

# **“Fairways North” and “Golf Town” Precincts Bingara Gorge, Wilton, Wollondilly Shire LGA, NSW**

Cultural Heritage Assessment and Test Excavation Report

Prepared on behalf of Lend Lease Communities (Wilton) Pty Ltd

February 2018

Lance Syme, Natalie Stiles and Amy Butcher

**KAYANDEL**  
ARCHAEOLOGICAL SERVICES



☎ 02 4627 8622

☎ 02 4605 0815

✉ [Info@kayandel.com.au](mailto:Info@kayandel.com.au)

#### Document Status

Version	Purpose of Document	Orig	Review	Review Date	Approval for Issue	Date Issued
1.0	Internal Edits	N STILES	L SYME	27/8/2017	L SYME	29/8/2017
1.1	Draft for Client Review	N STILES	R CURLEWIS	29/8/2017	R CURLEWIS	30/8/2017
1.2	Draft for RAP Review	N STILES	L SYME	4/9/2017	L SYME	11/9/2017
1.3	Issue to Client for WSC Submission	N STILES	L SYME	4/9/2017	L SYME	11/9/2017
2.0	Issue FINAL to Client	N STILES	L SYME	9/1/2018	L SYME	7/3/2018

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## Executive Summary

Kayandel has been commissioned by Lend Lease Communities (Wilton) Pty Ltd (LLCW) (the Proponent) to conduct an archaeological test excavation within portions of the "Fairways North" (previously referred to as "Rural") and "Golf Town" Precincts in the Bingara Gorge development area, and subsequently prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR) in relation to Aboriginal cultural heritage within the Subject Area.

Navin Officer (2003a), KAS (2014) and KAS (2015d) have previously assessed portions of the Subject Area as part of archaeological surveys and cultural heritage assessments for the Bingara Gorge development.

The current assessment is being undertaken in order to determine the full extent and likely depth of BG-IF-02, BG-PAD-01, BG-PAD-02 and BG-PAD-03 identified within the Fairways North Precinct and to confirm absence and/or presence of artefact bearing deposits within the Golf Town Precinct.

The following study aims to fulfil these conditions and provide a report of Aboriginal cultural heritage within the Subject Area, in order to obtain an AHIP for development impacts to the identified Aboriginal sites.

This report has been prepared to be a consolidated Cultural Heritage Assessment and Excavation Report detailing the results from previous archaeological surveys (Navin Officer: 2003a; KAS 2014; 2015d), and the Phase 1 test excavation.

As identified in Section 6.5, Navin Officer (2003a) and KAS (2015a; 2015d) have previously undertaken field surveys of the Subject Area.

No Aboriginal sites were identified by Navin Officer (2003a) within the extent of the Subject Area.

The Subject Area contains eight (8) Aboriginal sites; 5 artefacts were identified during the current subsurface investigation (refer to Table 12, Figure 29 to Figure 45, and Figure 46). As a result of the excavation, the extent of BG-PAD-01 has been redefined; BG-PAD-02 has been determined to be "not a valid site"; BG-PAD-03 has been determined to be 2 Aboriginal sites (BG-IF-04 and BG-AS-004) and BG-IF-02 is a single surface artefact.

BG-IF-02 has been determined to be a single surface artefact located north of the "Condell" homestead, and was identified on a flat landform approximately 180 north of a 1st order stream.

The extent of BG-PAD-01 has been redefined to exclude the land within the "Fairways North" Precinct as a result of the current investigation; as no Aboriginal objects were recovered from the test pits within the extent of the PAD present in the "Fairways North" Precinct.

BG-PAD-02 has been determined to be "not a valid site" based on the results of the current subsurface investigation, as no Aboriginal objects were identified in the ninety-five (95) test pits excavated within the extent of the PAD.

As a result of the test excavation and the identification of artefacts in two distinct locations, BG-PAD-03 has now been reclassified as two distinct Aboriginal sites (BG-IF-04 and BG-AS-004).

BG-IF-04 is a proximal fragment, which was identified on the surface of pit T15-680A.

BG-AS-004 is an artefact scatter (n=3) located in pit T11-580 at between 10cm and 20cm depth.

BG-IF-03 is a right cone-split, which was located in pit T13-580 at between 0cm and 10cm depth.

BG-ST-01 is a mature gum tree with a scar on the south west face of the trunk (see Plate 16 and Plate 17); as noted in Section 1.4, the current assessment was limited to the subsurface investigation within the "Fairways North" and "Golf Town" Precincts, and as such no further assessment of BG-ST-01 has been undertaken as part of this current assessment. A detailed Aboriginal assessment of BG-ST-01 should be undertaken (including an Arborist assessment), in order to determine the nature of the scar.

Construction works in proximity of BG-ST-01 must be limited to the land outside of the tree canopy in order to prevent any impact(s) and/or harm to the identified Aboriginal site. If the development design cannot be amended to conserve BG-ST-01, an Aboriginal Heritage Impact Permit under Part 6 of the *National Parks and Wildlife Act, 1974* will need to be sought from the Office of Environment and Heritage prior to impacts occurring at BG-ST-01.

KAS has concluded that the natures of BG-IF-02, BG-IF-03, BG-IF-04, BG-AS-004, and the consequently low archaeological assessment, indicates that the sites within the 15C Investigation Area are unlikely to pose a long-term constraint to proposed construction works outlined in Section 1.2.

On consideration of previous disturbance, the archaeological context and the significance of the identified Aboriginal sites within the Subject Area, it has been determined that no further investigation is required prior to an application for an AHIP for the four (4) sites being made to the OEH (refer to Table 16).

It should be noted, that should the proposed development layout be altered to include land not considered as part of this assessment, additional inspections and/or subsurface investigation of these areas will be necessary.

## Obligations

- 1 An Aboriginal Heritage Impact Permit under Part 6 of the *National Parks and Wildlife Act 1974* for any impacts to Aboriginal objects within the Subject Area;
- 2 Site Cards to be prepared for all Aboriginal sites identified in this study that are not currently recorded in Aboriginal Heritage Information Management System maintained by the Office of Environment and Heritage;
- 3 Updated site cards should be prepared where the extents of Aboriginal sites have been revised;
- 4 Should Aboriginal sites and/or objects be found during the proposed work, and where an AHIP has not authorised impacts to said artefact, work must cease immediately and OEH must be contacted to inspect the artefacts; and,
- 5 Subsequent to any work undertaken within the Subject Area an Aboriginal Site Impact Recording (ASIR) form must be completed for each of the Aboriginal sites, detailing the impact and should be lodged with the AHIMS Registrar in a timely fashion.



## Recommendations

The following management principles and recommendations are based on:

- The legal requirements of the *National Parks and Wildlife Act 1974* (as amended), whereby it is illegal to damage, deface or destroy an Aboriginal relic without first obtaining the written consent of the Chief Executive of National Parks & Wildlife Service;
- The legal requirements of the *Heritage Act 1977*, whereby it is illegal to disturb or excavate any land knowing or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed unless the disturbance or excavation is carried out in accordance with an excavation permit;
- The requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW, 2010a);
- The requirements of the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011);
- The findings presented within this Cultural Heritage Assessment and Test Excavation Report; and,
- Recognition of the extended period of which development activities will occur within the Subject Area.

KAS recommends the following:

1. No further archaeological investigation is required at BG-IF-02 (AHIMS #52-2-4027), BG-IF-03 (AHIMS #52-2-4434), BG-IF-04 (AHIMS #52-2-4432), BG-AS-004 (AHIMS #52-2-4433) prior to the lodgement of an Aboriginal Heritage Impact Permit (AHIP);
2. Site cards should be prepared for BG-IF-03, BG-IF-04 and BG-AS-004, and provided to AHIMS;
3. An updated site card should be prepared for BG-PAD-01 and provided to AHIMS;
4. Aboriginal Site Impact Recording Forms (ASIRs) should be prepared for BG-PAD-02 and BG-PAD-03 with the updated status of the site and provided to AHIMS;
5. A more detailed assessment of BG-ST-01 should be prepared including an Arborist assessment;
6. The detailed design should be amended in order for the construction works to prevent direct and/or indirect impacts to BG-ST-01;
7. Construction works in proximity of BG-ST-01 must be limited to the land outside of the tree canopy in order to prevent any impact(s) and/or harm to the identified Aboriginal site;
8. Internal management system in regards to the protection of all known Aboriginal sites within the Bingara Gorge development should be established, in order to prevent any future impact(s) and/or harm to identified Aboriginal sites;
9. An Aboriginal Heritage Impact Permit (AHIP) under Part 6 of the *National Parks and Wildlife Act 1974* should be sought for BG-IF-02, BG-IF-03, BG-IF-04, and BG-IF-004. This AHIP should be sought for all known and unknown Aboriginal objects within the mapped extent of BG-IF-02 (AHIMS #52-2-4027), BG-IF-03 (AHIMS #52-2-4434), BG-IF-04 (AHIMS #52-2-4432), BG-AS-004 (AHIMS #52-2-4433) (refer to Figure 49), as a strategy to minimise the risk of delays during works that may results from unexpected finds;

10. Temporary fencing should be erected around the extents of all Aboriginal sites within the development precincts in order to prevent inadvertent damage to the sites occurring prior to the approval of an AHIP (refer to Figure 49);
11. The aforementioned temporary fencing should be maintained in good repair and should be inspected every 4 weeks by a qualified Archaeologist experienced in Aboriginal Cultural Heritage, until such time as an AHIP has been determined;
12. Community collection of BG-IF-02 should be proposed as a mitigation strategy for the AHIP, with consultation and approval of the RAPs;
13. Previous analysis of lithics from earlier excavations in the Bingara Gorge should be reconsidered as works progress in this region, to ensure that a consistent typological framework is established and maintained for investigations in this region; and,
14. Further investigation should be made into sites within the Nepean Ramp Utilisation Zones (as outlined in Section 6.7 of this report), with the following research objectives in mind:
  - To determine the extent of Utilisation Zones 1-4, and how they relate to one another;
  - To determine the site types expected in each utilisation zone.
15. A copy of the final report should be sent to the Registered Aboriginal Parties (RAPs).

Disclaimer: This archaeological assessment and the management recommendations contained herein, will be independently reviewed by the Planning & Aboriginal Heritage Section of the NSW Office of Environment & Heritage (OEH), and the relevant Aboriginal community.

OEH and the Aboriginal community will make consideration of the findings of the consultant's report and the recommendations in relation to the management of cultural heritage. Formal approval for all actions outlined should be sought from the relevant authority prior to the completion of any works. At no time should automatic approval of the management recommendations stated herein be assumed.

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# 1 INTRODUCTION

Kayandel has been commissioned by Lend Lease Communities (Wilton) Pty Ltd (LLcW) (the Proponent) to conduct an archaeological test excavation within portions of the "Fairways North" (previously referred to as "Rural") and "Golf Town" Precincts in the Bingara Gorge development area, and subsequently prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR) in relation to Aboriginal cultural heritage within the Subject Area.

Navin Officer (2003a), KAS (2014) and KAS (2015d) have previously assessed portions of the Subject Area as part of archaeological surveys and cultural heritage assessments for the Bingara Gorge development.

Navin Officer (2003a) undertook a broad inspection of the "Wilton Park" property, now Bingara Gorge, as part of the Local Environmental Study, in preparation for the rezoning of the property for the development of a 1000 lot subdivision and associated community infrastructure. Whilst Navin Officer did identify Aboriginal Sites during this survey, none were identified within the present Subject Area; however, a number of sites were identified immediately adjacent to the Subject Area.

KAS had prepared an assessment of the Subject Area (KAS, 2014) to evaluate the potential impacts to Aboriginal heritage within the areas of the four Development Application Areas. These areas are identified as Fairways West, Rural, Golf Town, and Bushland. During the field survey, BG-PAD-01, BG-PAD-02 and BG-PAD-03 were identified within the Fairways North Precinct (previously referred to as the Rural Precinct), while no Aboriginal sites were identified within the Golf Town Precinct.

KAS (2015d) undertook an archaeological assessment of the proposed fire trail alignment within the Bingara Gorge, Wilton, NSW. As the fire trail alignment incorporated areas previously assessed by KAS in 2013 (KAS, 2014), it was decided that the assessment would be limited to the alignment of the fire trails located within the Environmental Protection and Recreation Lands (EP&R Lands). During the field survey, BG-ST-01 was identified within the Fairways North Precinct; however, the Golf Town Precinct was subject to assessment as part of KAS (2015d).

The current assessment is being undertaken in order to determine the full extent and likely depth of BG-IF-02, BG-PAD-01, BG-PAD-02 and BG-PAD-03 identified within the Fairways North Precinct and to confirm absence and/or presence of artefact bearing deposits within the Golf Town Precinct.

The following study aims to fulfil these conditions and provide a report of Aboriginal cultural heritage within the Subject Area, in order to obtain an AHIP for development impacts to the identified Aboriginal sites.

This report has been prepared to be a consolidated Cultural Heritage Assessment and Excavation Report detailing the results from previous archaeological surveys (Navin Officer: 2003a; KAS 2014; 2015d), and the Phase 1 test excavation.

## 1.1 Location of the Subject Area

The Subject Area comprises of two (2) distinct locations, within the wider Bingara Gorge development, Wilton within the Wollondilly Shire Council (WSC) Local Government Area (LGA), and covers approximately 54.24 hectares (see Figure 1).

The Subject Area comprises of two (2) distinct locations which are separated by the incised gorge of Stringybark Creek (see Figure 2):



- ✦ Fairways North Precinct, incorporating part Lots 1, 26 & 31 DP270536, is located between Stringybark Creek to the east and the Hume Highway to the west, and continues the extension of Fairways Drive past the Condell Park Homestead. The Fairways North Precinct is approximately 33.7ha in size (see Figure 3);
- ✦ Golf Town Precinct, incorporating part Lots 1 & 5 DP270536, and Lots 207 & 211 DP1104390, is located north-west from the northern end of Broughton Street, and is located between Stringybark Creek to the west and Allens Creek to the east. The Golf Town Precinct is approximately 20.5ha in size (see Figure 4).

## 1.2 Proposed Works

The proposed development works for the Subject Area will include a residential subdivision and will involve earthwork, laying of associated infrastructures for residential purposes, subdivision, construction of residential dwellings, and construction of roads and associated infrastructure. A layout of the proposed residential subdivision has been included (see Figure 5).

The proposed development works will also include the construction of bush fire trail alignments to be built in accordance with the determination from the Land and Environment Court.

## 1.3 Study Aim and Objectives

This primary aim of this report is to detail the results of the archaeological investigations undertaken within the Subject Area, and any appropriate management considerations in accordance with the *Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW* (Code of Practice) (DECCW, 2010a). In detailing these results, this report aims to justify why it is not necessary to seek an AHIP for the proposed development, as the proposed works will not result in impacts to known and unknown Aboriginal objects. To fulfil these aims, the following objectives have been identified:

- Provide the results of the field surveys undertaken within the Subject Area;
- Provide the results of sub-surface investigation within the Subject Area (undertaken between 6<sup>th</sup> February and 23<sup>rd</sup> May 2017);
- Provide a discussion of these results which will help to assess the Archaeological Significance of the sites located within the Subject Area;
- Articulate any management considerations or constraints on development, based on evidence of Aboriginal objects and levels of previous ground disturbance; and,
- Provide suitable management considerations for the identified sites.

The report has generally been prepared in accordance with the specifications of *The Guide for Investigating, Assessing, and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011). The following tasks were proposed to be undertaken to achieve these objectives:

- ✦ A review of background information, including landscape and ethnographic history as described in the *Code of Practice* (DECCW, 2010a);
- ✦ A review of archaeological context, including identification of known Aboriginal sites in the Subject Area through a search of Aboriginal Heritage Information Management System (AHIMS) and an analysis of existing archaeological reports relating to the Subject Area and its immediate environs;
- ✦ Detail the consultation undertaken with Aboriginal community stakeholders;
- ✦ Determine if subsurface artefacts are present within the area defined as the proposed development footprint;
- ✦ Characterise the nature of any archaeological deposits encountered (within the limitations of the sampling and processing methodology);

- Provide informed mitigation measures and management recommendations for any sites located within the proposed development area; and,
- Achieve a greater understanding of the archaeological subsurface deposits within the Bingara Gorge development and the wider Wilton area.

## 1.4 Study Limitation

The previous field surveys were limited by the low visibility of the ground surface within the Subject Area. Thick, medium length grass and leaf litter covered most of the area surveyed, preventing inspection of the ground surface and subsurface soils. This limited the effectiveness of the survey. Limited areas of exposed ground throughout the Subject Area provided better visibility, but overall, visibility was between 10% and 20% throughout the Subject Area.

The test excavation was limited to BG-IF-02, BG-PAD-01, BG-PAD-2, BG-PAD-03, and archaeologically sensitive landforms (as initially identified by Navin Officer (2003a) and expanded upon by KAS) present within the development precincts.

There have been limited large landform archaeological subsurface investigations within the Bingara Gorge development and the Wilton area, and as such, there is limited comparable data for the current investigation.

The current assessment was limited to the subsurface investigation within the "Fairways North" and "Golf Town" Precincts, and as such, no detailed investigation of BG-ST-01 has been undertaken as part of this current assessment.

## 1.5 Personnel

This study was carried out by Kayandel. The test excavation was supervised by Lance Syme, Natalie Stiles and Amy Butcher. Background research was undertaken by Lance Syme, and Natalie Stiles, mapping was completed by Lance Syme and Natalie Stiles. Natalie Stiles and Amy Butcher drafted the report, which was reviewed by Lance Syme.

The process for identifying Registered Aboriginal Parties (RAPs) and community consultation was undertaken by Kristen Kerr under the supervision of Lance Syme. The qualifications of the KAS team are included on Table 1, as required by the *Code of Practice*.

Person	Qualifications	Experience	Tasks
Lance Syme	Barts (Arch/Palaeo), Grad. Dip. (Heritage Cons.), M.ICOMOS	19 years	Project supervisor, mapping, report review
Natalie Stiles	B.Arts (Arch/Palaeo), Grad Cert. Arts (Arch)	5.5 years	Background research, archaeological excavation, report drafting, mapping, lithic analysis
Amy Butcher	Bachelor of Archaeology, Grad. Dip (Arch)	<1 year	Archaeological excavation, report-drafting
Kristen Kerr	-	6 years	RAP Identification

**Table 1:** KAS personnel involved in the archaeological assessment

### **Lance Syme, Principal Archaeologist, Kayandel BA (Arch/Palaeo), Grad Dip (Heritage Conservation), M.ICOMOS,**

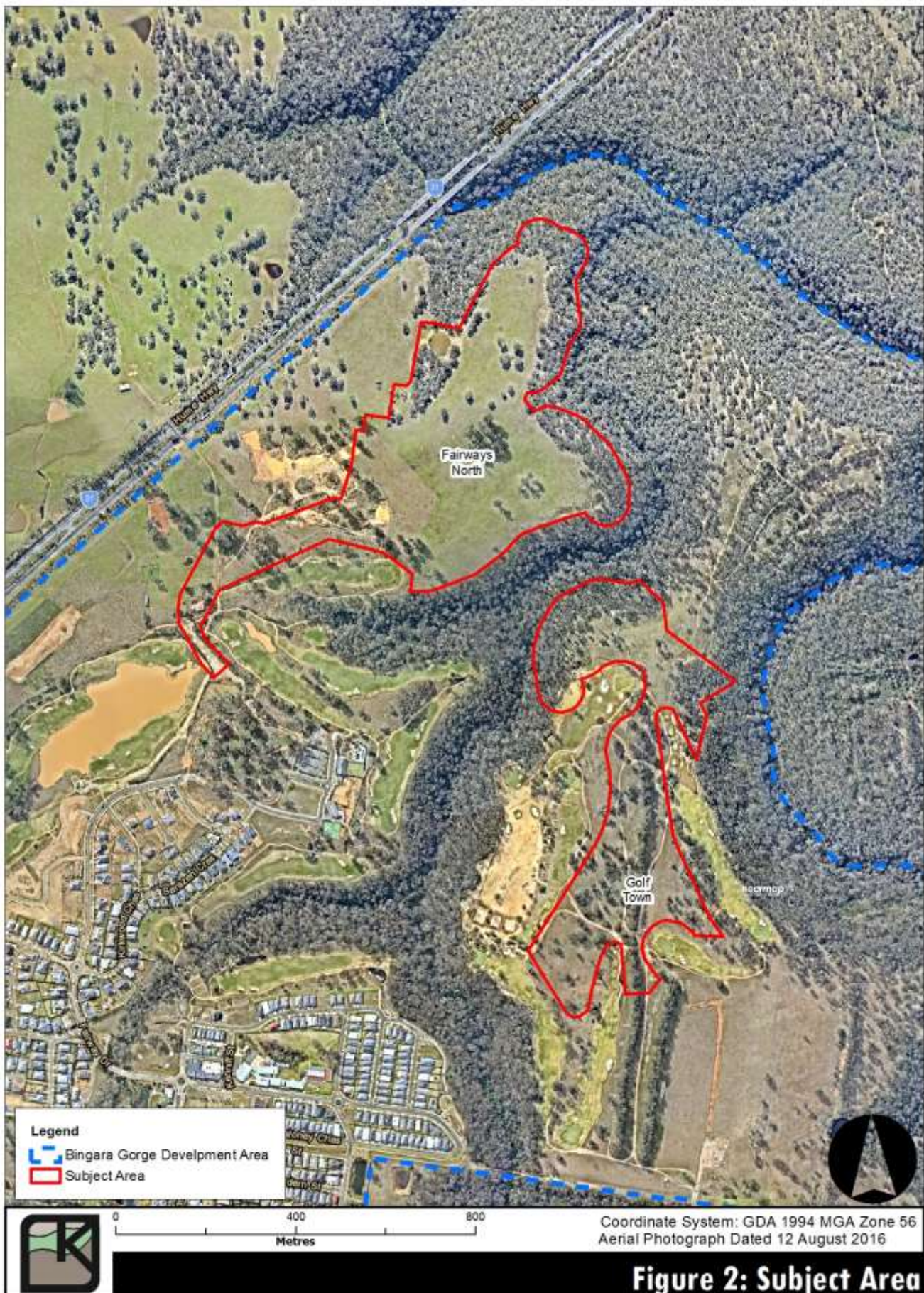
As principal archaeologist and director of Kayandel, Lance has conducted projects that have variously included Aboriginal and non-Aboriginal community consultation, heritage management liaison, field survey, site recording, archaeological excavation, artefact analysis and interpretation, archival research, and report preparation detailing heritage assessment and recommendations for cultural management plans. Projects undertaken to date have been completed within a full range

of statutory contexts ranging from principal roles carried out as part of the Master planning process, Conservation Management Planning (CMP), preparation of Environmental Impact Studies (EIS), locality specific Reviews of Environmental Factors (REF), and the needs that develop as a consequence of ongoing Development Applications.

Lance is a Full Member of the International Council on Monuments and Statues (ICOMOS), a Member of the Executive Committee of Australia ICOMOS and an Expert Member of the International Committee on Archaeological Heritage Management.







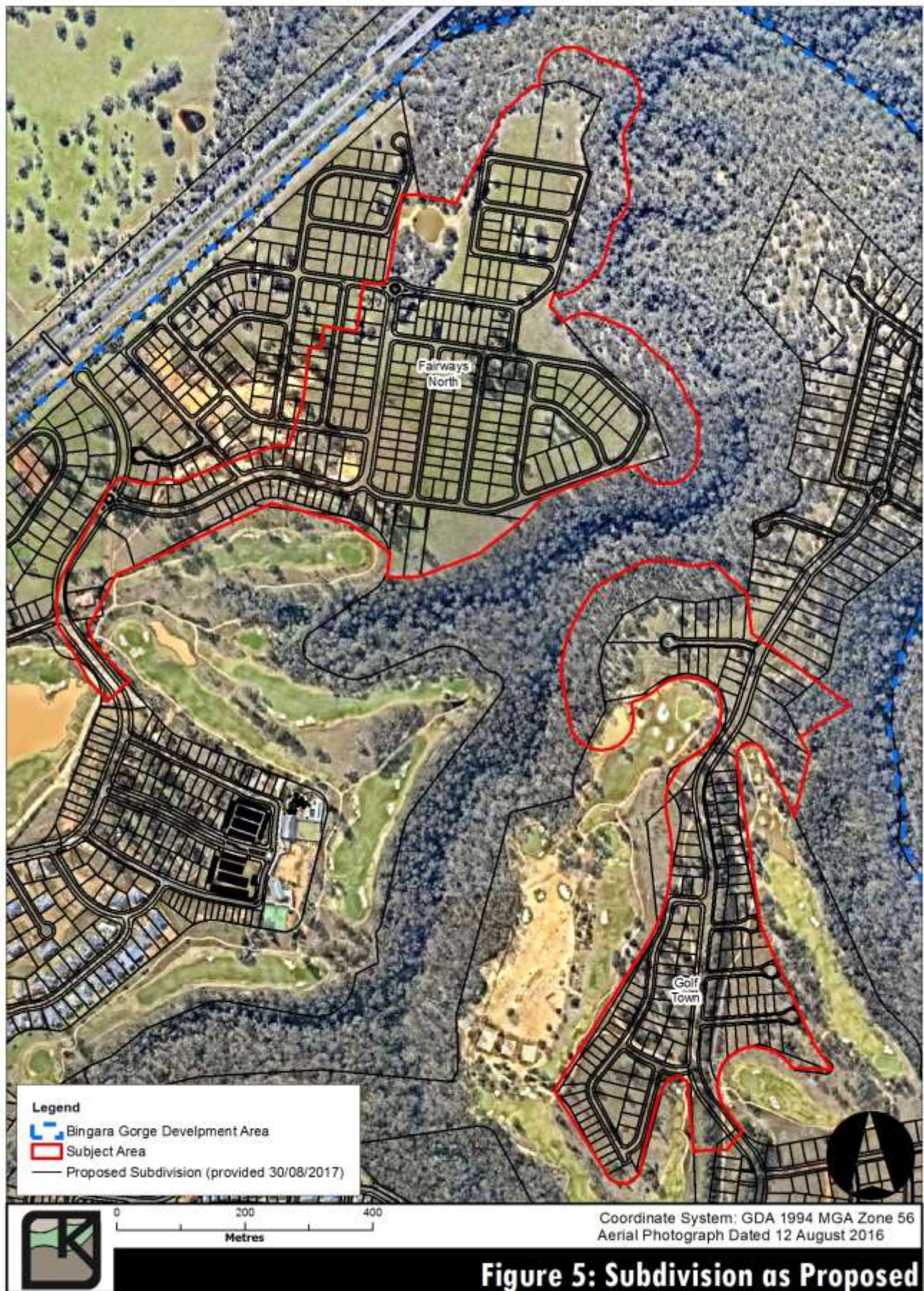














## 2 APPLICABLE POLICY AND LEGISLATION

Aboriginal and non-Aboriginal cultural heritage in Australia is protected and managed under a variety of legislation. The following section provides a brief summary of the Acts which are relevant to the management of cultural heritage in NSW. It is important to note that these Acts are presented as a guide and are not legal interpretations of legislation by the consultant.

### 2.1 Commonwealth Legislation

#### 2.1.1 Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The purpose of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Heritage Protection Act) is the preservation and protection from injury or desecration of areas and objects in Australia and in Australian waters that are of particular significance to Aboriginal people in accordance with Aboriginal tradition.

Under the Heritage Protection Act the responsible Minister can make temporary or long-term declarations to protect areas and objects of significance under threat of injury or desecration. The Act can, in certain circumstances, override state and territory provisions, or it can be implemented in circumstances where state or territory provisions are lacking or are not enforced. The Act must be invoked by or on behalf of an Aboriginal or Torres Strait Islander or organisation.

#### 2.1.2 Environment Protection & Biodiversity Conservation Act 1999 (EPBC Act)

The *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) took effect on 16 July 2000. Under Part 9 of the EPBC Act, any action that has, or is likely to have, a significant impact on a matter of National Environmental Significance (known as a controlled action under the Act), may only progress with approval of the Commonwealth Minister for the Environment. An action is defined as a project, development, undertaking, activity (or series of activities), or alteration to any of these. Where an exception applies, an action will also require approval if:

It is undertaken on Commonwealth land and will have or is likely to have a significant impact;

1. It is undertaken outside Commonwealth land and will have or is likely to have a significant impact on the environment on Commonwealth land; and,
2. It is undertaken by the Commonwealth and will have or is likely to have a significant impact.

Under Section 28 subsection (1) "The Commonwealth or Commonwealth Agency must not take inside or outside Australian jurisdiction an action that has, will have, or is likely to have a significant impact on the environment inside or outside Australian jurisdiction." The EPBC Act defines 'environment' as both natural and cultural environments and therefore Aboriginal and historic cultural heritage items included on the Register of the National Estate are regarded as part of the cultural environment.

Since the implementation of the EPBC Act of 1999, Australia has changed legislation that protects its national heritage places. Three new laws came into effect in January 2004 and are essentially a combination of previous heritage system with a number of changes that include the establishment of a National Heritage List (NHL) and a Commonwealth Heritage List (CHL).

The National Heritage List records places with outstanding natural and cultural heritage values that contribute to Australia's National identity. The Commonwealth Heritage List will comprise natural, Aboriginal and historic places owned or managed by the Commonwealth. The new laws provide changes that offer greater legal protection under the existing *Environment Conservation and Biodiversity Conservation Act 1999* (EPBC Act). Under the new system, National Heritage will join six

other important 'matters of national environmental significance' (NES) already protected by the EPBC Act.

The three new Acts are:

- ✦ The Environment and Heritage Legislation Amendment Act (No.1) 2003;
- ✦ The Australian Heritage Council Act 2003; and
- ✦ The Australian Heritage Council (Consequential and Transitional Provisions) Act 2003

Approval under the EPBC Act is required if you are proposing to take an action that will have, or is likely to have, a significant impact on the National Heritage values of a National Heritage place and/or any other NES matter. This action must be referred to the Australian Government Minister for the Environment and Heritage. The Minister will decide whether an action will, or is likely to, have a significant impact on a matter of national environmental significance.

The heritage provisions of the EPBC Act allow for a transition period whilst the National and Commonwealth Heritage Lists are finalised. During this transition period the Register of the National Estate acts in conjunction with the formative National and Commonwealth lists to provide full coverage for items already identified as having cultural heritage significance.

### 2.1.3 Native Title Act 1993 (Amended)

The *Native Title Act of 1993*, as amended, recognises and protects native title, and provides that native title cannot be extinguished contrary to the Act. The National Native Title Tribunal (NNTT) is a Commonwealth Government agency set up under this Act to mediate native title claims under the direction of the Federal Court of Australia.

The National Native Title Tribunal maintains the following registers:

- ✦ National Native Title Register;
- ✦ Register of Native Title Claims;
- ✦ Unregistered Claimant Applications; and
- ✦ Register of Indigenous Land Use Agreements.

The objective of a search of the NNTT registers is to identify possible Aboriginal Stakeholders that would not perhaps receive representation as part of the Local Aboriginal Land council or Elders groups.

## 2.2 New South Wales Legislation

The following New South Wales legislation protects aspects of cultural heritage and is relevant to development activities in the subject area.

### 2.2.1 Environmental Planning and Assessment Act 1979

The EP&A Act requires that consideration be given to environmental impacts as part of the land use planning process. This includes impacts on Aboriginal and non-Aboriginal cultural heritage items and places. The Act also requires that Local Government Areas (LGAs) prepare Local Environmental Plans (LEP) and Development Control Plans (DCP) in accordance with the Act to provide guidance on the level of environmental assessment required. LEPs often list locally significant heritage items. Three parts of the EP&A Act are most relevant to Heritage. Part 3 relates to planning instruments, including those at local and regional levels; Part 4 controls development assessment processes; and Part 5 refers to approvals by determining authorities.

### 2.2.2 National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* provides for protection of Aboriginal objects (sites, relics and cultural material) and Aboriginal places. Under the Act (Section 5), an Aboriginal object is defined as:

*any deposit, object or material evidence (not being a handicraft for sale) relating to indigenous and non-European habitation of the area that comprises New South Wales, being habitation both prior to and concurrent with the occupation of that area by persons of European extraction, and includes Aboriginal remains.*

An Aboriginal place is defined under this Act as an area that has been declared by the Minister administering the *National Parks and Wildlife Act* as a place of special significance for Aboriginal culture. It may or may not contain physical Aboriginal objects.

Under Section 90 of the Act it is an offence to knowingly destroy, deface, damage or desecrate, or cause or permit the destruction, defacement, damage or desecration of, an Aboriginal object or Aboriginal place, without the prior written consent from the Director-General of the NSW Office of Environment and Heritage (OEH). In order to obtain such consent, a Section 90 Aboriginal Heritage Impact Permit (AHIP) application must be submitted and approved by the OEH Director-General. In considering whether to issue a permit under Section 90, OEH will take into account:

- The objectives and justifications for the proposed activity;
- The appropriateness of the methodology to achieve the objectives of the proposed activity;
- The significance of the Aboriginal object(s) or place(s) subject to the proposed impacts;
- The effect of the proposed impacts and the mitigation measures proposed;
- The alternatives to the proposed impacts;
- The conservation outcomes that will be achieved if impact is permitted;
- The outcomes of the Aboriginal community consultation regarding the proposed impact and conservation outcomes;
- The views of the Aboriginal community about the proposed activity; and,
- The knowledge, skills, and experience of the nominated person (s) to adequately undertake the proposed activity.

Under Section 89A of the Act it is a requirement to notify the OEH Director-General of the location of an Aboriginal object. Identified Aboriginal items and sites are registered with the NSW OEH on AHIMS.

### 2.2.3 The Heritage Act 1977 (NSW) (Amended 1999)

The *Heritage Act 1977* is the primary piece of State legislation affording protection to all items of environmental heritage (natural and cultural) in New South Wales. "Items of environmental heritage" include places, buildings, works, relics, moveable objects and precincts identified as significant based on historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic values. A 'Place' is defined as an area of land, with or without improvements and a 'Relic' is defined as any deposit, object or material evidence that relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and that is 50 years or more old. The *Heritage Act 1977*, established the Heritage Council of NSW, provides advice and recommendations to the Minister for Planning relating to conservation and management of items of environmental heritage. The Heritage Council is also required to maintain a database of items of

State heritage significance: the State Heritage Register (SHR), a database of items of both State and local heritage significance and the State Heritage Inventory (SHI).

If the Heritage Council believes that a heritage item or place needs to be conserved, it can make a recommendation to the Minister, who decides whether to place protection on that item. There are two types of protection available: interim heritage orders and listing on the State Heritage Register. These forms of protection are 'binding directions', which means that the heritage item that is protected in one of these ways cannot be demolished, redeveloped or altered without permission from the Heritage Council.

The *Heritage Act 1977* does not apply to Aboriginal "relics" (any deposit, object or material evidence). These items are protected under the *National Parks and Wildlife Act 1974*; however, some aspects of Aboriginal cultural heritage management and protection are covered by provisions of the *Heritage Act 1977*.

The Director-General of the Department of Environment and Climate Change can recommend that the Minister of Planning make Interim Protection Orders (IPOs) to preserve areas of land that have natural, scientific or cultural significance that can include land with Aboriginal places or relics on it.

Particular Aboriginal places and items that the community has formally recognised as being of high cultural value can also be listed on the State Heritage Register. This provides an extra level of protection in addition to that provided by the *National Parks and Wildlife Act 1974*.

## 2.3 Local Government Controls

### 2.3.1 Wollondilly Local Environmental Plan (LEP) (2011)

Heritage items are protected under the provisions of the Wollondilly Local Environmental Plan (LEP) (2011) Section 5.10.

Section 5.10.2 of the LEP outlines consent requirements for undertaking activities within identified heritage conservation areas, such as within the curtilage of locally listed heritage items. Heritage items and archaeological sites are listed in Schedule 5 to the LEP. If a proposed development does not adversely affect the heritage significance of the heritage item the development consent is not required. Therefore the LEP recommends a heritage document assessing the extent to which the carrying out of the proposed development would affect the heritage significance of the heritage item be created for the consent authority for all development to a heritage item.

There were no heritage items listed under Schedule 5, Part 1 of the LEP (Wollondilly Shire Council, 2011) identified within the Subject Area (refer to Appendix VII); however, a review of the heritage items listed under Schedule 5, Part 1 of the LEP (Wollondilly Shire Council, 2011) has identified that the Bingara Gorge development encapsulates heritage item (No I285) listed as the Aboriginal shelter sites.

### 2.3.2 Wollondilly Development Consent Plans (DCP) (2016)

Part 7 'Aboriginal Heritage' of the *Wollondilly Development Control Plan 2016* identifies the criteria that Council uses to determine if an Aboriginal heritage impact assessment is required in accordance with Section 5.10 of the LEP. Under Section 7.2 of the DCP, a report prepared in accordance with the *Code of Practice* (DECCW, 2010a) may be required at the discretion of the assessing officer where:

- There is impact or disturbance to the content, or within the immediate vicinity (100 metres) of a known Aboriginal object or Aboriginal place of heritage significance;

- There is impact or disturbance to, or within the immediate vicinity (100 metres) of a previously recorded or known Aboriginal object or Aboriginal place of heritage significance and can include a cultural landscape, an existing or former ceremonial ground, a burial ground or cemetery, a story place or mythological site, a former Aboriginal reserve or historic encampment, or an archaeological site of high significance;
- A proposal (including subdivision) which affects primarily undeveloped land (irrespective of land size) and has the following site features:
  - River frontage;
  - Creek line;
  - Sandstone exposures at ground level larger than 5m<sup>2</sup> ;
  - Sandstone cliff line or isolated boulder higher than 2m; and,
  - Disturbance to the roots, trunk, branches, of old growth trees, which are native to the Wollondilly Shire and greater than 150 years of age.

## 2.4 Non Statutory Listings

The National Trust of Australia (NSW) is a community-based organisation with independently constituted Trusts in each state and territory. The NSW National Trust compiles a heritage list primarily of historic places, but they also include some Aboriginal and natural places. Listing helps to provide recognition, and promote public appreciation and concern for local heritage.

The National Trust Register has no legal foundation or statutory power, but is recognised as an authoritative statement on the significance to the community of particular items, and is held in high esteem by the public.

### 3 PARTNERSHIP WITH INDIGENOUS COMMUNITIES

The Office of Environment and Heritage (OEH) recognises and values Aboriginal cultural heritage. Evidence of Aboriginal occupation is present as objects throughout the NSW landscape, and cultural heritage is present in the memories, stories and relations Aboriginal people have with their traditional land or Country. Aboriginal cultural heritage is an essential part of Aboriginal people's cultural identity, connection and sense of belonging to Country. OEH recognises that Aboriginal people who hold cultural knowledge should be provided an opportunity to inform OEH of the cultural significance of objects or places, and have an input into the management of their cultural heritage. To this end, they produced the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010b).

In recognising the rights and interests of Aboriginal people in their cultural heritage OEH acknowledges that Aboriginal people:

- Are the primary source of information about the value of their heritage and how this can be protected and conserved;
- Must have an active role in any Aboriginal cultural heritage planning process;
- Must have early input into the assessment of cultural significance of their heritage and its management so that they can continue to fulfil their obligations towards their heritage; and
- Must control the way in which cultural knowledge and other information relating specifically to their heritage is used, as this may be an integral aspect of its heritage value (DECCW 2010b:2).

OEH sets out a process for identifying Aboriginal parties who may have information on the cultural significance of objects or places, and providing Aboriginal people with opportunities to comment on the methods used to identify and assess objects or places, and opportunities to contribute to the development of management options and recommendations (DECCW 2010b:7).

The process must be followed if an application is made to OEH under Part 6 of the National Parks and Wildlife Act, 1974 as amended (NPWA 1974). Consultation for the current study was carried out in accordance with the specified requirements (DECCW 2010b).

#### 3.1 KAS 2013 AHIP Application – Ongoing Consultation Process

The Bingara Gorge development has been active since 2007. During this period the proponent has coordinated quarterly meetings with the Aboriginal stakeholders. Since November 2013 this has been extended to include all Registered Aboriginal Parties (RAPs).

In anticipation of future needs for permits under Part 6 of NPW Act (1974) KAS, on behalf of the proponent, commenced a consultation process for the Bingara Gorge development area in November 2013.

This ongoing consultation process involves continued community involvement in the Bingara Gorge project area as a whole, involving several stages of work. During quarterly meetings the proponent updates the Aboriginal stakeholders of the progress around the various elements of the development project, and its staged works, and the Aboriginal stakeholders are able to raise issues and have them clarified. Through this process, RAPs are kept apprised of all projects within the Bingara Gorge, and thus were aware of the project prior to its commencement.

The Subject Area represents one stage of work within Bingara Gorge, and consultation with community groups has considered this project singularly, and as a part of the wider development works.

### 3.1.1 Stage 1 – Notification of Project Proposal and Registration of Interest

As there was not an approved determination of native title in relation to the Subject Area, the identification of RAPs was carried out in accordance with the specifications of Section 4.1.2 of the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010b). KAS made enquiries with the following (see Appendix I):

- Office of Environment and Heritage;
- The Tharawal Local Aboriginal Land Council;
- The Registrar, Aboriginal Land rights Act 1983, for a list of Aboriginal owners;
- The National Native Title Tribunal for a list of registered native title claimants, native title holders and registered Indigenous Land Use Agreements;
- Native Title Services Corporation Limited (NTSCORP Limited);
- Wollondilly Shire Council; and
- Greater Sydney Local Land Services (formerly Hawkesbury-Nepean Catchment Management Authority).

Correspondence from these organisations is included in Appendix IX to Appendix XII.

As a result of these enquires the groups and individuals that were identified by the various organisations as having a potential interest in the cultural heritage of the Subject Area, are listed in Table 2.

Potential Aboriginal Party	Representative/Contact	Identified By	Date Advised
Tharawal Local Aboriginal Land Council	June Wilks	OEH Parramatta/WSC	2 <sup>nd</sup> December 2013
Cubbitch Barta Native Title Claimants Aboriginal Corporation	Glenda Chalker	OEH Parramatta/WSC	2 <sup>nd</sup> December 2013
Peter Falk Consultancy	Peter Falk	OEH Parramatta	2 <sup>nd</sup> December 2013

**Table 2:** Potential Aboriginal Parties

In accordance with Section 4.1.3 of the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010b), KAS placed an advertisement in the Wollondilly Advertiser (Figure 6) There was no response to this advertisement, KAS subsequently wrote to the organisations and individuals outlined in Table 2 and the response to these letters is outlined in Appendix XIII. Copies of correspondence relating to this process are given in Appendix XIV.





**Figure 6:** Public Notice

Potential Aboriginal Party	Representative
Tharawal Local Aboriginal Land Council	Ivan Simon
Cubbitch Barta Native Title Claimants Aboriginal Corporation	Glenda Chalker
Peter Falk Consultancy	Peter Falk (now retired)

**Table 3:** Registered Aboriginal parties at the completion of the registration period (5<sup>th</sup> December 2013)

### 3.1.2 Stage 2 – Presentation of Information about the Proposed Project

As discussed in Section 3.1 above, this project has been involved in the ongoing consultation process set out for the Bingara Gorge development area. As such, the details of this project have been discussed at length in CHC meetings. Further to this, a Stage 2 document was produced and provided to all RAPs, outlining the project details and proposed sampling strategy and methodology (see Appendix XIX).

### 3.1.3 Stage 3 – Gathering Information about Cultural Significance

In fulfilment of the Stage 3 requirements of the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW, 2010b), KAS provided the RAPs with 2 documents: a Stage 2 document, which outlined the project details (Appendix XIX), and a 15C Notification, prepared in accordance with Requirement 15a of the *Code of Practice* (DECCW, 2010b:25). The



15C notification outlined the proposed sampling strategy and relevant test excavation methodology (see Appendix XX).

No comments or information relating to cultural significance were received from the RAPs in response to these documents.

It should be noted that Peter Falk Consultancy was a RAP for the project, in May 2017 KAS was advised that Peter Falk had retired and is no longer a registered Aboriginal Consultant. Please refer to Appendix XV for a copy of the email received from Peter Falk.

### 3.1.4 Stage 4 – Review of Draft Cultural Heritage Assessment Report

KAS undertook a consultation process as outlined in Section 3.1 above.

RAP submission comments relating to the draft CHAR for the assessment that has been undertaken for the Subject Area can be found in Table 4 and Appendix XVI.

RAP Submission	RAP's Comments	Response
Cubbitch Barta Native Title Claimants Aboriginal Corporation (Received 12/10/2017)	I was really surprised by the results or the lack of depending on which way you look at it.	KAS agrees that the results of the excavation were unexpected; however, until this excavation, excavations within Bingara Gorge have been small and typically close to the edge of the escarpment where there is easy access into the gorge below.
	The areas that were defined for testing during surveys was based upon predictive modelling, but it appears that this modelling based on the Cumberland Plain theory, is not applicable in all cases. This has been supported by the excavations that have recently taken place.	The identification of the PADs that were subject to excavation were identified prior to the establishment of the current predictive model for Bingara Gorge, and based on the predictive model for the Cumberland Plain.
	Relevant AHIP's will be needed before any development earthworks take place in the area where artefacts were either recorded or excavated. The scarred tree recorded as BG-ST-01 should be avoided at all times, even if it requires a plan change.	KAS recommends that an AHIP should be sought for BG-IF-02, BG-IF-03, BG-IF-04, and BG-IF-004. This AHIP should be sought for all known and unknown Aboriginal objects within the mapped extent of BG-IF-02 (AHIMS #52-2-4027), BG-IF-03 (AHIMS #52-2-4434), BG-IF-04 (AHIMS #52-2-4432), BG-AS-004 (AHIMS #52-2-4433) (refer to Figure 49), as a strategy to minimise the risk of delays during works that may result from unexpected finds

**Table 4:** RAP Comments and Response for the draft ACHAR

## 4 STUDY METHODS

The assessment reported here involved Aboriginal community consultation, background research, and the completion of an archaeological test excavation. A breakdown of the various tasks that have been undertaken to achieve the objectives of this assessment is provided below. The process for Aboriginal community consultation is set out in Section 3 above.

### 4.1 Background Research

Prior to the field work, the following tasks were undertaken:

- A search of the AHIMS maintained by OEH was obtained to determine whether any sites or areas of sensitivity had previously been recorded within or near the Subject Area. This search also assisted with the development of a local site distribution model;
- A search of the AHIMS report catalogue was conducted to identify previous archaeological studies that had been carried out in and near the subject area. The reports identified were able to provide information on the local archaeological context and assisted with the development of predictions for site location within the Subject Area;
- Published archaeological texts and grey literature regarding the Wilton area were consulted to assist with the development of regional and local archaeological contexts for the Subject Area;
- KAS library was searched and an internet search was carried out to identify any Aboriginal history, ethnography, environmental and climate information relevant to the Subject Area.
- A predictive model for the Subject Area was prepared; and,
- A topographic map and aerial photo were examined to plan the field survey, as well as the test excavation strategy:
  - It was intended that survey transects would target areas of exposure which could have improved ground surface visibility (GSV), as well as areas which appeared less disturbed and had potential for intact Aboriginal sites.
  - The transects for the test excavation were placed on axis which allowed for the most coverage across the proposed development footprint, and included areas identified as having low GSV during the survey, and all landforms present.

### 4.2 Field Inspections

A series of field surveys were undertaken (refer to Table 5) to record the characteristics of the Subject Area (including identification of landforms), any physical evidence of Aboriginal land use, and any information which could inform predictions about Aboriginal objects within the Subject Area.

The survey transects were identified in field and utilised readily identifiable features to establish their limits. The transects were assessed using pedestrian survey, which was undertaken in accordance with the specification for archaeological survey contained within Burke and Smith (2004).

The following tasks were carried out during the field surveys:

- Landform units were inspected for any potential of Archaeological Sensitivity across the development footprint;
- Ground surface exposures were inspected for archaeological material; and,

- Large mature trees were inspected for signs of cultural modification.

The survey team walked transects targeting exposures and mature trees for inspection. Visibility variables were recorded for all transects within the Subject Area.

KAS Representative	Aboriginal Community Representative	Date Participated
Natalie Stiles and Nicole Castle	Glenda Chalker (CBNTCAC)	12th August 2013
	Kirsty-Lee Chalker (CBNTCAC) and Toni Whilock (TLALC)	13th and 14th August 2013
	Glenda Chalker (CBNTCAC) and Toni Whilock (TLALC)	15th August 2013
Natalie Stiles	Glenda Chalker and Jayden Chalker (CBNTCAC) and Duncan Falk (Peter Falk Consultancy)	19th November 2015
	Jayden Chalker (CBNTCAC) and Duncan Falk (Peter Falk Consultancy)	20th November 2015

**Table 5:** KAS Representatives and Aboriginal Community Representatives who participated in site inspections

Details and results of the site inspection are outlined in Section 7.1.

### 4.3 Archaeological Excavation Methodology

The proposed methodology for the test excavation was made available to RAPs more than 14 days prior to the field work commencing. The proposed methodology was designed to facilitate the test excavations being undertaken in accordance with Requirement 16a of the *Code of Practice* (DECCW, 2010a). The following were some of the restrictions applied as per this requirement. The specific details of this requirement can be found in Appendix XX:

- Test units were excavated in 50cm x 50 cm squares;
- Test units were separated by at least 20m;
- Test transects were separated by at least 40m;
- Test units were excavated using hand tools only; and,
- As test units were combined as necessary but did not exceed a continuous surface area greater than 3m<sup>2</sup> and the maximum surface area of all test units combined did not exceed 0.05% of the total subject area.

In accordance with requirements 16b, 19, and 26 of the *Code of Practice* (DECCW, 2010a):

- Any Aboriginal objects recovered during test excavations will be temporarily stored at the head office of KAS, located in Picton;
- An analysis will be conducted to create a detailed record of artefact attributes; and,
- After analysis, consultation with RAPs will take place to determine the long term management of the objects; whether that is reburial, relocation, or long-term storage in a 'keeping place'.

Investigations were proposed to be undertaken in 3 phases, with the design of each subsequent Phase being determined by the results of the earlier Phase(s) (refer to Appendix XX). The locations indicated are nominal only and indicative of preferred locations to situate a test pit to archive a systematic grid appropriate to the scale of the area, as required by the *Code of Practice* (DECCW 2010a:26).

Phase 1: Investigations would involve the exploration of test pits at intervals of 20m along each transect.

Phase 2: Investigations would involve the exploration of additional test pits at a distance of 10m from Phase 1 Test Pits in which Aboriginal cultural material was identified. If no

Aboriginal cultural material was identified the test excavation would cease at Phase 1.

Phase 3      Investigations would involve the extension of previous test pits that contained high frequency of Aboriginal objects count.

The full proposed methodology can be found in the 15C Notification which was provided to RAPs and the OEH, which is included as Appendix XX.

The *Code of Practice* (DECCW, 2010a) requires that a systematic grid appropriate to the scale of the area being investigated be used. Due to the size of the investigation area, it was decided that a 40m spacing between transects, and 20m spacing between test pits would be an appropriate scale. This spacing was considered justified due to the limited visibility and ambiguity of the definition of the potential archaeological deposits, archaeologically sensitive landforms.

#### 4.3.1 Actual Field Methodology

The Phase 1 test excavation was conducted between the 6<sup>th</sup> February and 23<sup>rd</sup> May 2017, and was supervised by Lance Syme and Natalie Stiles of KAS.

As stated in Section 4.3, transects were located 40m apart, with test excavation pits being laid at 20m intervals along transects. Test excavation units measured 50 x 50cm and were flagged at the SE corner for identification. Pits were excavated using hand tools such as shovels, mattocks, mini-mattocks, and trowels. Seventeen test pits were excavated in 5cm spits; the rest of the test pits were excavated in 10cm spits. Testing was complete when all test pits were dug to impenetrable rock, into clay, or until a maximum depth of 50cm.

Notes of the stratigraphy of all of the test pits were taken in the field. The bases of the test pits were photographed with a 50cm scale to document the final context. Photographs were numbered sequentially and recorded on KAS site photographic registers. Sediments were wet sieved through nested, 5mm mesh and 2-3mm mesh, using water pumped under pressure.

All artefacts identified were recorded according to Requirement 19 of the *Code of Practice* (DECCW 2010a:29) using the attributes contained within the DECCW AHIMS Feature Recording Form and Feature Recording Table (refer to Appendix XXV).

In accordance with Requirement 8 of the *Code of Practice* (DECCW 2010a:15-16), the locations of all test excavation pits were recorded using non-differential GPS (Garmin 60 hand-held) set to the Map Grid of Australia 1994 (MGA94).

## 5 LANDSCAPE CONTEXT

The natural environment of an area influences not only the availability of local resources such as food and raw materials for artefacts but also determines the likely presence and/or absence of various archaeological site types which may be encountered during a field investigation.

Resource distribution and availability (such as the presence of drinking water, plant and animal foods, raw materials of stone, wood and vegetable fibre used for tool production and maintenance) are strongly influenced by the nature of soils, the composition of vegetation cover and the climatic characteristics of a given region.

The locations of different site-types (such as open campsites, culturally modified trees, rock-shelters, middens, grinding grooves, engravings etc.) are strongly influenced by factors such as these, along with a range of other associated features which are specific to different land systems and bedrock geology.

The environmental background is important in order to give a context to the archaeological record. With respect to Aboriginal archaeology, land formation processes may impact upon the type and frequency of archaeological remains. Past climatic conditions may also impact upon the location and types of resources available, which in turn would impact upon settlement and mobility patterns of past Aboriginal groups in the area.

OEH requires a review of the landscape context to assist in the determination or prediction of the potential of a landscape to have accumulated or preserved objects, the ways Aboriginal people may have used the landscape in the past, and the likely distribution of the material traces of Aboriginal land use (DECCW 2010a:8).

Detailing the environmental context of a study region is an integral procedure for modelling potential past Aboriginal land-use practices and/or predicting site distribution patterns within any given landscape. The information that is outlined below is considered to be pertinent to the assessment of site potential and site visibility within the specific contexts of the current study.

### 5.1 Climate

The Subject Area lies within the Camden Region (BOM, 2017a). The climate is a mostly cool temperate.

According to the recordings of the Automatic Weather Station (AWS) at the nearby Camden Airport (Station Number 068192), annual mean maximum temperatures have ranged between 17.2°C-29.5°C over the past 36 years, with the highest recorded temperature of 46.4°C in January 2013 and the lowest of -6.0°C in July 1983 (BOM, 2017a).

Rainfall data has been taken from the Cataract Dam Weather Station (Station Number 068016). Rainfall is spread fairly uniformly throughout the year but with a slight summer-autumn dominance for an annual average of 1,064.1mm. Lowest recorded rainfall is 0.00mm for January 2001 and a maximum of 702.8mm recorded in February 1956 (BOM, 2017b). Overall, the climatic conditions in the Subject Area can be characterised as very mild and would have been suitable for year-round hunter-gatherer occupation of all parts of the Subject Area.

### 5.2 Geology

Geological information can contribute to archaeological studies by providing information on the nature of rock resources, as well as informing soils and landforms.

Bingara Gorge is located in the southern portion of the Sydney Basin Bioregion. The larger scale geology of the Sydney Basin Bioregion is characterised by marine deposition events from the Carboniferous to the early Permian. Numerous coal deposits accumulated before large river systems covered the region in quartz sandstone, known as the Hawkesbury sandstone. The Hawkesbury sandstone, which forms the bedrock for all of the Sydney Basin, dates to the mid Triassic. This bedrock of sandstone is then capped by a thin layer of shale (Branagan and Packham, 2000; OEH, 2012).

The underlying geology of the Bingara Gorge is predominately Wianamatta Group Shales including Ashfield Shales and Bringelly Shales, and Hawkesbury Sandstone (see Figure 7). Hawkesbury sandstone comprises primarily of medium to coarse-grained quartz sandstone with minor shale or laminate bands (Hazelton and Tille, 1990:45). Hawkesbury sandstone is located along the gorges and many of the tributaries within Bingara Gorge (Hazelton and Tille, 1990).

Within the Subject Area that is being considered in this report, the underlying geology is predominantly Hawkesbury Sandstone with the exception of Blacktown soil, which appears in a small portion of the north eastern end of the Subject Area. The Blacktown soil landscape is weathered from a remnant Wianamatta Group Shale cap (Ashfield shale) (Hazelton and Tille, 1990).

### 5.3 Soil Landscape and Geomorphology

There are two (2) soil landscapes identified within the overall Bingara Gorge project area. These are the Blacktown (bt) and Hawkesbury (ha) soil landscapes (Hazelton and Tille, 1990). In Figure 8 it is shown that the Subject Area considered in this report is predominately situated upon areas mapped as the Blacktown (bt) soil landscape with some very minor portions at the far extremities (i.e. closer to the gorges) that are Hawkesbury (ha) soil landscape. See below for a description of each of the soil landscapes within the Bingara Gorge Project Area.

The Blacktown soil landscape is characterised by gently undulating rises on the Wianamatta Group shales with slopes usually <5%. The soils are shallow to moderately deep (<100 cm) Red and Brown Podzolic Soils on crests, upper slopes and well drained areas, deep (150-300 cm) Yellow Podzolic Soils and Soloths on lower slopes and in areas of poor drainage. Soils are moderately reactive with low fertility, poor soil drainage and highly plastic subsoil (Hazelton and Tille, 1990) (refer to Table 6).

The Hawkesbury soil landscape is characterised by scarps and benches within hills on Hawkesbury Sandstone with slopes usually between 20% to 70% and rock outcrop usually >50%. The soils are Lentic and Orphic Tensors and Ruidoso's (Lithosols, Siliceous Sands, Earthy Sands), Yellow Kandosols (Yellow Earths), and Yellow, Red and Grey Kurosols (Yellow, Red and Grey Podzolic Soils). The soils are subject to severe sheet erosion which often occurs during storms and after ground cover is destroyed by bushfires, with minor gully erosion occurring along unpaved tracks and fire trails (Hazelton and Tille, 1990) (refer to Table 6).

Soil Landscape	Soil Type	Horizon	Description
Blacktown (bt)	bt1—Friable brownish black loam	A	Triable brownish black loam to clay loam with moderately pedal subangular blocky structure and rough-faced porous ped fabric. This material occurs as topsoil
	bt2—Hardsetting brown clay loam	A2	Brown clay loam to silty clay loam which is hardsetting on exposure or when completely dried out. It has apedal massive to weakly pedal structure and slowly porous earthy fabric.
	bt3—Strongly pedal, mottled brown light clay	B	Brown light to medium clay with strongly pedal polyhedral or sub-angular to blocky structure and smooth-faced dense ped fabric. Texture often increases with depth.
	bt4—Light grey plastic mottled clay	B3/C	Plastic light grey silty clay to heavy clay with moderately pedal polyhedral to subangular blocky structure and smooth faced dense ped fabric. This material usually occurs as deep subsoil above shale bedrock. Strongly weathered ironstone concretions and rock fragments are common.
Hawkesbury (ha)	ha1—Loose, coarse quartz sand	A1	Sand to sandy loam with loose, apedal single-grained structure and porous sandy fabric. It generally occurs as topsoil
	ha2—Earthy, yellowish brown sandy clay loam	B/C	Clayey sand to sandy clay loam with apedal massive or occasionally weakly pedal structure and a distinctly porous, earthy fabric. It generally occurs as subsoil, often in association with sandstone bedrock
	ha3—Pale, strongly pedal light clay	B/C	Fine sandy clay loam to medium clay with strongly pedal structure and rough-faced ped fabric. It commonly occurs as subsoil derived from shale lenses within the Hawkesbury Sandstone

**Table 6:** Soil Types per Soil Landscape (Hazelton and Tille, 1990)

In 2016, Hazelton undertook a soil survey, upon these results, Hazelton states that the weathering of the underlying complex of geological formations at the Bingara Development Site has resulted in *in-situ* soil; with specific characteristics within the landscape.

Hazelton (2016) identified that the Hawkesbury Soil Landscape extends throughout most of the northern and eastern areas of the wider Wilton Parklands, with the exception of Blacktown Soil landscape. Particularly in the north-western and eastern areas of the Subject Area, in soil Test pits 1-13, 20-21 and 26-27, it was identified that the soil had characteristics derived from Hawkesbury Sandstone. Whilst, in soil test pits 14-19, it was identified that the soil had characteristics derived from the Wianamatta Group (Ashfield Shale).

## 5.4 Topography and Hydrology

The topography within the Subject Area is predominately determined by the underlying geological formation.

The Sydney Basin Bioregion consists of a geological basin filled with near horizontal sandstones and shales of Permian to Triassic age that overlie older basement rocks of the Lachlan Fold Belt. The sedimentary rocks have been subject to uplift with gentle folding and minor faulting during the formation of the Great Dividing Range. Erosion by coastal streams has created a landscape of deep cliffed gorges and remnant plateaus (OEH, 2012).

Broadly the area that the Bingara Gorge development is situated on is a plateau above the gorges of Allens and Stringybark Creeks. Certain characteristics of plateau environments need to be highlighted at this point as they (plateau environments) are markedly different in characteristics to the other nearby areas that have been more intensively investigated for Aboriginal occupation.



The plateau upon which the Subject Area is situated has less than 60m of vertical relief from its highest point to the top of the gorge/escarpment. The majority of creek lines upon the plateau fit within the definition of a first order stream under the Strahler system of stream orders. These streams, when they have a southerly orientation tend to drain directly into the Nepean and/or Cordeaux Rivers. Where the stream drains in a northerly direction they do combine to create a small number of 3<sup>rd</sup> and 4<sup>th</sup> order streams.

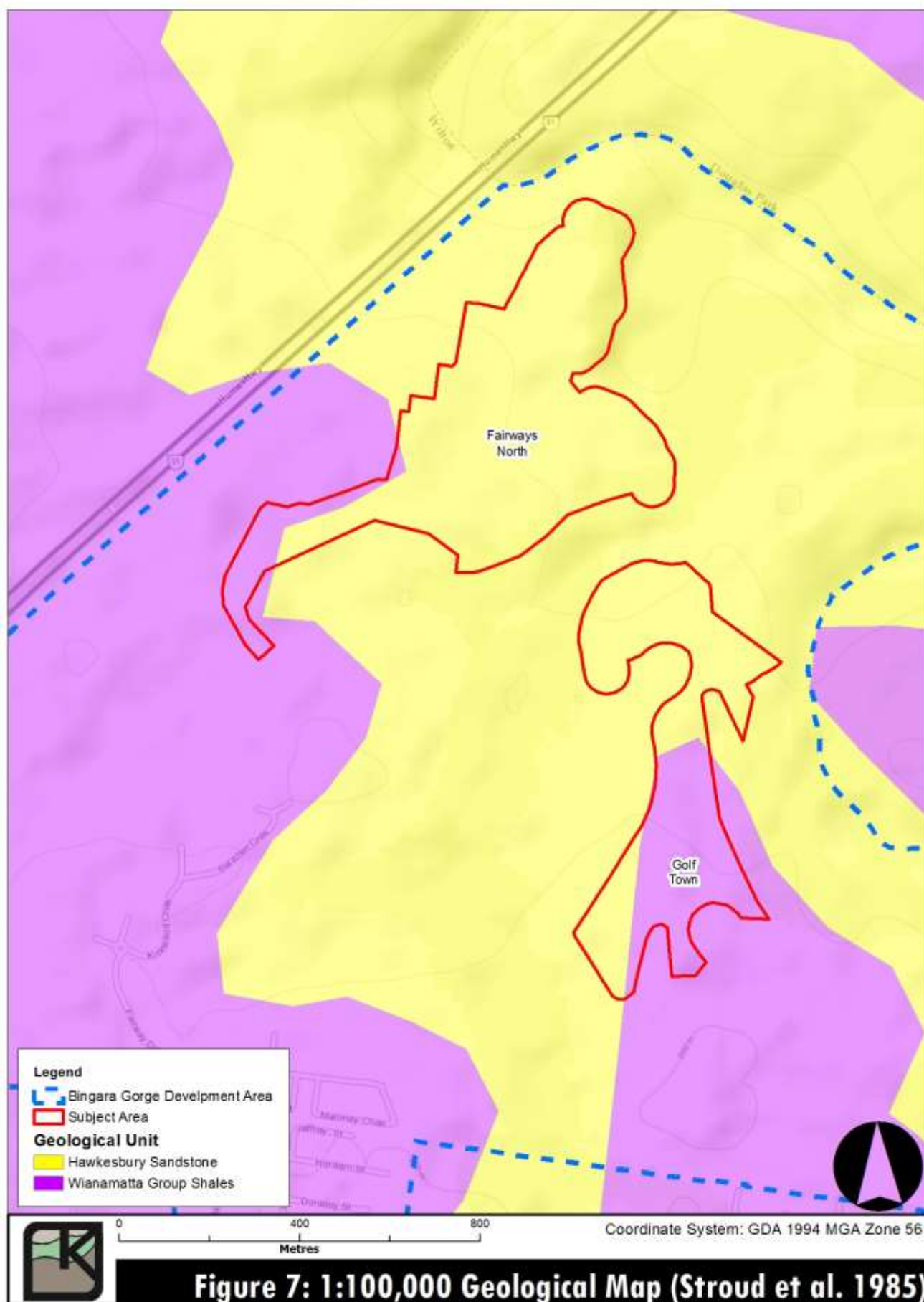
The Subject Areas consist of the flat immediately behind the escarpment, and upper and mid-slopes of Stringybark Creek, a 3<sup>rd</sup> order stream, and Allens Creek, a 4<sup>th</sup> order stream (see Figure 9).

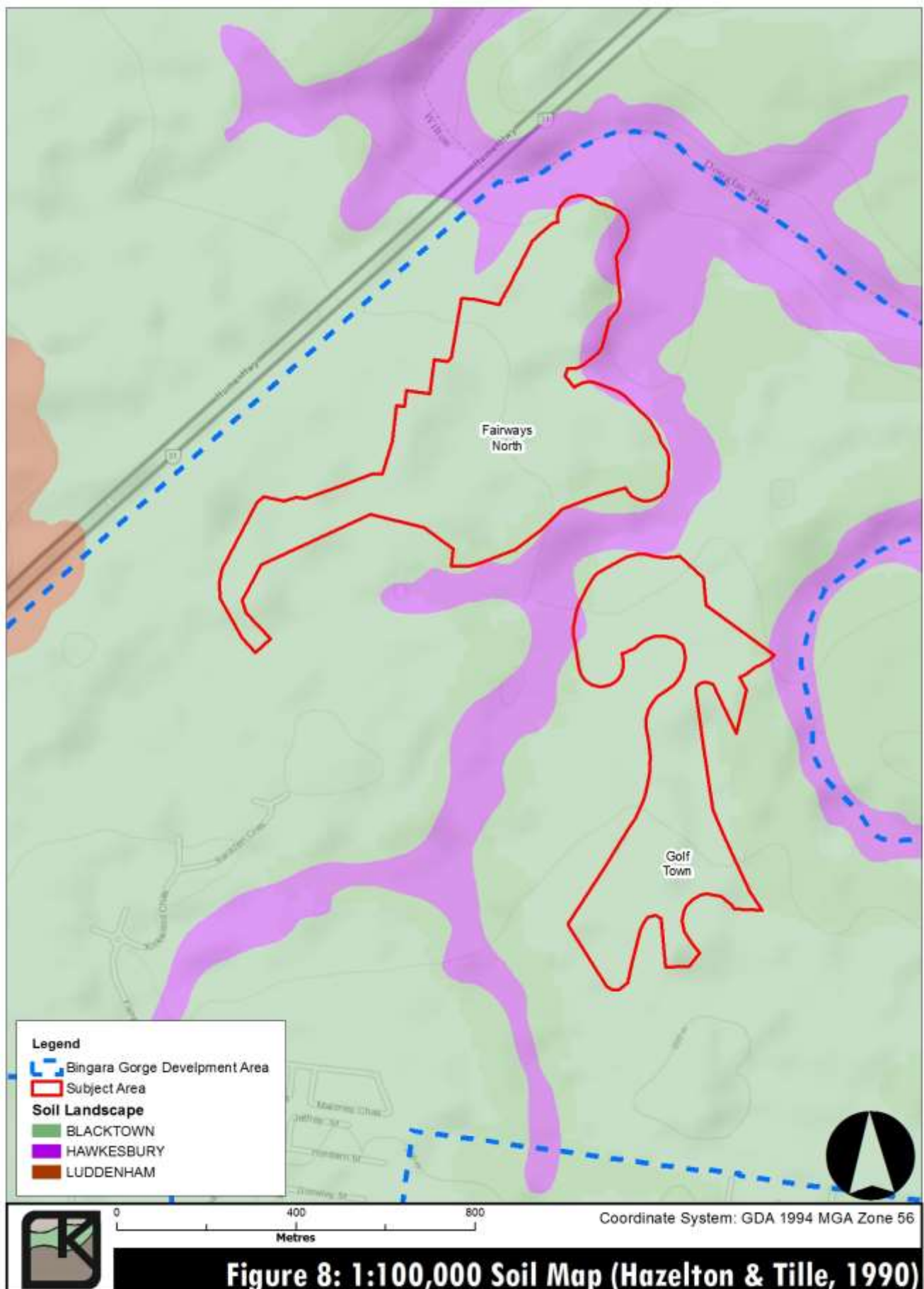
## **5.5 Nepean Ramp 'Transitional' Zone**

The Bingara Gorge development area is situated in a transitional zone between the Woronora Plateau and the Cumberland Plain physiographic regions. The Plateau and the Plain grade into each other across a relatively narrow zone, in this instance the landscape takes on features of both of the landscape units. Navin Officer (2003a) point out that from a geological perspective, the incised sandstone terrain west of the Georges River, represents a transitional zone due to the presence of Wianamatta shales on the remnant plateau and ridgeline crests. Moving further west, these areas become larger and coalesce, while the incised drainage lines typical of the sandstone bedrock become shallower and develop into open and moderately graded valleys formed on the shale bedrock.

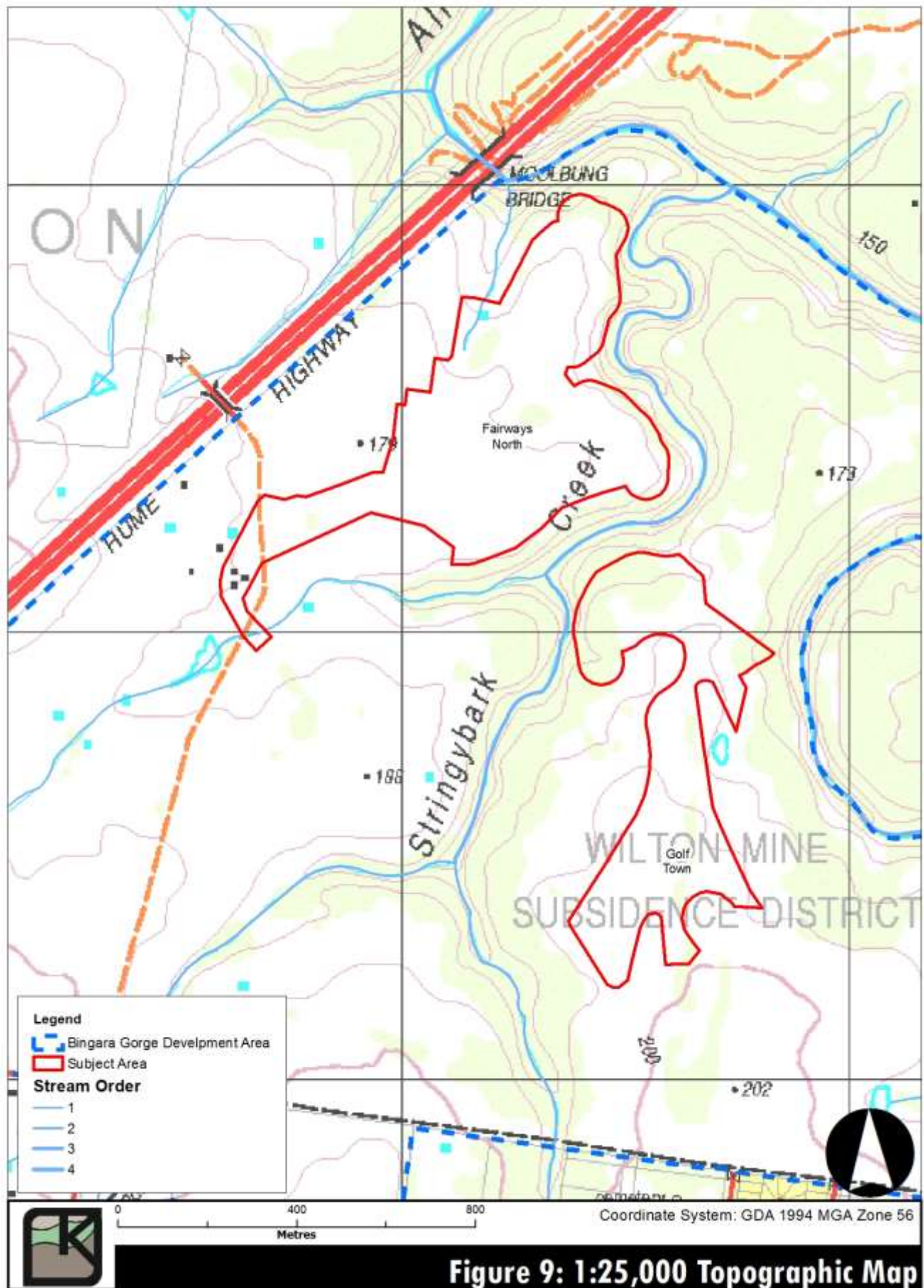
Morphological factors which define the transition zone are the change between sandstone and shale bedrock in creek beds, the change in valley morphology from steeply graded sandstone valleys to wide open shale based low gradient slopes, and the change in ridgeline topography from flat plateau land surfaces to broad gently graded or rounded crests. The Bingara Gorge development area is situated within the transitional zone, with Wianamatta shales on the remnant plateau areas, and Hawkesbury sandstone ridge lines grading into sandstone gully terrain along the creek lines.











## 5.6 Resource Exploitation

Based on the background information provided from various sources, it is possible to speculate what resources would have been available for pre-contact and contact Aboriginal exploitation.

Vegetation communities and flora and fauna species present within Bingara Gorge development area would have provided a range of resources for Aboriginal people. Food, tools, shelter, and ceremonial items were derived from floral resources, with the locations of many campsites predicated on the seasonal availability of resources.

Vegetation communities across the study area supported a range of faunal resources that would have been historically utilised by Aboriginal peoples. Terrestrial, aquatic, and avian resources were not only used for food, but also provided a significant contribution to the social and ceremonial aspects of Aboriginal life through their use as ritual implements or even simply through fashioning as personal adornments.

Based on a review of the probable state of Australia's vegetation around 1788 when European settlement began (Geoscience Australia, 2003), it has been identified that the vegetation within the Subject Area was likely to be low foliage density, medium sized (10-30m tall) *Eucalyptus* (no specific species provided by Geoscience Australia), and Tussocky or tufted grass understorey.

The flora that can be found adjacent to the Subject Area but within the wider Bingara Gorge area include *Acacia bynoeana* (bynoeas Wattle), *Epacris purpurascens* var *purpurascens* (Port Jackson heath), *Grevillea parviflora* subsp. *Parviflora* (Small-flower Grevillea), *Melaleuca deanei* (Deane's paperbark), and *Persoonia bargoensis* (Bargo geebung) (Eco Logical, 2015).

Vegetation communities that are found outside of the Subject Area but within the vicinity of the broader Bingara Gorge area include a dominant canopy of *Angophora floribunda* (Rough-barked Apple) followed by *Eucalyptus tereticornis* (Forest Red Gum) and *E. punctata* (Grey Gum) with smaller occurrences of *E. eugenioides* (Thin-leaved Stringybark) and *E. crebra* (Narrow-leaved Ironbark). *Bursaria spinosa* (Native Blackthorn) was common but sparse in understorey. The understorey had a high cover of *Microlaena stipoides* (Weeping Grass) and *Echinopogon caespitosus* (Bushy Hedgehog grass) (Eco Logical, 2013).

The Subject Area is separated by an ephemeral 3<sup>rd</sup> order stream (Stringybark creek) which runs north, north east to south, south west. The Subject Area of "Fairways North precinct" is situated 110m south of a 4<sup>th</sup> order stream (Allens Creek), whilst the Subject Area of "Golf Town" is situated 11m east of Stringybark creek. At certain times of the year water would have been particularly abundant within the Stringybark and Allens Creeks, and presumably these occasions would have resulted in increased faunal resources such as aquatic vertebrates and birds.

Quartz is the main stone raw material type suitable for Aboriginal tool manufacture that could be easily sourced from the rock shelters within the gorge; the quartz would be in the form of pebbles derived from the Hawkesbury sandstone. The other stone raw materials, such as silcrete, chert, mudstone, quartzite and basalt, suitable for artefact manufacture would have been sourced from areas on the Woronora Plateau and the Cumberland Lowlands (Smith, 1989a; 1989b).

## 5.7 Former Land Use and Disturbance

Land use within the Subject Area has been dominated by agricultural and pastoral practices, and have occurred since European occupation began in the early-mid 19<sup>th</sup> Century; the majority of the broader changes/impacts observed have occurred primarily as a consequence of European land management strategies.

The expansion of colonial era settlers into the area occurred within 50 years of arrival of Europeans. As early as 1827 the area which would later become Wilton, was identified as "good land at present Inaccessible" (Mitchell, 1827). In April 1837, 1280 acre property, that contains the Subject Area, was granted to Ousley Condell (The Sydney Gazette and New South Wales Advertiser 10/4/1837). The Baker Atlas shows Owsley Condell's holdings as being 1320 acres (Bakers Atlas 1843-1846).

In order to establish the level of disturbance within the Subject Area, an analysis and detailed review has been undertaken of the available historic aerial imagery, this includes the imagery from 1955, 1961, 1975, 1984, 1990, and 2005 (see Figure 10 to Figure 15). It is evident from the review of these aerals that portions of the Subject Area have been impacted by land clearance practices, i.e. removal of trees, and/or ground coverage as a part of pastoral practices (see Figure 17).

In 2016, Hazelton (2016) undertook a soil survey within the Bingara gorge development site, in order to prepare a soils report that would help ecologists in the preparation of a vegetation map of the site. After the distribution of the soil survey, it was highlighted in the results that there was a potential crossover of test pits from the survey and the test pits for the test excavation that KAS has undertaken.

#### **5.7.1 "Fairways North" Precinct**

The "Fairways North" Precinct overtime has undergone significant amounts of changes, as discussed above historic aerial images show the changes that the Subject Area as a whole has undergone. The changes that the Subject Area has been subject to; are large portions of vegetation clearances, pastoral practise, both in the past and presently and landscaping activities. These activities have contributed to the moderate ground disturbances that the land has undergone with the exception of areas of high ground disturbance. The Subject Area in more recently times has been subject to extended periods of grazing which have continued to cause low to moderate ground surface disturbance.

A large portion of the "Fairways North" Precinct low to moderate ground disturbance can be attributed to pastoral practices. However, there are two portions of the site that have undergone high levels of ground disturbance. One of these portions can be attributed to the construction of the dam that is located in the north north-west portion of the Subject Area (see Figure 17 and Figure 18). The other is located in the south-west portion of the Subject Area and at abandoned "Condell" homestead. The whole area in which the homestead is located has undergone significant amounts of ground disturbance, with the construction of the homestead, shed and landscaping activities. Furthermore, the land associated with the homestead has also been, in the past and recently, subject to pastoral practices.

A small area of the southern portion of the Subject Area has been subject to the creation of the golf course and has undergone rigorous amounts of vegetation clearance and more recently, continual landscaping of the area (see Figure 18).

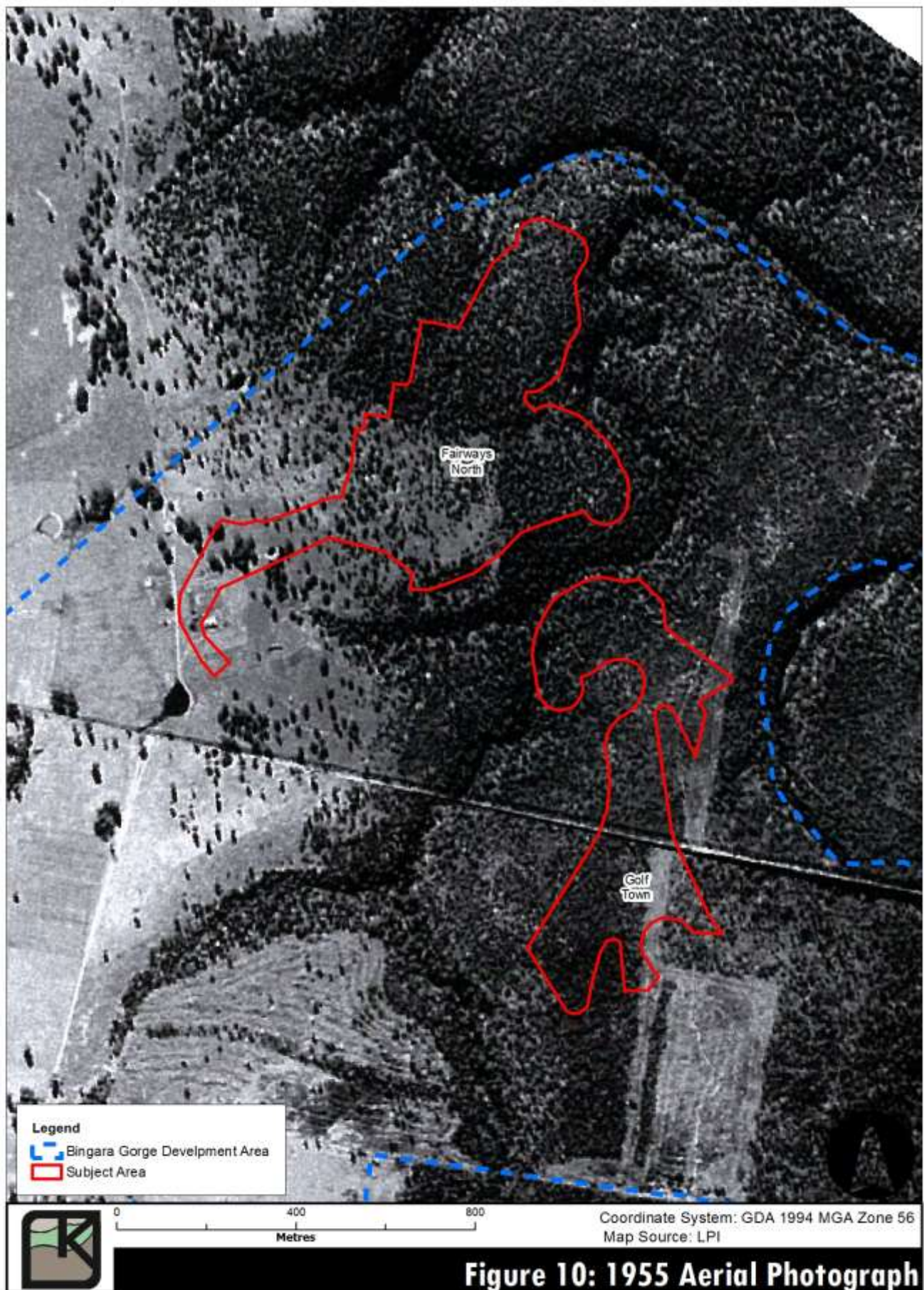
#### **5.7.2 "Golf Town" Precinct**

As mentioned above in Section 5.7, the Subject Area has undergone significant amounts of ground disturbance. Specifically the Golf Town Precinct has historically endured large amounts of vegetation clearance and possible replanting of a tree line feature, which is apparent in the aerial photograph below (see Figure 10 and Figure 19) that was taken in 1955, resulting in high levels of disturbance. It is unclear in the aerial photographs whether the tree line feature was subject to clearance either side or if the tree line feature was created and thus replanted and revegetated.

As shown in Figure 19 the Subject Area of "Golf Town" has areas of low to moderate ground disturbance with a small portion of the area that was subject to high disturbance and discussed above. The types of disturbance that have been aforementioned have the possibility to have disrupted the presence of top soils throughout the landscape within the Subject Area.

The Golf Town Precinct has also been subject to the laying of a number of golf greens. Although the greens have been laid over the top of the existing ground surface, it is likely that the surface would have still experienced significant amounts of disturbance.

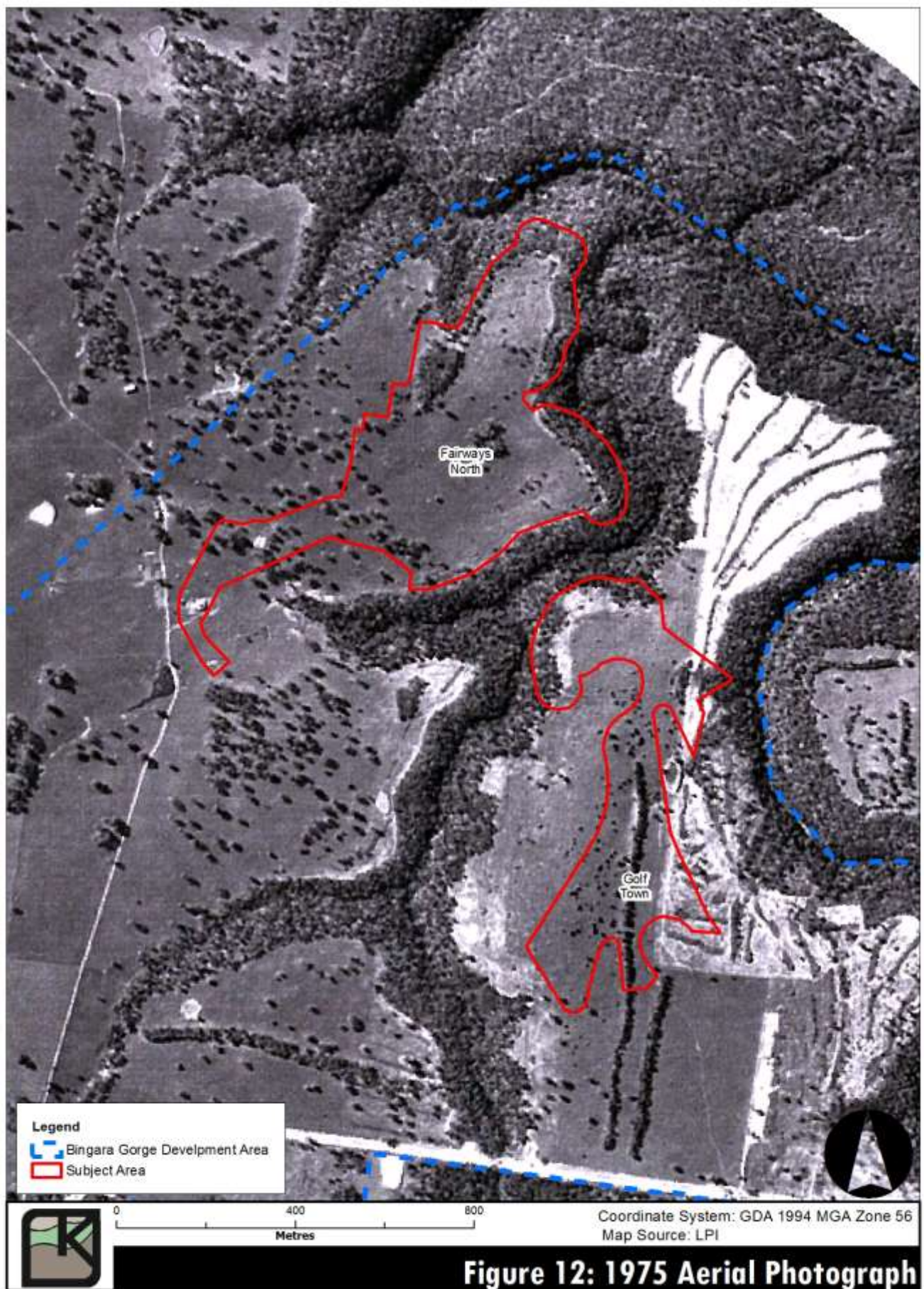








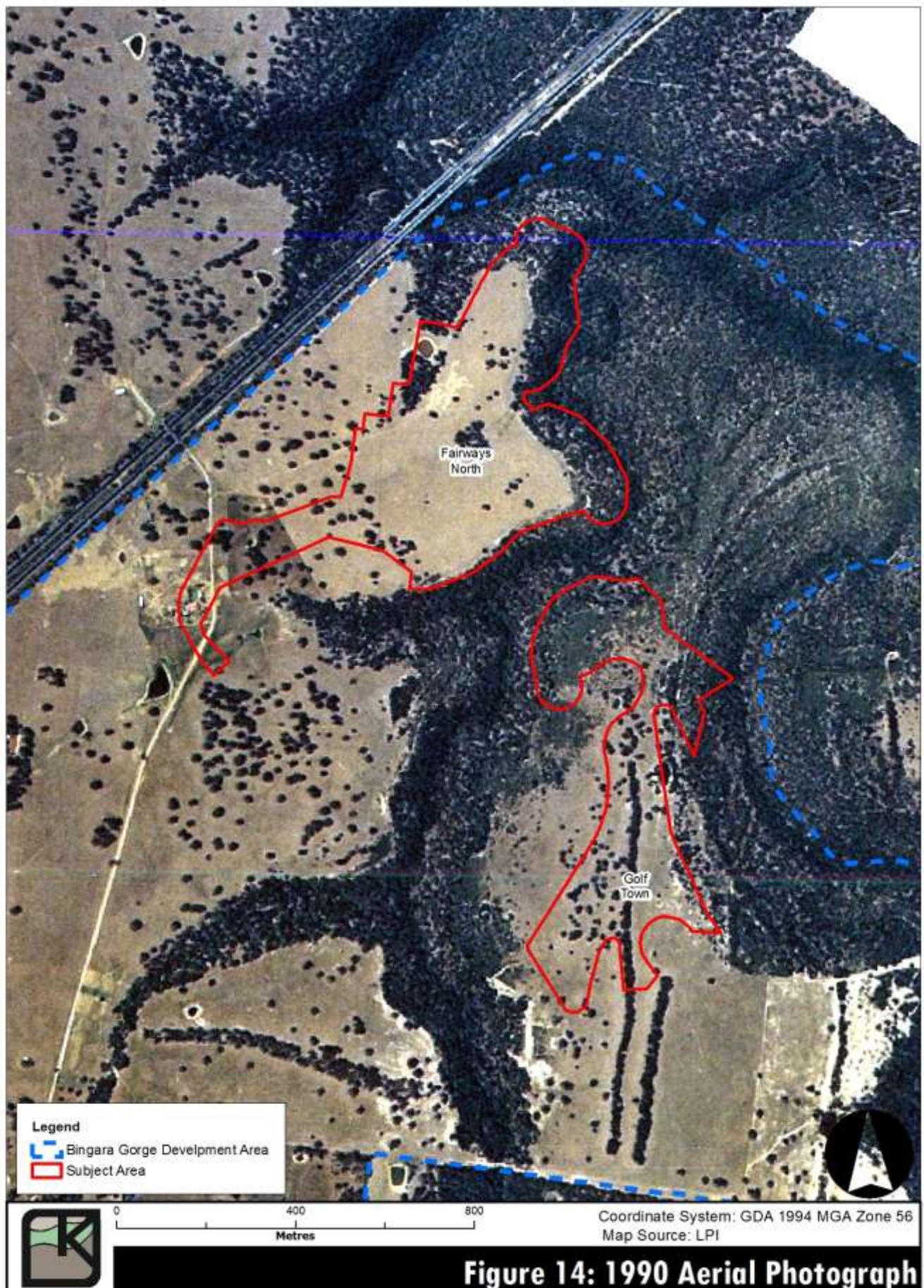








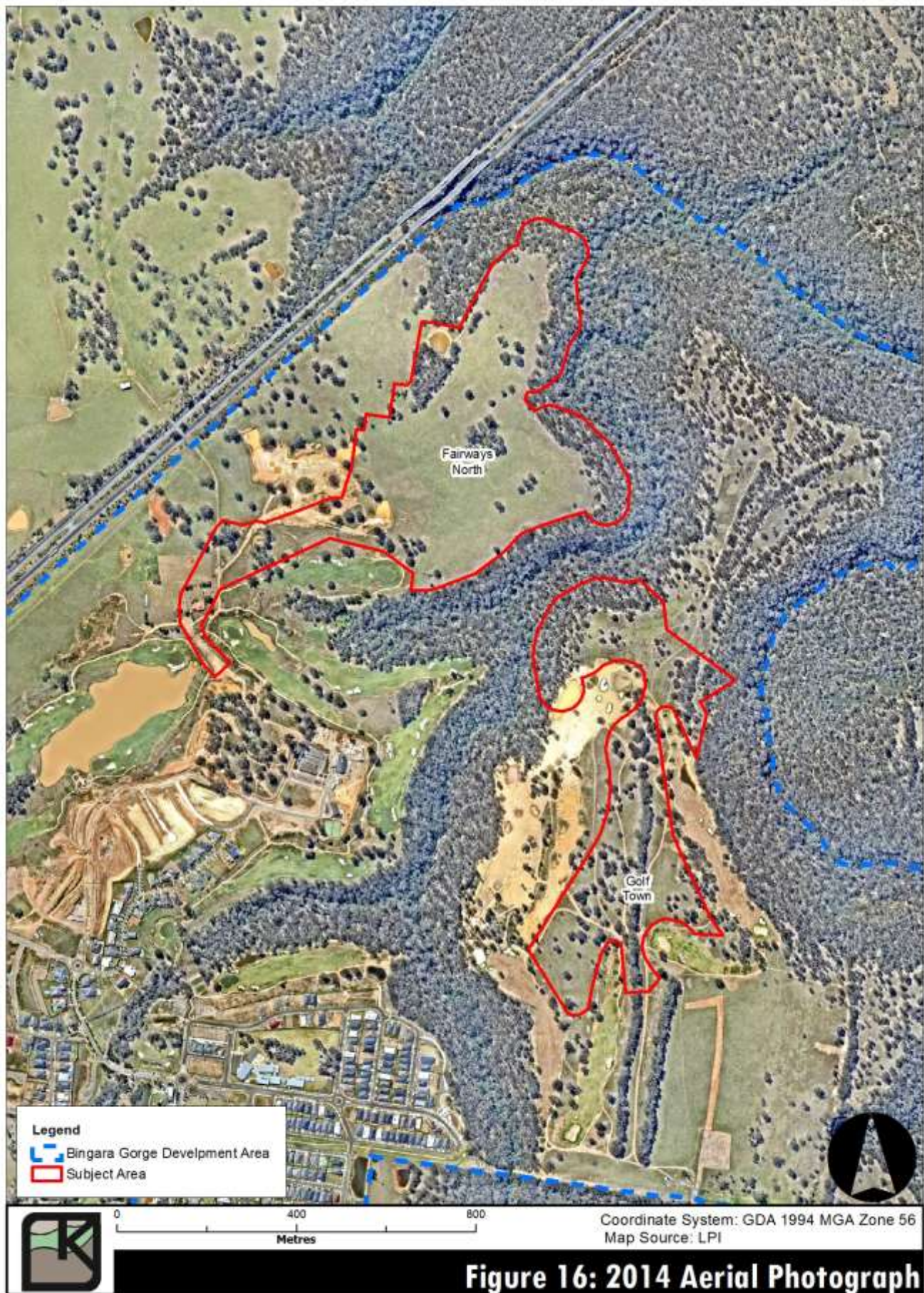




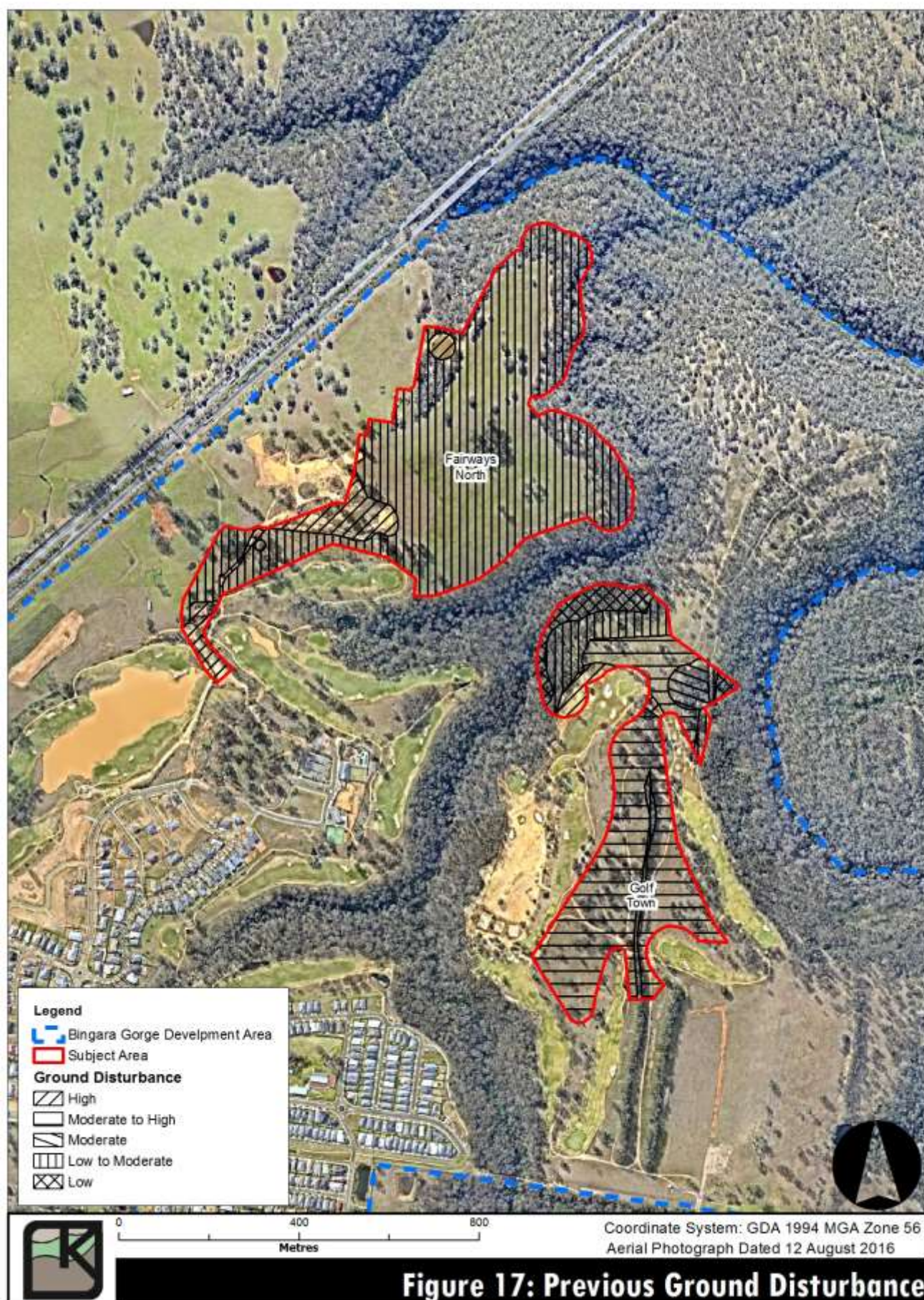




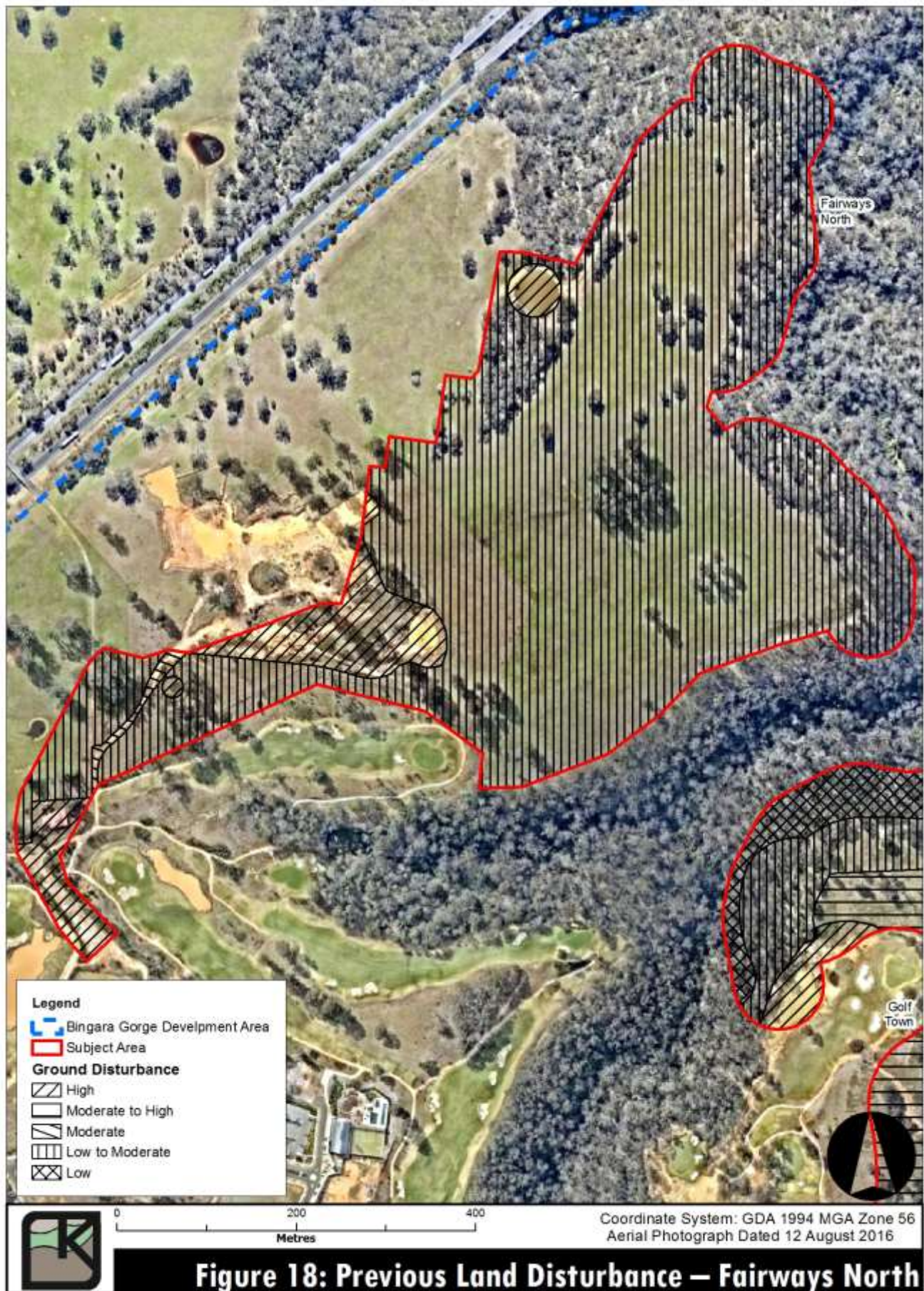




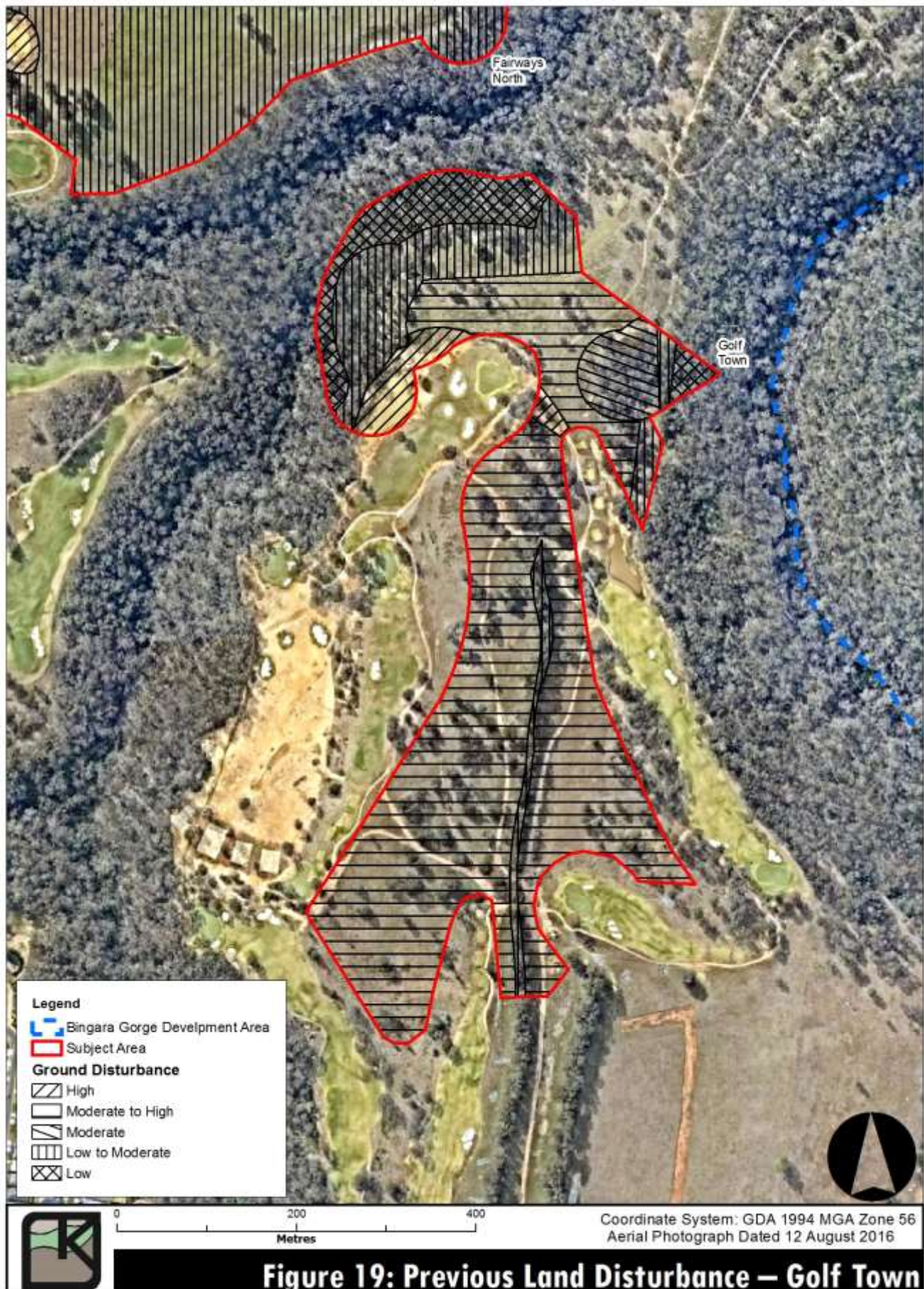














## 6 ARCHAEOLOGICAL CONTEXT

### 6.1 Ethnohistory

At the time of initial European occupation of the Sydney region, systematic ethnographic study of Aboriginal society was not carried out, but various people made some observations which can be compiled to suggest something of Aboriginal life ways at the time. Various observations have been compiled by Attenbrow (2010) and McDonald (2008). It is known that people lived in family groups, consisting of one or two adult males, their wives, and their dependants (young and old). It is also known that people belonged to named groups which were tied to places, and that people in different areas spoke different dialects (Jo McDonald CHM, 2008:17).

The radiocarbon date obtained from the RTA site in George Street, Parramatta indicates that the Sydney region has been inhabited by Aboriginal people for at least 30,000 years, and possibly longer (Jo McDonald CHM 2007). Archaeological sites from the Blue Mountains and Hawkesbury/Nepean River System have provided other evidence of early occupation within the region. Stockton and Holland (1974) produced a radiocarbon date of c.22,000 years BP from a site at Kings Tableland in the Blue Mountains. Excavation of the Greaves Creek rock shelter site of Walls Cave near Medlow Bath has produced a date of c.12,000 years BP (ibid). At Shaws Creek KII, a rock shelter on the west bank of the Nepean north of Penrith, a date of c.13,000 years BP is recorded (Kohen et al, 1984).

Due to unreliable sources of the time, exact pre-contact and contact boundaries of Aboriginal territories which existed prior to 1788 in the Sydney region are difficult to reconstruct. However, early written observations of Aboriginal people in the Picton/Wilton area have been collated by Tindale (1974). Bingara Gorge is located in proximity to a north-south trending boundary. The Gandangara people occupied country to the west, and the Tharawal and Wodi Wodi people lived in the land to the northeast and east of the region (Tindale, 1974).

While information about Aboriginal life in Wilton is scarce, some generalisations can be made from available writings and research that discusses Aboriginal Australia more broadly. Aboriginal people moved across the land in small family groups likely subsisting on plant food and the aquatic resources of creeks and rivers. In the Bingara Gorge development area, this would include the resources of Allens Creek and Stringybark Creek. A variety of local terrestrial resources, including possum, kangaroo, snakes and lizards, would also have been exploited.

### 6.2 AHIMS Database Search

Due to the length of time that KAS has been involved with the Bingara Gorge project and in accordance with advice from OEH that a AHIMS search is undertaken every 12 months for projects that have extended timeframes, a search of the AHIMS database has been undertaken since 2013.

The most recent search of the AHIMS database was undertaken on the 7th June 2017 using the Client Service ID 285414, with the coordinates set out in Table 7 below (see Appendix XVIII).

	EASTING	NORTHING
Minimum	285400	6208800
Maximum	289400	6212800

**Table 7:** AHIMS Database Search Criteria

(Zone 56 additional buffer 1kms)

The search area was a 4km by 4km square centred upon the Subject Area, with a 1km buffer (see Figure 20). A total of 119 Aboriginal sites had been registered within the search area.

It should be noted that the distribution of sites in the AHIMS database is a reflection of where site surveys have been conducted (see Figure 20), where exposure and visibility conditions have enabled the detection of sites, and where sites have survived modern land disturbance. The distribution of sites from AHIMS may not be a true reflection of the existing Aboriginal sites in an area.

Site Type	Frequency	%
Isolated Find	16	13%
Shelter with Art	16	13%
Shelter with PAD	15	13%
Potential Archaeological Deposit	13	11%
Habitation Structure	12	10%
Open Camp Site	11	9%
Open Camp Site with PAD	10	8%
Scarred Tree	9	8%
Shelter with Art and PAD	7	6%
Shelter with Artefact and PAD	4	3%
Shelter with Art, Artefact and PAD	2	2%
Axe Grinding Groove	1	1%
Shelter with Art and Artefact	1	1%
Shelter with Artefact	1	1%
Shelter with Axe Grinding Groove, Artefact and PAD	1	1%
<b>Grand Total</b>	<b>119</b>	<b>100%</b>

**Table 8:** Site Types from AHIMS Search (ID 169798)

Analysis of the site types shows that Isolated Finds (16) make up 13% of the known Aboriginal sites within the surrounding area with sites within Rock Shelters that have various other archaeological features (i.e. rock art, PAD, artefacts, or combinations thereof) (59) are 49.6% of the known Aboriginal sites (see Table 8). Other Aboriginal sites (Scarred Trees and Open Grinding Grooves and Open Camp Sites) make up the balance of the known Aboriginal sites but only in very limited numbers.

There has been a progressive increase in the frequency of Open Artefacts Scatters and PADs identified in recent years as the type of development works being assessed has shift from Longwall Mining towards residential land development.

### 6.3 Regional Archaeology

Aboriginal people occupied the Sydney Basin area from the Late Pleistocene. Several Pleistocene occupation sites have been identified in the Blue Mountains and within the NSW coastal regions (Turbet, 2001). Nanson excavated a site at Cranebrook Terrace near Penrith with radiocarbon dates of 41,700 +/- 2000-3000 (Attenbrow 2010, after Nanson et al, 1987); and Stockton and Holland (1974) excavated sites in the Blue Mountains with radiocarbon dates of 22,000 years BP. However, the majority of open sites and rock shelters in the Sydney region are dated within the last 5,000 years (Navin 2002:9), possibly due in part to older sites being subject to erosion and other destructive processes for a longer period of time (Hiscock, 2008). It is also possible that occupation of eastern NSW, including the Illawarra and Southern Highlands, increased substantially within the last few thousand years. Various sites such as artefact scatters, scarred trees, grinding grooves, and shelters with deposits and occasionally with art have been recorded in the wider area (Silcox,

1988:5). Rich (1993) documented the change in lithic assemblages over time on the Mount Flora excavation of RC-PAD site approximately 30km to the south. According to the results artefact density increased markedly during the last 4000 years with quartz being the highest percentage of the recovered artefacts.

## 6.4 Local Archaeology

The Wilton area and surrounding region has been subject to a high number of archaeological studies. The majority of archaeological studies in the Wilton region have been confined to the treatment of specific study areas. The Table below (Table 9) contains the details of some of the Aboriginal heritage assessments that have been undertaken in the general vicinity of the Subject Area, and the areas considered in these reports are mapped in Figure 22 and Figure 23. A brief outline of each report is also provided below.

Citation <sup>1</sup>	Locality	Study Type	Results
Sim, I. 1964	Wilton	Rock art recording	Rock shelter with art
Haglund, L., 1982a	Wilton	Archaeological survey	Four shelters sites, 2 with art and artefacts, 1 with potential art, 1 with artefacts
Haglund, L., 1982b	Wilton	Archaeological survey	No sites identified
Sefton, C. 1989	Heathcote National Park	Archaeological survey	37 art sites, 14 stone artefact sites, 2 rock engraving sites, 1 engraved groove channel site and 17 grinding groove sites
Rich, E. 1990	Wilton Bypass	Archaeological survey	One shelter with occupational deposit and 1 isolated stone artefact
Navin, K and Officer, K. 1995	Tower – Appin	Archaeological survey	Open artefact scatter, 1 isolated find
Rosen, S. 1995	Pheasants Nest Weir	Heritage assessment	One surface scatter of stone artefacts
AMBS 1996	Douglas Park	Archaeological survey	No sites identified
Sefton, C., 1996	Appin	Archaeological investigation	Three sandstone overhangs with archaeological deposit, 2 sandstone overhangs with art, sandstone overhang with art and deposit
Sefton, C., 1998	Tower Colliery	Archaeological investigation	One sandstone overhang with archaeological deposit and three sandstone overhangs with art, seven PADs
Jo McDonald Cultural Heritage Management, 1999a	Nangarin Estate	Archaeological investigation	A total of nine (9) sites were identified: two open artefact scatters, three isolated finds, a rock shelter with archaeological deposit, two rock shelters with potential archaeological deposit, and an area with archaeological potential.

<sup>1</sup> KAS is aware that a Greater Macarthur Investigation Area Aboriginal and Historic Heritage - Gap Analysis and Future Direction has been prepared by AHMS and is currently on exhibition; however, it is outside the scope of this current investigation to assess and compare the results of this program of works against the report prepared by AHMS.

"Fairways North" and "Golf Town" Precincts, Bingara Gorge, Wilton, Wollondilly Shire LGA, NSW  
Aboriginal Cultural Heritage Assessment and Test Excavation Report

Jo McDonald CHM, 1999b	Nangarin Estate	Excavation report	A total of nineteen (19) artefacts were identified.
Sefton, C., 1999	Tower Colliery	Archaeological investigation	One sandstone overhang with art, four sandstone overhangs with archaeological deposit, a scarred tree and three PADs
Conacher Travers, 2000	Condell Park, Wilton	Archaeological assessment	No sites identified
Navin Officer Heritage Consultants, 2003a	Wilton	Archaeological assessment	Seven shelters with Art and PAD, 1 shelter with stone artefacts, grinding grooves and PAD, 2 shelters with art, stone artefacts and PAD, 6 open artefact scatters and 1 shelter with art
Navin Officer Heritage Consultants, 2003b	Wilton	Archaeological assessment	One stone artefact
Austral Archaeology 2004	Maldon	Aboriginal heritage assessment	Two open artefact scatters, 5 isolated finds, a scar tree and area of archaeological sensitivity
KAS, 2005	Bingara Gorge, Wilton	Indigenous Heritage Conservation Management Plan	Details management strategies for Aboriginal heritage
Kayandel Archaeological Services, 2006	Bingara Gorge, Wilton	Excavation report	173 artefacts
Czastka, 2007	Bingara Gorge, Wilton	Archaeological Assessment	Identified "WP7 Eastern PAD" during assessment of an S.90 permit application.
KAS, 2007	Bingara Gorge, Wilton	Aboriginal Cultural Heritage Management Plan	Details management strategies for Aboriginal heritage
Heritage Concepts, 2007	Wilton	Aboriginal and Historical archaeological and cultural heritage assessment	One isolated find, one scar tree, one historical site comprising of a sandstone weir and post hole cuttings
Navin Officer Heritage Consultants 2008a	Wilton	Cultural heritage assessment	One rock shelter, one historic heritage artefact scatter, 7 sandstone piers, 3 concrete structures
Navin Officer Heritage Consultants 2008b	Wilton	Aboriginal and historical archaeological assessment	No sites identified
Biosis Research, 2009a	Bingara Gorge	Aboriginal archaeological assessment	Isolated flake
Aecom, 2010	Maldon	Aboriginal and historic heritage assessment	No sites located
KAS 2010	Bingara Gorge, Wilton	Recording of Aboriginal sites	132 artefacts
Niche Environment and Heritage, 2010	Appin Colliery	Aboriginal cultural heritage assessment	One scarred tree
Navin Officer 2012	Wilton	Aboriginal cultural heritage assessment	Edge ground axe
KAS 2013a	Bingara Gorge, Wilton	Statement of Heritage Impact	One open artefact scatter was identified: CT-AS-01. Three PADs were identified: CT-PAD-01, CT-PAD-02, and CT-PAD-03
KAS 2013b	Bingara Gorge, Wilton	Statement of Heritage Impact	One PAD was identified: FE-PAD-01
KAS 2013c	Wilton	Aboriginal Cultural Heritage	A total of 30 sites were identified:

		Assessment and Historic Heritage Assessment	Seven (7) artefact scatters; Ten (10) isolated finds; Eight (8) rock shelter; and Five (5) scarred Trees.
KAS 2013d	Bingara Gorge, Wilton	Aboriginal Archaeological Due Diligence Assessment	Two rock shelters were identified. BG-RS-01 was observed to have an isolated find and PAD; and BG-RS-02 was observed to have a PAD.
Biosis 2014	Bingara Gorge, Wilton	Aboriginal Archaeological Due Diligence Assessment	One isolated artefact was identified
KAS 2014a	Bingara Gorge, Wilton	Aboriginal Cultural Heritage Assessment and Test Excavation Report	A total of 53 artefacts were recovered from 11 pits during the test excavation of BG-AS-001.
KAS 2014b	Bingara Gorge, Wilton	Aboriginal Cultural Heritage Assessment and Test Excavation Report	No artefacts were recovered during the test excavation of FE-PAD-01.
KAS 2015a	Bingara Gorge, Wilton	Cultural Heritage Assessment Report	Two isolated artefacts were recorded: BG-IF-01 and BG-IF-02. Six PADs were identified: BG-PAD-01, BG-PAD-02, BG-PAD-03, BG-PAD-04, BG-PAD-05, BG-PAD-06
KAS 2015b	Bingara Gorge, Wilton	Aboriginal Cultural Heritage Assessment and Test Excavation Report	Four (4) Aboriginal artefacts were identified during the test excavation at FE-PAD-01. However, no subsurface deposit was identified. One (1) Aboriginal artefact was identified at WILIF01, in an area of high ground disturbance.
KAS, 2015c	Bingara Gorge, Wilton	Aboriginal Cultural Heritage Assessment and Test Excavation Report	A total of nine (9) artefacts were recovered from 35 pits during the test excavation.
KAS, 2015d	Bingara Gorge, Wilton	Aboriginal cultural heritage assessment	Eight (8) previously unrecorded Aboriginal sites were identified.

Shading indicates those reports that have specifically considered the Subject Area in this report

**Table 9:** Cultural heritage investigations conducted in the Wilton region

#### 6.4.1 Relevant Subsurface Investigations

The following selected reports discuss the results of a select number of excavation excavations that have been undertaken in the area surrounding the Subject Area. These reports have been included as they are the most relevant excavations and projects relating to the landform and region in which the Subject Area is located, and thus provide data which can inform the development of the occupation model for the Subject Area.

##### Jo McDonald CHM (1999b)

Jo McDonald CHM (1999b) undertook an archaeological test excavation at the Nangarin Estate of NG/PAD1, the area identified with archaeological potential during the previous survey (Jo McDonald CHM 1999a). NG/PAD1 was identified in an area of gently sloping lower hill slopes, in association with Stonequarry Creek, in an area which had been subject to limited ploughing, and was expected to contain a stratified soil profile, and thus intact deposits (Jo McDonald CHM 1999b).

A total of sixty-one (61) 1 x 1m test squares were excavated in 2 transects across NG/PAD1: 30 test squares were located along Transect A, and 31 test squares along Transect B. Nineteen stone artefacts were retrieved from the excavation. Artefact types included two backed artefacts (a backed blade and a geometric) and manufacturing debitage, consisting primarily of flakes. The raw materials used in artefact production included indurated mudstone, silcrete, quartz and quartzite (Jo McDonald CHM 1999b).

McDonald (1999b) determined NG/PAD1 to be a discrete, low density scatter of artefacts, which could possibly indicate a single occupation episode centred in the northeast of the area (e.g. a single knapping event, rather than a repeatedly visited campsite). NG/PAD1 was renamed NG/OC3.

#### **Kayandel Archaeological Services (KAS) (2006)**

Kayandel Archaeological Services (KAS) (2006) undertook an Aboriginal excavation at Wilton Park 8 (WP8). WP8 was identified in low lying plains and areas of moderately sloped hills, associated with the banks of Stringybark Creek.

Excavation was undertaken through a series of transects with individual 1 x 1m test pits spaced at 20m intervals, feature pits and open area excavation. The majority of excavation was undertaken mechanically; however some hand excavation was done for deposits containing a greater density of artefacts (KAS 2006:22-24).

The excavation recovered 173 stone artefacts, just over half (58%) being made from silcrete. Nine tools were recovered, 7 of these being backed blades or backed blade fragments, 1 hammer stone and 1 fragment with use wear. Seven cores and 1 flake core were also found with the remainder of artefacts being debitage, 81 of these being complete flakes (KAS 2006:45). It was inferred from the artefact types present that the site had a broad date range of late Holocene i.e. the last 5000 years. Additionally, the low number of artefacts retaining cortex and complete flakes suggest that late stage manufacturing was undertaken at the site (KAS 2006:63).

#### **KAS (2014b)**

KAS (2014b) undertook an Aboriginal archaeological test excavation at BG-AS-001 within the Bingara Gorge development area. BG-AS-001 is located in proximity to a 1<sup>st</sup> order stream, within a relatively flat located immediately behind the escarpment directly associated with Allens Creek.

The excavation was undertaken through a series of transects within individual 50cm x 50cm test pits spaced at 5m intervals. The excavation was undertaken using hand tools. The excavation recovered 53 stone artefacts, 49% of the artefacts were made from quartz. Two (2) backed blades were recovered. Fifteen (15) flakes were recovered and the remainder of the assemblage consisted of proximal fragments and flaked pieces. It was inferred from the artefact types present that the site had a broad date range of late Holocene i.e. the last 5000 years.

#### **KAS (2015b)**

KAS (2015b) undertook an Aboriginal archaeological test excavation at FE-PAD-01 within the Bingara Gorge development area. FE-PAD-01 is located on the flat behind the escarpment created by the gorge, and is approximately 207m of a 1<sup>st</sup> order stream to the north and within 370m of Stringybark Creek to the east.

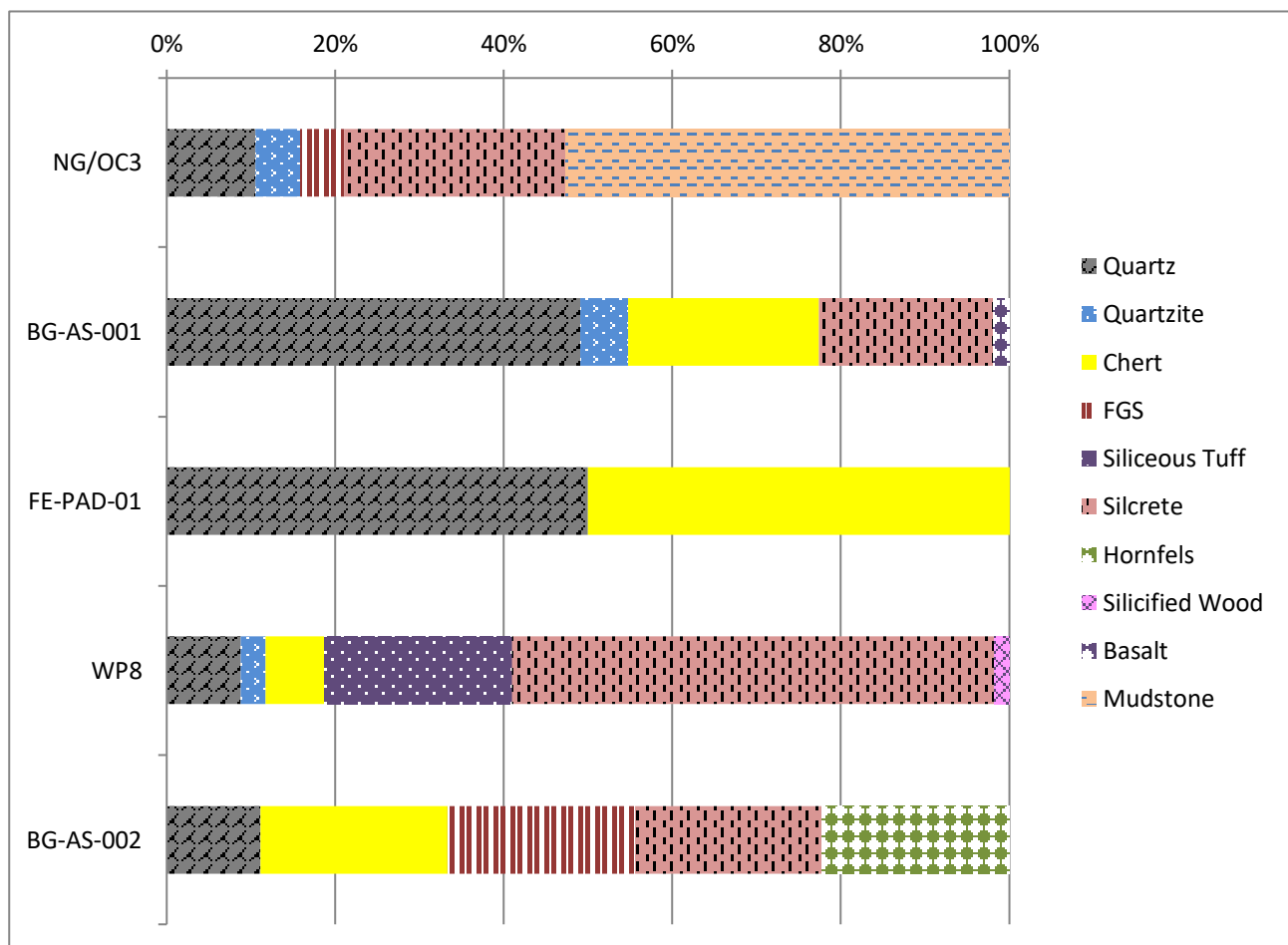
The test excavation within FE-PAD-01 was limited to areas of the site which had the least amount of ground disturbance. The excavation was undertaken through a series of transects with individual 50cm x 50cm test pits spaced at 20m intervals. The excavation was undertaken using hand tools.

Four (4) stone artefacts were recorded during the excavation; however these were all identified at surface and not removed from excavated pits. Pits were placed at the location of several of these surface artefacts, and no cultural material was identified at depth. Of the four (4) artefacts, 50% were brown chert, while the other 50% were identified as quartz. The artefacts represent flakes and distal fragments, with numbers too low as to be able to provide statistically significant information.

The artefacts at FE-PAD-01 were all recovered at surface level, and the site contains no subsurface artefacts. This may indicate that objects located within the Subject Area were deposited during discard or isolated knapping events, not as a result of ongoing tool manufacture in the area.

While numerous archaeological surface investigations have been undertaken within the Wilton area, there have been limited archaeological subsurface investigations (see Figure 22). Four subsurface archaeological excavations have been undertaken within the Bingara Gorge development.

Graph 1 summarises the data on raw material frequencies from the subsurface investigations.



**Graph 1:** Raw Material Comparison of Excavated Aboriginal Sites within Bingara Gorge and Nangarin Estate (Picton)



## 6.5 Previous Assessment within the Subject Area

This section details a synthesis of the previous Aboriginal archaeological assessments that have wholly and/or partially incorporated the current Subject Area.

The information presented in this section is limited by the Aboriginal archaeological assessments that KAS has been able to source through AHIMS and/or have been prepared by KAS.

The extent of each of the assessments outlined below is presented in Figure 23.

### Navin Officer (2003a)

The Subject Area was previously surveyed in December 2002 during a rezoning study undertaken by Navin Officer (2003a). The rezoning study was conducted to allow the proposed development of approximately 1000 residential subdivisions and associated community infrastructure (Navin Officer (2003a:1). During the Navin Officer investigation, the present Subject Area was assessed as being located within landforms that had low to high archaeological sensitivity (Navin Officer, 2003a:56).

### KAS (2013a)

In 2013, KAS prepared a Cultural Heritage Assessment Report for the *Development Application "Country Town" Bingara Gorge, Wilton NSW* (KAS, 2013a). This DA would allow for the subdivision and construction of residential dwellings and associated infrastructures, including roads, for residential purposes. During this investigation, four (4) Aboriginal sites (CT-AS-01, CT-PAD-01, CT-PAD-02, and CT-PAD-03) were identified. Portions of the current Subject Area were included during the archaeological investigation of Country Town.

### KAS (2015a)

In 2013, KAS prepared a Cultural Heritage Assessment Report for the *Development Application "Balance of Site" Bingara Gorge, Wilton NSW* (KAS, 2015a). During this study, four (4) development precincts (Fairways West, Fairways North, Golf Town, and Bushland) were investigated and eight (8) Aboriginal sites (BG-IF-01, BG-IF-02, BG-PAD-01, BG-PAD-02, BG-PAD-03, BG-PAD-04, BG-PAD-05 and BG-PAD-06) were identified.

It was proposed that the construction of residential subdivisions and associated infrastructure would be undertaken within Fairways West, Fairways North and Bushland; while, it was proposed that a portion of the golf course would be constructed within Golf Town. Portions of the current Subject Area were included during the archaeological investigation of the Balance of Site.

### KAS (2015d)

In 2015, KAS prepared a Cultural Heritage Assessment Report for the proposed construction of fire trails within the Environmental Protection and Recreation Lands (EP&R Lands) (refer to Figure 23). As evident in Figure 23, portions of the current Subject Area were included during the archaeological investigation of the fire trails.

As a result of previous investigations within study area (Navin Officer, 2003a; KAS, 2013a; KAS, 2015a), Aboriginal sites (BG-PAD-01, BG-PAD-02, BG-PAD-03, BG-PAD-04, BG-PAD-05, BG-PAD-06, CT-AS-01, CT-PAD-01, CT-PAD-02, and CT-PAD-03) were already known to exist within the study area.

As a result of the recent archaeological investigations undertaken within the portions of the study area located within the EP&R Lands, eight (8) previously unrecorded Aboriginal sites were identified: 1 possible Aboriginal scar tree (BG-ST-01), 7 possible habitation sites (BG-RS-03, BG-RS-04,



BG-RS-05, BG-RS-06, BG-RS-08, and BG-RS-09) and 1 possible habitation site with Potential Archaeological Deposit (PAD) (BG-RS-07).

## 6.6 Previous Predictive Models

In terms of a broader regional context, the Bingara Gorge is located on the Nepean Ramp which sits at the western margins of the Woronora Plateau (see Section 5.5 on the Nepean Ramp Transitional Zone). As discussed in Section 6.4 there have been a significant number of previous archaeological studies undertaken in the region surrounding the Bingara Gorge. Review of this work shows that it is almost exclusively focused upon archaeological survey; only three archaeological excavations having been undertaken within 15km of the Subject Area. Acknowledging this limitation and recognising that the surrounding regions (Cumberland Plain to the north and Southern Highlands to the south) have had significant levels of archaeological excavations to develop robust models of Aboriginal occupation, it is appropriate to review the models for the surrounding regions and assess their relevance in determining an accurate model for Aboriginal occupation and predictions for site types and locations within the Subject Area (KAS, 2014a).

The various models of past Aboriginal occupation which have been developed for the wider region and similar landscape contexts, i.e. Koettig & Lance (1986), may be extended to tableland environments; McDonald (2004) is pertinent to open plain contexts; and Attenbrow (2004) within the region of the central coast. These models indicate that sources of permanent or seasonally reliable water were not just a focus of past Aboriginal occupation, but were a necessity for occupation to occur. Therefore, it is expected that the greatest evidence of occupation would be found in association with reliable water sources such as creeks, and rivers where they occur.

Further, the presence of suitable landforms was also extremely important for occupation to occur. Landform often determines the type of archaeological evidence that will be found or, in many instances, whether any evidence at all can be expected to occur (KAS, 2015a; 2015b). It needs to be acknowledged that the plateau environments of the Nepean Ramp differ markedly from the environments of the Cumberland Plain and Southern Highlands. Streams on the Nepean Ramp are typically only 1<sup>st</sup> or 2<sup>nd</sup> order streams before entering the Rivers (Nepean and Cordeaux). As such many of the more specific characteristics of the occupation models proposed for these two regions will not hold true for the Nepean Ramps.

The section below has been provided to address the reasoning behind Zones 1 – 4 of the proposed utilisation zones in the Utilisation Model for the Nepean Ramp Transitional Zone.

In recent years, KAS has developed an Utilisation Model for Aboriginal occupation within the Nepean Ramp Transitional Zone, which aims to predict and explain the presence of sites within proximity to the watercourses and escarpments. These utilisation zones are identified as follows:

- Zone 1 extends from the creek to the top of the escarpment, is believed to have been the main habitation area for the Wilton area, due to the large number of sandstone outcrops that have been identified as rock shelters suitable for habitation.
- Zone 2 extends from the top of the escarpment to the back of the flat behind the escarpment. Based discussion with the Aboriginal community registered for the project in regarding land-use practices, the fact that the majority of Aboriginal sites identified within Bingara Gorge and the Wilton area have been recorded in this landform (refer to Figure 20), it is believed that artefact production may have been undertaken in Zone 2. It is also

thought that game retrieved from Zone 3 may have been processed into more manageable sizes in this area.

- Zone 3 is located between the flat behind the escarpment and the highest point in the section. It is thought that Zone 3 may have been utilised as either for hunting and gathering purposes, before heading back down to the rock shelters in the gorge, or as an access point to the main ridge line. This utilisation zone is based on the low level of sites identified in this area within Bingara Gorge (FE-PAD-01 is one of the few Aboriginal sites within this Zone which has been identified as well as subject to subsurface investigations), as well as distance to permanent water sources (refer to Section 5 of KAS, 2015a), and the understanding based on discussions with the Aboriginal community that this area would have been too open to be occupied long term.
- Zone 4 is identified as the highest point along the section (see **Error! Reference source not found.**) and may have been utilised for strategic landscape visibility purposes.

The Subject Area is in a location identified as extending across Zones 2 to 4. The Subject Area extends from top of the escarpment to the back of the flat behind the escarpment to the highest point on the landscape, and has few easy access points into the incised gorge below.

Considering these utilisation zones, and acknowledging that previous predictive models for the Cumberland Plain and Southern Highlands are not suitable for the landform environment found in the Bingara Gorge, and within the Subject Area, the following predictive model has been developed.

## 6.7 Aboriginal Heritage Predictions for the Subject Area

Based on the previous predictive model, previous archaeological results, past land use history, and the environmental descriptions, the following predictions for Aboriginal sites to be present within the Bingara Gorge development area have been made by KAS:

- Both surface and subsurface artefacts may occur across the entire Subject Area. This is supported by the range and location of Aboriginal sites identified across the Bingara Gorge development (see Figure 20), and reinforced by the results of the current test excavation (refer to Section 7.3);
- Surface and subsurface artefacts would be most likely to occur on the flat behind escarpments, where there is easy access into the gorge. This is supported by the fact that the majority of Aboriginal sites (Open Camp Sites and Isolated Find) are typically identified within this landform (refer to Figure 20), as well as the results of BG-AS-001 (refer to KAS 2014b);
- Subsurface archaeological deposits may be present in areas where no visible surface archaeological remains are evident. This is supported by the artefacts recovered from BG-AS-001, and reinforced by the results of the current test excavation as discussed in KAS (2015a);
- The size, density and significance of sites will vary, although it is anticipated that any sites will be considerably less complex and less dense at distances greater than 250m from major water sources such as Allens Creek or Stringybark Creek, or along ridges and elevated positions overlooking watercourses. This is supported by the identification of isolated finds at distance of greater than 250m from major water sources, while artefact scatters have been identified on the flat immediately behind the escarpment (refer to Figure 20 and Figure 21);
- It is likely that there is an increased number of closed habitation sites at the confluences of higher order streams, relating to the sandstone outcrops present in these locations;

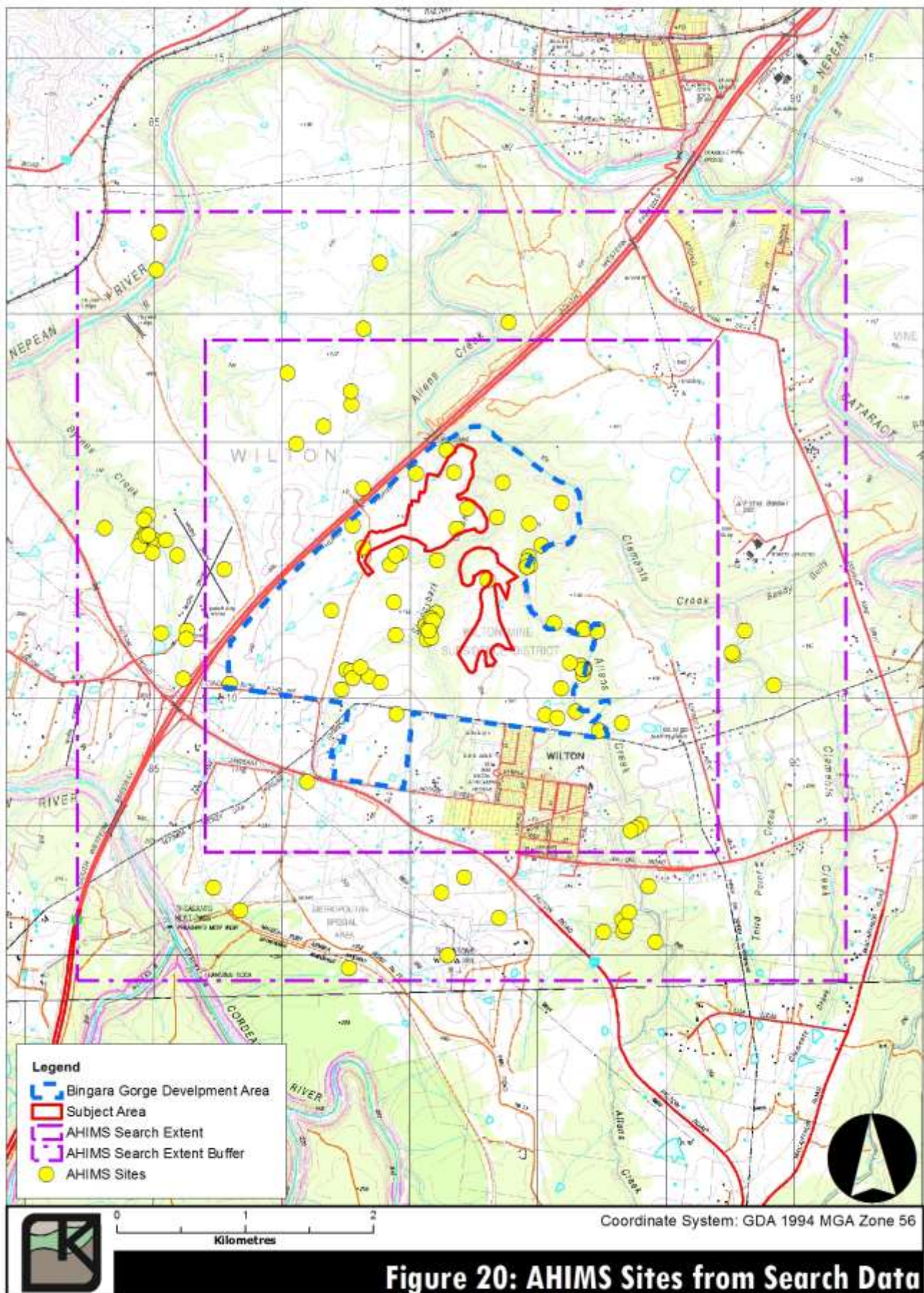
- Habitation sites will have associated open production and hunting/gathering sites, which will be present in close proximity, along the length of the flat behind the escarpment. The associated open production and hunting/gathering sites will occur in areas where the terrain allows for easy access into the gorge where the habitation sites occur;
- Open occupation is likely to have occurred where the ground surface is softer and rich in soils rather than on the flat at the edge of the escarpment that is known to obtain high amounts of rock surfaces;
- No lithic raw material outcrops have been identified in Bingara Gorge. As such, any archaeological material present within the Subject Area may provide additional understanding to raw material selection in the Wilton region;
- Burials would not be expected due to the limited depth of soil deposits;
- Areas of PADs in locations with minimal previous land disturbance; and,
- As past land use disturbance increases in intensity, the ability for Aboriginal objects to provide spatial and chronological information about past Aboriginal land use will decrease.

Based on test excavations that have been undertaken within the Bingara Gorge development it is currently thought that the flat immediately behind the escarpment is likely to contain Aboriginal archaeology. This is supported by the archaeological excavation undertaken at WP8 (AHIMS # 52-2-3032), which was 27m from the unnamed western 1<sup>st</sup> order tributary of Stringybark Creek, where 171 artefacts were identified, and BG-AS-001 (AHIMS #52-2-4153) (KAS, 2014b), which was 5m from unnamed 1<sup>st</sup> order stream, where 53 artefacts were identified, compared to the 4 artefacts recovered from FE-PAD-01 (AHIMS #52-2-4020), which is 370m from Stringybark Creek (KAS, 2015).

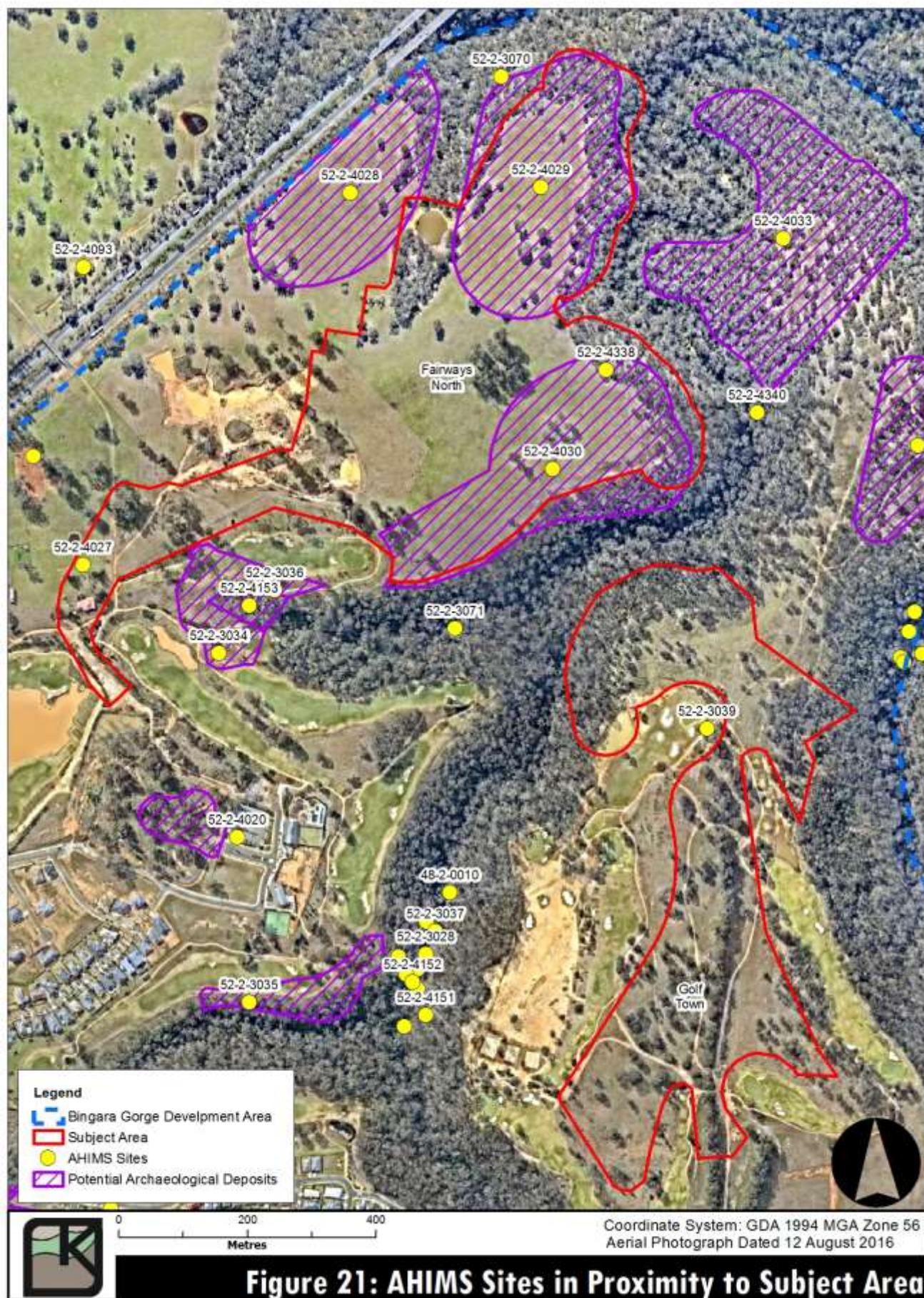
The potential for subsurface archaeological deposits to be present within this landform is assessed as being moderate, as the location was considered to meet the predictive model outlined in KAS (2015b). Due to the large number of Aboriginal sites in the immediate vicinity, it was considered unlikely that the Subject Area would have been avoided and not utilised in the general occupation of the area by Aboriginal people in the past (KAS 2015b). Additional subsurface investigations, in different landforms, would be necessary to begin assessing how the plateau landscape may have been utilised.

Based on previous test excavations that have been undertaken within the Bingara Gorge development it would not be unreasonable to make predictions based on geomorphology and soil landscape rather than making predictions based on typical landscape features. In order for these predictions to be supported, more test excavations of the Bingara Gorge development and wide Wilton area would need to be undertaken.

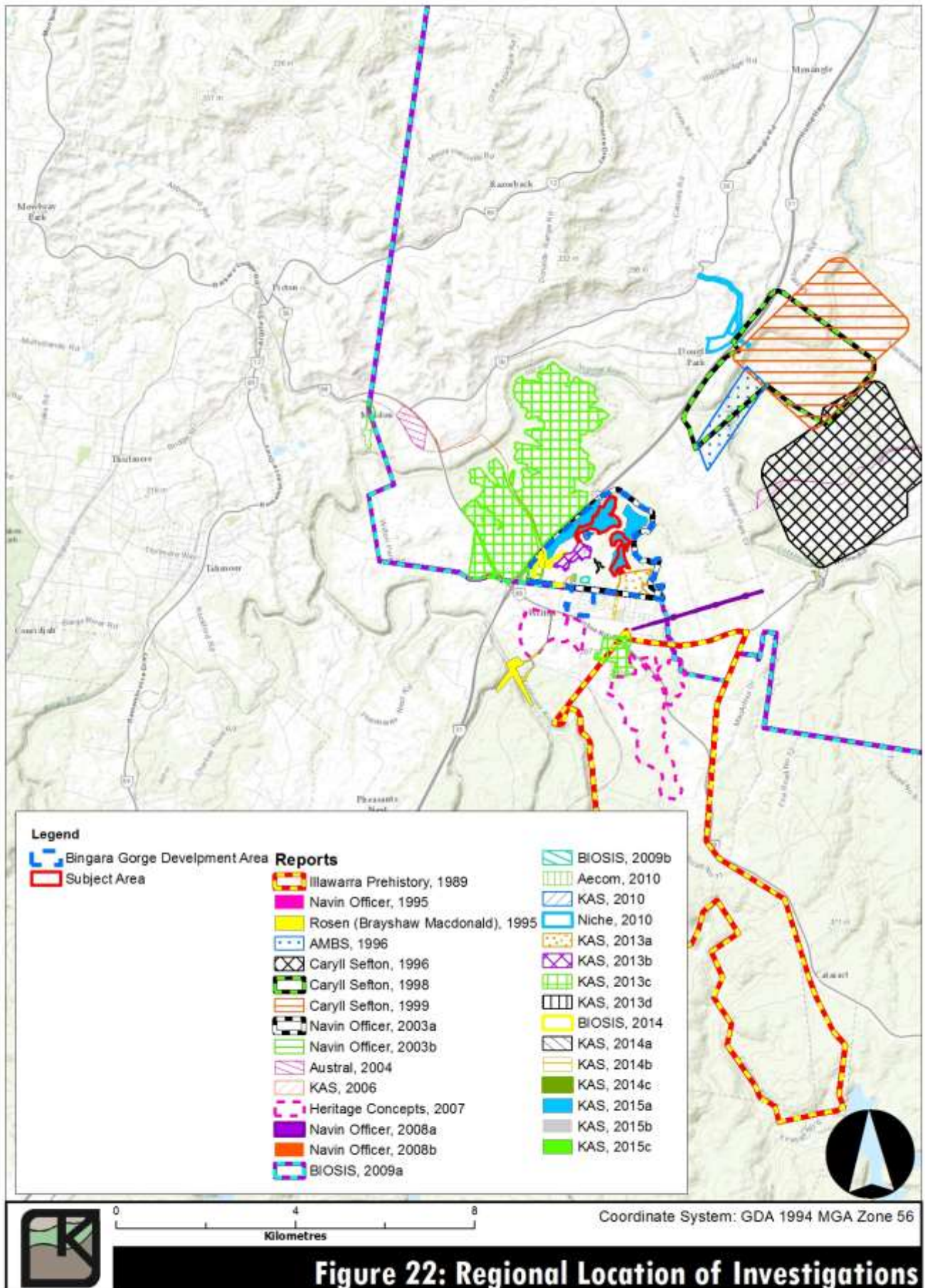


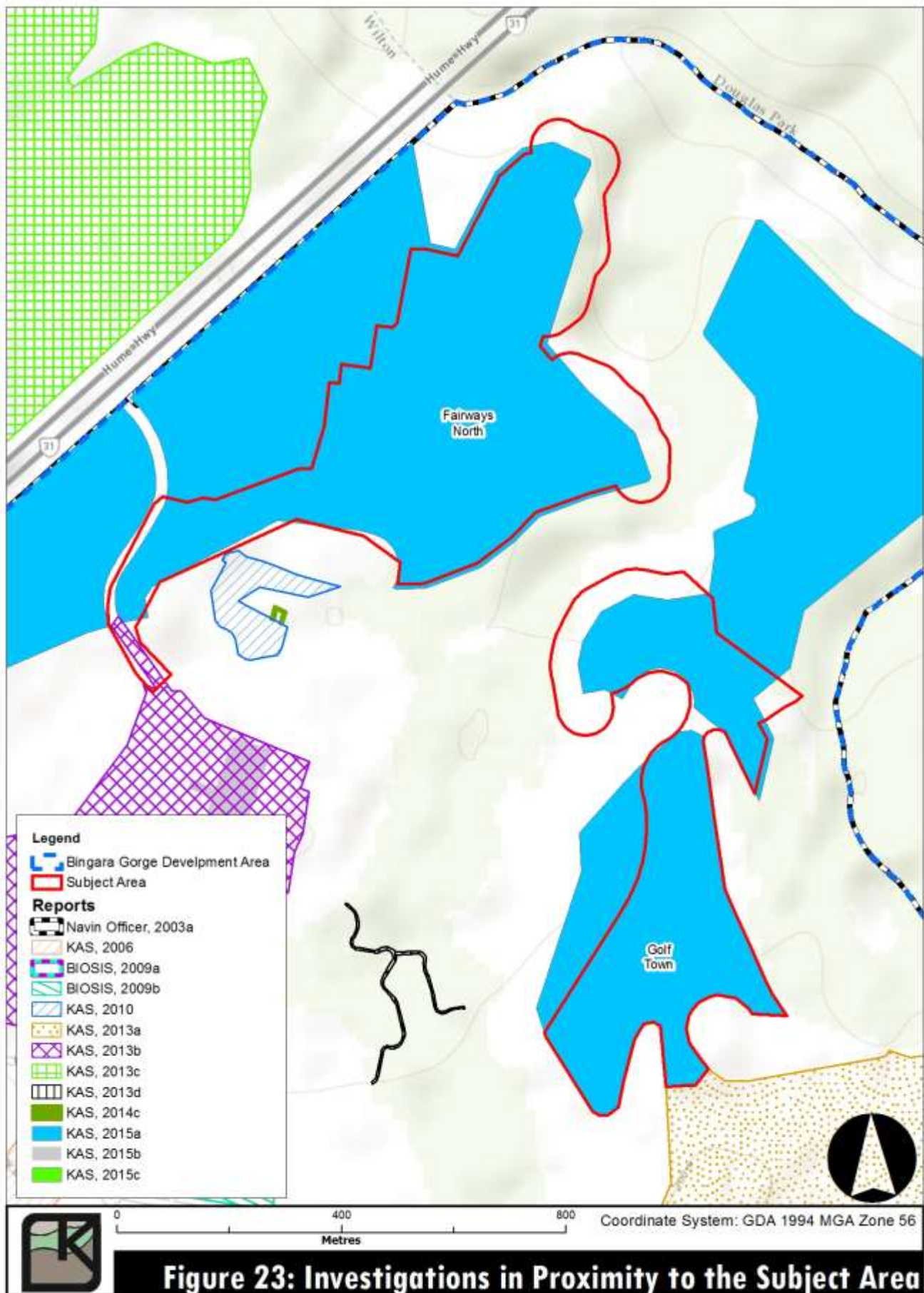




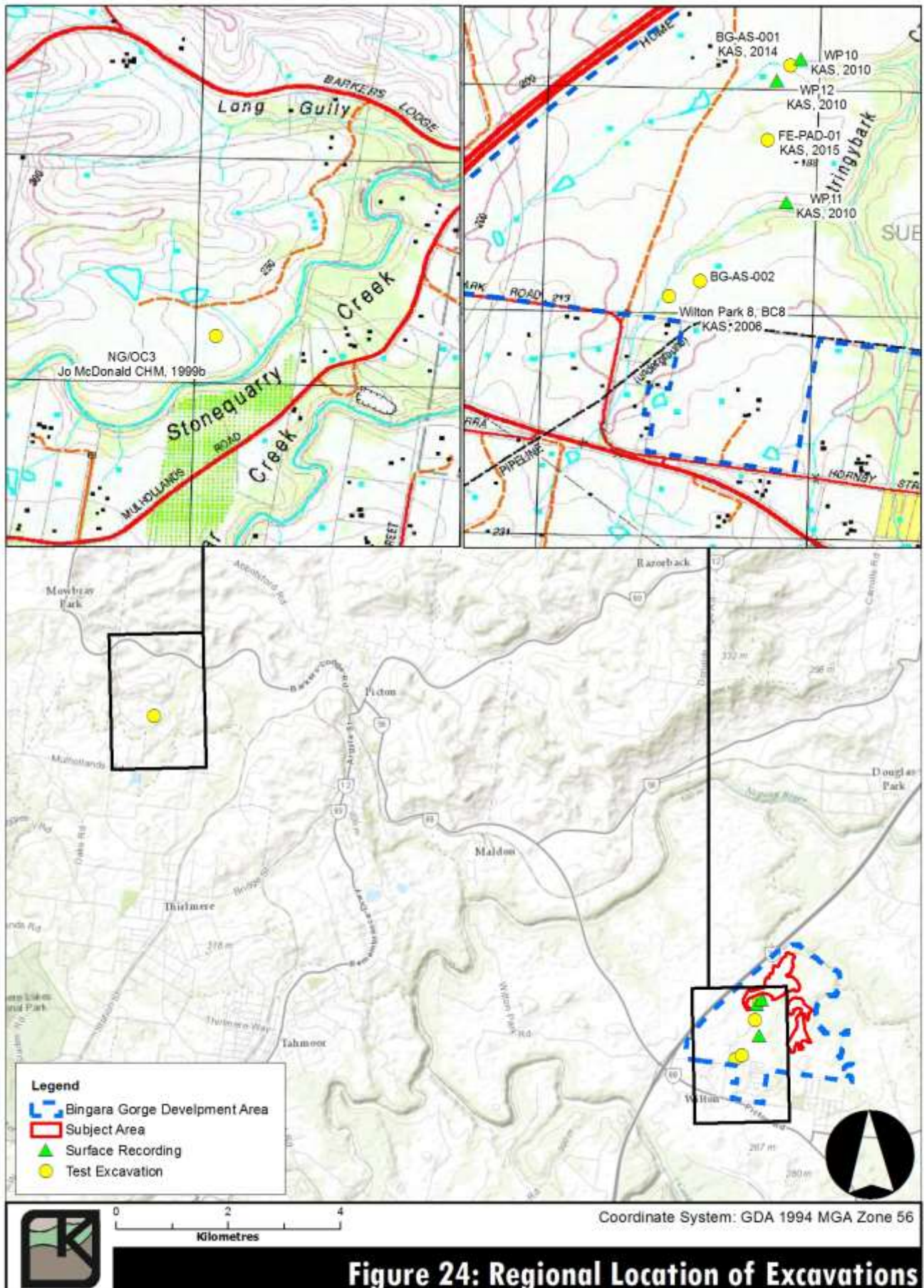














## 7 RESULTS

### 7.1 Field Survey

#### 7.1.1 Survey Coverage and Visibility Variables

The effectiveness of an archaeological field survey is heavily reliant upon the obtrusiveness of the Aboriginal site being looked for, and the incidence and quality of ground surface exposure. Visibility variables have been estimated for all areas where a comprehensive survey was carried out in the Subject Area. This data provides a measurement with which to gauge and compare the effectiveness of the survey and the level of sampling conducted. It may also be utilised to determine the numbers and types of sites that may be present, but which could not be identified by the survey due to poor ground visibility and exposure.

Ground surface visibility (GSV) is a measure of the bare ground visible to the archaeologist during the field survey. There are two variables used to assess GSV:

- The frequency and extent of exposures encountered by the archaeologist; and,
- The quality of visibility within those exposures.

The major factors affecting the quality of GSV within an area of exposure are the extent of vegetation and ground litter, the depth and origin of the exposure, the extent of recent sedimentary deposition and the level of visual interference from surface gravels. Two variables of GSV were estimated during the survey:

- A percentage estimate of the total area of ground inspected which contained useable exposures of bare ground; and
- A percentage estimate of the average levels of GSV within those exposures. This is a net estimate and accounts for all visual and physical variables that have affected the visibility including the archaeological potential of any sediment or rock exposed.

Various Aboriginal site types exhibit different levels of prominence within the landscape. This is an important factor to consider when assessing the impact on visibility levels. Sites present upon or within rock exposures, such as grinding grooves, engravings and rock shelters, are more likely to be encountered than sites which are located on or within sedimentary contexts with little or no ground surface relief. A common factor affecting visibility is the presence of small rocks, pebbles, and gravels in the exposure. If these particular raw materials are also suitable for stone artefact manufacture it may make stone artefact identification more difficult.

#### 7.1.2 Survey Units

As stated in Section 6.5, the Subject Area has been inspected during previous field surveys. This section details the field surveys that have been undertaken. Of the survey units investigated by KAS (2015a), seven (7) survey units occur within the Subject Area; while four (4) survey units investigated in KAS (2015d) occur within the Subject Area (see Figure 25 to Figure 27).

Relevant records have been extracted from KAS (2015a; 2015d) are detailed below and an map showing the specific survey units for the Subject Area are shown in Figure 25 to Figure 27.

##### 7.1.2.1 Field Survey – KAS 2015a

In KAS (2015a) the investigation area was divided into sixteen (16) survey units for ease of recording; of the 16 survey units inspected, seven (7) are located within the current Study Area (see Figure 25 to Figure 27). The survey unit divisions were identified by internal fences and vegetation boundaries.

The ground surface visibility (GSV) was very low throughout most of the Subject Area, due to the fact that a large proportion of the Subject Area is covered in leaf litter and/or debris. Areas of ground surface exposure within the Subject Area had <20% visibility.

#### **Survey Unit 6**

Survey Unit 6 was surveyed on 12th August 2013, by Natalie Stiles, Nicole Castle, and Glenda Chalker. Survey Unit 6 is an open paddock that is covered in thick grass, and has been extensively cleared in the past. An isolated artefact was located in an exposure measuring 15m x 2m. The exposure had approximately 30% visibility. A stone artefact was located and is described as BG-IF-02.

#### **Survey Unit 10**

Survey Unit 12 was surveyed on the 13th and 14th August 2013, by Natalie Stiles, Nicole Castle, Kirsty-Lee Chalker and Toni Whilock. The survey unit is highly disturbed, with the removal of top soil having commenced. The area surrounding the disturbance, is paddock with thick grass cover. No Aboriginal cultural heritage was located in survey unit 10.

#### **Survey Unit 12**

Survey Unit 12 was surveyed on the 13th and 14th August 2013, by Natalie Stiles, Nicole Castle, Kirsty-Lee Chalker and Toni Whilock. It has been completely cleared and is open paddocks with thick grass cover. There are several exposures. Two areas of PAD were identified and are described as BG-PAD-02 and BG-PAD-03.

#### **Survey Unit 13**

Survey Unit 13 was surveyed on the 15th August 2013 by Natalie Stiles, Nicole Castle, Glenda Chalker, and Toni Whilock. The survey unit is highly disturbed with an access track running through the unit, and the removal of top soil in the north of the unit. No Aboriginal cultural heritage was located in survey unit 13.

#### **Survey Unit 14**

Survey Unit 14 was surveyed on the 14th August 2013, by Natalie Stiles, Nicole Castle, Kirsty-Lee Chalker and Toni Whilock. The survey unit is highly disturbed, with 60% of the survey unit having no top soil. No Aboriginal cultural heritage was located in survey unit 14.

#### **Survey Unit 15**

Survey Unit 15 was surveyed on the 15th August 2013 by Natalie Stiles, Nicole Castle, Glenda Chalker, and Toni Whilock. It has been completely cleared and is open paddocks with thick grass cover. There are several exposures. Two areas of PAD were identified and are described as BG-PAD-04 and BG-PAD-05. BG-PAD-05 extends across into Survey Unit 16.

#### **Survey Unit 16**

Survey Unit 15 was surveyed on the 15th August 2013 by Natalie Stiles, Nicole Castle, Glenda Chalker, and Toni Whilock. It has been completely cleared and is open paddocks with thick grass cover. There are several exposures. Two areas of PAD were identified and are described as BG-PAD-06 and BG-PAD-05. BG-PAD-05 extends across into Survey Unit 15.

### 7.1.2.2 Field Survey – KAS 2015d

In KAS (2015d) the investigation area was divided into eight (8) survey units for ease of recording; of the 8 survey units inspected, four (4) are located within the current Study Area (see Figure 25 to Figure 27). The survey unit divisions were identified by boundaries of previous archaeological assessments, the boundary of the EP&R Lands, and changes in landform and vegetation boundaries (see Figure 25 to Figure 27).

The ground surface visibility (GSV) was very low throughout most of the Subject Area, due to the fact that a large proportion of the Subject Area is covered in leaf litter and/or debris. Areas of ground surface exposure within the Subject Area had <20% visibility.

#### SU2

SU2 is located on a flat immediately behind the escarpment above Stringybark Creek.

The survey unit has been subject to clearance and revegetation. The ground surface is covered in dense leaf litter and vegetation debris (see Plate 1 and Plate 2).

The land clearance is likely to have been a result of a mixture of clearance for pastoral practices and as a result of historic bushfires.

One (1) previously recorded Aboriginal site (BG-PAD-02) is located within SU2 (refer to Section 7.1.4).



**Plate 1:** KAS (2015d) -General view of SU2 looking north



**Plate 2:** KAS (2015d) -General view of SU2 looking north east

#### SU3

SU3 is located on a flat immediately behind the escarpment above Stringybark Creek.

The survey unit has been subject to clearance and revegetation. The ground surface is covered in dense leaf litter and vegetation debris (see Plate 3 and Plate 4).

The land clearance is likely to have been a result of a mixture of clearance for pastoral



**Plate 3:** KAS (2015d) -General view of SU3 looking north east



practices and as a result of historic bushfires.

One (1) previously recorded Aboriginal site (BG-PAD-03) is located within SU3.

One (1) possible Aboriginal scar tree (BG-ST-01) was identified during the survey (refer to Section 7.1.4).



**Plate 4:** KAS (2015d) -General view of SU3 looking north east

#### **SU4**

SU4 consists of the flat immediately behind the escarpment above Stringybark Creek, and the upper, mid and lower slopes to Stringybark Creek.

The ground surface is covered is dense leaf litter and vegetation debris (see Plate 5 and Plate 6).

It is evident from the survey that SU4 has been subject to historic bushfires.

One (1) previously recorded Aboriginal site (BG-PAD-06) is located within SU4.

One (1) habitation rock shelter with PAD (BG-RS-07) was identified during the survey and is located immediately adjacent to SU4 (refer to Section 7.1.4).



**Plate 5:** KAS (2015d) -General view of SU4 looking east



**Plate 6:** KAS (2015d) -General view of SU4 looking south

#### **SU6**

SU6 consists of the flat immediately behind the escarpment above Stringybark Creek, and the upper, mid and lower slopes to Stringybark Creek.

The survey unit has been subject to clearance and revegetation. The survey unit contains exposed sandstone slabs, and covered is dense leaf litter and vegetation debris (see Plate 7 to Plate 9).



**Plate 7:** KAS (2015d) -General view of SU6 looking north west

Although one (1) habitation rock shelter (BG-RS-08) is located within SU6, it is not located within the portion of SU6 present within the current Subject Area (refer to Section 7.1.4).

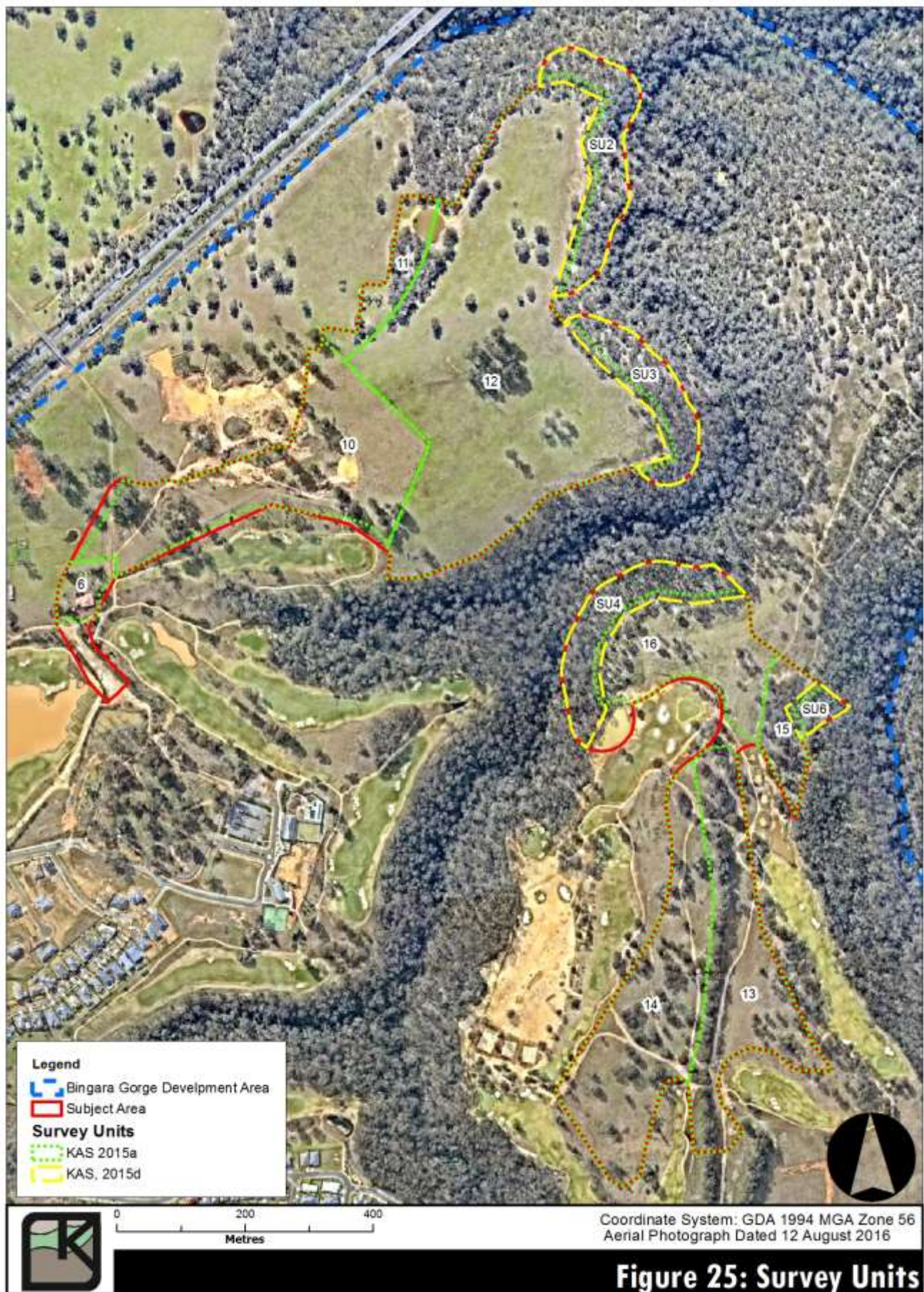


**Plate 8:** KAS (2015d) -General view from SU6 looking south east

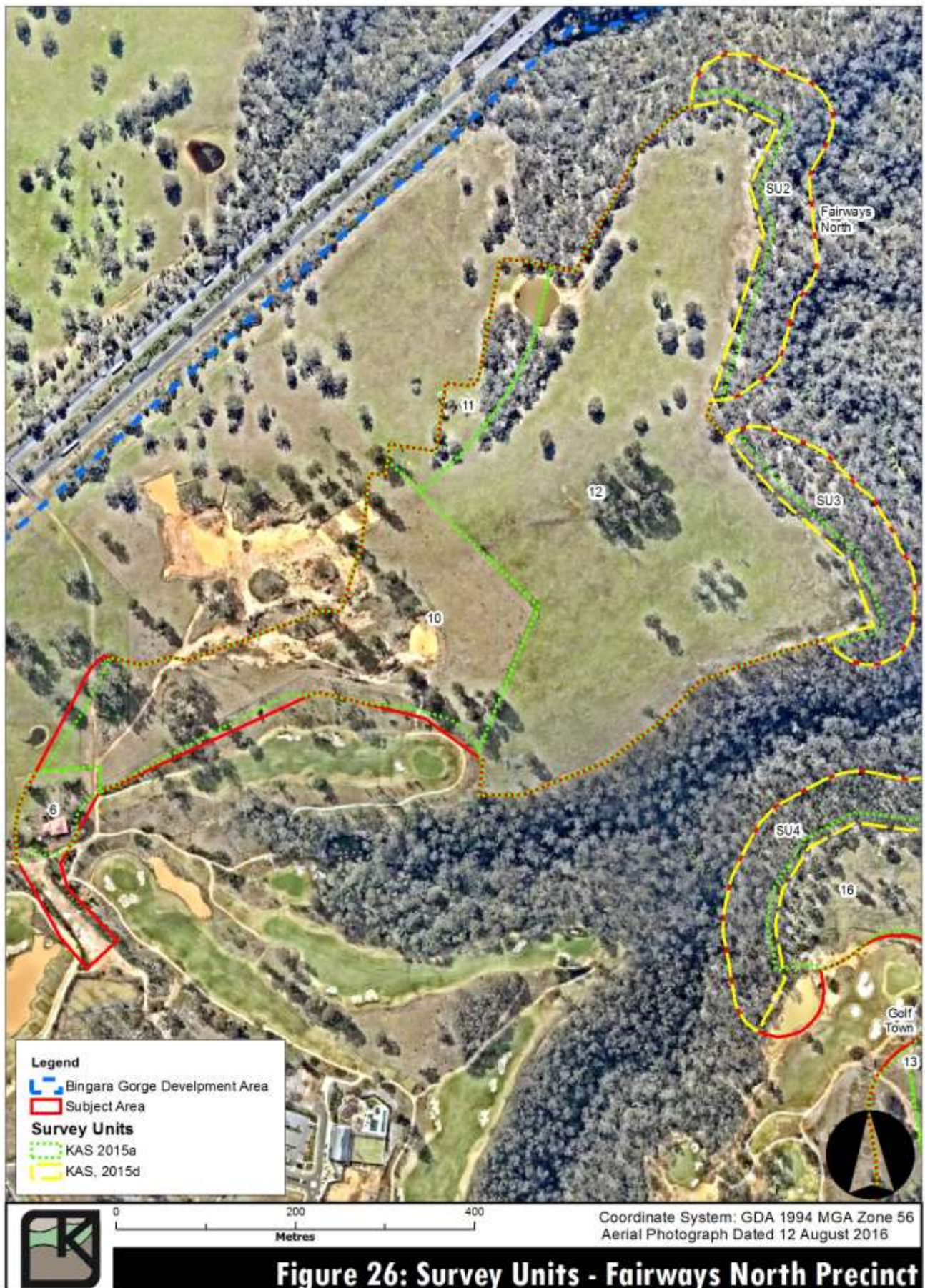


**Plate 9:** KAS (2015d) -General view of SU6 looking north east

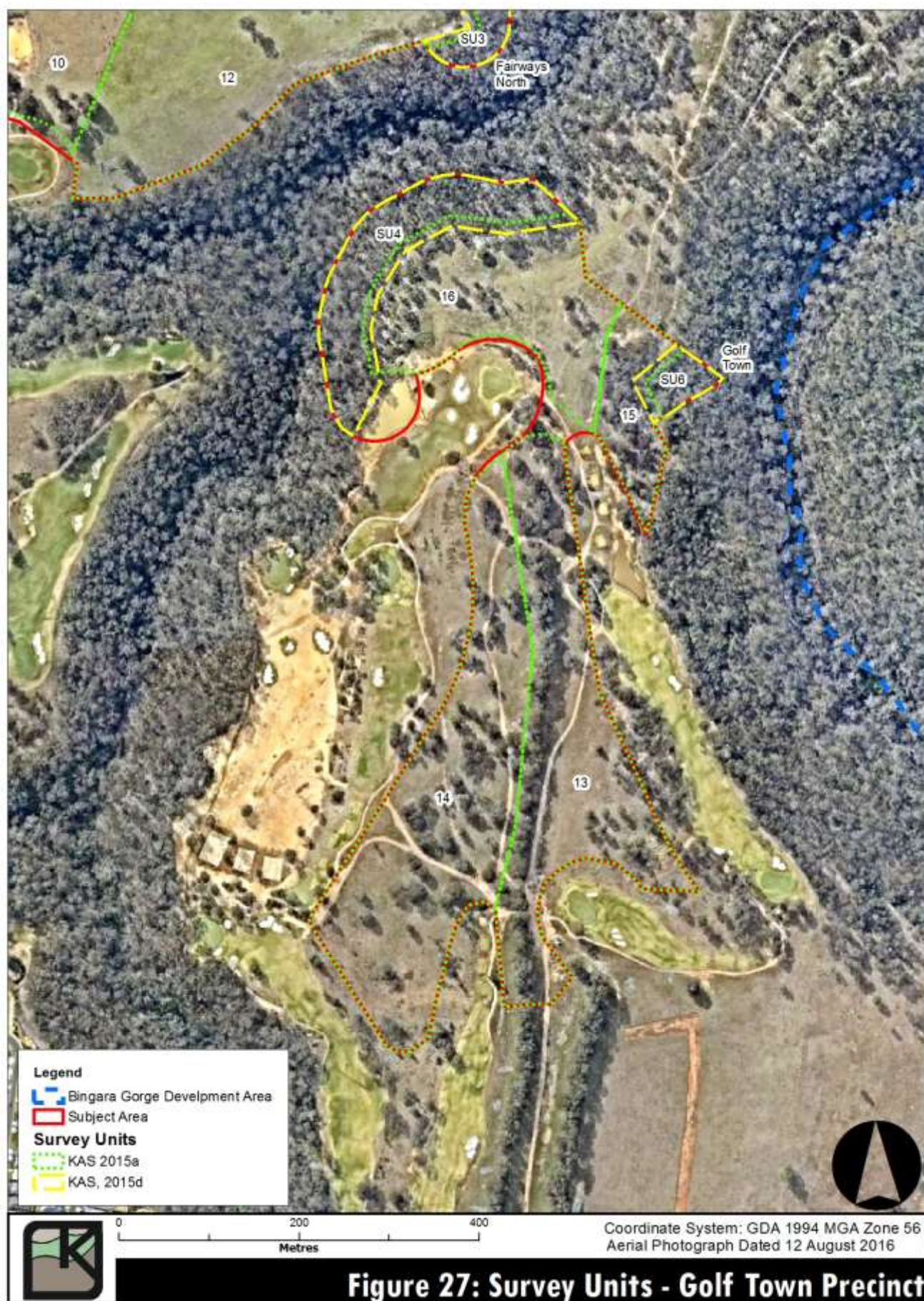














### 7.1.3 Survey Coverage Data

As noted in Section 7.1.2, during the surveys undertaken by KAS (2015a; 2015d) portions of the Subject Area were divided up into survey units for ease of recording. All landforms present within the Subject Area were sampled during the survey. The main areas that were focused upon were the exposures with low levels of disturbance as these areas would be more likely to yield intact Aboriginal artefacts and deposits.

Relevant records have been extracted from KAS (2015a; 2015d) are detailed below (see Table 10 and Table 11).

Survey Unit	Landform	Survey Unit Area (m <sup>2</sup> )	Visibility %	Exposure %	Effective coverage area (m <sup>2</sup> )	Effective Coverage %
6 (KAS, 2015a)	Undulating plain	6699	90%	10%	603	9%
10 (KAS, 2015a)	Undulating plain	71628	100%	30%	21488	30%
11 (KAS, 2015a)	Undulating plain	13663	70%	50%	4782	35%
12 (KAS, 2015a)	Undulating plain	196970	90%	10%	17727	9%
13 (KAS, 2015a)	Undulating plain	55182	100%	60%	33109	60%
14 (KAS, 2015a)	Undulating plain	66624	100%	50%	33312	50%
15 (KAS, 2015a)	Crest	12727	40%	20%	1018	8%
16 (KAS, 2015a)	Crest	39994	40%	20%	3199	8%
SU2 (KAS, 2015d)	Crest	26551	10%	20%	531	2%
SU3 (KAS, 2015d)	Crest	20065	40%	30%	2408	12%
SU4 (KAS, 2015d)	Crest, upper, mid- and lower slopes	24177	60%	60%	8704	36%
SU6 (KAS, 2015d)	Crest, upper, mid- and lower slopes	4403	60%	40%	1057	24%

**Table 10:** Survey Coverage data

Landform	Landform area (m <sup>2</sup> )	Area effectively surveyed (m <sup>2</sup> )	% of landform effectively surveyed	Number of sites	Number of artefacts or features
Crest	99337	7156	7%	1	1
Crest, upper, mid- and lower slopes	28580	9760	34%	0	0
Undulating plain	410766	111022	27%	4	4

**Table 11:** Landform Summary - Sample Areas

#### 7.1.4 Identified Aboriginal Sites

As identified in Section 6.5, Navin Officer (2003a) and KAS (2015a; 2015d) have previously undertaken field surveys of the Subject Area.

No Aboriginal sites were identified by Navin Officer (2003a) within the extent of the Subject Area.

The Aboriginal objects (BG-IF-02, BG-PAD-01, BG-PAD-02, BG-PAD-03 and BG-ST-01) identified during these investigations (KAS, 2015a; 2015d) are considered below (see Figure 46).

##### **BG-IF-02 (AHIMS #52-2-4027)**

As previously stated in Section 6.5, BG-IF-02 was recorded by KAS (2015a) as an FGS flake piece (25mmx16mmx5mm) (see Plate 10 and Plate 11), located on an eroding relatively flat surface (refer to Plate 12).



**Plate 10:** BG-IF-02 – Flaked Piece ventral surface



**Plate 11:** BG-IF-02 – Flaked Piece dorsal surface



**Plate 12:** BG-IF-02 looking south west

**BG-PAD-01 (AHIMS #52-2-4028)**

As previously stated in Section 6.5, BG-PAD-03 was identified by KAS (2015a) from the predictive model which indicates that sites will be present in elevated position immediately above creek lines above the escarpment and along crests and ridges. This location meets these preconditions and was assessed by the Aboriginal community and archaeologists to be a location of higher likelihood than other typically similar locations. The area is also likely to have been subject to minimal levels of previous ground disturbance as indicated by the presence of mature native vegetation. There are also a large number of Aboriginal sites in the immediate vicinity and it is unlikely that this location would have been avoided and not utilised in the general occupation of the area by Aboriginal people in the past.

The location is situation on a relatively flat crest that overlooks Allens Creek (see Plate 13).



**Plate 13:** BG-PAD-01 looking south west



**BG-PAD-02 (AHIMS #52-2-4029)**

As previously stated in Section 6.5, BG-PAD-03 was identified by KAS (2015a) from the predictive model which indicates that sites will be present in elevated position immediately above creek lines above the escarpment and along crests and ridges. This location meets these preconditions and was assessed by the Aboriginal community and archaeologists to be a location of higher likelihood than other typically similar locations. The area is also likely to have been subject to minimal levels of previous ground disturbance as indicated by the presence of mature native vegetation. There are also a large number of Aboriginal sites in the immediate vicinity and it is unlikely that this location would have been avoided and not utilised in the general occupation of the area by Aboriginal people in the past.

The location is situation on a relatively flat crest (refer to Plate 14) that gently works its way down to Allens Creek in the north. The crest provides easy access to Allens Creek.



**Plate 14:** BG-PAD-02 looking north east

**BG-PAD-03 (AHIMS #52-2-4030)**

As previously stated in Section 6.5, BG-PAD-03 was identified by KAS (2015a) from the predictive model which indicates that sites will be present in elevated position immediately above creek lines above the escarpment and along crests and ridges. This location meets these preconditions and was assessed by the Aboriginal community and archaeologists to be a location of higher likelihood than other typically similar locations. The area is also likely to have been subject to minimal levels of previous ground disturbance as indicated by the presence of mature native vegetation. There are also a large number of Aboriginal sites in the immediate vicinity and it is unlikely that this location would have been avoided and not utilised in the general occupation of the area by Aboriginal people in the past.

The location is situation on a relatively flat crest (refer to Plate 15) that overlooks Stringybark Creek to the east.



**Plate 15:** BG-PAD-03 looking south

**BG-ST-01 (AHIMS #52-2-4338)**

BG-ST-01 is a mature gum tree with a scar on the south west face of the trunk. Tree height is approximately 20 meters and the tree is in good health. The girth at breast height is approximately 2.7 meters. The scar is approximately 150cm long and 20cm wide. The depth of regrowth is approximately 30cm. There is evidence of fire damage on the scar surface (see Plate 16 and Plate 17).



**Plate 16:** View of BG-ST-01 looking north east



**Plate 17:** BG-ST-01 regrowth



## 7.2 Test Excavation

The Phase 1 test excavation took place on the 6<sup>th</sup> February and 23<sup>rd</sup> May 2017, as outlined in Section 4.3. Conditions were varied, although the period was predominately sunny with several intensive rain events occurring over the course of the Phase 1 test excavation.

Pits were orientated true north. A total of four hundred and sixty-eight (468) test pits were excavated, all pits excavated were within the extent of the proposed development footprint (see Figure 28). Locations of the pits were identified along each transect at a distance of 40m (see Figure 29 to Figure 45).

Records of each spit were taken during excavation, and profile drawings of each pit were completed at the end of excavation. Photographs of the base and one wall of the test pits were taken upon the completion of excavation (see Appendix XXI). A representative sample of stratigraphic drawings is included in Appendix XXII.

### 7.2.1 Phase 1 Testing

#### 7.2.1.1 "Fairways North" Precinct

It was hypothesised that portions of the "Fairways North" Precinct had landforms that were considered to be archaeologically sensitive, based on the identification of Potential Archaeological Deposits (PADs) in the north and south of the development precinct, an isolated artefact near the Condell Homestead, and rock shelters in the surrounding gorge (Navin Officer, 2003a; KAS, 2014b; 2015d; 2015b; 2015c). However, it was noted that the development precinct did not have a direct association with a major (permanent) water course, and thus does not fit the criteria for an archaeologically sensitive landform (refer to Section 6.7).

Test pits were located at 20m intervals along the transects, which were spaced 40m apart. A total of 295 test pits were excavated within the development precinct (see Appendix XXVI, Figure 29 to Figure 39). Seventeen (17) pits were excavated in 5cm spits, while the remainder of the pits were excavated in 10cm spits; the methodology stipulates that test pits were to be excavated down to 50cm below the surface, or until clay or solid bedrock, or are confirmed to be culturally sterile soils (refer to Appendix XX).

Pits T11-500, T11-520, T12-500 and T12-520 were located within a drainage depression, in the initial stages of the excavation the land surrounding these pits was dry, although vegetation indicated that the soils were either poorly drained or had an underground spring. During March, Bingara Gorge underwent a fortnight of intense rainfall, it was intended that once the water evaporated or drained out of the soil that the pit would commence; however, in the weeks after the rain it was evident that soil within the drainage depression was draining poorly. It took more than 1 month for the ground within these pits to dry sufficiently in order to continue excavation.

During the excavation of T15-680, a surface artefact was identified immediately to the west of the pit. While no Aboriginal objects were identified within T15-680, in order to determine whether the surface artefact was indicative of artefact-bearing deposits that were present but not identified within T15-680, it was decided that T15-680 would be expanded into a 1m x 0.5m pit (to incorporate the identified surface artefact). No artefact-bearing deposits were identified within T15-680a.

The 1m x 0.5m expansion of pit T15-680 was excavated in 2 quadrants (50cm x 50cm pits), labelled T15-680a, and T15-680b (original pit).

Refer to Appendix XXVI for details in regards to, at what depth excavation ceased in each pit, as well as the justification for cessation.



**Plate 18:** General view along the northern portion of T15 looking south east



**Plate 19:** General view along T15 looking west



**Plate 20:** General view along T15 looking north



**Plate 21:** General view between T13-400 and T13-420 looking south east



**Plate 22:** General view from T12-500 looking south west



**Plate 23:** General view from T14-600 looking north west



**Plate 24:** General view from T15-640 looking north west



**Plate 25:** General view between T15-680 and T15-700 looking north west



**Plate 26:** General view within Fairways North Precinct looking west



**Plate 27:** General view within the Fairways North Precinct looking north east



**Plate 28:** General view within the Fairways North Precinct looking north east



**Plate 29:** General view within the Fairways North Precinct looking north east



#### 7.2.1.2 "Golf Town" Precinct

It was hypothesised that portions of the Golf Town Precinct had landforms that were considered to be archaeologically sensitive, based on the identification of Potential Archaeological Deposits (PADs) to the north, and artefact scatters to the south east of the development precinct (Navin Officer, 2003a; KAS, 2014b; 2015d; 2015b; 2015c). However, it was noted that the development precinct did not have a direct association with a major (permanent) water course, and thus does not fit the criteria for an archaeologically sensitive landform (refer to Section 6.7).

Test pits were located at 20m intervals along the transects, which were spaced 40m apart. A total of 173 test pits were excavated within the development precinct (see Appendix XXVII, Figure 40 to Figure 45). All pits were excavated in 10cm spits; the methodology stipulates that test pits were to be excavated down to 50cm below the surface, or until clay or solid bedrock, or are confirmed to be culturally sterile soils (refer to Appendix XX).

Pit T20-260 was located within a drainage depression, between a dam to the east and the escarpment associated with Stringybark Creek to the west, as excavation commenced, it was identified that the soil within the test pit was poorly drained as evident by the "boggy" soils encountered during excavation; however, no water seepage was identified during excavation. During the stratigraphic drawings of the test pits, it was identified that water was seeping into T20-260, and that the water continued to seep for some time. It was evident from test pits along the escarpment within the "Fairways North" Precinct that the soils in these areas can be subject to prolonged waterlogged, and as such it is likely that these soils are culturally sterile.

No Aboriginal objects were identified within the test pits excavated within the "Golf Town" Precinct.

As noted in Section 5.7.2, the majority of the Golf Town Precinct has been subject to moderate to high ground disturbance. However, the nature and depth of this ground disturbance could not be quantified as part of identifying the previous ground disturbance, and as previously stated it was hypothesised that archaeologically sensitive landforms were present, as such it was decided that a subsurface investigation of the precinct would be undertaken. As the test excavation within the precinct commenced it became evident as a stratigraphic pattern began to emerge that there was a skeletal presence of A horizon soils, which may have resulted from a range of factors.

The soils, subject to subsurface investigation, in these areas are skeletal, and as such it is likely that these soils are culturally sterile, which was supported by the absence of artefact-bearing deposited within the excavated "Golf Town" test pits.

Refer to Appendix XXVII for details in regards to, at what depth excavation ceased in each pit, as well as the justification for cessation.



**Plate 30:** General view with Golf Town Precinct looking north east



**Plate 31:** General view with Golf Town Precinct looking north east



**Plate 32:** General view from T23-400 looking west



**Plate 33:** T20-260 inundated with water



**Plate 34:** General view from T20-260 looking east



**Plate 35:** General view from T20-260 looking south



### 7.3 Test Excavation Lithics – Fairways North Precinct

A total of five (5) artefacts were identified during the Phase 1 test excavation program (see Table 12); all five (5) artefacts were located in the "Fairways North" Precinct. Due to the number of pits that were excavated within the "Fairways North Precinct", the data presented within Table 12 is limited to the test pits where artefact-bearing deposit was encountered.

The artefacts were identified from three (3) of the three hundred and forty-nine (349) test pits excavated in the "Fairways North" Precinct.

It should be noted that the number of artefacts present within the "Fairways North" Precinct do not represent a statistically viable sample for drawing any detailed archaeological conclusions about the nature of Aboriginal utilisation within the precinct.

Vertically, 60% (n=3) of the artefacts were identified at between 10cm and 20cm depth (Spit 2), 20% (n=1), and 20% (n=1) artefacts were identified at 0cm (see Table 12).

In "Fairways North" Precinct, Pit T11-580 contained the highest number of artefacts (n=3), all three (3) artefacts were recovered from between 10cm and 20cm depth (Spit 2). Pit T13-520 contained one (1) artefact which was recovered from between 0cm and 10cm depth (Spit 1). Pit T15-680A contained one (1) artefact which was recovered from the surface (see Table 13).

The mean average density of artefacts is low for the total extent of excavation within the "Fairways North" Precinct (73.75m<sup>2</sup>) having a density of 0.07 artefacts/m<sup>2</sup>.

A detailed description of the artefacts discussed below is given in Appendix XXV.

Phase	Pit	10cm spits						Total
		Surface	1	2	3	4	5	
1	T11-580	-	-	3				3
1	T13-520	-	1	-	-	-		1
1	T15-680A	1	-	-				1
<b>Total</b>		<b>1</b>	<b>1</b>	<b>3</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>5</b>

(Shading indicates the spits that were unexcavated due to natural clay being encountered)

**Table 12:** Vertical Distribution of Artefacts from Fairways North Precinct Test Excavation

The "Fairways North" Precinct excavated assemblage consisted of Silcrete (60%) and Quartz (40%) (Refer to Table 13).

Depth (cm)	Quartz	Silcrete	Total
Surface	1		1
0-10	1	-	1
10-20	-	3	3
20-30	-	-	-
30-40	-	-	-
40-50	-	-	-
<b>Total</b>	<b>2</b>	<b>3</b>	<b>5</b>

**Table 13:** Vertical Distribution of "Fairways North" Precinct Artefacts by Raw Material

There was no variation in the proportion of artefact types identified within the "Fairways North" Precinct excavated assemblage (refer to Table 14 and Table 15).

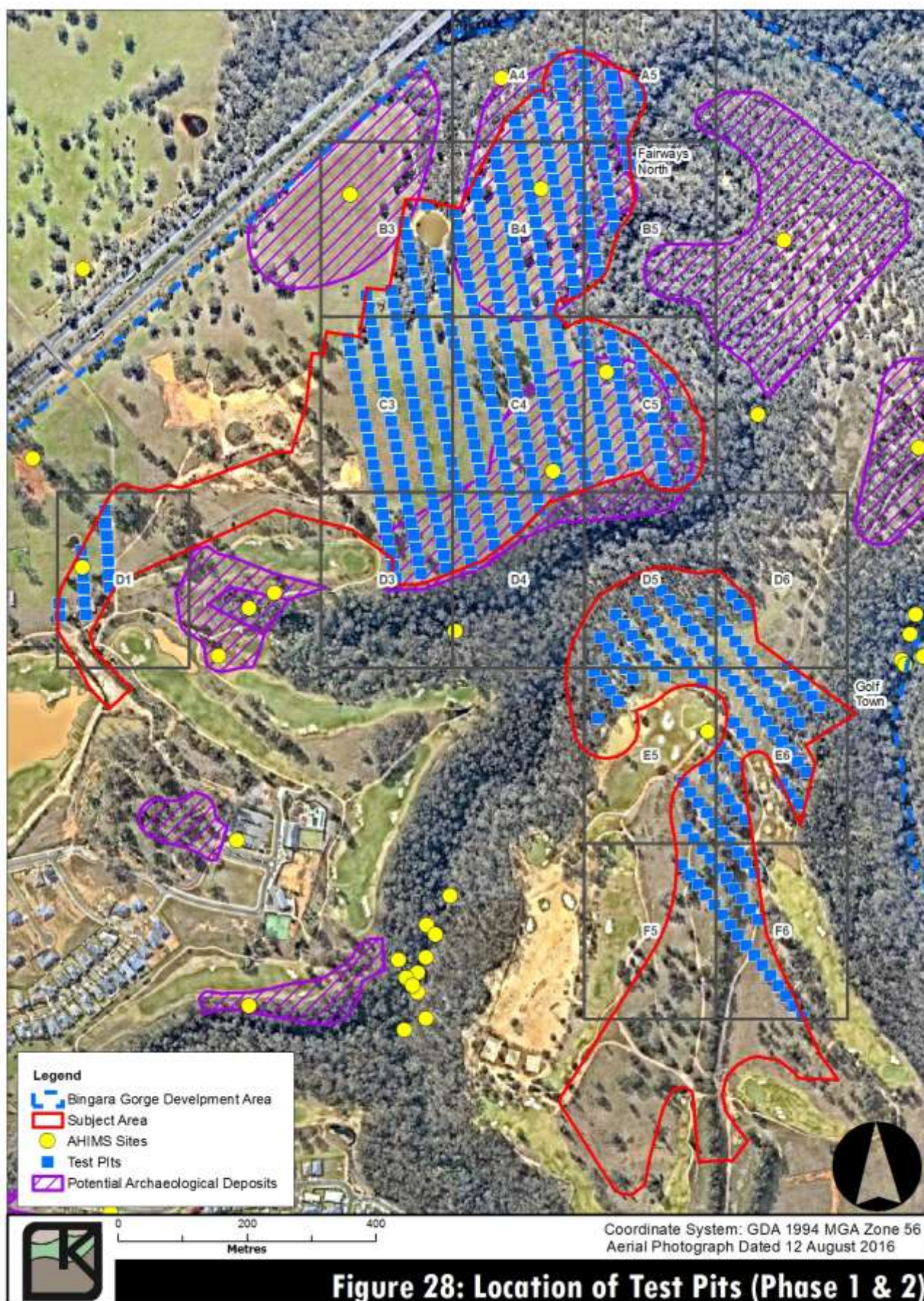
Depth (cm)	Distal	Flake	Medial	Proximal	Right Cone-Split	Total
Surface	-	-	-	1	-	1
0-10	-	-	-	-	1	1
10-20	1	1	1	-	-	3
20-30	-	-	-	-	-	-
30-40	-	-	-	-	-	-
40-50	-	-	-	-	-	-
<b>Total</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>5</b>

**Table 14:** Vertical Distribution of "Fairways North" Precinct Artefact by Types

Artefact Type	Quartz	Silcrete	Total
Distal	-	1	1
Proximal	1	-	1
Flake	-	1	1
Medial	-	1	1
Right Cone-Split	1	-	1
<b>Total</b>	<b>2</b>	<b>3</b>	<b>5</b>

**Table 15:** Raw Materials and Artefact Types from "Fairways North" Precinct





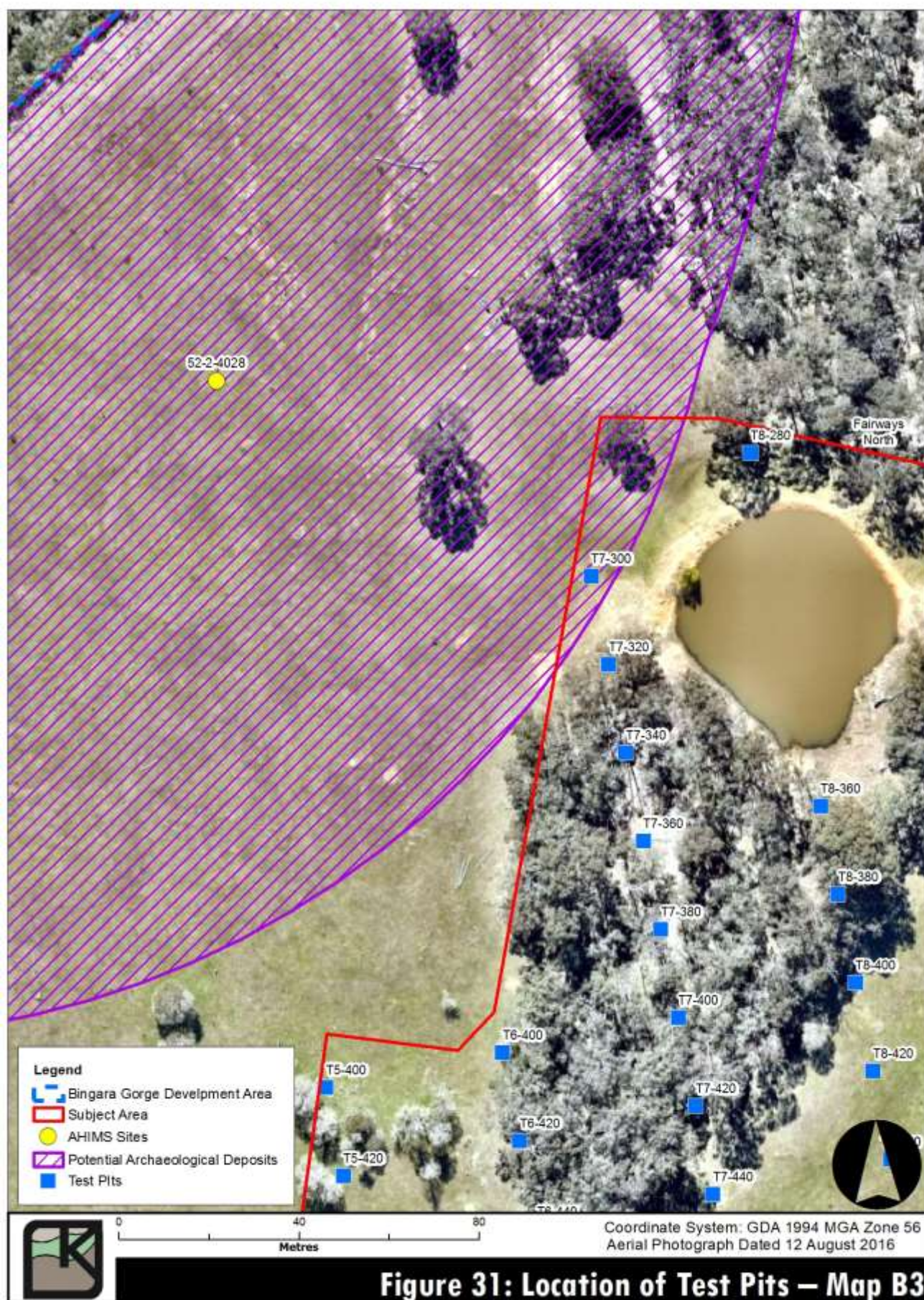




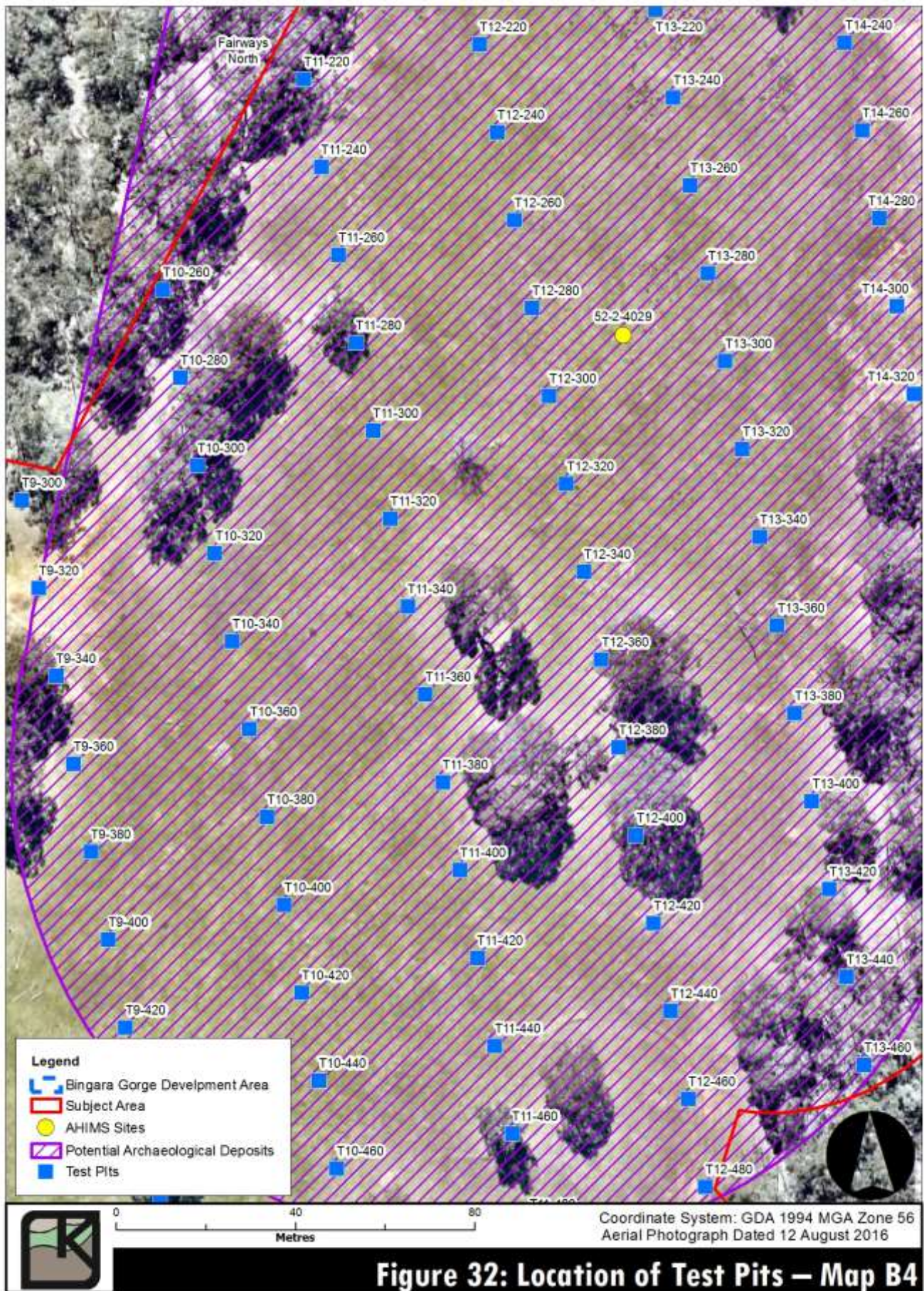




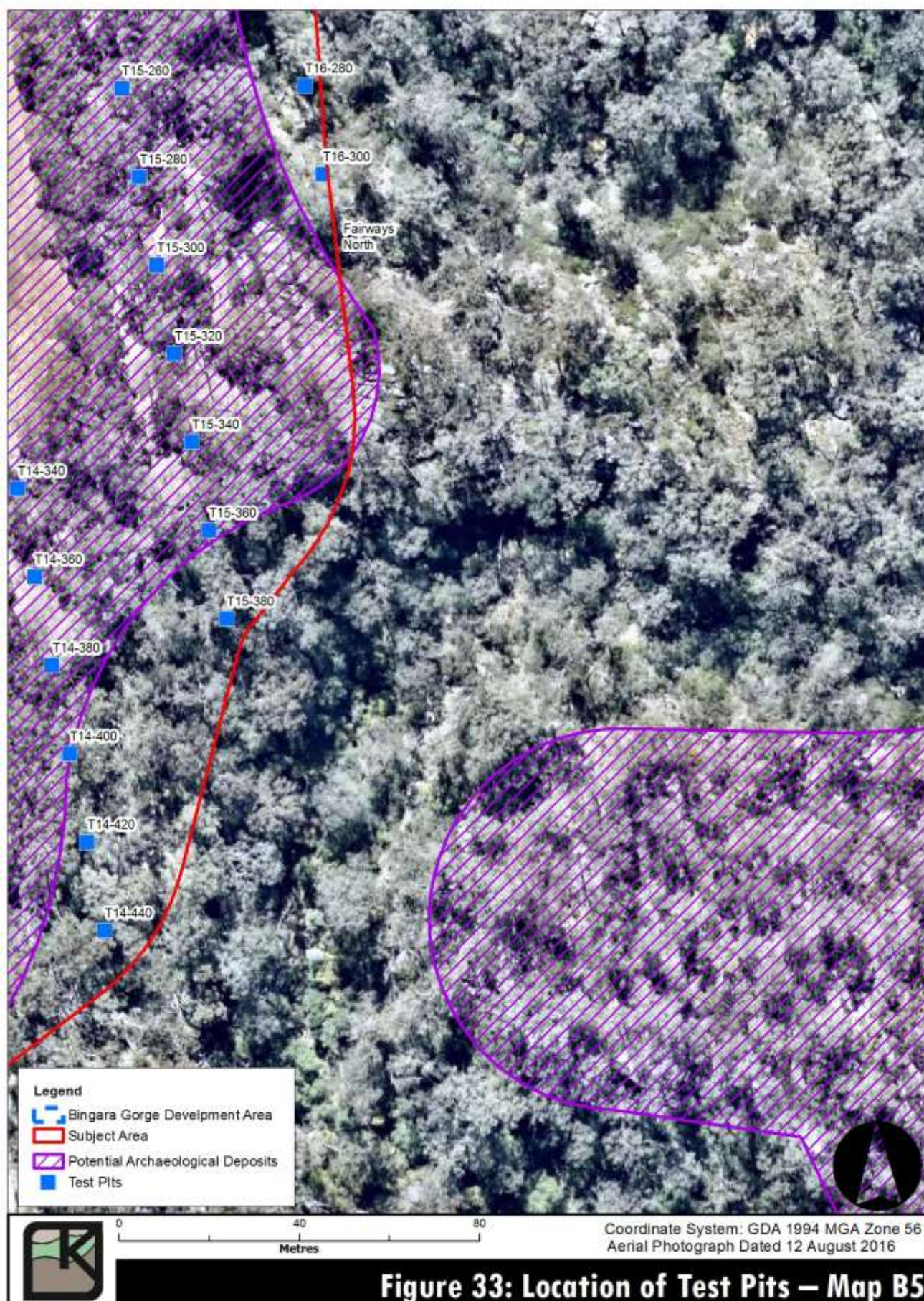




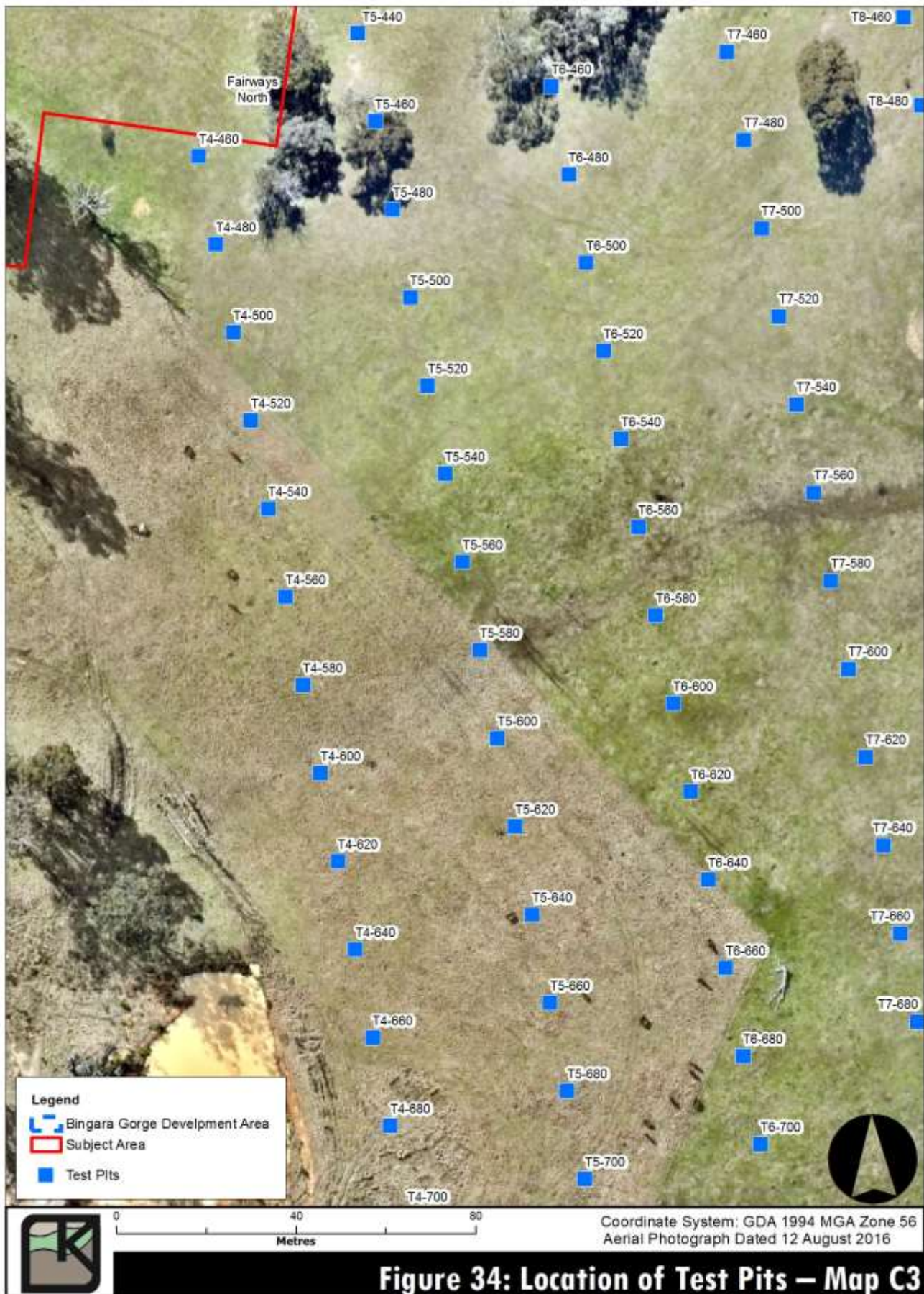




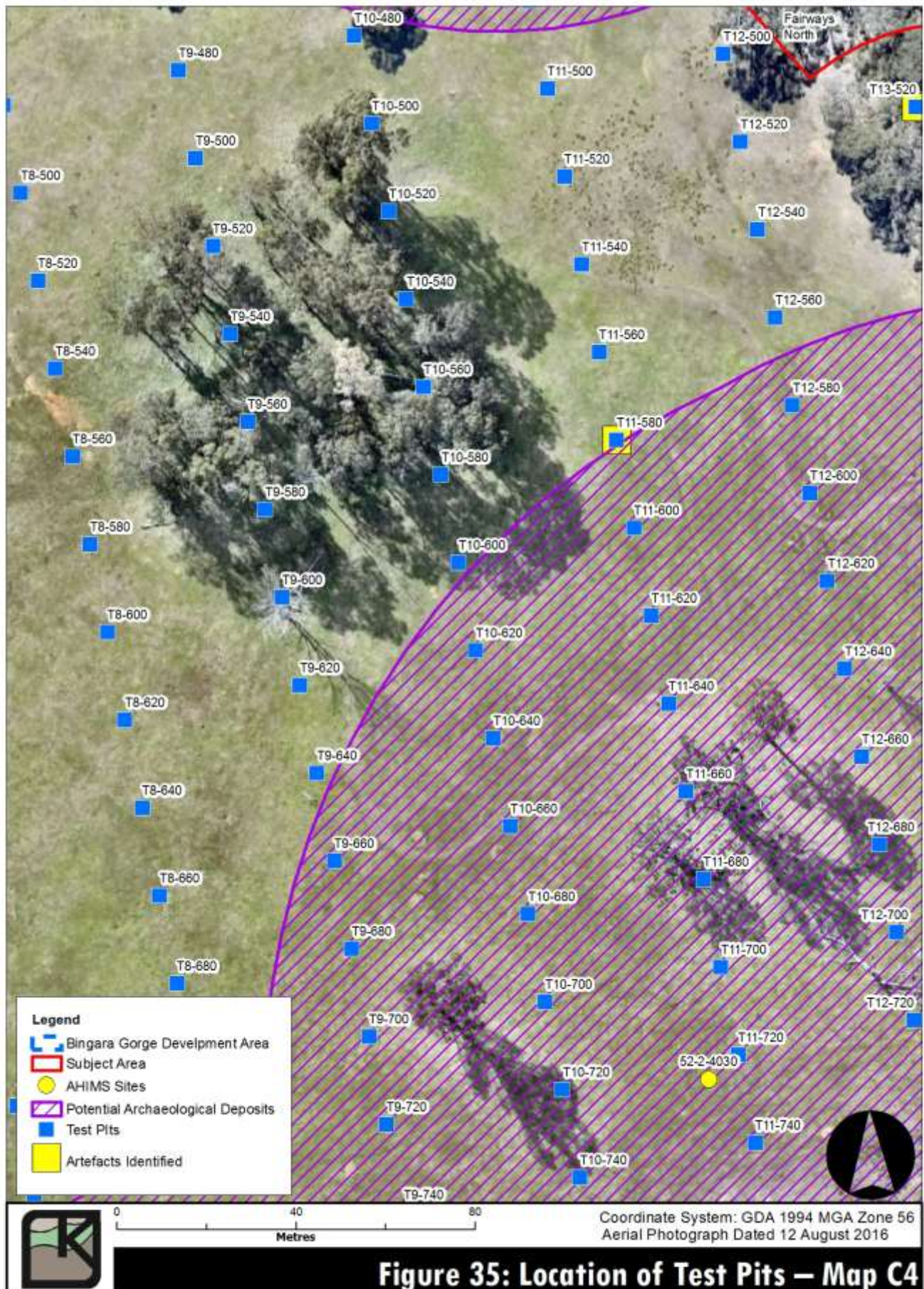




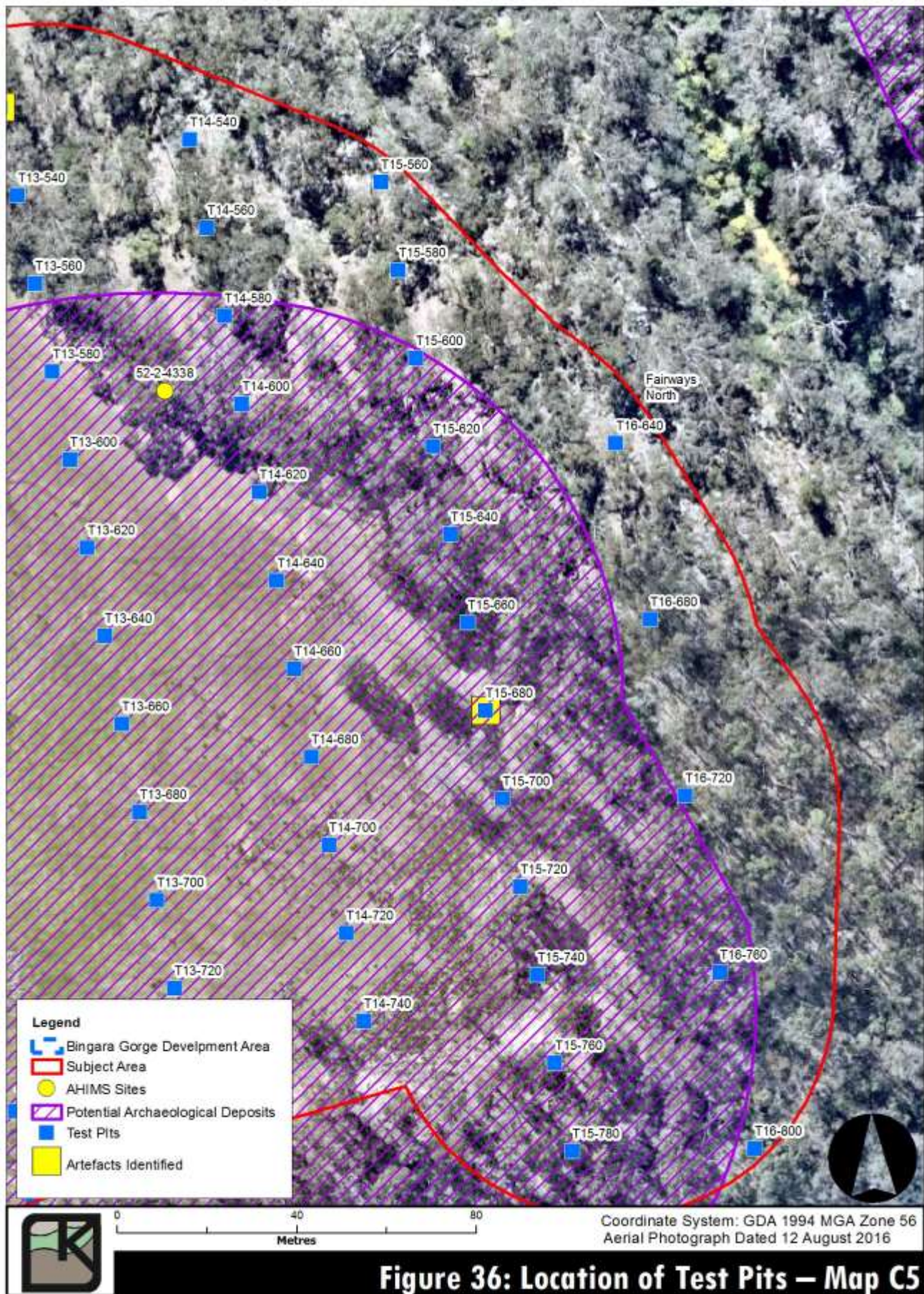












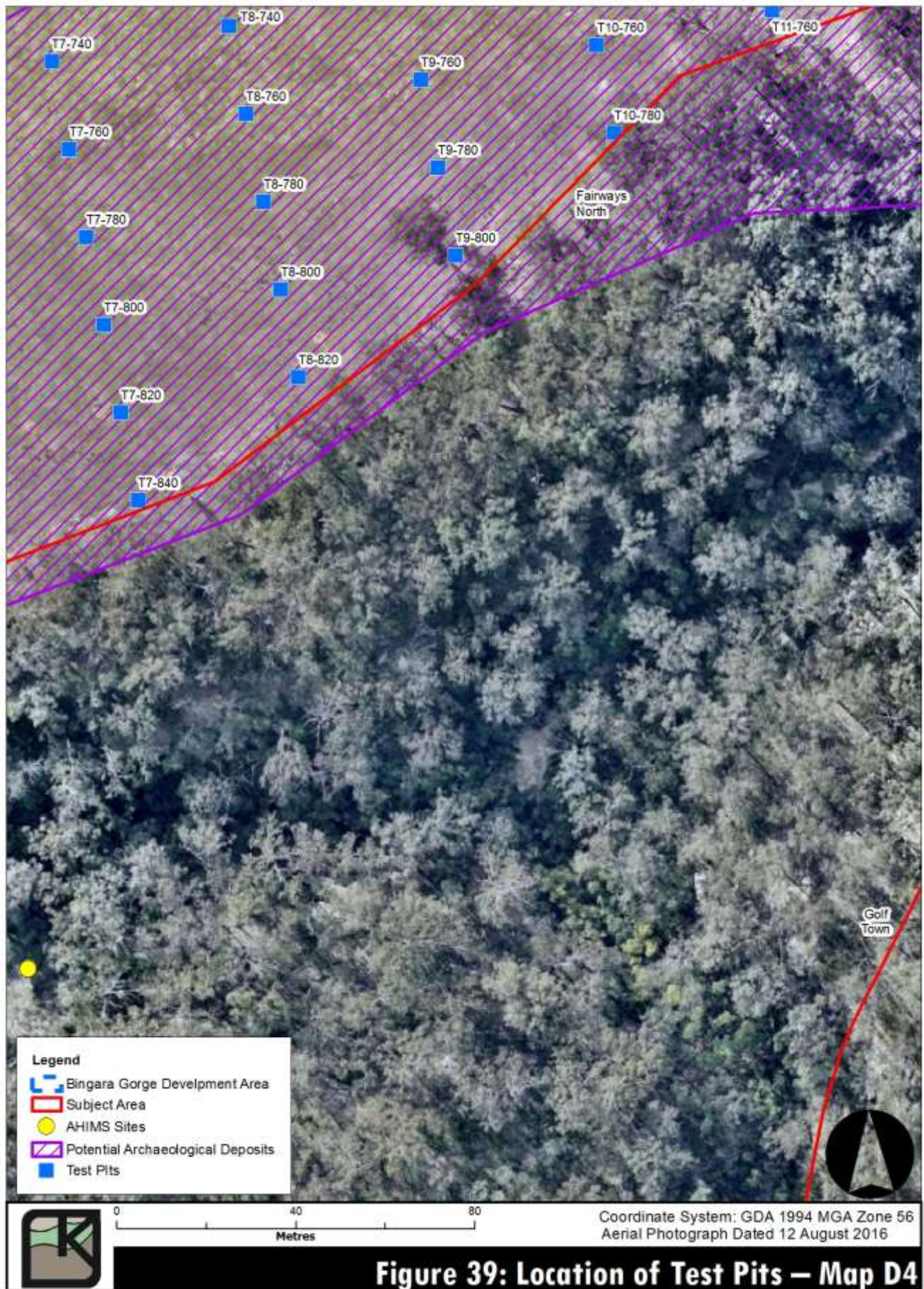






































## 7.4 Soils

Appendix XXI contains a representative sample of photographs showing the base of the test pits and the stratigraphic profiles for all excavated pits.

Appendix XXII provides a representative sample of stratigraphic drawings for all excavated pits.

### 7.4.1 "Fairways North" Precinct

There was limited evidence of European cultural disturbance subsurface, as noted in Section 5.7.1, large portions of the development precinct has been impacted by low to moderate land disturbance (see Figure 10 and Figure 18).

The test pits were excavated until a depth of 50cm was reached, rock base or clay, which ever occurred first. Generally two (2) contexts were identified within the Phase 1 test pits, consisting of an A1-horizon (brown/dark yellowish brown clayey silty sand, or a yellowish brown silty clayey sand), and B-horizon (red/yellowish brown/very pale brown silty sandy clay) (refer to Appendix XXVIII).

The test pits tended to have fine-grained clayey silty sand/silty clayey sand matrix with a depth of 0-20cm, with an increasing percentage of clay composition in the matrix in the lower parts of the pits. The percentage of sand present throughout the deposit was relatively consistent, with the presence of silt sediment decreasing in the lower parts of the pits.

The undisturbed sand can be divided into fine grained sand and course grained sand, and had varying levels of silt and clay components. The fine grained sand, consisted of quartz sand grains which were <1mm in size; while the course grained sand which were >1mm in size. Typically sandstone and ironstone inclusions of varying size were identified within the test pits.

As noted in Section 7.2.1.1, pits T11-500, T11-520, T12-500 and T12-520 were located within a drainage depression, in the initial stages of the excavation the land surrounding these pits was dry; however, ground vegetation indicated that the soils were either poorly drained or had an underground spring. During March, Bingara Gorge underwent a fortnight of intense rainfall, it was intended that once the water evaporated or drained out of the soil that the pit would commence; however, in the weeks after the rain it was evident that soil within the drainage depression was draining poorly. It took more than 1 month for the ground within these pits to dry sufficiently in order to continue excavation. Based on test pits along the escarpment within the "Fairways North" Precinct, soils in this landform (along the escarpment) are likely to have been subject to prolonged waterlogging, and as such it is likely that portions of the top of the escarpment are culturally sterile, further supported by the absence of Aboriginal objects within these test pits.

It is evident that upon review of the A-horizon identified within the "Fairways North" and "Golf Town" Precincts, that the A-horizon in the "Fairways North" Precinct overall is significantly deeper than the A-horizon within the "Golf Town" Precinct. The differences in the depth of the A-horizon between the two development precincts may be a result of the historic ground disturbances, as previously noted a large portion of "Golf Town" had been stripped of significant vegetation (refer to Section 5.7.2), which would have exacerbated the existing erosional processes (i.e. wind and/or water). It should be noted that the depth of the A-horizon within "Fairways North" Precinct varies across the development precinct and landforms. The depth of the A-horizon decreases towards the northern end of the precinct, which may have been impacted by the north east facing moderately inclined saddle and the nature movement of soil transported by water down a slope.

Plate 36 to Plate 39 shows the stratigraphic profiles from four (4) pits from across "Fairways North" Precinct, which gives a representative sample of the typical soil profiles within the development precinct.

Details of the contexts encountered in each pit within "Fairways North" Precinct are provided in Appendix XXVIII.

Appendix XXX details the nature of the basal level reached in each of the excavated test pits within the "Fairways North" Precinct.



**Plate 36:** Stratigraphic profile of T4-460  
(10cm increments)



**Plate 37:** Stratigraphic profile of T6-480  
(10cm increments)



**Plate 38:** Stratigraphic profile of T7-840  
(10cm increments)



**Plate 39:** Stratigraphic profile of T94-460  
(10cm increments)

#### 7.4.2 "Golf Town" Precinct

There was limited evidence of European cultural disturbance subsurface; however, as Section 5.7.2, large portions of the development precinct has been impacted by moderate to high land disturbance. Large amounts of vegetation clearance and possible replanting of a tree line feature have occurred within the "Golf Town" Precinct (see Figure 10 and Figure 19).

The test pits were excavated until a depth of 50cm was reached, rock base or clay, which ever occurred first. Generally two (2) contexts were identified within the Phase 1 test pits, consisting of an



A1-horizon (brown/dark yellowish brown clayey silty sand, or a yellowish brown silty clayey sand), and B-horizon (red/yellowish brown/very pale brown silty sandy clay) (refer to Appendix XXIX).

The test pits tended to have fine-grained clayey silty sand/silty clayey sand matrix with a depth of 0-20cm, with an increasing percentage of clay composition in the matrix in the lower parts of the pits. The percentage of sand present throughout the deposit was relatively consistent, with the presence of silt sediment decreasing in the lower parts of the pits.

The undisturbed sand can be divided into fine grained sand and course grained sand, and had varying levels of silt and clay components. The fine grained sand, consisted of quartz sand grains which were <1mm in size; while the course grained sand which were >1mm in size. Typically sandstone and ironstone inclusions of varying size were identified within the test pits.

As noted in Section 7.2.1.2, the soils within the pit T20-260 were assessed to be poorly drained as evident by the "boggy" nature during excavation; however, no water seepage was identified during excavation. At the time of undertaking the stratigraphic drawing of T20-260, water seepage was identified, and this seepage continued for some time. Based on test pits along the escarpment within the "Fairways North" Precinct, soils in this landform (along the escarpment) could be subject to prolonged waterlogged, and as such it is likely that these soils are culturally sterile. As a result of the water seepage at T20-260, the contexts within the pit could not be identified (see Plate 33).

It is evident that upon review of the A-horizon identified within the "Fairways North" and "Golf Town" Precincts, that the A-horizon in the "Golf Town" Precinct is significantly shallower than the A-horizon within the "Fairways North" Precinct. The differences in the depth of the A-horizon between the two development precincts may be a result of the historic ground disturbances, as previously noted a large portion of "Golf Town" had been stripped of significant vegetation, which would have exacerbated the existing erosional processes (i.e. wind and/or water). The exacerbation of these erosional processes is likely to have resulted in the impact and/or removal of any artefact-bearing deposits.

Plate 40 to Plate 43 shows the stratigraphic profiles from four (4) pits from across "Golf Town" Precinct, which gives a representative sample of the typical soil profiles within the development precinct.

Generally, there were two (2) contexts encountered in each test pit (refer to Appendix XXIX).

Details of the contexts encountered in each pit within "Golf Town" Precinct are provided in Appendix XXIX.

Appendix XXXI details the nature of the basal level reached in each of the excavated test pits within the "Golf Town" Precinct.



**Plate 40:** Stratigraphic profile of T21-200  
(10cm increments)



**Plate 41:** Stratigraphic profile of T22-220  
(10cm increments)



**Plate 42:** Stratigraphic profile of T26-180  
(10cm increments)



**Plate 43:** Stratigraphic profile of T24-180  
(10cm increments)



## 8 DISCUSSION

As identified in Section 6.5, Navin Officer (2003a) and KAS (2015a; 2015d) have previously undertaken field surveys of the Subject Area.

No Aboriginal sites were identified by Navin Officer (2003a) within the extent of the Subject Area.

The Aboriginal objects (BG-IF-02, BG-PAD-01, BG-PAD-02, BG-PAD-03 and BG-ST-01) were identified during these investigations (KAS, 2015a; 2015d) are considered below (see Figure 46).

### 8.1 Excavation Results

This current subsurface investigation is the first large landscape archaeological subsurface investigation that has been undertaken within the Wilton region (see Figure 28 to Figure 45). A total of five (5) artefacts, from 468 pits across two development precincts, were identified as part of the current subsurface investigation.

Based on previous test excavations that have been undertaken within the Bingara Gorge development it was expected that from the top of the escarpment to the back of the flat behind the escarpment (which occurs to varying degrees within both development precincts) could be expected to yield cultural material, in areas of minimal ground disturbance. The current investigation program focused on the landscape from:

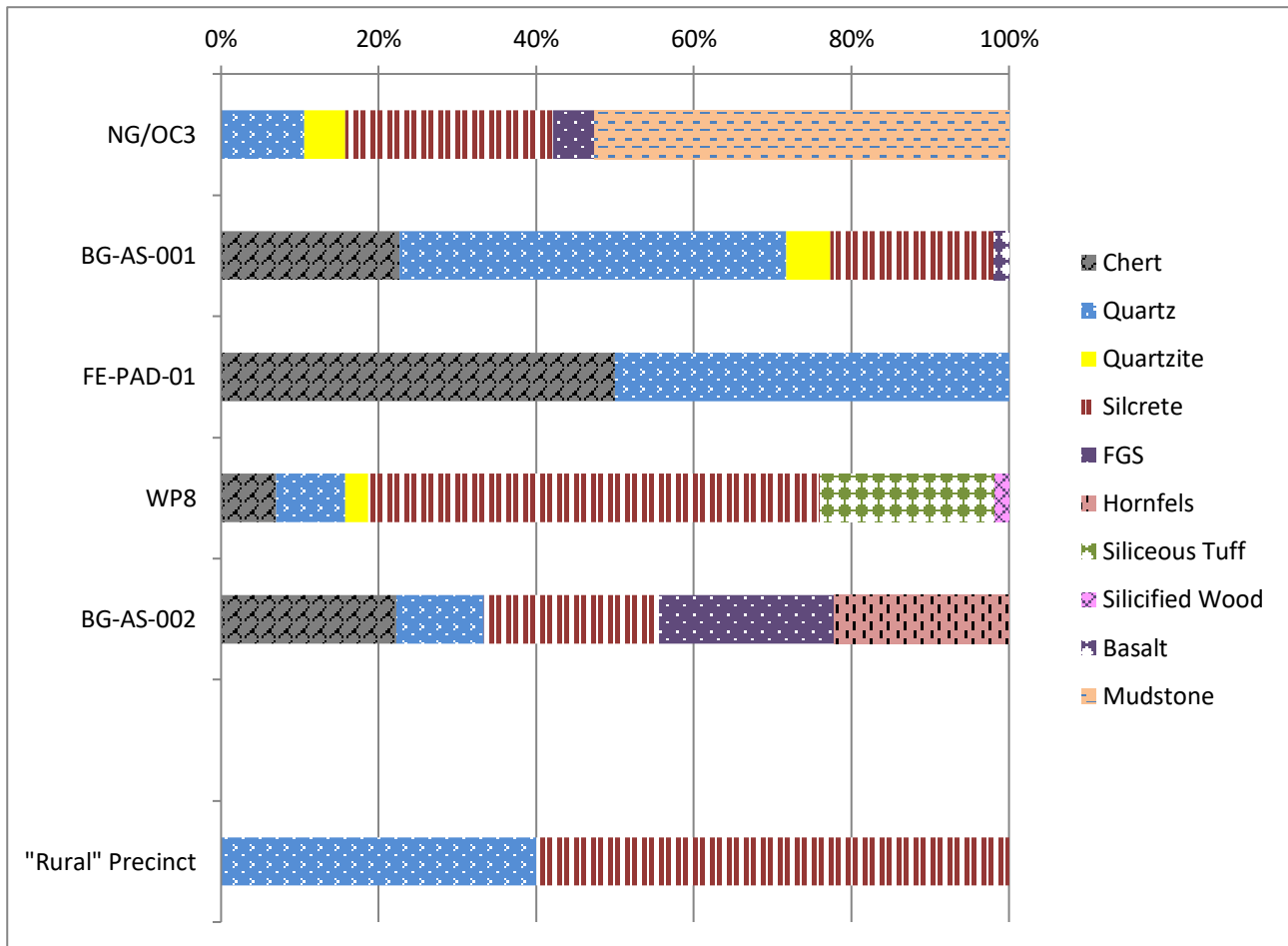
- Top of the escarpment to the back of the flat behind the escarpment;
- Flat behind the escarpment and the highest point; and,
- Highest point on the landscape.

The assemblage recovered during the current excavation program consisted primarily of Silcrete (n=3), which was recovered at between 10cm and 20cm depth from a single test pit (T11-580) (refer to Table 12 and Table 13).

A review of Graph 2 shows that the proportion of raw material identified within the artefact assemblage recorded during the current investigation does not have as wider range of raw materials compared with other test excavations within the Bingara Gorge development.

It is apparent that Silcrete, Quartz and Chert are the predominant raw materials identified within the artefact assemblages recovered from subsurface investigations undertaken in the surrounding area; the only difference in each assemblage is the proportion of Silcrete, Quartz and Chert that is identified. It is evident from Graph 2, that all the other assemblages identified as a result of subsurface investigation within Bingara Gorge typically have low level of other raw materials present. The low percentages of other raw materials, may be a result of the quality and size of these raw materials that could be sourced from the local area; these other raw materials had to be sourced from the outside area, and then transported back to the local area, this would also influence the frequency of other raw materials within an artefact assemblage.

It has been suggested that the relative proportions of artefacts of various raw material types could have reflected ease of access to natural sources. Where sources were close by or readily accessible than those materials could be expected to have dominated assemblages (Jo McDonald CHM, 2007; Byrne 1980). Change over time in regards to the presence of raw materials might have reflected the change over time in the ability to source raw materials (i.e. changes in social networks, and/or changes in territories).



**Graph 2:** Raw Material Comparison of Excavated Aboriginal Sites within Bingara Gorge

During the current investigation, it was identified that artefact-bearing deposits did not extent beyond 20cm depth (spits 1, 2, ad 3). A review of Graph 3 and Graph 4 shows that there is a frequency of artefacts at between 10cm and 20cm depth.

Although there was no overt evidence of subsurface disturbance prior to the test excavation within the "Golf Town" Precinct, a number of test pits were excavated which had significantly different soils colours and texture, which is considered to indicate the presence of subsurface disturbance. Upon review of the historic aerals of the "Golf Town" Precinct (refer to Figure 10 to Figure 16), it is evident that large tracts of land within the development precinct were been stripped of significant vegetation, which would have exacerbated the existing erosional processes (i.e. wind and/or water). The exacerbation of these erosional processes is likely to have resulted in the impact and/or removal of any artefact-bearing deposits.

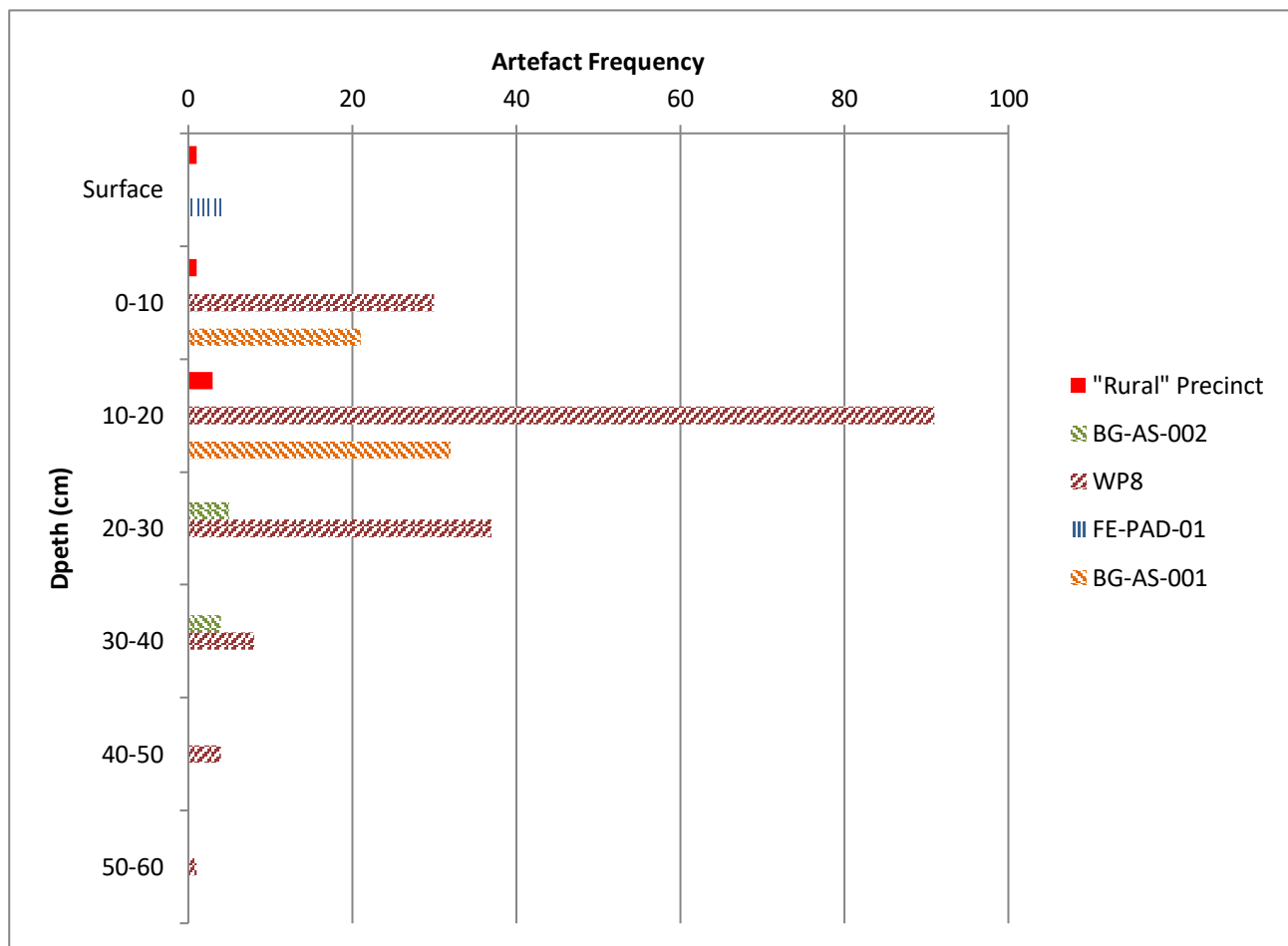
During the test excavation within the "Fairways North" Precinct limited evidence of subsurface disturbance was identified, which was typically limited to the test pits excavated under Hazelton's supervision during her soil survey. As the historic land clearance associated with pastoral practices within the "Fairways North" Precinct appear to be limited (there does not appear to be any extensive disturbance within the "plough zone"), the subsurface deposits present within the current investigation area are considered to be intact.

According to Brooks et al (2009) the precise nature and depth of a "plough zone" will vary depending of the nature of the agricultural activity that occurs; however, the challenge of the "plough zone" remains broadly consistent: that agricultural activity significantly disturbs the soil in

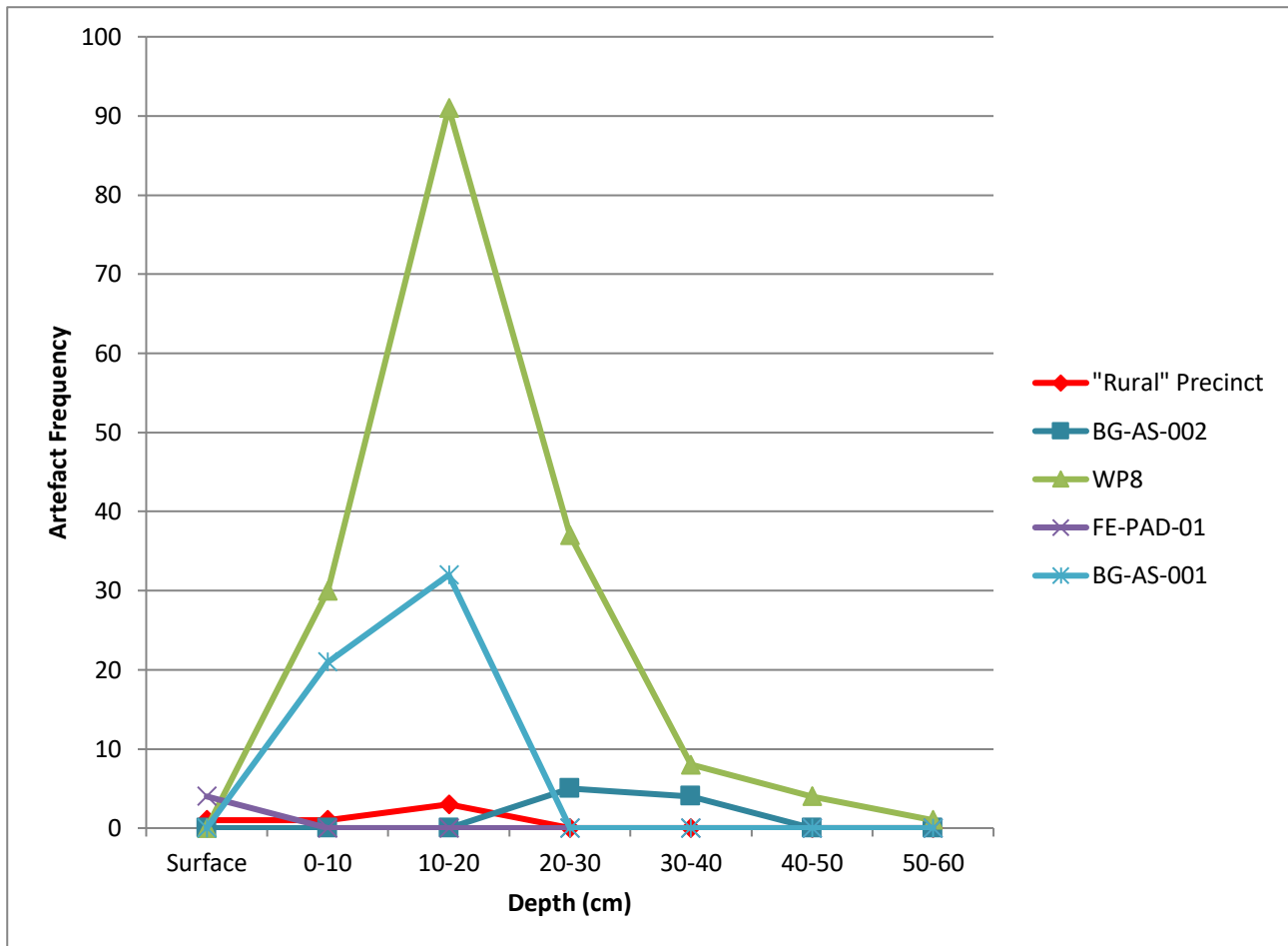


which it takes place, destroying subsurface archaeological features and changing the location of artefacts. The presence of a "plough zone" within the Subject Area would account for the absence of artefacts recovered at between 0cm and 20cm depth, and may indicate that there could have been some mixing of artefacts as a result of agricultural activity. O'Brien and Lewarch (1981) suggest that while ploughing results in the destruction of vertical stratigraphy and the mixing of materials from originally separate stratigraphic contexts, horizontal relationships typically remain intact.

In consideration of the distance between the identified subsurface artefacts and the varying depths at which they were encountered, it is unclear whether these objects represent an occupation phase, rather it is more likely that these artefacts likely to represent discrete artefact occurrences.



**Graph 3:** Vertical Distribution Comparison of Excavated Aboriginal Sites within Bingara Gorge



**Graph 4:** Comparison of Artefact Frequency of Excavated Aboriginal Sites within Bingara Gorge

Examination of the current assemblage revealed that 80% artefacts did not retain cortex (including 1 complete flake) suggesting that the lands around the "Fairways North" Precinct was the focus of later stage reduction in artefact manufacture. The predominance of the absence of cortex on artefacts is similar to the results encountered by KAS at the WP8 subsurface investigation (KAS, 2006); while the test excavation at BG-AS-002 revealed that 100% of artefacts (including 3 complete flakes) did not retain cortex (KAS, 2017) (refer to Graph 5 and Graph 6).

It is evident from Graph 5 and Graph 6 that even with varying assemblage sizes there are similarities in regards to the proportion of cortex identified on artefacts, with a higher number of artefacts that do not retain cortex; this suggests that the later stages reduction in artefact manufacture were likely to have occurred within the Bingara Gorge development, and that raw materials were not being sourced from the incised gorge for artefact manufacture.

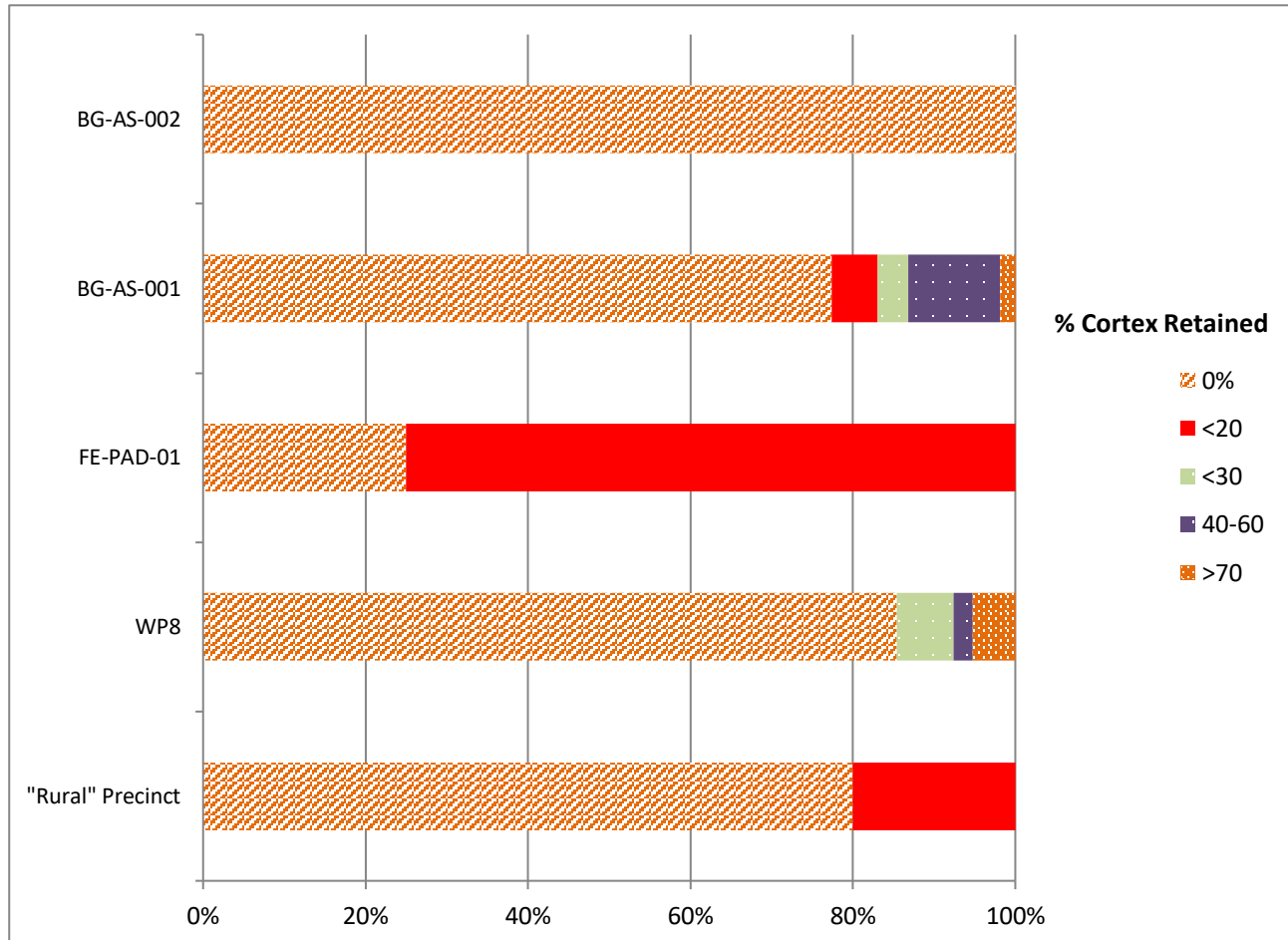
As noted earlier, the current investigation incorporated a range of landscapes, such as the top of the escarpment to the back of the flat behind the escarpment which was investigated by KAS in 2004 (BG-AS-001) in an area outside of the "Fairways North" and "Golf Town" Precincts; however, the difference between the landform at BG-AS-001 and within the "Fairways North" Precinct, was that at BG-AS-001 there was a 1st order stream which offered an easy access point into the incised gorge below, while in the "Fairways North" and "Golf Town" Precincts the steep escarpment did not provide easy access points into the gorge below.

As evident from Figure 46, Figure 47 and Table 12, three (3) isolated artefacts, 1 low density artefact scatter and 1 scarred tree are present within the Subject Area.

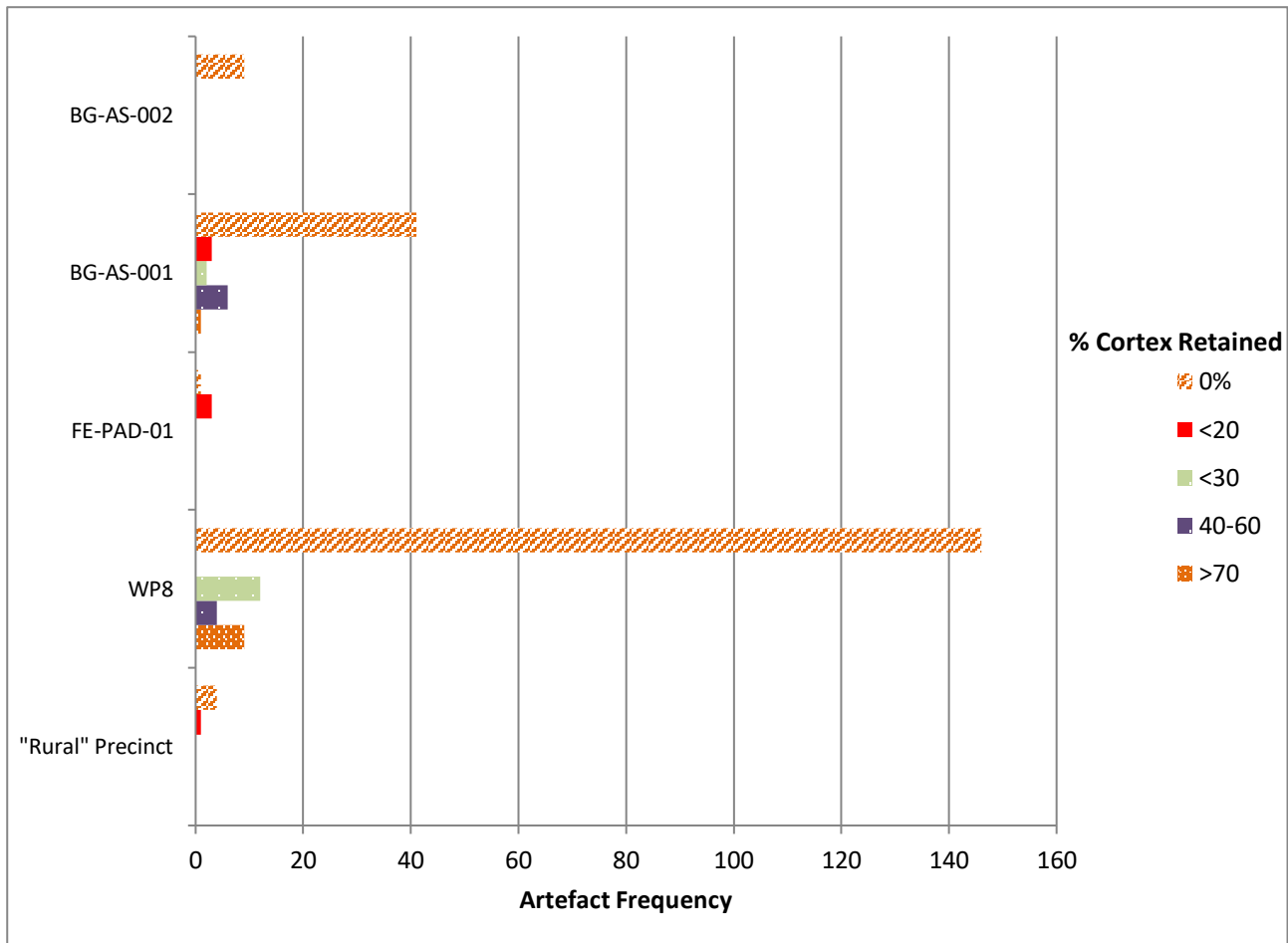


Based on the results the current investigation it is considered highly unlikely that artefact-bearing deposits may be present within portions of the Subject Area that have not been subject to subsurface investigation.

Further testing within the "Fairways North" and "Golf Town" Precinct is not considered to be necessary to inform decisions required to obtain an AHIP Application.



**Graph 5:** Comparison of % Cortex Retained within the Bingara Gorge Excavated Assemblages



**Graph 6:** Comparison of % Cortex Retained of Excavated Aboriginal Sites within Bingara Gorge

## 8.2 Identified Sites

As previously stated in Section 6.5, during the previous inspected of the Subject Area undertaken by Navin Officer (2003a) no Aboriginal sites were identified. During the field surveys undertaken by KAS (2015a; 2015d), Aboriginal objects (BG-IF-02, BG-PAD-01, BG-PAD-02, BG-PAD-03 and BG-ST-01) were identified. Subsequently to these investigations it was expected that the majority of the area within the Subject Area would have moderate to high potential for artefact-bearing deposits; however, the testing program demonstrated that were areas of low to high ground disturbance in the "Fairways North" and "Golf Town" Precincts which did not contain artefact-bearing deposit.

### **BG-PAD-01 (AHIMS #52-2-4028)**

In 2013, BG-PAD-01 was identified by KAS (2015a) from the predictive model which indicated that Aboriginal sites were likely to be present in elevated positions immediately above creek lines, above the escarpment and along crests and ridges. KAS determined that the location of BG-PAD-01 meet these preconditions and was assessed by the Aboriginal community and archaeologists to be a location of higher likelihood than other typically similar locations.

During the subsurface investigation a number of test pits were excavated within and surrounding the portions of BG-PAD-01 that were located within the "Fairways North" Precinct; however, no artefact-bearing deposits were encountered during this investigation. Based on the results of the subsurface investigation, the extent of BG-PAD-01 has been redefined to exclude the land within the "Fairways North" Precinct.



#### **BG-PAD-02 (AHIMS #52-2-4029)**

In 2013, BG-PAD-02 was identified by KAS (2015a) from the predictive model which indicated that Aboriginal sites were likely to be present in elevated positions immediately above creek lines, above the escarpment and along crests and ridges. KAS determined that the location of BG-PAD-02 meet these preconditions and was assessed by the Aboriginal community and archaeologists to be a location of higher likelihood than other typically similar locations.

During the subsurface investigation, 95 test pits were excavated within the extent of BG-PAD-02, with a number of test pits excavated outside the extent of the site as mapped on the AHIMS site card; however, no artefact-bearing deposits were encountered during this investigation. Based on the results of the subsurface investigation, the status of BG-PAD-02 has been amended to be "not a valid site".

#### **BG-IF-02 (AHIMS #52-2-4027)**

In 2013, BG-IF-02 was identified by KAS (2015a) as a FGS flake piece (25mmx16mmx5mm) (see Plate 10 and Plate 11). The artefact was identified in an area of exposure, on an eroding relatively flat surface (refer to Plate 12).

During the subsurface investigation, a number of test pits were excavated in the area surrounding BG-IF-02, within the extent of the "Fairways North" Precinct; however, no artefact-bearing deposits were identified in these test pits.

It is considered that the surface artefact represents a discrete artefact occurrence, and is likely to have been the result of opportunistic discard.

#### **BG-ST-01 (AHIMS #52-2-4338)**

In 2015 a mature gum tree with a scar on the south west face of the trunk was identified and allocated the name BG-ST-01. The tree height was approximately 20m, and appeared to be in good health. The girth at breast height is approximately 2.7 meters. The scar is approximately 150cm long and 20cm wide. The depth of regrowth is approximately 30cm. There is evidence of fire damage on the scar surface (see Plate 16 and Plate 17).

As noted in Section 1.4, the current assessment was limited to the subsurface investigation within the "Fairways North" and "Golf Town" Precincts, and as such no further assessment of BG-ST-01 has been undertaken as part of this current assessment.

#### **BG-IF-03 (AHIMS # 52-2-4434)**

BG-IF-03 is a right cone-split, which was located in pit T13-580 at between 0cm and 10cm depth, along within a drainage depression on the flat located immediately behind the escarpment.

Based on the steepness of the incised gorge at the location of the drainage depression, and the lack of easy access into the gorge below, it is considered likely that the artefact represents a discrete artefact occurrence. The presence of BG-IF-03 is likely to have been the result of opportunistic discard.

#### **BG-PAD-03 (AHIMS #52-2-4030)**

In 2013, BG-PAD-03 was identified by KAS (2015a) from the predictive model which indicated that Aboriginal sites were likely to be present in elevated positions immediately above creek lines, above the escarpment and along crests and ridges. KAS determined that the location of BG-PAD-03 meet these preconditions and was assessed by the Aboriginal community and archaeologists to be a location of higher likelihood than other typically similar locations.

As a result of the test excavation and the identification of artefacts in two locations, BG-PAD-03 has now been reclassified as two distinct sites. These sites are referred to as BG-IF-04 and BG-AS-004 (refer to Figure 46 and Figure 47), and a description of these two sites is provided below.

Based on the results of the subsurface investigation, the status of BG-PAD-03 has been amended to be "not a valid site".

#### **BG-IF-04 (AHIMS # 52-2-4432)**

BG-IF-04 is a proximal fragment, which was identified on the surface of pit T15-680a, which was located on an eroding surface approximately 100m west of the steeply incised gorge.

During the excavation of T15-680, a surface artefact was identified immediately to the west of the pit. While no Aboriginal objects were identified within T15-680, in order to determine whether the surface artefact was indicative of artefact-bearing deposits that were present but not identified within T15-680, it was decided that T15-680 would be expanded into a 1m x 0.5m pit (to incorporate the identified surface artefact). No artefact-bearing deposits were identified within T15-680a.

Based on the steepness of the incised gorge at the location of the drainage depression, and the lack of easy access into the gorge below, it is considered likely that the artefact represents a discrete artefact occurrence. The presence of BG-IF-04 is likely to have been the result of opportunistic discard.

#### **BG-AS-004 (AHIMS # 52-2-4433)**

BG-AS-004 is an artefact scatter (n=3) located in pit T11-580 at between 10cm and 20cm depth, located on the southern upper/mid slope of a drainage depression which runs north east to BG-IF-03.

Although BG-AS-004 is located on the same landform as BG-IF-03, and BG-IF-04, the sites do not appear to be spatially related to each other, and are likely to represent discrete artefact occurrences. The presence of BG-AS-004 is likely to be the result of opportunistic discard.

### **8.3 Predictive Model**

The predictive model (refer to Section 6.7) for the Bingara Gorge development area proposes that subsurface archaeological deposits may be present in areas where no visible surface archaeological remains are evident; however it is also noted that as land use disturbance increases that the ability for Aboriginal objects to provide information about past Aboriginal land use will decrease.

The results of the test excavation within the "Fairways North" Precinct supports the prediction that subsurface deposits may be present in areas where no surface sites had been identified, while the absence of Aboriginal objects within the "Golf Town" Precinct supports the prediction that as land use disturbance increases that the ability for Aboriginal objects to provide information about past Aboriginal land use will decrease.

BG-IF-03 (AHIMS #52-2-4434) and BG-IF-04 (AHIMS #52-2-4432) were associated with a 1st order drainage depression; based on observations from previous investigations of the drainage depression, it is likely to be a seasonal watercourse.

Previous subsurface investigations within the Bingara Gorge have ranged from 27m to 338m distance from water, and predominately focused on the landforms listed below:

- Top of the escarpment to the back of the flat behind the escarpment; and,
- Highest point on the landscape.



Prior to the current study, the investigation at FE-PAD-01 was only excavation that was not directly associated with a watercourse (approximately 338m west of Stringybark Creek), and the flat located immediately behind the escarpment (located on a high point); at the time of investigation the assemblage was the smallest recovered during an archaeological excavation within Bingara Gorge.

The current investigation was located in an area surrounded by the steep escarpment of the incised gorge associated with 3rd and 4th order streams, and incorporated a range of landscapes/landforms (refer to Section 8.1). The artefacts (excavated and unexcavated) identified within the "Fairways North" Precinct were located between 98m and 750m from a permanent watercourse (3rd/4th order stream). The assemblage recovered is the second smallest excavated assemblage within the Bingara Gorge development; while the size of the excavation was the largest.

The predictive model hypothesises that Aboriginal sites will be more complex and have a larger density of artefacts compared to sites more than 250m from a major water source. When comparing the results of the subsurface investigations from FE-PAD-01 and the "Fairways North" Precinct, it is evident that FE-PAD-01 fits with the predictive model; while it was expected within the "Fairways North" Precinct that the top of the escarpment to the back of the flat behind the escarpment would have the highest frequency of artefacts.

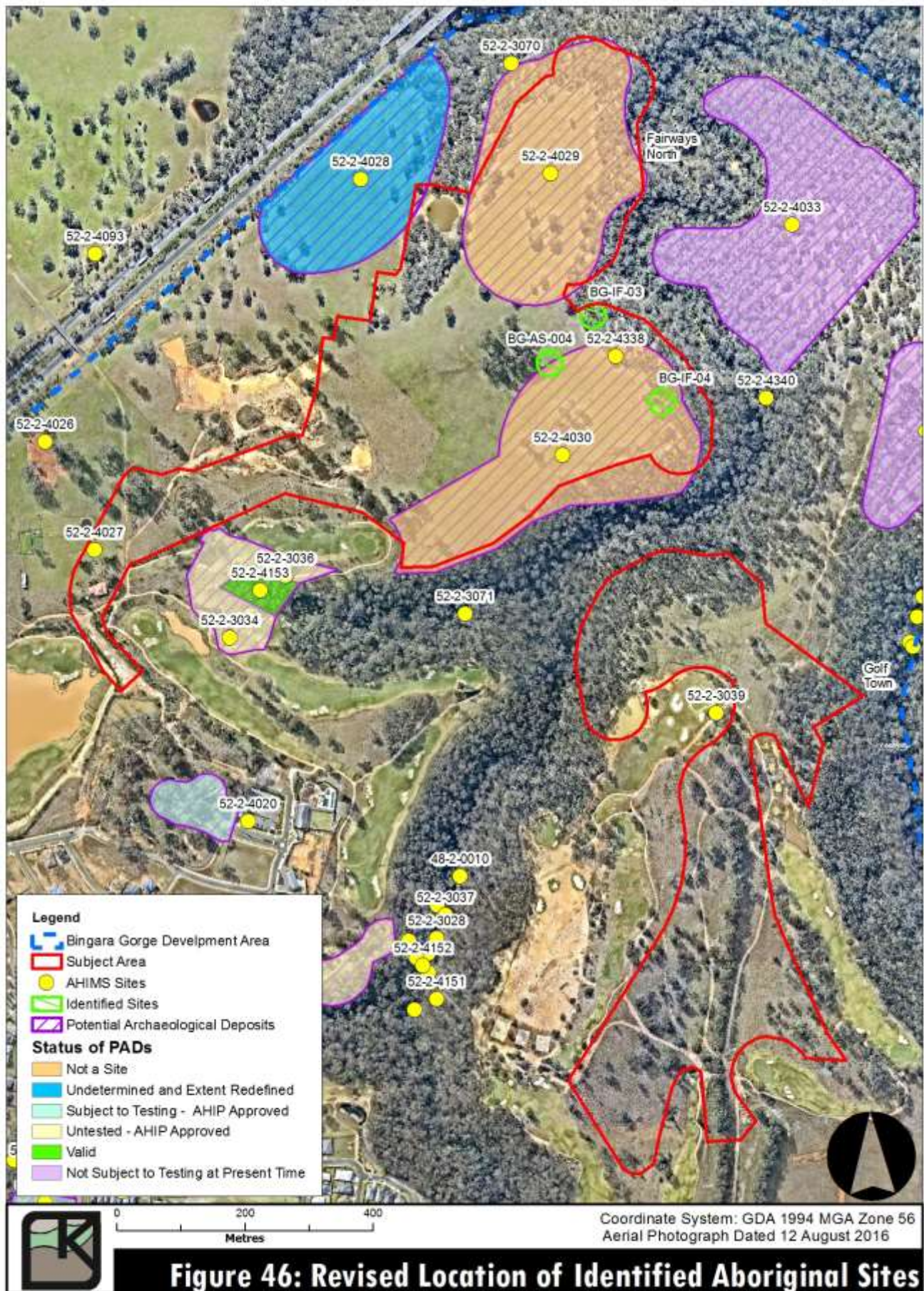
A comparison between the subsurface investigations at "Fairways North" Precinct and the other Bingara Gorge subsurface investigations has identified differences in the results of the excavations. Predominately subsurface investigations have included top of the escarpment to the back of the flat behind the escarpment where easy access into the incised gorge below has been available, and at these points typically, larger artefact assemblages have been identified. The steep escarpment above the incised gorge, does not offer easy access into the gorge, and as such is more likely to be utilised for hunting and gathering and/or for strategic landscape visibility purposes, rather than as a location for artefact production or the processing of game prior to entering into the gorge (refer to 6.6). Based on this assessment it is considered likely that there would be limited subsurface archaeology, and any subsurface deposits present would have resulted from either isolated occurrences of knapping activities such as retouching or re-tasking artefacts, or from the discarding of artefacts, either intentionally or unintentionally. As a result of these activities it would be expected that any resulting site would be of a low density, dispersed nature, and as such the identification of a site would be difficult.

**Error! Reference source not found.** depicts the typical topography expected in a sandstone plateau region, from which four (4) zones of utilisation were identified based on changes in the landforms. The four utilisation zones identified within Bingara Gorge are outlined in Section 6.6. It is anticipated that all sites investigated in the Nepean Ramp region will be situated within these utilisation zones. The "Fairways North Precinct: has been identified as extending across Zones 2 to 4.

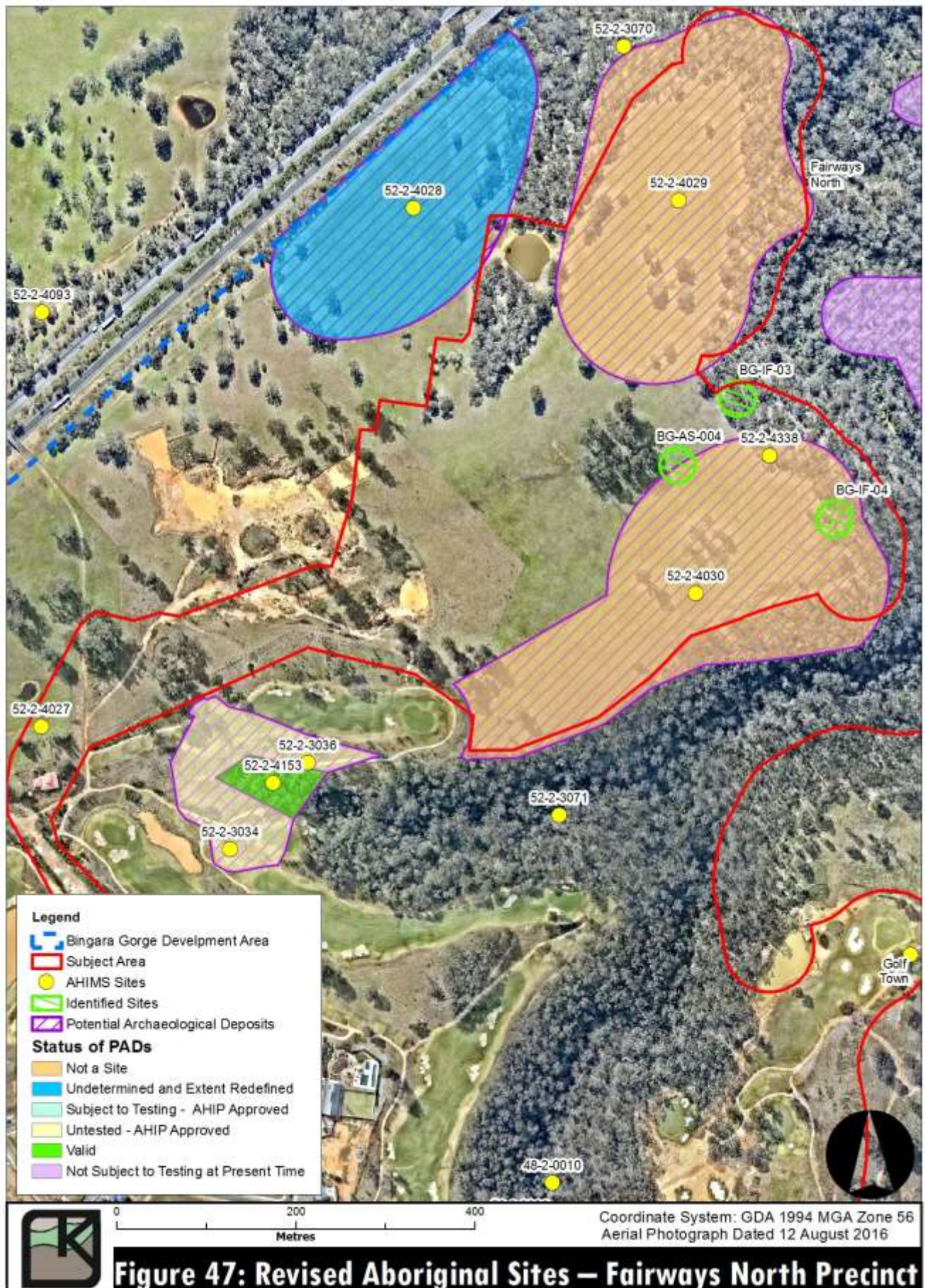
Further subsurface investigations within Zones 2 to 4 landforms would be necessary to further understand land use patterns within Wilton, as it is only with human use of a landscape and the geological process that archaeologists are left with a detailed record of the use of time and space in the past (Gosden and Head 1994:114-115).

During field surveys along the top of the escarpment to the back of the flat behind the escarpment both within Bingara Gorge and the wider Wilton region as part of identifying areas of potential archaeological deposit, easy access into the incised sandstone gorge should be identified.

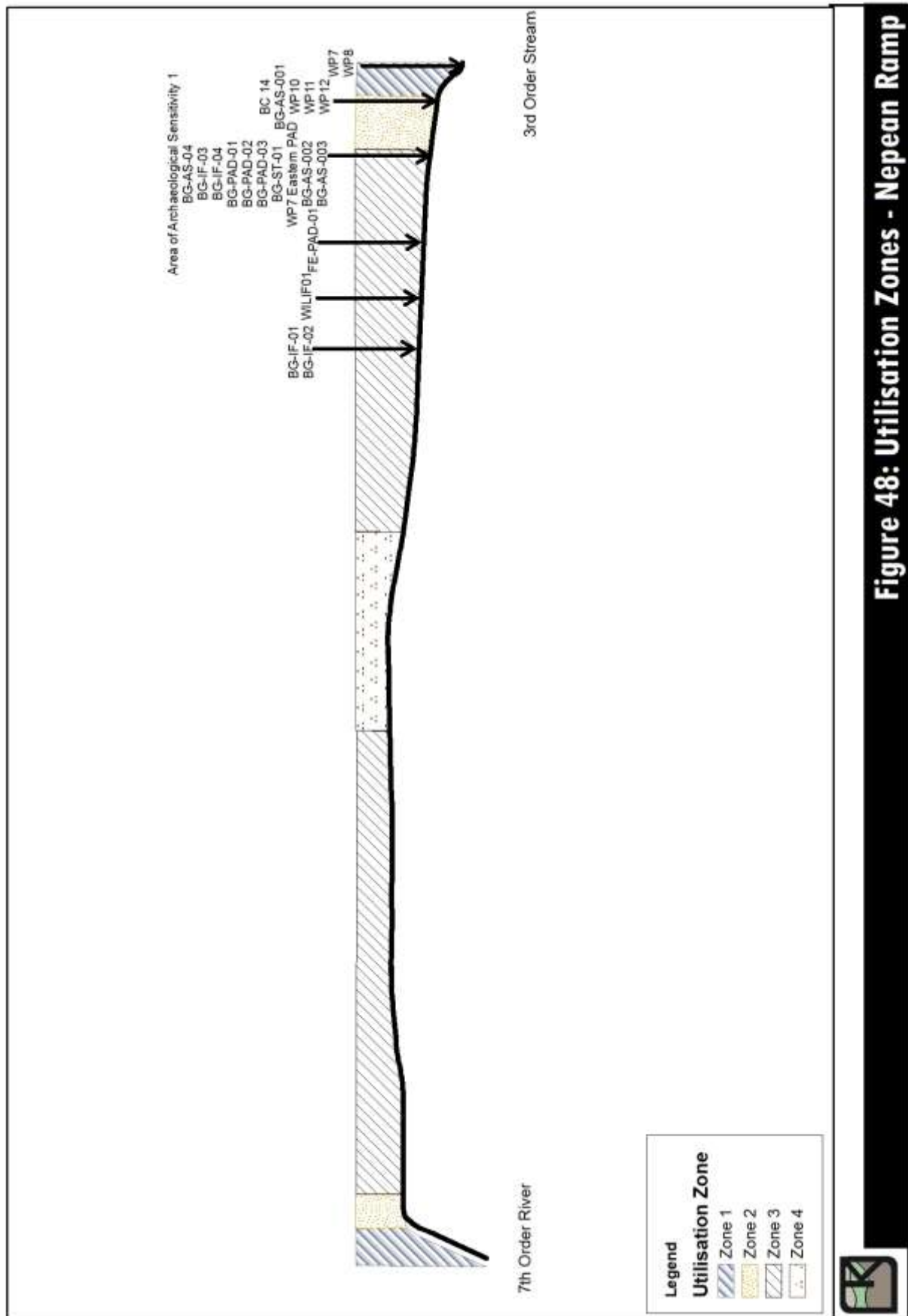












**Figure 48: Utilisation Zones - Nepean Ramp**



## 9 SIGNIFICANCE ASSESSMENT

While all Aboriginal objects are afforded protection under the National Parks and Wildlife Act, decisions about appropriate management of individual cultural heritage items or sites is usually based on their assessed significance as well as the likely impact of a proposed development and the need for the development. OEH requires significance assessment in accordance with the processes set out in the Burra Charter (DECCW 2010a:21).

Australia ICOMOS (1998) adopted the *Guidelines to the Burra Charter: Cultural Significance*. In the Burra Charter, cultural significance means "aesthetic, historic, scientific or social value for past, present or future generations". Cultural significance is a concept which helps in estimating the value of places. The places that are likely to be of significance are those which help an understanding of the past, enrich the present, and may be of value to future generations. The Guidelines develop the following definitions:

*Aesthetic value* includes aspects of sensory perception for which criteria can and should be stated. Such criteria may include consideration of the form, scale, colour, texture, and material of the fabric; the smells and sounds associated with the place and its use.

A place may have *historic value* because it has influenced, or has been influenced by, an historic figure, event, phase or activity. It may also have historic value as the site of an important event. For any given place the significance will be greater where evidence of the association or event survives in situ, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment.

The *scientific or research value* of a place will depend on the importance of the data involved, on its rarity, quality or representativeness, and on the degree to which the place may contribute further substantial information.

*Social value* embraces the qualities for which a place has become a focus of spiritual, political, national, or other cultural sentiment to a majority or minority group.

The process of significance assessment has received considerable attention since the early 1980s and criteria for assessing these values have been developed and adapted to deal specifically with Aboriginal cultural heritage.

### 9.1 Cultural Significance Assessment

Cultural significance indicates the importance of a site or feature to Aboriginal communities. This category may include sites, items and landscapes that people may have traditional ties with, as well as areas that may have contemporary importance to Aboriginal communities. Places of cultural value may have social significance to Aboriginal communities, they may have historic value through association with historic themes (e.g. missions or massacres), or they may take on value because of their rarity or because a place may be able to contribute new information about the past. Places may have aesthetic significance, being natural features with symbolic values, dramatic presence or tranquil qualities. Cultural significance may not be in accord with the interpretations made by archaeologists – a site may have low archaeological significance but high Aboriginal significance, or vice versa.

## 9.2 Cultural Significance Assessment of the Subject Area

No specific advice has been received as to the cultural significance of the Subject Area to the Aboriginal community. However, it is generally accepted that all evidence of Aboriginal occupation is of high cultural significance to the Aboriginal community (refer to Appendix XVI).

## 9.3 Archaeological Significance Assessment

Scientific or archaeological significance may be assessed by placing a site, feature or landscape in a broader regional context and by assessing its individual merits in the context of current archaeological discourse. This type of significance relates to the ability of a site to answer current and future research questions, which may be influenced by physical condition (integrity), information potential, rarity and/or representativeness.

Rarity and Representativeness is an assessment of how rare or common a site or landscape is. In theory, heritage items may be determined to be significant because they are rare forms, or they may be considered to be very good typical forms. Whether items are of rare or common forms will depend to some extent on the variables used to distinguish them. Open sites, for example, may be distinguished from grinding grooves or scarred trees according to the general type of evidence present (e.g. stone artefacts distinguishable from trees with marks or grooves on rock platforms). To assess rarity and representativeness, site type can be used initially, and then this category subdivided until a satisfactory level of (dis)similarity is achieved. Within the general group "open artefact scatters", sites may be distinguished according to other variables, such as their content, or their landscape setting. Technically, an assessment of representativeness should identify both what is typical or common as well as what is rare.

Research potential is an assessment of the ability of a site or landscape to provide information to answer questions about the past. Several criteria may be considered:

- Physical condition. Sites or landscapes in good physical condition are generally able to provide information on spatial relationships between (for example) stone artefacts, other remains, chronological units if present, and landscape settings;
- The connectedness of individual sites or landscapes – is the content, site or landscape part of a complex of related sites or landscapes?
- The potential of a site or landscape to provide a relative or absolute chronology extending back into the past; i.e. stratified sequences of cultural materials and/or dateable materials such as organic remains (radiocarbon dating), or sealed or cultural deposits (optical or thermo luminescence); and
- The ability of the site or landscape to provide a large sample size (large numbers of stone artefacts, art motifs, grinding grooves etc.) about which statistically significant statements can be made.

## 9.4 Archaeological Assessment of the Subject Area

Whilst there is evidence that the "Fairways North" Precinct has been affected by land clearing and pastoral practices in the past, this is not seen in this instance as being a factor that has significantly reduced the opportunity for relatively intact Aboriginal cultural deposits to be identified.

There is evidence that the "Golf Town" Precinct has been affected by moderate to high levels of ground disturbance, as a result of large scale vegetation clearance and possible replanting of a tree line feature (see Figure 10 and Figure 19).



### Rarity and Representativeness

This may be assessed by using site type as the first criterion then landscape, size (number of lithics) and the nature of the lithic content.

BG-IF-02 is a single surface artefact with no associated PAD, is a common Aboriginal site type within the Bingara Gorge and surrounding area, as 13% of the sites identified in Table 8 were Isolated Finds.

The extent of BG-PAD-01 has been redefined to exclude the land within the "Fairways North" Precinct as a result of the current investigation, where no Aboriginal objects were recovered from the test pits within the extent of the PAD within the development precinct.

BG-PAD-02 has been determined to be "not a valid site" based on the results of the current subsurface investigation, as no Aboriginal objects were identified in the ninety-five (95) test pits excavated within the extent of the PAD.

BG-IF-03 is a right cone-split, which was located in pit T13-580 at between 0cm and 10cm depth, is a common Aboriginal site type within the Bingara Gorge and surrounding area, as 13% of the sites identified in Table 8 were Isolated Finds.

BG-ST-01 is a mature gum tree with a scar on the south west face of the trunk, and is a moderately common Aboriginal site type within the Bingara Gorge and surrounding area, as 8% of the sites identified in Table 8 were Scarred Trees.

As a result of the test excavation and the identification of artefacts in two distinct locations, BG-PAD-03 has now been reclassified as two distinct Aboriginal sites (BG-IF-04 and BG-AS-004).

BG-IF-04 is a proximal fragment, which was identified on the surface of pit T15-680A, is a common Aboriginal site type within the Bingara Gorge and surrounding area, as 13% of the sites identified in Table 8 were Isolated Finds.

BG-AS-004 is a low density artefact scatter (n=3) located in pit T11-580 at between 10cm and 20cm depth; and is a common Aboriginal site type within the Bingara Gorge and surrounding area, as 9% of the sites identified in Table 8 were Open Camp Sites.

Further investigation across the Wilton landscape is necessary in order to determine archaeological potential increases at locations of "easy" access into the incised gorge below.

### Research Potential

*Physical condition.* As previously discussed in Section 5.7, the majority of the "Fairways North" Precinct has been impacted by low to moderate levels of historic ground disturbance, compared with the "Golf Town" Precinct which has been impacted by moderate to high levels of historic ground disturbance (refer to Figure 10 to Figure 19).

In the "Fairways North" Precinct it is considered unlikely that this historic land disturbance would have had any serious impact to any artefact-bearing deposit, based on the low frequencies of artefacts recovered from the current investigation; while in the "Golf Town" Precinct due to the large amounts of vegetation clearance that have historically occurred and the skeletal soils which were encountered during this investigation, it is likely that the natural erosional processes were exacerbated. The exacerbation of these erosional processes is likely to have resulted in the impact and/or removal of any artefact-bearing deposits that may have been present.

*Connectedness.* BG-IF-02, BG-IF-03, BG-IF-04 and BG-AS-004 are all discrete, isolated encounters, which represent the continuation of the same Aboriginal occupational landscape, and are

connected to all known and unknown Aboriginal sites within the wider Wilton area. The utilisation/occupational model for the 'Nepean Transitional Zone' is being refined to understand the connectivity of Aboriginal sites within the Bingara Gorge and Wilton region.

*Potential for a Chronological Sequence.* The stylistic dating of lithics (stone tools) is imprecise, given the length of time over which various stone-working (knapping) techniques were used, and also the time it took for any new techniques to be adopted. Dating can be more closely estimated if there is a strong relation with a site which has sequences of radiocarbon dates, or if the lithics are buried under dateable deposits; to-date no dateable deposits have been identified during the subsurface excavation programs undertaken within Bingara Gorge.

*Ability to produce statistically useful samples of objects.* The definition of a statistically useful sample is purely dependant on the questions which are being asked of the data. The excavation within the "Fairways North" Precinct did not produce a statistically viable sample for drawing any meaningful archaeological conclusions about the nature of Aboriginal utilisation within the precinct.

Of the four (4) test excavations that have taken place within the Bingara Gorge development (refer to Sections 6.4.1 and 8.1) only two of the excavations (WP8 and BG-AS-001) have recovered a statistically viable sample of artefacts (i.e. sample size of >50).

There have been insufficient test excavations to understand whether the steepness of the incised gorge will influence the number of artefacts, both surface and subsurface. It is currently hypothesised that in areas where "easy" access into the gorge below is available, that the landforms at these points are likely to have greater archaeological potential. However, further subsurface investigation is necessary in order to determine whether this is typical or atypical for the region.

Surface artefact scatters within the Bingara Gorge development range from between 2 to 73 artefacts being recorded; where these surface sites have been subject to subsurface investigations (WP8), it has become evident that the artefact assemblage for the site is larger than what appears on the surface.

## 9.5 Statement of Archaeological Potential and Significance

This statement of archaeological potential and significance is limited to the AHIMS sites that have been determined to be a "valid" site, and the newly identified Aboriginal sites (BG-IF-03, BG-IF-04 and BG-AS-004).

A comparison of BG-IF-02, BG-IF-03, BG-IF-04 and BG-AS-004 within the regional archaeological context is difficult due to a limited number of large landscape subsurface investigation that have been undertaking in the surrounding Wilton region; historically, subsurface investigations have been limited to small, project specific study areas.

BG-ST-01 was previously assessed by KAS (2015d) to have low archaeological (scientific) significance; based on the results of the current investigation, KAS has not revised this assessment.

BG-IF-02 was previously assessed by KAS (2015a) to have low archaeological (scientific) significance, and low potential to provide archaeological information; based on the results of the current investigation, KAS has not revised this assessment.

As noted in Section 8.2, BG-IF-03 is a proximal fragment, which was identified on the surface of pit T15-680A; based on the results of the excavation of



BG-IF-03 has low archaeological significance, and low potential to provide subsurface archaeological material, owing to the fact that no subsurface archaeological material was identified during the excavation of pits T15-680A and T15-680, and that no additional artefacts were identified in the surrounding pits.

BG-IF-04 has low archaeological significance, and low potential to provide subsurface archaeological material, owing to the fact that a single artefact was identified at a depth of 0cm to 10cm in T13-580.

BG-IF-004 has low archaeological significance and low potential to provide subsurface archaeological material, owing to the fact that 3 artefacts were identified at between 10cm and 20cm depth in T11-580, and that no additional artefacts were identified in the surrounding pits.

KAS (2015d) previously assessed that based on the limited archaeological subsurface investigations undertaken within Bingara Gorge it was considered that in areas where limited or no ground disturbance has taken place previously; the potential for sub-surface archaeological material to be present was moderate to high. Based on the results of the current subsurface investigation, it is currently hypothesised that in areas where "easy" access into the gorge below is available, that the landforms at these points are likely to have greater archaeological potential. In areas of limited or no ground disturbance, and few easy access points into the incised gorge below, the potential for artefact-bearing deposits to be present is low to moderate.

On the basis outlined above, the overall archaeological potential and significance value of the Subject Area is assessed as being low, due to the low frequencies of artefacts encountered during the current investigation.

## 10 PRINCIPAL FINDINGS

In Section 1.3 of this report a number of aims and objectives were identified. This report has presented details of archaeological surveys and test excavation that have been undertaken within the Subject Area, and presents sufficient information to facilitate an informed decision regarding the proposed impact upon Aboriginal heritage (refer to Section 7).

Based on the results of the current excavation program and previous excavation programs within the Bingara Gorge development, KAS is hypothesising that along the top of the escarpment to the back of the flat behind the escarpment both within Bingara Gorge and the wider Wilton region easy access into the incised sandstone gorge may be indicative of areas of greater potential archaeological deposit compared within other locations in the landscape.

The Subject Area contains eight (8) Aboriginal sites; 5 artefacts were identified during the current subsurface investigation (refer to Table 12, Figure 29 to Figure 45, and Figure 46). As a result of the excavation, the extent of BG-PAD-01 has been redefined; BG-PAD-02 has been determined to be "not a valid site"; BG-PAD-03 has been determined to be 2 Aboriginal sites (BG-IF-04 and BG-AS-004) and BG-IF-02 is a single surface artefact.

BG-IF-02 has been determined to be a single surface artefact located north of the "Condell" homestead, and was identified on a flat landform approximately 180 north of a 1st order stream.

The extent of BG-PAD-01 has been redefined to exclude the land within the "Fairways North" Precinct as a result of the current investigation; as no Aboriginal objects were recovered from the test pits within the extent of the PAD present in the "Fairways North" Precinct.

BG-PAD-02 has been determined to be "not a valid site" based on the results of the current subsurface investigation, as no Aboriginal objects were identified in the ninety-five (95) test pits excavated within the extent of the PAD.

As a result of the test excavation and the identification of artefacts in two distinct locations, BG-PAD-03 has now been reclassified as two distinct Aboriginal sites (BG-IF-04 and BG-AS-004).

BG-IF-04 is a proximal fragment, which was identified on the surface of pit T15-680A.

BG-AS-004 is an artefact scatter (n=3) located in pit T11-580 at between 10cm and 20cm depth.

BG-IF-03 is a right cone-split, which was located in pit T13-580 at between 0cm and 10cm depth.

BG-ST-01 is a mature gum tree with a scar on the south west face of the trunk (see Plate 16 and Plate 17); as noted in Section 1.4, the current assessment was limited to the subsurface investigation within the "Fairways North" and "Golf Town" Precincts, and as such no further assessment of BG-ST-01 has been undertaken as part of this current assessment. A detailed Aboriginal assessment of BG-ST-01 should be undertaken (including an Arborist assessment), in order to determine the nature of the scar.

Construction works in proximity of BG-ST-01 must be limited to the land outside of the tree canopy in order to prevent any impact(s) and/or harm to the identified Aboriginal site. If the development design cannot be amended to conserve BG-ST-01, an Aboriginal Heritage Impact Permit under Part 6 of the *National Parks and Wildlife Act, 1974* will need to be sought from the Office of Environment and Heritage prior to impacts occurring at BG-ST-01.

KAS has concluded that the natures of BG-IF-02, BG-IF-03, BG-IF-04, BG-AS-004, and the consequently low archaeological assessment, indicates that the sites within the 15C Investigation



Area are unlikely to pose a long-term constraint to proposed construction works outlined in Section 1.2.

On consideration of previous disturbance, the archaeological context and the significance of the identified Aboriginal sites within the Subject Area, it has been determined that no further investigation is required prior to an application for an AHIP for the four (4) sites being made to the OEH (refer to Table 16).

It should be noted, that should the proposed development layout be altered to include land not considered as part of this assessment, additional inspections and/or subsurface investigation of these areas will be necessary.

## 11 IMPACT ASSESSMENT

As noted in Section 8.2, BG-PAD-01 (AHIMS #52-2-4028) was previously identified as extending into the "Fairways North" Precinct, based on the results of the subsurface investigation, it was determined that BG-PAD-01 did not extend into the development precinct, and as such the proposed works will not result in an impact to BG-PAD-01.

As noted in Section 8.2, BG-PAD-02 (AHIMS #52-2-4029), is not a valid Aboriginal site, and as such it is considered unlikely that the proposed works result in an impact to Aboriginal objects within the extent of the former Aboriginal site.

As noted in Section 8.2, the excavation with BG-PAD-03 (AHIMS #52-2-4030) resulted in two (2) discrete, isolated artefacts, which will be treated as individual Aboriginal sites (BG-AS-004 and BG-IF-04).

BG-IF-02 will be wholly impact by earthworks associated with the extension of Fairways Drive and laying of associated infrastructure for residential purposes (refer to Figure 49).

BG-AS-004 will be wholly impact by earthworks associated with the construction of a road, and laying of associated infrastructure for residential purposes (refer to Figure 49).

BG-IF-04 will be wholly impact by earthworks associated with the construction of a residential dwelling, the establishment of a fire trail and road, and subdivision (refer to Figure 49).

BG-IF-03 will be partially impacted by earthworks associated with residential purposes and subdivision (refer to Figure 49).

It is evident from Figure 49, that BG-ST-01 (AHIMS #52-2-4338) will be impacted by earthworks associated with the construction of a road; development and/or construction works should be amended in order to avoid direct and/or indirect impacts to BG-ST-01. Construction works in proximity of BG-ST-01 should be limited to the land outside of the tree canopy in order to prevent any impact(s) and/or harm to the identified Aboriginal site.

If the development design cannot be amended to conserve BG-ST-01, an Aboriginal Heritage Impact Permit under Part 6 of the *National Parks and Wildlife Act, 1974* will need to be sought from the Office of Environment and Heritage prior to impacts occurring at BG-ST-01.

Table 16 (see Figure 49) below gives an overview of the level and type of harm which will affect BG-AS-004, BG-IF-02, BG-IF-03, BG-IF-04 and BG-ST-01 during the course of construction works.

Site	Scientific Significance Ranking	Type of Harm	Degree of Harm	Consequence of Harm	Further Investigation Required Prior to AHIP	AHIP Required
BG-AS-004	Low	Direct	Whole	Whole	No	Yes
BG-IF-02	Low	Direct	Whole	Whole	No	Yes
BG-IF-03	Low	Direct	Partial	Partial	No	Yes
BG-IF-04	Low	Direct	Whole	Whole	No	Yes
BG-ST-01	Low	Indirect	Whole	Whole	-	-

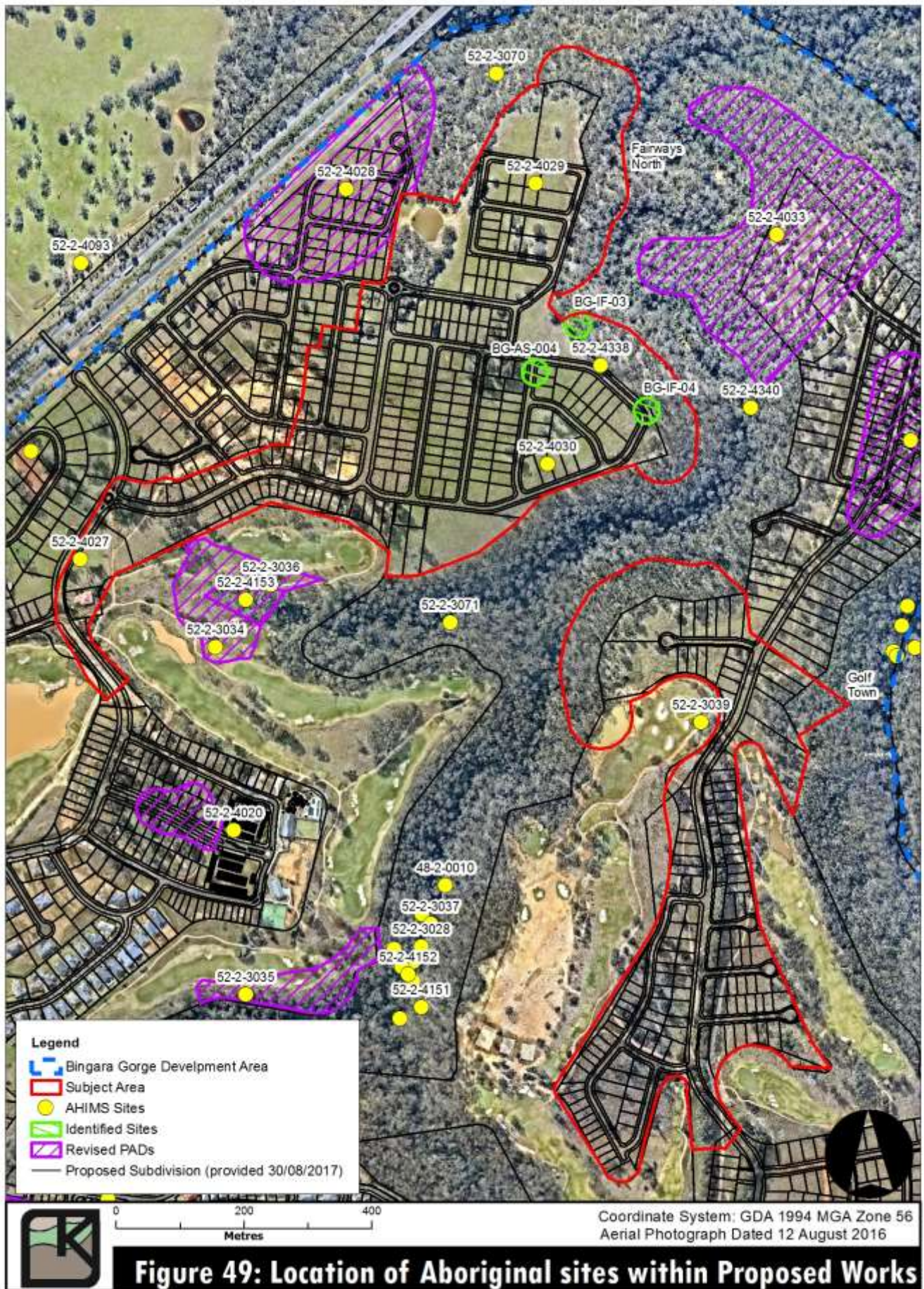
**Table 16:** Summary of Impact Assessment

It is considered possible that unknown Aboriginal objects may lie within the "Fairways North" Precinct, and may be uncovered during construction works; however, based on the results of the



subsurface investigation it is considered highly unlikely that unknown Aboriginal objects may lay within the "Golf Town" Precinct.







## 12 MANAGEMENT CONSIDERATIONS

As the eight identified Aboriginal sites have differing levels of potential and significance, and the management strategies recommended for each site will differ according to the needs of each site.

### **BG-PAD-01 (AHIMS #52-2-4028)**

KAS does not propose a mitigation strategy for the portion of BG-PAD-01 present within the Subject Area, as no Aboriginal objects were recovered from the test pits within the extent of the PAD within the development precinct.

KAS proposes that an updated site card for BG-PAD-01, with an amended site extent, should be prepared and provided to AHIMS.

### **BG-PAD-02 (AHIMS #52-2-4029)**

KAS does not propose a mitigation strategy for BG-PAD-02, as no Aboriginal objects were recovered from the test pits within the extent of the PAD.

KAS proposes that an Aboriginal Site Impact Recording for BG-PAD-02, changing the site status to "not a valid site", should be prepared and provided to AHIMS.

### **BG-PAD-03 (AHIMS #52-2-4030)**

As noted in Section 8.2, based on the results of the subsurface investigation BG-PAD-03 has been separated into 2 discrete Aboriginal sites: BG-IF-04 and BG-AS-004; as a result, KAS proposes that an Aboriginal Site Impact Recording for BG-PAD-03, changing the site status to "not a valid site", should be prepared and provided to AHIMS.

### **BG-IF-02 (AHIMS #52-2-4027)**

KAS recommends community collection of the isolated surface artefact located north of the "Condell" homestead.

The artefact was not recovered during the current excavation program; however, location was GPS marked. Relocating and collecting of the artefact should be a simple process, given the fact that KAS has the GPS coordinates for the artefact.

### **BG-IF-03 (AHIMS #52-2-4434)**

KAS does not propose a salvage excavation program at BG-IF-03, as the results from the test excavations (see Section 7.3) indicate that it is unlikely that Aboriginal stone artefacts would be recovered during this program.

### **BG-IF-04 (AHIMS #52-2-4432)**

KAS does not propose a salvage excavation program at BG-IF-04, as the results from the test excavations (see Section 7.3) indicate that it is unlikely that Aboriginal stone artefacts would be recovered during this program.

### **BG-AS-004 (AHIMS #52-2-4433)**

KAS does not propose a salvage excavation program at BG-AS-004, as the results from the test excavations (see Section 7.3) indicate that it is unlikely that Aboriginal stone artefacts would be recovered during this program.

**BG-ST-01 (AHIMS #52-2-4338)**

As noted in Section 1.4, the current assessment was limited to the subsurface investigation within the "Fairways North" and "Golf Town" Precincts, and as such no significant assessment of BG-ST-01 has been undertaken as part of this current assessment.

KAS proposes that a more detailed Aboriginal assessment of BG-ST-01 should be undertaken (including an Arborist assessment), in order to determine the nature of the scar.

As a management strategy, KAS proposes that should the development and/or construction works should be amended in order to prevent direct and/or indirect impacts to BG-ST-01; and that construction works in proximity of BG-ST-01 must be limited to the land outside of the tree canopy in order to prevent any impact(s) and/or harm to the identified Aboriginal site.

If the development design cannot be amended to conserve BG-ST-01, an Aboriginal Heritage Impact Permit under Part 6 of the National Parks and Wildlife Act, 1974 will need to be sought from the Office of Environment and Heritage prior to impacts occurring at BG-ST-01.

A detailed community collection methodology for BG-IF-02 has not yet been determined; this methodology will be detailed in the documents supplied to the RAPs as part of the AHIP application.

Artefacts recovered from the test excavation and community collection should be placed in long term storage in the same location, so that they may be interpreted in conjunction in the future, and until such time as there is consensus between the RAPs and the Client in regards to a reburial location. Until such time as the groups can come to an agreement about the location of storage, the artefacts will be held at the KAS head office in Picton, NSW.



## 13 LEGISLATIVE OBLIGATIONS AND RECOMMENDATION

Specific clauses within the *National Parks and Wildlife Act 1974* (as amended) and the *National Parks and Wildlife Regulations 2009* give rise to certain obligations. Recommendations for other tasks and activities to be undertaken come from the application of industry standards. Where an activity or task must be undertaken to comply with relevant legislation it will be detailed in Section 13.1, where a task or activity is recommended to be undertaken to meet the current industry standards it is presented in Section 13.2.

### 13.1 Obligations

- 6 An Aboriginal Heritage Impact Permit under Part 6 of the *National Parks and Wildlife Act 1974* for any impacts to Aboriginal objects within the Subject Area;
- 7 Site Cards to be prepared for all Aboriginal sites identified in this study that are not currently recorded in Aboriginal Heritage Information Management System maintained by the Office of Environment and Heritage;
- 8 Updated site cards should be prepared where the extents of Aboriginal sites have been revised;
- 9 Should Aboriginal sites and/or objects be found during the proposed work, and where an AHIP has not authorised impacts to said artefact, work must cease immediately and OEH must be contacted to inspect the artefacts; and,
- 10 Subsequent to any work undertaken within the Subject Area an Aboriginal Site Impact Recording (ASIR) form must be completed for each of the Aboriginal sites, detailing the impact and should be lodged with the AHIMS Registrar in a timely fashion.

### 13.2 Recommendations

The following management principles and recommendations are based on:

- The legal requirements of the *National Parks and Wildlife Act 1974* (as amended), whereby it is illegal to damage, deface or destroy an Aboriginal relic without first obtaining the written consent of the Chief Executive of National Parks & Wildlife Service;
- The legal requirements of the *Heritage Act 1977*, whereby it is illegal to disturb or excavate any land knowing or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed unless the disturbance or excavation is carried out in accordance with an excavation permit;
- The requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW, 2010a);
- The requirements of the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011);
- The findings presented within this Cultural Heritage Assessment and Test Excavation Report; and,
- Recognition of the extended period of which development activities will occur within the Subject Area.

KAS recommends the following:

1. No further archaeological investigation is required at BG-IF-02 (AHIMS #52-2-4027), BG-IF-03 (AHIMS #52-2-4434), BG-IF-04 (AHIMS #52-2-4432), BG-AS-004 (AHIMS #52-2-4433) prior to the lodgement of an Aboriginal Heritage Impact Permit (AHIP);
2. Site cards should be prepared for BG-IF-03, BG-IF-04 and BG-AS-004, and provided to AHIMS;
3. An updated site card should be prepared for BG-PAD-01 and provided to AHIMS;
4. Aboriginal Site Impact Recording Forms (ASIRs) should be prepared for BG-PAD-02 and BG-PAD-03 with the updated status of the site and provided to AHIMS;
5. A more detailed assessment of BG-ST-01 should be prepared including an Arborist assessment;
6. The detailed design should be amended in order for the construction works to prevent direct and/or indirect impacts to BG-ST-01;
7. Construction works in proximity of BG-ST-01 must be limited to the land outside of the tree canopy in order to prevent any impact(s) and/or harm to the identified Aboriginal site;
8. Internal management system in regards to the protection of all known Aboriginal sites within the Bingara Gorge development should be established, in order to prevent any future impact(s) and/or harm to identified Aboriginal sites;
9. An Aboriginal Heritage Impact Permit (AHIP) under Part 6 of the *National Parks and Wildlife Act 1974* should be sought for BG-IF-02, BG-IF-03, BG-IF-04, and BG-IF-004. This AHIP should be sought for all known and unknown Aboriginal objects within the mapped extent of BG-IF-02 (AHIMS #52-2-4027), BG-IF-03 (AHIMS #52-2-4434), BG-IF-04 (AHIMS #52-2-4432), BG-AS-004 (AHIMS #52-2-4433) (refer to Figure 49), as a strategy to minimise the risk of delays during works that may results from unexpected finds;
10. Temporary fencing should be erected around the extents of all Aboriginal sites within the development precincts in order to prevent inadvertent damage to the sites occurring prior to the approval of an AHIP (refer to Figure 49);
11. The aforementioned temporary fencing should be maintained in good repair and should be inspected every 4 weeks by a qualified Archaeologist experienced in Aboriginal Cultural Heritage, until such time as an AHIP has been determined;
12. Community collection of BG-IF-02 should be proposed as a mitigation strategy for the AHIP, with consultation and approval of the RAPs;
13. Previous analysis of lithics from earlier excavations in the Bingara Gorge should be reconsidered as works progress in this region, to ensure that a consistent typological framework is established and maintained for investigations in this region; and,
14. Further investigation should be made into sites within the Nepean Ramp Utilisation Zones (as outlined in Section 6.7 of this report), with the following research objectives in mind:
  - To determine the extent of Utilisation Zones 1-4, and how they relate to one another;
  - To determine the site types expected in each utilisation zone.
15. A copy of the final report should be sent to the Registered Aboriginal Parties (RAPs).



### 13.3 Distribution of Report

One hard copy of the draft report has been sent to each registered Aboriginal Stakeholders for comment detailed in Table 3, so that their views can be incorporated into the final report.

One hard copy and one digital copy of the finalised report should be sent to –

**Aboriginal Heritage Information Management System (AHIMS)**

Office of Environment and Heritage,

PO Box 1967, Hurstville NSW 1481.

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## APPENDIX I. AUSTRALIAN HERITAGE DATABASE RESULTS

Australian Heritage Database

<http://www.environment.gov.au/cgi-bin/ahdb/search.pl>

### Search Results

4 results found.

<a href="#">Indigenous Place</a>	Wilton, NSW, Australia	<a href="#">(Registered)</a> Register of the National Estate (Non-statutory archive)
<a href="#">Indigenous Place</a>	Wilton, NSW, Australia	<a href="#">(Registered)</a> Register of the National Estate (Non-statutory archive)
<a href="#">St Marys Town</a> Douglas Park Rd	Douglas Park, NSW, Australia	<a href="#">(Registered)</a> Register of the National Estate (Non-statutory archive)
<a href="#">Warrumbungle National Park - part</a> Mount Kiera Rd	Wollongong, NSW, Australia	<a href="#">(Not included in NHI)</a> National Heritage List

Report Produced: Tue Aug 29 12:06:34 2017

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## APPENDIX II. AUSTRALIA'S NATIONAL HERITAGE LIST RESULTS

### Australia's National Heritage List

The National Heritage List is Australia's list of natural, historic and Indigenous places of outstanding significance to the nation.

Use our interactive map or select from the [list](#) below to find out more about a listed place.

[Australia's Heritage: National Treasures](#) is a journey around Australia exploring the stories of some of these National Heritage places.



Customise your view



## APPENDIX III. REGISTER OF THE NATIONAL ESTATE RESULTS

Australian Heritage Database

<http://www.environment.gov.au/cgi-bin/ahdb/search.pl>

### Search Results

3 results found.

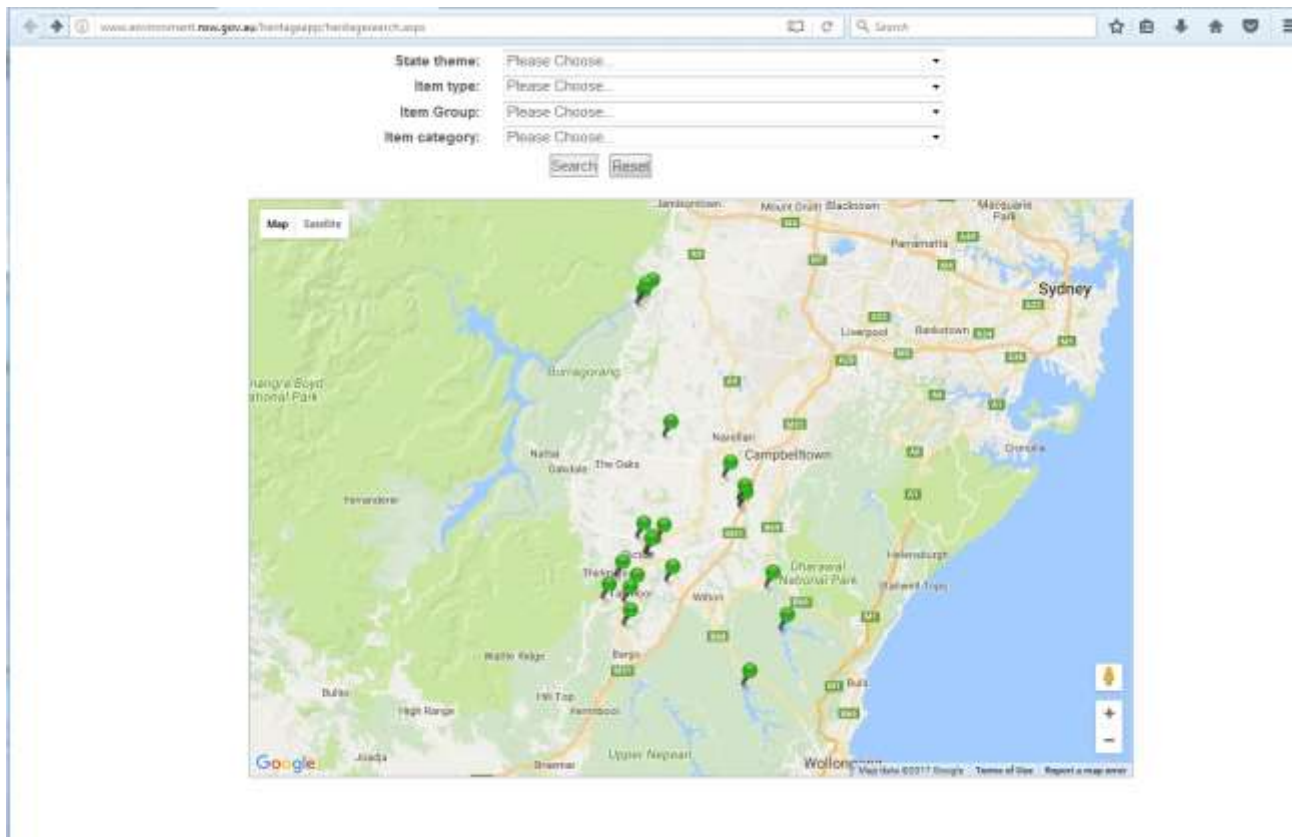
<a href="#">Indigenous Place</a>	Wilton, NSW, Australia	<a href="#">(Registered)</a> Register of the National Estate (Non-statutory archive)
<a href="#">Indigenous Place</a>	Wilton, NSW, Australia	<a href="#">(Registered)</a> Register of the National Estate (Non-statutory archive)
<a href="#">St Marys Town</a> Douglas Park Rd	Douglas Park, NSW, Australia	<a href="#">(Registered)</a> Register of the National Estate (Non-statutory archive)

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 BY

## APPENDIX IV. ABORIGINAL PLACES & STATE HERITAGE REGISTER RESULTS





## APPENDIX V. STATE HERITAGE INVENTORY (INCLUDING LOCAL ENVIRONMENTAL PLAN SCHEDULE/S)

Search for NSW heritage | NSW Environment & Heritage

<http://www.environment.nsw.gov.au/heritageapp/heritagesearch.aspx>



[Home](#) > [Topics](#) > [Heritage places and items](#) > [Search for heritage](#)

### Search for NSW heritage

[Return to search page where you can refine/broaden your search.](#)

#### Statutory Listed Items

Information and Items listed in the State Heritage Inventory come from a number of sources. This means that there may be several entries for the same heritage item in the database. For clarity, the search results have been divided into three sections.

- **Section 1** - contains Aboriginal Places declared by the **Minister for the Environment** under the National Parks and Wildlife Act. This information is provided by the Heritage Division.
- **Section 2** - contains heritage items listed by the **Heritage Council of NSW** under the NSW Heritage Act. This includes listing on the State Heritage Register, an Interim Heritage Order or protected under section 136 of the NSW Heritage Act. This information is provided by the Heritage Division.
- **Section 3** - contains items listed by **local councils** on Local Environmental Plans under the Environmental Planning and Assessment Act, 1979 and **State government agencies** under s.170 of the Heritage Act. This information is provided by local councils and State government agencies.

#### Section 1. Aboriginal Places listed under the National Parks and Wildlife Act.

Your search did not return any matching results.

#### Section 2. Items listed under the NSW Heritage Act.

Your search returned 2 records.

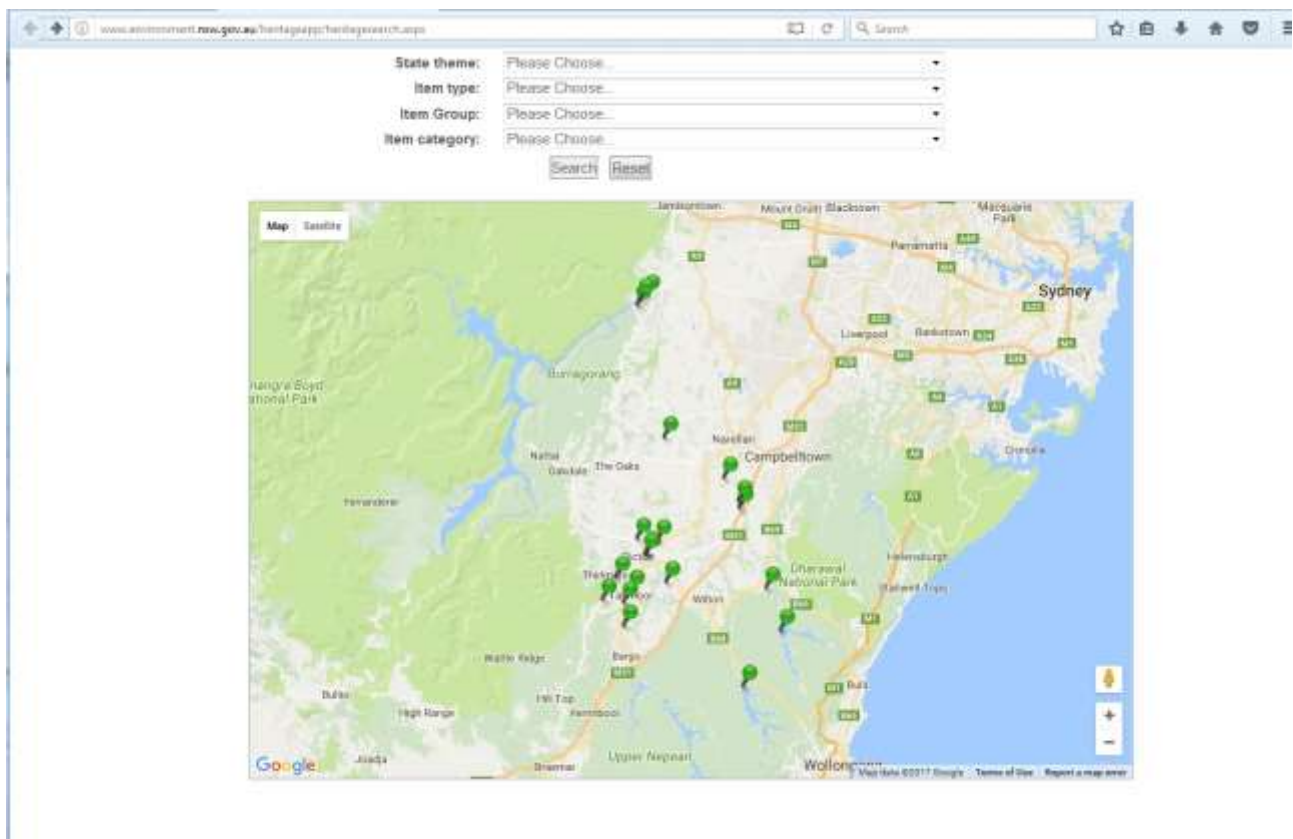
Item name	Address	Suburb	LGA	SHR
<a href="#">Upper Canal System (Pheasants Nest Weir to Prospect Reservoir)</a>		Prospect	Blacktown	01373
<a href="#">Wilton Park</a>	Wilton Park Road	Wilton	Wollondilly	00257

#### Section 3. Items listed by Local Government and State Agencies.

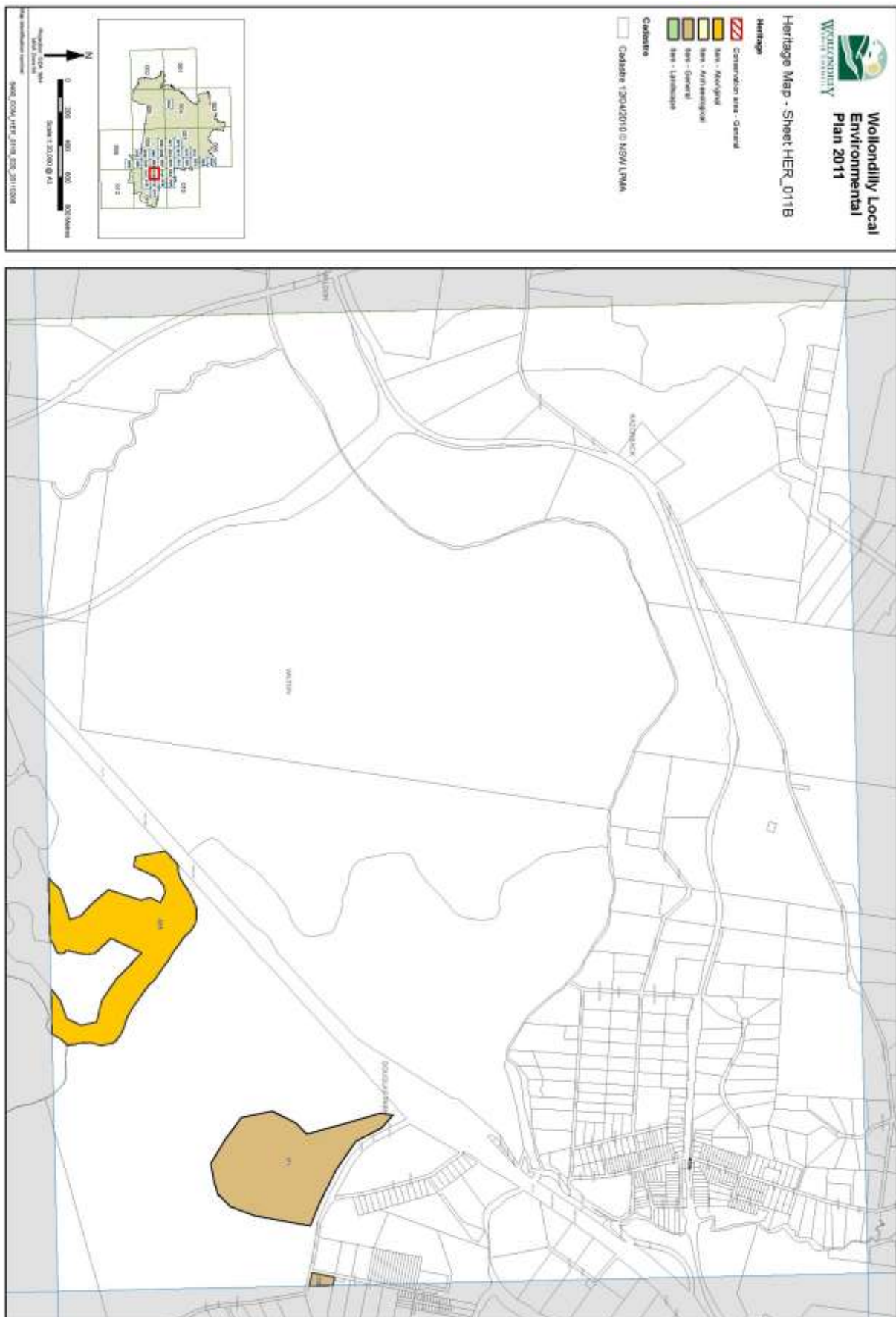
Your search returned 9 records.

Item name	Address	Suburb	LGA	Information source
<a href="#">Aboriginal Shelter Sites (Wilton Park)</a>	80 Condell Park Rd	Wilton	Wollondilly	LGOV
<a href="#">Cordeaux Dam and Pumping Station</a>	Cordeaux River	Wilton	Wollondilly	LGOV
<a href="#">Cottage</a>	1090 Argyle Street	Wilton	Wollondilly	LGOV
<a href="#">Cottage</a>	180 Wilton Park Road	Wilton	Wollondilly	LGOV
<a href="#">Kedron</a>	305 Wilton Park Road	Wilton	Wollondilly	LGOV
<a href="#">Pheasants Nest Weir (Nepean River)</a>	Nepean River	Wilton	Wollondilly	LGOV
<a href="#">St Luke's Anglican Church and Cemetery</a>	1095 Argyle Street	Wilton	Wollondilly	LGOV
<a href="#">Upper Canal System (Broughton Weir to Prospect Reservoir)</a>		Appin & Wilton	Wollondilly	LGOV
<a href="#">Wilton Park: Stables, Coachhouses, Water Tanks, Stallion Boxes, Covered Yards</a>	370 Wilton Park Road	Wilton	Wollondilly	LGOV

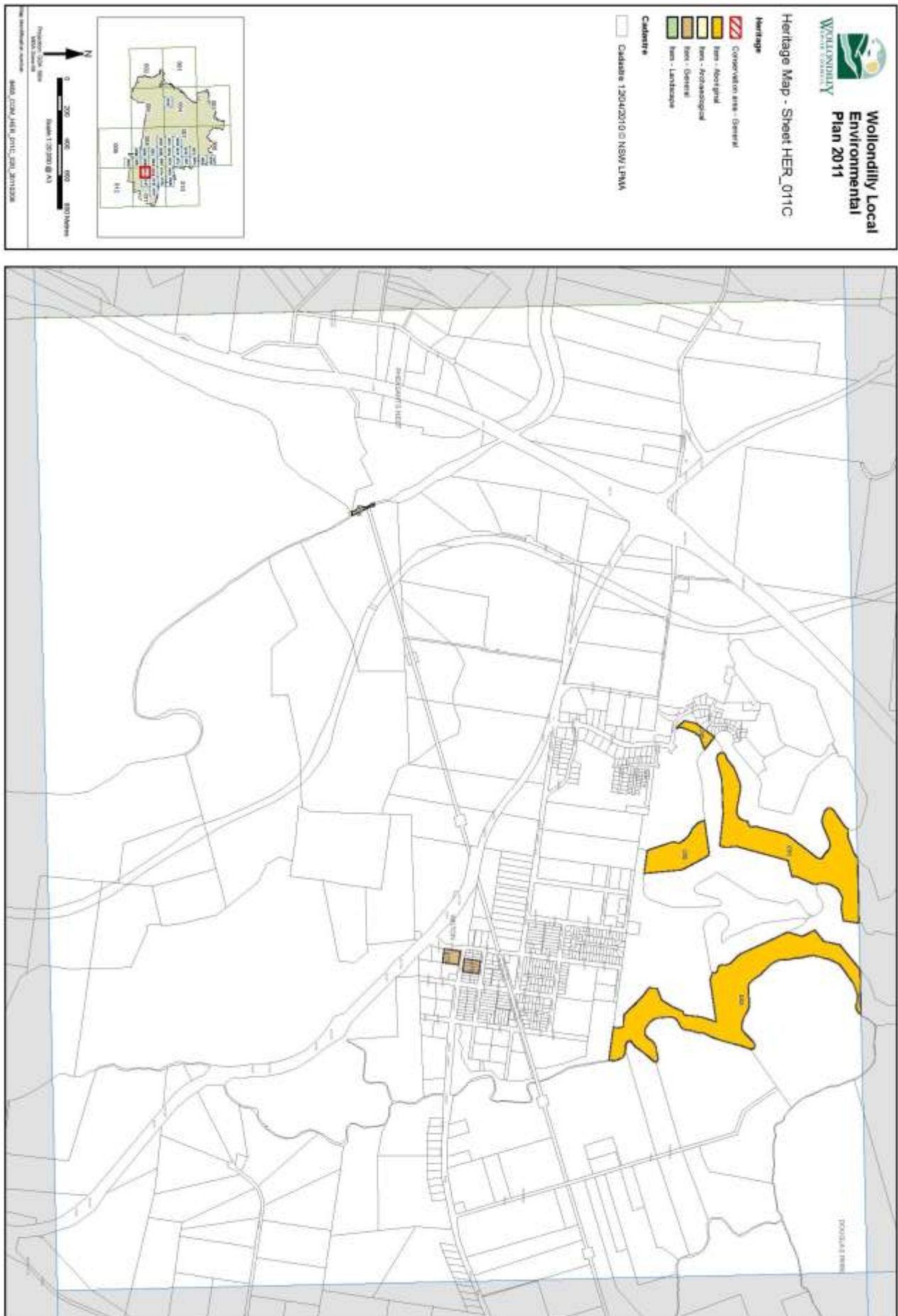
## APPENDIX VI. STATE HERITAGE REGISTER



## APPENDIX VII. WOLLONDILLY LEP 2011







## APPENDIX VIII. AGENCY LETTERS



Suite 203  
1 Centennial Drive  
Campbelltown NSW 2560  
T. +61 (0)2 4627 8622  
F. +61 (0)2 4627 8633  
W. www.kayandel.com

Our Reference: 4058-2013:AHIP

20 November 2013

Hawkesbury Nepean Catchment Management Authority  
PO Box 957  
Mossvale NSW 2577

Dear Sir or Madam,

RE: Identification of Aboriginal organisation and people who may have an interest within the area proposed for Development Part Lot 1 in DP 270536, Lot 205, Lot 206, Lot 207, Lot 208, Lot 210, Lot 211 in DP1104390, Lot 3 in DP 1108927, Lot 5, Lot 8 in DP 270536, Lot 10, Lot 11, Lot 16, Lot 22, Lot 23 in DP 270536, Lot 33 and Lot 50 in DP 280014 within Bingara Gorge, Wilton.

Kayandel Archaeological Services (KAS) has been engaged by Lend Lease Communities (Wilton) Pty Ltd to undertake an Archaeological and Aboriginal Cultural Heritage Assessment. This assessment will be completed for an Aboriginal Heritage Impact Permit.

In accordance with our obligations under the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010), we are seeking to identify Aboriginal organisations and people who may have an interest in the proposed project area and hold knowledge relevant to determining the cultural significance of Aboriginal objects and/or places for that area.

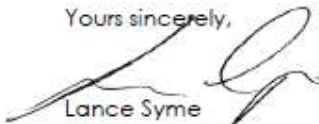
The cultural heritage assessment may result in an application for a Section 87 Permit and/or Section 90 Consent under Part 6 of the *National Parks & Wildlife Act 1974* and may also be used in the assessment of impact of the project under the *Environmental Planning & Assessment Act 1979*.

Should your organisation know of any groups or people that meet this requirement we request that you supply their name and most recent contact details to enable our firm to make contact and involve them in future aspects of the project.

Should you have any queries please feel free to contact our office and ask for the Project Manager for Project ID:4058-2013:AHIP.

Thank you for your assistance with this matter.

Yours sincerely,

  
Lance Syme  
Director

Sydney

Melbourne

1

Brisbane

Perth



Suite 203  
1 Centennial Drive  
Campbelltown NSW 2560  
T. +61 (0)2 4627 8622  
F. +61 (0)2 4627 8633  
W. www.kayandel.com

Our Reference: 4058-2013:AHIP

20 November 2013

NTS Corp  
PO Box 2105  
Strawberry Hills NSW 2012

Dear Sir or Madam,

RE: Identification of Aboriginal organisation and people who may have an interest within the area proposed for Development Part Lot 1 in DP 270536, Lot 205, Lot 206, Lot 207, Lot 208, Lot 210, Lot 211 in DP1104390, Lot 3 in DP 1108927, Lot 5, Lot 8 in DP 270536, Lot 10, Lot 11, Lot 16, Lot 22, Lot 23 in DP 270536, Lot 33 and Lot 50 in DP 280014 within Bingara Gorge, Wilton.

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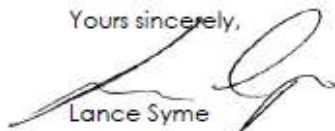
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Thank you for your assistance with this matter.

Yours sincerely,

  
Lance Syme  
Director

Sydney

Melbourne

1

Brisbane

Perth





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1 Centennial Drive  
Campbelltown NSW 2560  
T. +61 (0)2 4627 8622  
F. +61 (0)2 4627 8633  
W. www.kayandel.com

Our Reference: 4058-2013:AHIP

20 November 2013

Department of Climate Change and Water - Metropolitan  
Planning and Aboriginal Heritage Section  
PO Box 668  
Parramatta NSW 2124

Dear Ms Ewins,

RE: Identification of Aboriginal organisation and people who may have an interest within the area proposed for Development Part Lot 1 in DP 270536, Lot 205, Lot 206, Lot 207, Lot 208, Lot 210, Lot 211 in DP1104390, Lot 3 in DP 1108927, Lot 5, Lot 8 in DP 270536, Lot 10, Lot 11, Lot 16, Lot 22, Lot 23 in DP 270536, Lot 33 and Lot 50 in DP 280014 within Bingara Gorge, Wilton.

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Should you have any queries please feel free to contact our office and ask for the Project Manager for Project ID:4058-2013:AHIP.

Thank you for your assistance with this matter.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Lance Syme', is written over a horizontal line.

Lance Syme  
Director



Suite 203  
1 Centennial Drive  
Campbelltown NSW 2560  
T. +61 (0)2 4627 8622  
F. +61 (0)2 4627 8633  
W. www.kayandel.com

Our Reference: 4058-2013:AHIP

20 November 2013

Office of the Registrar - Aboriginal Land Rights Act 1983 (NSW)  
PO Box 112  
Glebe NSW 2037

Dear Sir or Madam,

RE: Identification of Aboriginal organisation and people who may have an interest within the area proposed for Development Part Lot 1 in DP 270536, Lot 205, Lot 206, Lot 207, Lot 208, Lot 210, Lot 211 in DP1104390, Lot 3 in DP 1108927, Lot 5, Lot 8 in DP 270536, Lot 10, Lot 11, Lot 16, Lot 22, Lot 23 in DP 270536, Lot 33 and Lot 50 in DP 280014 within Bingara Gorge, Wilton.

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Thank you for your assistance with this matter.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Lance Syme', is written over the typed name and title.

Lance Syme  
Director



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1 Centennial Drive  
Campbelltown NSW 2560  
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F. +61 (0)2 4627 8633  
W. www.kayandel.com

Our Reference: 4058-2013:AHIP

20 November 2013

Wollondilly Shire Council  
PO Box 21  
Picton NSW 2571

Dear Sir or Madam,

RE: Identification of Aboriginal organisation and people who may have an interest within the area proposed for Development Part Lot 1 in DP 270536, Lot 205, Lot 206, Lot 207, Lot 208, Lot 210, Lot 211 in DP1104390, Lot 3 in DP 1108927, Lot 5, Lot 8 in DP 270536, Lot 10, Lot 11, Lot 16, Lot 22, Lot 23 in DP 270536, Lot 33 and Lot 50 in DP 280014 within Bingara Gorge, Wilton.

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Yours sincerely,

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Lance Syme  
Director

Sydney

Melbourne

1

Brisbane

Perth





Suite 203  
1 Centennial Drive  
Campbelltown NSW 2560  
T. +61 (0)2 4627 8622  
F. +61 (0)2 4627 8633  
W. www.kayandel.com

Our Reference: 4058-2013:AHIP

20 November 2013

Tharawal Local Aboriginal Land Council  
PO Box 168  
Picton NSW 2571

Dear Sir or Madam,

RE: Identification of Aboriginal organisation and people who may have an interest within the area proposed for Development Part Lot 1 in DP 270536, Lot 205, Lot 206, Lot 207, Lot 208, Lot 210, Lot 211 in DP1104390, Lot 3 in DP 1108927, Lot 5, Lot 8 in DP 270536, Lot 10, Lot 11, Lot 16, Lot 22, Lot 23 in DP 270536, Lot 33 and Lot 50 in DP 280014 within Bingara Gorge, Wilton.

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Yours sincerely,

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Lance Syme  
Director

Sydney

Melbourne

1

Brisbane

Perth

## APPENDIX IX. NATIONAL NATIVE TITLE SEARCH



National  
Native Title  
Tribunal



25 November 2013

Ms Kristen Kerr  
Kayandel Archeological Services  
203/1 Centennial Parade  
Campbelltown NSW 2560

**Operations East, Sydney Office**

Level 16, Law Courts Building,  
Queens Square  
Sydney NSW 2000  
GPO Box 9973  
Sydney NSW 2000  
Telephone (02) 9227 4000  
Facsimile (02) 9227 4030

Our Reference: 5872/DD

Your Reference: Bingara AHP

Dear Ms Kerr

**Native Title Search Results for Wollondilly Shire Council Local Government Area**

Thank you for your search request received on 20 November 2013 in relation to the above area.

**Search Results**

The results provided are based on the information you supplied and are derived from a search of the following Tribunal databases:

Register Type	NNTT Reference Numbers
Schedule of Applications (unregistered claimant applications)	NC1996/030
Register of Native Title Claims	NC1997/007
National Native Title Register	Nil
Register of Indigenous Land Use Agreements	Nil
Notified Indigenous Land Use Agreements	Nil

I have included the register extracts and a NTT Registers fact sheet to help guide your understanding of the search result.

Please note that there may be a delay between a native title determination application being lodged in the Federal Court and its transfer to the Tribunal. As a result, some native title determination applications recently filed in the Federal Court may not appear on the Tribunal's databases.

The search results are based on analysis against external boundaries of applications only. Native title applications commonly contain exclusions clauses which remove areas from within the external boundary. To determine whether the areas described are in fact subject to claim, you

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Freecall 1800 640 501  
[www.nntt.gov.au](http://www.nntt.gov.au)

need to refer to "Area covered by claim" section of the relevant Register Extract or Application Summary and any maps attached.

**Search results and the existence of native title**

Please note that the enclosed information from the Register of Native Title Claims and/or the Schedule of Applications is not confirmation of the existence of native title in this area. This cannot be confirmed until the Federal Court makes a determination that native title does or does not exist in relation to the area. Such determinations are registered on the National Native Title Register.

**Tribunal accepts no liability for reliance placed on enclosed information**

The enclosed information has been provided in good faith. Use of this information is at your sole risk. The National Native Title Tribunal makes no representative, either express or implied, as to the accuracy or suitability of the information enclosed for any particular purpose and accepts no liability for use of the information or reliance placed on it.

If you have any further queries, please contact me on 1800 640 501.

Yours sincerely



Dianne Drake | CASE MANAGER  
National Native Title Tribunal | Sydney Office, Operations East  
Telephone (02) 9227 4007 | Facsimile (02) 9227 4030 | Email [dianne.drake@nntt.gov.au](mailto:dianne.drake@nntt.gov.au)  
Freecall 1800 640 501 | [www.nntt.gov.au](http://www.nntt.gov.au)

*Shared country, shared future.*

End Register Extract





## Searching the NNT Registers in New South Wales

### Search service

On request the National Native Title Tribunal will search its public registers for you. A search may assist you in finding out whether any native title applications (claims), determinations or agreements exist over a particular area of land or water.

**In New South Wales native title cannot exist on privately owned land including family homes or farms.**

### What information can a search provide?

A search can confirm whether any applications, agreements or determinations are registered in a local government area. Relevant information, including register extracts and application summaries, will be provided.

In NSW because we cannot search the registers in relation to individual parcels of land we search by local government area.

**Most native title applications do not identify each parcel of land claimed. They have an external boundary and then identify the areas not claimed within the boundary by reference to types of land tenure e.g., freehold, agricultural leasehold, public works.**

### What if the search shows no current applications?

If there is no application covering the local government area this only indicates that at the time of the search either the Federal Court had not received any claims in relation to the local government area or the Tribunal had not yet been notified of any new native title claims.

It does not mean that native title does not exist in the area.

**Native title may exist over an area of land or waters whether or not a claim for native title has been made.**

### Where the information is found

The information you are seeking is held in three registers and on an applications database.

### National Native Title Register

The National Native Title Register contains determinations of native title by the High Court, Federal Court and other courts.

### Register of Native Title Claims

The Register of Native Title Claims contains applications for native title that have passed a registration test.

**Registered claims attract rights, including the right to negotiate about some types of proposed developments.**

### Register of Indigenous Land Use Agreements

The Register of Indigenous Land Use Agreements contains agreements made with people who hold or assert native title in an area.

**The register identifies development activities that have been agreed by the parties.**

### Schedule of Native Title Applications

The Schedule of Native Title Applications contains the description of the location, content and status of a native title claim.

This information may be different to the information on the Register of Native Title Claims, e.g., because an amendment has not yet been tested.

### How do I request a native title search?

Download the Search Request Form from the Tribunal's website at -

[http://www.nntt.gov.au/Applications\\_And\\_Determinations/Registers/Pages/Search-The-Tribunal-Registers.aspx](http://www.nntt.gov.au/Applications_And_Determinations/Registers/Pages/Search-The-Tribunal-Registers.aspx)

Email to: [NSWEnquiries@nntt.gov.au](mailto:NSWEnquiries@nntt.gov.au)

Post to: GPO Box 9073 Sydney NSW 2001

For additional enquiries: 02 9227 4000



## Extract from Schedule of Native Title Applications

<b>Application Reference:</b>	Federal Court number: NSD6047/1998 NNTT number: NC1996/030
<b>Application Name:</b>	Gundungurra Tribal Council Aboriginal Corporation #3
<b>Application Type:</b>	Claimant
<b>Application filed with:</b>	National Native Title Tribunal
<b>Date application filed:</b>	27/09/1996
<b>Current stage(s):</b>	Notification complete
<b>Registration information:</b>	Please refer to the Register of Native Title Claims/National Native Title Register (as appropriate) for registered details of this application.  <b>Registration decision status:</b> Not Accepted for registration <b>Registration history:</b> Registered from 27/09/1996 to 16/04/1999
<b>Applicants:</b>	Mervyn Trindall
<b>Address(es) for Service:</b>	Eddy Neumann Eddy Neumann Lawyers Level 1 255 Castlereagh Street SYDNEY NSW 2000 Phone: (02) 9264 9933
<b>Additional Information</b>	Not applicable
<b>Persons claiming to hold native title:</b>	Gundungurra People  Mervyn Trindall

**Native title rights and interests claimed:**

The native title rights and interests held by the Gundungurra people pursuant to their traditional laws and customs confer possession, occupation, use and enjoyment of the land to the exclusion of all others, subject to any rights or interests created by the state of New South Wales or the Commonwealth of Australia which are not inconsistent with the Racial Discrimination Act 1975 or the Native Title Act 1993.

**Application Area:**                      **State/Territory:** New South Wales  
**Brief Location:** Burratorang Valley, near Penrith NSW  
**Primary RATSIB Area:** New South Wales  
**Approximate size:** 0.3249 sq km  
(Note: There may be areas within the external boundary of the application that are not claimed.)  
**Does Area Include Sea:** No

**Area covered by the claim (as detailed in the application):**

The former Aboriginal Reserve and the waters above it on the north bank of the Cocks River opposite the junction of the Wollondilly and Warragamba Rivers in the Parish of Cooba, County of Cook; an area of 78 acres gazetted as Aboriginal Reserve No. 17023 on 23/12/1892 and marked as revoked on 31/10/1924 (now underneath the Warragamba Dam); see RR folio 94, RAR 56.

Indigenous name for the area: Go-gon-gal-li.

**Attachments:**                      1. Map showing location of former Aboriginal Reserve No 17023, Attachment A of the Application, 1 page - A4, 17/12/1998  
2. Map showing former Aboriginal Reserves of the Burratorang Valley, Attachment B of the Application, 1 page - A4, 17/12/1998

**NNTT Contact Details**              **Address:**                      National Native Title Tribunal  
Sydney Office  
Level 16, Law Courts Building  
Queens Square  
SYDNEY NSW 2000  
GPO Box 9973  
SYDNEY NSW 2001  
**Telephone:**                      (02) 9227 4000  
**Freecall:**                          1800 640 501  
**Fax:**                                (02) 9227 4030  
**Web Page:**                      [www.nntt.gov.au](http://www.nntt.gov.au)

---

End of Extract



## APPENDIX X. NTS CORPORATION RESPONSE



abn: 71 098 971 209  
w: www.ntscorp.com.au

9<sup>th</sup> December 2013 ref: OE&H :9-12-13/3

Kayandel Archaeological Services  
Suite 203  
1 Centennial Drive  
Campbelltown NSW 2560

Dear Sir Madam

Proposed Development- Bingara Gorge, Wilton.

I refer to your letter on the 20<sup>th</sup> November 2013 concerning the above.

I advise that NTSCORP's privacy guidelines restrict us from providing proponents with contact details of traditional owners. However, we will forward your correspondence to any individuals, groups and organisations, whom NTSCORP is aware assert traditional interests within, or hold cultural knowledge about the relevant area.

Please be aware that NTSCORP cannot make a guarantee or undertaking that the recipients of our correspondence represent the entirety of traditional owners for the relevant area.

To assist proponents in following the Aboriginal Cultural Heritage Consultation Requirements, recipients of our correspondence will be invited to register their interest in the project directly with you ASAP.

Yours faithfully

A handwritten signature in black ink, appearing to read "George Tonna", written over the typed name.

George Tonna  
Land & Notifications Officer  
Strategic Development Team

**Head Office**

Level 1, 44-70 Roswell Street, Rodfern NSW 2016  
PO Box 2105 Strawberry Hills NSW 2012

p: + 61 2 9310 3186  
f: + 61 2 9310 4177  
freecall: 1800 111 944

**Regional Office (Coffs Harbour)**

Suite 2, 133 West High Street, Coffs Harbour NSW 2450  
PO Box 156 Coffs Harbour NSW 2450

p: + 61 2 6651 4568  
f: + 61 2 6651 7954

## APPENDIX XI. HAWKESBURY NEPEAN CATCHMENT MANAGEMENT AUTHORITY RESPONSE

From: Margaret Bottrell <margaret.bottrell@lls.nsw.gov.au>  
To: Kristen Kerr  
Cc:  
Subject: Re: FW: Request for Details - Aboriginal Cultural Heritage

Sent: Wed 4/12/2013 8:08 AM

Hi Kristen

Under the act that we work, I am not allowed to pass on the information that you requested in your letter dated 20 November 2013 **Re: Identification of Aboriginal organisation and people who may have an interest within the area proposed for Development Part Lot 1 in DP 270536, Lot 205, Lot 206, Lot 207, Lot 208, Lot 210, Lot 211 in DP1104390, Lot 3 in DP 1108927, Lot 5, Lot 8 in DP 270536, Lot 10, Lot 11, Lot 16, Lot 22, Lot 23 in DP 270536, Lot 33 and Lot 50 in DP 280014 within Bingara Gorge, Wilton.**

The Hawkesbury Nepean CMA has no interest in this project, and will pass your letters on to the members of our Advisory Committee for their information. If they comment on this, it is an individual person and not a representative of the Hawkesbury Nepean Catchment Management Authority.

Regards,

On 3 December 2013 16:51, Kristen Kerr <[Kristen.Kerr@kayandel.com.au](mailto:Kristen.Kerr@kayandel.com.au)> wrote:

Hi Margaret,

I was talking to someone from your office this afternoon he advised you may be able to help me as Jodi Cameron isn't in the office for the rest of the week. Im following up on the below emails sent to Jodi with attached letter.

Can you please advise if you can action the attached letter.

Kind regards,

Kristen Kerr

## APPENDIX XII. OFFICE OF THE REGISTRAR, ABORIGINAL LAND RIGHTS ACT 1983 (NSW)

---



11-13 Mansfield Street  
Glebe NSW 2037  
PO Box 112, Glebe NSW 2037  
Ph 02 9562 6327 F 02 9562 6350

Kristen Kerr  
Kayandel Archaeological Services  
Suite 203  
1 Centennial Drive  
CAMPELLTOWN NSW 2560

Dear Kristen

**Re: Request - Search for Registered Aboriginal Owners**

I refer to your fax dated 20 November 2013 regarding Aboriginal stakeholders within the Wilton area in NSW.

I have searched the Register of Aboriginal Owners and the project area described does not have Registered Aboriginal Owners pursuant to Division 3 of the *Aboriginal Land Rights Act 1983* (NSW).

I suggest you contact the Tharawal Local Aboriginal Land Council. They will be able to assist you in identifying other Aboriginal stakeholders for this project.

Yours sincerely

Tabatha Dantoine  
**Administration Officer**  
Office of the Registrar, *Aboriginal Land Rights Act* (1983)



## APPENDIX XIII. COMMUNITY CONSULTATION INVITATION TO REGISTER



Suite 203  
1 Centennial Drive  
Campbelltown NSW 2560  
T. +61 (0)2 4627 8622  
F. +61 (0)2 4627 8633  
W. www.kayandel.com

22 November 2013

Cubbitch Barta Native Title Claimants Aboriginal Corporation  
55 Nightingale Road  
Pheasants Nest, NSW 2574

Dear Glenda,

Re: Proposed Development at Bingara Gorge, Wilton.

Kayandel Archaeological Services has been engaged to carry out testing and salvage excavations for a **Proposed Development at Bingara Gorge, Wilton NSW.**

In making our enquires to satisfy Section 4.1.2 of the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW 2010) your organization was identified as potentially having an interest in the project area and also hold knowledge relevant to determining the cultural significance of Aboriginal objects and / or places.

Should your organisation be interested in being consulted in relation to the above project, we require your expression of interest to be forward to our office no later than close of business on 4<sup>th</sup> December 2013. If you are expressing an interest on behalf of an organisation please nominate and authorise a representative to receive all future correspondence.

Section 4.1.5 of the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW 2010) requires Kayandel to forward your details to OEH and the Local Aboriginal Land Council unless you specifically indicate otherwise.

If registering via email, please do so by 5pm on the 4<sup>th</sup> December 2013, to [info@kayandel.com.au](mailto:info@kayandel.com.au).

Yours sincerely,

Handwritten signature of Lance Syme in blue ink.

Lance Syme

Sydney

Melbourne

1

Brisbane

Perth



Suite 203  
1 Centennial Drive  
Campbelltown NSW 2560  
T. +61 (0)2 4627 8622  
F. +61 (0)2 4627 8633  
W. www.kayandel.com

22 November 2013

Tharawal Local Aboriginal Land Council  
PO Box 168  
Picton, NSW 2571

Dear Ivan,

Re: Proposed Development at Bingara Gorge, Wilton.

Kayandel Archaeological Services has been engaged to carry out testing and salvage excavations for a **Proposed Development at Bingara Gorge, Wilton NSW.**

In making our enquires to satisfy Section 4.1.2 of the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW 2010) your organization was identified as potentially having an interest in the project area and also hold knowledge relevant to determining the cultural significance of Aboriginal objects and / or places.

Should your organisation be interested in being consulted in relation to the above project, we require your expression of interest to be forward to our office no later than close of business on 4<sup>th</sup> December 2013. If you are expressing an interest on behalf of an organisation please nominate and authorise a representative to receive all future correspondence.

Section 4.1.5 of the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW 2010) requires Kayandel to forward your details to OEH and the Local Aboriginal Land Council unless you specifically indicate otherwise.

If registering via email, please do so by 5pm on the 4<sup>th</sup> December 2013, to [info@kayandel.com.au](mailto:info@kayandel.com.au).

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Lance Syme', with a small 'per' written to the left.  
Lance Syme

Sydney

Melbourne

1

Brisbane

Perth



Suite 203  
1 Centennial Drive  
Campbelltown NSW 2560  
T. +61 (0)2 4627 8622  
F. +61 (0)2 4627 8633  
W. www.kayandel.com

4 December 2013

Peter Falk Consultancy  
PO Box 1018  
Mittagong, NSW 2575

Dear Peter,

Re: Proposed Development at Bingara Gorge, Wilton.

Kayandel Archaeological Services has been engaged to carry out testing and salvage excavations for a Proposed Development at Bingara Gorge, Wilton NSW.

In making our enquires to satisfy Section 4.1.2 of the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW 2010) your organization was identified as potentially having an interest in the project area and also hold knowledge relevant to determining the cultural significance of Aboriginal objects and / or places.

Should your organisation be interested in being consulted in relation to the above project, we require your expression of interest to be forward to our office no later than close of business on 5<sup>th</sup> December 2013. If you are expressing an interest on behalf of an organisation please nominate and authorise a representative to receive all future correspondence.

Section 4.1.5 of the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW 2010) requires Kayandel to forward your details to OEH and the Local Aboriginal Land Council unless you specifically indicate otherwise.

If registering via email, please do so by 5pm on the 5<sup>th</sup> December 2013, to [info@kayandel.com.au](mailto:info@kayandel.com.au).  
Yours sincerely,

Lance Syme

Sydney

Melbourne

1

Brisbane

Perth



## APPENDIX XIV. RAP REGISTRATION

Ivan Simon (TLALC) and Glenda Chalker (CBNTCAC) confirmed via a phone call on the 9<sup>th</sup> December 2013 that they would be registering as Registered Aboriginal Parties and taking part in the test excavation program at FE-PAD-01 in December 2013.

**From:** Peter Falk <[kanga26@live.com.au](mailto:kanga26@live.com.au)>  
**Date:** 16 December 2013 8:10:38 PM AEDT  
**To:** Lance Syme <[lance.syme@kayandel.com.au](mailto:lance.syme@kayandel.com.au)>  
**Subject:** Bingara Gorge Development Wilton

Lance,  
As I have just received your letter dated December 4th 2013, I wish to register for this project as I have knowledge of this area  
Regards  
Peter

Peter Falk Consultancy  
0401938060

## APPENDIX XV. CORRESPONDANCE FROM PETER FALK – MAY 2017

**From:** Peter Falk [mailto:kanga26@live.com.au]

**Sent:** Friday, 19 May 2017 1:02 PM

**To:** Natalie Stiles

**Subject:** Re: Western Village 2 and Western Village 3 Notice of Transfer of AHIP #C0002284

Hi Natalie,

I am sad to say that I am retiring (72) from doing any further archaeology work and now live in Tweed Heads NSW. If you could advise all within your organisation that I no longer am a registered Aboriginal Consultant.

Also my son Duncan Falk (Duncan Falk Consultancy) has removed himself from doing any archaeology work and has removed himself from university and is pursuing other work.

It has been a wonderful 18 years of working in the field with some wonderful people, but I now see that there are SO MANY groups popping up and all members of the same organisation, it is a shame, they are just screwing it up for us who have the knowledge and experience.

So I say, Goodbye enjoy life and your work

Regards

Peter

Peter Falk

0401938060

## APPENDIX XVI. TEST EXCAVATION COMMUNITY COMMENTS, 2017

Cubbitch Barta Native Title Claimants  
Aboriginal Corporation  
55 Nightingale Road,  
PHEASANTS NEST, N.S.W. 2574  
9<sup>TH</sup> October, 2107

Kayandel Archaeological Services  
P.O. Box 440,  
PICKTON, N.S.W. 2571

Dear Lance,

RE; FAIRWAYS NORTH AND  
GOLF TOWN PRECINCTS

Thank you for the opportunity of participating in the test excavations for the precincts as above. I was really surprised by the results or the lack of depending on which way you look at it.

The areas that were defined for testing during surveys was based upon predictive modelling, but it appears that this modelling based on the Cumberland plain theory, is not applicable in all cases. This has been supported by the excavations that have recently taken place. The same predictive modelling does however apply in some areas of Bingara, depending upon access to the gorges.

Relevant AHIP's will be needed before any development earthworks take place in the areas where artefacts were either recorded or excavated. The scarred tree recorded as BGST 01 should be avoided at all times, even if it requires a plan change.

The predictive modelling for the Wilton and surrounding areas has been limited in the testing that has taken place, compared to what has occurred in the Northern Cumberland plain area. There is still a lot not known in the area where deep gorges exist in the Southern Cumberland plain.

Yours faithfully,



Glenda Chalker

Phone/Fax 0246841129 0427218425

[kgchalker@bigpond.com](mailto:kgchalker@bigpond.com)



## APPENDIX XVII. CONSULTATION LOG

Date	Time	Nature of consultation	KAS Initials
20/11/13	1.40pm	Completed NNTT search form & emailed to NNTT	KK
20/11/2013	2.30pm	Emailed agency letter to TLALC	KK
20/11/2013	3.00PM	Emailed agency letter to NTS Corp	KK
20/11/2013	3.05pm	Emailed agency letter to Wollondilly shire council	KK
20/11/2013	3.10pm	Faxed agency letter to OEH.	KK
20/11/2013	3.13pm	Faxed agency letter to Office of the registrar	KK
20/11/2013	3.14pm	Faxed agency letter to Hawkesbury Nepean Catchment Management authority.	KK
20/11/2013	4.30pm	Phone call Jeff from Hawkesbury Nepean catchment re: fax I send requesting Aboriginal groups and / or people he advised their fax is playing up only received half the page, he asked me to email the letter to Jodi Cameron.	KK
20/11/2013	4.38pm	Emailed agency letter to Jodi Cameron at Hawkesbury Nepean Catchment Management authority as per phone call with Jeff.	KK
27/11/2013	3.30pm	Sent follow up email to Wollondilly Shire council re: Bingara AHIP agency letter emailed last Wednesday & still haven't received a reply.	KK
27/11/2013	3.35pm	Sent follow up email to Jodi Cameron at Hawkesbury – Nepean catchment authority re: Bingara AHIP agency letter emailed last Wednesday & still haven't received a reply.	KK
27/11/2013	3.40pm	Sent follow up email to OEH re: Bingara AHIP agency letter emailed last Wednesday & still haven't received a reply.	KK
27/11/2013	3.45pm	Sent follow up email to TLALC re: Bingara AHIP agency letter emailed last Wednesday & still haven't received a reply.	KK
27/11/2013	3.50pm	Sent follow up email to NTS Corp re: Bingara AHIP agency letter emailed last Wednesday & still haven't received a reply.	KK
3/12/2013	4.30pm	Tried calling Miranda from OEH re: message left while getting lunch, advising she replied to agency letter today, was ringing to see if could fax or email it, went to message bank, left a message to call me	KK
3/12/2013	4.35pm	Rang Hawkesbury Nepean Catchment authority spoke to Jeff who advised Jodi Cameron is the only person who deals with these letter, asked for Jodi phone number, rang 4725 3046 spoke to Kuska who advised Jodi is out of the office all week, to speak to Margaret tomorrow morning.	KK
5/12/2013	10.30AM	Phone call George from NTS Corp re: agency letter for Bingara, he only received it yesterday will forward it on, as he can't provide details due to privacy act asked him to send an email for project records, advised registration close today, he asked if we can make note that they need at 28 days' notice for these type of request.	KK
6/12/2013		Received OEH reply to agency letter, Peter Falk consultancy was identified	KK
6/12/2013	4.30pm	Printed Peter Falk you have been identified letter & posted to him	KK
6/12/2013-15/12/2016	-	CHC meetings held every 3 months	-
15/12/2016	4:56pm	Emailed the Stage 2 Document to CBNTCAC, TLALC and Peter Falk	NS

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15/12/2016	5:00pm	Emailed the 15C Notification to CBNTCAC, TLALC and Peter Falk	NS
17/01/2017	10:25am	Received an email from Glenda (CBNTCAC) requesting a hard copy of the documentation issued on the 15/12/2017	NS
17/01/2017	12pm	Posted a hard copy of the 15C Notification and Stage 2 document to Glenda (CBNTCAC)	KK
13/2/2017	1:10pm	Sent email to Glenda to confirm that she will still have a field officer available for tomorrow's fieldwork	KK
13/2/2017	1:12pm	Sent email to Denise (TLALC) reminding her that fieldwork will commence tomorrow	NS
13/2/2017	2:28pm	Received email from Denise (TLALC) confirming that she had received my email	NS
13/2/2017	5:15pm	Received email from Denise (TLALC) advising that TLALC would not have a site officer available for tomorrow's fieldwork	NS
17/2/2017	1:07pm	Received email from Peter Falk advising that he will be shutting down his PO Box at the beginning of March	NS
24/2/2017	4:01pm	Sent email to Denise (TLALC) and Glenda (CBNTCAC) to advise them fieldwork will not be running Monday and Tuesday next week	NS
6/3/2017	4:58pm	Issued previous CHC minutes and agenda for tomorrow to Peter Falk, Glenda (CBNTCAC) and Denise (TLALC)	NS
10/3/2017	2:52pm	Received email from Denise (TLALC) advising that she would have two people attending next Monday (13/3/2017)	NS
10/3/2017	3:59pm	Sent email to Denise thanking her for her previous email; remaindered Denise that next week's fieldwork has been postponed and will recommence the 19/3/2017	NS
13/3/2017	12:17pm	Received email from Denise (TLALC) asking for the reason why this week's fieldwork had been halted	NS
13/3/2017	1:15pm	Sent email to Denise (TLALC) reminding her that it had always been scheduled that fieldwork wouldn't run this week	NS
20/3/2017	8:04pm	Email to Glenda (CBNTCAC) and Denise (TLALC) notifying that tomorrow's fieldwork has been postponed	NS
21/3/2017	5:34pm	Sent email to Denise (TLALC) notifying her that tomorrow's fieldwork has been postponed	NS
21/3/2017	7:41pm	Received email from Denise (TLALC) confirming that they had received the email about tomorrow's fieldwork	NS
22/3/2017	3:10pm	Call to CBNTCAC and TLALC to postpone the fieldwork for the rest of the week. Will recommence the fieldwork next week	KK
19/5/2017	1:02pm	Received email from Peter Falk advising that his retiring and that he is no longer a Registered Aboriginal Party member for the project	NS
11/9/2017	11:59am	Emailed ACHAR to CBNTCAC and TLALC	NS
11/9/2017	12:10pm	Posted a copy of the ACHAR to CBNTCAC	NS
18/9/2017	2:41pm	Called Glenda (CBNTCAC) to confirm whether she would be available the 12/10/2017 to attend a CHC meeting. Glenda confirmed that she would be available	NS
4/10/2017	1:00pm	Tried calling Denise's office number, reached voicemail, didn't leave a message	NS
4/10/2017	1:03pm	Sent email to Denise (TLALC) to confirm whether they would a representative available for the CHC meeting for 12/10/2017	NS
5/10/2017	4:25pm	Sent email to CBNTCAC and TLALC with a copy of the minutes from the previous CHC and the agenda for the CHC meeting on 12/10/2017	NS
10/10/2017	2:30pm	Sent email to TLALC to confirm whether they would a representative available for the CHC meeting next Thursday (12/10/2017)	NS
12/10/2017	9am	Received comments from Glenda (CBNTCAC)	NS
19/10/2017	5:48pm	Sent follow up email to Denise and Reception (TLALC) about whether they (TLALC) had comments in regards to the ACHAR	NS

## APPENDIX XVIII. AHIMS RESULTS



Office of  
Environment  
& Heritage

### AHIMS Web Services (AWS) Search Result

Purchase Order/Reference : Bingara\_Gorge

Client Service ID : 285414

Kayandel Archaeological Services

Date: 07 June 2017

PO Box 440 15 Henry Street  
Picton New South Wales 2571

Attention: Lance Syme

Email: lance.syme@kayandel.com.au

Dear Sir or Madam:

**AHIMS Web Service search for the following area at Datum :GDA, Zone : 56, Eastings : 285400 - 289400,  
Northings : 6208800 - 6212800 with a Buffer of 1000 meters, conducted by Lance Syme on 07 June 2017.**

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

119	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *



**If your search shows Aboriginal sites or places what should you do?**

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the [NSW Government Gazette](http://www.nsw.gov.au/gazette) (<http://www.nsw.gov.au/gazette>) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit upon request

**Important information about your AHIMS search**

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not to be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.



"Fairways North" and "Golf Town" Precincts, Bingara Gorge, Wilton, Wollondilly Shire LGA, NSW  
Aboriginal Cultural Heritage Assessment and Test Excavation Report



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## AHIMS Web Services (AWS)

### Extensive search - Site list report

Your Ref/PO Number : Bingara\_Gorge

Client Service ID : 285414

SiteID	SiteName	Datum	Zone	Eastings	Northings	Context	Site Status	SiteFeatures	SiteTypes	Remarks
52-2-3572	Maldon 01	GDA	56	285023	6213349	Open site	Valid	Modified Tree (Carved or Scarred) : 1		103104,10310 5
	<u>Contact</u> Searle	<u>Recorders</u>	Heritage Concepts							
52-2-3573	Maldon 02	GDA	56	285045	6213637	Closed site	Valid	Art (Pigment or Engraved) : 1		103104,10310 5
	<u>Contact</u> Searle	<u>Recorders</u>	Heritage Concepts							
52-2-3585	Wilton 1 (W1)	GDA	56	288126	6210589	Open site	Valid	Artefact : 1		
	<u>Contact</u> Searle	<u>Recorders</u>	Heritage Concepts							
52-2-3586	Wilton 2 (W2)	GDA	56	288357	6210229	Closed site	Valid	Potential Archaeological Deposit (PAD) :-		
	<u>Contact</u> Searle	<u>Recorders</u>	Heritage Concepts							
52-2-3587	Wilton 3 (W3)	GDA	56	288349	6210228	Closed site	Valid	Artefact : 5		
	<u>Contact</u> Searle	<u>Recorders</u>	Heritage Concepts							
52-2-3588	Wilton 4 (W4)	GDA	56	288462	6210525	Closed site	Valid	Potential Archaeological Deposit (PAD) :-		
	<u>Contact</u> Searle	<u>Recorders</u>	Heritage Concepts							
52-2-3589	Wilton 5 (W5)	GDA	56	288360	6210541	Closed site	Valid	Potential Archaeological Deposit (PAD) :-		
	<u>Contact</u> Searle	<u>Recorders</u>	Heritage Concepts							
52-2-3590	Wilton 01	GDA	56	286199	6209350	Open site	Valid	Modified Tree (Carved or Scarred) : 1		103104
	<u>Contact</u> Searle	<u>Recorders</u>	Heritage Concepts							
52-2-1315	Allens Crk;	AGD	56	288190	6209710	Closed site	Valid	Art (Pigment or Engraved) :-	Shelter with Art	
	<u>Contact</u>	<u>Recorders</u>	Warren Bluff							
52-2-1873	Pheasant's Nest Weir 1;	AGD	56	285570	6208160	Open site	Valid	Artefact :-	Open Camp Site	3160
	<u>Contact</u>	<u>Recorders</u>	Helen Brayshaw							
52-2-1063	Wilton;Allens Creek Bridge;	AGD	56	288810	6207910	Closed site	Valid	Artefact :-	Shelter with Deposit	
	<u>Contact</u>	<u>Recorders</u>	Ms.Laila Haglund							
52-2-0227	Wilton;	AGD	56	286420	6207710	Open site	Valid	Grinding Groove :-	Axe Grinding Groove	
	<u>Contact</u>	<u>Recorders</u>	Bill Sullivan							

Report generated by AHIMS Web Service on 07/06/2017 for Lance Syme for the following area at Datum :GDA, Zone : 56, Eastings : 285400 - 289400, Northings : 6208800 - 6212800 with a Buffer of 1000 meters. Additional Info : archaeological assessment. Number of Aboriginal sites and Aboriginal objects found is 119

This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.



"Fairways North" and "Golf Town" Precincts, Bingara Gorge, Wilton, Wollondilly Shire LGA, NSW  
Aboriginal Cultural Heritage Assessment and Test Excavation Report



Office of  
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## AHIMS Web Services (AWS)

### Extensive search - Site list report

Your Ref/PO Number : Bingara\_Gorge

Client Service ID : 285414

SiteID	SiteName	Datum	Zone	Eastings	Northings	Context	Site Status	SiteFeatures	SiteTypes	Reports
52-2-3026	Wilton Park 2, BC2	GDA	56	287134	6210462	Closed site	Valid	Potential Archaeological Deposit (PAD) :- Habitation Structure :-, Grinding Groove : :-, Artefact :-		103104
<b>Contact</b>		<b>Recorders</b>		Doctor Julie Dibden, Kayandel Archaeological Services, Mr Lance Syme						
52-2-3027	Wilton Park 3	GDA	56	287137	6210543	Closed site	Valid	Habitation Structure :-, Art (Pigment or Engraved) :- Artefact :-, Potential Archaeological Deposit (PAD) :-	Permits 1965	103104
<b>Contact</b>		<b>Recorders</b>		Doctor Julie Dibden, Kayandel Archaeological Services, Mr Lance Syme						
52-2-3028	Wilton Park 4 (Unavailable) duplicate of 48-2-0008	GDA	56	287168	6210574	Closed site	Valid	Habitation Structure :-, Art (Pigment or Engraved) :- Potential Archaeological Deposit (PAD) :-	Permits 1965	
<b>Contact</b>		<b>Recorders</b>		Unknown Author, Kayandel Archaeological Services, Mr Lance Syme						
52-2-3029	Wilton Park 5 (Unavailable) duplicate of 48-2-0009	GDA	56	287169	6210625	Closed site	Valid	Habitation Structure :-, Art (Pigment or Engraved) :- Potential Archaeological Deposit (PAD) :-	Permits 1965	
<b>Contact</b>		<b>Recorders</b>		Unknown Author, Kayandel Archaeological Services, Mr Lance Syme						
52-2-3030	Wilton Park 6 (Unavailable)	AGD	56	287100	6210480	Closed site	Valid	Habitation Structure :-, Potential Archaeological Deposit (PAD) :-	Permits 1965	
<b>Contact</b>		<b>Recorders</b>		Unknown Author						
52-2-3031	Wilton Park 7 (Unavailable)	AGD	56	286403	6210037	Open site	Valid	Potential Archaeological Deposit (PAD) :- Artefact :-	Permits 1965	103104
<b>Contact</b>		<b>Recorders</b>		Unknown Author						

Report generated by AHIMS Web Service on 07/06/2017 for Lance Syme for the following area at Datum :GDA, Zone : 56, Eastings : 285400 - 289400, Northings : 6208800 - 6212800 with a Buffer of 1000 meters. Additional Info : archaeological assessment. Number of Aboriginal sites and Aboriginal objects found is 119

This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

"Fairways North" and "Golf Town" Precincts, Bingara Gorge, Wilton, Wollondilly Shire LGA, NSW  
Aboriginal Cultural Heritage Assessment and Test Excavation Report



Office of  
Environment  
& Heritage

## AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Bingara\_Gorge

Client Service ID : 285414

SiteID	SiteName	Datum	Zone	Eastings	Northings	Context	Site Status	SiteFeatures	SiteTypes	Remarks
52-2-3032	Wilton Park 8, BC8	AGD	56	286361	6209882	Open site	Valid	Artefact :-, Potential Archaeological Deposit (PAD) :-		103104
<b>Contact</b>		<b>Recorders</b>		Doctor Julie Dohden						
52-2-3033	Wilton Park 9, BC9	AGD	56	286572	6209988	Open site	Valid	Artefact :-, Potential Archaeological Deposit (PAD) :-	1965,2193	103104
<b>Contact</b>		<b>Recorders</b>		Doctor Julie Dohden						
52-2-3034	Wilton Park 10, BC10	AGD	56	286740	6210853	Open site	Valid	Artefact :-, Potential Archaeological Deposit (PAD) :-	1965,2580	103104
<b>Contact</b>		<b>Recorders</b>		Doctor Julie Dohden						
52-2-3035	Wilton Park 11, BC11	AGD	56	286788	6210309	Open site	Valid	Artefact :-, Potential Archaeological Deposit (PAD) :-	1965,3190	103104
<b>Contact</b>		<b>Recorders</b>		Doctor Julie Dohden						
52-2-3036	Wilton Park 12, BC12	AGD	56	286827	6210950	Open site	Valid	Artefact :-, Potential Archaeological Deposit (PAD) :-	1965,3191	103104
<b>Contact</b>		<b>Recorders</b>		Doctor Julie Dohden						
52-2-3037	Wilton Park PAD2 (Unavailable) duplicate of 48-2-0006	GDA	56	287182	6210610	Open site	Valid	Potential Archaeological Deposit (PAD) :-, Habitation Structure :-	1965,3190	
<b>Contact</b>		<b>Recorders</b>		Unknown Author, Kayandel Archaeological Services, Mr. Lance Syme						
52-2-3038	Area of Assessed Archaeological Sensitivity 1 (Unavailable)	AGD	56	286440	6210015	Open site	Valid	Potential Archaeological Deposit (PAD) :-	1965	103104
<b>Contact</b>		<b>Recorders</b>		Unknown Author						
52-2-3039	Area of Archaeological Sensitivity 2 (Unavailable)	AGD	56	287500	6210735	Open site	Valid	Potential Archaeological Deposit (PAD) :-	1965	
<b>Contact</b>		<b>Recorders</b>		Unknown Author						
52-2-3679	BGIA1	GDA	56	286771	6210124	Open site	Destroyed	Artefact : 1	1965	103104
<b>Contact</b>		<b>Recorders</b>		Miss Melanie Thomson, Ms. Jenni Bate						
52-2-3683	Bull's Site 1	AGD	56	289509	6210340	Closed site	Valid	Art (Pigment or Engraved) :-, Artefact :-	3281	
<b>Contact</b>		<b>Recorders</b>		Mr. Jamie Reeves						

Report generated by AHIMS Web Service on 07/06/2017 for Lance Syme for the following area at Datum :GDA, Zone : 56, Eastings : 285400 - 289400, Northings : 6208800 - 6212800 with a Buffer of 1000 meters. Additional Info : archaeological assessment. Number of Aboriginal sites and Aboriginal objects found is 119

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## AHIMS Web Services (AWS) Extensive search - Site list report

Your Ref/PO Number : Bingara\_Gorge

Client Service ID : 285414

SiteID	SiteName	Datum	Zone	Eastings	Northings	Context	Site Status	SiteFeatures	SiteTypes	Reports
52-2-3684	Bulli Site 2	AGD	56	287664	6212748	Closed site	Valid	Art (Pigment or Engraved) :-		
	<b>Contact</b>							<b>Permits</b>		
52-2-4020	BG-PAD-01	GDA	56	286874	6210756	Open site	Valid	Artefact :-, Potential Archaeological Deposit (PAD) :-	3878	103104
	<b>Contact</b>							<b>Permits</b>		
52-2-4026	BG-IF-01	GDA	56	286557	6211349	Open site	Valid	Artefact : 1		103104
	<b>Contact</b>							<b>Permits</b>		
52-2-4027	BG-IF-02	GDA	56	286634	6211180	Open site	Valid	Art (Pigment or Engraved) : 1		103104
	<b>Contact</b>							<b>Permits</b>		
52-2-4028	BG-PAD-01	GDA	56	287050	6211759	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		103104
	<b>Contact</b>							<b>Permits</b>		
52-2-4029	BG-PAD-02	GDA	56	287346	6211768	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<b>Contact</b>							<b>Permits</b>		
52-2-4030	BG-PAD-03	GDA	56	287365	6211329	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<b>Contact</b>							<b>Permits</b>		
52-2-4031	BG-PAD-04	GDA	56	288184	6211530	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<b>Contact</b>							<b>Permits</b>		
52-2-4032	BG-PAD-05	GDA	56	287933	6211366	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<b>Contact</b>							<b>Permits</b>		
52-2-4033	BG-PAD-06	GDA	56	287724	6211688	Open site	Valid	Shrine Arrangement : 1		
	<b>Contact</b>							<b>Permits</b>		
52-2-3978	CT-AS-01	GDA	56	288059	6209874	Open site	Valid	Artefact : 1		
	<b>Contact</b>							<b>Permits</b>		
52-2-3979	CT-PAD-01	GDA	56	288181	6210081	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		

Report generated by AHIMS Web Service on 07/06/2017 for Lance Syme for the following area at Datum :GDA, Zone : 56, Eastings : 285400 - 289400, Northings : 6208800 - 6212800 with a Buffer of 1000 meters. Additional Info : archaeological assessment. Number of Aboriginal sites and Aboriginal objects found is 119

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"Fairways North" and "Golf Town" Precincts, Bingara Gorge, Wilton, Wollondilly Shire LGA, NSW  
Aboriginal Cultural Heritage Assessment and Test Excavation Report



## AHIMS Web Services (AWS)

### Extensive search - Site list report

Your Ref/PO Number : Bingara\_Gorge

Client Service ID : 285414

SiteID	SiteName	Datum	Zone	Eastings	Northings	Context	Site Status	SiteFeatures	SiteTypes	Remarks
	<a href="#">Contact</a>	<a href="#">Recorders</a>	Kayandel Archaeological Services, Mr Lance Syme					<a href="#">Permits</a>		
52-2-3980	CT-PAD-02	GDA	56	288251	6210279	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<a href="#">Contact</a>	<a href="#">Recorders</a>	Kayandel Archaeological Services, Mr Lance Syme					<a href="#">Permits</a>		
52-2-3981	CT-PAD-03	GDA	56	288153	6209848	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<a href="#">Contact</a>	<a href="#">Recorders</a>	Kayandel Archaeological Services, Mr Lance Syme					<a href="#">Permits</a>		
52-2-3954	M2D PAD 1	GDA	56	285469	6208528	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<a href="#">Contact</a>	<a href="#">Recorders</a>	Navin Officer Heritage Consultants Pty Ltd					<a href="#">Permits</a>		
52-2-3880	Wilton Zone Substation	GDA	56	285599	6210114	Open site	Valid	Artefact : 1		103104
	<a href="#">Contact</a>	<a href="#">Recorders</a>	Miss Deirdre Lewis-Cook					<a href="#">Permits</a>	3497	
52-2-4186	Wilton trig TRE01	GDA	56	287296	6207995	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	<a href="#">Contact</a>	<a href="#">Recorders</a>	Mr Mark Simon					<a href="#">Permits</a>		
52-2-4201	WP7 Eastern PAD	GDA	56	286547	6210215	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	<a href="#">Contact</a>	<a href="#">Recorders</a>	Mr Jakob Czastka					<a href="#">Permits</a>		
52-2-4192	BG-AS-002	GDA	56	286557	6210161	Open site	Valid	Artefact : -		
	<a href="#">Contact</a>	<a href="#">Recorders</a>	Mr Lance Syme					<a href="#">Permits</a>		
52-2-4193	BG-AS-003	GDA	56	286616	6210247	Open site	Valid	Artefact : -, Potential Archaeological Deposit (PAD) : -		
	<a href="#">Contact</a>	<a href="#">Recorders</a>	Mr Lance Syme					<a href="#">Permits</a>		
48-2-0005	Wilton Park PAD 1	AGD	56	288370	6209560	Open site	Valid	Habitation Structure : 1		
	<a href="#">Contact</a>	<a href="#">Recorders</a>	Doctor Julie Dohden					<a href="#">Permits</a>		
48-2-0006	Wilton Park PAD 2 duplicate of 52-2-3037	AGD	56	287050	6210360	Closed site	Deleted	Habitation Structure : 1		
	<a href="#">Contact</a>	<a href="#">Recorders</a>	Doctor Julie Dohden					<a href="#">Permits</a>		
48-2-0007	Wilton Park PAD 3	AGD	56	288250	6210360	Closed site	Valid	Habitation Structure : 1		
	<a href="#">Contact</a>	<a href="#">Recorders</a>	Doctor Julie Dohden					<a href="#">Permits</a>		
48-2-0008	Wilton Park DC 4 duplicate of 52-2-3028	AGD	56	287050	6210330	Closed site	Deleted	Habitation Structure : 1		

Report generated by AHIMS Web Service on 07/06/2017 for Lance Syme for the following area at Datum : GDA, Zone : 56, Eastings : 285400 - 289400, Northings : 6208800 - 6212800 with a Buffer of 1000 meters. Additional Info : archaeological assessment. Number of Aboriginal sites and Aboriginal objects found is 119

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## AHIMS Web Services (AWS)

### Extensive search - Site list report

Your Ref/PO Number : Bingara\_Gorge

Client Service ID : 285414

SiteID	SiteName	Datum	Zone	Eastings	Northings	Context	Site Status	SiteFeatures	SiteTypes	Remarks
	<a href="#">Contact</a>	<a href="#">Recorders</a>	Doctor Julie Dibden							
48-2-0009	Wilton Park BC 5 duplicate of 52-2-3029	AGD	56	287020	6210380	Closed site	Deleted	Habitation Structure : 1		103104
	<a href="#">Contact</a>	<a href="#">Recorders</a>	Doctor Julie Dibden							
48-2-0010	Wilton Park BC 6	AGD	56	287100	6210480	Closed site	Valid	Habitation Structure : 1		
	<a href="#">Contact</a>	<a href="#">Recorders</a>	Doctor Julie Dibden							
48-2-0011	Wilton Park BC 7	AGD	56	286403	6210037	Open site	Valid	Artefact : 2, Potential Archaeological Deposit (PAD) :-		103104
	<a href="#">Contact</a>	<a href="#">Recorders</a>	Doctor Julie Dibden							
52-2-3070	BC14, Bradcorp	AGD	56	287180	6211750	Closed site	Valid	Art (Pigment or Engraved) : 4		
	<a href="#">Contact</a> T Russell	<a href="#">Recorders</a>	Doctor Julie Dibden							
52-2-3071	BC13, Bradcorp	AGD	56	287108	6210891	Closed site	Valid	Art (Pigment or Engraved) : 6		
	<a href="#">Contact</a> T Russell	<a href="#">Recorders</a>	Doctor Julie Dibden							
52-2-3072	BC1, Bradcorp	AGD	56	288230	6210070	Closed site	Valid	Art (Pigment or Engraved) : 4		
	<a href="#">Contact</a> T Russell	<a href="#">Recorders</a>	Doctor Julie Dibden							
52-2-3302	Wilton Park WIF1 (Unavailable)	AGD	56	286790	6209690	Open site	Valid	Artefact :-		103104
	<a href="#">Contact</a>	<a href="#">Recorders</a>	Mr Lance Syme							
52-2-4153	BG-AS-001	GDA	56	286893	6211117	Open site	Valid	Artefact :-, Potential Archaeological Deposit (PAD) :-	2581	
	<a href="#">Contact</a>	<a href="#">Recorders</a>	Mr Lance Syme							
52-2-4071	WJ-RS-05	GDA	56	285014	6211234	Closed site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<a href="#">Contact</a>	<a href="#">Recorders</a>	Kayandel Archaeological Services							
52-2-4072	WJ-RS-06	GDA	56	284976	6211232	Closed site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<a href="#">Contact</a>	<a href="#">Recorders</a>	Kayandel Archaeological Services							
52-2-4073	WJ-RS-07 duplicate of 52-2-4070	GDA	56	284961	6211278	Closed site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<a href="#">Contact</a>	<a href="#">Recorders</a>	Kayandel Archaeological Services							

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## AHIMS Web Services (AWS)

### Extensive search - Site list report

Your Ref/PO Number : Bingara\_Gorge

Client Service ID : 285414

SiteID	SiteName	Datum	Zone	Eastings	Northings	Context	Site Status	SiteFeatures	SiteTypes	Reports
52-2-4074	WJ-RS-08	GDA	56	284928	6211282	Closed site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<a href="#">Contact</a>							<a href="#">Permits</a>		
52-2-4075	WJ-RS-03	GDA	56	284956	6211435	Closed site	Valid	Art (Pigment or Engraved) : 1, Potential Archaeological Deposit (PAD) : 1		
	<a href="#">Contact</a>							<a href="#">Permits</a>		
52-2-4076	WJ-RS-04	GDA	56	284920	6211249	Closed site	Valid	Art (Pigment or Engraved) : 1, Potential Archaeological Deposit (PAD) : 1		
	<a href="#">Contact</a>							<a href="#">Permits</a>		
52-2-4077	WJ-RS-01	GDA	56	284910	6211245	Closed site	Valid	Artefact : 1, Potential Archaeological Deposit (PAD) : 1		
	<a href="#">Contact</a>							<a href="#">Permits</a>		
52-2-4078	WJ-RS-02	GDA	56	284926	6211396	Closed site	Valid	Art (Pigment or Engraved) : 1, Artefact : 1, Potential Archaeological Deposit (PAD) : 1		
	<a href="#">Contact</a>							<a href="#">Permits</a>		
52-2-4079	WJ-ST-04	GDA	56	285232	6210155	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	<a href="#">Contact</a>							<a href="#">Permits</a>		
52-2-4080	WJ-ST-05	GDA	56	284618	6211330	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	<a href="#">Contact</a>							<a href="#">Permits</a>		
52-2-4081	WJ-ST-01	GDA	56	286115	6211991	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	<a href="#">Contact</a>							<a href="#">Permits</a>		

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### Extensive search - Site list report

Your Ref/PO Number : Bingara\_Gorge

Client Service ID : 285414

SiteID	SiteName	Datum	Zone	Eastings	Northings	Context	Site Status	SiteFeatures	SiteTypes	Reports
52-2-4082	WJ-ST-02	GDA	56	286330	6212128	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>			Kayandel Archaeological Services,Mr.Tom Knight					<a href="#">Permits</a>	
52-2-4083	WJ-ST-03	GDA	56	286048	6212542	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>			Mr.Tom Knight					<a href="#">Permits</a>	
52-2-4084	WJ-IF-09	GDA	56	287423	6208606	Open site	Valid	Artefact : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>			Kayandel Archaeological Services,Mr.Tom Knight					<a href="#">Permits</a>	
52-2-4085	WJ-IF-10	GDA	56	287698	6208290	Open site	Valid	Artefact : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>			Kayandel Archaeological Services,Mr.Tom Knight					<a href="#">Permits</a>	
52-2-4086	WJ-IF-07	GDA	56	284990	6211137	Open site	Valid	Artefact : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>			Kayandel Archaeological Services					<a href="#">Permits</a>	
52-2-4087	WJ-IF-08	GDA	56	287248	6208486	Open site	Valid	Artefact : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>			Mr.Tom Knight					<a href="#">Permits</a>	
52-2-4088	WJ-IF-04	GDA	56	285261	6210531	Open site	Valid	Artefact : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>			Kayandel Archaeological Services,Mr.Tom Knight					<a href="#">Permits</a>	
52-2-4089	WJ-IF-05	GDA	56	285258	6210466	Open site	Valid	Artefact : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>			Kayandel Archaeological Services,Mr.Tom Knight					<a href="#">Permits</a>	
52-2-4090	WJ-IF-06	GDA	56	285186	6211121	Open site	Valid	Artefact : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>			Kayandel Archaeological Services,Mr.Tom Knight					<a href="#">Permits</a>	
52-2-4091	WJ-IF-01	GDA	56	286767	6213404	Open site	Valid	Artefact : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>			Kayandel Archaeological Services,Mr.Tom Knight					<a href="#">Permits</a>	
52-2-4092	WJ-IF-02	GDA	56	286641	6212886	Open site	Valid	Artefact : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>			Kayandel Archaeological Services,Mr.Tom Knight					<a href="#">Permits</a>	
52-2-4093	WJ-IF-03	GDA	56	286635	6211643	Open site	Valid	Artefact : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>			Kayandel Archaeological Services,Mr.Tom Knight					<a href="#">Permits</a>	
52-2-4094	WJ-AS-05	GDA	56	284889	6211195	Open site	Valid	Artefact : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>			Kayandel Archaeological Services					<a href="#">Permits</a>	
52-2-4095	WJ-AS-06	GDA	56	285060	6210511	Open site	Valid	Artefact : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>			Kayandel Archaeological Services,Mr.Tom Knight					<a href="#">Permits</a>	
52-2-4096	WJ-AS-07	GDA	56	285554	6211009	Open site	Valid	Artefact : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>			Kayandel Archaeological Services,Mr.Tom Knight					<a href="#">Permits</a>	
52-2-4097	WJ-AS-01	GDA	56	284939	6211274	Open site	Valid	Artefact : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>			Kayandel Archaeological Services,Mr.Tom Knight					<a href="#">Permits</a>	

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### Extensive search - Site list report

Your Ref/PO Number : Bingara\_Gorge

Client Service ID : 285414

SiteID	SiteName	Datum	Zone	Eastings	Northings	Context	Site Status	SiteFeatures	SiteTypes	Reports
52-2-4098	WJ-AS-02	GDA	56	286544	6212296	Open site	Valid	Artefact : 1		
	<a href="#">Contact</a>					<a href="#">Recorders</a>	Kayandel Archaeological Services, Mr. Tom Knight	<a href="#">Permits</a>		
52-2-4099	WJ-AS-03	GDA	56	286539	6212398	Open site	Valid	Artefact : 1		
	<a href="#">Contact</a>					<a href="#">Recorders</a>	Kayandel Archaeological Services, Mr. Tom Knight	<a href="#">Permits</a>		
52-2-4100	WJ-AS-04	GDA	56	285096	6211237	Open site	Valid	Artefact : 1		
	<a href="#">Contact</a>					<a href="#">Recorders</a>	Kayandel Archaeological Services, Mr. Tom Knight	<a href="#">Permits</a>		
52-2-4101	WILIF01	GDA	56	286386	6210690	Open site	Destroyed	Artefact : 1		
	<a href="#">Contact</a>					<a href="#">Recorders</a>	Biosis Pty Ltd - Wollongong	<a href="#">Permits</a>	3878	
52-2-4063	PS-RS-04	GDA	56	288661	6208275	Closed site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<a href="#">Contact</a>					<a href="#">Recorders</a>	Ms. Bridget Walker	<a href="#">Permits</a>		
52-2-4064	PS-RS-05	GDA	56	288709	6208335	Closed site	Valid	Art (Pigment or Engraved) : 1, Potential Archaeological Deposit (PAD) : 1		
	<a href="#">Contact</a>					<a href="#">Recorders</a>	Ms. Bridget Walker	<a href="#">Permits</a>		
52-2-4065	PS-RS-01	GDA	56	288510	6208179	Closed site	Valid	Potential Archaeological Deposit (PAD) : 1		
	<a href="#">Contact</a>					<a href="#">Recorders</a>	Ms. Bridget Walker	<a href="#">Permits</a>		
52-2-4066	PS-RS-02	GDA	56	288667	6208185	Closed site	Valid	Artefact : 1, Potential Archaeological Deposit (PAD) : 1		
	<a href="#">Contact</a>					<a href="#">Recorders</a>	Ms. Bridget Walker	<a href="#">Permits</a>		
52-2-4067	PS-RS-03	GDA	56	288685	6208226	Closed site	Valid	Artefact : 1, Potential Archaeological Deposit (PAD) : 1		
	<a href="#">Contact</a>					<a href="#">Recorders</a>	Ms. Bridget Walker	<a href="#">Permits</a>		
52-2-4070	WJ-RS-07 duplicate of 52-2-4073	GDA	56	284961	6211278	Open site	Deleted	Potential Archaeological Deposit (PAD) : 1		
	<a href="#">Contact</a>					<a href="#">Recorders</a>	Kayandel Archaeological Services	<a href="#">Permits</a>		
52-2-4151	BG-RS-01	GDA	56	287168	6210479	Closed site	Valid	Artefact :- , Potential Archaeological Deposit (PAD) :-		
	<a href="#">Contact</a>					<a href="#">Recorders</a>	Kayandel Archaeological Services	<a href="#">Permits</a>		

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Extensive search - Site list report

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Client Service ID : 285414

SiteID	SiteName	Datum	Zone	Eastings	Northings	Context	Site Status	SiteFeatures	SiteTypes	Reports
52-2-4152	BG-RS-02	GDA	56	287147	6210531	Closed site	Valid	Potential Archaeological Deposit (PAD) :-		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>									
52-2-4334	BG-RS-09	GDA	56	287940	6211042	Open site	Valid	Habitation Structure : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>									
52-2-4335	BG-RS-05	GDA	56	287907	6211036	Open site	Valid	Habitation Structure : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>									
52-2-4336	BG-RS-03	GDA	56	287928	6211107	Open site	Valid	Habitation Structure : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>									
52-2-4337	BG-RS-04	GDA	56	287919	6211076	Open site	Valid	Habitation Structure : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>									
52-2-4338	BG-ST-01	GDA	56	287448	6211483	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>									
52-2-4339	BG-RS-06	GDA	56	287912	6211029	Open site	Valid	Habitation Structure : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>									
52-2-4340	BG-RS-07	GDA	56	287683	6211417	Open site	Valid	Habitation Structure : 1, Potential Archaeological Deposit (PAD) : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>									
52-2-4341	BG-RS-08	GDA	56	288025	6211198	Open site	Valid	Habitation Structure : 1		
	<a href="#">Contact</a>									
	<a href="#">Recorders</a>									

Report generated by AHIMS Web Service on 07/06/2017 for Lance Syme for the following area at Datum :GDA, Zone : 56, Eastings : 285400 - 289400, Northings : 6208800 - 6212800 with a Buffer of 1000 meters. Additional Info : archaeological assessment. Number of Aboriginal sites and Aboriginal objects found is 119

This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.



## APPENDIX XIX. STAGE 2 DOCUMENT

There were 3 Aboriginal Parties that registered for the project. Letters were issued to all Registered Aboriginal Parties (RAPs) in Table 3, providing details in regards to the project going forward. The letter below is an example of that which was sent to the RAPs (refer to Table 3).



P.O. Box 440,  
Picton NSW 2571

T. +61 (0)2 4627 8622

F. +61 (0)2 4605 0815

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Our Ref: 4173-2016

Peter Falk Consultancy  
Mr Peter Falk  
PO Box 1018  
Mittagong NSW 2575

15<sup>th</sup> December 2016

Dear Mr Falk,

**RE: "Rural and Golf Town" Proposed Subdivision and Residential Development of Lots 1, 5, 26, and 31 DP 270536, and Lot 207 DP1104390, Bingara Gorge, Wilton, NSW  
Stage 2 -Presentation of Information about the Proposed Project**

Kayandel Archaeological Services (KAS) has been commissioned by Lend Lease Communities (Wilton) Pty Ltd (the Proponent) to undertake an archaeological subsurface investigation to prepare a Cultural Heritage Assessment Report (CHAR) in relation to Aboriginal heritage within Lots 1, 5, 26, and 31 DP 270536, and Lot 207 DP1104390 Bingara Gorge, Wilton, NSW.

The CHAR will be used to support an application for an Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the *National Parks and Wildlife Act 1974* which will be lodged with the Office of Environment and Heritage (OEH) should it be necessary.

KAS has prepared this document to meet the requirements of 'Stage 2 – Presentation of Information about the Proposed Project' in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010a:12).

### Location of the Subject Area

The Subject Area is within the Wollondilly Shire Council (WSC) Local Government Area (LGA), and consists of two distinct locations, within the wider Bingara Gorge development, which are separated by the incised gorge of Stringybark Creek.

The first area is located between Stringybark Creek to the east and the Hume Highway to the west (defined as "Rural"); and continues the extension of Fairways Drive past the Condell Park Homestead. The second area is located north-west from the northern end of Broughton Street, and is located between Stringybark Creek to the west and Allens Creek to the east (defined as "Golf Town") (see Figure 1).

The Subject Area covers approximately 54.24 hectares between the two locations (see Figure 2).

### PROJECT BACKGROUND

#### Environmental Context

Broadly the area that the Bingara Gorge development is situated on is a plateau above the gorges of Allens and Stringybark Creeks.

The plateau upon which the Subject Area is situated has less than 60m of vertical relief from its highest point to the top of the gorge/escarpment. The majority of creek lines upon the plateau fit within the definition of a first order stream under the Strahler system of stream orders. These streams, when they have a southerly orientation tend to drain directly into the Nepean and/or Cordeaux Rivers. Where the stream drains in a northerly direction they do combine to create a small number of 3<sup>rd</sup> and 4<sup>th</sup> order streams.



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F. +61 (0)2 4605 0815  
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The Subject Area is located within an extensively cleared landscape, and incorporates a range of landforms including:

- ✧ flat immediately behind the escarpment;
- ✧ Lower-, mid- and upper-slopes; and,
- ✧ Ridge and crest.

The western portion of the Subject Area is located approximately 311m northwest of Stringybark Creek, and the eastern portion of the Subject Area is located 531m southeast of Stringybark Creek.

#### **Former Land Use and Disturbance**

The area surrounding and within the Subject Area has undergone a significant amount of disturbance since European occupation began in the early-mid 19th century.

Land use within the Subject Area has been dominated by pastoral practices and residential development; the majority of the broader changes/impacts observed have occurred primarily as a consequence of European land management strategies.

On view of historic aerials it is evident that "Rural" has been impacted by a range of features, including:

- ✧ Historic land clearance;
- ✧ Construction of the Condell Park Homestead;
- ✧ Dam; and,
- ✧ Borrow pit.

On view of historic aerials it is evident that "Golf Town" has been impacted by a range of features, including:

- ✧ Historic land clearance; and,
- ✧ Construction of the golf course and associated infrastructure.

#### **Previous Assessments within the Subject Area**

Navin Officer (2003) undertook an archaeological assessment of the proposed 'Wilton Park' (now referred to as Bingara Gorge) residential development. The 'Wilton Park' was approximately 400 ha and is bounded to the south by an existing residential area, bushland and the rural residential land of Wilton, to the west by the Hume Highway and to the north and east by Allens Creek (Navin Officer 2003:3).

A total of fourteen previously unrecorded sites were located during the survey. Additionally three new PADs were recorded in shelters where no artefacts were located, however the nature of the shelter indicated there may be potentially be archaeological deposit. A summary of the sites follows:

- ✧ WP1: Shelter with art and PAD
- ✧ WP2: Shelter with stone artefacts, grinding grooves and PAD
- ✧ WP3: Shelter with art, stone artefacts and PAD
- ✧ WP4: Shelter with art and PAD
- ✧ WP5: Shelter with art and PAD
- ✧ WP6: Shelter with art and PAD
- ✧ WP7: Open artefact scatter
- ✧ WP8: Open artefact scatter
- ✧ WP9: Open artefact scatter



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- ✎ WP10: Open artefact scatter
- ✎ WP11: Open artefact scatter
- ✎ WP12: Open artefact scatter
- ✎ WP13: Shelter with art, stone artefacts and PAD
- ✎ WP14: Shelter with art
- ✎ PAD 1: Shelter with PAD
- ✎ PAD2: Shelter with PAD
- ✎ PAD3: Shelter with PAD (Navin Officer 2003:22-28).

In 2013, KAS (2014) undertook an archaeological assessment of four (4) Development Application Areas (referred to as the "Balance of Site") within the Bingara Gorge residential development. These areas included Fairways West, Rural, Golf Town, and Bushland, and residual developable lands.

As a result of the archaeological assessment, a total of eight (8) previously unrecorded Aboriginal sites were documented:

- ✎ BG-IF-01: isolated find;
- ✎ BG-IF-02: isolated find;
- ✎ BG-PAD-01: potential archaeological deposit;
- ✎ BG-PAD-02: potential archaeological deposit;
- ✎ BG-PAD-03: potential archaeological deposit;
- ✎ BG-PAD-04: potential archaeological deposit;
- ✎ BG-PAD-05: potential archaeological deposit; and,
- ✎ BG-PAD-06: potential archaeological deposit,

KAS (2015) undertook an archaeological assessment of the proposed fire trail alignment within the Bingara Gorge, Wilton, NSW. As the fire trail alignment incorporated areas previously assessed by KAS in 2013 (KAS, 2015), it was decided that the assessment would be limited to the alignment of the fire trails located within the Environmental Protection and Recreation Lands (EP&R Lands).

As a result of the archaeological assessment, a total of eight (8) previously unrecorded Aboriginal sites were documented:

- ✎ BG-ST-01: possible Aboriginal scar tree;
- ✎ BG-RS-03: possible habitation site;
- ✎ BG-RS-04: possible habitation site;
- ✎ BG-RS-05: possible habitation site;
- ✎ BG-RS-06: possible habitation site;
- ✎ BG-RS-06: possible habitation site with potential archaeological deposit;
- ✎ BG-RS-08: possible habitation site; and,
- ✎ BG-RS-09: possible habitation site.

As a result of the previous assessments, five (5) Aboriginal sites have been identified within the Subject Area:

- ✎ BG-IF-02: isolated find;
- ✎ BG-PAD-01: potential archaeological deposit;





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Picton NSW 2571  
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- BG-PAD-02: potential archaeological deposit;
- BG-PAD-03: potential archaeological deposit; and,
- BG-ST-01: possible Aboriginal scar tree.

## PROPOSED WORKS

### Proposed Development Works

The proposed works will involve the subdivision of the lots, bulk earthworks, and construction of residential dwellings, roads, associated infrastructure, and fire trails.

At the time of preparing this document the Proponent had not received the determination from the NSW Land and Environment Court which provides details on the allowed lot yields, and the location of the fire trails. Once the determination has been made and the Proponent has developed a detailed design, a map showing the proposed plan in relation to known Aboriginal sites will be provided.

### Proposed Cultural Heritage Assessment Works

Due to the previous archaeological surveys and assessment that have been undertaken within the immediate vicinity of the Subject Area it is considered that additional archaeological surveys of the Subject Area are unwarranted. As Aboriginal Cultural Heritage has been identified within the Subject Area, it is acknowledged that an AHIP will be required prior to the commencement of the proposed construction works. In order to facilitate the acquisition of an AHIP, the following tasks will need to be undertaken:

- Test excavation at the location of identified sites (as recommended by KAS 2014; 2015), as well as archaeologically sensitive landforms;
- Analysis of results from test excavation;
- Preparation of Cultural Heritage Assessment Report (and test excavation report); and,
- Preparation of AHIP Application Package.

KAS is in the process of preparing a 15C Notification in accordance with Requirement 15C of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010a) (Code of Practice). The 15C Notification will provide details in regards to the locations of the test excavation, which have been selected based on the location of previous land disturbance, the extent of identified sites, and the proposed construction works areas.

The test excavations will be conducted in accordance with Requirement 16a of the *Code of Practice* (DECCW 2010a). KAS will shortly be providing the Registered Aboriginal Parties (RAPs) with the 15C Notification, including a full methodology statement, in accordance with Requirement 15C of the *Code of Practice* (DECCW 2010a) and 'Stage 3 – Gathering information about Cultural Significance' of the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010b:12).

Preparation of the CHAR will comprise background research, review of previous archaeological studies in the area, preparation of a predictive model for Aboriginal occupation within the Subject Area, analysis of lithic materials identified during excavation (if any), discussion of the results of the excavation program, and management recommendations based on conclusions drawn from the investigation.

During the preparation of the CHAR, KAS will detail a proposed management strategy for BG-ST-01 (AHIMS #52-2-4338), which will be refined based on upon advice received from RAPs.



P.O. Box 440,  
Picton NSW 2571

T. +61 (0)2 4627 8622

F. +61 (0)2 4605 0815

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The AHIP Application Package will include an AHIP Application Form, a copy of the final CHAR (including comments relating to cultural significance as provided by RAPs), a RAP information package (to outline the details of the AHIP), and a supporting document to accompany the application.

#### Timeline

The Proponent is in the process of preparing a Development Application (DA) for the proposed works.

The table below outlines an expected timeline of works for the project, including approximate dates for test excavation and release of documentation. The table also provides information about points at which RAPs will be given the opportunity to provide feedback on the project, or information regarding cultural significance. It should be noted that dates provided here are an estimate only, and are subject to change based on discussion with the proponent and community groups. KAS will notify RAPs of definite dates for fieldwork and document delivery as they become available.

Activity/Document	Expected Date	Opportunity for RAP Involvement	Deadline for RAP Submissions
15C Notification and Methodology Statement	12 <sup>th</sup> December 2016	Comment on Methodology	12 <sup>th</sup> January 2017
Commencement of Test Excavation	16 <sup>th</sup> January 2017	Potential for participation in fieldwork	N/A
Delivery of Draft Report	1 <sup>st</sup> May 2017	Comments on findings and cultural significance	29 <sup>th</sup> May 2017
Delivery of Final Report	19 <sup>th</sup> June 2017	N/A	N/A
AHIP Application – RAP Information Package	To Be Announced	Comments regarding community outcomes of AHIP	To Be Announced
AHIP Application Submission	To Be Announced	N/A	N/A

These dates are only estimated and may be subject to change.

#### Next Phase

The methodology statement for the 15C Notification is currently being prepared; if you have any comments that you would like to be considered in the preparation of this statement please let us know.

If you have any questions about any aspect of this letter, please contact me on (02) 4627 8622.

Yours sincerely,

Lance Syme  
Principal  
B Arts (Arch/Palaeo), Grad Dip (Heritage Conservation)  
Full Member International Council on Monuments and Sites (M.ICOMOS)  
Expert Member International Committee on Archaeological Heritage Management  
Registered Cultural Heritage Advisor



P.O. Box 440,  
Picton NSW 2571  
T. +61 (0)2 4627 8622  
F. +61 (0)2 4605 0815  
W. [www.kayandel.com](http://www.kayandel.com)

#### References

- DECCW, 2010a, *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*, Department of Environment, Climate Change and Water NSW, Sydney South.
- DECCW 2010b, *Aboriginal Cultural Heritage Consultation Requirements for Proponents*, Department of Environment, Climate Change and Water NSW, Sydney South, April 2010.
- KAS, 2014, *Development Application "Balance of Site", Bingara Gorge, Wilton, Wollondilly Shire LGA, NSW: Cultural Heritage Assessment Report*. Prepared for Lend Lease Wilton Pty Ltd.
- KAS, 2015, *Proposed Construction of Fire Trails, Bingara Gorge, Wilton, Wollondilly Shire LGA, NSW: Cultural Heritage Assessment Report*. Prepared for Lend Lease Communities (Wilton) Pty Ltd.
- Navin Officer Heritage Consultants, 2003, *Proposed "Wilton Park" Residential Development, Wilton, NSW*. A Report to Bradcorp Holdings Pty Limited.





P.O. Box 440,  
Picton NSW 2571  
T. +61 (0)2 4627 8622  
F. +61 (0)2 4605 0815  
W. [www.kayandel.com](http://www.kayandel.com)



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P.O. Box 440,  
Picton NSW 2571  
T. +61 (0)2 4627 8622  
F. +61 (0)2 4605 0815  
W. [www.kayandel.com](http://www.kayandel.com)



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P.O. Box 440,  
 Picton NSW 2571  
 T. +61 (0)2 4627 8622  
 F. +61 (0)2 4605 0815  
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**Figure 3: Rural Precinct**





P.O. Box 440,  
Picton NSW 2571

T. +61 (0)2 4627 8622

F. +61 (0)2 4605 0815

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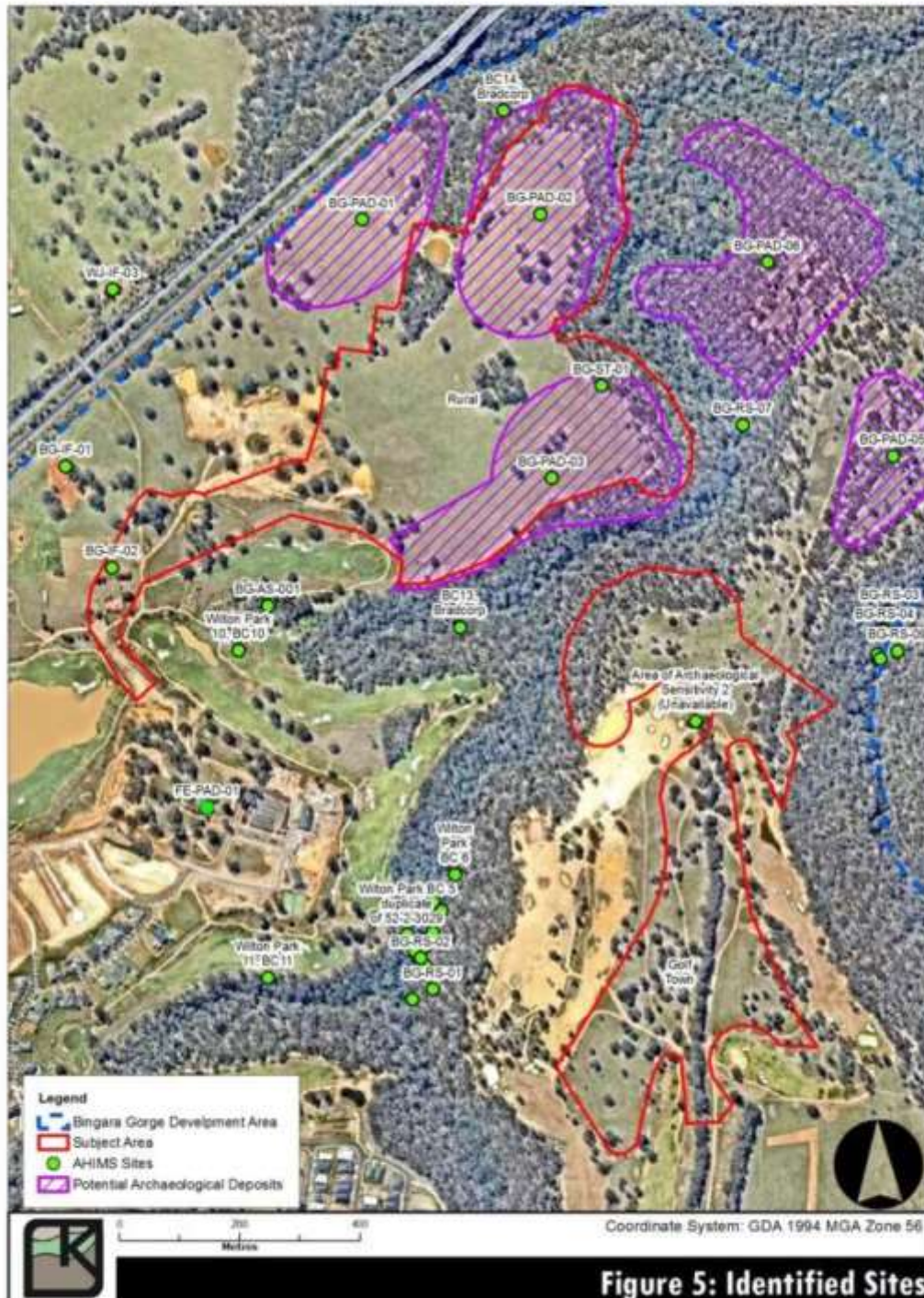
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P.O. Box 440,  
Picton NSW 2571  
T. +61 (0)2 4627 8622  
F. +61 (0)2 4605 0815  
W. www.kayandel.com



## APPENDIX XX. 15C NOTIFICATION

**Proposed Subdivision and Residential  
Development,  
"Rural" and "Golf Town" Development Precincts,  
Bingara Gorge, Wilton  
Wollondilly Shire Council LGA, NSW  
Archaeological Test Excavation**

Prepared for Lend Lease Communities (Wilton) Pty Ltd

December 2016

Lance Syme and Natalie Stiles

**KAYANDEL**  
ARCHAEOLOGICAL SERVICES



☎ 02 4627 8622  
☎ 02 4627 8633  
✉ [info@kayandel.com.au](mailto:info@kayandel.com.au)



Proposed Subdivision and Residential Development, "Rural" and "Golf Town" Development Precincts,  
Bingara Gorge, Wilton, Wollondilly Shire Council LGA, NSW  
Archaeological Test Excavation

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### **15C Notification – Proposed Subdivision and Residential Development**

Kayandel Archaeological Services has been commissioned to conduct an archaeological test excavation within the "Rural" and "Golf Town" development precincts, Bingara Gorge, Wilton, NSW. This notification addresses the matters set out in Requirement 15C of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010). The area outlined in red in Figure 1 is the Subject Area for the purpose of this investigation. The area had previously been surveyed by KAS; the reports that detail the results of the field surveys conducted within the Subject Area are listed below:

- ✦ KAS, 2014a, *Development Application "Balance of Site", Bingara Gorge, Wilton, Wollondilly Shire LGA, NSW: Cultural Heritage Assessment Report*. Prepared for Lend Lease Wilton Pty Ltd.
- ✦ KAS, 2015a, *Proposed Construction of Fire Trails, Bingara Gorge, Wilton, Wollondilly Shire LGA, NSW: Cultural Heritage Assessment Report*. Prepared for Lend Lease Communities (Wilton) Pty Ltd.

As noted in the Stage 2 Documented (dated 9th December 2016), at the time of preparing this document the Proponent had not received the determination from the NSW Land and Environment Court which provides details on the allowed lot yields, and the location of the fire trails. Once the determination has been made and the Proponent has developed a detailed design, a map showing the proposed plan in relation to known Aboriginal sites will be provided.

During the archaeological surveys undertaken within each development precinct, the following previously unidentified Aboriginal sites were recorded:

- ✦ BG-IF-02: isolated find;
- ✦ BG-PAD-01: potential archaeological deposit;
- ✦ BG-PAD-02: potential archaeological deposit;
- ✦ BG-PAD-03: potential archaeological deposit; and,
- ✦ BG-ST-01: possible Aboriginal scar tree.

Lend Lease Communities (Wilton) Pty Ltd (the Proponent) anticipates lodging a Development Application (DA) for the residential subdivision of the "Rural" and "Golf Town" Precincts in early 2017; as part of informing the DA and managing Aboriginal heritage constraints. It is anticipated that depending on the results of the test excavation, KAS will lodge the application for an Aboriginal Heritage Impact Permit (AHIP) with the Office of Environment and Heritage (OEH).

In order to prepare the documentation that will accompany the AHIP application for the proposed works should it be necessary, KAS proposes to undertake a test excavation of BG-IF-02, BG-PAD-01, BG-PAD-02, BG-PAD-03, and archaeologically sensitive landforms (as initially identified by Navin Officer (2003) and expanded upon by KAS) present within the development precincts (see Figure 5). The subsurface investigation will be undertaken at the locations of identified Aboriginal sites, and landforms that have the potential for archaeological deposits to be present and which will be impacted by the proposed works.

Proposed Subdivision and Residential Development, "Rural" and "Golf Town" Development Precincts,  
Bingara Gorge, Wilton, Wollondilly Shire Council LGA, NSW  
Archaeological Test Excavation

A Cultural Heritage Assessment Report (CHAR) will be produced as a result of this test excavation program. During the preparation of the CHAR, KAS will detail a proposed management strategy for BG-ST-01 [AHIMS #52-2-4338], which will be refined based on upon advice received from RAPs.



Proposed Subdivision and Residential Development, "Rural" and "Golf Town" Development Precincts,  
Bingara Gorge, Wilton, Wollondilly Shire Council LGA, NSW  
Archaeological Test Excavation

Location of the proposed test excavation and Subject Area

Subject Area: Lots 1, 5, 26, and 31 DP 270536, and Lot 207 DP1 104390, Bingara Gorge, Wilton, NSW.

Grid Reference: Rural - GDA 287205 6211475 Zone 56

Golf Town - GDA 287604 6210570 Zone 56

Location: The Subject Area consists of two (2) development precincts: Rural and Golf Town. Rural is located at the northern end of Fairways Drive, while Golf Town is located north-west of Broughton Street, Bingara Gorge, Wilton, NSW, within the Wollondilly Shire Council (WSC) Local Government Area (LGA) (see Figure 1, and Figure 2).

The Rural development precinct is located between Stringybark Creek to the east and the Hume Highway to the west; and continues the extension of Fairways Drive past the Condell Park Homestead. The lots included within Rural are listed of the below:

- ✦ Lots 1, 26 & 31 DP 270536; and,
- ✦ Lot 207 DP1 104390.

The Golf Town development precinct is located north-west from the northern end of Broughton Street, and is located between Stringybark Creek to the west and Allens Creek to the east. The lots included within Golf Town are listed of the below:

- ✦ Lots 5 & 31 DP 270536; and,
- ✦ Lot 207 DP1 104390.

KAS (2014a) identified 3 Aboriginal sites during the course of an archaeological survey (BG-IF-02, BG-PAD-01, BG-PAD-02 and BG-PAD-03, and a potential Aboriginal scar tree in 2015 (KAS, 2015a) (see Figure 5). The current configuration for the proposed subdivision is currently being prepared, however as the proposed subdivision and residential development will result in impacts to Aboriginal sites, it has been decided that the archaeological test excavation will go ahead without finalised design plans. Once the design plans have been finalised, they will be provided to the RAPs in a separate document.

Name and contact details of the legal entity with overall responsibility for the project

Name: Lance Syme (BA, M.AACAI, M.ICOMOS)  
Position: Principal Archaeologist  
Company: Kayandel Archaeological Services  
Address: Unit 1, 15 Henry Street, Pictou 2571.  
Phone: 02 4627 8622  
Email: lance.syme@kayandel.com.au

Name and contact details of the person carrying out the test excavations

Name: Lance Syme (BA, M.AACAI, M.ICOMOS)  
Position: Principal Archaeologist  
Company: Kayandel Archaeological Services  
Address: Unit 1, 15 Henry Street, Pictou 2571.  
Phone: 02 4627 8622  
Email: lance.syme@kayandel.com.au

Proposed date of commencement and estimated completion of the test excavations

Proposed Subdivision and Residential Development, "Rural" and "Golf Town" Development Precincts,  
Bingara Gorge, Wilton, Wollondilly Shire Council LGA, NSW  
Archaeological Test Excavation

Anticipated dates: Works will not commence prior to the 12<sup>th</sup> January 2017. Currently we anticipate 30<sup>th</sup> January 2017 to 27<sup>th</sup> March 2017, subject to weather or other conditions; however this may change subject to agreement between KAS and the RAP's involved in this project.

Temporary storage location for any Aboriginal objects uncovered during the test excavations

Temporary storage location: Unit 1, 15 Henry Street, Picton 2571.

A copy of the sampling strategy is attached.





Proposed Subdivision and Residential Development, "Rural" and "Golf Town" Development Precincts,  
Bingara Gorge, Wilton, Wollondilly Shire Council LGA, NSW  
Archaeological Test Excavation





Proposed Subdivision and Residential Development, "Rural" and "Golf Town" Development Precincts,  
Bingara Gorge, Wilton, Wollondilly Shire Council LGA, NSW  
Archaeological Test Excavation





Proposed Subdivision and Residential Development, "Rural" and "Golf Town" Development Precincts,  
Bingara Gorge, Wilton, Wollondilly Shire Council LGA, NSW  
Archaeological Test Excavation





Proposed Subdivision and Residential Development, "Rural" and "Golf Town" Development Precincts,  
Bingara Gorge, Wilton, Wollondilly Shire Council LGA, NSW  
Archaeological Test Excavation

**PROPOSED SUBDIVISION AND RESIDENTIAL DEVELOPMENT TEST EXCAVATION SAMPLING STRATEGY**

*Rationale:* Four (4) Aboriginal sites previously identified during the archaeological surveys undertaken by KAS (2014a; 2015) are located either within development precincts (Rural and Golf Town) (Figure 5). It was identified during the previous archaeological surveys, and test excavations (of similar landforms present within the Subject Area) that the Subject Area had landforms that were considered to be archaeologically sensitive (Navin Officer, 2003; KAS, 2014b; KAS, 2015a; KAS, 2015b; KAS, 2015c).

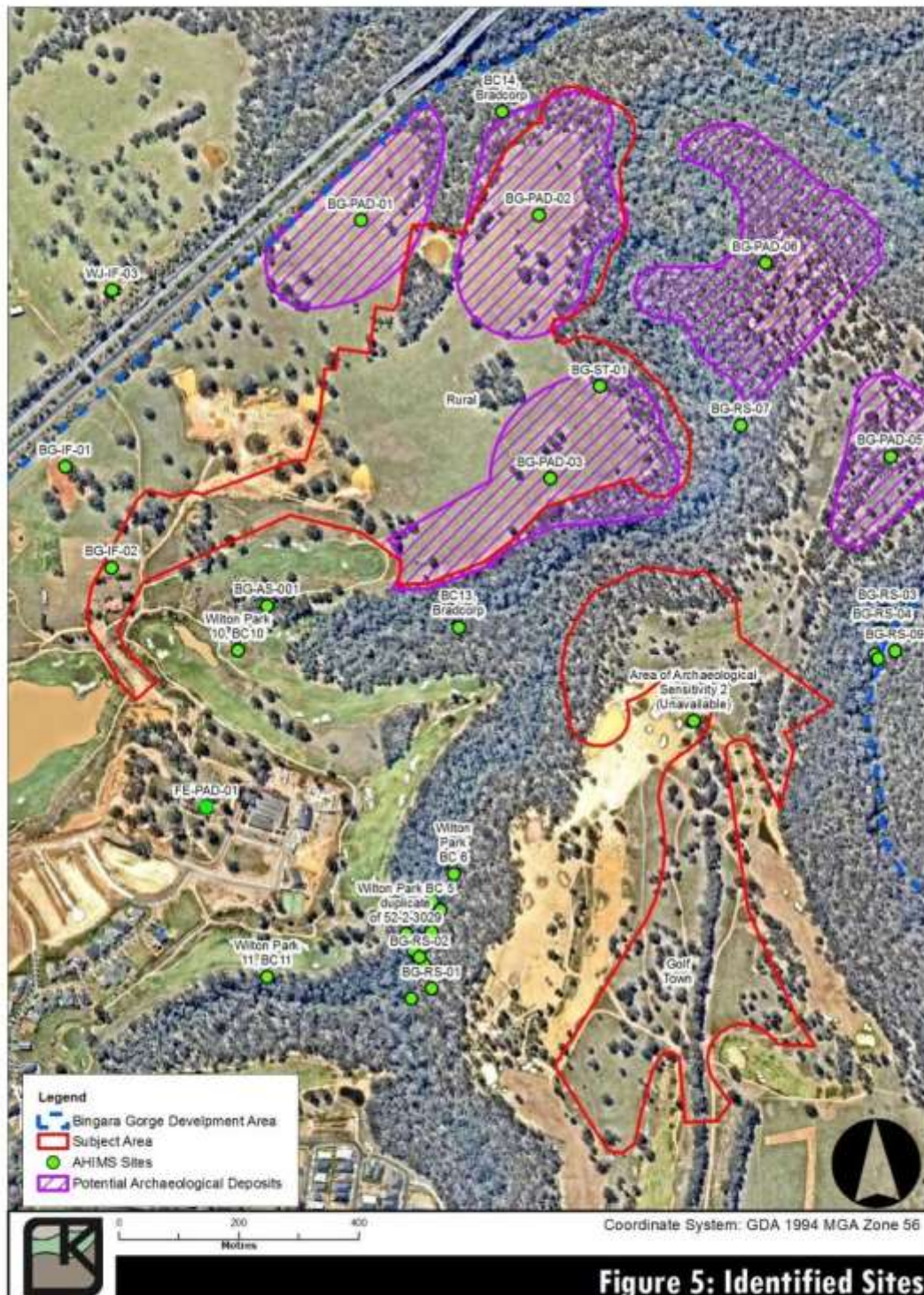
Previous archaeological investigations in the areas surrounding the Rural and Golf Town precincts and indicate that landscapes directly associated with creek lines and directly above the sandstone escarpments tend to contain Aboriginal sites especially in locations where there is a readily available easy access point down to into the creek line itself. Based on review of historic aerials, the Golf Town precinct has been subject to more intense levels of ground disturbance compared with the historic ground disturbance recorded within the Rural development precinct.

The results of the archaeological test excavation of the Rural and Golf Town precincts will be used to be a CHAR that will support the Development Application for the proposed subdivision and residential development of the two precincts. It is anticipated that once the Proponent has received the valid consent for the development that KAS will lodge the application for an AHIP with OEH, should it be necessary.

*Purpose of the test excavation:* The purpose of the test excavation is to collect information about the nature and extent of sub-surface Aboriginal objects, based on a sample derived from sub-surface investigations. The test excavations will contribute an understanding of site characteristics, local and regional prehistory and they can be used to inform conservation and harm mitigation measures for the proposed development (DECCW 2010:24).

*Risk of harm:* BG-IF-02 (AHIMS #52-2-4027), BG-PAD-01 (AHIMS #52-2-4028), BG-PAD-02 (AHIMS #52-2-4029), BG-PAD-03 (AHIMS #52-2-4030), and archaeologically sensitive landforms are at risk of harm from the subdivision and construction of residential dwellings, roads, associated infrastructure, and fire trails.

Proposed Subdivision and Residential Development, "Rural" and "Golf Town" Development Precincts,  
Bingara Gorge, Wilton, Wollondilly Shire Council LGA, NSW  
Archaeological Test Excavation





Proposed Subdivision and Residential Development, "Rural" and "Golf Town" Development Precincts,  
Bingara Gorge, Wilton, Wollondilly Shire Council LGA, NSW  
Archaeological Test Excavation

*Differentiation of potential archaeological deposit from surrounding landscape:* The archaeologically sensitive landforms present within the Subject Area can be differentiated from the surrounding landscape by micro-topography. Within the Bingara Gorge development, Aboriginal objects are typically identified in landscapes directly associated with creek lines and directly above the sandstone escarpments (Figure 2).

The current archaeological test excavation provides one of the first opportunities within the Bingara Gorge development to undertake a large-scale archaeological subsurface investigation utilising strategic sampling of landforms.

*Areas of low potential (as relevant):* The Subject Area is restricted to the "Rural" and "Golf Town" development precincts, and confirmation of areas of low potential is not relevant (beyond the scope of the study brief).

*Comply with methods described in the archaeological Code of Practice:* The test excavation would comply with the methods described in the Code.

*Sampling to occur within the area of proposed impact:* The entire area mapped would be affected by the proposed development and any objects occurring within this area would probably be harmed by works (Figure 7). Due to the size of the development precincts, it was decided that the archaeological test excavation would include the location of known Aboriginal sites, and undertake a strategic sample of the archaeologically sensitive landforms present.

*Personnel:* Test excavations will be carried out by personnel from Kayandel Archaeological Services, together with members of the local Aboriginal community identified during the consultation process.

#### **Proposed test excavation methods**

The test excavations would be conducted in accordance with Requirement 16a of the Archaeological Code of Practice (DECCW 2010).

1. Test units will be placed on a systematic grid, with spacing at 5m intervals. Test units may be more closely spaced, to clarify the spatial distribution of objects. Test units may be off-set from the 5m grid to avoid obstacles as necessary.
2. Test units would be separated by at least 5m.
3. Test units will be excavated using hand tools only.
4. Test units will be excavated in 50cm x 50cm squares.
5. Test units may be combined and excavated as necessary to understand site characteristics, however:
  - a. The maximum continuous surface area of a combination of test units will not be greater than 3m<sup>2</sup>;
  - b. The maximum surface area of all test units will be less than 0.5% of the site being investigated.
6. The first test unit will be excavated and documented in 5cm spits. Based on the results of the first test unit, 10cm spits or sediment profile/stratigraphic excavation (whichever is smaller) may then be implemented.
7. All material excavated from the test units will be sieved using a 5mm aperture wire-mesh sieve. A smaller mesh may also be used. Wet sieving will be used if possible.
8. Test units will be excavated to at least the base of the identified Aboriginal object-bearing units, and will continue to confirm the soils below are culturally sterile. However, excavation



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will cease if/when B-horizon clays, rock or other impenetrable layer is reached, even if objects occur directly on this layer.

9. There is no point 10 in requirement 16a of the Code.
10. Photographic and scale-drawn records of the stratigraphy/soil profile, features and informative Aboriginal objects will be made for each test unit or combined units.
11. Test units will be backfilled as soon as practicable.
12. An Aboriginal Site Impact Recording form will be completed and submitted to the AHIMS Registrar as soon as practicable after the test excavation (DECCW 2010:26-27).

The investigations will be proposed to be undertaken in 3 phases, with the design of each subsequent Phase being determined by the results of the earlier Phase(s).

Phase 1: Investigations would involve the investigation of test pits at intervals of 20m along each transect (see Figure 7).

Phase 2: Investigations would involve the investigation of additional test pits at a distance of 20m from Phase 1 Test Pits in which Aboriginal cultural material was identified. If no Aboriginal cultural material was identified the test excavation would cease at Phase 1.

Phase 3: Investigations would involve the extension of previous test pits that contained high frequency of Aboriginal objects count.

**Objects recovered during the test excavation – Requirements 16b, 19 and 26**

Any Aboriginal objects will be managed in accordance with Requirements 16b, 19 and 26.

Temporary storage: Any objects recovered during the test excavation will be temporarily removed from the site, to the offices of Kayandel Archaeological Services, Unit 1/15 Henry Street, Picton NSW 2571. Once there, they will be cleaned, identified, and recorded by, or under the supervision of, lithic specialists (Lance Syme and Natalie Stiles).

Reburial: Any objects recovered during the test excavation will be reburied as per Requirement 16b and 26, pending any agreement reached as to the long-term management of the objects. Before any objects are reburied, consultation will take place with members of the local Aboriginal community as to the preferred location of both a temporary and long-term 'keeping place'. The wishes of the community will be respected. Any reburial location will be subject to procedures to ensure that it is not harmed. When objects are reburied, the location of the reburial will be submitted to AHIMS with a site update record card (DECCW 2010:27). If reburied,

- The collection will be placed in a suitable impervious and permanent container and labelled.
- A record of the final location of the collection will be made, including grid co-ordinates, site plan (or mud map), depth of burial, and photographic record of the disposition. This record will be submitted to AHIMS with a site update card.

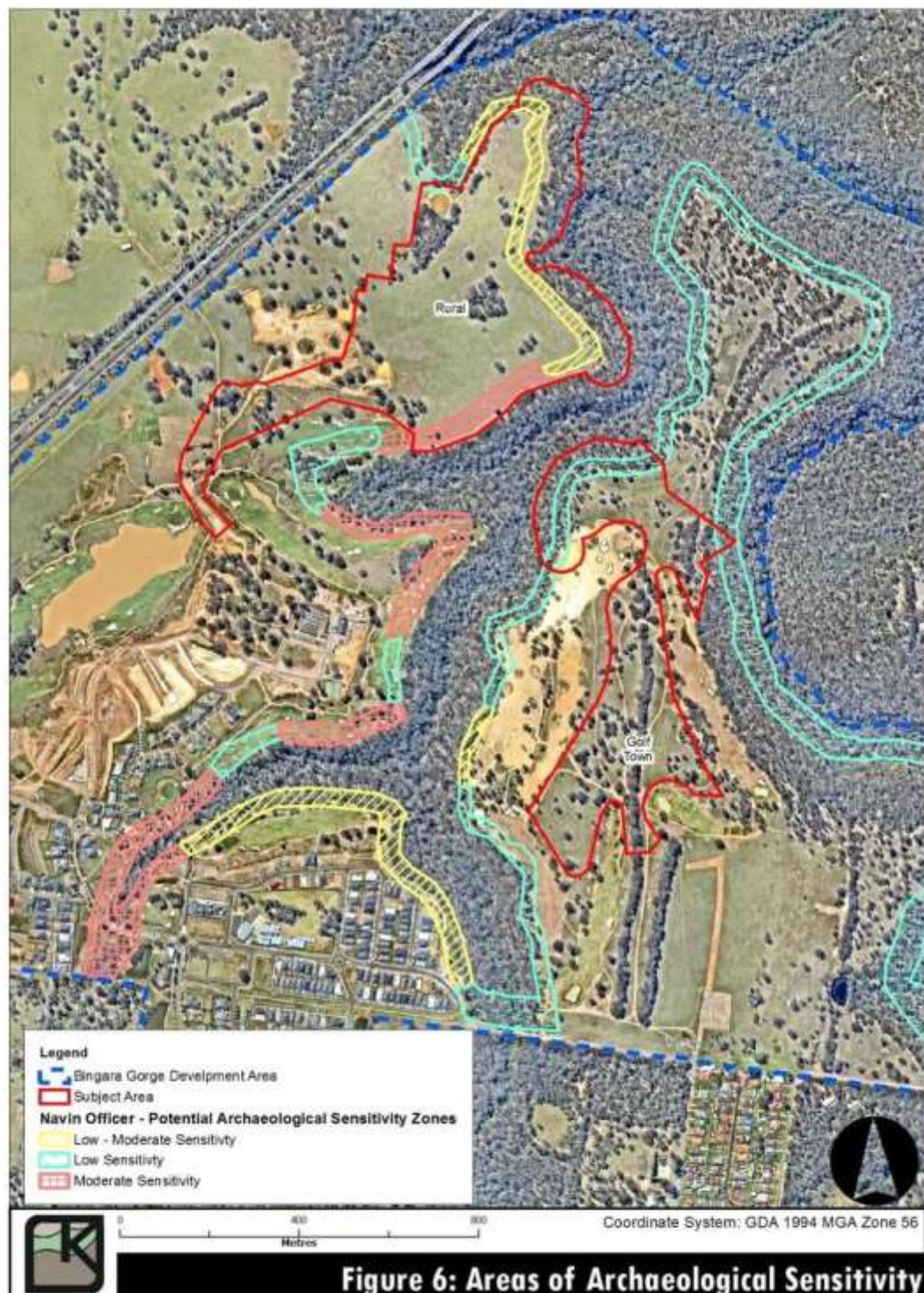
Attribute recording: Recording of any objects will include the attributes listed on the AHIMS Artefact Recording Table, in accordance with Requirement 19.

- A catalogue of objects will be made.
- Diagnostic artefacts will be photographed and drawn.
- All objects will be bagged in appropriate and identifiable units, which can be cross-referenced to the catalogue.
- Objects will be stored in good quality, double-bagged plastic zip-lock bags.

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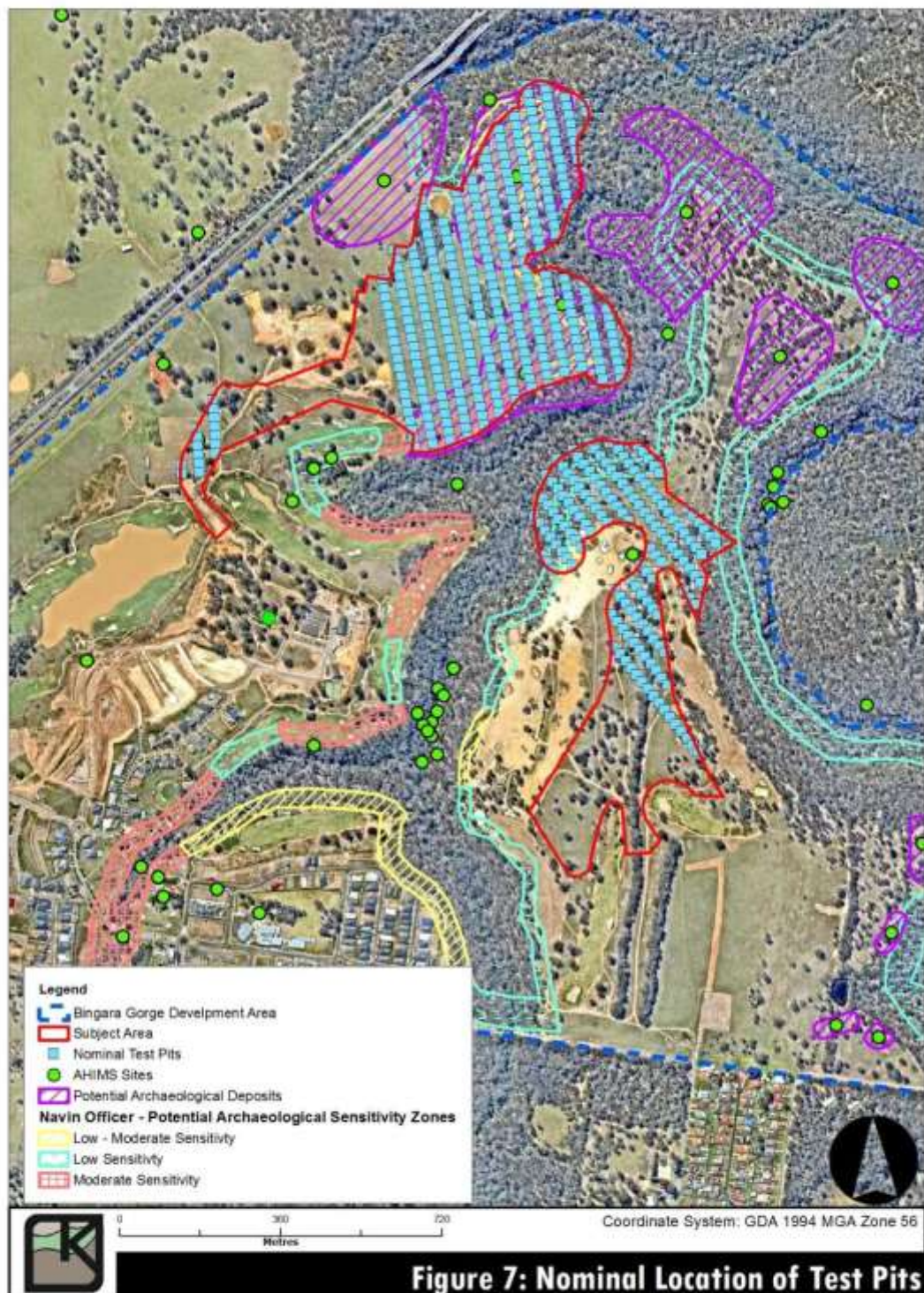
- The bags will be externally labelled using a permanent marker and an independent label on robust material (e.g. tyvex) will be placed inside the bag.

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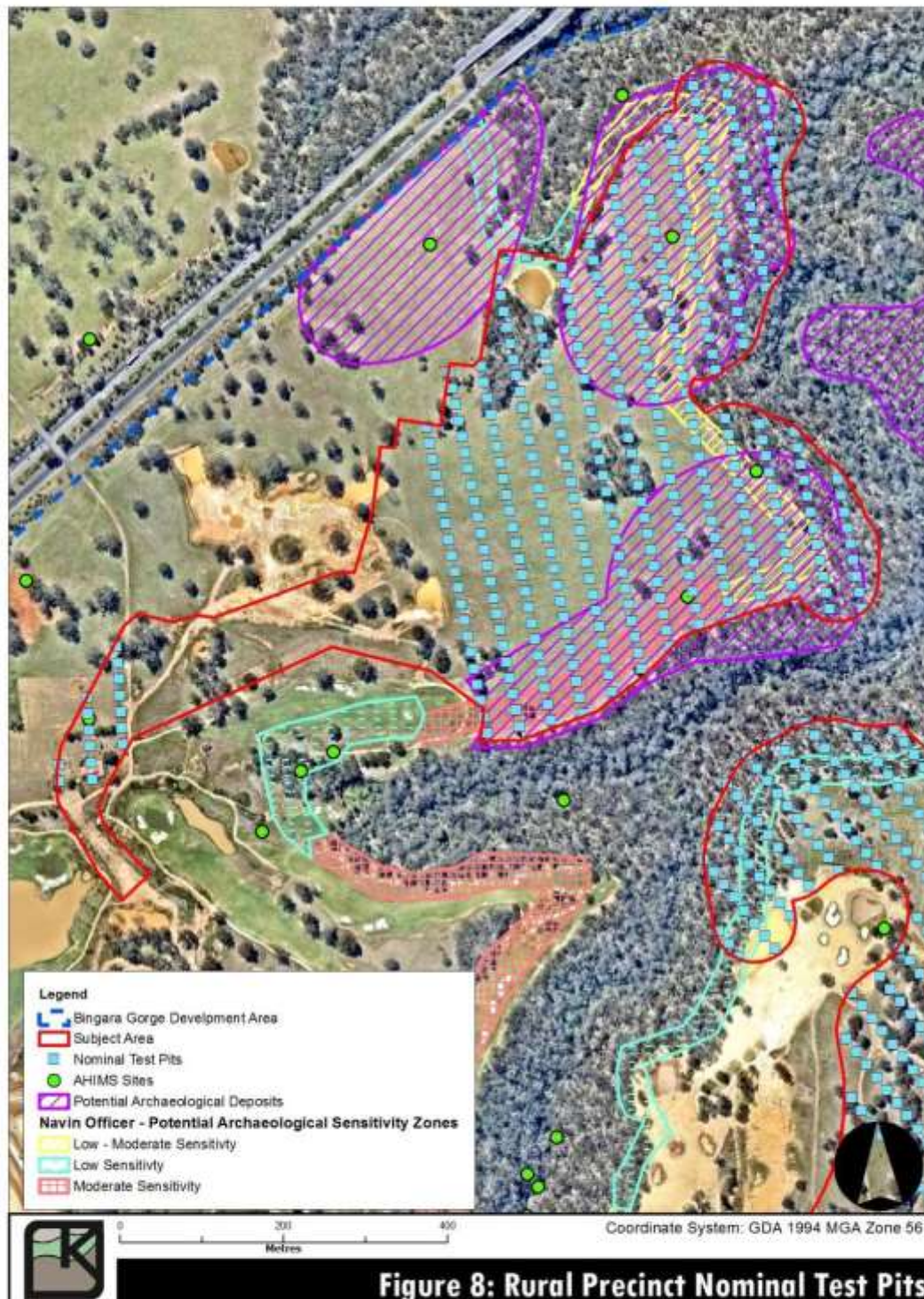


Proposed Subdivision and Residential Development, "Rural" and "Golf Town" Development Precincts,  
Bingara Gorge, Wilton, Wollondilly Shire Council LGA, NSW  
Archaeological Test Excavation



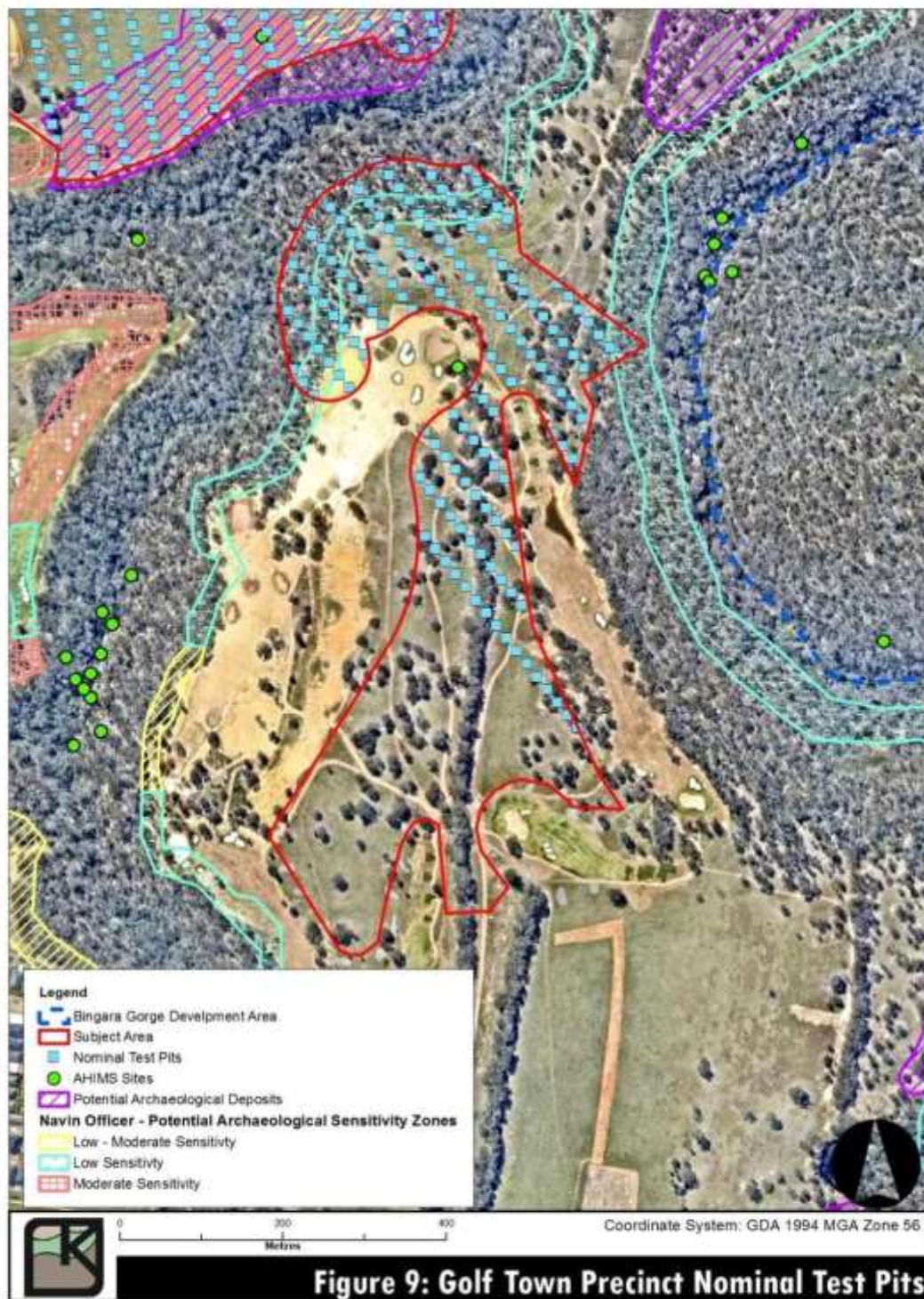


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Archaeological Test Excavation





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#### **Cessation of test excavation – Requirement 17**

Test excavation will cease if suspected human remains are encountered or when enough information has been recovered to adequately characterise the objects with regard to their nature and significance. Triggers for cessation of excavation may include locally or regionally high density of objects, presence of rare or representative objects, or presence of archaeological features, or presence of locally or regionally significant deposits (DECCW 2010:28).

#### **References**

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- KAS, 2014a, *Development Application "Balance of Site", Bingara Gorge, Wilton, Wollondilly Shire LGA, NSW: Cultural Heritage Assessment Report*. Prepared for Lend Lease Wilton Pty Ltd.
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- KAS, 2015a, *Proposed Construction of Fire Trails, Bingara Gorge, Wilton, Wollondilly Shire LGA, NSW: Cultural Heritage Assessment Report*. Prepared for Lend Lease Communities (Wilton) Pty Ltd.
- KAS, 2015b, *Fairways East Precinct, Bingara Gorge, Wilton, Wollondilly Shire LGA, NSW: Cultural Heritage Assessment and Test Excavation Report*. Prepared for Lend Lease Communities (Wilton) Pty Ltd.
- KAS, 2015c, *"Stage 5D" Precinct, Bingara Gorge, Wilton, Wollondilly Shire LGA, NSW: Cultural Heritage Assessment and Test Excavation Report*. Prepared for Lend Lease Wilton Pty Ltd.
- Navin Officer Heritage Consultants, 2003, *Proposed "Wilton Park" Residential Development, Wilton, NSW*. A Report to Bradcorp Holdings Pty Limited.

## APPENDIX XXI. "FAIRWAYS NORTH" STRATIGRAPHIC PHOTOGRAPHS



Plate 44: T1-260 looking at northern wall



Plate 45: T1-280 looking at northern wall



Plate 46: T2-180 looking at eastern wall



Plate 47: T2-200 looking at southern wall



Plate 48: T2-220 looking at western wall



Plate 49: T2-240 looking at eastern wall





**Plate 50:** T2-260 looking at southern wall



**Plate 51:** T2-280 looking at western wall



**Plate 52:** T3-100 looking at western wall



**Plate 53:** T3-120 looking at western wall



**Plate 54:** T3-140 looking at southern wall



**Plate 55:** T3-180 looking at southern wall





**Plate 56:** T3-200 looking at southern wall



**Plate 57:** T3-220 looking at southern wall



**Plate 58:** T3-240 looking at southern wall



**Plate 59:** T4-460 looking at southern wall



**Plate 60:** T4-480 looking at northern wall



**Plate 61:** T4-520 looking at western wall



**Plate 62:** T4-540 looking at southern wall



**Plate 63:** T4-560 looking at northern wall



**Plate 64:** T4-580 looking at western wall



**Plate 65:** T4-600 looking at northern wall



**Plate 66:** T4-620 looking at southern wall



**Plate 67:** T4-640 looking at northern wall





**Plate 68:** T4-660 looking at southern wall



**Plate 69:** T4-680 looking at northern wall



**Plate 70:** T4-700 looking at southern wall



**Plate 71:** T4-720 looking at eastern wall



**Plate 72:** T4-740 looking at eastern wall



**Plate 73:** T4-760 looking at northern wall





**Plate 74:** T4-780 looking at northern wall



**Plate 75:** T4-800 looking at northern wall



**Plate 76:** T4-820 looking at western wall



**Plate 77:** T4-840 looking at northern wall



**Plate 78:** T5-400 looking at southern wall



**Plate 79:** T5-420 looking at western wall



**Plate 80:** T5-440 looking at southern wall



**Plate 81:** T5-460 looking at northern wall



**Plate 82:** T5-500 looking at western wall



**Plate 83:** T5-520 looking at southern wall



**Plate 84:** T5-540 looking at northern wall



**Plate 85:** T5-560 looking at western wall





**Plate 86:** T5-580 looking at western wall



**Plate 87:** T5-600 looking at northern wall



**Plate 88:** T5-620 looking at southern wall



**Plate 89:** T5-640 looking at western wall



**Plate 90:** T5-660 looking at southern wall



**Plate 91:** T5-680 looking at northern wall





**Plate 92:** T5-700 looking at southern wall



**Plate 93:** T5-720 looking at northern wall



**Plate 94:** T5-740 looking at northern wall



**Plate 95:** T5-760 looking at southern wall



**Plate 96:** T5-780 looking at southern wall



**Plate 97:** T5-800 looking at southern wall



**Plate 98:** T5-820 looking at northern wall



**Plate 99:** T5-840 looking at western wall



**Plate 100:** T6-400 looking at western wall



**Plate 101:** T6-420 looking at western wall



**Plate 102:** T6-440 looking at southern wall



**Plate 103:** T6-460 looking at southern wall





**Plate 104:** T6-480 looking at southern wall



**Plate 105:** T6-500 looking at western wall



**Plate 106:** T6-520 looking at southern wall



**Plate 107:** T6-540 looking at southern wall



**Plate 108:** T6-560 looking at southern wall



**Plate 109:** T6-580 looking at southern wall





**Plate 110:** T6-600 looking at southern wall



**Plate 111:** T6-620 looking at southern wall



**Plate 112:** T6-640 looking at northern wall



**Plate 113:** T6-660 looking at western wall



**Plate 114:** T6-680 looking at northern wall



**Plate 115:** T6-700 looking at northern wall



**Plate 116:** T6-720 looking at northern wall



**Plate 117:** T6-740 looking at southern wall



**Plate 118:** T6-760 looking at western wall



**Plate 119:** T6-780 looking at southern wall



**Plate 120:** T6-800 looking at northern wall



**Plate 121:** T6-820 looking at southern wall





**Plate 122:** T6-840 looking at northern wall



**Plate 123:** T7-300 looking at northern wall



**Plate 124:** T7-320 looking at northern wall



**Plate 125:** T7-340 looking at western wall



**Plate 126:** T7-360 looking at eastern wall



**Plate 127:** T7-380 looking at northern wall





**Plate 128:** T7-400 looking at eastern wall



**Plate 129:** T7-420 looking at southern wall



**Plate 130:** T7-440 looking at western wall



**Plate 131:** T7-460 looking at eastern wall



**Plate 132:** T7-480 looking at eastern wall



**Plate 133:** T7-500 looking at eastern wall



**Plate 134:** T7-520 looking at southern wall



**Plate 135:** T7-540 looking at northern wall



**Plate 136:** T7-560 looking at northern wall



**Plate 137:** T7-580 looking at western wall



**Plate 138:** T7-600 looking at southern wall



**Plate 139:** T7-620 looking at northern wall





**Plate 140:** T7-640 looking at northern wall



**Plate 141:** T7-660 looking at northern wall



**Plate 142:** T7-680 looking at southern wall



**Plate 143:** T7-700 looking at northern wall



**Plate 144:** T7-720 looking at southern wall



**Plate 145:** T7-740 looking at eastern wall





**Plate 146:** T7-760 looking at western wall



**Plate 147:** T7-780 looking at northern wall



**Plate 148:** T7-800 looking at southern wall



**Plate 149:** T7-820 looking at western wall



**Plate 150:** T7-840 looking at western wall



**Plate 151:** T8-360 looking at eastern wall



**Plate 152:** T8-380 looking at eastern wall



**Plate 153:** T8-400 looking at northern wall



**Plate 154:** T8-440 looking at western wall



**Plate 155:** T8-480 looking at western wall



**Plate 156:** T8-520 looking at northern wall



**Plate 157:** T8-540 looking at northern wall





**Plate 158:** T8-560 looking at northern wall



**Plate 159:** T8-580 looking at western wall



**Plate 160:** T8-600 looking at northern wall



**Plate 161:** T8-620 looking at western wall



**Plate 162:** T8-640 looking at northern wall



**Plate 163:** T8-660 looking at western wall





**Plate 164:** T8-680 looking at western wall



**Plate 165:** T8-700 looking at eastern wall



**Plate 166:** T8-720 looking at northern wall



**Plate 167:** T8-740 looking at western wall



**Plate 168:** T8-760 looking at northern wall



**Plate 169:** T8-780 looking at western wall



**Plate 170:** T8-800 looking at western wall



**Plate 171:** T8-820 looking at western wall



**Plate 172:** T9-300 looking at western wall



**Plate 173:** T9-340 looking at northern wall



**Plate 174:** T9-380 looking at eastern wall



**Plate 175:** T9-420 looking at eastern wall





**Plate 176:** T9-460 looking at eastern wall



**Plate 177:** T9-480 looking at eastern wall



**Plate 178:** T9-500 looking at southern wall



**Plate 179:** T9-520 looking at southern wall



**Plate 180:** T9-540 looking at northern wall



**Plate 181:** T9-560 looking at western wall





**Plate 182:** T9-580 looking at southern wall



**Plate 183:** T9-600 looking at eastern wall



**Plate 184:** T9-620 looking at eastern wall



**Plate 185:** T9-640 looking at southern wall



**Plate 186:** T9-660 looking at western wall



**Plate 187:** T9-680 looking at eastern wall



**Plate 188:** T9-700 looking at western wall



**Plate 189:** T9-720 looking at eastern wall



**Plate 190:** T9-740 looking at southern wall



**Plate 191:** T9-760 looking at eastern wall



**Plate 192:** T9-780 looking at western wall



**Plate 193:** T9-800 looking at northern wall





**Plate 194:** T10-260 looking at northern wall



**Plate 195:** T10-280 looking at northern wall



**Plate 196:** T10-300 looking at southern wall



**Plate 197:** T10-320 looking at southern wall



**Plate 198:** T10-340 looking at southern wall



**Plate 199:** T10-360 looking at the northern wall





**Plate 200:** T10-380 looking at northern wall



**Plate 201:** T10-400 looking at eastern wall



**Plate 202:** T10-420 looking at western wall



**Plate 203:** T10-440 looking at western wall



**Plate 204:** T10-460 looking at southern wall



**Plate 205:** T10-480 looking at western wall



**Plate 206:** T10-500 looking at eastern wall



**Plate 207:** T10-520 looking at northern wall



**Plate 208:** T10-540 looking at western wall



**Plate 209:** T10-560 looking at eastern wall



**Plate 210:** T10-580 looking at western wall



**Plate 211:** T10-580K looking at northern wall





**Plate 212:** T10-600 looking at northern wall



**Plate 213:** T10-620 looking at western wall



**Plate 214:** T10-640 looking at eastern wall



**Plate 215:** T10-660 looking at eastern wall



**Plate 216:** T10-680 looking at eastern wall



**Plate 217:** T10-700 looking at eastern wall





**Plate 218:** T10-720 looking at western wall



**Plate 219:** T10-740 looking at northern wall



**Plate 220:** T10-760 looking at northern wall



**Plate 221:** T10-780 looking at western wall



**Plate 222:** T11-220 looking at southern wall



**Plate 223:** T11-240 looking at eastern wall



**Plate 224:** T11-260 looking at southern wall



**Plate 225:** T11-280 looking at eastern wall



**Plate 226:** T11-300 looking at southern wall



**Plate 227:** T11-300 looking at northern wall



**Plate 228:** T11-340 looking at northern wall



**Plate 229:** T11-360 looking at eastern wall





**Plate 230:** T11-380 looking at northern wall



**Plate 231:** T11-400 looking at northern wall



**Plate 232:** T11-420 looking eastern wall



**Plate 233:** T11-440 looking at northern wall



**Plate 234:** T11-460 looking at southern wall



**Plate 235:** T11-480 looking at northern wall





**Plate 236:** T11-500 looking at southern wall



**Plate 237:** T11-520 looking at northern wall



**Plate 238:** T11-540 looking at eastern wall



**Plate 239:** T11-560 looking at southern wall



**Plate 240:** T11-580 looking at southern wall



**Plate 241:** T11-580K looking at western wall



**Plate 242:** T11-600 looking at northern wall



**Plate 243:** T11-620 looking at western wall



**Plate 244:** T11-640 looking at northern wall



**Plate 245:** T11-660 looking at northern wall



**Plate 246:** T11-680 looking at northern wall



**Plate 247:** T11-700 looking at western wall





**Plate 248:** T11-720 looking at northern wall



**Plate 249:** T11-740 looking at southern wall



**Plate 250:** T11-760 looking at western wall



**Plate 251:** T12-180 looking at northern wall



**Plate 252:** T12-200 looking at eastern wall



**Plate 253:** T12-220 looking at southern wall





**Plate 254:** T12-240 looking at southern wall



**Plate 255:** T12-260 looking at northern wall



**Plate 256:** T12-280 looking at western wall



**Plate 257:** T12-300 looking at northern wall



**Plate 258:** T12-320 looking at northern wall



**Plate 259:** T12-340 looking at southern wall



**Plate 260:** T12-360 looking at western wall



**Plate 261:** T12-380 looking at southern wall



**Plate 262:** T12-400 looking at northern wall



**Plate 263:** T12-420 looking at northern wall



**Plate 264:** T12-440 looking at western wall



**Plate 265:** T12-460 looking at northern wall





**Plate 266:** T12-480 looking at southern wall



**Plate 267:** T12-500 looking at northern wall



**Plate 268:** T12-520 looking at eastern wall



**Plate 269:** T12-540 looking at northern wall



**Plate 270:** T12-560 looking at northern wall



**Plate 271:** T12-580 looking at southern wall





**Plate 272:** T12-600 looking at eastern wall



**Plate 273:** T12-620 looking at western wall



**Plate 274:** T12-640 looking at eastern wall



**Plate 275:** T12-660 looking at northern wall



**Plate 276:** T12-680 looking at southern wall



**Plate 277:** T12-700 looking at western wall



**Plate 278:** T12-720 looking at southern wall



**Plate 279:** T12-740 looking at eastern wall



**Plate 280:** T12-760 looking at western wall



**Plate 281:** T13-140 looking at western wall



**Plate 282:** T13-160 looking at western wall



**Plate 283:** T13-180 looking at northern wall





**Plate 284:** T13-200 looking at northern wall



**Plate 285:** T13-220 looking at northern wall



**Plate 286:** T13-240 looking at southern wall



**Plate 287:** T13-260 looking at eastern wall



**Plate 288:** T13-280 looking at the eastern wall



**Plate 289:** T13-300 looking at western wall





**Plate 290:** T13-320 looking at northern wall



**Plate 291:** T13-360 looking at northern wall



**Plate 292:** T13-380 looking at eastern wall



**Plate 293:** T13-400 looking at southern wall



**Plate 294:** T13-420 looking at eastern wall



**Plate 295:** T13-440 looking at eastern wall



**Plate 296:** T13-460 looking at northern wall



**Plate 297:** T13-520 looking at northern wall



**Plate 298:** T13-540 looking at eastern wall



**Plate 299:** T13-560 looking at eastern wall



**Plate 300:** T13-580 looking at southern wall



**Plate 301:** T13-600 looking at eastern wall





**Plate 302:** T13-620 looking at eastern wall



**Plate 303:** T13-640 looking at northern wall



**Plate 304:** T13-660 looking at eastern wall



**Plate 305:** T13-380 looking at northern wall



**Plate 306:** T13-700 looking at eastern wall



**Plate 307:** T13-720 looking at northern wall





**Plate 308:** T13-740 looking at southern wall



**Plate 309:** T14-100 looking at northern wall



**Plate 310:** T14-120 looking at western wall



**Plate 311:** T14-140 looking at eastern wall



**Plate 312:** T14-160 looking at western wall



**Plate 313:** T14-180 looking at northern wall



**Plate 314:** T14-200 looking at southern wall



**Plate 315:** T14-220 looking at northern wall



**Plate 316:** T14-240 looking at northern wall



**Plate 317:** T14-260 looking at northern wall



**Plate 318:** T14-280 looking at western wall



**Plate 319:** T14-300 looking at northern wall





**Plate 320:** T14-320 looking at eastern wall



**Plate 321:** T14-340 looking at western wall



**Plate 322:** T14-360 looking at eastern wall



**Plate 323:** T14-380 looking at western wall



**Plate 324:** T14-540 looking at western wall



**Plate 325:** T14-560 looking at southern wall





**Plate 326:** T14-580 looking at northern wall



**Plate 327:** T14-600 looking at northern wall



**Plate 328:** T14-620 looking at eastern wall



**Plate 329:** T14-640 looking at southern wall



**Plate 330:** T14-660 looking at northern wall



**Plate 331:** T14-680 looking at northern wall



**Plate 332:** T14-700 looking at northern wall



**Plate 333:** T14-720 looking at eastern wall



**Plate 334:** T15-100 looking at western wall



**Plate 335:** T15-120 looking at northern wall



**Plate 336:** T15-140 looking at eastern wall



**Plate 337:** T15-160 looking at western wall





**Plate 338:** T15-180 looking at northern wall



**Plate 339:** T15-200 looking at northern wall



**Plate 340:** T15-220 looking at northern wall



**Plate 341:** T15-240 looking at southern wall



**Plate 342:** T15-260 looking at northern wall



**Plate 343:** T15-240 looking at western wall





**Plate 344:** T15-300 looking at southern wall



**Plate 345:** T15-320 looking at western wall



**Plate 346:** T15-340 looking at northern wall



**Plate 347:** T15-600 looking at eastern wall



**Plate 348:** T15-620 looking at western wall



**Plate 349:** T15-640 looking at western wall



**Plate 350:** T15-660 looking at southern wall



**Plate 351:** T15-680 looking at northern wall  
T15-680 A (left) & T15-680 (right)



**Plate 352:** T15-700 looking eastern wall



**Plate 353:** T16-160 looking at northern wall



**Plate 354:** T16-180 looking at northern wall



**Plate 355:** T16-200 looking at northern wall



## APPENDIX XXII. "GOLF TOWN" STRATIGRAPHIC PHOTOGRAPHS



**Plate 356:** T20-560 looking at northern wall



**Plate 357:** T20-580 looking at northern wall



**Plate 358:** T20-540 looking at northern wall



**Plate 359:** T19-540 looking at northern wall



**Plate 360:** T25-280 looking at northern wall



**Plate 361:** T19-850 looking at western wall



**Plate 362:** T19-640 looking at western wall



**Plate 363:** T19-680 looking at western wall



**Plate 364:** T20-520 looking at northern wall



**Plate 365:** T20-600 looking at eastern wall



**Plate 366:** T19-660 looking at southern wall



**Plate 367:** T19-600 looking at southern wall





**Plate 368:** T19-620 looking at western wall



**Plate 369:** T19-580 looking at western wall



**Plate 370:** T20-520 looking at northern wall



**Plate 371:** T20-560 looking at northern wall



**Plate 372:** T20-600 looking at western wall



**Plate 373:** T20-620 looking at western wall





**Plate 374:** T20-580 looking at western wall



**Plate 375:** T20-540 looking at northern wall



**Plate 376:** T20-500 looking at northern wall



**Plate 377:** T20-660 looking at eastern wall



**Plate 378:** T21-580 looking at northern wall



**Plate 379:** T21-540 looking at northern wall



**Plate 380:** T21-500 looking at southern wall



**Plate 381:** T21-480 looking at northern wall



**Plate 382:** T22-440 looking at northern wall



**Plate 383:** T22-480 looking at western wall



**Plate 384:** T21-600 looking at western wall



**Plate 385:** T21-560 looking at northern wall





**Plate 386:** T21-520 looking at northern wall



**Plate 387:** T21-460 looking at northern wall



**Plate 388:** T21-420 looking at southern wall



**Plate 389:** T22-460 looking at southern wall



**Plate 390:** T23-420 looking at northern wall



**Plate 391:** T24-420 looking at eastern wall





**Plate 392:** T24-380 looking at western wall



**Plate 393:** T24-500 looking at southern wall



**Plate 394:** T25-500 looking at southern wall



**Plate 395:** T25-460 looking at eastern wall



**Plate 396:** T25-320 looking at western wall



**Plate 397:** T25-380 looking at western wall



**Plate 398:** T25-340 looking at western wall



**Plate 399:** T25-300 looking at western wall



**Plate 400:** T22-580 looking at eastern wall



**Plate 401:** T23-440 looking at northern wall



**Plate 402:** T23-400 looking at northern wall



**Plate 403:** T24-400 looking at northern wall





**Plate 404:** T24-520 looking at southern wall



**Plate 405:** T24-540 looking at western wall



**Plate 406:** T25-480 looking at eastern wall



**Plate 407:** T25-440 looking at western wall



**Plate 408:** T25-400 looking at eastern wall



**Plate 409:** T25-360 looking at western wall





**Plate 410:** T25-240 looking at eastern wall



**Plate 411:** T25-200 looking at eastern wall



**Plate 412:** T25-160 looking at eastern wall



**Plate 413:** T25-140 looking at northern wall



**Plate 414:** T24-160 looking at northern wall

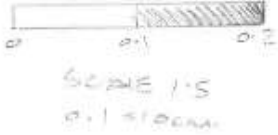
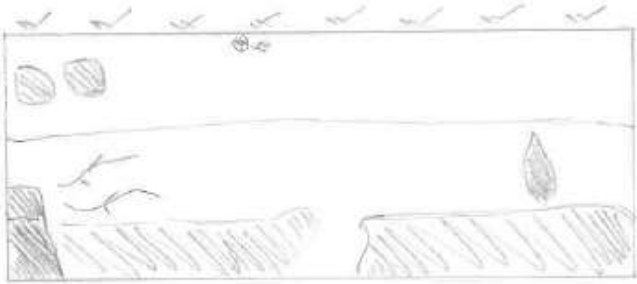


**Plate 415:** T22-160 looking at southern wall

## APPENDIX XXIII. REPRESENTATIVE STRATIGRAPHIC DRAWINGS



KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <b>HOMESTEAD</b>	Site Code:	Date: <b>23/5/17</b>	DEPOSIT DETAILS	
Trench:	Area/Quadrant:	Pit: <b>T<sub>1</sub>-260</b>	Spit: <b>3</b>	CONTEXT 001 (circle one only): DEPTH (m): <b>2.0m</b> MUNSELL COLOUR: <b>10YR 5/4</b> COLOUR: <b>LIGHT</b> MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <b>90</b> % CLAY: % SILT: <b>10</b> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Sketch Profile				CONTEXT 002 (circle one only): DEPTH (m): <b>2.4m</b> MUNSELL COLOUR: <b>2.5YR 4/8</b> COLOUR: LIGHT <b>MED</b> DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <b>60</b> % CLAY: <b>40</b> % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
				CONTEXT 003 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
				CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
				CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Recorder: <b>AB</b>	Date: <b>23/5/17</b>	Checked by:	Date:	



KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>GOLF TOWN</u>	Site Code:	Date:	DEPOSIT DETAILS	
Trench:	Area/Quadrant:	Pit: <u>T27-18</u>	Split: <u>20cm</u>	
Sketch Profile <u>SOUTH</u>			<p>CONTEXT 001 (circle one only):</p> <p>DEPTH (m): <u>8cm</u></p> <p>MUNSELL COLOUR: <u>10YR 5/2</u></p> <p>COLOUR: <u>(LIGHT)</u> MED DARK</p> <p>PH:</p> <p>CONSISTENCY: LOOSE <u>(WEAK)</u></p> <p>FRIABLE FIRM COMPACT CEMENTED</p> <p>TEXTURE -- SAND: <u>40</u> %</p> <p>CLAY: <u>30</u> % SILT: <u>40</u> %</p> <p>INCLUSIONS- PERCENTAGE %</p> <p>TYPE:</p> <p>SHAPE:</p> <p>FREQUENCY:</p>	
 <p>SCALE 1:5</p> <p>0.1 510cm</p> <p>✓ - SURFACE</p> <p>⊗ - ROCK</p> <p>h - ROCK</p>			<p>CONTEXT 002 (circle one only):</p> <p>DEPTH (m): <u>8cm</u></p> <p>MUNSELL COLOUR: <u>10YR 7/3</u></p> <p>COLOUR: <u>(LIGHT)</u> MED DARK</p> <p>PH:</p> <p>CONSISTENCY: LOOSE WEAK</p> <p>FRIABLE <u>(FIRM)</u> COMPACT CEMENTED</p> <p>TEXTURE -- SAND: <u>40</u> %</p> <p>CLAY: <u>30</u> % SILT: <u>30</u> %</p> <p>INCLUSIONS- PERCENTAGE <u>5</u> %</p> <p>TYPE:</p> <p>SHAPE: <u>ROCK</u></p> <p>FREQUENCY:</p>	
			<p>CONTEXT 003 (circle one only):</p> <p>DEPTH (m):</p> <p>MUNSELL COLOUR:</p> <p>COLOUR: LIGHT MED DARK</p> <p>PH:</p> <p>CONSISTENCY: LOOSE WEAK</p> <p>FRIABLE FIRM COMPACT CEMENTED</p> <p>TEXTURE -- SAND: %</p> <p>CLAY: % SILT: %</p> <p>INCLUSIONS- PERCENTAGE %</p> <p>TYPE:</p> <p>SHAPE:</p> <p>FREQUENCY:</p>	
			<p>CONTEXT 004 (circle one only):</p> <p>DEPTH (m):</p> <p>MUNSELL COLOUR:</p> <p>COLOUR: LIGHT MED DARK</p> <p>PH:</p> <p>CONSISTENCY: LOOSE WEAK</p> <p>FRIABLE FIRM COMPACT CEMENTED</p> <p>TEXTURE -- SAND: %</p> <p>CLAY: % SILT: %</p> <p>INCLUSIONS- PERCENTAGE %</p> <p>TYPE:</p> <p>SHAPE:</p> <p>FREQUENCY:</p>	
			<p>CONTEXT 005 (circle one only):</p> <p>DEPTH (m):</p> <p>MUNSELL COLOUR:</p> <p>COLOUR: LIGHT MED DARK</p> <p>PH:</p> <p>CONSISTENCY: LOOSE WEAK</p> <p>FRIABLE FIRM COMPACT CEMENTED</p> <p>TEXTURE -- SAND: %</p> <p>CLAY: % SILT: %</p> <p>INCLUSIONS- PERCENTAGE %</p> <p>TYPE:</p> <p>SHAPE:</p> <p>FREQUENCY:</p>	
Recorder: <u>AB</u>	Date: <u>27/7/17</u>	Checked by:	Date:	

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>Homestead</u>		Site Code:		Date:
Trench:	Area/Quadrant:	Pit: <u>T1-280</u>	Spit: <u>4</u>	
Sketch Profile: <u>North Wall</u>				
<p>✓ Grass</p> <p>Stone</p> <p>✕ Roots</p> <p>1:5</p> <p>0 100 200mm</p>		<p><b>CONTEXT 001 (circle one only):</b>            DEPTH (m): <u>24cm 7.5yr 3/3</u>            MUNSELL COLOUR:            COLOUR: LIGHT <u>(MED)</u> DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM <u>COMPACT</u> CEMENTED            TEXTURE -- SAND: <u>80</u> %            CLAY: <u>10</u> % SILT: <u>10</u> %            INCLUSIONS- PERCENTAGE %            TYPE: <u>Small roots</u>            SHAPE:            FREQUENCY: <u>&lt; 5%</u></p> <p><b>CONTEXT 002 (circle one only):</b>            DEPTH (m): <u>8cm 7.5yr 4/6</u>            MUNSELL COLOUR:            COLOUR: LIGHT <u>(MED)</u> DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM <u>COMPACT</u> CEMENTED            TEXTURE -- SAND: <u>50</u> %            CLAY: <u>35</u> % SILT: <u>15</u> %            INCLUSIONS- PERCENTAGE %            TYPE: <u>Roots</u>            SHAPE:            FREQUENCY: <u>Large 20%</u></p> <p><b>CONTEXT 003 (circle one only):</b>            DEPTH (m):            MUNSELL COLOUR:            COLOUR: LIGHT MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: %            CLAY: % SILT: %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p> <p><b>CONTEXT 004 (circle one only):</b>            DEPTH (m):            MUNSELL COLOUR:            COLOUR: LIGHT MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: %            CLAY: % SILT: %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p> <p><b>CONTEXT 005 (circle one only):</b>            DEPTH (m):            MUNSELL COLOUR:            COLOUR: LIGHT MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: %            CLAY: % SILT: %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>		
Recorder: <u>KA</u>	Date: <u>23-5-17</u>	Checked by:	Date:	




KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>Golf town</u>	Site Code:	Date: <u>27/7/17</u>	DEPOSIT DETAILS <u>27/7/17</u>	
Trench:	Area/Quadrant:	Pit: <u>27-360</u>	Spit: <u>15m</u>	CONTEXT 001 (circle one only): DEPTH (m): <u>15m</u> MUNSELL COLOUR: <u>2.5Y 7/3</u> COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <u>COMPACT</u> CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>20</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Sketch Profile				CONTEXT 002 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
				CONTEXT 003 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
<p>✓ - Surface</p> <p>• • • - small pebble inclusions, low frequency</p> <p>• • • well rounded well sorted</p>				CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
				CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Recorder: <u>CF</u>	Date: <u>27/7/17</u>	Checked by:	Date:	

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>RURAL PRECINCT</u>		Site Code:		Date:
Trench:	Area/Quadrant:	Pit: <u>T7-620</u>	Spit: <u>25cm</u>	
Sketch Profile <u>NORTH</u>			DEPOSIT DETAILS	
<p>SCALE 1:5 0.1 = 10cm</p> <p>s/s - SURFACE CL - CLAY R - ROOTS</p>			<p>CONTEXT 001 (circle one only):            DEPTH (m): <u>10cm</u>            MUNSELL COLOUR: <u>10YR 5/4</u>            COLOUR: LIGHT <u>MED</u> DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: <u>40</u> %            CLAY: <u>20</u> % SILT: <u>40</u> %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>	
			<p>CONTEXT 002 (circle one only):            DEPTH (m): <u>15-16cm</u>            MUNSELL COLOUR: <u>10YR 5/6</u>            COLOUR: LIGHT <u>MED</u> DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: <u>40</u> %            CLAY: <u>30</u> % SILT: <u>30</u> %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>	
			<p>CONTEXT 003 (circle one only):            DEPTH (m): <u>0-16cm</u>            MUNSELL COLOUR: <u>5YR 5/8</u>            COLOUR: LIGHT <u>MED</u> DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: <u>40</u> %            CLAY: <u>40</u> % SILT: <u>20</u> %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>	
			<p>CONTEXT 004 (circle one only):            DEPTH (m):            MUNSELL COLOUR:            COLOUR: LIGHT MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: %            CLAY: % SILT: %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>	
			<p>CONTEXT 005 (circle one only):            DEPTH (m):            MUNSELL COLOUR:            COLOUR: LIGHT MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: %            CLAY: % SILT: %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>	
Recorder: <u>AB</u>	Date: <u>7/8/17</u>	Checked by:	Date:	

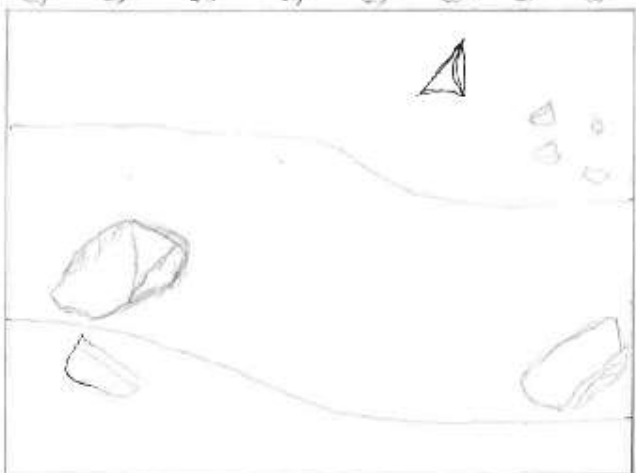


KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>WILTON PRECINCT</u>		Site Code:		Date:
Trench:	Area/Quadrant:	Pit: <u>T7-660</u>	Split: <u>30cm</u>	
Sketch Profile <u>NORTH</u>				
<p>CONTEXT 001 (circle one only):</p> <p>DEPTH (m): <u>1.2m</u></p> <p>MUNSELL COLOUR: <u>5YR 3/4</u></p> <p>COLOUR: LIGHT <u>(MED)</u> DARK</p> <p>PH:</p> <p>CONSISTENCY: LOOSE WEAK</p> <p>FRIABLE FIRM COMPACT CEMENTED</p> <p>TEXTURE: SAND: <u>40</u> %</p> <p>CLAY: <u>20</u> % SILT: <u>40</u> %</p> <p>INCLUSIONS- PERCENTAGE %</p> <p>TYPE:</p> <p>SHAPE:</p> <p>FREQUENCY:</p>				
<p>CONTEXT 002 (circle one only):</p> <p>DEPTH (m): <u>1.5m - 1.6m</u></p> <p>MUNSELL COLOUR: <u>5YR 3/4</u></p> <p>COLOUR: LIGHT <u>(MED)</u> DARK</p> <p>PH:</p> <p>CONSISTENCY: LOOSE WEAK</p> <p>FRIABLE FIRM COMPACT CEMENTED</p> <p>TEXTURE: SAND: <u>40</u> %</p> <p>CLAY: <u>30</u> % SILT: <u>30</u> %</p> <p>INCLUSIONS- PERCENTAGE %</p> <p>TYPE:</p> <p>SHAPE:</p> <p>FREQUENCY:</p>				
<p>CONTEXT 003 (circle one only):</p> <p>DEPTH (m): <u>1.7m - 1.8m</u></p> <p>MUNSELL COLOUR: <u>5YR 3/4</u></p> <p>COLOUR: LIGHT <u>(MED)</u> DARK</p> <p>PH:</p> <p>CONSISTENCY: LOOSE WEAK</p> <p>FRIABLE FIRM <u>COMPACT</u> CEMENTED</p> <p>TEXTURE: SAND: <u>40</u> %</p> <p>CLAY: <u>40</u> % SILT: <u>20</u> %</p> <p>INCLUSIONS- PERCENTAGE %</p> <p>TYPE:</p> <p>SHAPE:</p> <p>FREQUENCY:</p>				
<p>CONTEXT 004 (circle one only):</p> <p>DEPTH (m):</p> <p>MUNSELL COLOUR:</p> <p>COLOUR: LIGHT MED DARK</p> <p>PH:</p> <p>CONSISTENCY: LOOSE WEAK</p> <p>FRIABLE FIRM COMPACT CEMENTED</p> <p>TEXTURE: SAND: %</p> <p>CLAY: % SILT: %</p> <p>INCLUSIONS- PERCENTAGE %</p> <p>TYPE:</p> <p>SHAPE:</p> <p>FREQUENCY:</p>				
<p>CONTEXT 005 (circle one only):</p> <p>DEPTH (m):</p> <p>MUNSELL COLOUR:</p> <p>COLOUR: LIGHT MED DARK</p> <p>PH:</p> <p>CONSISTENCY: LOOSE WEAK</p> <p>FRIABLE FIRM COMPACT CEMENTED</p> <p>TEXTURE: SAND: %</p> <p>CLAY: % SILT: %</p> <p>INCLUSIONS- PERCENTAGE %</p> <p>TYPE:</p> <p>SHAPE:</p> <p>FREQUENCY:</p>				
Recorder: <u>AB</u>	Date: <u>7/8/17</u>	Checked by:	Date:	

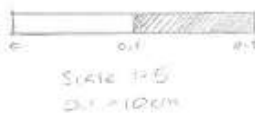
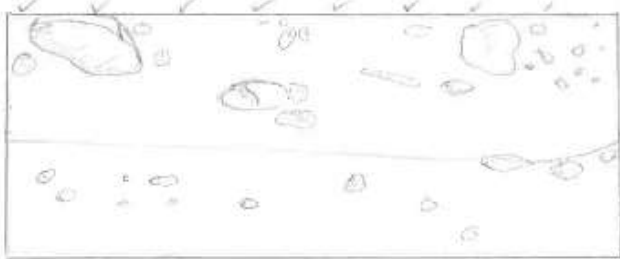
KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>RURAL PRECINCT</u>		Site Code:		Date:
Trench:	Area/Quadrant:	Pit: <u>17-340</u>	Spit: <u>30cm</u>	
Sketch Profile <u>WEST</u> 				
DEPOSIT DETAILS CONTEXT 001 (circle one only): DEPTH (m): <u>1.5m</u> MUNSELL COLOUR: <u>BMC 4/4</u> COLOUR: LIGHT <u>(MED)</u> DARK PH: CONSISTENCY: <u>(LOOSE)</u> WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>40%</u> CLAY: <u>20%</u> SILT: <u>40%</u> INCLUSIONS- PERCENTAGE <u>30%</u> TYPE: <u>ROCK</u> SHAPE: FREQUENCY:				
CONTEXT 002 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
CONTEXT 003 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
Recorder: <u>AB</u>	Date: <u>4/8/17</u>	Checked by:	Date:	



KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>RURAL PRECINCT</u>		Site Code:		Date:
Trench:	Area/Quadrant:	Pit: <u>T-380</u>	Spit: <u>40cm</u>	
<div> <div>Sketch Profile</div> <div> </div> </div>				
<div> <div>DEPOSIT DETAILS</div> <div> <div>CONTEXT 001 (circle one only):</div> <div>           DEPTH (m): <u>0.5cm</u>            MUNSELL COLOUR: <u>10YR 2/2</u>            COLOUR: LIGHT MED <u>DARK</u>            PH:            CONSISTENCY: <u>LOOSE</u> WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: <u>40</u> %            CLAY: <u>20</u> % SILT: <u>40</u> %            INCLUSIONS- PERCENTAGE <u>100</u> %            TYPE: <u>ROCK</u>            SHAPE:            FREQUENCY:         </div> </div> </div>				
<div> <div>CONTEXT 002 (circle one only):</div> <div>           DEPTH (m): <u>20cm</u>            MUNSELL COLOUR: <u>10YR 6/6</u>            COLOUR: LIGHT MED <u>DARK</u>            PH:            CONSISTENCY: <u>LOOSE</u> WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: <u>40</u> %            CLAY: <u>20</u> % SILT: <u>40</u> %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:         </div> </div>				
<div> <div>CONTEXT 003 (circle one only):</div> <div>           DEPTH (m):            MUNSELL COLOUR:            COLOUR: LIGHT MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: %            CLAY: % SILT: %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:         </div> </div>				
<div> <div>CONTEXT 004 (circle one only):</div> <div>           DEPTH (m):            MUNSELL COLOUR:            COLOUR: LIGHT MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: %            CLAY: % SILT: %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:         </div> </div>				
<div> <div>CONTEXT 005 (circle one only):</div> <div>           DEPTH (m):            MUNSELL COLOUR:            COLOUR: LIGHT MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: %            CLAY: % SILT: %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:         </div> </div>				
Recorder: <u>AB</u>		Date: <u>4/8/17</u>		Checked by:
				Date:

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM			
Site Name: <u>RUPPL POKUNA</u>	Site Code:	Date:	DEPOSIT DETAILS
Trench:	Area/Quadrant:	Pit: <u>T11-240</u>	Spit: <u>37cm</u>
Sketch Profile <u>WALL EAST</u>			<p>CONTEXT 001 (circle one only):            DEPTH (m): <u>9-15cm</u>            MUNSELL COLOUR: <u>10YR 4/2</u>            COLOUR: <u>(LIGHT)</u> MED DARK            PH:            CONSISTENCY: <u>(LOOSE)</u> WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: <u>30</u> %            CLAY: <u>10</u> % SILT: <u>60</u> %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>
<p>0 0.1 0.2</p> <p>SCALE 1:5 0.1 = 10cm</p> <p>9/- SURFACE D-Rocks</p> 			<p>CONTEXT 002 (circle one only):            DEPTH (m): <u>15-17cm</u>            MUNSELL COLOUR: <u>10YR 7/4</u>            COLOUR: <u>(LIGHT)</u> MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE <u>(FIRM)</u> COMPACT CEMENTED            TEXTURE -- SAND: <u>40</u> %            CLAY: <u>20</u> % SILT: <u>40</u> %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>
			<p>CONTEXT 003 (circle one only):            DEPTH (m): <u>2-5cm</u>            MUNSELL COLOUR: <u>10YR 6/8</u>            COLOUR: <u>(LIGHT)</u> MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM <u>(COMPACT)</u> CEMENTED            TEXTURE -- SAND: <u>40</u> %            CLAY: <u>40</u> % SILT: <u>20</u> %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>
			<p>CONTEXT 004 (circle one only):            DEPTH (m):            MUNSELL COLOUR:            COLOUR: LIGHT MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: %            CLAY: % SILT: %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>
			<p>CONTEXT 005 (circle one only):            DEPTH (m):            MUNSELL COLOUR:            COLOUR: LIGHT MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: %            CLAY: % SILT: %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>
Recorder: <u>DS</u>	Date: <u>25/8/17</u>	Checked by:	Date:



KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: Rural Precinct		Site Code:		Date: 25/8/17
Trench:	Area/Quadrant:	Pit: T11-260	Spit: 20cm	
Sketch Profile WP 376		<p>CONTEXT 001 (circle one only):            DEPTH (m): 10cm            MUNSELL COLOUR: 10YR 4/3            COLOUR: LIGHT MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE (FIRM) COMPACT CEMENTED            TEXTURE -- SAND: 40 %            CLAY: 20 % SILT: 40 %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>		
		<p>CONTEXT 002 (circle one only):            DEPTH (m): 10cm            MUNSELL COLOUR: 10YR 7/3            COLOUR: LIGHT MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE (FIRM) COMPACT CEMENTED            TEXTURE -- SAND: 40 %            CLAY: 40 % SILT: 20 %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>		
<p>✓ - surface            ○ - rock</p>		<p>CONTEXT 003 (circle one only):            DEPTH (m):            MUNSELL COLOUR:            COLOUR: LIGHT MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: %            CLAY: % SILT: %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>		
		<p>CONTEXT 004 (circle one only):            DEPTH (m):            MUNSELL COLOUR:            COLOUR: LIGHT MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: %            CLAY: % SILT: %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>		
<p>Recorder: CI</p>		<p>Date: 25/8/17</p>		<p>Checked by:</p>
				<p>Date:</p>



KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <i>Rural Precinct</i>	Site Code:	Date: <i>25/8/17</i>	DEPOSIT DETAILS	
Trench:	Area/Quadrant:	Pit: <i>T11.300</i>	Splt: <i>2.8m</i>	CONTEXT 001 (circle one only): DEPTH (m): <i>8</i> MUNSELL COLOUR: <i>10YR 4/3</i> COLOUR: LIGHT MED <b>DARK</b> PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <b>COMPACT</b> CEMENTED TEXTURE -- SAND: <i>40</i> % CLAY: <i>20</i> % SILT: <i>40</i> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Sketch Profile <i>WP 378</i>				CONTEXT 002 (circle one only): DEPTH (m): <i>11</i> MUNSELL COLOUR: <i>2.5Y 7/4</i> COLOUR: LIGHT MED <b>DARK</b> PH: CONSISTENCY: LOOSE WEAK FRIABLE <b>FIRM</b> <b>COMPACT</b> CEMENTED TEXTURE -- SAND: <i>40</i> % CLAY: <i>30</i> % SILT: <i>30</i> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
<p>Scale 1:5 0.1 = 10cm</p> <p>✓ - surface ⊙ - rocks ◆ - bioturbation x - charcoal flecking wavy line - compaction</p>				CONTEXT 003 (circle one only): DEPTH (m): <i>9</i> MUNSELL COLOUR: <i>10YR 6/6</i> COLOUR: LIGHT MED <b>DARK</b> PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <b>COMPACT</b> CEMENTED TEXTURE -- SAND: <i>40</i> % CLAY: <i>40</i> % SILT: <i>20</i> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
				CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED <b>DARK</b> PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <b>COMPACT</b> CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
				CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED <b>DARK</b> PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <b>COMPACT</b> CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Recorder: <i>CE</i>	Date: <i>25/8/17</i>	Checked by:	Date:	

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>PURRA PRECINCT</u>		Site Code:		Date:
Trench:	Area/Quadrant:	Pit: <u>T1-320</u>	Spit: <u>3cm</u>	
Sketch Profile			DEPOSIT DETAILS	
<p><u>NORTH</u></p> <p>0 0.1 0.2</p> <p>SCALE 1:5</p> <p>0.1 = 10 CM</p> <p>0/- SURFACE.</p> <p>CLAY BASE</p>			<p>CONTEXT 001 (circle one only):</p> <p>DEPTH (m): <u>10cm</u></p> <p>MUNSELL COLOUR: <u>10YR 5/3</u></p> <p>COLOUR: <u>LIGHT</u> MED DARK</p> <p>PH:</p> <p>CONSISTENCY: <u>LOOSE</u> WEAK</p> <p>FRIABLE FIRM COMPACT CEMENTED</p> <p>TEXTURE -- SAND: <u>30</u> %</p> <p>CLAY: <u>10</u> % SILT: <u>60</u> %</p> <p>INCLUSIONS- PERCENTAGE %</p> <p>TYPE:</p> <p>SHAPE:</p> <p>FREQUENCY:</p>	
			<p>CONTEXT 002 (circle one only):</p> <p>DEPTH (m): <u>5cm</u></p> <p>MUNSELL COLOUR: <u>10YR 8/4</u></p> <p>COLOUR: <u>LIGHT</u> MED DARK</p> <p>PH:</p> <p>CONSISTENCY: LOOSE WEAK</p> <p>FRIABLE <u>FIRM</u> COMPACT CEMENTED</p> <p>TEXTURE -- SAND: <u>40</u> %</p> <p>CLAY: <u>20</u> % SILT: <u>40</u> %</p> <p>INCLUSIONS- PERCENTAGE %</p> <p>TYPE:</p> <p>SHAPE:</p> <p>FREQUENCY:</p>	
			<p>CONTEXT 003 (circle one only):</p> <p>DEPTH (m): <u>5cm</u></p> <p>MUNSELL COLOUR: <u>10YR 7/8</u></p> <p>COLOUR: <u>LIGHT</u> MED DARK</p> <p>PH:</p> <p>CONSISTENCY: LOOSE WEAK</p> <p>FRIABLE <u>FIRM</u> COMPACT CEMENTED</p> <p>TEXTURE -- SAND: <u>40</u> %</p> <p>CLAY: <u>30</u> % SILT: <u>30</u> %</p> <p>INCLUSIONS- PERCENTAGE %</p> <p>TYPE:</p> <p>SHAPE:</p> <p>FREQUENCY:</p>	
			<p>CONTEXT 004 (circle one only):</p> <p>DEPTH (m):</p> <p>MUNSELL COLOUR:</p> <p>COLOUR: LIGHT MED DARK</p> <p>PH:</p> <p>CONSISTENCY: LOOSE WEAK</p> <p>FRIABLE FIRM COMPACT CEMENTED</p> <p>TEXTURE -- SAND: %</p> <p>CLAY: % SILT: %</p> <p>INCLUSIONS- PERCENTAGE %</p> <p>TYPE:</p> <p>SHAPE:</p> <p>FREQUENCY:</p>	
			<p>CONTEXT 005 (circle one only):</p> <p>DEPTH (m):</p> <p>MUNSELL COLOUR:</p> <p>COLOUR: LIGHT MED DARK</p> <p>PH:</p> <p>CONSISTENCY: LOOSE WEAK</p> <p>FRIABLE FIRM COMPACT CEMENTED</p> <p>TEXTURE -- SAND: %</p> <p>CLAY: % SILT: %</p> <p>INCLUSIONS- PERCENTAGE %</p> <p>TYPE:</p> <p>SHAPE:</p> <p>FREQUENCY:</p>	
Recorder: <u>DB</u>		Date: <u>25/8/17</u>		Checked by:
				Date:

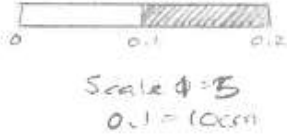
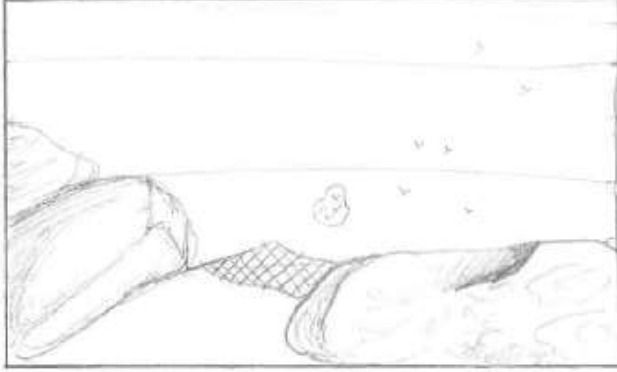


KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>Rural Precinct</u>		Site Code:		Date: <u>25/8/17</u>
Trench:	Area/Quadrant:	Pit: <u>T11-340</u>	Spit: <u>30cm</u>	
<div> <div>Sketch Profile</div> <div> </div> </div>				
<div> <div>DEPOSIT DETAILS</div> <div> <div>CONTEXT 001 (circle one only):</div> <div>DEPTH (m): <u>0.05m</u></div> <div>MUNSELL COLOUR: <u>10YR 5/3</u></div> <div>COLOUR: LIGHT MED <u>DARK</u></div> <div>PH:</div> <div>CONSISTENCY: LOOSE WEAK</div> <div>FRIABLE <u>FIRM</u> COMPACT CEMENTED</div> <div>TEXTURE -- SAND: <u>40</u> %</div> <div>CLAY: <u>20</u> % SILT: <u>40</u> %</div> <div>INCLUSIONS- PERCENTAGE %</div> <div>TYPE:</div> <div>SHAPE:</div> <div>FREQUENCY:</div> </div> </div>				
<div> <div>CONTEXT 002 (circle one only):</div> <div>DEPTH (m): <u>2.05m</u></div> <div>MUNSELL COLOUR: <u>10YR 7/4</u></div> <div>COLOUR: <u>LIGHT</u> MED DARK</div> <div>PH:</div> <div>CONSISTENCY: LOOSE WEAK</div> <div><u>FRIABLE</u> FIRM COMPACT CEMENTED</div> <div>TEXTURE -- SAND: <u>20</u> %</div> <div>CLAY: <u>40</u> % SILT: <u>40</u> %</div> <div>INCLUSIONS- PERCENTAGE %</div> <div>TYPE:</div> <div>SHAPE:</div> <div>FREQUENCY:</div> </div>				
<div> <div>CONTEXT 003 (circle one only):</div> <div>DEPTH (m):</div> <div>MUNSELL COLOUR:</div> <div>COLOUR: LIGHT MED DARK</div> <div>PH:</div> <div>CONSISTENCY: LOOSE WEAK</div> <div>FRIABLE FIRM COMPACT CEMENTED</div> <div>TEXTURE -- SAND: %</div> <div>CLAY: % SILT: %</div> <div>INCLUSIONS- PERCENTAGE %</div> <div>TYPE:</div> <div>SHAPE:</div> <div>FREQUENCY:</div> </div>				
<div> <div>CONTEXT 004 (circle one only):</div> <div>DEPTH (m):</div> <div>MUNSELL COLOUR:</div> <div>COLOUR: LIGHT MED DARK</div> <div>PH:</div> <div>CONSISTENCY: LOOSE WEAK</div> <div>FRIABLE FIRM COMPACT CEMENTED</div> <div>TEXTURE -- SAND: %</div> <div>CLAY: % SILT: %</div> <div>INCLUSIONS- PERCENTAGE %</div> <div>TYPE:</div> <div>SHAPE:</div> <div>FREQUENCY:</div> </div>				
<div> <div>CONTEXT 005 (circle one only):</div> <div>DEPTH (m):</div> <div>MUNSELL COLOUR:</div> <div>COLOUR: LIGHT MED DARK</div> <div>PH:</div> <div>CONSISTENCY: LOOSE WEAK</div> <div>FRIABLE FIRM COMPACT CEMENTED</div> <div>TEXTURE -- SAND: %</div> <div>CLAY: % SILT: %</div> <div>INCLUSIONS- PERCENTAGE %</div> <div>TYPE:</div> <div>SHAPE:</div> <div>FREQUENCY:</div> </div>				
Recorder: <u>CF</u>		Date: <u>25/8/17</u>		Checked by:
				Date:

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM			
Site Name: <u>RURAL PRECINCT</u>	Site Code:	Date:	DEPOSIT DETAILS
Trench:	Area/Quadrant:	Pit: <u>T11-400</u>	Split: <u>30cm</u>
Sketch Profile <u>NORTH</u>			CONTEXT 001 (circle one only): DEPTH (m): <u>5cm</u> MUNSELL COLOUR: <u>5YR 5/4</u> COLOUR: <u>LIGHT</u> MED DARK PH: CONSISTENCY: <u>LOOSE</u> WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>20</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
			CONTEXT 002 (circle one only): DEPTH (m): <u>18cm</u> MUNSELL COLOUR: <u>5YR 7/4</u> COLOUR: <u>LIGHT</u> MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE <u>FIRM</u> COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>20</u> % SILT: <u>30</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
			CONTEXT 003 (circle one only): DEPTH (m): <u>7cm</u> MUNSELL COLOUR: <u>5YR 6/8</u> COLOUR: <u>LIGHT</u> MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE <u>FIRM</u> COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>40</u> % SILT: <u>20</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
			CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
			CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Recorder: <u>NS</u>	Date: <u>25/8/17</u>	Checked by:	Date:

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: Rural Precinct		Site Code:		Date: 25/8/17
Trench:	Area/Quadrant:	Pit: T11-420	Spit: 28	
<b>Sketch Profile</b> <i>Wp 384</i> <div style="text-align: center;">  <p>Scale 1:5 0.1 = 0.5m</p> </div> <p>✓ = Surface            ✱ = disturbing (early) sherd low in this spit            /// = compaction</p> <div style="text-align: center;">  </div>				
<b>DEPOSIT DETAILS</b> <b>CONTEXT 001 (circle one only):</b> DEPTH (m): 10cm MUNSELL COLOUR: 10 YR 3/2 COLOUR: LIGHT MED <u>DARK</u> PH: CONSISTENCY: LOOSE WEAK FRIABLE <u>FIRM</u> COMPACT CEMENTED TEXTURE -- SAND: 40 % CLAY: 20 % SILT: 40 % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
<b>CONTEXT 002 (circle one only):</b> DEPTH (m): 10cm MUNSELL COLOUR: 10 YR 7/3 COLOUR: <u>LIGHT</u> MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE <u>FIRM</u> COMPACT CEMENTED TEXTURE -- SAND: 40 % CLAY: 30 % SILT: 30 % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
<b>CONTEXT 003 (circle one only):</b> DEPTH (m): 8cm MUNSELL COLOUR: 10 YR 6/6 COLOUR: LIGHT <u>MED</u> DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <u>COMPACT</u> CEMENTED TEXTURE -- SAND: 40 % CLAY: 40 % SILT: 20 % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
<b>CONTEXT 004 (circle one only):</b> DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
<b>CONTEXT 005 (circle one only):</b> DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
Recorder: CF	Date: 25/8/17	Checked by:		Date:

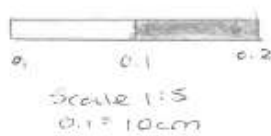
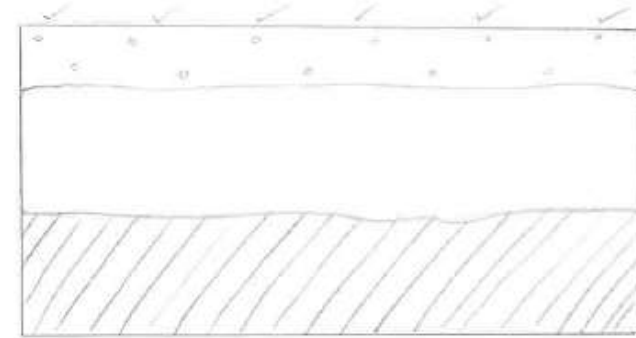


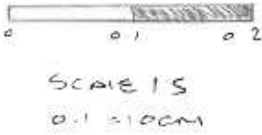




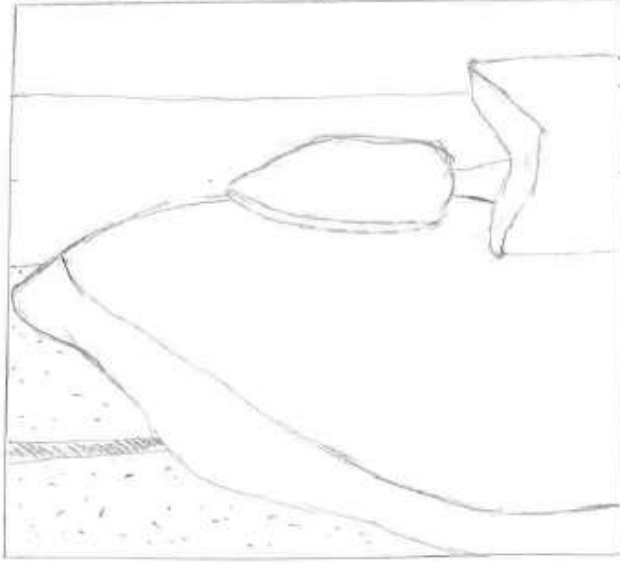
KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>Rural Precinct</u>		Site Code:		Date: <u>25/8/17</u>
Trench:	Area/Quadrant:	Pit: <u>T11-460</u>	Spit: <u>30</u>	
Sketch Profile <u>WP 386</u>				
 <p>Scale 1:5 0.1 = 10cm</p> <p>             ✓ - Surface              x - charcoal flecks              (wavy) - charcoal clusters              (dots) - rocks              // - bioturbation           </p> 		<p><b>DEPOSIT DETAILS</b></p> <p><b>CONTEXT 001 (circle one only):</b>            DEPTH (m): <u>5cm</u>            MUNSELL COLOUR: <u>10 YR 4/5</u>            COLOUR: LIGHT MED <u>DARK</u>            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE <u>FIRM</u> COMPACT CEMENTED            TEXTURE: <u>30</u> SAND: <u>40</u> %            CLAY: <u>30</u> % SILT: <u>40</u> %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:         </p> <p><b>CONTEXT 002 (circle one only):</b>            DEPTH (m): <u>10cm</u>            MUNSELL COLOUR: <u>10 YR 4/6</u>            COLOUR: LIGHT <u>MED</u> DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE <u>FIRM</u> COMPACT CEMENTED            TEXTURE: <u>30</u> SAND: <u>40</u> %            CLAY: <u>30</u> % SILT: <u>30</u> %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:         </p> <p><b>CONTEXT 003 (circle one only):</b>            DEPTH (m): <u>15cm</u>            MUNSELL COLOUR: <u>2.5Y 5/4</u>            COLOUR: LIGHT <u>MED</u> DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE <u>FIRM</u> COMPACT CEMENTED            TEXTURE: <u>30</u> SAND: <u>40</u> %            CLAY: <u>40</u> % SILT: <u>20</u> %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:         </p> <p><b>CONTEXT 004 (circle one only):</b>            DEPTH (m):            MUNSELL COLOUR:            COLOUR: LIGHT MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE: <u>30</u> SAND: %            CLAY: % SILT: %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:         </p> <p><b>CONTEXT 005 (circle one only):</b>            DEPTH (m):            MUNSELL COLOUR:            COLOUR: LIGHT MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE: <u>30</u> SAND: %            CLAY: % SILT: %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:         </p>		
Recorder: <u>CF</u>	Date: <u>25/8/17</u>	Checked by:	Date:	

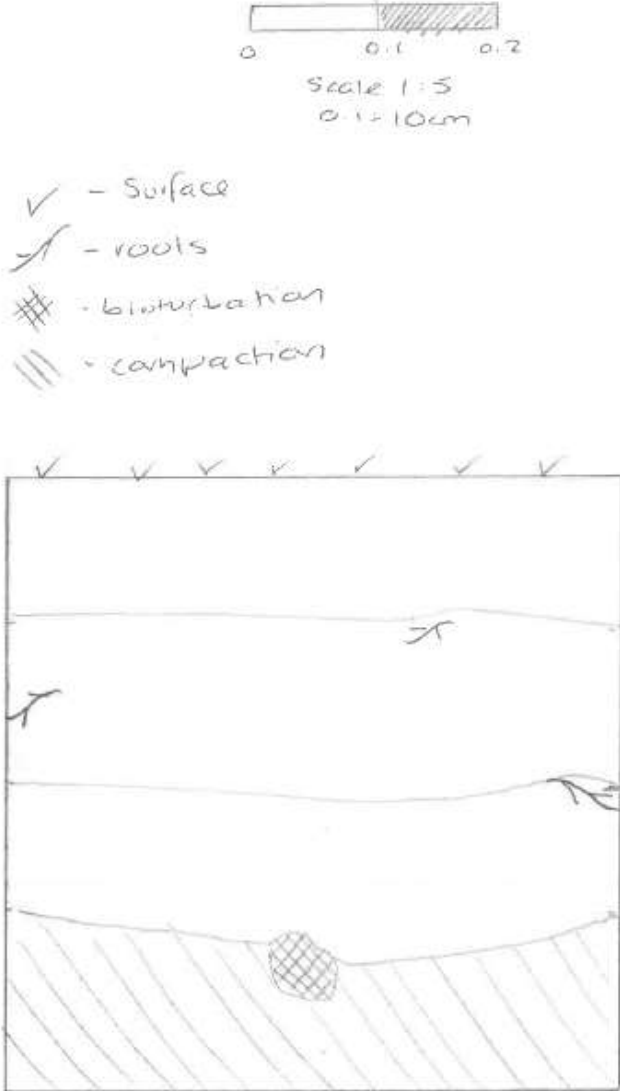
KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>BURAL PRECINCT</u>		Site Code:		Date:
Trench:	Area/Quadrant:	Pit: <u>T11-S20</u>	Spit: <u>15cm</u>	
Sketch Profile			DEPOSIT DETAILS	
<p><u>NORTH</u></p> <p>0 0.1 0.2</p> <p>SCALE 1:5</p> <p>0.1 = 1.00M</p> <p>S/S - SURFACE</p>			<p>CONTEXT 001 (circle one only):</p> <p>DEPTH (m): <u>10cm</u></p> <p>MUNSELL COLOUR: <u>7.5YR 3/2</u></p> <p>COLOUR: LIGHT <u>(MED)</u> DARK</p> <p>PH:</p> <p>CONSISTENCY: LOOSE WEAK</p> <p>FRIABLE <u>(FIRM)</u> COMPACT CEMENTED</p> <p>TEXTURE -- SAND: <u>40</u> %</p> <p>CLAY: <u>20</u> % SILT: <u>40</u> %</p> <p>INCLUSIONS- PERCENTAGE %</p> <p>TYPE:</p> <p>SHAPE:</p> <p>FREQUENCY:</p>	
			<p>CONTEXT 002 (circle one only):</p> <p>DEPTH (m): <u>5cm</u></p> <p>MUNSELL COLOUR: <u>0.5R 4/3</u></p> <p>COLOUR: LIGHT <u>(MED)</u> DARK</p> <p>PH:</p> <p>CONSISTENCY: LOOSE WEAK</p> <p>FRIABLE <u>(FIRM)</u> COMPACT CEMENTED</p> <p>TEXTURE -- SAND: <u>40</u> %</p> <p>CLAY: <u>30</u> % SILT: <u>30</u> %</p> <p>INCLUSIONS- PERCENTAGE %</p> <p>TYPE:</p> <p>SHAPE:</p> <p>FREQUENCY:</p>	
			<p>CONTEXT 003 (circle one only):</p> <p>DEPTH (m):</p> <p>MUNSELL COLOUR:</p> <p>COLOUR: LIGHT MED DARK</p> <p>PH:</p> <p>CONSISTENCY: LOOSE WEAK</p> <p>FRIABLE FIRM COMPACT CEMENTED</p> <p>TEXTURE -- SAND: %</p> <p>CLAY: % SILT: %</p> <p>INCLUSIONS- PERCENTAGE %</p> <p>TYPE:</p> <p>SHAPE:</p> <p>FREQUENCY:</p>	
			<p>CONTEXT 004 (circle one only):</p> <p>DEPTH (m):</p> <p>MUNSELL COLOUR:</p> <p>COLOUR: LIGHT MED DARK</p> <p>PH:</p> <p>CONSISTENCY: LOOSE WEAK</p> <p>FRIABLE FIRM COMPACT CEMENTED</p> <p>TEXTURE -- SAND: %</p> <p>CLAY: % SILT: %</p> <p>INCLUSIONS- PERCENTAGE %</p> <p>TYPE:</p> <p>SHAPE:</p> <p>FREQUENCY:</p>	
			<p>CONTEXT 005 (circle one only):</p> <p>DEPTH (m):</p> <p>MUNSELL COLOUR:</p> <p>COLOUR: LIGHT MED DARK</p> <p>PH:</p> <p>CONSISTENCY: LOOSE WEAK</p> <p>FRIABLE FIRM COMPACT CEMENTED</p> <p>TEXTURE -- SAND: %</p> <p>CLAY: % SILT: %</p> <p>INCLUSIONS- PERCENTAGE %</p> <p>TYPE:</p> <p>SHAPE:</p> <p>FREQUENCY:</p>	
Recorder: <u>AB</u>	Date: <u>28/8/17</u>	Checked by:		Date:

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>Rural Precinct</u>	Site Code:	Date: <u>28/8/17</u>	DEPOSIT DETAILS	
Trench:	Area/Quadrant:	Pit: <u>T11-340</u>	Spit: <u>26cm</u>	CONTEXT 001 (circle one only): DEPTH (m): <u>6cm</u> MUNSELL COLOUR: <u>5.7YR 4/2</u> COLOUR: LIGHT MED <u>&lt;DARK</u> PH: CONSISTENCY: LOOSE WEAK FRIABLE <u>FIRM</u> COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>20</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Sketch Profile <u>WP-390</u>				CONTEXT 002 (circle one only): DEPTH (m): <u>5cm</u> MUNSELL COLOUR: <u>10YR 4/3</u> COLOUR: LIGHT <u>(MED)</u> DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <u>COMPACT</u> CEMENTED TEXTURE -- SAND: <u>30</u> % CLAY: <u>30</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
<p>✓ - Surface ✓ - compaction</p>				CONTEXT 003 (circle one only): DEPTH (m): <u>15cm</u> MUNSELL COLOUR: <u>10YR 5/4</u> COLOUR: <u>(LIGHT)</u> MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <u>COMPACT</u> CEMENTED TEXTURE -- SAND: <u>20</u> % CLAY: <u>40</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
				CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
				CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Recorder: <u>CF</u>	Date: <u>28/8/17</u>	Checked by:	Date:	



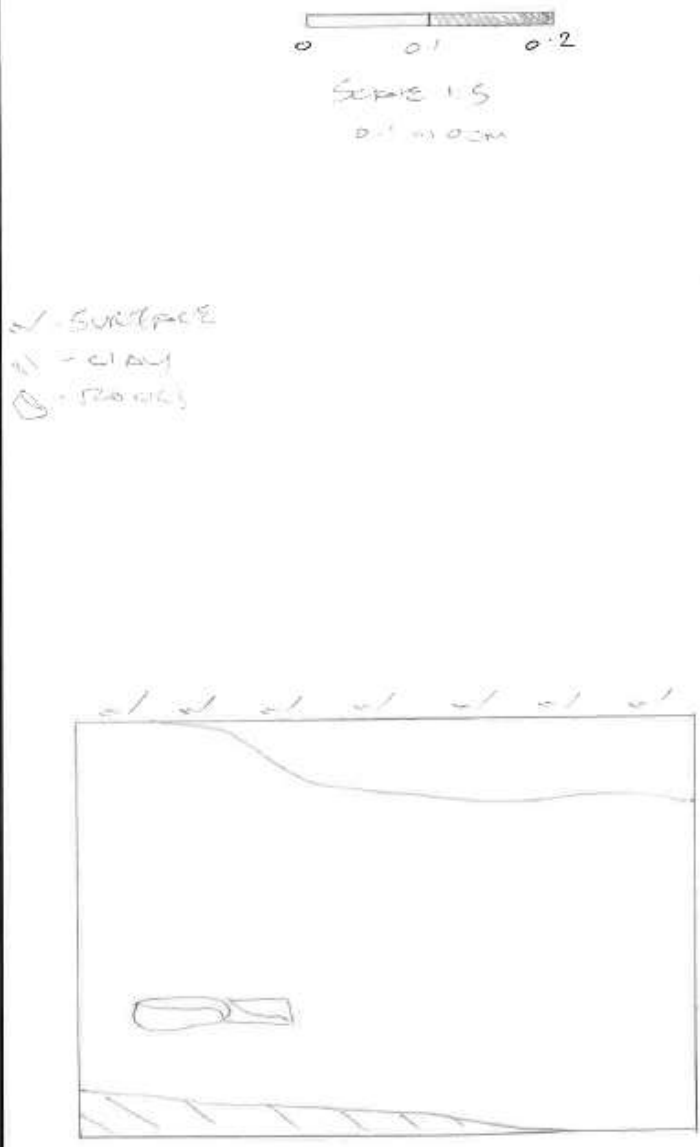
KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>Rural Precinct</u>		Site Code:		Date: <u>28/8/17</u>
Trench:	Area/Quadrant:	Pit: <u>T1-580k</u>	Spit: <u>25cm</u>	<b>DEPOSIT DETAILS</b> CONTEXT 001 (circle one only): DEPTH (m): <u>5cm</u> MUNSELL COLOUR: <u>10YR 4/3</u> COLOUR: LIGHT MED <u>DARK</u> PH: CONSISTENCY: <u>LOOSE</u> WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>20</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Sketch Profile <u>WP:</u>  <p>Scale 1:5 0.1 = 10cm</p> <p>V = surface // = compaction * = topsoil</p> 				
				CONTEXT 002 (circle one only): DEPTH (m): <u>10cm</u> MUNSELL COLOUR: <u>10YR 4/4</u> COLOUR: LIGHT <u>MED</u> DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <u>COMPACT</u> CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>30</u> % SILT: <u>30</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
				CONTEXT 003 (circle one only): DEPTH (m): <u>10cm</u> MUNSELL COLOUR: <u>10YR 6/4</u> COLOUR: <u>LIGHT</u> MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <u>COMPACT</u> CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>40</u> % SILT: <u>20</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
				CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
				CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Recorder: <u>CF</u>	Date: <u>28/8/17</u>	Checked by:	Date:	

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM			
Site Name: <u>RUPP PRECINCT</u>		Site Code:	Date:
Trench:	Area/Quadrant:	Pit: <u>T13-140</u>	Spit: <u>45cm</u>
Sketch Profile <u>Bank Nest</u>		<b>CONTEXT 001 (circle one only):</b> DEPTH (m): <u>7cm</u> MUNSELL COLOUR: <u>10YR 5/4</u> COLOUR: LIGHT <u>MED</u> DARK PH: CONSISTENCY: LOOSE <u>WEAK</u> FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>20</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE <u>20</u> % TYPE: <u>ROCK</u> SHAPE: FREQUENCY:	
 <p>SCALE 1:5 0.1 = 10CM</p> <p>1/2 SURFACE   - ROCKS   - TREE ROOTS   - ROCK OVERHANGS   - NOT VISIBLE.</p> 		<b>CONTEXT 002 (circle one only):</b> DEPTH (m): <u>7cm</u> MUNSELL COLOUR: <u>10YR 5/4</u> COLOUR: LIGHT <u>MED</u> DARK PH: CONSISTENCY: LOOSE <u>WEAK</u> FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>60</u> % CLAY: <u>30</u> % SILT: <u>10</u> % INCLUSIONS- PERCENTAGE <u>50</u> % TYPE: <u>ROCK</u> SHAPE: FREQUENCY:	
		<b>CONTEXT 003 (circle one only):</b> DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:	
		<b>CONTEXT 004 (circle one only):</b> DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:	
		<b>CONTEXT 005 (circle one only):</b> DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:	
Recorder: <u>AB</u>	Date: <u>31/8/12</u>	Checked by:	Date:

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM			
Site Name: <u>Rural Precinct</u>	Site Code:	Date: <u>31/8/17</u>	DEPOSIT DETAILS
Trench:	Area/Quadrant:	Pit: <u>T13-16m</u>	Spit: <u>50cm</u>
Sketch Profile <u>map 036</u>			CONTEXT 001 (circle one only): DEPTH (m): <u>12cm</u> MUNSELL COLOUR: <u>10YR 5/2</u> COLOUR: LIGHT MED <u>DARK</u> PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE - SAND: <u>40</u> % CLAY: <u>20</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
 <p>Scale 1:5 0.1 = 10cm</p> <p>✓ - Surface X - roots # - bioturbation /// - compaction</p>			CONTEXT 002 (circle one only): DEPTH (m): <u>13cm</u> MUNSELL COLOUR: <u>10YR 6/4</u> COLOUR: LIGHT <u>MED</u> DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE - SAND: <u>30</u> % CLAY: <u>20</u> % SILT: <u>50</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
			CONTEXT 003 (circle one only): DEPTH (m): <u>10cm</u> MUNSELL COLOUR: <u>10YR 7/6</u> COLOUR: LIGHT <u>MED</u> DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE - SAND: <u>30</u> % CLAY: <u>30</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
			CONTEXT 004 (circle one only): DEPTH (m): <u>15cm</u> MUNSELL COLOUR: <u>10YR 6/6</u> COLOUR: LIGHT <u>MED</u> DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <u>COMPACT</u> CEMENTED TEXTURE - SAND: <u>40</u> % CLAY: <u>40</u> % SILT: <u>20</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
			CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE - SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Recorder: <u>CF</u>	Date: <u>31/8/17</u>	Checked by:	Date:

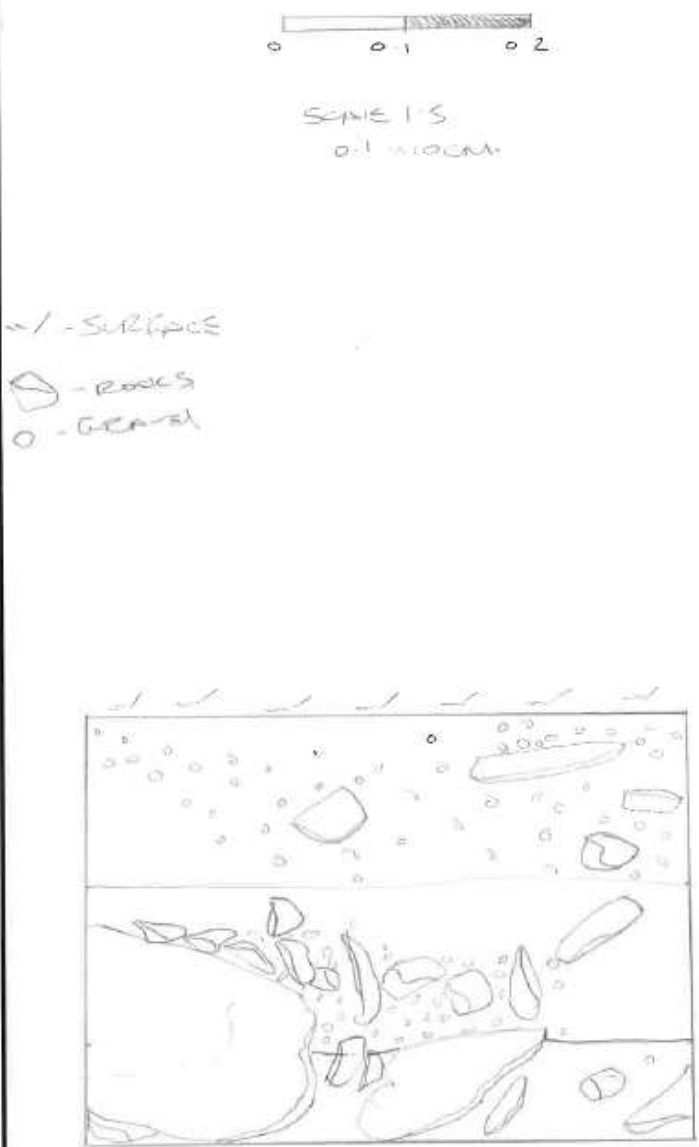


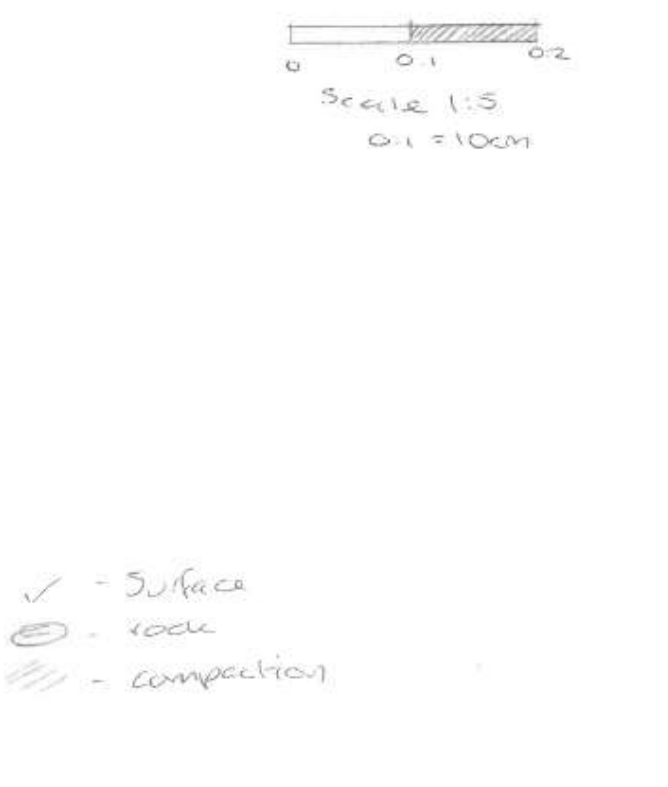
KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM			
Site Name: <u>Ruon Precinct</u>	Site Code:	Date: <u>31/8/17</u>	DEPOSIT DETAILS
Trench:	Area/Quadrant:	Pit: <u>T13-200</u> Spit: <u>45cm</u>	
Sketch Profile <u>WSP: 038</u>			CONTEXT 001 (circle one only): DEPTH (m): <u>10cm</u> MUNSELL COLOUR: <u>10YR 5/2</u> COLOUR: LIGHT MED <u>DARK</u> PH: CONSISTENCY: LOOSE WEAK FRIABLE <u>FIRM</u> COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>20</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
<p>✓ - surface            [cross-hatch] - bioturbation            [circle with dot] - rocks            [small circle with dot] - small rocks/gravel            [large rectangle with cross-hatch] - large rock base</p>			CONTEXT 002 (circle one only): DEPTH (m): <u>20cm</u> MUNSELL COLOUR: <u>10YR 7/3</u> COLOUR: <u>LIGHT</u> MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE <u>FIRM</u> COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>30</u> % SILT: <u>30</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
			CONTEXT 003 (circle one only): DEPTH (m): <u>15cm</u> MUNSELL COLOUR: <u>10YR 5/6</u> COLOUR: LIGHT <u>MED</u> DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <u>COMPACT</u> CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>40</u> % SILT: <u>20</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
			CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
			CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Recorder: <u>CF</u>	Date: <u>31/8/17</u>	Checked by:	Date:

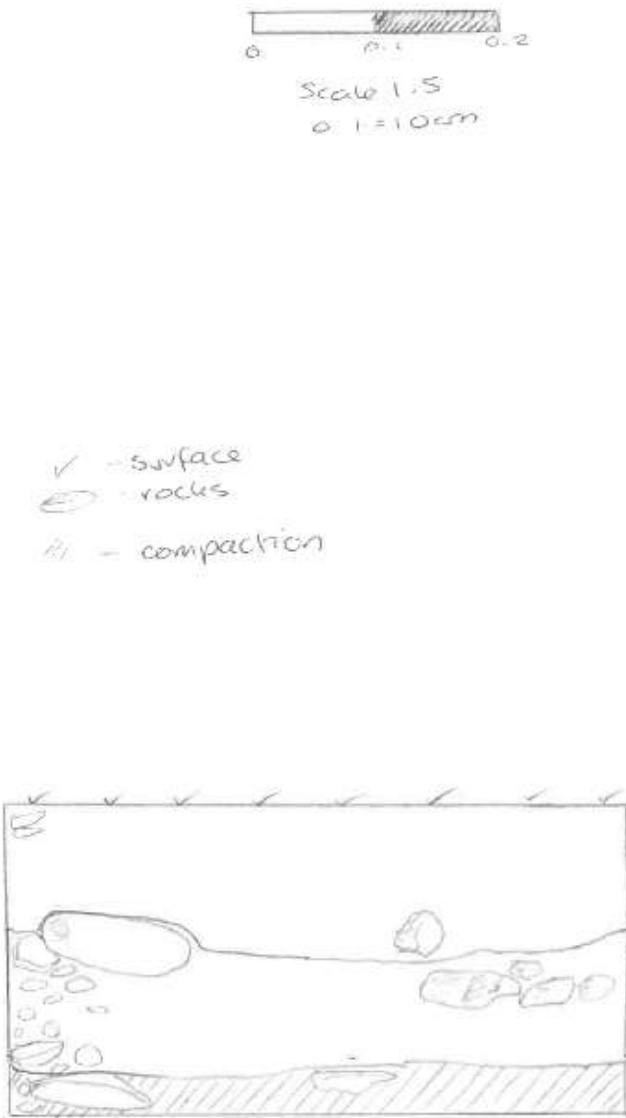
KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>RURAL PRECINCT</u>		Site Code:		Date:
Trench:	Area/Quadrant:	Pit: <u>T13-22</u>	Spit: <u>34cm</u>	
Sketch Profile <u>NORTH</u> 				
<b>DEPOSIT DETAILS</b> <b>CONTEXT 001 (circle one only):</b> DEPTH (m): <u>0-7cm</u> MUNSELL COLOUR: <u>10YR 5/2</u> COLOUR: LIGHT <u>(MED)</u> DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <u>COMPACT</u> CEMENTED TEXTURE -- SAND: <u>30%</u> CLAY: % SILT: <u>70%</u> INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
<b>CONTEXT 002 (circle one only):</b> DEPTH (m): <u>30-27cm</u> MUNSELL COLOUR: <u>10YR 8/6</u> COLOUR: <u>(LIGHT)</u> MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <u>COMPACT</u> CEMENTED TEXTURE -- SAND: <u>60%</u> CLAY: <u>30%</u> SILT: <u>10%</u> INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
<b>CONTEXT 003 (circle one only):</b> DEPTH (m): <u>4cm-0cm</u> MUNSELL COLOUR: <u>10YR 6/8</u> COLOUR: LIGHT <u>(MED)</u> DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <u>COMPACT</u> CEMENTED TEXTURE -- SAND: <u>40%</u> CLAY: <u>60%</u> SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
<b>CONTEXT 004 (circle one only):</b> DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
<b>CONTEXT 005 (circle one only):</b> DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
Recorder: <u>DB</u>	Date: <u>31/8/17</u>	Checked by:	Date:	

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>Rural Precinct</u>	Site Code:	Date: <u>31/8/17</u>	DEPOSIT DETAILS	
Trench:	Area/Quadrant:	Pit: <u>TB 240</u>	Spit: <u>35</u>	CONTEXT 001 (circle one only): DEPTH (m): <u>1.0cm</u> MUNSELL COLOUR: <u>10YR 4/2</u> COLOUR: LIGHT MED <u>(DARK)</u> PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <u>COMPACT</u> CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>20</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Sketch Profile <u>WP 030</u>				CONTEXT 002 (circle one only): DEPTH (m): <u>1.0cm</u> MUNSELL COLOUR: <u>10YR 6/4</u> COLOUR: LIGHT MED <u>(DARK)</u> PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <u>COMPACT</u> CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>20</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
<p>Scale 1:5 0.2 = 10cm</p> <p>✓ = surface ○ = rocks /// = compaction</p>				CONTEXT 003 (circle one only): DEPTH (m): <u>1.5</u> MUNSELL COLOUR: <u>Sandstone</u> COLOUR: LIGHT MED <u>(DARK)</u> PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <u>COMPACT</u> CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>20</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
				CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED <u>(DARK)</u> PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <u>COMPACT</u> CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>20</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Recorder: <u>CF</u>				Date: <u>31/8/17</u>
Checked by:		Date:		



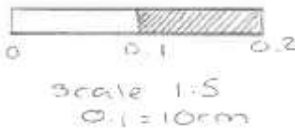
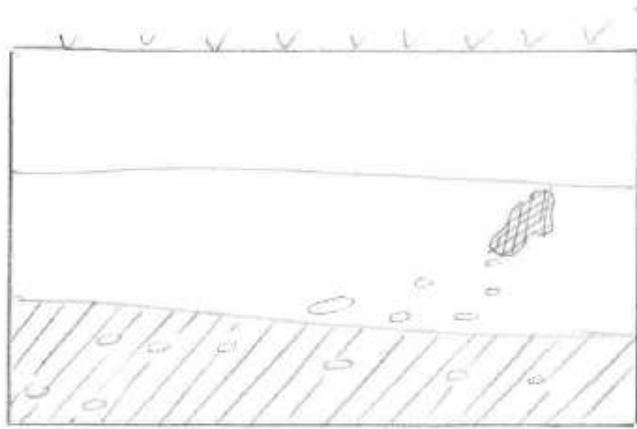
KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>RURAL PRECINCT</u>		Site Code:		Date:
Trench:	Area/Quadrant:	Pit: <u>T13-280</u>	Splt: <u>35cm</u>	
Sketch Profile <u>NSS EAST</u> 				
DEPOSIT DETAILS CONTEXT 001 (circle one only): DEPTH (m): <u>12cm</u> MUNSELL COLOUR: <u>10YR 4/2</u> COLOUR: LIGHT MED <u>DARK</u> PH: CONSISTENCY: LOOSE <u>WEAK</u> FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>30</u> % CLAY: % SILT: <u>70</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
CONTEXT 002 (circle one only): DEPTH (m): <u>13cm</u> MUNSELL COLOUR: <u>10YR 7/4</u> COLOUR: LIGHT MED <u>DARK</u> PH: CONSISTENCY: LOOSE <u>WEAK</u> FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>50</u> % CLAY: <u>40</u> % SILT: <u>10</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
CONTEXT 003 (circle one only): DEPTH (m): <u>8cm</u> MUNSELL COLOUR: <u>10YR 7/8</u> COLOUR: LIGHT MED <u>DARK</u> PH: CONSISTENCY: LOOSE <u>WEAK</u> FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>50</u> % CLAY: <u>50</u> % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
Recorder: <u>AB</u>	Date: <u>31/8/17</u>	Checked by:	Date:	

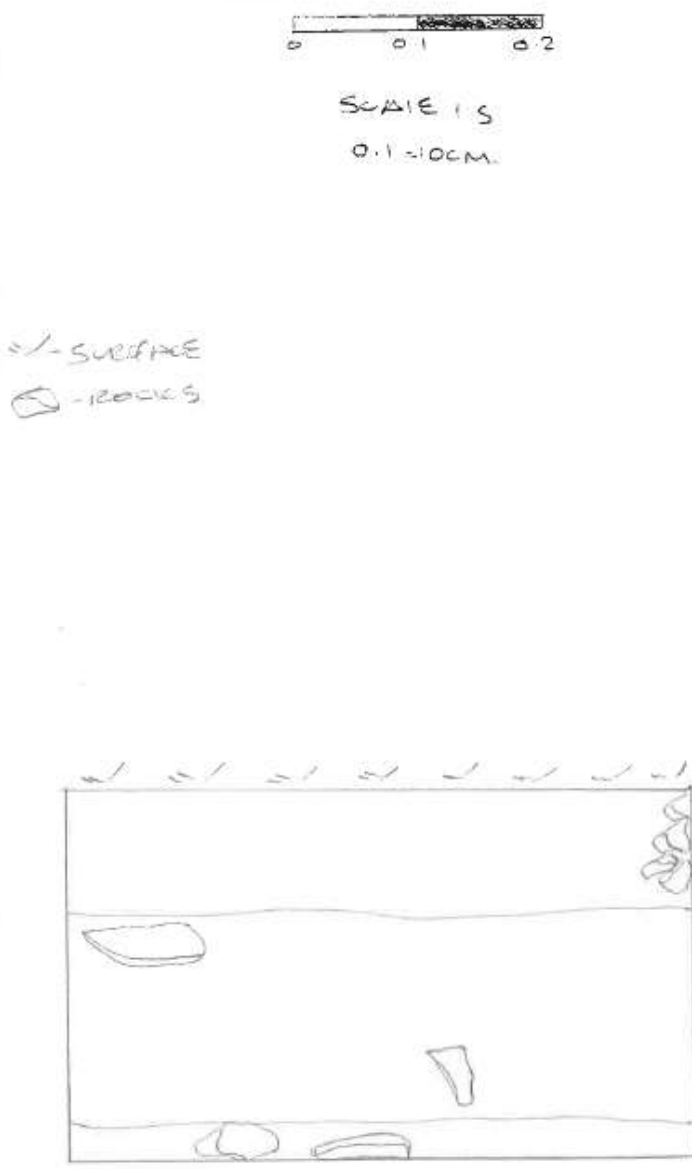
KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>Rural Precinct</u>	Site Code:	Date: <u>31/8/17</u>	DEPOSIT DETAILS	
Trench:	Area/Quadrant:	Pit: <u>T.3-300</u>	Spit: <u>25cm</u>	CONTEXT 001 (circle one only): DEPTH (m): <u>1.00m</u> MUNSELL COLOUR: <u>10YR 4/3</u> COLOUR: <u>(LIGHT)</u> MED <u>(DARK)</u> PH: CONSISTENCY: LOOSE WEAK FRIABLE <u>(FIRM)</u> COMPACT CEMENTED TEXTURE -- SAND: 40% CLAY: 20% SILT: 40% INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Sketch Profile <u>WP 042</u>				CONTEXT 002 (circle one only): DEPTH (m): <u>1.00m</u> MUNSELL COLOUR: <u>10YR 7/3</u> COLOUR: <u>(LIGHT)</u> MED <u>(DARK)</u> PH: CONSISTENCY: LOOSE WEAK FRIABLE <u>(FIRM)</u> COMPACT CEMENTED TEXTURE -- SAND: 40% CLAY: 30% SILT: 30% INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
 <p>Scale 1:5 0.1 = 10cm</p> <p>✓ - Surface ⊙ - rock /// - compaction</p>				CONTEXT 003 (circle one only): DEPTH (m): <u>5cm</u> MUNSELL COLOUR: <u>10YR 7/6</u> COLOUR: <u>(LIGHT)</u> MED <u>(DARK)</u> PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <u>(COMPACT)</u> CEMENTED TEXTURE -- SAND: 40% CLAY: 40% SILT: 20% INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
				CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Recorder: <u>CF</u>				CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Date: <u>31/8/17</u>		Checked by:		Date:

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>Rural Precinct</u>	Site Code:	Date: <u>31/8/17</u>	DEPOSIT DETAILS	
Trench:	Area/Quadrant:	Pit: <u>T13-340</u>	Spit: <u>25cm</u>	CONTEXT 001 (circle one only): DEPTH (m): <u>1.0cm</u> MUNSELL COLOUR: <u>10YR 5/2</u> COLOUR: LIGHT MED <u>DARK</u> PH: CONSISTENCY: LOOSE WEAK FRIABLE <u>FIRM</u> COMPACT CEMENTED TEXTURE -- SAND: <u>100</u> % CLAY: <u>20</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Sketch Profile <u>WSP 044</u>				CONTEXT 002 (circle one only): DEPTH (m): <u>1.0cm</u> MUNSELL COLOUR: <u>10YR 7/2</u> COLOUR: <u>LIGHT</u> MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE <u>FIRM</u> COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>50</u> % SILT: <u>30</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
 <p>✓ - surface ○ - rocks /// - compaction</p>				CONTEXT 003 (circle one only): DEPTH (m): <u>5cm</u> MUNSELL COLOUR: <u>10YR 6/3</u> COLOUR: LIGHT <u>MED</u> DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <u>COMPACT</u> CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>40</u> % SILT: <u>20</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
				CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
				CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Recorder: <u>CF</u>	Date: <u>31/8/17</u>	Checked by:	Date:	

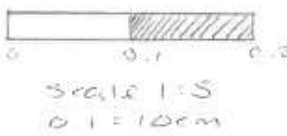
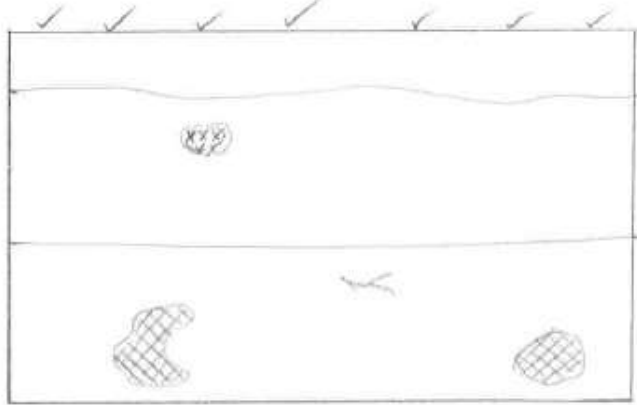


KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM			
Site Name: <u>RIVER PRECINCT</u>		Site Code:	Date:
Trench:	Area/Quadrant:	Pit: <u>13-360</u>	Spt: <u>26cm</u>
Sketch Profile <u>NORTH</u>		DEPOSIT DETAILS	
		CONTEXT 001 (circle one only): DEPTH (m): <u>6 - 8cm</u> MUNSELL COLOUR: <u>10YR 4/2</u> COLOUR: LIGHT <u>RED</u> DARK PH: CONSISTENCY: LOOSE <u>WEAK</u> FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>30</u> % CLAY: % SILT: <u>30</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:	
		CONTEXT 002 (circle one only): DEPTH (m): <u>16cm - 18cm</u> MUNSELL COLOUR: <u>10YR 4/2</u> COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>60</u> % CLAY: <u>30</u> % SILT: <u>10</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:	
		CONTEXT 003 (circle one only): DEPTH (m): <u>4 - 0.4m</u> MUNSELL COLOUR: <u>10YR 5/8</u> COLOUR: LIGHT <u>MED</u> DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT <u>CEMENTED</u> TEXTURE -- SAND: <u>20</u> % CLAY: <u>80</u> % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:	
		CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:	
		CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:	
Recorder: <u>AS</u>	Date: <u>31/8/17</u>	Checked by:	Date:

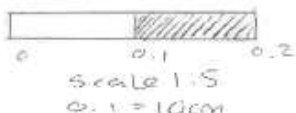

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>Rural Precinct</u>	Site Code:	Date: <u>31/8/17</u>	DEPOSIT DETAILS	
Trench:	Area/Quadrant:	Pit: <u>T13-380</u>	Spit: <u>30cm</u>	CONTEXT 001 (circle one only): DEPTH (m): <u>1.0cm</u> MUNSELL COLOUR: <u>10YR 5/2</u> COLOUR: LIGHT MED <u>DARK</u> PH: CONSISTENCY: LOOSE WEAK FRIABLE <u>FIRM</u> COMPACT CEMENTED TEXTURE -- SAND: <u>40%</u> CLAY: <u>20%</u> SILT: <u>40%</u> INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Sketch Profile <u>WIP 046</u>				CONTEXT 002 (circle one only): DEPTH (m): <u>1.0cm</u> MUNSELL COLOUR: <u>10YR 3/4</u> COLOUR: <u>LIGHT</u> MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE <u>FIRM</u> COMPACT CEMENTED TEXTURE -- SAND: <u>40%</u> CLAY: <u>30%</u> SILT: <u>30%</u> INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
 <p>Scale 1:5 0.1 = 10cm</p> <p>✓ - surface ▨ - bioturbation OO - rocks /// - compaction</p> 				CONTEXT 003 (circle one only): DEPTH (m): <u>1.0cm</u> MUNSELL COLOUR: <u>10YR 6/3</u> COLOUR: LIGHT <u>(MED)</u> DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE <u>FIRM</u> COMPACT CEMENTED TEXTURE -- SAND: <u>40%</u> CLAY: <u>40%</u> SILT: <u>20%</u> INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
				CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
				CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Recorder: <u>CF</u>	Date: <u>31/8/17</u>	Checked by:	Date:	

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM			
Site Name: <u>RURAL PRECINCT</u>		Site Code:	Date:
Trench:	Area/Quadrant:	Pit: <u>T13-600</u>	Spit: <u>30CM</u>
Sketch Profile <u>SOUTH</u>		DEPOSIT DETAILS	
 <p>SCALE 1:5 0.1 = 10CM</p> <p>— SURFACE — ROCKS</p>		CONTEXT 001 (circle one only): DEPTH (m): <u>1.0CM</u> MUNSELL COLOUR: <u>10YR 4/3</u> COLOUR: LIGHT <u>MED</u> DARK PH: CONSISTENCY: LOOSE <u>WEAK</u> FRIABLE FIRM COMPACT CEMENTED TEXTURE — SAND: <u>30</u> % CLAY: % SILT: <u>70</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:	
		CONTEXT 002 (circle one only): DEPTH (m): <u>1.7CM</u> MUNSELL COLOUR: <u>2.5YR 7/4</u> COLOUR: LIGHT <u>MED</u> DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <u>COMPACT</u> CEMENTED TEXTURE — SAND: <u>60</u> % CLAY: <u>30</u> % SILT: <u>10</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:	
		CONTEXT 003 (circle one only): DEPTH (m): <u>3CM</u> MUNSELL COLOUR: <u>10YR 6/8</u> COLOUR: LIGHT <u>MED</u> DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <u>COMPACT</u> CEMENTED TEXTURE — SAND: <u>40</u> % CLAY: <u>60</u> % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:	
		CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE — SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:	
		CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE — SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:	
Recorder: <u>AB</u>	Date: <u>2/8/17</u>	Checked by:	Date:

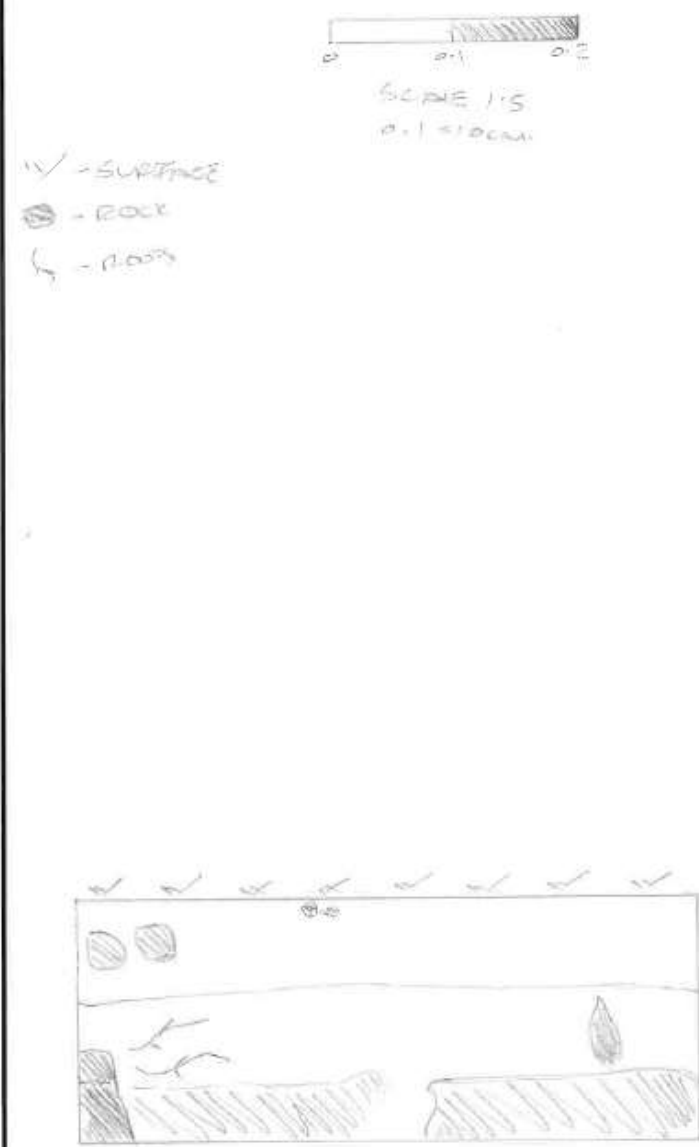


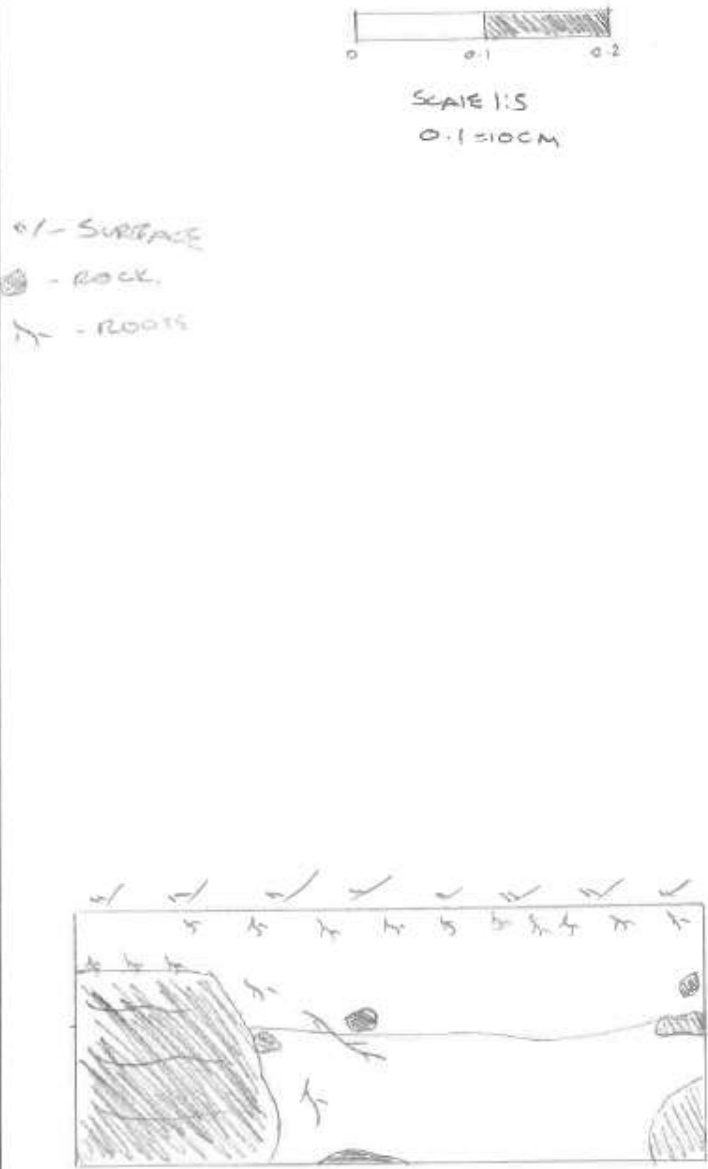
KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>Rural Precinct</u>		Site Code:		Date: <u>31/8/17</u>
Trench:	Area/Quadrant:	Pit: <u>T3-420</u>	Spit: <u>30cm</u>	
Sketch Profile <u>WP 048</u>				
 <p>Scale 1:5 0.1 = 10cm</p> <p>✓ - Surface            (X) - charcoal - burnt root            - root            # - biolumination</p> 		<b>DEPOSIT DETAILS</b> <b>CONTEXT 001 (circle one only):</b> DEPTH (m): <u>5cm</u> MUNSELL COLOUR: <u>10YR 5/2</u> COLOUR: LIGHT MED <u>(DARK)</u> PH: CONSISTENCY: LOOSE WEAK (FRIABLE) FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>20</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:		
		<b>CONTEXT 002 (circle one only):</b> DEPTH (m): <u>12cm</u> MUNSELL COLOUR: <u>10YR 6/4</u> COLOUR: <u>(LIGHT)</u> MED DARK PH: CONSISTENCY: LOOSE WEAK (FRIABLE) FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>30</u> % SILT: <u>30</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:		
		<b>CONTEXT 003 (circle one only):</b> DEPTH (m): <u>13cm</u> MUNSELL COLOUR: <u>10YR 7/6</u> COLOUR: <u>(LIGHT)</u> MED DARK PH: CONSISTENCY: LOOSE WEAK (FRIABLE) FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>40</u> % SILT: <u>20</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:		
		<b>CONTEXT 004 (circle one only):</b> DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:		
		<b>CONTEXT 005 (circle one only):</b> DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:		
Recorder: <u>LF</u>	Date: <u>31/8/17</u>	Checked by:	Date:	

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM			
Site Name: <u>BURRILL PRECINCT</u>	Site Code:	Date:	DEPOSIT DETAILS
Trench:	Area/Quadrant:	Pit: <u>T15-446</u>	Spit: <u>2cm</u>
Sketch Profile <u>EAST</u>			CONTEXT 001 (circle one only): DEPTH (m): <u>2cm</u> MUNSELL COLOUR: <u>2.5 YR 3/2</u> COLOUR: LIGHT MED <u>DARK</u> PH: CONSISTENCY: LOOSE <u>WEAK</u> FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>30</u> % CLAY: % SILT: <u>70</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
<p>Soil Spill Pit Spillstone</p> <p>ROCK BASE</p>			CONTEXT 002 (circle one only): DEPTH (m): <u>8cm - 10cm</u> MUNSELL COLOUR: <u>5.5 YR 5/2</u> COLOUR: LIGHT <u>MED</u> DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE <u>FIRM</u> COMPACT CEMENTED TEXTURE -- SAND: <u>50</u> % CLAY: <u>40</u> % SILT: <u>10</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
			CONTEXT 003 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
			CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
			CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Recorder: <u>AB</u>	Date: <u>31/8/17</u>	Checked by:	Date:

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM			
Site Name: <u>Rural Precinct</u>	Site Code:	Date: <u>31/8/17</u>	DEPOSIT DETAILS
Trench:	Area/Quadrant:	Pit: <u>T1346</u> Spit: <u>Scm</u>	CONTEXT 001 (circle one only): DEPTH (m): <u>Scm</u> MUNSELL COLOUR: <u>10YR 3/3</u> COLOUR: LIGHT MED <u>DARK</u> PH: CONSISTENCY: <u>LOOSE</u> WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>10</u> % CLAY: <u>20</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Sketch Profile <u>W.P. 050</u>			CONTEXT 002 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
 <p>Scale 1:5 0.1 = 10cm</p>			CONTEXT 003 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
<p>✓ - Surface ○ - Sandstone rock ■ - Unexcavated base, sandstone platform at depth</p> 			CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
<p>Recorder: <u>CF</u> Date: <u>31/8/17</u> Checked by:</p>			CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
<p>Date:</p>			

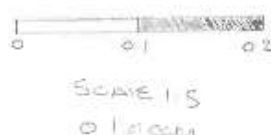



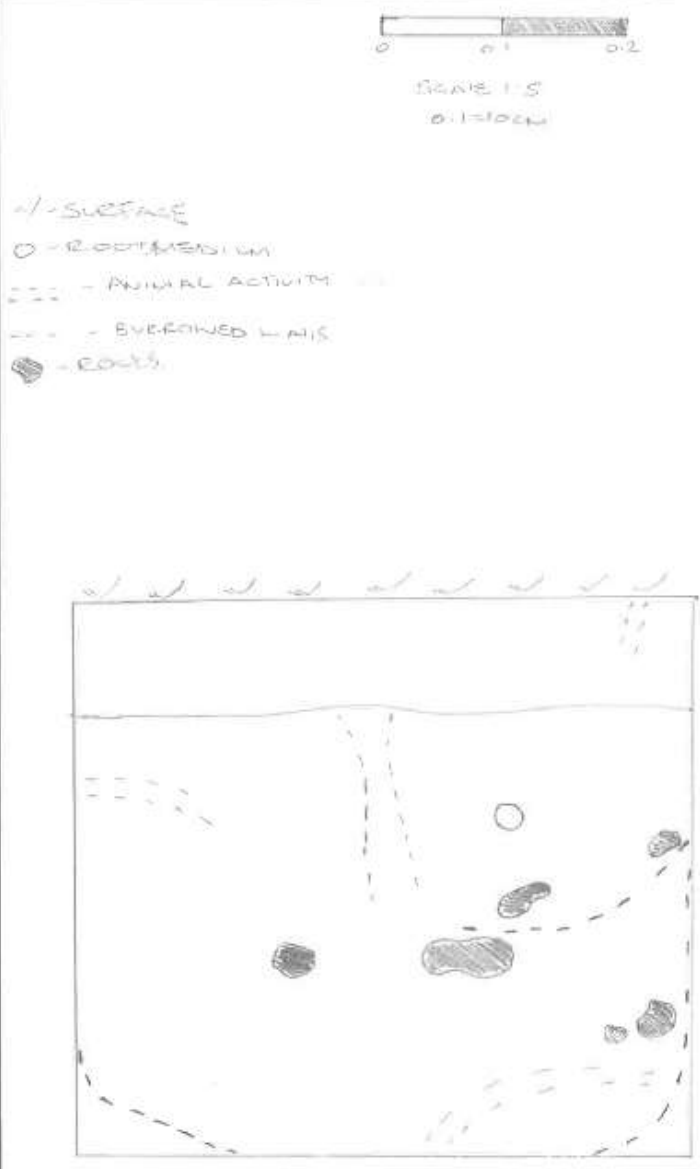
KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>GOLF TOWN</u>	Site Code:	Date:		DEPOSIT DETAILS
Trench:	Area/Quadrant:	Pit: <u>T27-18b</u>	Spit: <u>2cm</u>	CONTEXT 001 (circle one only): DEPTH (m): <u>8cm</u> MUNSELL COLOUR: <u>10YR 5/2</u> COLOUR: <u>LIGHT</u> MED DARK PH: CONSISTENCY: LOOSE <u>WEAK</u> FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>20</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Sketch Profile <u>SOUTH</u>				CONTEXT 002 (circle one only): DEPTH (m): <u>8cm</u> MUNSELL COLOUR: <u>10YR 2/3</u> COLOUR: <u>LIGHT</u> MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE <u>FIRM</u> COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>30</u> % SILT: <u>30</u> % INCLUSIONS- PERCENTAGE <u>5</u> % TYPE: SHAPE: <u>Rock</u> FREQUENCY:
 <p>SCALE 1/5 0.1 = 10cm</p> <p>1/4 = SURFACE 2 = ROCK 3 = ROCK</p>				CONTEXT 003 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
				CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
Recorder: <u>AB</u>	Date: <u>27/7/17</u>	Checked by:	Date:	

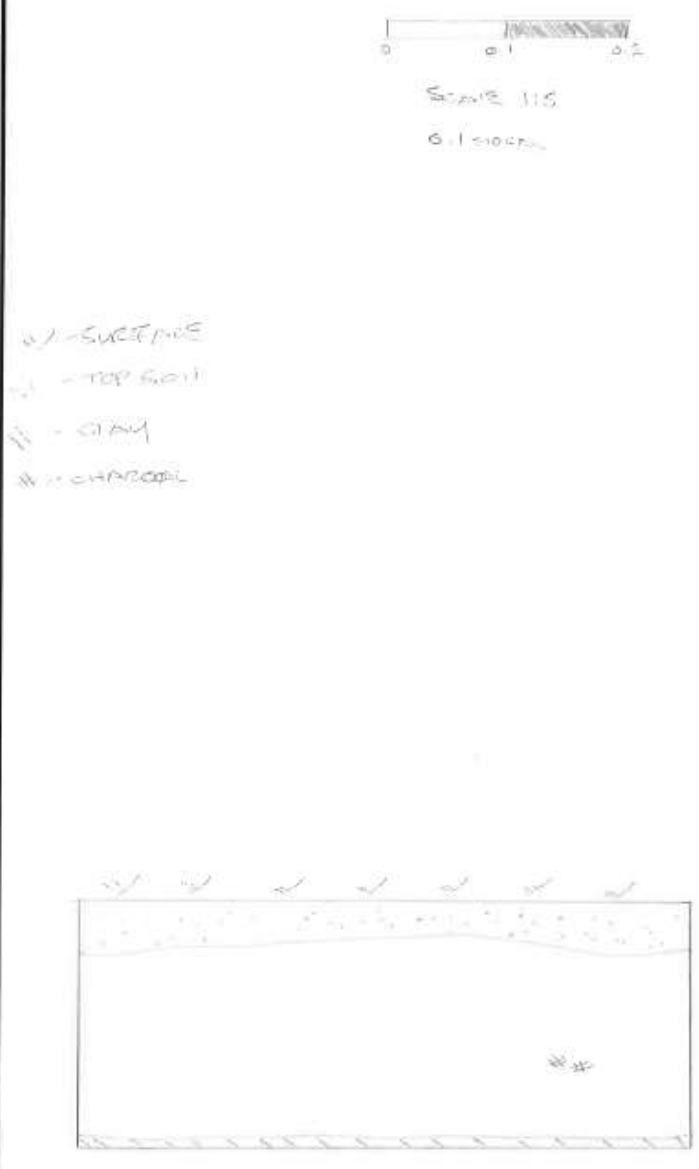
KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>GOLF TOWN</u>		Site Code:		Date:
Trench:	Area/Quadrant:	Pit: <u>T27-200</u>	Split: <u>200m</u>	
Sketch Profile <u>South</u>  <p>01 - SURFACE            02 - ROCK            03 - ROOTS</p>				
DEPOSIT DETAILS <b>CONTEXT 001 (circle one only):</b> DEPTH (m): <u>9cm</u> MUNSELL COLOUR: <u>10YR 5/6</u> COLOUR: LIGHT <u>MED</u> DARK PH: CONSISTENCY: LOOSE <u>WEAK</u> FRIABLE FIRM COMPACT CEMENTED TEXTURE - SAND: <u>40</u> % CLAY: <u>20</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE <u>20</u> % TYPE: <u>ROCK</u> SHAPE: FREQUENCY:				
<b>CONTEXT 002 (circle one only):</b> DEPTH (m): <u>11cm</u> MUNSELL COLOUR: <u>10YR 7/6</u> COLOUR: LIGHT <u>MED</u> DARK PH: CONSISTENCY: LOOSE <u>WEAK</u> FRIABLE FIRM COMPACT CEMENTED TEXTURE - SAND: <u>40</u> % CLAY: <u>20</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE <u>20</u> % TYPE: <u>Rock</u> SHAPE: FREQUENCY:				
<b>CONTEXT 003 (circle one only):</b> DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE - SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
<b>CONTEXT 004 (circle one only):</b> DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE - SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
<b>CONTEXT 005 (circle one only):</b> DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE - SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
Recorder: <u>AB</u>	Date: <u>27/7/17</u>	Checked by:	Date:	

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM			
Site Name: <u>GOLF TOWN</u>	Site Code:	Date:	DEPOSIT DETAILS
Trench:	Area/Quadrant:	Pit: <u>T27-380</u>	Spit: <u>2.4 cm</u>
Sketch Profile <u>NORTH</u>			CONTEXT 001 (circle one only): DEPTH (m): <u>8 - 10 cm</u> MUNSELL COLOUR: <u>10 YR 8/4</u> COLOUR: <u>LIGHT</u> MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>45</u> % CLAY: <u>20</u> % SILT: <u>35</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
			CONTEXT 002 (circle one only): DEPTH (m): <u>15 - 11 cm</u> MUNSELL COLOUR: <u>10 YR 8/4</u> COLOUR: <u>LIGHT</u> MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>30</u> % SILT: <u>30</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
			CONTEXT 003 (circle one only): DEPTH (m): <u>3 - 0 cm</u> MUNSELL COLOUR: <u>10 YR 6/8</u> COLOUR: LIGHT <u>MED</u> DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>60</u> % CLAY: <u>40</u> % SILT: <u>20</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
			CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
			CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Recorder: <u>AB</u>	Date: <u>27/7/17</u>	Checked by:	Date:



KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>BURRUM PRECINCT</u>		Site Code:		Date:
Trench:	Area/Quadrant:	Pit: <u>T4-78</u>	Spit: <u>20CM</u>	
Sketch Profile <u>NORTH</u>  <p>0 0.1 0.2</p> <p>SCALE 1:5</p> <p>0.1m</p> <p>W/SURFACE</p> <p>SS = SANDSTONE</p> <p>S = GRAVEL RIVERS</p> 				
DEPOSIT DETAILS <b>CONTEXT 001 (circle one only):</b> DEPTH (m): <u>1.00m</u> MUNSELL COLOUR: <u>10YR 4/6</u> COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>20</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
<b>CONTEXT 002 (circle one only):</b> DEPTH (m): <u>1.00m</u> MUNSELL COLOUR: <u>10YR 4/4</u> COLOUR: LIGHT <u>MED</u> DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>30</u> % SILT: <u>30</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
<b>CONTEXT 003 (circle one only):</b> DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
<b>CONTEXT 004 (circle one only):</b> DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
<b>CONTEXT 005 (circle one only):</b> DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
Recorder: <u>AB</u>	Date: <u>10/8/17</u>	Checked by:		Date:

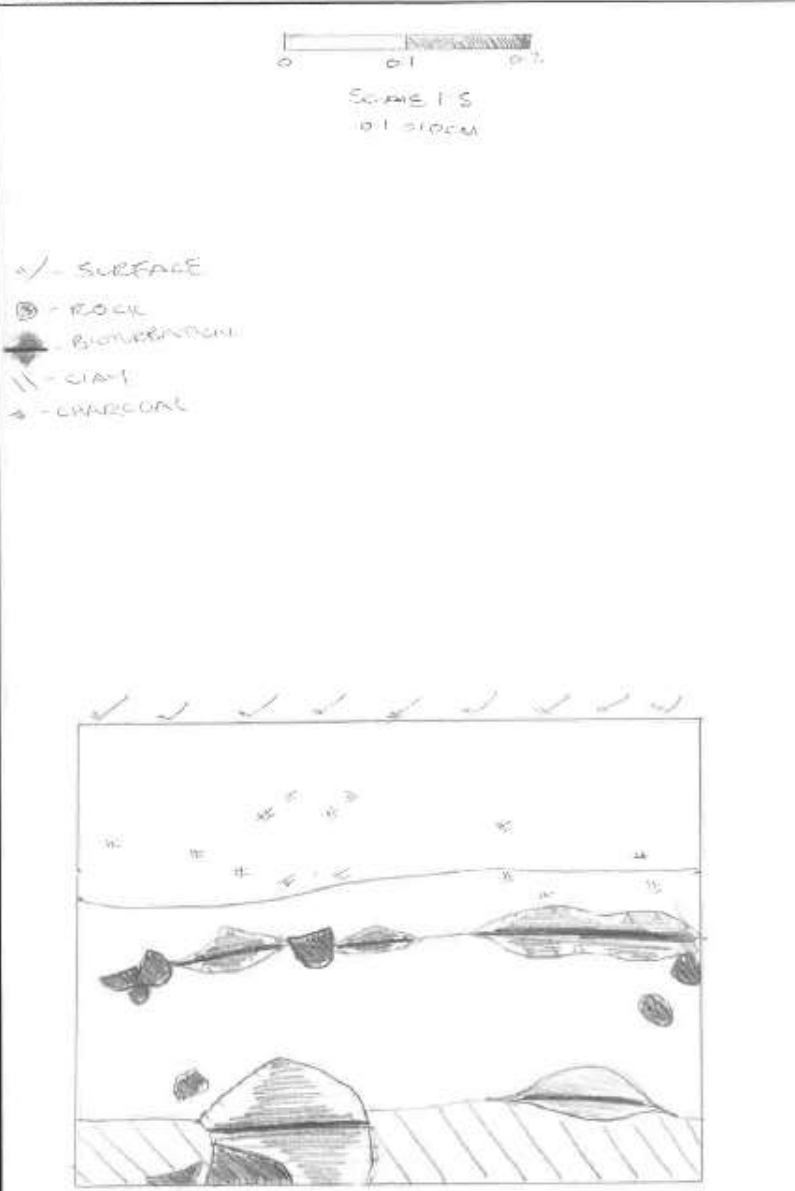
KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>WILLIAMS PRECINCT</u>		Site Code:		Date:
Trench:	Area/Quadrant:	Pit: <u>Y4-S40</u>	Spit: <u>4-5cm</u>	
Sketch Profile <u>NORTH</u> 				
DEPOSIT DETAILS CONTEXT 001 (circle one only): DEPTH (m): <u>9cm</u> MUNSELL COLOUR: <u>5YR 4/3</u> COLOUR: LIGHT <u>(MED)</u> DARK PH: CONSISTENCY: LOOSE <u>WEAK</u> FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>20</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
CONTEXT 002 (circle one only): DEPTH (m): <u>36cm</u> MUNSELL COLOUR: <u>10YR 3/6</u> COLOUR: LIGHT <u>(MED)</u> DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>30</u> % SILT: <u>30</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
CONTEXT 003 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
Recorder: <u>DB.</u>	Date: <u>10/8/17</u>	Checked by:		Date:

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>BURIAL PRECINCT</u>		Site Code:		Date:
Trench:	Area/Quadrant:	Pit: <u>15-100</u>	Spit: <u>2cm</u>	
Sketch Profile <u>SOUTH</u> 				
CONTEXT 001 (circle one only): DEPTH (m): <u>4cm</u> MUNSELL COLOUR: <u>10 YR 2/2</u> COLOUR: LIGHT MED <u>DARK</u> PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>20</u> % SILT: <u>20</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
CONTEXT 002 (circle one only): DEPTH (m): <u>15cm</u> MUNSELL COLOUR: <u>10 YR 3/4</u> COLOUR: LIGHT MED <u>DARK</u> PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>20</u> % SILT: <u>20</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
CONTEXT 003 (circle one only): DEPTH (m): <u>1cm</u> MUNSELL COLOUR: <u>10 YR 4/6</u> COLOUR: LIGHT MED <u>DARK</u> PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>40</u> % SILT: <u>20</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
Recorder: <u>NB</u>	Date: <u>4/8/17</u>	Checked by:		Date:



KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>RURAL PRECINCT</u>		Site Code:		Date:
Trench:	Area/Quadrant:	Pit: <u>15-500</u>	Split: <u>23 CM</u>	
Sketch Profile <u>WEST</u>				
		<b>CONTEXT 001 (circle one only):</b> DEPTH (m): <u>0.1</u> MUNSELL COLOUR: <u>10YR 6/2</u> COLOUR: LIGHT MED <u>DARK</u> PH: CONSISTENCY: <u>LOOSE</u> WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>60</u> % CLAY: <u>30</u> % SILT: <u>10</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:		
		<b>CONTEXT 002 (circle one only):</b> DEPTH (m): <u>0.2</u> MUNSELL COLOUR: <u>10YR 6/4</u> COLOUR: LIGHT MED <u>DARK</u> PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>60</u> % CLAY: <u>30</u> % SILT: <u>10</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:		
		<b>CONTEXT 003 (circle one only):</b> DEPTH (m): <u>0.3</u> MUNSELL COLOUR: <u>10YR 6/6</u> COLOUR: LIGHT MED <u>DARK</u> PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>40</u> % SILT: <u>20</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:		
		<b>CONTEXT 004 (circle one only):</b> DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:		
		<b>CONTEXT 005 (circle one only):</b> DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:		
Recorder: <u>AS</u>	Date: <u>4/8/17</u>	Checked by:	Date:	

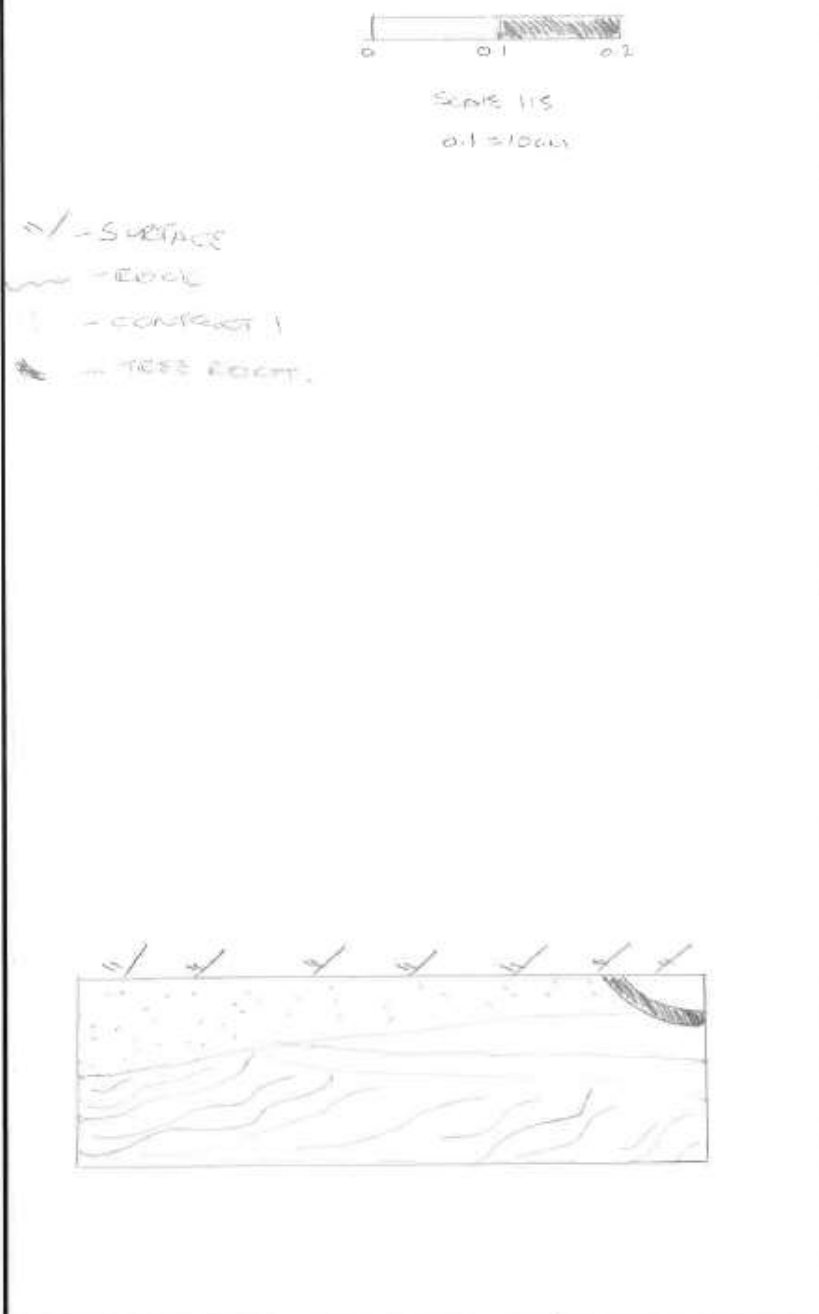
KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>EURPL PRECINCT</u>		Site Code:		Date:
Trench:	Area/Quadrant:	Pit: <u>TS-800</u>	Spit: <u>40cm</u>	
Sketch Profile <u>SOUTH</u>				
<p>CONTEXT 001 (circle one only):            DEPTH (m): <u>13cm</u>            MUNSELL COLOUR: <u>10YR 5/3</u>            COLOUR: <u>(LIGHT)</u> MED DARK            PH:            CONSISTENCY: <u>(LOOSE)</u> WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE - SAND: <u>40%</u>            CLAY: <u>20%</u> SILT: <u>40%</u>            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>				
<p>CONTEXT 002 (circle one only):            DEPTH (m): <u>12cm</u>            MUNSELL COLOUR: <u>10YR 8/4</u>            COLOUR: <u>(LIGHT)</u> MED DARK            PH:            CONSISTENCY: <u>(LOOSE)</u> WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE - SAND: <u>40%</u>            CLAY: <u>30%</u> SILT: <u>30%</u>            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>				
<p>CONTEXT 003 (circle one only):            DEPTH (m): <u>27cm</u>            MUNSELL COLOUR: <u>10YR</u>            COLOUR: <u>(LIGHT)</u> MED DARK            PH:            CONSISTENCY: <u>(LOOSE)</u> WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE - SAND: <u>40%</u>            CLAY: <u>30%</u> SILT: <u>30%</u>            INCLUSIONS- PERCENTAGE %            TYPE: <u>SANDSTONE</u>            SHAPE:            FREQUENCY:</p>				
<p>CONTEXT 004 (circle one only):            DEPTH (m):            MUNSELL COLOUR:            COLOUR: LIGHT MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE - SAND: %            CLAY: % SILT: %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>				
<p>CONTEXT 005 (circle one only):            DEPTH (m):            MUNSELL COLOUR:            COLOUR: LIGHT MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE - SAND: %            CLAY: % SILT: %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>				
Recorder: <u>DB</u>	Date: <u>10/8/17</u>	Checked by:	Date:	

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>RURAL PRECINCT</u>		Site Code:		Date:
Trench:	Area/Quadrant:	Pit: <u>TS-840</u>	Spit: <u>37cm</u>	
Sketch Profile: <u>WEST</u>				
 <p>SCALE 1:5 0.1 = 0.05m</p> <p>1 - SURFACE 2 - ROCK 3 - BLUISH-BROWN 4 - CHARCOAL</p>				
<p><b>CONTEXT 001 (circle one only):</b>            DEPTH (m): <u>1.2cm - 1.4cm</u>            MUNSELL COLOUR: <u>10YR 5/2</u>            COLOUR: LIGHT <u>MED</u> DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: 40 %            CLAY: 30 % SILT: 30 %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>				
<p><b>CONTEXT 002 (circle one only):</b>            DEPTH (m): <u>2cm - 1.8cm</u>            MUNSELL COLOUR: <u>10YR 6/1</u>            COLOUR: LIGHT <u>MED</u> DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: 40 %            CLAY: 30 % SILT: 30 %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>				
<p><b>CONTEXT 003 (circle one only):</b>            DEPTH (m): <u>5cm</u>            MUNSELL COLOUR: <u>10YR 5/8</u>            COLOUR: LIGHT <u>MED</u> DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: 40 %            CLAY: 30 % SILT: 30 %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>				
<p><b>CONTEXT 004 (circle one only):</b>            DEPTH (m):            MUNSELL COLOUR:            COLOUR: LIGHT MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: %            CLAY: % SILT: %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>				
<p><b>CONTEXT 005 (circle one only):</b>            DEPTH (m):            MUNSELL COLOUR:            COLOUR: LIGHT MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: %            CLAY: % SILT: %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>				
Recorder: <u>DB</u>	Date: <u>10/8/17</u>	Checked by:	Date:	



KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>BURN PRECINCT</u>		Site Code:		Date:
Trench:	Area/Quadrant:	Pit: <u>T1 6-20</u>	Spit: <u>30CM</u>	
Sketch Profile <u>NORTH</u>		DEPOSIT DETAILS		
<p>SCALE 1:5 0.1 = 10CM</p> <p>-1 - SURFACE D - ROCK</p>		CONTEXT 001 (circle one only): DEPTH (m): <u>21cm</u> MUNSELL COLOUR: <u>10YR 6/2</u> COLOUR: LIGHT <u>MED</u> DARK PH: CONSISTENCY: LOOSE <u>WEAK</u> FRIABLE FIRM COMPACT CEMENTED TEXTURE - SAND: <u>30</u> % CLAY: % SILT: <u>70</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:		
		CONTEXT 002 (circle one only): DEPTH (m): <u>9cm</u> MUNSELL COLOUR: <u>10YR 7/6</u> COLOUR: <u>LIGHT</u> MED DARK PH: CONSISTENCY: LOOSE <u>WEAK</u> <u>FRIABLE</u> FIRM <u>COMPACT</u> CEMENTED TEXTURE - SAND: <u>60</u> % CLAY: <u>20</u> % SILT: <u>20</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:		
		CONTEXT 003 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE - SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:		
		CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE - SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:		
		CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE - SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:		
Recorder: <u>AB</u>	Date: <u>1/9/17</u>	Checked by:	Date:	

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>GOLF TOWN</u>	Site Code:	Date:	DEPOSIT DETAILS	
Trench:	Area/Quadrant:	Pit: <u>T2 1-200</u>	Spit: <u>8cm</u>	CONTEXT 001 (circle one only): DEPTH (m): <u>8cm</u> MUNSELL COLOUR: <u>10 YR 4/3</u> COLOUR: LIGHT <u>(MED)</u> DARK PH: CONSISTENCY: LOOSE <u>(WEAK)</u> FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>60</u> % CLAY: <u>20</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE <u>60</u> % TYPE: <u>ROCK SLAB</u> SHAPE: FREQUENCY:
Sketch Profile <u>WEST</u>				CONTEXT 002 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
<p>Scale 1:5 0.1m 0.2m</p> <p>✓ - SURFACE ● - ROCK</p> <p>ROCK BASE</p>				CONTEXT 003 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
				CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
				CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Recorder: <u>NB</u>	Date: <u>27/7/17</u>	Checked by:	Date:	

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>GOLF TOWN</u>		Site Code:		Date:
Trench:	Area/Quadrant:	Pit: <u>T21-240</u>	Split: <u>1.5m</u>	
Sketch Profile <u>WEST</u>		<p>CONTEXT 001 (circle one only):            DEPTH (m): <u>8-3cm</u>            MUNSELL COLOUR: <u>10-2</u> <u>5/3</u>            COLOUR: <u>LIGHT</u> MED DARK            PH:            CONSISTENCY: LOOSE <u>WEAK</u>            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: <u>40</u> %            CLAY: <u>20</u> % SILT: <u>40</u> %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>		
 <p>0/- SURFACE        ~~~~~ EDGE        ! - COMPACT        * - TEST ROOM.</p>		<p>CONTEXT 002 (circle one only):            DEPTH (m): <u>0-4cm</u>            MUNSELL COLOUR: <u>10-12</u> <u>8/4</u>            COLOUR: <u>LIGHT</u> MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE <u>FIRM</u> COMPACT CEMENTED            TEXTURE -- SAND: <u>40</u> %            CLAY: <u>30</u> % SILT: <u>30</u> %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>		
		<p>CONTEXT 003 (circle one only):            DEPTH (m): <u>0-3cm</u>            MUNSELL COLOUR: <u>10-12</u> <u>6/4</u>            COLOUR: <u>LIGHT</u> MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE <u>FIRM</u> COMPACT CEMENTED            TEXTURE -- SAND: <u>40</u> %            CLAY: <u>10</u> % SILT: <u>50</u> %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>		
		<p>CONTEXT 004 (circle one only):            DEPTH (m):            MUNSELL COLOUR:            COLOUR: LIGHT MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: %            CLAY: % SILT: %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>		
		<p>CONTEXT 005 (circle one only):            DEPTH (m):            MUNSELL COLOUR:            COLOUR: LIGHT MED DARK            PH:            CONSISTENCY: LOOSE WEAK            FRIABLE FIRM COMPACT CEMENTED            TEXTURE -- SAND: %            CLAY: % SILT: %            INCLUSIONS- PERCENTAGE %            TYPE:            SHAPE:            FREQUENCY:</p>		
Recorder: <u>MS</u>	Date: <u>27/7/17</u>	Checked by:	Date:	




WP 103

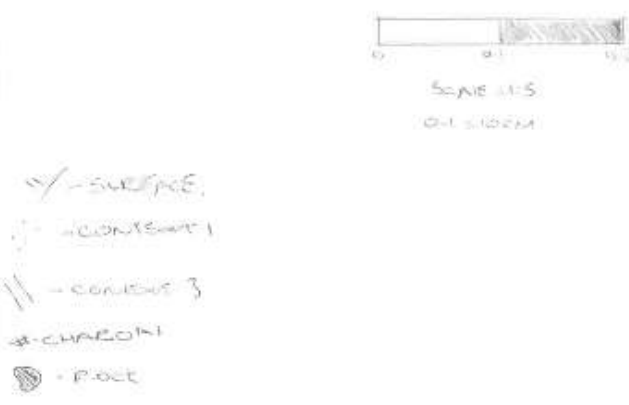
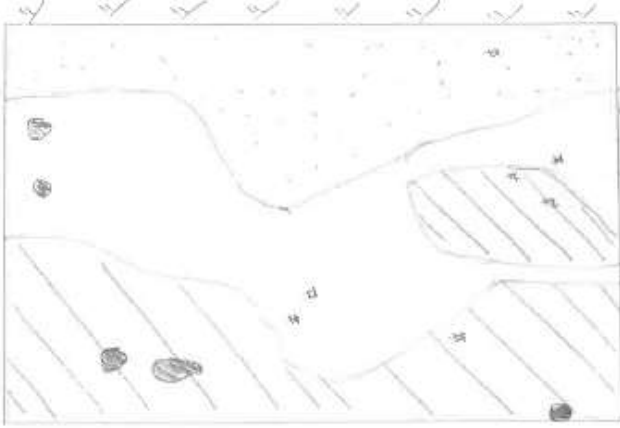
KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>Golf Town</u>		Site Code:		Date: <u>18.7.17</u>
Trench:	Area/Quadrant:	Pit: <u>24-160</u>	Spit: <u>2</u>	
DEPOSIT DETAILS				
Sketch Profile <u>North Wall</u>  		CONTEXT 001 (circle one only): DEPTH (m): MUNSELL COLOUR: <u>0YR 6/3</u> COLOUR: <u>LIGHT</u> MED DARK PH: CONSISTENCY: <u>LOOSE</u> WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>75</u> % CLAY: <u>10</u> % SILT: <u>15</u> % INCLUSIONS- PERCENTAGE <u>45</u> % TYPE: <u>ROCKS</u> SHAPE: FREQUENCY:		
		CONTEXT 002 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:		
		CONTEXT 003 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:		
		CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:		
		CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:		
Recorder: <u>KA</u>	Date: <u>18.7.17</u>	Checked by:		Date:

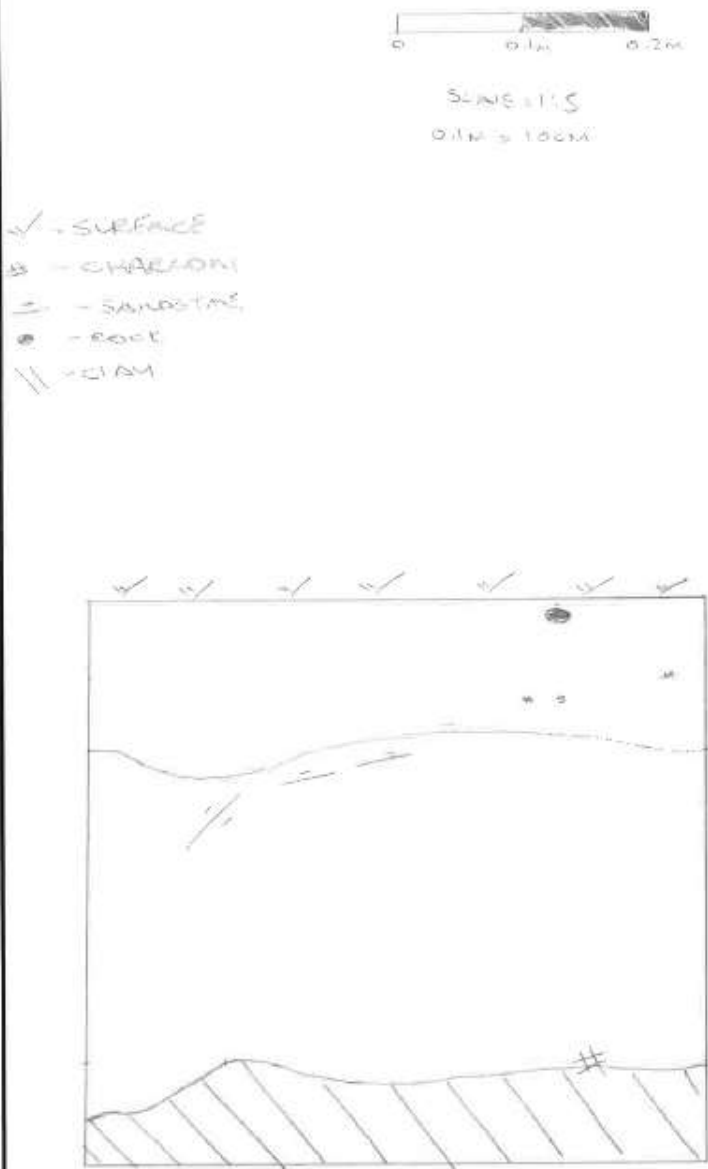
WP-109

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>Golf Town</u>		Site Code:		Date: <u>18-7-17</u>
Trench:	Area/Quadrant:	PH: <u>4-280</u>	Spit: <u>5</u>	
DEPOSIT DETAILS				
Sketch Profile <u>South Wall</u>		CONTEXT 001 (circle one only): DEPTH (m): <u>4-6cm</u> MUNSELL COLOUR: <u>10YR 6/3</u> COLOUR: LIGHT <u>(MED)</u> DARK PH: CONSISTENCY: <u>(LOOSE)</u> WEAK FRIABLE FIRM <u>(COMPACT)</u> CEMENTED TEXTURE - SAND: <u>70</u> % CLAY: <u>5</u> % SILT: % INCLUSIONS- PERCENTAGE <u>10</u> % TYPE: <u>Grass Roots</u> SHAPE: FREQUENCY:		
<p>✓ Grass ⊗ Grass Roots ⬠ Rocks</p> <p>0 10 20cm</p> <p>41cm</p> <p>Context 1</p> <p>Context 2</p> <p>Context 3</p>		CONTEXT 002 (circle one only): DEPTH (m): <u>30-33cm</u> MUNSELL COLOUR: <u>2.5YR 6/3</u> COLOUR: LIGHT <u>(MED)</u> DARK PH: CONSISTENCY: <u>(LOOSE)</u> WEAK FRIABLE <u>(FIRM)</u> <u>(COMPACT)</u> CEMENTED TEXTURE - SAND: <u>50</u> % CLAY: <u>35</u> % SILT: <u>15</u> % INCLUSIONS- PERCENTAGE <u>30</u> % TYPE: SHAPE: <u>Small Rocks</u> FREQUENCY:		
		CONTEXT 003 (circle one only): DEPTH (m): <u>1-4cm</u> MUNSELL COLOUR: <u>10YR 6/6</u> COLOUR: LIGHT <u>(MED)</u> DARK PH: CONSISTENCY: <u>(LOOSE)</u> WEAK FRIABLE FIRM <u>(COMPACT)</u> CEMENTED TEXTURE - SAND: <u>35</u> % CLAY: <u>45</u> % SILT: <u>20</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:		
		CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: <u>(LOOSE)</u> WEAK FRIABLE FIRM <u>(COMPACT)</u> CEMENTED TEXTURE - SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:		
Recorder: <u>KA</u>		Date: <u>18-7-17</u>		Checked by:
				Date:

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name:		Site Code:		Date:
Trench:	Area/Quadrant:	Pit: 124-260	Split: 22cm	
Sketch Profile <u>SOUTH</u> 				
<b>CONTEXT 001 (circle one only):</b> DEPTH (m): 10 cm - 12 cm MUNSELL COLOUR: 10YR 6/3 COLOUR: <u>LIGHT</u> MED DARK PH: CONSISTENCY: LOOSE <u>WEAK</u> FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: 0 % CLAY: 20 % SILT: 40 % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
<b>CONTEXT 002 (circle one only):</b> DEPTH (m): 6 - 7 cm MUNSELL COLOUR: 10YR 7/6 COLOUR: <u>LIGHT</u> MED DARK PH: CONSISTENCY: LOOSE <u>WEAK</u> FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: 40 % CLAY: 20 % SILT: 40 % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
<b>CONTEXT 003 (circle one only):</b> DEPTH (m): 7 - 8 cm MUNSELL COLOUR: 10YR 6/8 COLOUR: LIGHT <u>MED</u> DARK PH: CONSISTENCY: LOOSE <u>WEAK</u> FRIABLE FIRM <u>COMPACT</u> CEMENTED TEXTURE -- SAND: 40 % CLAY: 40 % SILT: 20 % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
<b>CONTEXT 004 (circle one only):</b> DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE <u>WEAK</u> FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
<b>CONTEXT 005 (circle one only):</b> DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE <u>WEAK</u> FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
Recorder: <u>AB</u>	Date: 18/7/17	Checked by:	Date:	



KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM			
Site Name: <u>GOLF TOWN</u>	Site Code:	Date:	DEPOSIT DETAILS
Trench:	Area/Quadrant:	Pit: <u>24-230</u>	Spit: <u>30cm</u>
Sketch Profile <u>SOUTH</u>			CONTEXT 001 (circle one only): DEPTH (m): <u>15cm - 5cm</u> MUNSELL COLOUR: <u>10-12 4/3</u> COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE <u>WEAK</u> FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>20</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
			CONTEXT 002 (circle one only): DEPTH (m): <u>12cm - 10cm</u> MUNSELL COLOUR: <u>10-12 5/4</u> COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>30</u> % SILT: <u>30</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
			CONTEXT 003 (circle one only): DEPTH (m): <u>15cm - 20cm</u> MUNSELL COLOUR: <u>10-12 6/6</u> COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE <u>FIRM</u> COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>40</u> % SILT: <u>20</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
			CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
			CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:
Recorder: <u>AB</u>	Date: <u>18/7/17</u>	Checked by:	Date:

KAYANDEL ARCHAEOLOGICAL SERVICES: PIT PROFILE FORM				
Site Name: <u>GOLF TOWN</u>		Site Code:		Date:
Trench:	Area/Quadrant:	Pit: <u>34-400</u>	Spit: <u>45cm</u>	
Sketch Profile <u>NORTH</u> 				
DEPOSIT DETAILS CONTEXT 001 (circle one only): DEPTH (m): <u>12cm</u> MUNSELL COLOUR: <u>5YR 3/3</u> COLOUR: LIGHT <u>(MED)</u> DARK PH: CONSISTENCY: LOOSE <u>(WEAK)</u> FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>20</u> % SILT: <u>40</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
CONTEXT 002 (circle one only): DEPTH (m): <u>25cm</u> MUNSELL COLOUR: <u>10YR 7/6</u> COLOUR: LIGHT <u>(MED)</u> DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE <u>(FIRM)</u> COMPACT CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>30</u> % SILT: <u>30</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
CONTEXT 003 (circle one only): DEPTH (m): <u>8cm</u> MUNSELL COLOUR: <u>5YR 6/8</u> COLOUR: LIGHT <u>(MED)</u> DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM <u>(COMPACT)</u> CEMENTED TEXTURE -- SAND: <u>40</u> % CLAY: <u>40</u> % SILT: <u>20</u> % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
CONTEXT 004 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
CONTEXT 005 (circle one only): DEPTH (m): MUNSELL COLOUR: COLOUR: LIGHT MED DARK PH: CONSISTENCY: LOOSE WEAK FRIABLE FIRM COMPACT CEMENTED TEXTURE -- SAND: % CLAY: % SILT: % INCLUSIONS- PERCENTAGE % TYPE: SHAPE: FREQUENCY:				
Recorder: <u>DS</u>	Date: <u>7/7/17</u>	Checked by:	Date:	

## APPENDIX XXIV. ARTEFACT RECORDING METHODOLOGY

### Artefact identification

Stone artefacts were identified using technical criteria based on stone fracture mechanics, as described by Speth (1972), Cotterell and Kamminga (1987), Wright (1983) and Holdaway and Stern (2004).

A flake was a piece of stone which was struck from a larger rock. The larger rock (called a core) may have been rested on the ground, rested on an anvil, or held in one hand to stabilise it (Figure 50). The angle between the top of the core (its striking platform) and the side from which flakes were struck was usually less than 90°, as it was very difficult to detach flakes from cores where the angle was more than 90°. Force was applied to the platform with a hammer stone. Hammer stones showed distinctive pitting from such percussive use (Wright 1983:120).

Flakes showed specific technical features (Figure 51). Essentially, a flake had a platform, a point of impact (force application), a Hertzian cone, and a bulb of percussion. Some flakes also showed lines resulting from shear fracture, a bulbar scar (also called *errailure* scar) and ripple marks (Speth 1972:35). Sometimes the platforms on flakes were crushed during knapping (Holdaway and Stern 2004:120). These features were more or less pronounced, depending on the quality of the stone material, the hardness of the hammer relative to the stone, and whether an anvil was used and the manner of its use.

Bipolar flaking was used where the angle of the striking platform and the sides of the core was 90° or greater, and was often used to flake small cores and pebbles. In bipolar flaking the core was placed on another rock (called an anvil) and hit so that the force was directed down through the rock and rebounded off the anvil, to split the core into smaller pieces (Figure 52). The resulting flakes and core showed crushing at the end which was struck by the hammer stone and at the end which was in contact with the anvil. The bipolar flakes had sheared or compressed bulbs of percussion (Cotterell and Kamminga 1987:688, 698-700).

Cores and flakes were sometimes broken, either during flaking or afterwards by trampling, burning or by some other force. If the side or end of a flake was broken the artefact was classified as a proximal broken flake (Figure 53). Sometimes only a fragment or piece of a flake was found (e.g. a distal or medial piece) and these were classified as flake fragments. Flakes broken longitudinally through their centres were classified as cone-split broken flakes, distinguishing between left and right halves. Flaked pieces showed signs of flaking but could not be oriented towards a point of force application. Some artefacts were so broken that only heat shatter surfaces remained. Occasionally, some heat shatters had remnant flaked surfaces, indicating that they derived from broken artefacts.



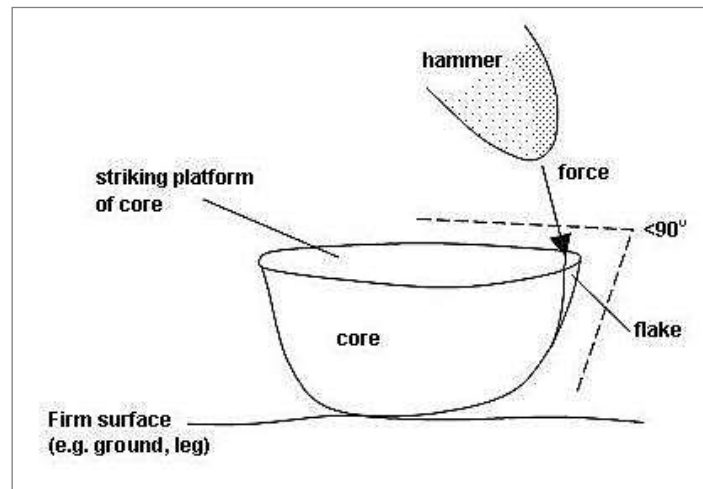


Figure 50: A potential core (Wright 1983:120)

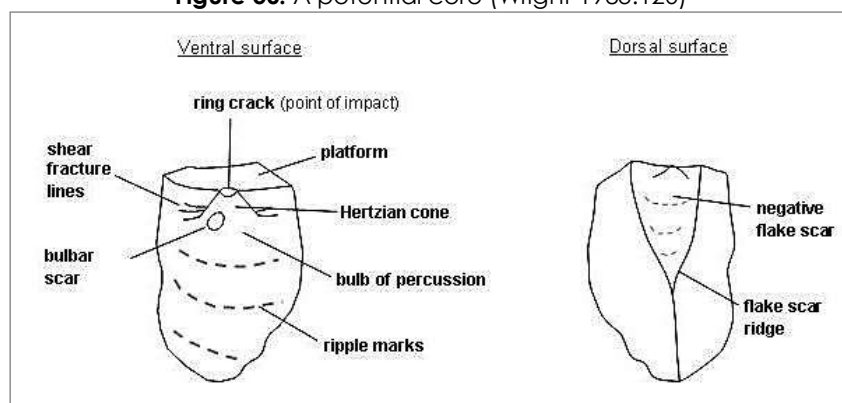


Figure 51: General features of a flake (after Speth 1972)

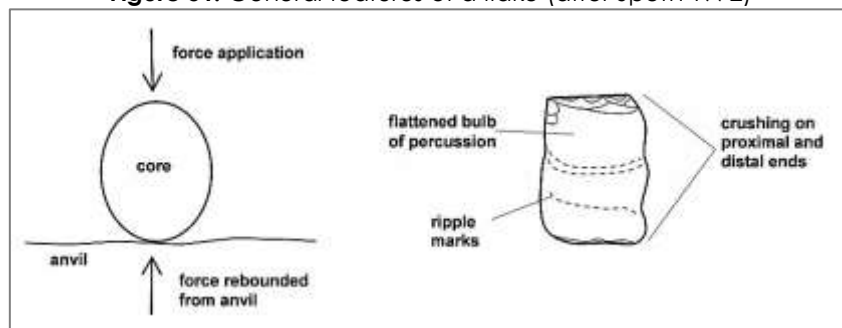


Figure 52: Bipolar flaking technique and bipolar flake

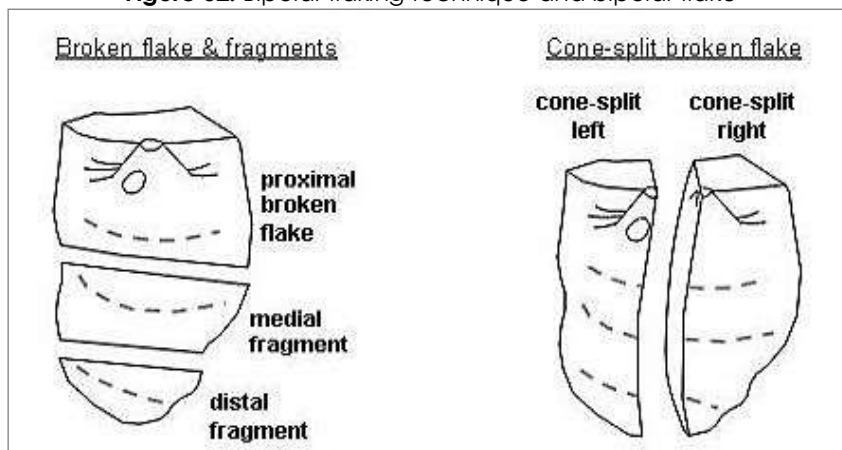


Figure 53: Flake breakage

## Artefact recording

The artefacts were recorded according to the categories set out on the AHIMS site recording form, as required by Requirements 19 and 26 of the *Code of Practice for Archaeological Investigation on Aboriginal Objects in New South Wales* (DECCW 2010a). Some difficulties were encountered with the AHIMS form as the drop-down nature of the form allowed only certain types/categories to be used, and technical categories relating to flake platforms and flake cross-section were not defined. Consequently, the terms used for this analysis are described below, and some additional information was recorded. Artefact data was entered into Microsoft's Access relational database programme for analysis.

## Provenance data

The pit and spit were recorded.

Record No: Each record in the database was assigned a number, automatically by the computer program, to assist with management of the database and to refer to specific artefacts if required.

Count: The number of artefacts in each record (usually, but not always, one).

## Raw material data

Raw material type. The potential options included those on the AHIMS site form with the addition of silicified tuff, silicified wood, and "unidentified":

- ☛ Basalt. A fine-grained volcanic rock, usually grey to black, with plagioclase feldspar, iron-rich minerals and with less than 20% quartz. May contain vesicles (formed from dissolved gases). It was not often used for artefacts (e.g. Binns and McBryde 1972; Corkill 2005);
- ☛ Chert. Fine-grained siliceous sedimentary rock formed from an accumulation of siliceous micro-organisms or through the replacement (impregnation) of a rock by siliceous fluids (Holdaway and Stern 2004:21);
- ☛ FGS – other fine-grained siliceous rocks. These were of unknown origin but potentially included very siliceous volcanic rocks;
- ☛ Quartz. Rock consists predominantly of silicon dioxide. It is usually white, but may be translucent to clear, or it may be grey, pink, orange or red depending on impurities. In the Sydney region, quartz occurred as pebbles, and often included flaws formed by crystal surfaces or fractures which probably occurred during transport in streams;
- ☛ Silcrete. An indurated soil duricrust, formed when silica cemented soil sediments. On the Cumberland Plain it occurred as cobbles and pebbles in palaeo-channels of presumed Tertiary age and in younger gravels eroded from these. It occurs in the St Marys Formation, the Rickabys Creek Gravels and Cranebrook Formation (Corkill 1999). It was usually yellow or grey in colour, and changed to orange, pink, red or black when heated (Corkill 1997); and
- ☛ Silicified wood, petrified wood, fossil wood. The original wood structure was replaced by silica in solution.

Cortex. An estimate of the extent of cortex on the dorsal and platform surfaces. Although not required on the AHIMS artefact form this variable contributed to information on the nature of stone resources and/or stage of reduction.

## Size and weight

**Maximum size.** The maximum size of artefacts along their longest dimension, recorded in millimetres. This measure differed from oriented length, width and thickness (Figure 54).

**Oriented length, width and thickness.** For flakes, length was measured from the point of force application along the percussion axis to the distal end of the flake, width was measured at right-angles to this and at the midpoint of oriented length, and thickness was measured at the intersection of length and width (Figure 54). Flaked pieces and heat shatters with remnant flaked surfaces were oriented as if they were rectangular blocks and measured accordingly. Measures for broken artefacts were entered in brackets.

**Weight.** Weight was recorded for each artefact to the nearest 0.1g.

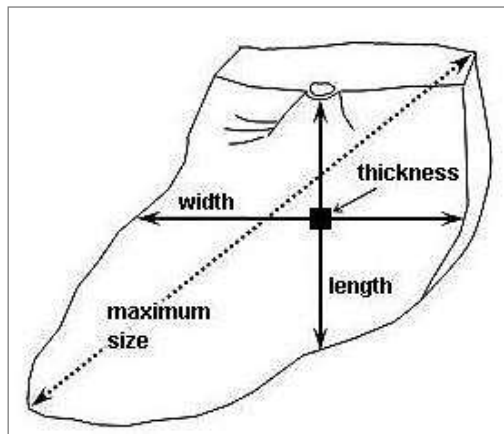


Figure 54: Flake measurements

## Artefact categories

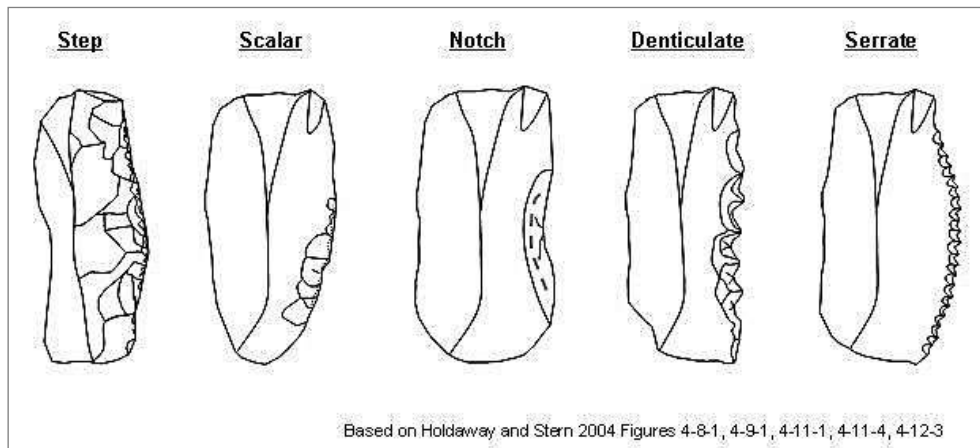
The category field highlighted artefacts with modification or grouped categories of debitage. Potential categories were:

- ☛ Anvil. A rock with pitted damage on a flat surface from use as a base plate in bipolar flaking or breakage of other hard materials.
- ☛ Backed artefact. An artefact, usually less than 5cm in size, with steep blunting retouch along one or more margins. Backing was sometimes formed by bipolar flaking. The backed margin was usually, but not always, opposite a sharp margin. Backing was used to shape the artefact, unlike other types of tool retouch which were used to modify the working edge (see below).
- ☛ Bipolar core or debitage. This category highlighted bipolar artefacts. A flaked artefact which had crushing on proximal and distal ends (where both were present), and a flattened bulb of percussion (Figure 52). The crushing and flattening of the bulb occurred because force was applied at the proximal end and rebounded through an anvil on which the distal end was rested (Cotterell and Kamminga 1987).
- ☛ Core (a flake producer, functioning as a raw material supply). A piece of stone used to produce flakes. Cores had one or more whole or remnant flake scars more than 1cm in size, indicating removal of flakes large enough to have been used as tools. The piece of stone may have originally been a cobble, a flake, a heat shatter or a naturally broken rock (after Gorman 1992:156). Cores were artefacts with negative flake scars only, or where



flakes were reduced as cores, the negative scars intercepted (were more recent in reduction than) the ventral surface of the flake used as the core.

- ✎ Hammer. A rock with pitted damage on one or more ends, from having been used to flake stone or other hard materials.
- ✎ Hatchet. A rock with a flaked or ground edge along a short margin, used for chopping. Flat surfaces often also have pitting from anvil use.
- ✎ Heat shatter. A piece of stone which had predominantly crenated surfaces and/or pitted scars. If flake scars or surfaces were present those surfaces occurred earlier in the reduction sequence than the heat shatter surfaces. Heat shatters which were retouched or flaked as cores were recorded as retouched artefacts or cores, because the negative scars were more recent in the reduction sequence than the heat shatter surfaces.
- ✎ FF/FP Debitage. This category grouped medial and distal flake fragments, and flaked pieces (see Type below).
- ✎ Indeterminate. Items of the same stone types as other artefacts, which did not show features diagnostic of flaking, heat breakage or crenated fracture, but from their context were likely to have had an Aboriginal origin. Indeterminate items may have been of poor quality stone which did not retain diagnostic features, items coated with manganese or other concretions, or indeterminate for some other reason.
- ✎ Platform Debitage. This category grouped flakes, proximal broken flakes and cone-split broken flakes (see Type below).
- ✎ Possible Usewear. Artefacts showing edge chipping, rounding, polish or striations. This was identified macroscopically, with the aid of a hand lens.
- ✎ Retouched artefact. The negative scars from flaking were more recent in the reduction sequence than the artefact being retouched. Retouch scars were usually struck from or intercepted with the ventral surface of a flake. Scars removed during core preparation prior to flake detachment (e.g. platform faceting or ridge-straightening) occurred on the dorsal surfaces or ridges of flakes and these artefacts were NOT recorded as retouched artefacts. Flake scars on retouched artefacts were generally too small for the retouching flakes themselves to have been used as tools (e.g. <1cm in size). Retouched artefacts could potentially have been core or tool blanks, failed cores or tools, practice items or broken fragments of cores or tools. Tools could have had various types of retouch (see below).
- ✎ Tool edge type. Tool edge types were described by Holdaway and Stern (2004:157-168, 236-274). Edges may have been straight, concave or convex in shape, and retouch may have been step, scalar, notched, dentate or serrate (Figure 55). Step retouch consisted of short flake scars with step terminations. Scalar retouch consisted of flake scars which invaded a surface. Step and scalar retouch were typical of scrapers. Notches were formed by removal of a relatively wide deep flake and could have occurred singly or as multiple notches on an artefact. Cuspate retouch (Witter 1992) was a large notch utilised to rejuvenate a tool edge. Dentate retouch was formed by regularly spaced teeth with notches wider than the teeth. Serrate retouch consisted of continuous fine teeth, normally triangular in outline separated by tiny notches.



**Figure 55:** Types of tool retouch

## Types

This field summarized the reduction and breakage of stone. The identification of flakes, proximal broken flakes, flake fragments and flaked pieces was made by reference to the technical descriptions and breakage of flakes given by Cotterell and Kamminga (1987), Holdaway and Stern (2004) and Speth (1972) (see above and Figure 53). Type recorded the type of unmodified artefact, or what type of artefact was modified to make a core or tool. For example, a hatchet (axe) may have originally been a cobble, then flaked and/or edge-ground, or a core may have been a large flake before being itself knapped. The type list included:

- ☛ Cobble. A rock more than 6.4cm in size.
- ☛ Flake. An artefact with a platform (unless crushed during flaking), a point of impact (force application), a Hertzian cone, and a bulb of percussion. Flakes may also have shown lines resulting from shear fracture, a bulbar scar (also called erailure scar) and ripple marks (Speth 1972:35) (Figure 51). These features were more or less pronounced, depending on the quality of the stone material, the hardness of the hammer relative to the stone, and whether an anvil was used and the manner of its use.
- ☛ Proximal broken flake. The proximal end of a flake. It had a platform, point of force application, and bulbar surface, usually with ripple marks but one or more margins were broken (Figure 53).
- ☛ CSBF/L, CSBF/R. Cone-split broken flake, left or right half. A broken flake, split vertically along its long axis, often through or close to its point of force application, bisecting the platform (Figure 53).
- ☛ Flake fragment. A piece of a flake not having a platform, but having an identifiable ventral surface. Medial or distal fragments were noted (Figure 53).
- ☛ Flaked piece. An artefact which had been flaked but which could not be oriented towards a particular point of force application. The surfaces showed signs of flaking such as lines from shear fracture and/or ripple marks.
- ☛ Pebble. A rock less than 6.4cm in size.

## Cores

Additional information was recorded for cores to show how they were flaked (Baker 1992). 'Flaking pattern' was the pattern of flake removals evident on cores. The categories recorded here were unidirectional, bifacial (alternating), asymmetric (including faceting) and bipolar (Figure 56).

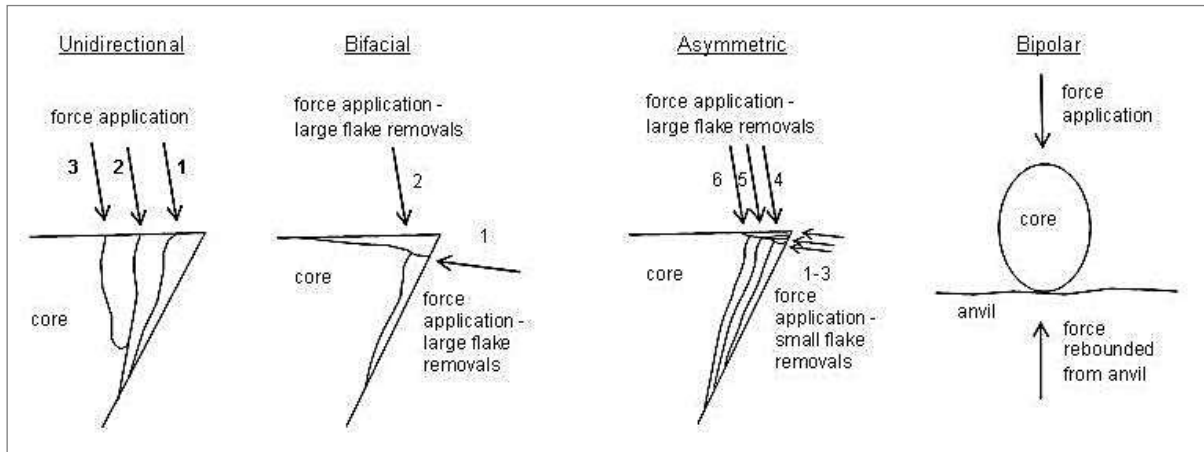


Figure 56: Core flaking patterns

**Unidirectional flaking:** Reduction proceeded in one direction from a platform. Cores may have been rotated, showing reduction from multiple faces but the force was applied in only one direction to remove flakes potentially large enough for use as tools (although small flakes may also have been removed, e.g. to trim the platform). Flake platforms from unidirectional flaking variously had cortical, plain, ridged or focal platforms (see below).

**Bifacial flaking:** Relatively large-sized flakes (potentially useable as tools) were struck from the two faces of a platform edge. A bifacial pattern of removals made use of the bulbar scar from one flake removal to give a lower platform angle for a flake removed from the alternate face of the platform edge (Witter 1992:31).

**Asymmetric flaking:** Small flakes in the form of core preparation and platform faceting were removed from the platform surface, then larger flakes were struck from that prepared surface. This technique included platform faceting and was associated with backed artefact production (Baker 1992; Hiscock 1993).

**Bipolar:** The core was rested on an anvil and force applied to it at an angle close to 90°, towards the core's contact with the anvil (see Figure 52). Force passed through the core and bounced back from the anvil. The resulting flakes and core showed crushing at the end which was struck by the hammer and at the end which was in contact with the anvil (Cotterell and Kamminga 1987:688, 698-700).

## Flake shape

Flakes were laid on graph paper with their platforms oriented parallel to the horizontal lines and shape was recorded (Figure 57):

- Wider than long ( $W > L$ ),
- Length equals width ( $L = W$ ),
- Longer than wide ( $L > W$ ), and



Elongate (El) - flakes twice as long as they were wide, or more than twice as long as wide.

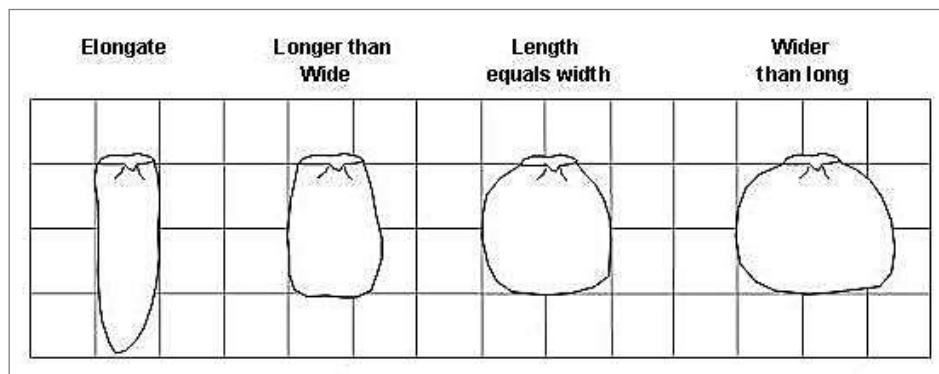


Figure 57: Flake shape

### Flake platform

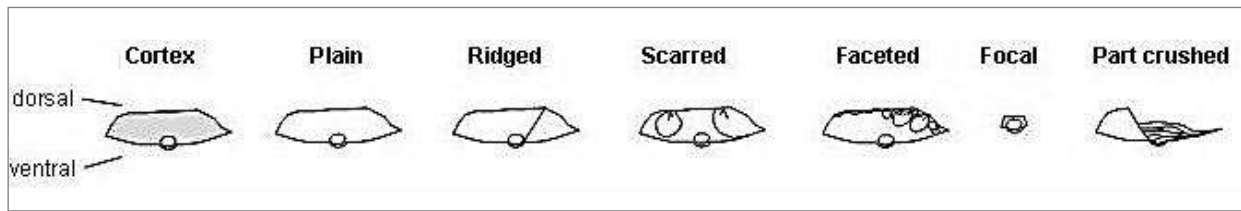
Several types of flake platforms were recorded on flakes and broken flakes more than 1 cm in size (Figure 58). These types have been used for artefact recording on the Cumberland Plain for many years and were used during the current study to be compatible with existing data, particularly as the AHIMS form does not include definitions.

The AHIMS artefact recording form included two fields for debitage platforms, being 'Platform Surface' and 'Platform Type'. The field 'Platform Surface' included the following options: Cortex, Flake scar, More than one flake scar, Faceted, Ground, Indeterminate, Bipolar. The field 'Platform Type' included the following options: Wide, Focal, Shattered, Indeterminate, Bipolar. The AHIMS options may be equivalent to the platform types described here, as shown on Table 17.

- ✎ Cortex. Platform surface covered entirely with cortex.
- ✎ Plain. Platform surface consisting of a smooth surface.
- ✎ Ridged. Platform surface had a ridge formed by a remnant margin of a flake formerly struck across the core.
- ✎ Scarred. Platform had one or a few flake scars, the points of force showing that they were initiated from blows struck on the dorsal edge of the platform surface.
- ✎ Faceted. Platform had many tiny flake scars on it, also initiated from the dorsal edge of the platform.
- ✎ Focal. Very small platforms, equal to or less than twice the area of the ring crack.
- ✎ Partly crushed or crushed. Platform partly or wholly crushed during knapping.
- ✎ Bipolar. A bipolar artefact.

Platform types Recorded Here	AHIMS Platform Surface	AHIMS Platform Type
Cortex	Cortex	Wide
Plain	Flake scar	Wide
Ridged	Flake scar	Wide
Scarred	More than one flake scar	Wide
Faceted	Faceted	Wide
Focal	Indeterminate	Focal
Crushed or partly crushed	Indeterminate	Shattered
Bipolar	Bipolar	Bipolar

Table 17: Platform types recorded here and equivalence to AHIMS form

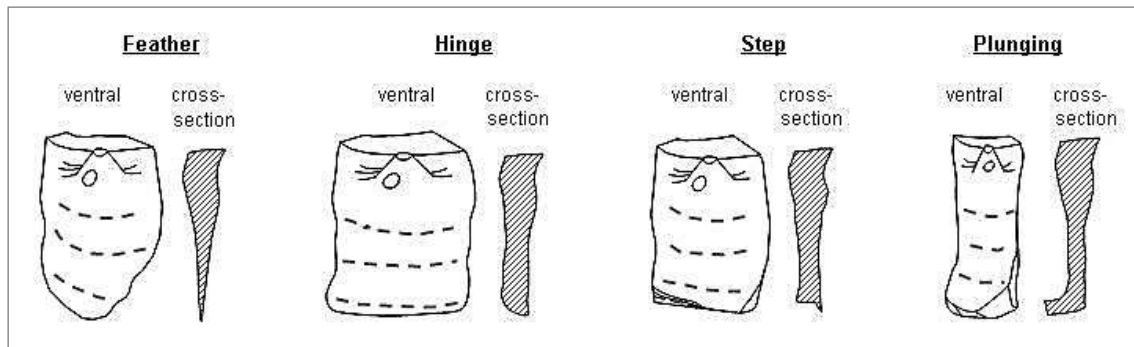


**Figure 58:** Flake platforms. Shows surface of platforms

### Flake terminations

Several types of flake terminations were recorded on flakes and distal flake fragments (Figure 59).

- ✎ Feather. The termination tapered to a thin end.
- ✎ Hinge. The termination formed a rounded end.
- ✎ Step. The termination formed an abrupt, often right-angle, break. Finials were sometimes present, extending from the dorsal face of the termination.
- ✎ Plunging (also called outrepasse). The termination removed the distal end (bottom) of a core.

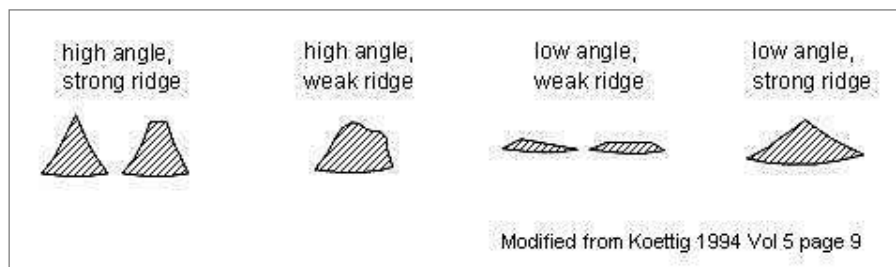


**Figure 59:** Flake Terminations

### Flake cross-section

A set of flake cross-sections similar to those listed on the AHIMS site form were described by Koettig (1994 Vol 5:9). Koettig's categories were redefined here to meet more closely the choices on the AHIMS site form (Figure 60). They were:

- ✎ High angle/strong ridge;
- ✎ High angle/weak ridge;
- ✎ Low angle/weak ridge;
- ✎ Low angle/strong ridge; and
- ✎ Irregular was not described by Koettig (1994).



**Figure 60:** Flake cross-section

APPENDIX XXV. ABORIGINAL OBJECTS FROM THE “FAIRWAYS NORTH” PRECINCT

Orig. Cat. #	Transect/Trench	Square (pt/Quadrant)	Spit #	Depth (cm)	Phase (testing)	Count	Raw Material	RM Colour 1	Cortex %	Category Type	Platform Surface	Platform (Platform Type)	Termination	Max Length (mm)	Length (mm)	Width (mm)	Thickness (mm)	Comments
1	T13	520	1	0-10	1	1	Quartz	White	0	Right Split	Indeterminate	Indeterminate	Snap	10	10.5	4	2	No obvious bulb, the quartz is very angular
2	T11	580	2	10-20	1	1	Silcrete	Red	0	Distal	Indeterminate	Indeterminate	Feather	11	9	4	3	Evidence of a step fracture on one surface, left longitudinal snap just above the end of the bulb
3	T11	580	2	10-20	1	1	Silcrete	Red	20	Medial	Indeterminate	Indeterminate	Hinge	21.55	20.63	10.19	3.46	Imbedded vein which contains cortex evident on the ventral surface. Snap at either end, the bulb is not obvious
4	T11	580	2	10-20	1	1	Silcrete	Red	0	Flake	Flake Scar	Wide	Feather	12	11	8	5	Focal platform is very small, Repurposed broken flake, >1 flake scar on dorsal surface. Possible conjoin with #2
5	T15	680A	0	0	1	1	Quartz	White	0	Proximal	Indeterminate	Indeterminate	Snap	18.16	13.25	18.9	6.32	Platform surface removed, as a result of flake detachment after original flake had been removed. Flake scar on dorsal surface



## APPENDIX XXVI. TEST PIT DETAILS ASSOCIATED WITH "FAIRWAYS NORTH" PRECINCT PHASE 1 TESTING

Phase	Pit	Artefact Presence	Depth Excavated	Justification to Cease Excavation
1	T2-180	N	20	Clay
1	T2-200	N	20	Clay
1	T2-220	N	19	Clay
1	T2-240	N	10	Clay
1	T2-260	N	30	Clay
1	T2-280	N	32	Clay
1	T3-100	N	33	Clay
1	T3-120	N	20	Clay
1	T3-140	N	20	Clay
1	T3-180	N	22	Clay
1	T3-200	N	20	Clay
1	T3-220	N	36	Clay
1	T3-240	N	20	Clay
1	T4-460	N	25	Clay
1	T4-480	N	26	Clay
1	T4-520	N	25	Clay
1	T4-540	N	30	Clay and Rock
1	T4-560	N	22	Clay
1	T4-580	N	20	Clay
1	T4-600	N	20	Clay
1	T4-620	N	20	Clay
1	T4-640	N	30	Clay
1	T4-660	N	25	Clay
1	T4-680	N	21	Clay
1	T4-700	N	22	Clay
1	T4-720	N	23	Clay
1	T4-740	N	25	Clay
1	T4-760	N	20	Clay
1	T4-780	N	20	Clay and Rock
1	T4-800	N	20	Clay
1	T4-820	N	30	Clay
1	T4-840	N	45	Clay
1	T5-400	N	20	Clay
1	T5-420	N	23	Clay
1	T5-440	N	25	Clay
1	T5-460	N	26	Clay

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1	T5-480	N	25	Clay
1	T5-500	N	23	Clay
1	T5-520	N	25	Clay
1	T5-540	N	23	Clayey Sand
1	T5-560	N	35	Clay
1	T5-580	N	30	Clayey Sand
1	T5-600	N	16	Clayey Sand
1	T5-620	N	30	Clay
1	T5-640	N	20	Clayey Sand
1	T5-660	N	20	Clay
1	T5-680	N	20	Clay and Rock
1	T5-700	N	20	Clay
1	T5-720	N	20	Clayey Sand
1	T5-740	N	20	Clayey Sand
1	T5-760	N	25	Clay
1	T5-780	N	25	Clay
1	T5-800	N	40	Rock
1	T5-820	N	30	Clay
1	T5-840	N	37	Clay
1	T6-400	N	20	Clayey Sand
1	T6-420	N	32	Clay
1	T6-440	N	30	Clay
1	T6-460	N	25	Clay
1	T6-480	N	30	Clay
1	T6-500	N	36	Clayey Sand
1	T6-520	N	25	Clay
1	T6-540	N	28	Rock
1	T6-560	N	20	Clay
1	T6-580	N	21	Clayey Sand
1	T6-600	N	22	Clay
1	T6-620	N	26	Clayey Sand
1	T6-640	N	20	Clayey Sand
1	T6-660	N	20	Clayey Sand
1	T6-680	N	20	Clayey Sand
1	T6-700	N	25	Clay
1	T6-720	N	22	Clayey Sand
1	T6-740	N	25	Clay
1	T6-760	N	23	Clayey Sand
1	T6-780	N	30	Clay

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1	T6-800	N	30	Clayey Sand
1	T6-820	N	35	Clay
1	T6-840	N	30	Clayey Sand
1	T7-300	N	28	Clayey Sand
1	T7-320	N	30	Clay
1	T7-340	N	30	Rock
1	T7-360	N	45	Clayey Sand
1	T7-380	N	40	Clayey Sand
1	T7-400	N	30	Clayey Sand
1	T7-420	N	23	Clayey Sand
1	T7-440	N	25	Clay
1	T7-460	N	30	Clayey Sand
1	T7-480	N	22	Clay
1	T7-500	N	25	Clayey Sand
1	T7-520	N	18	Clay
1	T7-540	N	20	Clayey Sand
1	T7-560	N	20	Clay and Rock
1	T7-580	N	20	Clayey Sand
1	T7-600	N	20	Clay
1	T7-620	N	25	Clay
1	T7-640	N	20	Clay
1	T7-660	N	30	Clay
1	T7-680	N	20	Clay
1	T7-700	N	25	Clay
1	T7-720	N	30	Clay
1	T7-740	N	20	Clayey Sand
1	T7-760	N	35	Clay
1	T7-780	N	28	Clayey Sand
1	T7-800	N	25	Clayey Sand
1	T7-820	N	23	Clayey Sand and Rock
1	T7-840	N	20	Clay
1	T8-280	N	30	Sandy Clay
1	T8-360	N	35	Clayey Sand
1	T8-380	N	25	Clay
1	T8-400	N	20	Clayey Sand
1	T8-420	N	30	Clay
1	T8-440	N	30	Clayey Sand
1	T8-460	N	15	Clay
1	T8-480	N	16	Clay



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1	T8-500	N	20	Clay
1	T8-520	N	23	Clayey Sand
1	T8-540	N	30	Clay
1	T8-560	N	16	Clayey Sand
1	T8-580	N	30	Clay
1	T8-600	N	28	Clay
1	T8-620	N	30	Clay
1	T8-640	N	25	Clay
1	T8-660	N	30	Clay
1	T8-680	N	30	Clay
1	T8-700	N	25	Clay
1	T8-720	N	28	Clay
1	T8-740	N	20	Clay
1	T8-760	N	35	Clayey Sand
1	T8-780	N	40	Clay
1	T8-800	N	35	Clayey Sand
1	T8-820	N	20	Clayey Sand
1	T9-300	N	50	Clayey Sand
1	T9-320	N	35	Clay
1	T9-340	N	40	Clayey Sand
1	T9-360	N	35	Clay
1	T9-380	N	40	Clayey Sand
1	T9-400	N	25	Clay
1	T9-420	N	35	Clayey Sand
1	T9-440	N	45	Clay
1	T9-460	N	30	Clay
1	T9-480	N	20	Clay
1	T9-500	N	17	Clay
1	T9-520	N	33	Clay
1	T9-540	N	43	Clayey Sand
1	T9-560	N	27	Clay
1	T9-580	N	38	Clay
1	T9-600	N	45	Clay
1	T9-620	N	33	Clay
1	T9-640	N	30	Clay
1	T9-660	N	30	Clayey Sand
1	T9-680	N	30	Clay
1	T9-700	N	30	Clayey Sand
1	T9-720	N	25	Clay

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1	T9-740	N	40	Clayey Sand
1	T9-760	N	15	Clay
1	T9-780	N	30	Clayey Sand
1	T9-800	N	28	Clay
1	T10-260	N	25	Clayey Sand
1	T10-280	N	45	Clay
1	T10-300	N	36	Clay
1	T10-320	N	40	Clay
1	T10-340	N	50	Clayey Sand
1	T10-360	N	35	Clay
1	T10-380	N	29	Clayey Sand
1	T10-400	N	28	Clay
1	T10-420	N	19	Clay
1	T10-440	N	25	Clay
1	T10-460	N	43	Clay
1	T10-480	N	25	Clay
1	T10-500	N	30	Clayey Sand
1	T10-520	N	25	Clay
1	T10-540	N	45	Clay
1	T10-560	N	28	Clayey Sand
1	T10-580	N	30	Clay
2	T10-580K	N	27	Clayey Sand
1	T10-600	N	30	Clay
1	T10-620	N	33	Clay
1	T10-640	N	40	Clayey Sand
1	T10-660	N	33	Clay
1	T10-680	N	30	Clayey Sand
1	T10-700	N	30	Clay
1	T10-720	N	28	Clayey Sand
1	T10-740	N	30	Clay
1	T10-760	N	30	Clay
1	T10-780	N	13	Clayey Sand
1	T11-220	N	30	Clay
1	T11-240	N	37	Clay
1	T11-260	N	20	Clay
1	T11-280	N	27	Clayey Sand
1	T11-300	N	28	Clay
1	T11-320	N	30	Clayey Sand
1	T11-340	N	30	Clay

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1	T11-360	N	22	Clayey Sand
1	T11-400	N	30	Clay
1	T11-420	N	28	Clay
1	T11-440	N	19	Clayey Sand
1	T11-460	N	30	Clay
1	T11-480	N	25	Clayey Sand
1	T11-500	N	30	Clay
1	T11-520	N	15	Clayey Sand
1	T11-540	N	26	Clay
1	T11-560	N	34	Clayey Sand
1	T11-580	Y	27	Clay
2	T11-580K	N	25	Clay
1	T11-600	N	35	Clay
1	T11-620	N	35	Clayey Sand
1	T11-640	N	37	Clayey Sand
1	T11-660	N	35	Clay
1	T11-680	N	30	Clayey Sand
1	T11-700	N	30	Clayey Sand
1	T11-720	N	30	Clayey Sand
1	T11-740	N	28	Clay
1	T11-760	N	30	Clay
1	T12-180	N	25	Clay
1	T12-200	N	20	Clayey Sand
1	T12-220	N	20	Clay
1	T12-240	N	30	Clay
1	T12-260	N	15	Clay
1	T12-280	N	26	Clayey Sand
1	T12-300	N	30	Clay
1	T12-320	N	23	Clay
1	T12-340	N	20	Clay
1	T12-360	N	28	Clay
1	T12-380	N	25	Clay
1	T12-400	N	20	Clayey Sand
1	T12-420	N	30	Clay
1	T12-440	N	28	Clay
1	T12-460	N	30	Clay
1	T12-500	N	18	Clayey Sand
1	T12-520	N	12	Clay
1	T12-540	N	30	Rock



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1	T12-560	N	30	Clay
1	T12-580	N	26	Clay
1	T1-260	N	22	Clay
1	T12-600	N	30	Clay
1	T12-620	N	27	Clayey Sand
1	T12-640	N	30	Clay
1	T12-660	N	30	Clay
1	T12-680	N	30	Clay
1	T12-700	N	23	Clay
1	T12-720	N	20	Clay
1	T12-740	N	29	Clay
1	T12-760	N	30	Rock
1	T1-280	N	32	Rock and Clay
1	T13-140	N	45	Clayey Sand
1	T13-160	N	50	Clay
1	T13-180	N	50	Clay
1	T13-200	N	45	Clay
1	T13-220	N	34	Clay
1	T13-240	N	35	Rock
1	T13-260	N	20	Clay
1	T13-280	N	35	Clay
1	T13-300	N	25	Clay
1	T13-320	N	27	Clay
1	T13-340	N	25	Clay
1	T13-360	N	26	Clay
1	T13-380	N	30	Clay
1	T13-400	N	30	Clay
1	T13-420	N	30	Clay
1	T13-440	N	20	Clayey Sand
1	T13-460	N	5	Rock
1	T14-100	N	17	Rock
1	T14-120	N	10	Rock
1	T14-140	N	21	Sand
1	T14-160	N	30	Clay
1	T14-180	N	38	Clay
1	T14-200	N	48	Clay
1	T14-220	N	45	Clay
1	T14-240	N	30	Clay
1	T14-260	N	34	Clay

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1	T14-280	N	19	Clay
1	T14-300	N	15	Clay
1	T14-320	N	15	Clay
1	T14-340	N	35	Rock
1	T14-360	N	35	Clay
1	T14-380	N	45	Rock
1	T15-100	N	10	Rock
1	T15-120	N	40	Clay
1	T15-140	N	25	Clay
1	T15-160	N	25	Clayey Sand
1	T15-180	N	27	Clayey Sand
1	T15-200	N	20	Clayey Sand
1	T15-220	N	30	Sand
1	T15-240	N	20	Clay
1	T15-260	N	25	Clayey Sand
1	T15-280	N	20	Rock
1	T15-300	N	20	Rock
1	T15-320	N	10	Rock
1	T15-340	N	5	Rock
1	T15-680	N	37	Rock
2	T15-680A	Y	28	Clay
1	T16-160	N	40	Rock
1	T16-180	N	30	Clayey Sand
1	T16-200	N	30	Rock

## APPENDIX XXVII. TEST PIT DETAILS ASSOCIATED WITH "GOLF TOWN" PRECINCT PHASE 1 TESTING

Phase	Pit	Artefact Presence	Depth Excavated	Justification to Cease Excavation
1	T19-520	N	20	Clay
1	T19-540	N	20	Clayey Sand
1	T19-560	N	19	Clay
1	T19-580	N	25	Clay
1	T19-620	N	23	Clayey Sand
1	T19-640	N	40	Clay
1	T19-660	N	30	Clay
1	T19-680	N	25	Clay
1	T19-700	N	30	Rock
1	T19-720	N	30	Clayey Sand
1	T19-740	N	27	Clayey Sand
1	T19-760	N	23	Clayey Sand
1	T19-780	N	30	Clayey Sand
1	T19-800	N	25	Clayey Sand
1	T19-820	N	25	Clayey Sand
1	T20-500	N	27	Clay
1	T20-520	N	10	Clay
1	T20-540	N	18	Clay
1	T20-560	N	20	Clayey Sand
1	T20-580	N	35	Clayey Sand
1	T20-600	N	25	Clay
1	T20-620	N	35	Clay
1	T20-640	N	20	Clayey Sand
1	T20-660	N	23	Clay
1	T21-200	N	35	Clayey Sand
1	T21-220	N	8	Rock
1	T21-240	N	15	Clay
1	T21-260	N	45	Clay
1	T21-420	N	22	Clayey Sand
1	T21-460	N	20	Clayey Sand
1	T21-520	N	25	Clayey Sand
1	T21-560	N	25	Clay
1	T21-580	N	50	Maximum Depth
1	T21-600	N	10	Rock
1	T22-160	N	14	Rock
1	T22-180	N	3	Rock
1	T22-200	N	37	Clay
1	T22-220	N	20	Clay



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1	T22-240	N	16	Clay
1	T22-420	N	20	Clay
1	T22-440	N	10	Clay
1	T22-460	N	15	Clayey Sand
1	T22-480	N	20	Clayey Sand
1	T22-520	N	27	Clay
1	T23-140	N	16	Clayey Sand
1	T23-160	N	12	Clayey Sand
1	T23-180	N	18	Clay
1	T23-200	N	40	Clayey Sand
1	T23-220	N	40	Clayey Sand
1	T23-260	N	35	Rock
1	T23-400	N	18	Clayey Sand
1	T23-440	N	15	Clayey Sand
1	T24-140	N	32	Clayey Sand
1	T24-180	N	28	Clayey Sand
1	T24-200	N	40	Clay
1	T24-220	N	32	Clay
1	T24-240	N	46	Clay
1	T24-260	N	22	Clay
1	T24-280	N	41	Clay
1	T24-300	N	30	Clay
1	T24-380	N	30	Clay
1	T24-400	N	45	Clayey Sand
1	T24-420	N	18	Clayey Sand
1	T24-500	N	14	Rock
1	T24-520	N	20	Clayey Sand
1	T24-540	N	15	Clayey Sand
1	T25-140	N	10	Rock
1	T25-160	N	9	Rock
1	T25-180	N	30	Rock
1	T25-200	N	50	Maximum Depth
1	T25-220	N	21	Clay
1	T25-260	N	23	Clay
1	T25-280	N	20	Clayey Sand
1	T25-320	N	20	Clay
1	T25-360	N	22	Clay
1	T25-400	N	25	Sandy Clay
1	T25-440	N	40	Clayey Sand
1	T25-480	N	25	Clayey Sand
1	T26-180	N	20	Rock

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1	T26-200	N	18	Clayey Sand
1	T26-220	N	30	Clayey Sand
1	T26-240	N	22	Clayey Sand
1	T26-260	N	20	Clay
1	T26-280	N	24	Clayey Sand
1	T26-300	N	17	Clayey Sand
1	T26-320	N	25	Silt
1	T26-340	N	20	Clay
1	T26-360	N	20	Clayey Sand
1	T26-380	N	22	Clayey Sand
1	T26-400	N	22	Compacted Sand
1	T26-420	N	28	Clayey Sand
1	T27-180	N	20	Rock
1	T27-200	N	20	Clayey Sand
1	T27-220	N	22	Rock
1	T27-340	N	20	Clayey Sand
1	T27-360	N	15	Clayey Sand
1	T27-380	N	24	Clay
1	T27-400	N	20	Clay
1	T27-420	N	7	Rock

## APPENDIX XXVIII. CONTEXTS FROM EXCAVATED PITS FROM "FAIRWAYS NORTH" PRECINCT PHASE 1 TESTING

Pit	Contexts				
	1	2	3	4	5
T2-180	0-19 2.5/2 7.5YR Silty Clayey Sand	19-20cm 4/4 10YR Silty Clayey Sand			
T2-200	0-19cm 5/4 10YR Silty Sand	19-20 5/8 2.5YR Clayey Sand			
T2-220	0-16cm 4/3 7.5YR Silty Sand	16-19cm 4/6 7.5YR Clayey Sand			
T2-240	0-8cm 4/4 10YR Silty Sand	8-10cm 4/8 2.5YR Clayey Sand			
T2-260	0-29cm 4/4 10YR Silty Sand	29-30cm 4/8 2.5YR Clayey Sand			
T2-280	0-24 3/2 10YR Silty Clayey Sand	24-32cm 3/6 10YR Clayey Sand			
T3-100	0-10cm 3/3 10YR Silty Sand	10-23cm 5/4 10YR Sandy Clay	23-32cm 5/3 10YR Sandy Clay	32-33cm 4/8 2.5YR Clayey Sand	
T3-120	0-17cm 3/3 10YR Silty Clayey Sand	17-20cm 4/4 10YR Silty Sandy Clay			
T3-140	0-19cm 3/3 10YR Silty Sand	19-20cm 4/8 2.5YR Clayey Sand			
T3-180	0-20cm 3/3 7.5YR Silty Sand	20-22cm 4/6 10YR Clayey Sand			
T3-200	0-12cm 2/2 10YR Silty Sand	12-19cm 3/3 10YR Silty Clayey Sand	19-20cm 4/8 2.5YR Clayey Sand		
T3-220	0-32cm 4/4 10YR Silty Sand	32-36cm 4/3 2.5YR Clayey Sand			
T3-240	0-13cm 2/2 10YR Silty Sand	13-19cm 3/6 10YR Silty Clayey Sand	19-20cm 4/8 2.5YR Clayey Sand		
T4-460	0-5cm 4/4 2.5YR Silty Clayey Sand	5-25cm 3/6 10YR Silty Sandy Clay			
T4-480	0-11cm 2/2 10YR Silty Clayey Sand	11-26cm 4/4 10YR Silty Sandy Clay			



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T4-520	0-5cm 5/4 10YR Silty Clayey Sand	5-25cm 4/8 2.5YR Silty Sandy Clay			
T4-540	0-5cm 5/4 10YR Silty Sand	5-20cm 3/6 10YR Silty Clayey Sand	20-30cm 4/8 2.5YR Silty Sandy Clay		
T4-560	0-5cm 5/4 10YR Silty Sand	5-11cm 3/4 10YR Silty Clayey Sand	11-22cm 5/6 10YR Silty Sandy Clay		
T4-580	0-8cm 3/4 10YR Silty Sand	8-20cm 4/8 2.5YR Silty Sandy Clay			
T4-600	0-12cm 2/2 10YR Silty Clayey Sand	12-20cm 3/6 10YR Silty Clayey Sand			
T4-620	0-10cm 5/3 2.5YR Silty Sand	10-20cm 3/6 10YR Silty Sandy Clay			
T4-640	0-16cm 5/4 10YR Silty Sand	16-30cm 3/4 10YR Silty Clayey Sand			
T4-680	0-10cm 5/3 10YR Silty Sand	10-21cm 3/6 10YR Silty Sandy Clay			
T4-720	0-9cm 5/4 10YR Silty Sand	9-23cm 6/4 10YR Silty Sandy Clay			
T4-760	0-5cm 3/6 10YR Silty Sand	5cm-20cm 4/6 10YR Silty Sandy Clay			
T4-780	0-10cm 3/6 10YR Silty Sand	10-20cm 4/4 10YR Silty Clayey Sand			
T4-840	0-9cm 4/3 10YR Silty Sand	9-45cm 3/6 10YR Silty Sandy Clay			
T5-400	0-4cm 2/2 10YR Silty Sand	4-19cm 3/4 10YR Silty Sandy Clay	19-20cm 4/6 10YR Silty Sandy Clay		
T5-460	0-12cm 2/2 10YR Silty Sand	12-26cm 3/4 10YR Silty Sandy Clay			
T5-500	0-7cm 2/2 10YR Silty Sand	7-22cm 3/4 10YR Silty Clayey Sand	22-23cm 4/6 10YR Silty Sandy Clay		
T5-540	0-6cm 2/2 10YR Silty Sand	6-23cm 3/4 10YR Silty Clayey Sand			
T5-580	0-10cm 3/3 10YR Silty Clayey Sand	10-30cm 5/6 10YR Silty Clayey Sand			

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T5-600	0-7cm 4/4 10YR Silty Sand	7-16cm 3/6 10YR Silty Clayey Sand			
T5-620	0-10cm 4/3 10YR Silty Sand	10-30cm 4/6 10YR Silty Sandy Clay			
T5-640	0-1cm 4/3 10YR Silty Sand	1-12cm 5/3 10YR Silty Clayey Sand	12-20cm 4/6 10YR Silty Clayey Sand		
T5-680	0-6cm 3/4 10YR Silty Sand	6-20cm 3/6 10YR Silty Clayey Sand			
T5-740	0-20cm 7/4 10YR Silty Clayey Sand				
T5-800	0-13cm 5/3 10YR Silty Sand	13-25cm 8/4 10YR Silty Clayey Sand	25-40cm 8/6 10YR Silty Clayey Sand		
T5-840	0-12cm 3/6 10YR Silty Clayey Sand	12-32cm 6/6 10YR Silty Clayey Sand	32-37cm 5/8 10YR Silty Sandy Clay		
T6-400	0-5cm 4/4 2.5YR Silty Sand	5-20cm 6/6 10YR Clayey Sand			
T6-420	0-7cm 2/2 10YR Silty Sand	7-31cm 5/6 10YR Silty Clayey Sand	31-32cm 6/8 10YR Silty Sandy Clay		
T6-460	0-5cm 2/2 10YR Silty Sand	5-24cm 4/3 10YR Silty Clayey Sand	24-25cm 5/8 10YR Silty Sandy Clay		
T6-500	0-13cm 2/2 10YR Silty Sand	13-36cm 5/6 10YR Silty Clayey Sand			
T6-540	0-20cm 5/3 10 YR Silty Sand	20-28cm 3/4 10YR Silty Clayey Sand			
T6-580	0-11cm 2/2 10YR Silty Sand	11-21cm 3/4 10YR Silty Clayey Sand			
T6-620	0-11cm 2/2 10YR Silty Sand	11-26cm 3/4 10YR Silty Clayey Sand			
T6-640	0-10cm 5/6 10YR Silty Sand	10-20cm 4/4 10YR Silty Clayey Sand			
T6-660	0-4cm 7/3 10YR Silty Sand	4-20cm 3/6 10YR Silty Clayey Sand			
T6-680	0-12cm 2/2 10YR Silty Sand	12-20cm 4/4 10YR Silty Clayey Sand			

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T6-720	0-13cm 2/2 10YR Silty Sand	13-22cm 4/4 10YR Silty Clayey Sand			
T6-760	0-12cm 2/2 10YR Silty Sand	12-23cm 4/4 10YR Silty Clayey Sand			
T6-800	0-12cm 2/2 10YR Silty Sand	12-30cm 4/4 10YR Silty Clayey Sand			
T6-840	0-10cm 2/2 10YR Silty Sand	10-30cm 4/4 10YR Silty Clayey Sand			
T7-300	0-16cm 3/4 10YR Silty Sand	16-28cm 7/6 10YR Silty Clayey Sand			
T7-340	0-13cm 4/4 10YR Silty Sand	13-30cm 6/6 10YR Clayey Silty Sand			
T7-380	0-20cm 2/2 10YR Silty Sand	20-40cm 6/6 10YR Silty Clayey Sand			
T7-420	0-10cm 3/6 10YR Silty Sand	10-23cm 5/6 10YR Silty Clayey Sand			
T7-440	0-5cm 4/4 10YR Silty Sand	5-15cm 6/6 10YR Clayey Silty Sand	15-25cm 5/8 5YR Silty Sandy Clay		
T7-460	0-13cm 3/6 10YR Silty Sand	13-30cm 5/6 10YR Silty Clayey Sand			
T7-480	0-5cm 5/4 2.5YR Silty Sand	5-22cm 5/8 5YR Silty Sandy Clay			
T7-500	0-12cm 3/6 10YR Silty Sand	12-25cm 4/6 10YR Silty Clayey Sand			
T7-520	0-3cm 4/4 10YR Clayey Sandy Silt	3-18cm 5/8 5YR Sandy Silty Clay			
T7-540	0-10cm 3/4 10YR Silty Sand	10-20cm 5/8 10YR Silty Clayey Sand			
T7-560	0-5cm 3/3 10YR Silty Sand	5-20cm 5/8 5YR Sandy Silty Clay			
T7-580	0-7cm 3/6 10YR Silty Sand	7-20cm 4/4 10YR Silty Clayey Sand			
T7-600	0-5cm 4/3 10YR Silty Sand	5-20cm 5/8 5YR Sandy Silty Clay			



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T7-620	0-10cm 3/4 10YR Silty Sand	10-24cm 3/6 10YR Silty Clayey Sand	24-25cm 5/8 5YR Silty Sandy Clay		
T7-640	0-5cm 3/3 10YR Silty Sand	5-20cm 5/8 5YR Sandy Silty Clay			
T7-660	0-14cm 3/4 10YR Silty Sand	14-29cm 3/6 10YR Silty Clayey Sand	29-30cm 5/8 7.5YR Silty Sandy Clay		
T7-680	0-4cm 4/6 10YR Silty Sand	4-20cm 5/8 5YR Sandy Silty Clay			
T7-700	0-20cm 2/2 10YR Silty Clayey Sand	20-25cm 4/4 10YR Silty Sandy Clay			
T7-720	0-3cm 5/6 2.5YR Silty Sand	3-30cm 4/4 10YR Silty Sandy Clay			
T7-740	0-12cm 2/2 10YR Silty Sand	12-20cm 3/6 10YR Silty Clayey Sand			
T7-760	0-10cm 5/6 10YR Silty Sand	10-20cm 4/4 10YR Silty Sandy Clay	20-35cm 5/8 5YR Sandy Silty Clay		
T7-780	0-14cm 5/6 10YR Clayey Silt Sand	14-28cm 3/6 10YR Silty Clayey Sand			
T7-800	0-5cm 5/6 10YR Silty Sand	5-15cm 5/4 10YR Clayey Silty Sand	15-25cm 4/6 10YR Silty Clayey Sand		
T7-820	0-8cm 2/2 10YR Silty Sand	8-23cm 4/6 10YR Silty Clayey Sand			
T7-840	0-5cm 3/3 10YR Silty Sand	5-20cm  Silty Sandy Clay			
T8-280	0-35cm 6/4 10YR Silty Clayey Sand				
T8-400	0-15cm 3/6 10YR Clayey Sandy Silt	15-20cm 4/6 10YR Silty Clayey Sand			
T8-440	0-6cm 5/4 10YR Sandy Silt	6-20cm 7/3 10YR Silty Clayey Sand	20-30cm 6/6 10YR Silty Clayey Sand		
T8-480	0-5cm 4/4 10YR Clayey Sandy Silt	5-12cm 6/6 10YR Silty Clayey Sand	12-16cm 5/8 10YR Sandy Clay		
T8-520	0-9cm 3/4 10YR Silty Sand	9-23cm 5/6 10YR Silty Clayey Sand			

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T8-560	0-8cm 3/6 10YR Silty Clayey Sand	8-16cm 5/4 10YR Silty Clayey Sand			
T8-600	0-7cm 5/4 10YR Clayey Silty Sand	7-24cm 5/6 10YR Clayey Silty Sand	24-28cm 5/8 10YR Sandy Clay		
T8-640	0-7cm 3/3 10YR Silty Sand	7-17cm 4/4 10YR Silty Clayey Sand	17-25cm 4/6 10YR Silty Sandy Clay		
T8-700	0-13cm 4/3 10YR Silty Clayey Sand	13-25cm 5/6 10YR Silty Clayey Sand			
T8-720	0-7cm 4/4 10YR Silty Sand	7-27cm 5/4 10 YR Silty Clayey Sand	27-28cm 5/8 10YR Sandy Clay		
T8-800	0-5cm 4/4 10YR Clayey Silty Sand	5-15cm Clayey Silty Sand	15-25cm Silty Clayey Sand	25-35cm Silty Sandy Clay	
T8-820	0-5cm 4/8 10YR Clayey Silty Sand	5-20cm 5/4 10YR Silty Clayey Sand			
T9-300	0-25cm 5/4 10YR clayey Silty Sand	25-50cm 5/8 10YR Silty Clayey Sand			
T9-340	0-10cm 5/3 10YR Clayey Silty Sand	10-40cm 7/4 10YR Clayey Silty Sand			
T9-380	0-10cm 2/2 10YR Clayey Silty Sand	10-30cm 4/6 10YR Silty Clayey Sand			
T9-420	0-11cm 5/3 10YR Clay Silty Sand	11-35cm 7/4 10YR Silty Clayey Sand			
T9-460	0-11cm 3/3 10YR Silty Clayey Sand	11-20cm 4/6 10YR Silty Clayey Sand	20-30cm 5/8 10YR Silty Sandy Clay		
T9-500	0-14cm 6/4 10YR Silty Clayey Sand	14-17cm 6/8 7.5YR Silty Sandy Clay			
T9-540	0-3cm 5/2 10YR Clayey Silty Sand	3-39cm 6/8 10YR Silty Clayey Sand	39-43cm 4/6 10YR Silty clayey Sand		
T9-580	0-5cm 4/4 10YR Clayey Silty Sand	5-35cm 5/3 10YR Silty Clayey Sand	35-38cm 6/6 10YR Silty Sandy Clay		
T9-620	0-8cm 3/6 10YR Clayey Silty Sand	8-29cm 5/4 10YR Silty Clayey Sand	29-33cm 5/6 10YR Silty Sandy Clay		
T9-660	0-7cm 3/6 10YR Clayey Silty Sand	7-30cm 6/4 10YR Silty Clayey Sand			

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T9-700	0-16cm 3/6 10YR Clayey Silty Sand	16-30cm 6/3 10YR Silty Clayey Sand			
T9-740	0-10cm 4/3 10YR Clayey Sandy Silt	10-26cm 7/4 10YR Silty Clayey Sand	26-40cm 7/6 10YR Silty Clayey Sand		
T9-780	0-12cm 4/2 10YR Clayey Silty Sand	12-30cm 8/4 10YR Silty Clayey Sand			
T10-260	0-12cm 5/3 2.5YR Clayey Sandy Silt	12-22cm 8/4 2.5YR Clayey Silty Sand	22-25cm 7/6 10YR Silty Clayey Sand		
T10-280	0-20cm 3/2 2.5Y Clayey Silty Sand	20-40cm 6/4 10YR Silty Clayey Sand	40-45cm 6/4 10YR Silty Sandy Clay		
T10-300	0-10cm 4/2 10YR Clayey Sandy Silt	10-25cm 7/4 2.5YR Clayey Sandy Silt	25-27cm 7/6 2.5YR Silty Clayey Sand	27-36cm 6/6 10YR Silty Sandy Clay	
T10-320	0-10cm 4/2 7.5YR Clayey Sandy Silt	10-15cm 5/3 10YR Clayey Silty Sand	15-35cm 5/3 10YR Sandy Clayey Silt	35-40cm 4/4 10YR Silty Sandy Clay	
T10-340	0-14cm 4/3 10YR Clayey Silty Sand	14-36cm 6/4 10YR Silty Clayey Sand			
T10-360	0-3cm 4/3 10YR Clayey Silty Sand	3-13cm 4/3 2.5YR Clayey Silty Sand	13-25cm 7/3 2.5YR Clayey Sandy Silt	25-35cm 6/6 10YR Silty Sandy Clay	
T10-380	0-9cm 5/4 10YR Clayey Silty Sand	9-29cm 8/4 10YR Silty Clayey Sand			
T10-400	0-8cm 5/3 10YR Clayey Silty Sand	8-13cm 6/3 10YR Clayey Silty Sand	13-18cm 6/3 2.5YR Clayey Silty Sand	18-28cm 6/6 10YR Silty Clayey Sand	
T10-420	0-7cm 5/2 10YR Clayey Silty Sand	7-18cm 7/3 10YR Silty Clayey Sand	18-19cm 6/8 10YR Silty Sandy Clay		
T10-440	0-5cm 5/3 2.5YR Clayey Silty Sand	5-15cm 6/3 2.5YR Clayey Sandy Silt	15-25cm 5/8 10YR Sandy Silty Clay		
T10-460	0-10cm 4/3 10YR Clayey Silty Sand	10-24cm 5/2 10YR Clayey Silty Sand	24-36cm 6/3 10YR Silty Clayey Sand	36-43cm 5/8 10YR Sandy Clay	
T10-480	0-10cm 2/1 10YR Clayey Silty Sand	10-20cm 4/6 10YR Silty Clayey Sand	20-25cm 5/6 10YR Silty Sandy Clay		
T10-500	0-2cm 5/4 10YR Clayey Silty Sand	2-30cm 6/4 10YR Clayey Sand			
T10-520	0-10cm 2/2 10YR Clayey Silty Sand	10-25cm 4/3 10YR Sandy Silty Clay			



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T10-540	0-4cm 4/4 10YR Clayey Sandy Silt	4-28cm 5/3 10YR Silty Clayey Sand	28-45cm 6/6 10YR Silty Clayey Sand		
T10-560	0-5cm 4/3 10YR Clayey Silty Sand	5-24cm 6/3 10YR Silty Clayey Sand	24-28cm 5/8 10YR Silty Clayey Sand		
T10-580	0-10cm 4/3 10YR Clayey Silty Sand	10-30cm 5/4 10YR Sandy Silty Clay			
T10-580A	0-12cm 4/3 10YR Clayey Silty Sand	12-27cm 5/4 10YR Silty Clayey Sand			
T10-600	0-7cm 4/3 10YR Clayey Silty Sand	7-27cm 5/8 10YR Silty Clayey Sand	27-30cm 5/8 7.5YR Silty Clayey Sand		
T11-580A	0-5cm 4/3 10YR Clayey Silty Sand	5-15cm 4/4 10YR Silty Clayey Sand	15-25cm 6/4 10YR Silty Clayey Sand		
T10-640	0-10cm 3/6 10YR Clayey Silty Sand	10-35cm 5/4 10YR Silty Clayey Sand	35-40cm 5/8 5YR Silty Clayey Sand		
T10-680	0-6cm 4/3 10YR Clayey Silty Sand	6-30cm 7/6 10YR Silty Clayey Sand			
T10-720	0-7cm 4/3 10YR Clayey Silty Sand	7-17cm 6/3 10YR Clayey Silty Sand	17-28cm 7/6 10YR Clayey Silty Sand		
T10-780	0-3cm 5/3 10YR Clayey Silty Sand	3-8cm 5/2 10YR Silty Clayey Sand	8-13cm 6/2 10YR Silty Clayey Sand		
T11-220	0-10cm 4/3 10YR Clayey Silty Sand	10-30cm 4/3 10YR Silty Sandy Clay			
T11-240	0-9cm 4/2 10YR Clayey Silty Sand	9-24cm 7/4 10YR Clayey Silty Sand	24-37cm 6/8 10YR Clayey Sand		
T11-260	0-10cm 4/3 10YR Clayey Silty Sand	10-20cm 7/3 10YR Silty Clayey Sand			
T11-280	0-14cm 4/2 10YR Clayey Silty Sand	14-27cm 7/8 10YR Silty Clayey Sand			
T11-300	0-8cm 4/3 10YR Clayey Silty Sand	8-19cm 7/4 2.5YR Silty Clayey Sand	19-28cm 6/6 10YR Silty Clayey Sand		
T11-320	0-10cm 5/3 10YR Clayey Silty Sand	10-25cm 8/4 10YR Clayey Silty Sand	25-30cm 7/8 10YR Silty Clayey Sand		
T11-340	0-10cm 5/3 10YR Clayey Silty Sand	10-30cm 7/4 10YR Sandy Silty Clay			

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T11-360	0-8cm 5/2 2.5YR Clayey Silty Sand	8-17cm 7/4 2.5YR Clayey Silty Sand	17-22cm 5/6 10YR Silty Clayey Sand		
T11-380	0-5cm 4/3 10YR Clayey Silty Sand	5-15cm 5/4 10YR Clayey Silty Sand	15-20cm 4/6 10YR Silty Clayey Sand		
T11-400	0-5cm 5/4 10YR Clayey Silty Sand	5-23cm 7/4 10YR Silty Clayey Sand	23-30cm 6/8 10YR Silty Clayey Sand		
T11-420	0-10cm 3/2 10YR Clayey Silty Sand	10-20cm 7/3 10YR Silty Clayey Sand	20-28cm 6/6 10YR Silty Clayey Sand		
T11-440	0-7cm 4/3 10YR Clayey Silty Sand	7-19cm 6/6 10YR Silty Clayey Sand			
T11-460	0-5cm 4/3 10YR Clayey Silty Sand	5-15cm 5/6 10YR Silty Clayey Sand	15-30cm 5/4 10YR Silty Clayey Sand		
T11-480	0-7cm 4/1 10YR Clayey Silty Sand	7-15cm 6/4 10YR Clayey Silty Sand	15-25cm 7/8 10YR Clayey Silty Sand		
T11-500	0-5cm 3/2 10YR Clayey Silty Sand	5-15cm 5/3 10YR Silty Clayey Sand	15-30cm 6/4 10YR Silty Clayey Sand		
T11-520	0-10cm 3/2 7.5YR Clayey Silty Sand	10-15cm 4/3 10YR Silty Clayey Sand			
T11-540	0-6cm 4/2 5.7YR Clayey Silty Sand	6-11cm 4/3 10YR Sandy Clayey Silt	11-26cm 5/4 10YR Sandy Silty Clay		
T11-560	0-10cm 3/2 10YR Clayey Silty Sand	10-34cm 5/3 10YR Silty Clayey Sand			
T11-580	0-10cm 3/4 10YR Clayey Silty Sand	10-20cm 4/4 10YR Sandy Silty Clay	20-27cm 5/4 10YR Sandy Silty Clay		
T11-600	0-8cm 4/3 10YR Clayey Silty Sand	8-19cm 5/4 10YR Silty Clayey Sand	19-35cm 5/6 10YR Silty Clayey Sand		
T11-620	0-10cm 4/3 10YR Clayey Silty Sand	10-35cm 6/4 10YR Sandy Silty Clay			
T11-640	0-12cm 4/3 10YR Clayey Silty Sand	12-37cm 7/4 10YR Silty Clayey Sand			
T11-660	0-5cm 3/1 10YR Clayey Silty Sand	5-20cm 6/3 10YR Silty Clayey Sand	20-35cm 7/2 10YR Clayey Sand		
T11-680	0-8cm 3/2 10YR Clayey Silty Sand	8-30cm 5/4 10YR Silty Clayey Sand			

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T11-700	0-10cm 4/2 10YR Clayey Silty Sand	10-30cm 7/3 10YR Silty Clayey Sand			
T11-720	0-8cm 4/2 10YR Clayey Silty Sand	8-26cm 6/4 10YR Clayey Silty Sand	26-30cm 6/8 10YR Silty Clayey Sand		
T11-740	0-8cm 4/2 10YR Clayey Silty Sand	8-16cm 6/4 10YR Silty Clayey Sand	16-28cm 6/4 2.5YR Silty Clayey Sand		
T11-760	0-12cm 4/2 10YR Clayey Silty Sand	12-30cm 7/3 10YR Silty Clayey Sand			
T12-180	0-5cm 5/2 10YR Clayey Silty Sand	5-15cm 5/3 10YR Silty Clayey Sand	15-25cm 4/6 10YR Silty Clayey Sand		
T12-200	0-2cm 6/2 10YR Silty Sand	2-20cm 8/3 10YR Clayey Silty Sand			
T12-220	0-10cm 5/3 10YR Clayey Silty Sand	10-20cm 8/3 10YR Silty Clayey Sand			
T12-240	0-12cm 5/3 10YR Clayey Silty Sand	12-28cm 8/4 10YR Silty Clayey Sand	28-30cm 6/8 10YR Sandy Clay		
T12-260	0-5cm 4/2 10YR Clayey Silty Sand	5-15cm 6/3 10YR Silty Clayey Sand			
T12-280	0-13cm 5/3 10YR Clayey Silty Sand	13-26cm 8/4 10YR Silty Clayey Sand			
T12-300	0-10cm 5/2 7.5YR Clayey Silty Sand	10-20cm 6/3 10YR Silty Clayey Sand	20-30cm 6/4 10YR Silty Clayey Sand		
T12-320	0-5cm 6/4 10YR Clayey Silty Sand	5-21cm 7/6 10YR Silty Clayey Sand	21-23cm 6/8 10YR Sandy Clay		
T12-340	0-10cm 4/4 10YR Clayey Silty Sand	10-20cm 7/2 10YR Silty Clayey Sand			
T12-360	0-6cm 5/4 10YR Clayey Silty Sand	6-24cm 8/2 10YR Silty Clayey Sand	24-28cm 6/8 10YR Sandy Clay		
T12-380	0-10cm 4/2 10YR Clayey Silty Sand	10-15cm 5/3 10YR Silty Clayey Sand	15-25cm 7/4 10YR Silty Clayey Sand		
T12-400	0-10cm 4/3 10YR Clayey Silty Sand	10-20cm 6/6 10YR Silty Clayey Sand			
T12-420	0-15cm 5/3 10YR Clayey Silty Sand	15-30cm 7/4 10YR Silty Clayey Sand			



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T12-440	0-10cm 3/3 10YR Clayey Silty Sand	10-20cm 5/4 10YR Silty Clayey Sand	20-28cm 7/3 10YR Silty Clayey Sand		
T12-460	0-10cm 6/6 10YR Clayey Silty Sand	10-26cm 7/8 10YR Silty Clayey Sand	26-30cm 5/8 10YR Silty Clayey Sand		
T12-480	0-10cm 3/2 10YR Clayey Silty Sand	10-20cm 5/4 10YR Silty Clayey Sand	20-31cm 7/3 10YR Silty Clayey Sand		
T12-500	0-7cm 5/3 10YR Clayey Silty Sand	7-18cm 6/6 10YR Silty Clayey Sand			
T12-520	0-2cm 3/2 2.5YR Clayey Silty Sand	2-12cm 4/3 2.5YR Sandy Clay			
T12-540	0-16cm 6/3 10YR Clayey Silty Sand				
T12-560	0-10cm 4/3 10YR Clayey Silty Sand	10-30cm 6/3 10YR Silty Sandy Clay			
T12-580	0-8cm 4/2 10YR Clayey Silty Sand	8-25cm 8/3 10YR Clayey Silty Sand	25-26cm 7/8 10YR Sandy Clay		
T1-260	0-20cm 5/4 10YR Silty Sand	20-22cm 4/8 2.5YR Clayey Sand			
T12-600	0-10cm 5/4 10YR Clayey Silty Sand	10-20cm 6/3 10YR Silty Clayey Sand	20-30cm 6/4 10YR Clayey Sand		
T12-620	0-12cm 4/2 10YR Clayey Silty Sand	12-27cm 7/4 10YR Silty Clayey Sand			
T12-640	0-10cm 3/2 10YR Clayey Silty Sand	10-20cm 6/3 2.5YR Sandy Silty Clay	20-30cm 6/4 10YR Silty Sandy Clay		
T12-660	0-7cm 4/2 10YR Clayey Silty Sand	7-29cm 7/6 10YR Silty Clayey Sand	29-30cm 6/8 10YR Sandy Clay		
T12-680	0-6cm 5/3 10YR Clayey Silty Sand	6-10cm 4/2 2.5YR Clayey Silty Sand	10-20cm 6/3 2.5YR Silty Clayey Sand	20-30cm 5/6 2.5YR Silty clayey Sand	
T12-700	0-8cm 5/2 10YR Clayey Silty Sand	8-18cm 6/3 10YR Silty Clayey Sand	18-23cm 6/6 10YR Silty Clayey Sand		
T12-720	0-10cm 6/2 10YR Clayey Silty Sand	10-20cm 8/2 10YR Sandy Silty Clay			
T12-740	0-7cm 4/1 10YR Clayey Silty Sand	7-26cm 8/4 10YR Silty Clayey Sand	26-29cm 7/6 10YR Silty Sandy Clay		

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T12-760	0-10cm 4/3 10YR Clayey Silty Sand	10-30cm 4/4 10YR Sandy Silt			
T1-280	0-24cm 3/3 7.5YR Silty Sand	24-32cm 4/6 7.5YR Clayey Sand			
T13-140	0-7cm 5/4 10YR Clayey Silty Sand	7-21cm 6/6 10YR Silty Clayey Sand			
T13-160	0-12cm 5/2 10YR Clayey Silty Sand	12-25cm 6/4 10YR Clayey Silty Sand	25-35cm 7/6 10YR Clayey Silty Sand	35-50cm 6/6 10YR Silty Clayey Sand	
T13-180	0-9cm 5/3 10YR Clayey Silty Sand	9-37cm 7/8 10YR Silty Clayey Sand	37-50cm 5/8 10YR Clayey Sand		
T13-200	0-10cm 5/2 10YR Clayey Silty Sand	10-30cm 7/3 10YR Silty Clayey Sand	30-45cm 5/6 10YR Silty Clayey Sand		
T13-220	0-7cm 5/2 10YR Sandy Silt	7-30cm 8/6 10YR Silty Clayey Sand	30-34cm 6/8 10YR Sandy Clay		
T13-240	0-10cm 4/2 10YR Clayey Silty Sand	10-20cm 6/4 10YR Clayey Silty Sand			
T13-260	0-10cm 6/2 10YR Silty Sand	10-28cm 8/4 10YR Clayey Silty Sand	28-29cm 6/8 10YR Sandy Clay		
T13-280	0-14cm 4/2 10YR Silty Sand	14-27cm 7/4 10YR Silty Clayey Sand	27-35cm 7/8 10YR Clayey Sand		
T13-300	0-10cm 4/3 10YR Clayey Silty Sand	10-20cm 7/3 10YR Silty Clayey Sand	20-25cm 7/3 10YR Silty Clayey Sand		
T13-320	0-5cm 5/3 10YR Silty Sand	5-25cm 7/4 10YR Silty Clayey Sand	25-27cm 7/6 10YR Sandy Clay		
T13-340	0-10cm 5/2 10YR Clayey Silty Sand	10-20cm 7/2 10YR Silty Clayey Sand	20-25cm 6/3 10YR Silty Clayey Sand		
T13-360	0-6cm 4/2 10YR Silty Sand	6-22cm 8/3 10YR Silty Clayey Sand	22-26cm 5/8 10YR Sandy Clay		
T13-380	0-10cm 5/2 10YR Clayey Silty Sand	10-20cm 8/4 10YR Silty Clayey Sand	20-30cm 6/3 10YR Silty Clayey Sand		
T13-400	0-10cm 4/3 10YR Silty Sand	10-27cm 7/4 2.5YR Silty Clayey Sand	27-30cm 6/8 10YR Sandy Clay		
T13-420	0-5cm 5/2 10YR Clayey Silty Sand	5-17cm 6/6 10YR Silty Clayey Sand	17-30cm 7/6 10YR Silty Clayey Sand		

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T13-440	0-2cm 3/2 2.5YR Silty Sand	2-20cm 5/4 10YR Silty Clayey Sand			
T13-460	0-5cm 3/3 10YR Clayey Silty Sand				
T13-520	0-6cm 6/4 10YR Silty Sand	6-16cm 7/6 10YR Silty Clayey Sand	16-45cm 7/8 10YR Clayey Sand		
T13-540	0-10cm 5/2 10YR Clayey Sandy Silt	10-20cm 6/3 10YR Silty Clayey Sand	20-30cm 7/3 10YR Silty Sandy Clay		
T13-560	0-6cm 6/3 10YR Silty Sand	6-14cm 7/6 10YR Clayey Sand			
T13-580	0-10cm 6/3 10YR Clayey Silty Sand	10-20cm 6/4 2.5Y Silty Clayey Sand	20-28cm 5/4 2.5Y Silty Sandy Clay		
T13-600	0-10cm 5/3 10YR Silty Sand	10-20cm 7/3 10YR Silty Clayey Sand	20-30cm 5/4 2.5Y Silty Sandy Clay		
T13-620	0-10cm 5/3 10YR Clay Silty Sand	10-25cm 6/3 10YR Silty Sandy Clay			
T13-640	0-10cm 5/2 10YR Silty Sand	10-30cm 7/4 10YR Silty Clayey Sand			
T13-660	0-5cm 4/2 10YR Clayey Sandy Silty	5-10cm 5/2 10YR Silty Clayey Sand	10-18cm 7/3 10YR Silty Sandy Clay		
T13-680	0-13cm 5/2 10YR Sandy Silt	13-30cm 7/6 10YR Silty Clayey Sand			
T13-700	0-10cm 6/1 10YR Clayey Silty Sand	10-25cm 7/2 10YR Silty Clayey Sand	25-30cm 7/3 10YR Silty Sandy Clay		
T13-720	0-6cm 5/3 10YR Sandy Silt	6-31cm 8/4 10YR Silty Clayey Sand	31-34cm 7/8 10YR Sandy Clay		
T13-740	0-10cm 5/2 10YR Clayey Sandy Silt	10-18cm 7/3 10YR Silty Sandy Clay			
T14-100	0-17cm 4/2 7.5YR Sandy Silt				
T14-120	0-10cm 4/4 10YR Clayey Silty Sand				
T14-140	0-21cm 5/4 10YR Clayey Silty Sand				
T14-160	0-5cm 5/2 10YR Clayey Silty Sand	5-20cm 6/3 10YR Silty Clayey Sand	20-30cm 5/6 10YR Silty Clayey Sand		
T14-180	0-8cm 5/3 10YR Silty Sand	8-29cm 7/4 10YR Clayey Sand	29-38cm 6/6 10YR Sandy Clay		
T14-200	0-8cm 4/2 10YR Clayey Silty Sand	8-31cm 7/2 10YR Clayey Silty Sand	31-48cm 7/6 10YR Silty Clayey Sand		



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T14-220	0-5cm 5/3 10YR Silty Sand	5-39cm 7/3 10YR Clayey Sand	39-45cm 5/8 10YR Sandy Clay		
T14-240	0-10cm 4/2 10YR Clayey Silty Sand	10-20cm 6/2 10YR Silty Clayey Sand	20-30cm 5/4 10YR Silty Clayey Sand		
T14-260	0-10cm 5/3 10YR Silty Sand	10-32cm 8/4 10YR Silty Clayey Sand	32-34cm 6/8 10YR Sandy Clay		
T14-280	0-9cm 5/2 10YR Clayey Silty Sand	9-19cm 7/3 10YR Silty Sandy Clay			
T14-300	0-14cm 8/6 10YR Clayey Sand	14-15cm 6/8 10YR Sandy Clay			
T14-320	0-5cm 5/2 10YR Clayey Silty Sand	5-15cm 6/3 10YR Silty Sandy Clay			
T14-340	0-10cm 4/2 10YR Silty Sand	10-25cm 8/4 10YR Silty Clayey Sand			
T14-360	0-5cm 5/4 10YR Clayey Silty Sand	5-15cm 6/3 10YR Silty Clayey Sand	15-35cm 5/3 10YR Silty Clayey Sand		
T14-380	0-20cm 6/3 7.5YR Clayey Silty Sand				
T14-540	0-12cm 5/3 10YR Clayey Silty Sand	12-23cm 4/4 10YR Silty Sandy Clay			
T14-560	0-2cm 6/3 10YR Silty Sand	2-45cm 5/3 10YR Silty Sandy Clay			
T14-580	0-10cm 4/5 10YR Clayey Silty Sand	10-25cm 6/6 10YR Silty Clayey Sand	25-35cm 5/6 10YR Silty Sandy Clay		
T14-600	0-6cm 6/3 10YR Silty Sand	6-23cm 6/3 2.5YR Silty Clayey Sand			
T14-620	0-10cm 5/2 10YR Clayey Silty Sand	10-20cm 7/4 10YR Silty Clayey Sand	20-30cm 7/6 10YR Silty Sandy Clay		
T14-640	0-5cm 5/4 10YR Clayey Silty Sand	5-30cm 7/4 10YR Sandy Clayey Silt			
T14-660	0-10cm 5/3 10YR Silty Sand	10-40cm 7/4 2.5YR Silty Clayey Sand			
T14-680	0-10cm 5/4 10YR Clayey Silty Sand	10-20cm 6/3 10YR Clayey Sandy Silt			
T14-700	0-9cm 5/3 10YR Silty Sand	9-28cm 7/4 10YR Silty Clayey Sand	28-30cm 7/8 10YR Clayey Sand		
T14-720	0-10cm 5/3 10YR Clayey Silty Sand	10-20cm 7/4 10YR Silty Sandy Clay			
T14-740	0-15cm 6/2 10YR	15-35cm 8/4 10YR			

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	Silty Sand	Silty Clayey Sand			
T15-100	0-10cm 6/3 10YR Silty Sand				
T15-120	0-10cm 7/2 10YR Clayey Silty Sand	10-30cm 6/4 10YR Silty Clayey Sand	30-40cm 5/4 10YR Silty Clayey Sand		
T15-140	0-25cm 4/2 10YR Silty Sand				
T15-160	0-15cm 4/3 10YR Clayey Silty Sand	15-25cm 6/3 10YR Silty Clayey Sand			
T15-180	0-11cm 6/3 10YR Silty Sand	11-27cm 7/4 10YR Silty Clayey Sand			
T15-200	0-10cm 4/3 10YR Clayey Silty Sand	10-15cm 6/3 10YR Silty Clayey Sand	15-20cm 7/3 10YR Silty Clayey Sand		
T15-220	0-12cm 6/2 10YR Silty Sand	12-30cm 6/4 10YR Clayey Silty Sand			
T15-240	0-2cm 4/3 10YR Clayey Silty Sand	2-10cm 7/4 10YR Silty Clayey Sand	10-20cm 6/6 10YR Silty Clayey Sand		
T15-260	0-5cm 6/3 10YR Silty Sand	5-25cm 7/4 10YR Silty Clayey Sand			
T15-280	0-5cm 5/2 10YR Clayey Silty Sand	5-20cm 7/3 10YR Silty Clayey Sand			
T15-300	0-20cm 7/3 10YR Silty Clayey Sand				
T15-320	0-10cm 5/3 10YR Clayey Silty Sand				
T15-340	0-5cm 3/2 10YR Clayey Silty Sand				
T15-600	0-10cm 5/3 10YR Silty Sand	10-40cm 7/6 10YR Silty Clayey Sand			
T15-620	0-15cm 5/3 10YR Clayey Silty Sand	15-30cm 5/6 10YR Silty Sandy Clay			
T15-640	0-13cm 6/3 10YR Silty Sand	13-39cm 7/6 10YR Clayey Silty Sand			
T15-660	0-10cm 6/3 10YR Clayey Silty Sand	10-25cm 7/3 10YR Silty Clayey Sand			
T15-680	0-10cm 5/3 10YR Silty Sand	10-37cm 7/4 2.5YR Silty Clayey Sand			

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T15-700	0-10cm 4/2 10YR Clayey Silty Sand	10-20cm 5/2 10YR Silty Clayey Sand	20-28cm 5/4 10YR Silty Sandy Clay		
T16-160	0-10cm 6/4 10YR Clayey Silty Sand	10-20cm 7/4 10YR Clayey Silty Sand	20-40cm 4/3 10YR Silty Clayey Sand		
T16-180	0-10cm 3/2 10YR Clayey Silty Sand	10-20cm 5/3 10YR Clayey Silty Sand	20-30cm 6/4 10YR Silty Clayey Sand		
T16-200	0-21cm 6/2 10YR Silty Sand	21-30cm 7/6 10YR Silty Clayey Sand			
T16-680	0-6cm 4/2 10YR Silty Sand	6-30cm 6/4 10YR Silty Sand			
T16-720	0-8cm 6/4 2.5YR Silty Sand	8-25cm 7/4 2.5YR Sandy Silt	25-43cm 7/6 2.5Y Sandy Silt		
T16-760	0-7cm 5/3 2.5Y Silty Sand	7-24cm 7/3 2.5Y Sandy Silt	24-45cm 8/4 2.5Y Sandy Silt	45-50cm 5/6 2.5Y Sandy Silty Clay	
T16-800	0-7cm 5/3 2.5Y Silty Sand	7-27cm 7/3 2.5Y Sandy Silt	27-38cm 7/3 2.5Y Sandy Silt	37-50cm 5/6 2.5Y Sandy Silty Clay	



## APPENDIX XXIX. CONTEXTS FROM EXCAVATED PITS FROM "GOLF TOWN" PRECINCT PHASE 1 TESTING

Pit	Contexts				
	1	2	3	4	5
T19-520	0-6cm 3/4 10YR Clayey Silty Sand	6-15cm 5/4 10YR Clayey Silty Sand	15-20cm 8/4 10YR Silty Sandy Clay		
T19-540	0-5cm 4/4 10YR Clayey Silty Sand	5-20cm 5/6 10YR Silty Clayey Sand			
T19-560	0-10cm 2.5/2 7.5YR Clayey Silty Sand	10-18cm 5/4 10YR Silty Clayey Sand	18-19cm 5/6 10YR Silty Sandy Clay		
T19-580	0-6cm 3/3 10YR Clayey Silty Sand	6-24cm 3/4 10YR Clayey Silty Sand	24-25cm 5/8 7.5YR Silty Sandy Clay		
T19-600	0-22cm 5/2 10YR Silty Clayey Sand	22-24cm 4/4 10YR Silty Clayey Sand	24-26cm 10/5 7.5Y Silty Sandy Clay		
T19-620	0-17cm 4/2 10YR Silty Clayey Sand	17-22cm 5/6 10YR Silty Clayey Sand	22-23cm 4/6 10YR Silty Clayey Sand		
T19-640	0-2cm 4/3 10YR Clayey Silty Sand	2-23cm 4/4 10YR Clayey Silty Sand	23-35cm 5/6 10YR Clayey Silty Sand	35-40cm 5/8 2.5YR Silty Sandy Clay	
T19-680	0-9cm 3/3 10YR Clayey Silty Sand	9-15cm 3/4 10YR Clayey Silty Sand	15-24cm 4/6 10YR Silty Clayey Sand	24-25cm 5/6 10YR Silty Sandy Clay	
T19-700	0-29cm 2/2 10YR Silty Sand	29-30cm 5/8 10YR Clayey Sand			
T19-720	0-10cm 2/2 10YR Silty Sand	10-29cm 3/4 10YR Clayey Sand	29-30cm 5/8 10YR Clayey Sand		
T19-740	0-7cm 3/3 10YR Silty Sand	7-20cm 6/3 10YR Silty Sand	20-26cm 5/4 2.5YR Clayey Sand	26-27cm 3/6 2.5YR Clayey Sand	
T19-760	0-13cm 3/4 10YR Silty Sand	13-22cm 5/6 10YR Clayey Sand	22-23cm 6/6 10YR Clayey Sand		
T19-780	0-15cm 4/3 10YR Silty Sand	15-20cm 5/4 10YR Clayey Sand	20-29cm 5/3 10YR Clayey Sand	29-30cm 5/8 10YR Clayey Sand	
T19-800	0-10cm 3/4 10YR Silty Sand	10-23cm 5/6 10YR Clayey Sand	23-25cm 6/6 10YR Clayey Sand		
T19-820	0-11cm 3/4 10YR Silty Sand	11-24cm 3/6 10YR Clayey Sand	24-25cm 5/8 7.5YR Clayey Sand		

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T20-260	Water Inundation				
T20-520	0-9cm 3/6 10YR Clayey Silty Sand	9-10cm 5/6 10YR Silty Sandy Clay			
T20-540	0-5cm 4/2 10YR Clayey Silty Sand	5-12cm 3/4 10YR Clayey Silty Sand	12-17cm 4/6 10YR Clayey Silty Sand	17-18cm 5/6 10YR Silty Sandy Clay	
T20-560	0-10cm 3/4 10YR Clayey Silty Sand	10-20cm 4/4 10YR Silty Clayey Sand			
T20-580	0-5cm 4/2 10YR Clayey Silty Sand	25-31cm 4/3 10YR Clayey Silty Sand	31-35cm 4/3 2.5Y Silty Clayey Sand		
T20-600	0-7cm 5/3 10YR Clayey Silty Sand	7-25cm 3/6 10YR Silty Sandy Clay			
T20-640	0-6cm 4/3 10YR Clayey Silty Sand	6-10cm 5/4 10YR Silty Clayey Sand	10-20cm 6/4 10YR Silty Clayey Sand		
T20-660	0-20cm 2.5/2 7.5YR Silty Clayey Sand	20-28cm 4/6 7.5YR Silty Sandy Clay	28-30cm 5/8 10YR Silty Sandy Clay		
T21-220	0-8cm 4/3 10YR Clayey Silty Sand				
T21-240	0-8cm 5/3 10YR Clayey Sandy Silty	8-12cm 8/4 10YR Silty Clayey Sand	12-15cm 6/4 10YR Silty Clayey Sand		
T21-420	0-7cm 6/3 10YR Clayey Silty Sand	7-22cm 7/8 10YR Silty Clayey Sand			
T21-440	0-13cm 5/4 10YR Clayey Silty Sand	13-19cm 6/6 10YR Silty Sandy Clay			
T21-460	0-4cm 5/3 10YR Clayey Silty Sand	4-12cm 6/4 10YR Silty Clayey Sand	12-20cm 6/8 10YR Silty Clayey Sand		
T21-480	0-15cm 5/4 10YR Clayey Silty Sand	15-18cm 6/6 10YR Silty Sandy Clay			
T21-500	0-12cm 3/2 10YR Silty Clayey Sand	12-27cm 5/8 10YR Silty Sandy Clay			
T21-520	0-5cm 4/2 10YR Clayey Silty Sand	5-25cm 7/3 10YR Silty Clayey Sand			
T21-540	0-12cm 5/4 10YR Clayey Silty Sand	12-30cm 5/8 10YR Silty Clayey Sand			

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T21-560	0-5cm 5/4 10YR Clayey Silty Sand	5-15cm 6/6 10YR Silty Clayey Sand	15-20cm 5/8 10YR Silty Clayey Sand	20-25cm 5/8 7.5Y Silty Sandy Clay	
T21-580	0-27cm 3/4 10YR Clayey Silty Sand	27-45cm 4/4 7.5YR Clayey Silty Sand	45-48cm 5/6 10YR Silty Sandy Clay		
T21-600	0-2cm 3/4 10YR Clayey Silty Sand	2-3cm 4/6 10YR Clayey Silty Sand	3-6cm 3/3 10YR Clayey Silty Sand	6-7cm 6/8 10YR Clayey Silty Sand	7-10cm 2/2 10YR Clayey Silty Sand
T22-160	0-14cm 5/2 10YR Clayey Silty Sand				
T22-180	0-3cm 5/4 10YR Clayey Silty Sand				
T22-200	0-9cm 5/2 10YR Silty Clayey Sand	9-37cm 5/4 2.5YR Silty Sandy Clay			
T22-220	0-9cm 5/4 10YR Clayey Silty Sand	9-17cm 8/6 10YR Silty Clayey Sand	17-20cm 4/8 10YR Silty Sandy Clay		
T22-420	0-18cm 5/3 7.5YR Clayey Silty Sand	18-25cm 7/4 10YR Clayey Silty Sand	25-29cm 6/5 10YR Silty Sandy Clay		
T22-440	0-7cm 3/3 10YR Silty Clayey Sand	7-10cm 5/6 10YR Silty Sandy Clay			
T22-460	0-2cm 3/4 10YR Clayey Silty Sand	2-6cm 5/4 10YR Silty Clayey Sand	6-12cm 6/4 10YR Silty Clayey Sand	12-15cm 7/8 10YR Silty Sandy Clay	
T22-480	0-5cm 4/2 10YR Clayey Silty Sand	5-12cm 4/4 10YR Clayey Silty Sand	12-18cm 6/8 10YR Silty Sandy Clay	18-20cm 3/3 10YR Silty Clayey Sand	
T22-500	0-13cm 4/4 10YR Silty Clayey Sand	13-30cm 4/6 10YR Silty Sandy Clay			
T22-520	0-10cm 5/4 10YR Clayey Silty Sand	10-15cm 7/4 10YR Silty Clayey Sand	15-27cm 5/8 10YR Silty Sandy Clay		
T23-140	0-16cm 5/4 10YR Clayey Silty Sand				
T23-160	0-12cm 5/4 10YR Clayey Silty Sand				
T23-180	0-12cm 5/3 10YR Silty Clayey Sand	12-18cm 6/6 10YR Silty Sandy Clay			
T23-200	0-10cm 5/2 10YR Silty Clayey Sand	10-40cm 7/5 10YR Silty Clayey Sand			



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T23-220	0-22cm 2/2 10YR Clayey Silty Sand	22-40cm 6/6 10YR Silty Clayey Sand			
T23-240	0-28cm 3/3 10YR Clayey Silty Sand	28-42cm 5/6 2.5YR Silty Sandy Clay			
T23-260	0-14cm 6/3 10YR Clayey Silty Sand	14-35cm 8/4 10YR Silty Clayey Sand			
T23-400	0-4cm 6/3 10YR Clayey Silty Sand	4-18cm 7/4 10YR Silty Clayey Sand			
T23-440	0-7cm 6/3 10YR Clayey Silty Sand	7-15cm 7/4 10YR Silty Clayey Sand			
T24-140	0-17cm 6/3 10YR Clayey Sandy Silt	17-32cm 8/4 10YR Silty Clayey Sand			
T24-160	0-15cm 6/3 10YR Clayey Silty Sand				
T24-180	0-9cm 4/4 10YR Clayey Silty Sand	9-23cm 3/6 10YR Silty Clayey Sand	23 -28cm 6/8 10YR Silty Clayey Sand		
T24-200	0-7cm 6/3 10YR Clayey Silty Sand	7-30cm 3/2 10YR Silty Clayey Sand	30-40cm 5/8 10YR Silty Sandy Clay		
T24-220	0-5cm 4/3 10YR Clayey Silty Sand	5-15cm 5/4 10YR Silty Clayey Sand	15-32cm 6/6 10YR Silty Sandy Clay		
T24-240	0-5cm 6/3 10YR Clayey Silty Sand	5-42cm 6/3 2.5YR Silty Clayey Sand	42-49cm 6/6 10YR Silty Sandy Clay		
T24-260	0-12cm 6/3 10YR Clayey Silty Sand	12-19cm 7/6 10YR Clayey Silty Sand	19-22cm 6/8 10Yr Silty Sandy Clay		
T24-280	0-6cm 6/3 10YR Clayey Sand	6-39cm 6/3 2.5YR Silty Clayey Sand	39-43cm 6/6 10YR Silty Sandy Clay		
T24-300	0-14cm 5/2 10YR Clayey Silty Sand	14-30cm 6/8 10YR Silty Sandy Clay			
T24-380	0-14cm 5/2 10YR Clayey Silty Sand	14-30cm 6/8 10YR Silty Sandy Clay			
T24-400	0-12cm 3/3 10YR Clayey Silty Sand	12-37cm 7/6 10YR Silty Clayey Sand	37-45cm 6/8 10YR Silty Sandy Clay		
T24-420	0-8cm 3/2 7.5YR Clayey Silty Sand	8-20cm 6/6 10YR Silty Clayey Sand			

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T24-500	0-14cm 5/6 10YR Clayey Silty Sand				
T24-520	0-3cm 4/4 2.5YR Clayey Silty Sand	3-20cm 6/8 10YR Silty Clayey Sand			
T24-540	0-6cm 3/6 10YR Clayey Silt Sand	6-9cm 4/6 10YR Clayey Silty Sand	9-15cm 5/8 10YR Silty Clayey Sand		
T25-140	0-10cm 6/3 10YR Clayey Silty Sand				
T25-160	0-9cm 6/3 10YR Clayey Silty Sand				
T25-180	0-6cm 6/3 10YR Clayey Silty Sand	6-22cm 5/4 10YR Clayey Silty Sand	22-30cm 7/4 10YR Clayey Silty Sand		
T25-200	0-50cm 6/6 10YR Silty Clayey Sand				
T25-220	0-14cm 3/6 10YR Clayey Silty Sand	14-17cm 7/8 10YR Silty Clayey Sand	17-21cm 5/8 10YR Silty Sandy Clay		
T25-240	0-19cm 5/4 10YR Silty Clayey Sand	19-39cm 4/4 10YR Silty Clayey Sand	39-44cm 6/8 10YR Silty Sandy Clay		
T25-260	0-12cm 5/4 10YR Clayey Silty sand	12-18cm 6/6 10YR Silty Clayey Sand	18-23cm 6/8 10YR Silty Sandy Clay		
T25-280	0-10cm 3/6 10YR Clayey Sandy Silt	10-20cm 8/8 10YR Silty Clayey Sand			
T25-300	0-10cm 4/3 10YR Clayey Silty Sand	10-23cm 6/8 10YR Silty Clayey Sand	23-28cm 6/8 10YR Silty Sandy Clay		
T25-320	0-2cm 2/2 10YR Clayey Silty Sand	2-9cm 3/6 10YR Silty Clayey Sand	9-20cm 8/8 10YR Silty Sandy Clay		
T25-340	0-13cm 5/2 10YR Clayey Silty Sand	13-23cm 5/8 7.5YR Silty Sandy Clay	23-30cm 6/8 10YR Silty Sandy Clay		
T25-360	0-7cm 3/6 10YR Clayey Silty Sand	7-15cm 6/8 10YR Silty Clayey Sand	15-20cm 5/8 10YR Silty Sandy Clay		
T25-380	0-10cm 3/6 10YR Clayey Silty Sand	10-24cm 6/6 10YR Silty Clayey Sand	24-28cm 6/8 10YR Silty Sandy Clay		
T25-420	0-13cm 4/2 10YR Clayey Silty Sand	13-16cm 6/6 10YR Silty Sandy Clay			

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T25-440	0-3cm 4/4 10YR Clayey Silty Sand	3-16cm 4/6 10YR Clayey Silty Sand	16-40cm 5/8 10YR Silty Clayey Sand		
T25-460	0-9cm 4/2 10YR Clayey Silty Sand	9-25cm 6/6 10YR Clayey Silty Sand	25-26cm 6/8 10YR Silty Sandy Clay		
T25-480	0-9cm 6/3 10YR Clayey Silty Sand	9-13cm 5/4 10YR Clayey Silty Sand	13-21cm 7/8 10YR Silty Clayey Sand	21-25cm 5/8 10YR Silty Clayey Sand	
T25-500	0-22cm 5/5 10YR Silty Clayey Sand	22-23cm 5/6 10YR Silty Sandy Clay			
T26-180	0-8cm 5/2 10YR Clayey Silty Sand	8-20cm 7/2 10YR Silty Sand			
T26-240	0-6cm 4/4 10YR Clayey Silty Sand	6-22cm 7/8 10YR Silty Clayey Sand			
T26-280	0-5cm 5/3 10YR Clayey Silty Sand	5-24cm 7/4 10YR Silty Clayey Sand			
T26-300	0-5cm 6/4 10YR Clayey Silty Sand	5-17cm 8/4 10YR Silty Clayey Sand			
T26-340	0-5cm 4/3 10YR Clayey Silty Sand	5-16cm 8/4 10YR Silty Clayey Sand	16-20cm 7/6 10YR Silty Sandy Clay		
T26-360	0-14cm 6/3 10YR Clayey Silty Sand	14-20cm 8/4 10YR Silty Clayey Sand			
T26-380	0-2cm 5/8 10YR Clayey Silty Sand	2-22cm 6/4 10YR Silty Clayey Sand			
T26-420	0-11cm 6/6 10YR Clayey Silty Sand	11-28cm 5/8 10YR Silty Clayey Sand			
T27-180	0-8cm 5/2 10YR Clayey Silty Sand	8-16cm 7/3 10YR Silty Clayey Sand			
T27-200	0-9cm 3/6 10YR Clayey Silty Sand	9-20cm 7/6 10YR Clayey Silty Sand			
T27-340	0-8cm 5/2 10YR Clayey Silty Sand	2-20cm 7/6 10YR Silty Clayey Sand			
T27-360	0-15cm 7/3 2.5Y Clayey Silty Sand				
T27-380	0-8cm 6/4 10YR Clayey Silty Sand	8-21cm 8/4 10YR Silty Clayey Sand	21-24cm 6/8 1YR Silty Sandy Clay		



## APPENDIX XXX. BASAL NATURE OF TEST PITS FROM "GOLF TOWN" PRECINCT PHASE 1 TESTING

Pit	Depth Stopped (cm)	Nature of Basal Level
T19-520	20	Silty Sandy Clay
T19-540	20	Silty Sandy Clay
T19-580	25	Silty Sandy Clay
T19-620	23	Silty Clayey Sand
T19-640	40	Silty Sandy Clay
T19-660	30	Silty Sandy Clay
T19-680	25	Silty Sandy Clay
T19-700	30	Clayey Sand
T19-720	30	Clayey Sand
T19-740	27	Clayey Sand
T19-760	23	Clayey Sand
T19-780	30	Clayey Sand
T19-800	25	Clayey Sand
T19-820	25	Clayey Sand
T20-520	10	Silty Sandy Clay
T20-560	20	Silty Sandy Clay
T20-600	25	Silty Sandy Clay
T20-620	35	Silty Sandy Clay
T20-640	20	Silty Sandy Clay
T21-200	35	Silty Clayey Sand
T21-220	8	Clayey Silty Sand
T21-240	15	Silty Clayey Sand
T21-260	45	Silty Sandy Clay
T21-420	22	Silty Clayey Sand
T21-460	20	Silty Clayey Sand
T21-520	25	Silty Clayey Sand
T21-560	25	Silty Sandy Clay
T21-580	50	Silty Sandy Clay
T21-600	10	Clayey Silty Sand
T22-160	14	Clayey Silty Sand
T22-180	3	Clayey Silty Sand
T22-200	37	Silty Sandy Clay
T22-220	20	Silty Sandy Clay
T22-240	16	Silty Sandy Clay
T22-420	20	Silty Sandy Clay
T22-440	10	Silty Sandy Clay
T22-460	15	Silty Sandy Clay
T22-480	20	Silty Clayey Sand

T22-520	27	Silty Sandy Clay
T23-140	16	Clayey Silty Sand
T23-160	12	Clayey Silty Sand
T23-180	18	Silty Sandy Clay
T23-200	40	Silty Sandy Clay
T23-220	40	Silty Sandy Clay
T23-260	35	Silty Clayey Sand
T23-400	18	Silty Clayey Sand
T23-440	15	Silty Clayey Sand
T24-140	32	Silty Clayey Sand
T24-180	28	Silty Clayey Sand
T24-200	40	Silty Sandy Clay
T24-220	32	Silty Sandy Clay
T24-240	46	Silty Sandy Clay
T24-260	22	Silty Sandy Clay
T24-280	41	Silty Sandy Clay
T24-300	30	Sandy Silty Clay
T24-380	30	Sandy Silty Clay
T24-400	45	Silty Sandy Clay
T24-420	18	Silty Clayey Sand
T24-500	14	Clayey Silty Sand
T24-520	20	Silty Clayey Sand
T24-540	15	Silty Clayey Sand
T25-140	10	Clayey Silty Sand
T25-160	9	Clayey Silty Sand
T25-180	30	Clayey Silty Sand
T25-200	50	Silty Clayey Sand
T25-220	21	Silty Sandy Clay
T25-260	23	Silty Sandy Clay
T25-280	20	Silty Clayey Sand
T25-320	20	Silty Sandy Clay
T25-360	22	Silty Sandy Clay
T25-400	25	Silty Sandy Clay
T25-440	40	Silty Clayey Sand
T25-480	25	Silty Clayey Sand
T26-180	20	Silty Sand
T26-200	18	Silty Clayey Sand
T26-220	30	Silty Sandy Clay
T26-240	22	Silty Clayey Sand
T26-260	20	Silty Sandy Clay
T26-280	24	Clayey Sand

T26-300	17	Clayey Sand
T26-320	25	Clayey Silty Sand
T26-340	20	Silty Sandy Clay
T26-360	20	Silty Clayey Sand
T26-380	22	Silty Clayey Sand
T26-400	22	Clayey Silty Sand
T26-420	28	Silty Clayey Sand
T27-180	20	Silty Clay Sand
T27-200	20	Clayey Silty Sand
T27-220	22	Clayey Sandy Silt
T27-340	20	Silty Clayey Sand
T27-360	15	Clayey Silty Sand
T27-380	24	Silty Sandy Clay
T27-400	20	Silty Sandy Clay
T27-420	7	Clayey Silty Sand



## APPENDIX XXXI. BASAL NATURE OF TEST PITS FROM "FAIRWAYS NORTH" PRECINCT PHASE 1 TESTING

Pit	Depth Stopped (cm)	Nature of Basal Level
T10-260	25	Silty Clayey Sand
T10-280	45	Silty Sandy Clay
T10-300	36	Silty Sandy Clay
T10-320	40	Silty Sandy Clay
T10-340	36	Silty Clayey Sand
T10-360	35	Silty Sandy Clay
T10-380	29	Silty Clayey Sand
T10-400	28	Silty Clayey Sand
T10-420	19	Sandy Clay
T10-440	25	Sandy Silty Clay
T10-460	43	Sandy Clay
T10-480	25	Sandy Clay
T10-500	30	Clayey Sand
T10-520	25	Sandy Silty Clay
T10-540	45	Clayey Sand
T10-560	28	Silty Clayey Sand
T10-580	30	Sandy Silty Clay
T10-580A	27	Silty Clayey Sand
T10-600	30	Silty Clayey Sand
T11-580A	25	Clayey Sand
T10-620	33	Sandy Silty Clay
T10-640	40	Silty Clayey Sand
T10-660	33	Sandy Silty Clay
T10-680	30	Silty Clayey Sand
T10-700	30	Sandy Silty Clay
T10-720	28	Clayey Silty Sand
T10-740	30	Sandy Silty Clay
T10-760	30	Silty Sandy Clay
T10-780	13	Silty Clayey Sand
T11-220	30	Sandy Clay
T11-240	37	Clayey Sand
T11-260	20	Silty Clayey Sand
T11-280	27	Silty Clayey Sand
T11-300	28	Silty Clayey Sand
T11-320	30	Silty Clayey Sand
T11-340	30	Sandy Silty Clay
T11-360	22	Silty Clayey Sand
T11-400	30	Silty Clayey Sand

T11-420	28	Silty Clayey Sand
T11-440	19	Silty Clayey Sand
T11-460	30	Silty Clayey Sand
T11-480	25	Clayey Silty Sand
T11-500	30	Silty Clayey Sand
T11-520	15	Silty Clayey Sand
T11-540	26	Sandy Silty Clay
T11-560	34	Silty Clayey Sand
T11-580	27	Sandy Silty Clay
T11-600	35	Clayey Sand
T11-620	35	Sandy Silty Clay
T11-640	37	Silty Clayey Sand
T11-660	35	Clayey Sand
T11-680	30	Silty Clayey Sand
T11-700	30	Silty Clayey Sand
T11-720	30	Silty Clayey Sand
T11-740	28	Silty Clayey Sand
T11-760	30	Silty Clayey Sand
T12-180	25	Silty Clayey Sand
T12-200	20	Clayey Silty Sand
T12-220	20	Silty Clayey Sand
T12-240	30	Sandy Clay
T12-260	15	Silty Clayey Sand
T12-280	26	Clayey Sand
T12-300	30	Clayey Sand
T12-320	23	Sandy Clay
T12-340	20	Silty Clayey Sand
T12-360	28	Sandy Clay
T12-380	25	Silty Clayey Sand
T12-400	20	Silty Clayey Sand
T12-420	30	Silty Clayey Sand
T12-440	28	Silty Clayey Sand
T12-460	30	Silty Clayey Sand
T12-480	31	Silty Clayey Sand
T12-500	18	Silty Clayey Sand
T12-520	12	Silty Sandy Clay
T12-540	30	Clayey Silty Sand
T12-560	30	Silty Sandy Clay
T12-580	26	Silty Sandy Clay
T1-260	22	Clayey Sand
T12-600	30	Clayey Sand

T12-620	27	Silty Clayey Sand
T12-640	30	Silty Sandy Clay
T12-660	30	Sandy Clay
T12-680	30	Silty Clayey Sand
T12-700	23	Silty Clayey Sand
T12-720	20	Sandy Silty Clay
T12-740	29	Silty Sandy Clay
T1-280	32	Silty Clayey Sand
T13-140	45	Clayey Sand
T13-160	50	Silty Clayey Sand
T13-180	50	Clayey Sand
T13-200	45	Clayey Sand
T13-220	34	Sandy Clay
T13-240	35	Clayey Silty Sand
T13-260	29	Sandy Clay
T13-280	35	Clayey Sand
T13-300	25	Silty Clayey Sand
T13-320	27	Sandy Clay
T13-340	25	Silty Clayey Sand
T13-360	26	Sandy Clay
T13-380	30	Silty Clayey Sand
T13-400	30	Sandy Clay
T13-420	30	Silty Clayey Sand
T13-440	20	Silty Clayey Sand
T13-460	5	Clayey Silty Sand
T14-100	17	Sandy Silt
T14-120	10	Clayey Silty Sand
T14-140	21	Clayey Silty Sand
T14-160	30	Silty Clayey Sand
T14-180	38	Sandy Clay
T14-200	48	Silty Clayey Sand
T14-220	45	Sandy Clay
T14-240	30	Silty Clayey Sand
T14-260	34	Sandy Clay
T14-280	19	Silty Sandy Clay
T14-300	15	Sandy Clay
T14-320	15	Silty Sandy Clay
T14-340	25	Silty Clayey Sand
T14-360	35	Silty Clayey Sand
T14-380	45	Clayey Silty Sand
T15-100	10	Silty Sand



T15-120	40	Silty Clayey Sand
T15-140	25	Silty Sand
T15-160	25	Silty Clayey Sand
T15-180	27	Silty Clayey Sand
T15-200	20	Silty Clayey Sand
T15-220	30	Clayey Silty Sand
T15-240	20	Silty Clayey Sand
T15-260	25	Silty Clayey Sand
T15-280	20	Silty Clayey Sand
T15-300	20	Silty Clayey Sand
T15-320	10	Silty Clayey Sand
T15-340	5	Clayey Silty Sand
T16-160	40	Silty Clayey Sand
T16-180	30	Silty Clayey Sand
T16-200	30	Silty Clayey Sand
T2-180	20	Silty Sandy Clay
T2-200	20	Clayey Sand
T2-220	19	Clayey Sand
T2-240	10	Clayey Sand
T2-260	30	Clayey Sand
T2-280	32	Clayey Sand
T3-100	33	Clayey Sand
T3-120	20	Silty Sandy Clay
T3-140	20	Clayey Sand
T3-180	22	Clayey Sand
T3-200	20	Clayey Sand
T3-220	36	Clayey Sand
T3-240	20	Clayey Sand
T4-460	25	Silty Sandy Clay
T4-480	26	Silty Sandy Clay
T4-520	25	Silty Sandy Clay
T4-540	30	Silty Sandy Clay
T4-560	22	Silty Sandy Clay
T4-580	20	Silty Sandy Clay
T4-600	20	Silty Clayey Sand
T4-620	20	Silty Sandy Clay
T4-640	30	Silty Sandy Clay
T4-660	25	Clayey Sand
T4-680	21	Silty Sandy Clay
T4-700	22	Silty Sandy Clay
T4-720	23	Silty Sandy Clay

T4-760	20	Silty Sandy Clay
T4-780	20	Silty Clayey Sand
T4-800	20	Silty Sandy Clay
T4-820	30	Silty Sandy Clay
T4-840	45	Silty Sandy Clay
T5-400	20	Silty Sandy Clay
T5-420	23	Silty Sandy Clay
T5-440	25	Silty Sandy Clay
T5-460	26	Silty Sandy Clay
T5-480	25	Silty Sandy Clay
T5-500	23	Silty Sandy Clay
T5-520	25	Silty Sandy Clay
T5-540	23	Silty Clayey Sand
T5-560	35	Silty Sandy Clay
T5-580	30	Silty Clayey Sand
T5-600	16	Silty Clayey Sand
T5-620	30	Silty Sandy Clay
T5-640	20	Silty Clayey Sand
T5-660	20	Silty Sandy Clay
T5-680	20	Silty Clayey Sand
T5-700	20	Silty Sandy Clay
T5-720	20	Silty Clayey Sand
T5-740	20	Silty Clayey Sand
T5-760	25	Silty Sandy Clay
T5-780	25	Silty Sandy Clay
T5-800	40	Silty Clayey Sand
T5-820	30	Silty Sandy Clay
T5-840	37	Silty Sandy Clay
T6-400	20	Clayey Sand
T6-420	32	Silty Sandy Clay
T6-440	30	Sandy Silty Clay
T6-460	25	Silty Sandy Clay
T6-480	30	Silty Sandy Clay
T6-500	36	Silty Clayey Sand
T6-520	25	Silty Sandy Clay
T6-540	28	Silty Clayey Sand
T6-560	20	Sandy Silty Clay
T6-580	21	Silty Clayey Sand
T6-600	22	Silty Sandy Clay
T6-620	26	Silty Clayey Sand
T6-640	20	Silty Clayey Sand

T6-660	20	Silty Clayey Sand
T6-680	20	Silty Clayey Sand
T6-700	25	Sandy Silty Clay
T6-720	22	Silty Clayey Sand
T6-740	25	Silty Sandy Clay
T6-760	23	Silty Clayey Sand
T6-780	30	Silty Sandy Clay
T6-800	30	Silty Clayey Sand
T6-840	30	Silty Clayey Sand
T7-300	28	Silty Clayey Sand
T7-320	30	Clayey Sand
T7-340	30	Silty Clayey Sand
T7-360	45	Clay
T7-380	40	Silty Clayey Sand
T7-400	30	Silty Clayey Sand
T7-420	23	Silty Clayey Sand
T7-440	25	Silty Sandy Clay
T7-460	30	Silty Clayey Sand
T7-480	22	Silty Sandy Clay
T7-500	25	Clayey Sand
T7-520	18	Sandy Silty Clay
T7-540	20	Clayey Sand
T7-560	20	Sandy Silty Clay
T7-580	20	Clayey Sand
T7-600	20	Clay
T7-620	25	Clay
T7-640	20	Sandy Silty Clay
T7-660	30	Silty Sandy Clay
T7-680	20	Sandy Silty Clay
T7-700	25	Silty Sandy Clay
T7-720	30	Silty Sandy Clay
T7-740	20	Silty Clayey Sand
T7-760	35	Sandy Silty Clay
T7-800	25	Silty Clayey Sand
T7-820	23	Silty Clayey Sand
T7-840	20	Silty Sandy Clay
T8-280	30	Silty Clayey Sand
T8-380	25	Silty Sandy Clay
T8-400	20	Silty Clayey Sand
T8-420	30	Silty Sandy Clay
T8-440	30	Silty Sandy Clay



T8-460	15	Sandy Silty Clay
T8-480	16	Silty Sandy Clay
T8-500	20	Sandy Silty Clay
T8-520	23	Silty Clayey Sand
T8-540	30	Silty Sandy Clay
T8-560	16	Silty Clayey Sand
T8-580	30	Silty Sandy Clay
T8-600	28	Silty Sandy Clay
T8-620	30	Clay
T8-640	25	Sandy Clay
T8-660	30	Sandy Clay
T8-680	30	Sandy Clay
T8-700	25	Silty Sandy Clay
T8-720	28	Sandy Clay
T8-740	20	Silty Sandy Clay
T8-760	25	Silty Clayey Sand
T8-780	40	Silty Sandy Clay
T8-800	35	Silty Sandy Clay
T8-820	20	Clayey Sand
T9-300	50	Silty Clayey Sand
T9-320	35	Silty Sandy Clay
T9-340	40	Clayey Silty Sand
T9-360	35	Sandy Silty Clay
T9-380	30	Silty Clayey Sand
T9-400	25	Sandy Silty Clay
T9-420	35	Silty Clayey Sand
T9-440	45	Sandy Silty Clay
T9-460	30	Silty Sandy Clay
T9-480	20	Sandy Silty Clay
T9-500	17	Silty Sandy Clay
T9-520	33	Sandy Silty Clay
T9-540	43	Silty Clayey Sand
T9-560	27	Sandy Silty Clay
T9-580	38	Silty Sandy Clay
T9-600	45	Silty Sandy Clay
T9-620	33	Silty Sandy Clay
T9-640	30	Sandy Silty Clay
T9-660	30	Silty Clayey Sand
T9-680	30	Sandy Silty Clay
T9-700	30	Silty Clayey Sand
T9-720	25	Silty Sandy Clay

T9-740	40	Silty Clayey Sand
T9-760	15	Sandy Silty Clay
T9-780	30	Silty Clayey Sand
T9-800	28	Silty Sandy Clay