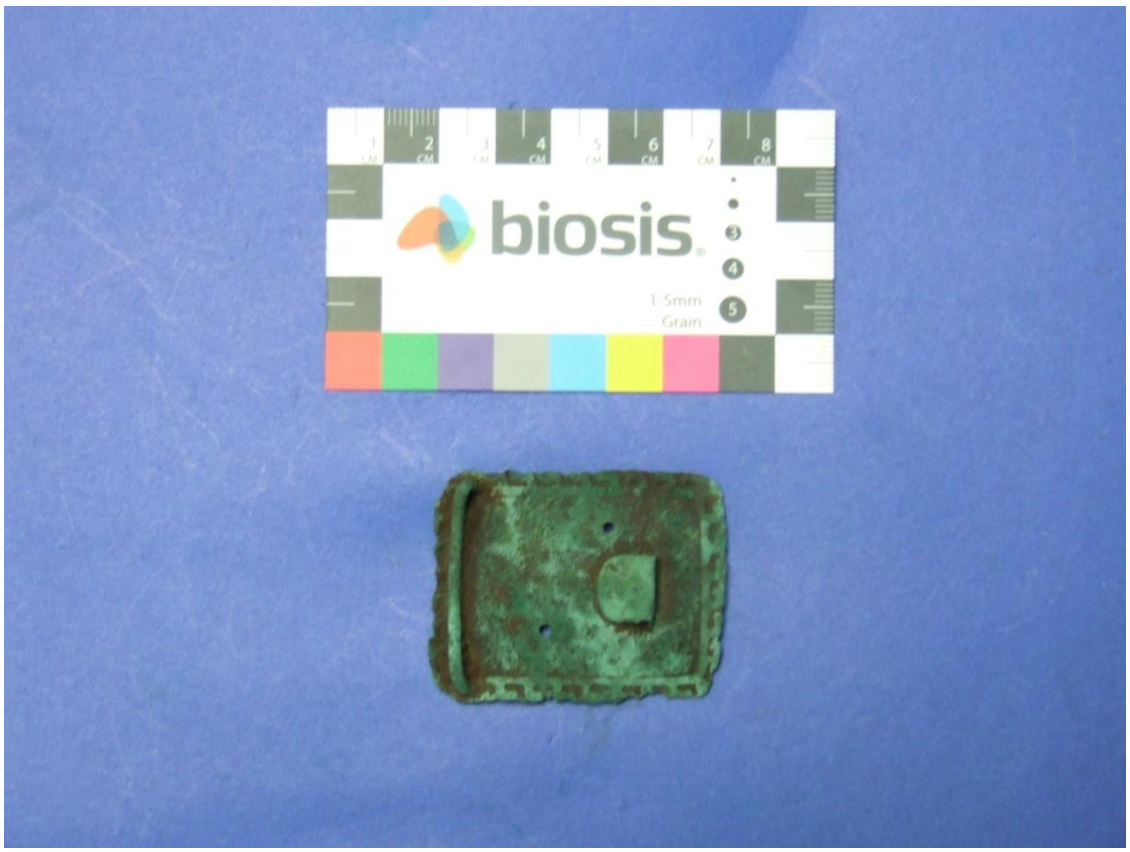


**Plate 40: G2BH11 East Context 005 Back**

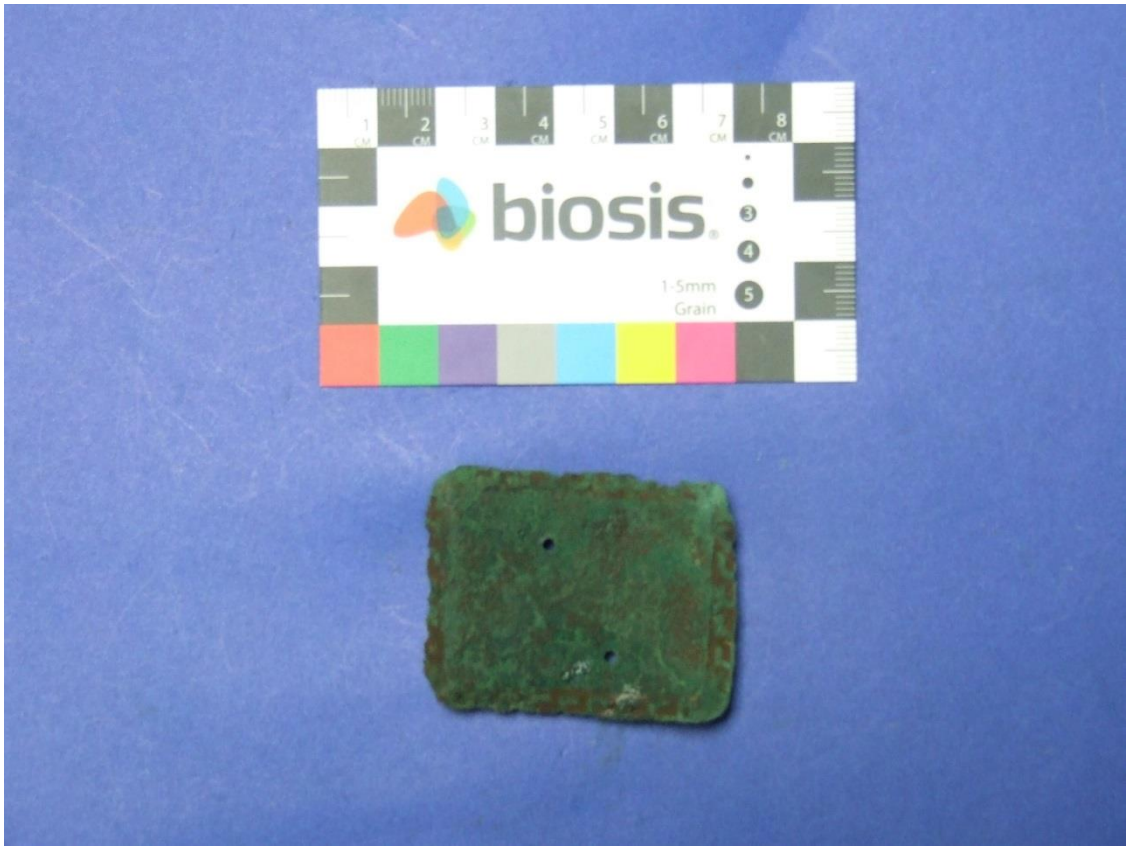


**Plate 41: G2BH11 East Context 005 Front**


**Plate 42: G2BH11 East Context 014**


**Plate 43: G2BH11 East Context 046**


**Plate 44: G2BH11 West Context 005**


**Plate 45: G2BH11 West Cleaning 006**


**Plate 46: G2BH11 West Context 006**


**Plate 47: G2BH11 West Context 010**


**Plate 48: G2BH11 West Context 010**


**Plate 49: G2BH11 West Context 010**


**Plate 50: G2BH11 West Context 012**


**Plate 51: G2BH11 West Context 013**


**Plate 52: G2BH11 West Context 013 Cup Fragments**


**Plate 53: G2BH11 West Context 013**


**Plate 54: G2BH11 West Context 014**


**Plate 55: G2BH11 West Context 016**


**Plate 56: G2BH11 West Context 016**


**Plate 57: G2BH11 West Context 005**


**Plate 58: G2BH11 West Context 002**


**Plate 59: G2BH11 West Context 002**


**Plate 60: G2BH11 West found during backfill, likely from 001 or 002**


**Plate 61: G2BH14 Context 001 Find 1**


**Plate 62: G2BH14 Context 001 Find 2**

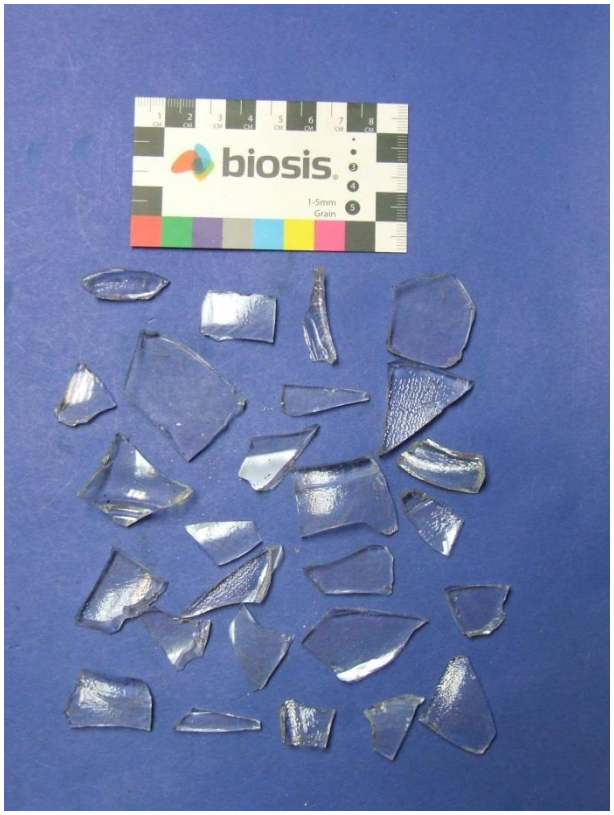


**Plate 63: G2BH14 Context 001 Find 3**


**Plate 64: G2BH14 Context 1 Find 15**

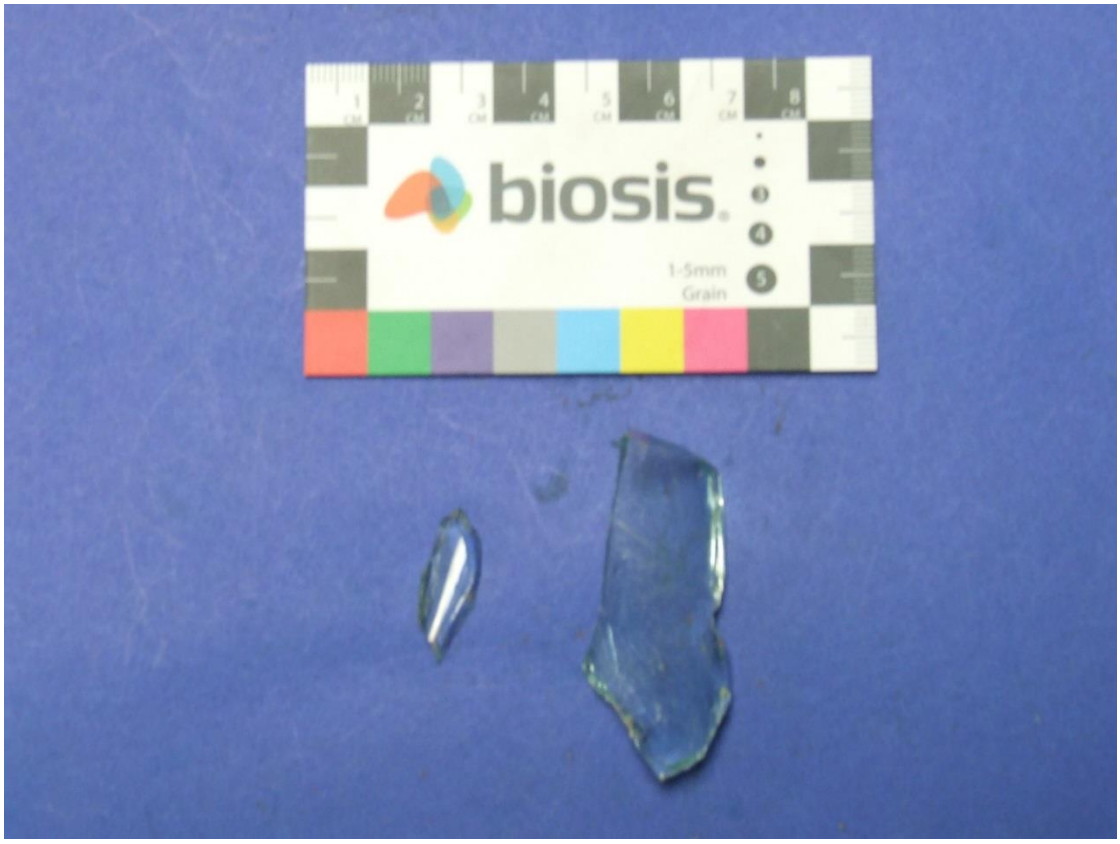


**Plate 65: G2BH14 Context 001 Find 16**


**Plate 66: G2BH14 Context 001 Find 24**


**Plate 67: G2BH14 Context 001 Find 27 (spoil heap)**


**Plate 68: G2BH14 Context 001 Find 27**


**Plate 69: G2BH14 Context 003 Find 4**


**Plate 70: G2BH14 Context 005 Find 5**

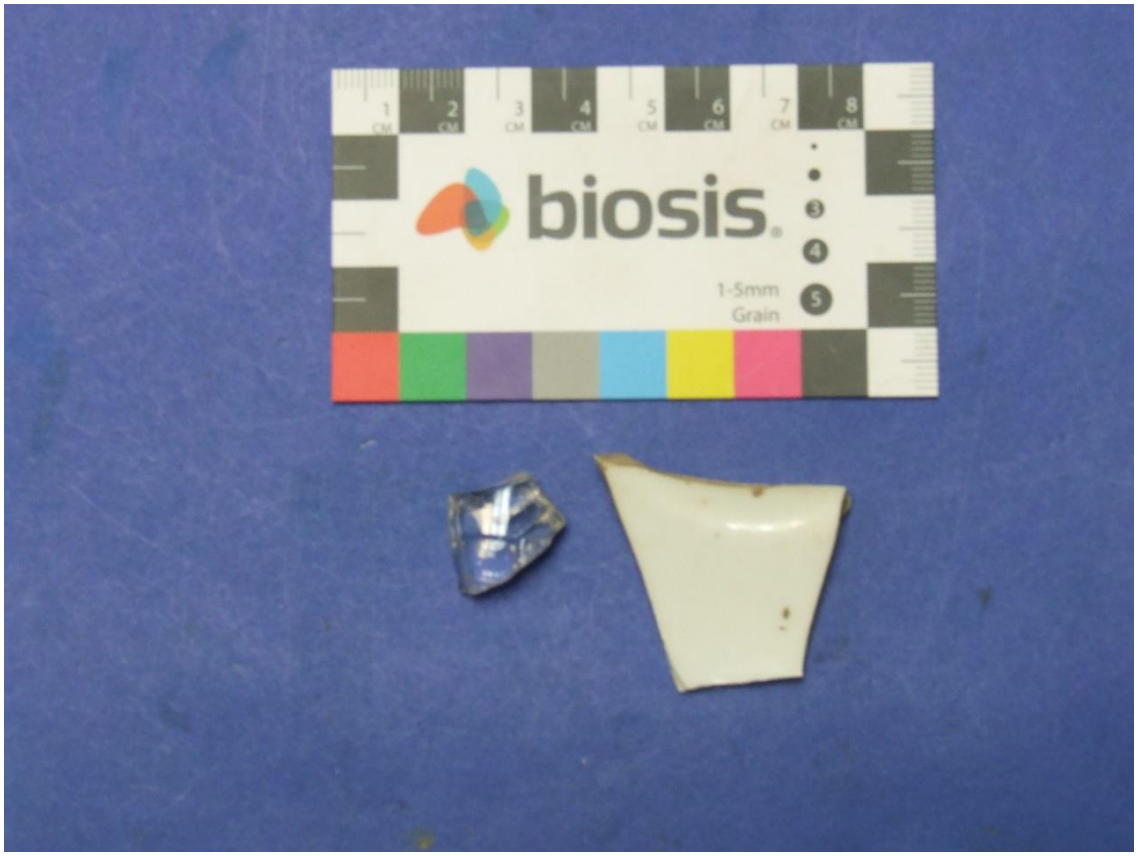


**Plate 71: G2BH14 Context 005 Find 6 Spoil Pile**


**Plate 72: G2BH14 Context 013 Find 7**


**Plate 73: G2BH14 Context 013 Find 8**


**Plate 74: G2BH14 Context 014 Find 9**


**Plate 75: G2BH14 Context 015 Find 10**


**Plate 76: G2BH14 Context 015 Find 10**


**Plate 77: G2BH14 Context 015 Find 11**


**Plate 78: G2BH14 Context 015 Find 13**


**Plate 79: G2BH14 Context 015 Find 14**


**Plate 80: G2BH14 Context 18 Find 18**


**Plate 81: G2BH14 Context 019 Find 17**


**Plate 82: G2BH14 Context 019 Find 19**


**Plate 83: G2BH14 Context 020 Feature 6 Find 20, sample of finds**


**Plate 84: G2BH14 Context 025 Find 22**


**Plate 85: G2BH14 Context 028 Find 23**


**Plate 86: G2BH14 Context 031 Find 28**

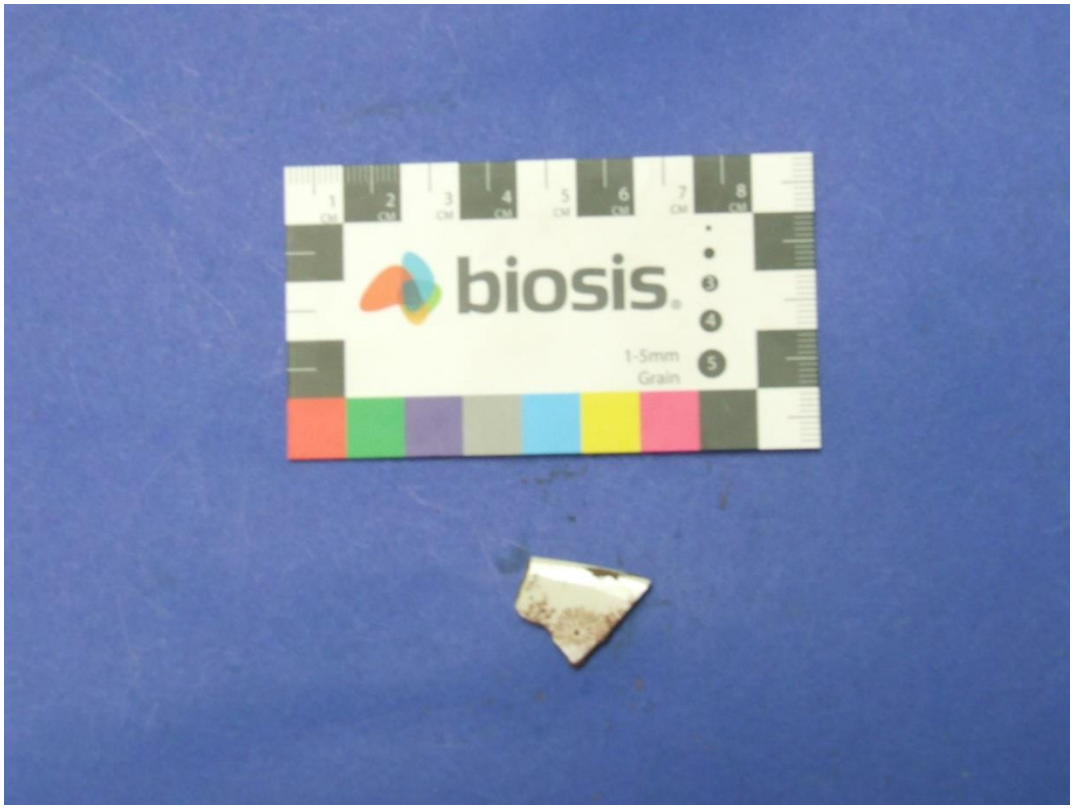


**Plate 87: G2BH49 Context 124**


**Plate 88: G2BH49 Area C ceramics**


**Plate 89: G2BH49 Area C fill of 062**


**Plate 90: G2BH49 Area C**


**Plate 91: G2BH49 Context 062**

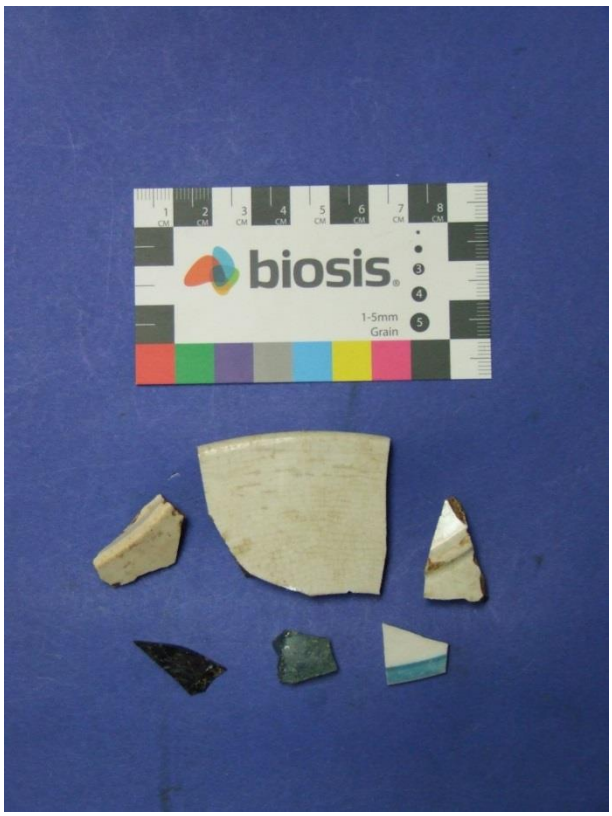


**Plate 92: G2BH49 Eastern and western extensions during hand excavation**


**Plate 93: G2BH49 Context 001**


**Plate 94: G2BH49 Context 001**


**Plate 95: G2BH49 Context 002**


**Plate 96: G2BH49 removal from feature**


**Plate 97: G2BH49 Context 001 ceramic**


**Plate 98: G2BH49 Context 001 glass**


**Plate 99: G2BH49 Western and eastern extensions of Context 002 ceramics**


**Plate 100: G2BH49 Western and eastern extensions of Context 002 glass**


**Plate 101: G2BH49 Eastern extension**

## 8.4 Appendix D – Contexts

### 8.4.1 G2B H11 – East – Contexts

| Context No. | Type | Description |
|---|---|---|
| **Archaeological Features** | | |
| **005** | Cut | 1.02 x 6.8 m irregular rectangular feature. Cut into deposits 003 and 004 and filled by 006. |
| **006** | Fill | The fill consists of a single layer of stones filling cut 005, this forms an irregular rectangle. Stones are not cut or dressed and moderately well packed. Fill was excavated to a depth of 220 mm in north-east corner, large stone removed (370 x 280 x 200 mm). Deposit between stones was a clayey loam, 10YR 3/3 dark brown. |
| **007** | Cut | 380 x 210 mm, oval cut feature – post hole. |
| **008** | Fill | 10YR 3/3 dark brown silty loam, fill for 007. |
| **009** | Cut | 170 x 130 mm, oval cut feature – post hole. |
| **010** | Fill | 10YR 3/2 dark brown silty loam, fill for 009. |
| **011** | Cut | 330 x 200 mm oval cut feature – post hole. |
| **012** | Fill | 10YR 3/3 dark brown silty loam, fill for 011. |
| **013** | Cut | 340 x 270 x 010 mm, oval cut feature – post hole. |
| **014** | Fill | 10YR 3/4 dark brown silty loam, fill for 013. |
| **015** | Cut | 360 x 130 mm, oval cut feature – post hole. |
| **016** | Fill | 10YR 3/2 dark brown silty loam, fill for 015. |
| **017** | Cut | 150 x190 mm, circular cut feature – post hole. |
| **018** | Fill | 10YR 3/3 dark brown silty loam, fill for 017. |
| **019** | Cut | 170 x 120 mm, oval cut feature – post hole. |
| **020** | Fill | 10YR 3/3 dark brown silty loam, fill for 019. |
| **021** | Cut | 240 x 140 mm, irregular cut feature - post hole |
| **022** | Fill | 10YR 3/4 dark brown silty loam, fill for 021. |
| **023** | Cut | 260 x190 mm, irregular cut feature - post hole |
| **024** | Fill | 10YR 3/2 dark brown silty loam, fill for 023. |

| Context No. | Type | Description |
|---|---|---|
| **025** | Cut | 370 x 280 mm, irregular cut feature - post hole. |
| **026** | Fill | 10YR 3/4 dark brown silty loam, fill for 025. |
| **027** | Cut | 230 x 170 mm, oval cut feature - post hole. |
| **028** | Fill | 10YR 3/2 dark brown silty loam, fill for 027. |
| **029** | Cut | 250 x 300 mm, irregular cut feature - post hole. |
| **030** | Fill | 10YR 3/3 dark brown silty loam, fill for 029. |
| **031** | Cut | 170 x 200 mm, oval cut feature - post hole. |
| **032** | Fill | 10YR 3/4 dark brown silty loam, fill for 032 |
| **033** | Cut | 540 x 220 x 44 mm, irregular cut feature - post hole. Extent of cut difficult to ascertain, like the majority of post holes in the centre of the area have been undermined by rabbit activity softening the fill. |
| **034** | Fill | 10YR 2/3 dark brown silty loam, fill for 033. Decayed post present in post hole. |
| **035** | Cut | 260 x 017 mm, irregular cut feature - post hole. |
| **036** | Fill | 10YR 3/2 dark brown silty loam, fill for 035. |
| **037** | Cut | 260 x 150 mm, irregular cut feature - post hole. |
| **038** | Fill | 10YR 3/2 dark brown silty loam, fill for 037. |
| **039** | Cut | 170 x 230 mm, oval cut feature - post hole. |
| **040** | Fill | 10YR 5/4 dark brown silty loam, fill for 039. |
| **041** | Cut | 190 mm x 220 cm, oval cut feature - post hole. |
| **042** | Fill | 10YR 3/3 dark brown silty loam, fill for 041. |
| **043** | Cut | 120 x 160 mm, circular cut feature - post hole. |
| **044** | Fill | 10YR 2/2 dark brown silty loam, fill for 043. |
| **045** | Cut | 470 x 310 x 520 mm, irregular cut feature - post hole. |
| **046** | Fill | 10YR 3/4 dark brown silty loam, fill for 045. Evidence of disturbance through rabbit burrowing present when fill was excavated. |

| Context No. | Type | Description |
|---|---|---|
| **047** | Cut | 420 x 280 mm, oval cut feature – post hole |
| **048** | Fill | 10YR 4/2 dark brown silty loam, fill for 047. |
| **049** | Cut | 650 x 380 mm, irregular cut feature - post hole |
| **050** | Fill | 10YR 3/3 dark brown silty loam, fill for 049. |
| **051** | Cut | 310 x 210 mm, oval cut feature - post hole. |
| **052** | Fill | 10YR 3/2 dark brown silty loam, fill for 051 |
| **053** | Cut | 220 x 260 cm, circular cut feature - post hole. |
| **054** | Fill | 10YR 2/2 dark brown silty loam, fill for 053. |
| **055** | Cut | 360 x 160 mm, irregular cut feature - post hole. |
| **056** | Fill | 10YR 3/2 dark brown silty loam, fill for 055 |
| **057** | Cut | 420 x 310 mm, irregular cut feature - post hole. |
| **058** | Fill | 10YR 3/4 dark brown silty loam, fill for 057. |
| **059** | Cut | 480 x 460 mm x 380 mm, oval cut feature - post hole. |
| **060** | Fill | 10YR 3/2 dark brown loose, gravelly fill present, making half sectioning impossible. Fill contains rotted post, around 20cm in diameter. Fill for 059 |
| **061** | Cut | 240 x 300 mm, oval cut feature - post hole. |
| **062** | Fill | 10YR 3/4 dark brown silty loam, fill for 061. |
| **063** | Cut | 150 x 260 mm, oval cut feature - post hole. |
| **064** | Fill | 10YR 3/1 dark brown silty loam, fill for 063. |
| **065** | Cut | 140 x 220 mm, oval cut feature - post hole. |
| **066** | Fill | 10YR 3/3 dark brown silty loam, fill for 065 |

### 8.4.2 G2B H49 – Contexts

| Context No. | Type | Description |
|---|---|---|
| **Area A - Archaeological Deposits and Features** | | |
| **001** | Deposit | 10YR3/3 Dark brown slightly clayey loam topsoil. 0mm to 140mm in depth, Deposit covers Area A and Area B to the south. Deposit contains root inclusions. |
| **003** | Cut | 4800 x 49 x 260 mm. Straight sided linear cut, running east to west through the trench. Possibly cut for absorption tank. |
| **004** | Fill | 5YR3/3 Dark reddish brown mixed silty clay fill, with rounded stone rubble (120 mm – 150mm) and 8 sheets of corrugated iron. Fill of context 003 |
| **005** | Cut | 2800 x 100 mm, running diagonally (north-west to south-east) through trench. Cut made for telephone line |
| **006** | Fill | 7.5YR3/3 dark brown clayey loam. Fill of 005. |
| **007** | Cut | 2500 x 100 mm, running South-South-East from north-east corner of Area A. Cut for telephone line. |
| **008** | Fill | 7.5YR3/3 Dark brown clayey loam. Fill of 007. |
| **009** | Cut | 3000 m x 120mm linear cut containing cable running North-West to South-East. |
| **010** | Fill | 10YR3.3 dark brown loamy clay. Fill of 009. |
| **011** | Cut | 500 x 500 mm circular cut - posthole. |
| **012** | Fill | 7.5YR4/2 Brown clayey loam with 1 stone (50 x 50 mm), similar to topsoil, but distinct from surround. Fill of 011. |
| **013** | Cut | 250 x 250 mm rounded cut - posthole |
| **014** | Fill | 7.5YR4/2 brown clayey loam. Fill of 013. |
| **015** | Cut | 100 x 180 mm circular cut – posthole. |
| **016** | Fill | 7.5YR4/4 brown clayey loam. Fill of 015. |
| **017** | Fill | 7.5YR3/2 dark brown loam. Fill of post hole 015. |
| **018** | Deposit | 7.5YR3/2 dark brown silty loam with few root inclusions. Under context 001 and above context 019. |
| **019** | Deposit | 7.5YR3/3 dark brown Silty clay, 180 –240 mm in depth continuing to the base of |

| Context No. | Type | Description |
|---|---|---|
| | | trench. |
| **020** | Deposit | 7.5YR3/3 dark brown silty clay, 4800 x 2500 mm deposit context 003 cuts through this deposit. |
| **021** | Cut | 340 x 340 mm circular cut – posthole. This context cuts through contexts 023 and into 020 and is cut by 003. |
| **022** | Fill | 7.5YR4/4 Brown silty clay with 4 cobblestones (~80 mm in diameter). Fill of 021. |
| **023** | Deposit | 7.5YR4/4 brown clayey loam. 470-300 mm of fill between posthole (contexts 021 and 022) and utility pit. Fill continues underneath unexcavated utility pit. |
| **029** | Cut | Cut of Telstra utility pit |
| **030** | Fill | Unexcavated fill of context 29 |
| **Area B - Archaeological Deposits and Features** | | |
| **024** | Deposit | 7.5YR3/3 Dark brown clayey loam mixed deposit. 2150–960mm extent from east of utility pit to western bank of trench. |
| **002** | Deposit | 10YR3/3 dark brown, dry, slightly clayey, loam topsoil surface to 100mm in depth, Moderately clear horizon with lower deposits. Extent covers entirety of Area B. |
| **025** | Deposit | 7.5YR3/3 dark brown silty loam with few root inclusions. 100-230mm in depth. |
| **026** | Deposit | 7.5YR3/4 dark brown silty clay, 230–300mm in depth continuing to the base of the trench. |
| **027** | Cut | Irregular linear feature Cut with extent is from eastern wall of the trench and curves around to branch through the centre of the trench heading south |
| **028** | Fill | Fill of context 27. Stone and loose cobbles |
| **031** | Cut | Oval shaped cut, 400 mm (north-south) x 280 mm (east–west) |
| **032** | Fill | Unexcavated fill of context 31, sealed by context 28 and probably cut by context 27 |
| **033** | Cut | Sub-rounded cut, 250 mm (north-south) x 250 mm (east–west) |
| **034** | Fill | Unexcavated fill of context 033 |
| **035** | Cut | Cut of modern PVC water pipe, which extends across the site (east-west) and forms the boundary between Area B and Area C |

| Context No. | Type | Description |
|---|---|---|
| **036** | Fill | Unexcavated fill of context 035 |
| **Area C- Archaeological Deposits and Features** | | |
| **041** | Cut | Rectangular cut, 180 mm (north-south) x 270 mm (east–west) |
| **042** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 041 |
| **043** | Cut | Rectangular cut, 450 mm (north-south) x 570 mm (east–west) - posthole |
| **044** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 043. Contains a rectangular post in situ. |
| **045** | Cut | Rectangular cut, 280 x 200 mm - posthole |
| **046** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 045 |
| **047** | Cut | Linear, rectangular cut 400 x 510 mm |
| **048** | Fill | 7.5YR4/2 Brown, mottled clayey silt, unexcavated fill of 047 |
| **049** | Cut | Linear, rectangular cut, 340 x 280 mm - posthole |
| **050** | Fill | 7.5YR4/2 Brown, silty clay, unexcavated fill of 049 |
| **051** | Cut | Linear rectangular cut, 120 mm (north-south) x 380 mm (east–west) – posthole. Similar to context 059/060, 101/102 and 103/104 |
| **052** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 051 |
| **053** | Cut | Linear rectangular cut, 210 mm (north-south) x 480 mm (east–west) - posthole |
| **054** | Fill | 7.5YR4/2 Brown, clayey silt with brick packing, unexcavated fill of 053 |
| **055** | Cut | Linear, slightly rounded 420mm x 270mm - posthole |
| **056** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 055 |
| **057** | Cut | Linear, rectangular cut, 400 x 580 mm - posthole |
| **058** | Fill | 7.5YR4/2 Brown, clayey silt with pebble inclusions. Half sectioned (eastern half) fill of 058 |
| **059** | Cut | Linear, rectangular cut, 400 x 120 mm - posthole |
| **060** | Fill | 7.5YR4/2 Brown, clayey silt with pebble inclusions (40 x 30 mm), unexcavated fill of 059 |

| Context No. | Type | Description |
|---|---|---|
| **061** | Cut | Linear, rectangular cut, 280 x 500 mm - posthole, running north-east to south-west |
| **062** | Fill | 7.5YR4/2 Brown, clayey silt. Half sectioned (north-eastern half) fill of 061, containing a wooden post (120 x 30 mm) |
| **063** | Cut | Linear, rectangular cut, 370 x 270 mm – posthole, running north to south |
| **064** | Fill | 7.5YR4/2 Brown, clayey silt with pebble inclusions (50mm x 30mm), unexcavated fill of 063 |
| **065** | Cut | Linear, rectangular cut, 480 x 350 mm - posthole |
| **066** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 065. Clear horizon onto surrounding contexts |
| **067** | Cut | Linear, rectangular cut, 350 x 260 mm - posthole |
| **068** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 067. Only the northern end is exposed, the rest is covered by the southern baulk |
| **069** | Cut | Linear, rectangular cut, 300 x 220 mm - posthole |
| **070** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 070. Clear horizon onto surrounding contexts |
| **071** | Cut | Cut, 230 x 250 mm, which is not likely to be the cut of a posthole |
| **072** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 071 |
| **073** | Cut | Linear, rectangular cut, 380 x 340 mm - posthole |
| **074** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 073 |
| **075** | Cut | Irregular oval shaped cut, 350 x 280 mm - posthole |
| **076** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 076 |
| **077** | Cut | Square cut, 220 x 190 mm - posthole |
| **078** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 078 |
| **079** | Cut | Rectangular cut, 300 x 220 mm |
| **080** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 080 |
| **081** | Cut | Sub-rectangular cut, 400 mm (north-south) x 360 mm (east–west) |

| Context No. | Type | Description |
|---|---|---|
| **082** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 081 |
| **083** | Cut | Square cut, 320 mm (north-south) x 400 mm (east–west) |
| **084** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 083 |
| **085** | Cut | Rectangular cut, 220 mm (north-south) x 270 mm (east–west) |
| **086** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 085 |
| **087** | Cut | Rectangular cut, 300 mm (north-south) x 420 mm (east–west) |
| **088** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 087. Located immediately north of Contexts 89 & 90 |
| **089** | Cut | Rectangular cut, 390 mm (north-south) x 620 mm (east–west) |
| **090** | Fill | 7.5YR4/2 Brown, clayey silt with inclusions of single rock fragments, unexcavated fill of 089 |
| **091** | Cut | Rectangular cut, 320 mm (north-south) x 470 mm (east–west) |
| **092** | Fill | 7.5YR4/2 Brown, clayey silt, possible re-cut feature, unexcavated fill of 091 |
| **093** | Cut | Sub-rectangular cut, 620 mm (north-east to south-west) x 470 mm(north-west to south-east) |
| **094** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 093 |
| **095** | Cut | Oval shaped cut, 400 mm (north–south) x 370 mm (east-west) |
| **096** | Fill | 7.5YR4/2 Brown, clayey silt with possible stone packing, unexcavated fill of 095, located immediately east of contexts 97 & 98. |
| **097** | Cut | Small oval cut, 270 mm (north–south) x 200mm (east-west) |
| **098** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 097 |
| **099** | Cut | Rectangular cut, 480 mm (north–south) x 500 mm (east–west) |
| **100** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 099 |
| **101** | Cut | Rectangular cut, 220 mm (north–south) x 350 mm (east–west) |
| **102** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 101 |
| **103** | Cut | Rectangular cut, 250 mm (north–south) x 270 mm (east–west) |

| Context No. | Type | Description |
|---|---|---|
| **104** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 104 |
| **105** | Cut | Rectangular cut, 270 mm (north–south) x 510 mm (east–west) |
| **106** | Fill | 7.5YR4/2 Brown, clayey silt, fill of 105, which has been partially excavated (eastern half). |
| **107** | Cut | Sub-rectangular cut, 320 mm (north–south) x 270 mm (east–west) |
| **108** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 107 |
| **109** | Cut | Rectangular cut, 250 mm (north–south) x 410 mm (east–west) |
| **110** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 109 |
| **111** | Cut | Rectangular cut, 270 mm (north–south) x 500 mm (east–west) |
| **112** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 111 |
| **113** | Cut | Rectangular cut, 370 mm (north–south) x 510 mm (east–west) |
| **114** | Fill | 7.5YR4/2 Brown, clayey silt, possibly re-cut, unexcavated fill of 113 |
| **115** | Cut | Sub-rectangular cut, 350 mm (north–south) x 220 mm (east–west), running in line with contexts 133 & 114 |
| **116** | Fill | 7.5YR4/2 Brown, clayey silt running in line with contexts 133 & 114, unexcavated fill of 115 |
| **117** | Cut | Sub-rectangular cut, 300 x 320 mm |
| **118** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 117 |
| **119** | Cut | Rectangular cut, 350 x 390 mm |
| **120** | Fill | 7.5YR4/2 Brown, clayey silt, unexcavated fill of 119 |
| **121** | Cut | Oval cut, 360 x 310 mm |
| **122** | Fill | 7.5YR4/2 Brown, clayey silt with charcoal inclusions, unexcavated fill of 121 |
| **123** | Cut | Rectangular cut, 600 x 450 mm |
| **124** | Fill | 7.5YR3/4 Dark brown clayey silt with charcoal inclusions and stone packing, fill of 123. Also contains a transfer printed earthenware rim |
| **125** | Cut | Irregular sub-rectangular cut, 960 x 630 mm |

| Context No. | Type | Description |
|---|---|---|
| **126** | Fill | 7.5YR3/4 Dark brown, clayey silt with charcoal inclusions, fill of 125. Half-sections to a depth of 20 mm, showing the cut to be quite shallow<br><br>Fill is shallow deposit (20mm thick) masking the cut feature – measures 150 x 200 mm |
| **127** | Cut | Rectangular cut, 340 x 300 mm |
| **128** | Fill | 7.5YR4/2 Brown, clayey silt with charcoal inclusions, unexcavated fill of 127 |
| **129** | Cut | Rectangular cut, 250 x 300 mm |
| **130** | Fill | 7.5YR4/2 Brown, clayey silt with charcoal inclusions, unexcavated fill of 129 |
| **131** | Deposit | 300 x 200 mm unexcavated oval shaped deposit with ashy fill, possibly intrusion from an ashy deposit above |
| **132** | Cut | Rectangular cut, 350 x 280 mm |
| **133** | Fill | 7.5YR3/4 Dark brown silt, unexcavated fill of 132. Possible beam slot which may be associated with contexts 134/135 |
| **134** | Cut | Linear cut, 800 x 230 mm, running east to west - not a posthole |
| **135** | Fill | 7.5YR3/4 Dark brown, clayey silt with charcoal and pebble inclusions, unexcavated fill of 134 |
| **136** | Cut | Sub-rectangular cut, 310 x 340 mm |
| **137** | Fill | 7.5YR3/4 Dark brown, clayey silt, unexcavated fill of 136 |
| **Area D- Archaeological Deposits and Features** | | |
| **037** | Cut | Cut, 200 x 200 mm, 130 mm deep – posthole. Near eastern edge of trench 3 |
| **038** | Fill | 7.5YR4/2 Brown silty loam with small, pebble packing (less than 50 mm), fill of 037. Half-sectioned to a depth of 130 mm |
| **039** | Cut | Rectangular cut, 200 mm (north–south) x 200 mm (east–west), located immediately to north-east of context 037 and 038 |
| **040** | Fill | 7.5YR4/2 Brown, silty loam, unexcavated fill of context 040 |