# Sutton Forest Quarries Pty Ltd

ABN 66 158 999 994

# Aboriginal Cultural Heritage Assessment

## Specialist Consultant Studies Compendium

**Volume 2, Part 7**

***Prepared by***

**Landskape**
**Natural and Cultural Heritage Management**

**March 2018**

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**Sutton Forest Quarries Pty Ltd**

ABN 66 158 999 994

# Aboriginal Cultural Heritage Assessment


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**March 2018**

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Sutton Forest Sand Quarry

# Aboriginal Cultural Heritage Assessment

**Report to Sutton Forest Quarries Pty Ltd**

**4 March 2018**


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Sutton Forest Quarries Pty Ltd

# Sutton Forest Sand Quarry

## Aboriginal Cultural Heritage Assessment


Natural and Cultural Heritage Management

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# EXECUTIVE SUMMARY

Sutton Forest Quarries Pty Ltd ("the Applicant") is seeking a Development Consent under Part 4, Division 4.1 of the New South Wales (NSW) *Environmental Planning and Assessment Act* 1979 for the Sutton Forest Sand Quarry (the Proposal).

The Site for the proposed quarry is located near Sutton Forest, approximately 20 km southwest of Moss Vale in the Southern Highlands of southeastern NSW. The Proposal would involve the development of a sand quarry and the construction of a new 1.4km-long private access road to a new interchange on the Hume Highway, immediately east of the proposed quarry.

The Applicant commissioned Landskape to undertake an Aboriginal Cultural Heritage Assessment of the Proposal. This report presents an assessment of the Aboriginal cultural heritage related issues for the Proposal in accordance with the general requirements of the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Part 6 National Parks and Wildlife Act* 1974) (DECCW 2010a), *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b), *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011), *Draft Guidelines for Aboriginal Cultural Impact Assessment and Community Consultation* (DEC 2005a), The Australia International Council on Monuments and Sites (ICOMOS) Burra Charter (Australia ICOMOS 1999), NSW National Parks and Wildlife Service *Aboriginal Cultural Heritage: Standards and Guidelines Kit* (NPWS 1997), the Australian Heritage Commission *Ask First; A Guide to Respecting Indigenous Heritage Places and Values* (AHC 2002) and NSW Minerals Council *NSW Minerals Industry Due Diligence Code of Practice for the Protection of Aboriginal Objects* (NSW Minerals Council 2010).

The specific objectives of the cultural heritage assessment were to:

- Consult the local Aboriginal community to identify any concerns they may have (consultation with the Aboriginal community followed *Aboriginal Cultural Heritage Community Consultation Requirements for Proponents* [DECCW 2010a]).
- Conduct a desktop assessment to delineate areas of known and predicted cultural heritage within the local area.
- Undertake a stratified archaeological survey of known and predicted cultural heritage identified in the desktop assessment with representatives of the local Aboriginal community.
- Record any cultural heritage sites within the local area and assess their significance.
- Identify the nature and extent of potential impacts of the Proposal on cultural heritage.
- Devise options in consultation with the community to avoid or mitigate potential impacts of the development on cultural heritage places and items.

The survey for the Proposal encountered nine Aboriginal cultural heritage sites in the vicinity of the Site comprising eight stone artefact scatters and a rock shelter site with painted and engraved rock art and stone artefacts.

Two of the stone artefact scatters are located wholly within the proposed Extraction Area. Two of the stone artefact scatters are located partially within the alignment of the access road to the

proposed Fines Storage Area 1. Two originally planned routes of the Quarry Access Road have been realigned to avoid harm to six stone artefact scatter sites.

The Aboriginal cultural heritage sites that would potentially be impacted by the Proposal are all small, low-density scatters of stone artefacts. This assessment has concluded that these sites are not of high archaeological significance. Moreover, the Quarry and ancillary infrastructure disturbance areas are located in areas where impacts on significant cultural heritage values will be avoided.

Based on the results of this cultural heritage investigation and consultation with representatives of the local Aboriginal community the following is recommended:

- The Applicant arrange to salvage all visible Aboriginal artefacts at the two Aboriginal cultural heritage sites located within the proposed Extraction Area and those artefacts at the two Aboriginal cultural heritage sites within the alignment of access road to the proposed Fines Storage Area 1. A suitably qualified archaeologist and representatives of the local Aboriginal community should be engaged to record and collect the Aboriginal objects. These items should be properly curated and stored in a “Keeping Place” at the Illawarra Local Aboriginal Land Council office. Following the completion of quarrying, artefacts should be replaced within rehabilitated areas in consultation with local Aboriginal groups and the NSW Office of Environment and Heritage.
- In the unlikely event that human skeletal remains are encountered during the course of activities associated with the Proposal, all work in that area must cease. Remains must not be handled or otherwise disturbed except to prevent further disturbance. If the remains are thought to be less than 100 years old, the Police or the State Coroner’s Office (tel: 02 9552 4066) must be notified. If there is reason to suspect that the skeletal remains are more than 100 years old and Aboriginal, the Applicant should contact the NSW Office of Environment and Heritage’s Environmental Line (tel: 131 555) for advice. In the unlikely event that an Aboriginal burial is encountered, strategies for its management would need to be developed with the involvement of the local Aboriginal community.
- The Applicant should coordinate and implement these proposed management strategies by integrating them into a single programme and document in the form of an Aboriginal Cultural Heritage Management Plan (ACHMP). The ACHMP should remain active for the life of the Proposal and define the tasks, scope and conduct of all Aboriginal cultural heritage management activities. The ACHMP should be developed in consultation with the local Aboriginal community.
- The Applicant should provide training to all on-site personnel regarding the ACHMP strategies relevant to their employment tasks.
- The Applicant should continue to involve the registered Aboriginal parties and any other relevant Aboriginal community groups or members in matters pertaining to the Proposal. In particular, the recording, collection, curation, storage and replacement of Aboriginal objects should occur with the invited participation of local Aboriginal community representatives.

# 1 INTRODUCTION

## 1.1 THE APPLICANT

Sutton Forest Quarries Pty Ltd ("the Applicant") is seeking Development Consent under Part 4, Division 4.1 of the New South Wales (NSW) *Environmental Planning and Assessment Act* 1979 (EP&A Act) for the Sutton Forest Sand Quarry (the Proposal).

## 1.2 THE SITE AND STUDY AREA

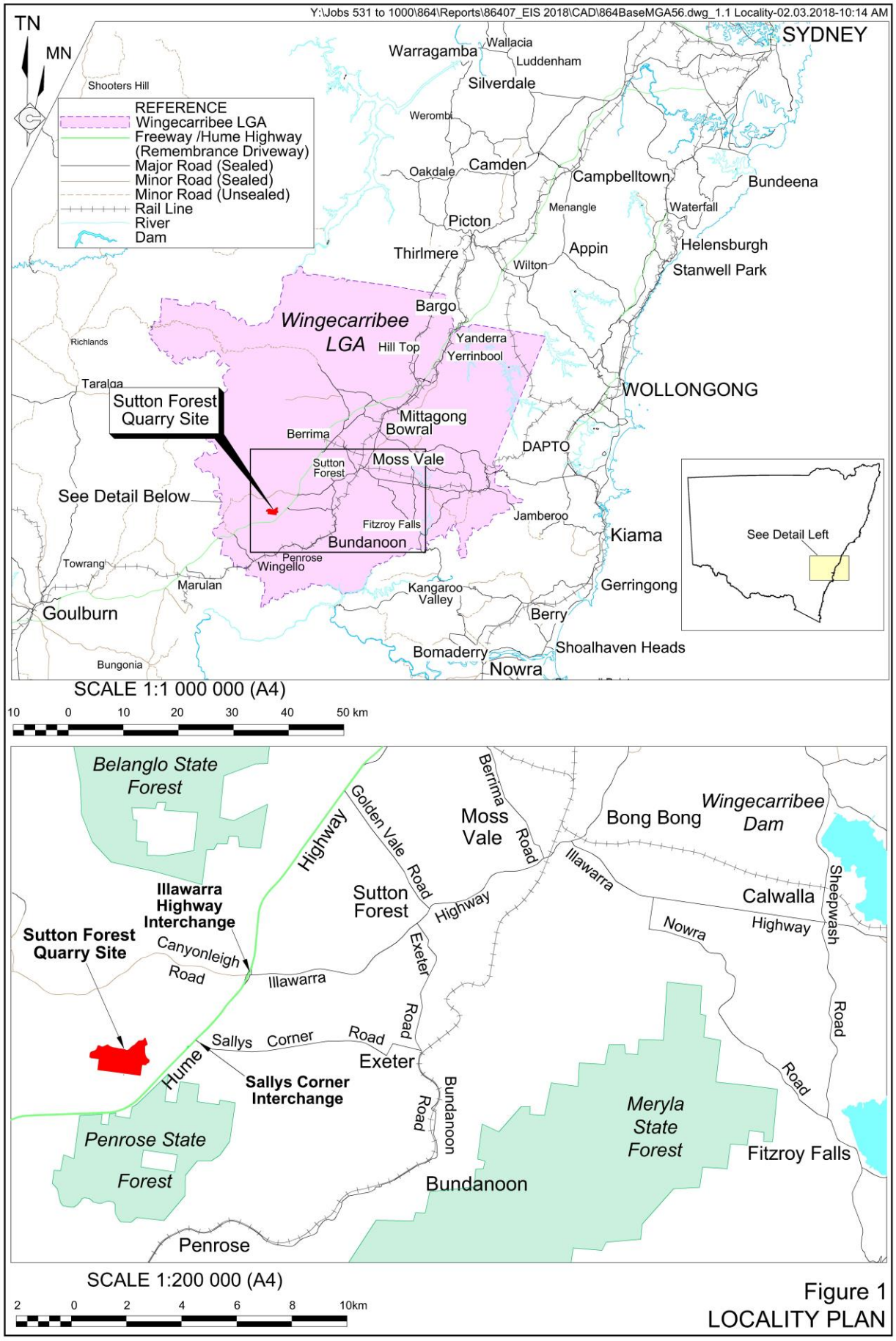
The Site is located near Sutton Forest, approximately 20 km southwest of Moss Vale in the Southern Highlands of southeastern NSW. The Proposal would involve the development of a sand extraction quarry and the construction of a new 1.4km-long private access road to a new interchange on the Hume Highway, immediately east of the proposed quarry (**Figure 1**). For the purposes of this report, the Study Area generally coincides with the proposed areas of disturbance within the Site, which incorporates the Quarry Operations Area, i.e. the area in which all extraction, processing and related activities would be undertaken. Access between the Quarry Operations Area and the Quarry Interchange on Hume Highway would be via a 1.4km long Quarry Access Road. The area actually surveyed extended beyond the proposed area of disturbance.

## 1.3 AIM AND OBJECTIVES OF THE ASSESSMENT

The objective of this assessment is to provide the Applicant with an Aboriginal Cultural Heritage Assessment (ACHA) for inclusion in an Environmental Impact Statement (EIS) in support of an application under Part 4, Division 4.1 of the EP&A Act. This investigation involves a description of the context of the Site and surrounds, identification of heritage places and cultural values within the Site, an assessment of the potential impacts to Aboriginal heritage as a result of the Proposal, and development of recommendations to minimise, manage and mitigate these potential impacts.

This assessment has been undertaken in accordance with the relevant requirements of the various advisory documents and guidelines. These guidelines and documents include:

- *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (Part 6 National Parks and Wildlife Act* 1974) (NSW Department of Environment, Climate Change and Water [DECCW] 2010a).
- *Due Diligence Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b).
- *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (NSW Office of Environment and Heritage [OEH] 2011)
- *Draft Guidelines for Aboriginal Cultural Impact Assessment and Community Consultation* (NSW Department of Environment and Conservation 2005a).
- The Australia International Council on Monuments and Sites (ICOMOS) Burra Charter (Australia ICOMOS 1999).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TN
MN
REFERENCE
Wingecarribee LGA
Freeway /Hume Highway
(Remembrance Driveway)
Major Road (Sealed)
Minor Road (Sealed)
Minor Road (Unsealed)
Rail Line
River
Dam
SYDNEY
Warragamba
Wallacia
Luddenham
Silverdale
Shooters Hill
Werombi
Oakdale
Camden
Campbelltown
Bundeena
Menangle
Waterfall
Picton
Thirlmere
Appin
Wilton
Helensburgh
Stanwell Park
Bargo
Wingecarribee LGA
Hill Top
Yanderra
Yerrinbool
Richlands
Taralga
Sutton Forest Quarry Site
WOLLONGONG
Mittagong
Bowral
Berrima
DAPTO
Sutton Forest
Moss Vale
See Detail Below
Jamberoo
Fitzroy Falls
Bundanoon
Kiama
See Detail Left
Towrang
Penrose
Wingello
Marulan
Kangaroo Valley
Gerringong
Goulburn
Berry
Bomaderry
Shoalhaven Heads
Nowra
Bungonia
SCALE 1:1 000 000 (A4)
10 0 10 20 30 40 50 km
Belanglo State Forest
Golden Vale Road
Highway
Berrima Road
Moss Vale
Bong Bong
Wingecarribee Dam
Illawarra Highway Interchange
Sutton Forest Quarry Site
Canyonleigh Road
Illawarra
Sutton Forest
Highway
Exeter
Illawarra
Calwalla
Nowra
Highway
Sheepwash
Road
Sallys Corner Road
Hume
Sallys Corner Interchange
Exeter
Road
Bundanoon
Road
Meryla State Forest
Fitzroy Falls
Penrose State Forest
Bundanoon
Penrose
SCALE 1:200 000 (A4)
2 0 2 4 6 8 10km
Figure 1
LOCALITY PLAN

- *Aboriginal Cultural Heritage: Standards and Guidelines Kit* (NSW National Parks and Wildlife Service [NPWS] 1997).
- *Ask First; A Guide to Respecting Indigenous Heritage Places and Values* (Australian Heritage Commission 2002).
- *NSW Minerals Industry Due Diligence Code of Practice for the Protection of Aboriginal Objects* (NSW Minerals Council 2010).

## **1.4** STRUCTURE OF THIS REPORT

This report has been prepared in consideration of the requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010b) and as such includes the following specific information.

Section 1: Outlines the Site for the Proposal and the objectives and structure of this report.

Section 2: Lists the investigators and contributors involved with this report.

Section 3: Provides a detailed description of the development proposal.

Section 4: Details the consultation and partnership with indigenous communities.

Section 5: Outlines the landscape context and includes descriptions of land use history, climate, geology and vegetation within the locality of the Site.

Section 6: Provides background information relevant to previous archaeological works including relevant ethno history, the regional archaeological context and previous predictive models for the locality.

Section 7: Describes predictions for the Site and documents the archaeological survey and data collection, and includes information regarding the method of the survey and site recording and a description of the areas surveyed.

Section 8: Lists the results of the survey.

Section 9: Provides a discussion and analysis of these results.

Section 10: Assesses the cultural heritage and archaeological significance of the Site.

Section 11: Assesses the impact of the Proposal on Aboriginal heritage.

Section 12: Lists the management, mitigation measures and recommendations.

Section 13: Lists the references cited in this report.

A glossary of commonly used terms in the report is provided in **Appendix 1**.

# **2** INVESTIGATORS

Landskape was commissioned by R.W. Corkery & Co. Pty Limited on behalf of the Applicant in July 2013 to complete the ACHA for the Proposal and to prepare this report. Prior to July 2013, Artefact Heritage had coordinated and undertaken the initial desktop review, Aboriginal stakeholder consultation and surveys of the Site, including involvement by representatives of the registered Aboriginal parties. The findings of the Artefact Heritage desktop review, surveys and consultation were considered and incorporated in the ACHA undertaken by Landskape.

Dr Matt Cupper, a qualified archaeologist and geoscientist with 19 years' experience as a cultural heritage advisor, was Landskape's project archaeologist. Ms Jaime Swift, with a MA Honours degree in Archaeology and Anthropology, was assistant archaeologist.

Artefact Heritage's project archaeologists were Dr Sandra Wallace and Messrs. Josh Symons and Jack Hinde.

# **3** DEVELOPMENT PROPOSAL

The proposed development will involve an application under Part 4, Division 4.1 of the EP&A Act.

A detailed description of the Proposal is provided in Section 2 of the EIS. The layout of the Proposal is shown on **Figures 2** and **3**.

The main activities associated with the development of the Proposal would include:

- development and operation of an Extraction Area within Lot 4 DP253435;
- construction and use of new dams, sediment basins, channels, drains, groundwater bores and other water management infrastructure required to operate the quarry;
- construction and use of laydown areas;
- construction of an approximately 1.4km-long section of Quarry Access Road between the Sutton Forest Sand Quarry and the Quarry Interchange;
- construction of the Quarry Interchange linking the Quarry Access Road and the Hume Highway;
- construction and use of other associated infrastructure, equipment and quarry service facilities.
- use of conventional quarrying equipment to remove up to 1 million tonnes per annum of sand from the planned extraction area (with a total resource of 34 million tonnes);
- placement of fines within external emplacements to the northeast of the planned extraction area and within the extraction area on temporary basis;
- construction and use of on-site wash plant, processing and stockpiling area and handling facilities;
- transportation of sand products by highway trucks via the Quarry Access Road, Quarry Interchange and the Hume Highway; and,
- ongoing monitoring and rehabilitation activities.

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TN
MN

Long Swamp Creek
Watercourse A
Watercourse B
Watercourse C
Watercourse D
Extraction Area
Sediment Dam A
Sediment Dam B
Sediment Dam C
Fines Storage Area 1
Fines Storage Area 2
Water Storage Dam A
Water Storage Dam B
Brickie's Sand Production Area
Bore 1
Weighbridge
Workshop
Wash Plant
Temporary Topsoil and Mulch Stockpile Area
Southern Barrier
Northeastern Barrier
Product Stockpile Area
Eastern Barrier
Pipe
Primary Raw Feed Stockpile
Header Water Tank
Meteorological Station
Bore 2
Quarry Access Road
High Pressure Gas Pipelines
Water Pipeline
Northbound On-ramp
Entry to Penrose Forest Way
Southbound Off-ramp
Overbridge
Highway
Hume

REFERENCE

- Site Boundary
- Quarry Operations Area Boundary
- Cadastral Boundary
- 700 Contour (m AHD)(Interval = 10m)
- Watercourse
- Meteorological Station
- Bore 1 Production Bore
- High Pressure Gas Pipelines
- Power Line
- Water Pipeline

**Proposed Activities**

- Limit of Extraction
- Quarry Access Road
- Quarry Interchange
- Internal Road
- Access Road
- Diversion Drain
- Processing & Stockpiling Area
- Barrier
- Water Storage / Sediment Dam
- Fines Storage Area
- Mulch and Topsoil Stockpile Area

SCALE 1:8 000 (A3)

100 0 100 200 300 400 m

Cadastral Boundary Source: © NSW Department of Finance and Services Panorama Avenue Bathurst NSW 2795 www.lpi.nsw.gov.au
Base Photography Source: LPI - 13 December 2013

Figure 2
INDICATIVE SITE LAYOUT

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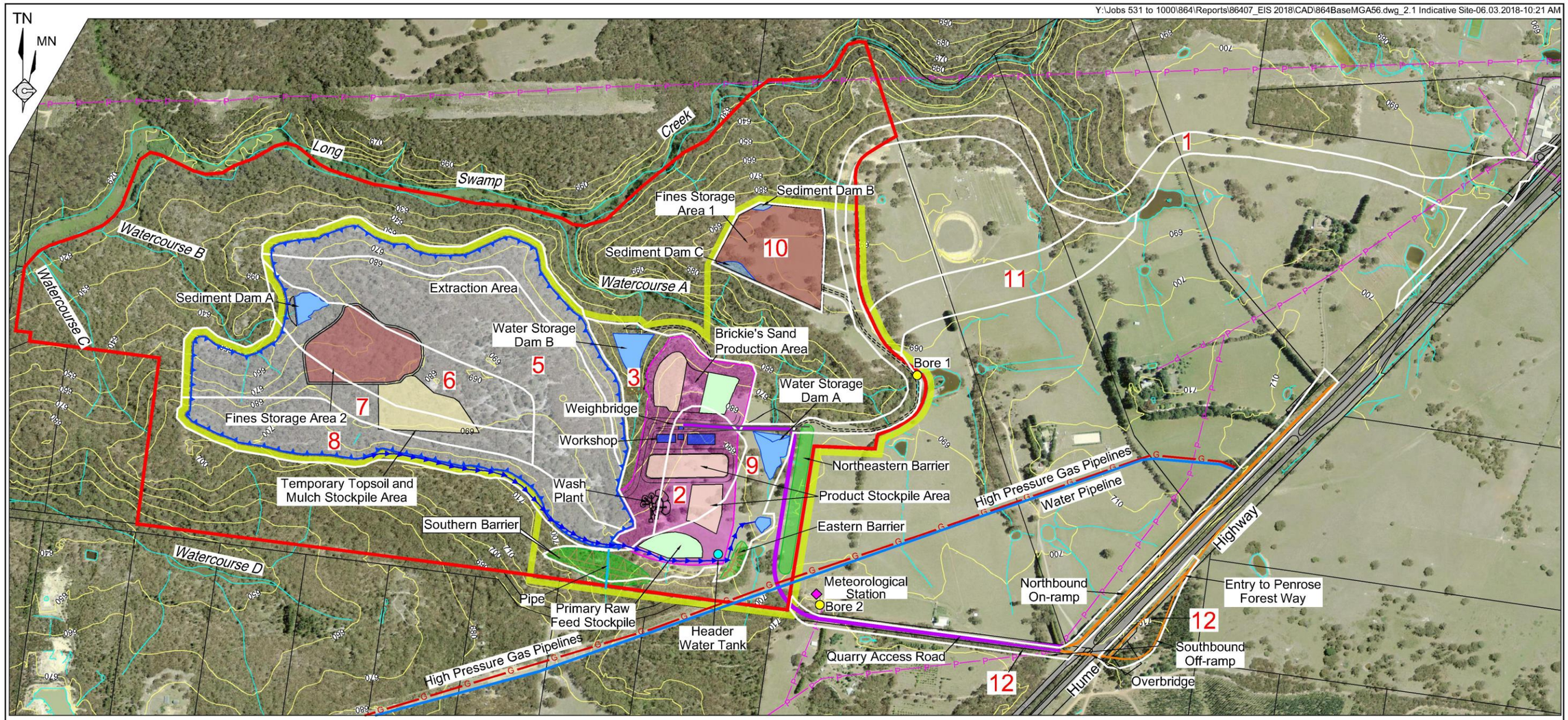


REFERENCE

- Site Boundary
- Quarry Operations Area Boundary
- Cadastral Boundary
- 700 Contour (m AHD)(Interval = 10m)
- Watercourse
- Meteorological Station
- Bore 1 Production Bore
- High Pressure Gas Pipelines
- Power Line
- Water Pipeline
- 1 Heritage Survey Area & Identifier

**Proposed Activities**

- Limit of Extraction
- Quarry Access Road
- Quarry Interchange
- Internal Road
- Access Road
- Diversion Drain
- Processing & Stockpiling Area
- Barrier
- Water Storage / Sediment Dam
- Fines Storage Area
- Mulch and Topsoil Stockpile Area

SCALE 1:10 000 (A3)

100 0 100 200 300 400 500 m

Cadastral Boundary Source: © NSW Department of Finance and Services
Panorama Avenue Bathurst NSW 2795 www.lpi.nsw.gov.au
Base Photography Source: LPI - 13 December 2013

Figure 3
SURVEY UNITS AT THE STUDY AREA

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An indicative general arrangement of the Quarry Operations Area, fines and soil emplacements, infrastructure areas and Quarry Access Road is shown on **Figure 2**. The Proposal would result in the disturbance of approximately 65.8 hectares (ha), comprising:

- Extraction Area (47ha);
- processing and stockpiling area (12ha);
- water storage dams (1.2ha);
- Quarry Access Road (3.2ha); and,
- Quarry Interchange (2.4ha).

# 4 ABORIGINAL SOCIAL AND CULTURAL INFORMATION

## 4.1 INTRODUCTION

In accordance with the *Aboriginal Cultural Heritage Community Consultation Requirements for Proponents, 2010* (DECCW 2010a), this assessment has involved representatives of the local Aboriginal community and considered their cultural values and concerns.

The following sections describe involvement by the Aboriginal community (via the registered Aboriginal parties) and demonstrate that the input of the affected Aboriginal community has been considered when determining and assessing impacts, developing options, and making final recommendations relevant to Aboriginal cultural heritage outcomes of the Proposal.

## 4.2 ABORIGINAL COMMUNITY PARTICIPATION

Representatives of the registered Aboriginal parties participated in the social and cultural study and archaeological field surveys, and contributed to devising management protocols to avoid or mitigate disturbance to cultural heritage sites.

Aboriginal community consultation for the ACHA was conducted:

- before the field assessment to detail the Proposal and assess preliminary community views;
- during the field surveys with the Aboriginal team members; and
- after the field surveys to discuss the findings and recommendations for Aboriginal cultural heritage management.

### 4.2.1 Identification of Aboriginal Community Groups and Individuals

Relevant stakeholders from the Aboriginal community were identified using a process consistent with the *Aboriginal Cultural Heritage Community Consultation Requirements for Proponents* (DECCW 2010a). A summary of the community consultation undertaken for the Proposal is outlined below and in **Appendix 2**. All written correspondence sent to and received from the Aboriginal community is provided in **Appendices 3 and 4**, respectively.

#### *Notification of the Proposal*

Artefact Heritage provided written notification to the organisations listed in **Table 1** and asked for the names of any Aboriginal persons or groups who could hold cultural knowledge of, or have a right or interest in Aboriginal objects, places and/or Aboriginal cultural heritage values in the Site or surrounds.

**Table 1: Notified Organisations and Date of Notification**

| Name of Organisation | Written Notification Date |
|---|---|
| OEH Environmental Protection and Regulation Group | 24 September 2012 |
| Illawarra Local Aboriginal Land Council (LALC) | 24 September 2012 |
| The Registrar, *Aboriginal Land Rights Act* 1983 | 24 September 2012 |
| The National Native Title Tribunal | 24 September 2012 |
| Native Title Services Corporation Limited (NTSCORP Limited) | 24 September 2012 |
| Wingecarribee Shire Council | 24 September 2012 |
| Sydney Catchment Authority | 24 September 2012 |

Artefact Heritage then wrote to the Aboriginal parties identified by the organisations listed in **Table 1**. These parties were all invited to register an interest in the process of community consultation with the Applicant regarding the ACHA for the Proposal. In addition to the written notifications, a notice was placed in the *Southern Highland News* (19 September 2012) seeking registrations from any additional interested Aboriginal parties.

### *Registered Aboriginal Parties*

Aboriginal parties listed in **Table 2** registered their interest in being involved in the consultation process for the Proposal.

**Table 2: Registered Aboriginal Parties**

| Registered Aboriginal Parties | Date of Registration |
|---|---|
| Bellambi Indigenous Corporation | 16 October 2012 |
| Cubbitch Barta Native Title Claimants Aboriginal Corporation | 22 October 2012 |
| Illawarra Local Aboriginal Land Council | 22 October 2012 |
| Gundungurra Aboriginal Heritage Association Incorporated | 22 October 2012 |
| Gundungurra Tribal Council Aboriginal Corporation | 22 October 2012 |
| Peter Falk Consulting | 19 September 2012 |

### 4.2.2 Presentation of Information about the Proposal

The registered Aboriginal parties were provided with information about the Proposal and the proposed cultural heritage assessment process in the form of a Proposed Methodology. The purpose of the proposed methodology was to explain the Proposal and consultation process in detail, define the roles of the registered Aboriginal parties and the Applicant, identify any protocols for obtaining and using sensitive cultural information and to give the registered Aboriginal parties an opportunity to comment on the proposed assessment method and provide any relevant information on the cultural significance of the Site.

### 4.2.3 Aboriginal Involvement during the Field Assessment

All registered Aboriginal parties were invited to express an interest in participating in the field surveys. Due to the number of registered groups that expressed an interest in being involved in the field surveys, a roster system was devised. Representatives from the registered Aboriginal parties listed in **Table 3** participated in the field surveys.

**Table 3: Registered Aboriginal Parties Who Participated in the Field Surveys**

| Registered Aboriginal Parties | Representative[1] |
|---|---|
| Cubbitch Barta Native Title Claimants Aboriginal Corporation | Glenda Chalker, Kirsty-Lee Chalker |
| Gundungurra Aboriginal Heritage Association Incorporated | Chris Hall |
| Illawarra Local Aboriginal Land Council | Neville Maher, Pamela Glover, Steven Henry |
| Peter Falk Consulting | Peter Falk, Duncan Falk |

[1] All registered Aboriginal parties were invited to send one representative on each of their rostered days. Those parties with two or more representatives listed sent different representatives to attend on different days.

### 4.2.4 Aboriginal Involvement following the Field Assessment

Input to this Aboriginal cultural heritage report from all registered Aboriginal parties was sought during the documentation phase of the assessment. Draft copies of this cultural heritage report were provided to the registered Aboriginal parties for comment and any queries or comments were addressed.

Specific aspects raised by registered Aboriginal parties and how they have been addressed in this assessment are detailed as follows:

- Peter Falk of Peter Falk Consulting emphasised the scientific and cultural significance of Aboriginal rock shelter AHIMS site number 52-4-0323 near the Site. He specifically requested that no potentially detrimental impacts occur at the rock shelter, in particular requesting no earthworks occur within 100 m of the feature.

  This concern has been addressed in the management requirements (see Section 11.3) detailed in this Aboriginal cultural heritage assessment by prohibiting any earthworks within at least 100 m of the rock shelter and monitoring all activities such that there will be no potentially detrimental impacts on the feature.

- Kim Moran of Bellambi Indigenous Corporation and Peter Falk of Peter Falk Consulting requested that registered Aboriginal parties be involved in any future salvage of Aboriginal objects at the Site. This request has been addressed in the management requirements (see Section 12.3.3) by undertaking that the recording, collection, curation, storage and replacement of salvaged Aboriginal objects would occur with the invited participation of local Aboriginal community representatives.

- Glenda Chalker of Cubbitch Barta Native Title Claimants Aboriginal Corporation requested that subsurface excavations occur at the salvaged sites to test for stratified archaeological deposits.

  However, the archaeological survey concludes that intact, buried land surfaces (with potential for *in situ* subsurface Aboriginal cultural heritage) are absent from the study area. Where intact, the topsoil is the eroded remnant of the original soil profile, not a depositional unit that might contain buried land surfaces. Erosion of the soil has been exacerbated by land surface disturbance since European settlement and any Aboriginal cultural heritage left on the surface or buried by past pedogenic (soil-forming) processes is likely to be exposed or in the shallow topsoil and subsoil.

  Additionally, any knowledge that may be gained by excavation is likely to have limited scientific value.

Written correspondence received from the Aboriginal community is provided in **Appendix 4**.

## 4.3 ABORIGINAL COMMUNITY INFORMATION ABOUT CULTURAL SIGNIFICANCE

During the field surveys, the registered Aboriginal parties were asked to contribute their knowledge on the Site and the identified cultural heritage. This information contributed to the assessment of the cultural heritage significance of the Site and is discussed further in Section 10.

# **5** ENVIRONMENTAL CONTEXT

## **5.1** INTRODUCTION

The *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010b) requires a review of the environmental 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, with regard to identifiable resources or focal points for activities, and the likely distribution of the material traces of Aboriginal land use based on these factors.

Detailing the landscape context is an integral procedure in modelling potential past Aboriginal land use practices and/or predicting site distribution patterns. The natural environment of an area influences the availability of local resources such as food and raw materials for artefacts, rock platforms for engravings and axe sharpening, and rock outcrops that may provide shelter. The landscape also provides the sediments that may bury objects and archaeological features, as well as the erosive processes that might expose or disperse them.

Geomorphic (land formative) processes may impact upon the type and frequency of archaeological remains. Past climate may also influence the location and types of resources available, which in turn shapes settlement and mobility patterns of past Aboriginal groups in the area. The location of different site-types (such as middens, stone artefact scatters, axe-grinding grooves, petroglyphs [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.

## **5.2** GEOLOGY

The Site is located in the Southern Highlands of southeastern NSW (**Figure 1**). The region forms part of the Sydney Basin, which extends across the eastern fringe of Australia.

Sand of the Hawkesbury Sandstone formation was deposited in fluvio-deltaic environments across the Site during the middle Triassic (247-242 million years ago).

## **5.3** LANDFORMS AND SOILS

The Site is located in a gently undulating terrain of rolling hills and footslopes, which are dissected by headwater streams of Long Swamp Creek, a tributary of Wollondilly River (**Plates 1-4**). Elevations range from 650 metres (m) above the Australian Height Datum (AHD) near where the proposed Quarry Access Road would meet the Hume Highway to around 710 m AHD at the southwestern extent of the proposed Quarry Operations Area. The surface of the Site comprises sandstone outcrops and sandy regolith, with a thin (<100 mm) “yellow earth” topsoil and subsoil overlying the weathered parent material or saprolite of Hawkesbury Sandstone.

**Plate 1: Cleared slopes in the proposed alignment of the proposed Quarry Access Road**

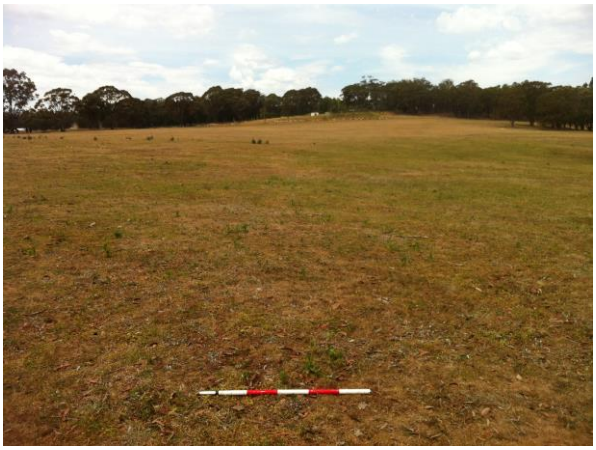

**Plate 2: Cleared slopes in the proposed Processing and Stockpiling Area**

**Plate 3: Isolated paddock trees in the proposed Processing and Stockpiling Area**

**Plate 4: Regrowth woodland in the proposed Extraction Area**

The bedrock beneath the Site was deposited during the middle Triassic and landforms have typically either been stable or degrading since this time. Buried land surfaces (with potential for *in situ* subsurface Aboriginal cultural heritage) are largely absent from the Study Area. Where intact, the topsoil is the eroded remnant of the original soil profile, not a depositional unit that might contain buried land surfaces. Erosion of the soil has been exacerbated by land surface disturbance since European settlement, included tree clearing, land levelling, ploughed cultivation, previous quarrying and construction of dams, tracks and fences and any Aboriginal cultural heritage left on the surface or buried by past pedogenic (soil-forming) processes is likely to be exposed or in the shallow topsoil and subsoil.

## **5.4** HYDROLOGY AND CLIMATE

The climate of the Site is dry subhumid, receiving approximately 902 millimetres of rainfall per annum (SEEC 2018). The Site is located within the Hawkesbury-Nepean Catchment, with Long Swamp Creek, a tributary of the Wollondilly River abutting the northern extent of the Site but outside the proposed disturbance area for the Quarry Operations Area (**Figure 2**). The

Wollondilly River generally flows in a northeasterly direction from its headwaters in the Great Dividing Range and ultimately into the Warragamba River (now artificially dammed at Lake Burragorang).

## **5.5** VEGETATION

Overall, the environments of the Site have been extensively modified by past European land use practices. The majority of land in the east of the Site has previously been cleared for agricultural cropping and sheep and cattle grazing following European settlement in the second half of the nineteenth century.

The original vegetation would have been Mittagong Sandstone Woodland of Blue-leafed Stringybark (*Eucalyptus agglomerata*), Scribbly Gum (*E. sclerophylla*), Brittle Gum (*E. mannifera*), Silvertop Ash (*E. sieberi*), Sydney Peppermint (*E. piperita*) and Black Sheoak (*Allocasuarina littoralis*).

The largest area of woodland occurs to the west of the proposed extraction area. Most of this vegetation is regrowth following clearing prior to the 1960s (**Plate 2**). The eastern part of the Site including the proposed processing and stockpiling area and alignment of the Quarry Access Road has been previously cleared with some scattered paddock trees remaining (**Plate 3**).

# 6 ABORIGINAL CULTURAL HERITAGE CONTEXT

## 6.1 ETHNO-HISTORIC CONTEXT

Aboriginal people of the Gundungurra (or *Gandangara*) language group occupied the part of the Southern Tablelands encompassing the Site at the time of first contact with Europeans (Tindale 1974, Wafer and Lissarrague 2008). They shared language and kinship systems with the Tharawal people of the wider Sydney Basin, notably initiation rites and mythologies (Mathews 1908, Attenbrow 2010).

At the time of first contact with European observers, the Gundungurra were hunter-fisher-gatherers and appear to have had a semi-sedentary lifestyle (Rich 1988). Small groups of related adult men, women, adolescents and children would have formed clans, who probably resided most of the year at a small number of established, favourable locations within their estate.

The Gundungurra caught fish including eels, freshwater crayfish, yabbies, tortoises and freshwater mussels in the Wollondilly River and other streams and wetlands in the region (Rich 1988). Watercraft were manufactured from large slabs of bark cut from river red gum trees. Fish were caught using fishing lines and nets made from reed fibre.

Nets were used to catch waterbirds, whose eggs were also collected. Some of the other animals that Aboriginal people of the Sydney Basin hunted include kangaroos, wallabies, koalas, possums, emus, echidnas, lizards, snakes and frogs (Mitchell 1839, Rich 1988, Howitt 1996). In summer, some Gundungurra journeyed south to the higher plains of the Great Dividing Range, where Bogong moths were collected in large quantities (Flood 1980). Plant foods included grass seeds, wild orange, emu apple, melons, tubers, yams and roots (Mitchell 1839, Gott 1983).

Aspects of the initial interaction between Europeans and the Gundungurra led to violent conflict. Aborigines were shot, poisoned and displaced from their land by pastoral settlers and, in retaliation, cattle, sheep, stockmen and shepherds were speared. Historical sources record a rapid decline in Gundungurra numbers, caused by dispossession of land and the consequent destruction of habitat and social networks (Rich 1988). Diseases including smallpox and malnutrition also took their toll.

Within a decade of the first contact, many of the Gundungurra were living adjacent to pastoral homesteads, often working as shepherds or stockmen or engaged in other labouring activities. Traditional social networks collapsed.

Many of the contemporary Aboriginal people of the Southern Highlands live in regional centres such as Bowral and Moss Vale, with a regional population (Wingecarribee LGA) of about 800 Aboriginal people or some 2 percent (%) of the total population (Australian Bureau of Statistics 2011).

## **6.2** PREHISTORIC CONTEXT

Accounts of Aboriginal land use of the Southern Highlands during the nineteenth century provide an insight into possible settlement patterns in the prehistoric period. Kohen and Lampert (1987), using these historical ethnographies, invoked a subsistence model for the Sydney Basin based on the relationship between occupation of the coast and estuarine/riverine corridors and drier hinterland. Large populations of people congregated at the coast, estuaries and rivers during the drier months. In cooler or wetter months, mobile bands dispersed over the plains and adjacent foothills exploiting ephemeral resources (Kohen and Lampert 1987).

The material record of this occupation is preserved in the archaeological sites of the Southern Highlands, most of which probably date to the period since the last Ice Age (after around 25,000-18,000 years ago). The oldest site is a rock shelter in Morton National Park known as Bulee Brook 2, which has been dated to 22,554 ± 353 calibrated years before present (BP) (ANU-9375; Boot 2002). This site is approximately 50 km south of the Study Area. On the coast to the east, the midden site of Bass Point near Shellharbour has been dated at 20,408 ± 816 calibrated years BP (ANU-536; Flood 1999). Comparable ages come from Shaws Creek KII, a rock shelter site on the Nepean River some 100 km north of the Site, which has been dated to 17,965 ± 423 calibrated years BP (Beta 12423; Nanson *et al*. 1987).

The majority of both open and rock shelter sites in the Southern Highlands however date to within the past few thousand years (e.g. Flood 1980). A similar trend in occupation age occurs in dated deposits in NSW coastal sites. This has led many researchers to propose that population and occupation intensity increased from this period (e.g. Flood 1980, Kohen and Lampert 1987). The increase in occupation intensity post-dates the time when sea levels stabilised after the last Ice Age around 5,000 years ago.

All that presently remains at many of the Southern Tablelands' past Aboriginal occupation sites are flakes of stone debris from the making and resharpening of stone tools. These were made at Aboriginal open habitation areas (campsites), rock shelters or special activity areas such as stone knapping sites.

As well as being the sites of manufacture and maintenance of stone implements, both open and closed habitation areas usually contain evidence of domestic and other activities such as cooking and food preparation. Campfires or oven hearths are common, marked by heat retaining stones or hearthstones and charcoal. Organic remains consist of marsupial, rodent, bird, lizard, snake and fish bones, eggshell and freshwater mussel shell. Rock shelters frequently preserve rock art in the form of painted or engraved motifs. Rock outcrops may also bear grooves caused by sharpening of axe-heads.

Scarred trees show where bark may have been removed by Aboriginal people to manufacture canoes, shelters and dishes.

## 6.3 TYPES OF ABORIGINAL CULTURAL HERITAGE SITES IN THE REGION

Based on the results and analytical conclusions of previous archaeological surveys in similar landscape contexts in the Southern Tablelands it is possible to predict the types and topographic contexts of Aboriginal cultural heritage sites in the Sutton Forest area. The occurrence and survival of archaeological sites is, however, dependent on many factors including micro-topography and the degree of land surface disturbance.

The types of Aboriginal cultural heritage site previously recorded in the Southern Tablelands are described in Sections 6.3.1-6.3.11.

### 6.3.1 Stone Artefact Scatters

Scatters of stone artefacts exposed at the ground surface are one of the most commonly occurring types of archaeological site in the region. The remains of fire hearths may also be associated with the artefacts. In rare instances, sites that were used over a long period of time may accumulate sediments and become stratified. That is, there may be several layers of occupation buried one on top of another.

Stone artefact scatters are almost invariably located near permanent or semi-permanent water sources. Local topography is also important in that open campsites tend to occur on level, well-drained ground elevated above the local water source. In the Southern Tablelands they are commonly located on river terraces and along creek-lines and also around the margins of lakes and swamps.

### 6.3.2 Hearths

Hearths consist of lumps of burnt clay or stone cobble hearthstones. Sometimes ash and charcoal are preserved. Other materials found in hearths include animal bone, freshwater mussel shell, emu eggshell and stone artefacts. Hearths probably represent the remains of cooking ovens. These were lined with baked clay nodules and stone cobbles, possibly to retain heat. Hearths may be isolated or occur in clusters and may be associated with open campsites or middens. They are often located on floodplain terraces of the Southern Tablelands.

### 6.3.3 Freshwater Shell Middens

Shell middens are deposits of shell and other food remains accumulated by Aboriginal people as food refuse. In inland NSW, these middens typically comprise shells of the freshwater lacustrine mussel *Velesunio ambiguus* or the freshwater riverine mussel *Alathyria jacksoni*. Freshwater middens are most frequently found as thin layers or small patches of shell and often contain stone or bone artefacts and evidence of cooking. Such sites are relatively common along the watercourses to the west of the Southern Tablelands and their associated lakes and other wetlands.

### 6.3.4 Earth Mounds

Earth mounds may have been used by Aboriginal people as cooking ovens or as campsites. They tend to be more common on the riverine plains to the west of the Southern Tablelands. Originally, they appear to have ranged from 3 to 35m in diameter and from 0.5 to 2m in height. Today, however, they may be difficult to recognize because of the effects of ploughing, grazing and burrowing rabbits. Earth oven material, stone artefacts, food refuse and the remains of hut foundations have been exposed in excavated earth mounds.

### 6.3.5 Rock shelter Sites

Caves or shelters in cliff lines and beneath boulder overhangs were often used by Aboriginal people as campsites. Because of the confined area in these shelters and because of repeated Aboriginal occupation of such sites, the occupation deposits that they contain are often richer than open campsites and are usually stratified.

Rock shelters will only be found where suitable geological formations are present. They may occur as sandstone overhangs, shelters beneath granite tors or as limestone caves.

### 6.3.6 Rock Art Sites

Rock art consists of paintings, drawings and/or engravings on rock surfaces. In most instances in the wider region, rock art is related to the distribution of rock shelters but it may also be found on freestanding rocks.

### 6.3.7 Quarry Sites

These are locations where Aboriginal people obtained raw material for their stone tools or ochre for their art and decoration. Materials commonly used for making flaked stone tools include chert, silcrete, quartz and quartzite. These materials were obtained from exposed sedimentary formations or picked up as loose rock on the surface. Stone quarries may also be associated with volcanic rock outcrops, which provided the raw material for ground stone tools such as stone axes.

### 6.3.8 Axe-Grinding Grooves

These result from Aboriginal people having rubbed the edges of stone axe-heads repeatedly against a soft abrasive rock in order to shape or sharpen them. Grinding grooves are normally located adjacent to creeks where suitable stone for grinding may be present. In most instances, sandstone outcrops provided the most suitable surface for grinding.

### 6.3.9 Modified Trees

Slabs of bark were cut from trees by Aboriginal people and used for a variety of purposes including roofing shelters and constructing canoes, shields and containers. Scars also resulted from the cutting of toeholds for climbing trees to obtain honey or to capture animals such as possums. Some trees were carved, whereby Aboriginal people cut designs through the bark onto the wood beneath. Ethnohistoric records indicate that some carved trees were associated with burials whilst others may have been sacred or totemic sites.

In the Southern Tablelands, River Red Gums and Box are the most commonly scarred species. Carvings are often on White Cypress Pine. The classification of scarred trees as natural,

European or Aboriginal is often problematic. However, if the scar is Aboriginal the tree must now be more than 200 years old (DEC 2005b, Irish 2005).

### 6.3.10 Stone Arrangements, Ceremonial Rings and Ceremony and Dreaming Sites

Stone arrangements range from cairns or piles of rock to more elaborate arrangements such as stone circles or standing slabs of rock held upright by stones around the base. Some stone arrangements were used in ceremonial activities whilst others may represent sacred or totemic sites. Other features associated with the spiritual aspects of Aboriginal life are those now called 'ceremony and dreaming' sites. These can be either stone arrangements or natural features such as rock outcrops, waterholes or mountains, which may be associated with initiation ceremonies or the activities of ancestral creators.

### 6.3.11 Burials

Aboriginal burial grounds may consist of a single interment or a suite of burials. On the coast skeletal material is sometimes found eroding from sand deposits, but in the higher slopes of the Southern Tablelands burial sites are rarely found because conditions for the preservation of bone are poor. Knowledge of Aboriginal burial grounds is best sought from local Aboriginal communities (NPWS 1998).

## 6.4 PREVIOUS ABORIGINAL CULTURAL HERITAGE INVESTIGATIONS

The Aboriginal archaeology of the Southern Tablelands is understood from a number of previous studies and a review of cultural heritage registered on the AHIMS database, including some near the Site (**Table 4**). Studies by Boot (2002) are among the most wide-ranging and provide a summary of the regional archaeological record. Also relevant is Attenbrow's (2010) synthesis of the Aboriginal archaeology of the Sydney region and Flood's (1980) broad-scale study of the uplands further south, which identified general features of the regional archaeological record of southeastern NSW.

In short, surface scatters of flaked stone artefacts are the most common site type. These stone assemblages are dominated by flakes and flaked pieces mostly struck from quartz, chert, silcrete, quartzite and fine-grained sedimentary rocks (Boot 2002). Axe-head grinding grooves and rock shelters, many with art, are also well represented in the Southern Tablelands. Other site types include scarred trees, stone quarries, earthen features including mounds and hearths, stone arrangements and ceremonial rings.

Flood's (1980) regional investigation of the higher uplands of southeastern NSW suggested that there was little Aboriginal occupation of the region before 4000 years ago after which the region was occupied at low intensity. Flood (1981) found that lowland sites often either comprised large base camps, open occupation areas covering two or three square kilometres found on sand dunes and near lakes and rivers, or smaller camps distributed along river banks in a lineal pattern.

Flood (1980) noted typical landscape settings of Aboriginal campsites. All sites are within 1 km and most within 100 m of a river, creek, lake or spring. However, no sites are located right at the water's edge. All sites are located on well-drained ground with a reasonably good view of the approaches. Where sites occur on the side of a mountain range or valley, their aspect is usually east or north thus obtaining shelter from the prevailing westerly winds (Flood 1980).

The region around the Site has been the focus of a number of systematic archaeological studies in recent years. Of relevance to this study are those by Koettig (1981, 1985), Rich (1986a, 1986b), Comber (1990), Silcox (1992), Wood (1992), Mills (1997) and Navin Officer (2004). These field studies document the distribution of Aboriginal archaeological sites on the Southern Highlands near Sutton Forest and allow predictions about site distribution based on observations of the landforms of the region.

Koettig (1981) surveyed the route for the Hume Highway Mittagong Bypass between Hoddles Crossing and Alpine, approximately 4 km northwest of the current Study Area. The 34km-long survey traversed a wide area of varying geology and landforms. Koettig (1981) identified 24 Aboriginal archaeological sites in the alignment comprising grinding grooves, scarred trees, open artefact scatters, shelters with deposits (and occasionally art) and a stone quarry. The rock shelters occurred in areas with outcropping sandstone, with open sites more likely to occur near watercourses. Scarred trees were encountered where stands of old growth trees remain (Koettig 1981).

Koettig (1985) subsequently excavated five of the identified sites, including three open artefact scatters and two rock shelters with deposits. The sites are located between 20 and 35 km northeast of the Site. Open site AHIMS site number 52-1-0057 is located on a gently slope overlooking a tributary of Nattai Creek. All except one (a chert flake fragment) of the artefacts were silcrete. Koettig (1985) noted that silcrete cobbles are in the watercourse bordering the site, and that the site may have been a silcrete quarry. Artefacts retrieved from shelter site AHIMS site number 52-1-0061 were also predominantly silcrete, with diagnostic artefact types including scrapers and backed blades (Koettig 1985). Artefact raw materials retrieved from the other three sites included silcrete, quartz, mudstone, chert and other fine-grained lithics. Two radiocarbon ages of 1709 ± 82 calibrated years BP (SUA-2351 and SUA-2352) were obtained from charcoal in the lower half of the artefact-bearing deposit (Koettig 1985).

The closest investigation to the current Study Area was conducted by Rich (1986a) for a proposed sand quarry to the immediate south of the Site. This is on an adjoining lot bordering the northern side of the Hume Highway. Rich (1986a) identified three artefact scatters within this area, including two on the slopes of an elevated ridge of weathered sandstone and one on a level area adjacent to a tributary of Long Swamp Creek (Rich 1986a).

Rich (1986b) also investigated the Aboriginal archaeology of a proposed sand quarry on the southern side of the Hume Highway at Penrose, some 2 km south of the Site. This area has a similar crest and ridge slope landform context to the northern area previously surveyed by Rich (1986a). One disturbed artefact scatter was identified 100 m from Hanging Rock Swamp. Rich (1986) noted that further low-density artefact scatters were likely to be present across ridge crest and upper slope landforms in the area.

A series of archaeological investigations have been competed for expansions to the sand quarry at Penrose (Silcox 1992, Wood 1992, Mills 1997, Navin Officer 2004). Concentrations of open artefact sites and grinding grooves were identified in the northern portion of the quarry area and bordering the southern margin of the Hume Highway (Mills 1997, Silcox 1992). The sites are associated with ephemeral headwaters of Hanging Rock Swamp. One rock shelter site with indistinct charcoal motifs (AHIMS site number 52-4-0114) was salvaged prior to impact from sand mining operations (Mills 1997).

Comber (1990) assessed the "Penrose Downs" property, which includes ridge, slope and level landforms bordering the southern margins of Long Swamp Creek, approximately 2 km to the west of the Site. Comber (1990) identified eight archaeological sites including five artefact scatters and three isolated finds of stone artefacts. Four of the artefact scatters were identified in raised contexts overlooking the adjacent watercourse and flats. The sites were generally considered to be in disturbed contexts and were assessed as demonstrating low scientific significance (Comber 1990).

## **6.5** PREVIOUSLY RECORDED ABORIGINAL CULTURAL HERITAGE SITES WITHIN THE SITE

There are no previously recorded Aboriginal cultural heritage sites recorded within the Site on the NSW OEH Aboriginal Heritage Information Management System (AHIMS) database (AHIMS searches 76370, 118676,242297 and 331487 2 August 2012, 4 December 2013, 2 September 2016 and 3 March 2018). Searches were conducted over areas (approximately 20 km x 20 km centred on the Quarry Operations Area) sufficient to allow adequate landscape interpretation and also provided a large number of registered Aboriginal sites to assist in an understanding of the distribution of Aboriginal cultural heritage across the landscape. The results of the AHIMS searches are included in **Appendix 5**.

It should be noted that the distribution of sites in the AHIMS database is a reflection of where site surveys have been previously completed. Other sites may be present, but in areas that have not been previously examined.

The results of the AHIMS searches for the Site are summarised in **Table 4**. Approximately 80 cultural heritage sites have been previously recorded within a ~10 km radius of the Site, with stone artefact scatters being the most common site type. Grinding grooves were the second-most prevalent site type.

The closest previously recorded sites to the Site are three open artefact scatters (AHIMS site numbers 52-4-0046, 52-4-0047 and 52-4-0048). These features are between approximately 1000-1500 m southwest of the proposed extraction area and were recorded by Rich (1986a) as part of an archaeological investigation for a proposed sand quarry to the immediate south of the Site. AHIMS site number 52-4-0046 is located on the upper-slope and AHIMS site number 52-4-0047 on the mid-slope of an elevated ridge of weathered sandstone and AHIMS site number 52-4-0048 on a level area adjacent to a tributary of Long Swamp Creek (Rich 1986). Rich (1986) noted that the sites are located in disturbed contexts and surface visibility at each site was generally over 50 %. Diagnostic artefacts types at AHIMS site number 52-4-0047 include a possible quartz bipolar artefact and two artefacts with visible retouch/use-wear.

**Table 4: Summary of Sites from AHIMS Database Search – within the approximately 10 km of the Site**

| Site Type | Number of sites | % |
|---|---|---|
| Stone artefact scatter | 53 | 66 |
| Grinding grooves | 10 | 13 |
| Art | 8 | 10 |
| Stone artefact scatter and potential archaeological deposit | 2 | 3 |
| Modified tree (carved or scarred) | 2 | 3 |
| Art and stone artefact scatter | 2 | 3 |
| Stone artefact scatter and grinding grooves | 1 | 1 |
| Art and grinding grooves | 1 | 1 |
| Potential archaeological deposit | 1 | 1 |
| Total | 80 | 100 |

NSW State Heritage Inventory and Australian Heritage Database searches completed on 3 March 2018 yielded no Statutory Listed Heritage Items in the Site.

The summary of registered sites in the region of the Site provides insight into forming predictive models for the Site and is discussed in Section 7.1.

# 7 CULTURAL HERITAGE FIELD INVESTIGATION

In accordance with the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011) and *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECC 2010b), an archaeological design and survey methodology was prepared as a key component of the cultural heritage field assessment. Details of the archaeological design and survey methodology are presented in the following sections.

## 7.1 CULTURAL HERITAGE SITE PREDICTIVE MODEL

Previous archaeological studies indicate that the most frequently recorded Aboriginal cultural heritage places in the Southern Tablelands are open occupation areas represented by scatters of stone artefacts, grinding grooves and rock shelter and rock art sites (NSW OEH AHIMS site database). Culturally modified trees, burials, earthen features including mounds and hearths, and stone features including stone quarries, and ceremonial rings are also represented in the archaeological record.

The potential for encountering Aboriginal cultural heritage in the Site is mitigated to some extent by the high degree of previous disturbance. For example, the extent of tree clearance from past agricultural land use reduces the probability of encountering scarred and carved trees. Similarly, modification of the original land surface during past clearing activities and previous quarrying could have destroyed earthen features such as mounds and stone features such as arrangements and ceremonial rings, had they previously existed in this area. Stone artefacts, alternatively, are more likely to survive in the soil.

Based on past observations of archaeological site types and their distribution and landscape setting, the following predictive model of Aboriginal cultural heritage site locations for the activity can be proposed.

- **Stone artefact scatters** and **isolated finds** of stone artefacts are possible over the entire surface of the Site. They are typically found within 200 m of water sources, so are most likely to be encountered on the margins of intermittent streams in the Site.
- **Rock shelters**, **rock art sites, axe-grinding grooves** and **quarries** may occur in the Site wherever there are suitable sandstone rock outcrops, particularly close to the incised margins of Long Swamp Creek and its tributaries.
- **Trees scarred or carved by Aboriginal people** may occur wherever mature Eucalypt trees grow. However, the extent of previous vegetation clearance reduces the probability of encountering culturally modified trees.
- **Burial sites** are unlikely, given that the region's acidic soils are not suited to preserving bone and other organic material.

- **Freshwater shell middens** are unlikely, given the lack of permanent water sources within the Site.
- **Earthen features** including **mounds**, **ovens** and **hearths, stone arrangements** and **ceremonial rings** are normally restricted to level ground, the former usually adjacent to water sources. They are unlikely to be encountered because previous land disturbance such as earthworks associated with past clearing, quarrying and ploughed cultivation is likely to have destroyed earthen and stone features, had these site types originally occurred in the Site.

While predictive studies such as this can be expected to identify areas in which sites associated with economic or subsistence activities may be present, notably open habitation areas, other sites may fall outside such a predictive framework. For example, places associated with spiritual aspects of traditional Aboriginal society such as ceremony and dreaming sites are often located at topographically distinct or unique features, which cannot be identified from an examination of maps or other records. For this reason, it was essential that local Aboriginal communities be consulted so that sites of significance to them can be identified.

## **7.2** FIELD METHODOLOGY

The archaeological field surveys were conducted based on the sampling strategy developed in accordance with the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011) and Requirement 5a of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010b) and outlined in Section 7.1.

The objectives of the field surveys were to identify places of Aboriginal cultural significance within the Site.

An assessment of the Site was made based on the level of disturbance from previous land use, survey variables (ground visibility and archaeological visibility) and the potential archaeological sensitivity of the area.

The methodology for the field surveys involved:

- The identification of landforms and areas of potential archaeological sensitivity.
- A focus on areas that had a high probability of containing Aboriginal objects, including sandstone outcrops, creek banks, and eroded areas.
- Representative coverage of all survey units, including those with a lower probability of containing Aboriginal cultural heritage.

### 7.2.1 Personnel

The first survey was conducted over a period of two days on 20 and 21 November 2012, a second field survey on 8 November 2013, a third survey on 1 September 2016 and a fourth survey on 7 February 2018. The participants of the field surveys were project archaeologists Messrs Josh Symons and Jack Hinde of Artefact Heritage (20 and 21 November 2012) and Dr Matt Cupper and Ms Jaime Swift of Landskape on 8 November 2013, 1 September 2016 and 7 February 2018, together with the representatives from the Aboriginal community listed in **Table 3**. The Aboriginal community participants were engaged on a roster such that each team

comprises one or two project archaeologists with three Aboriginal community representatives (**Plates 5** and **6**).

Additionally, project archaeologist Dr Matt Cupper from Landskape re-inspected the features originally identified during the Artefact Heritage surveys in November 2012 accompanied by Douglas Ewan and Garry Stafford representing the Applicant, Robert Corkery (Principal, R.W. Corkery and Co. Pty Limited) and Malcolm Henderson (landholder of Lot 4 DP253435).

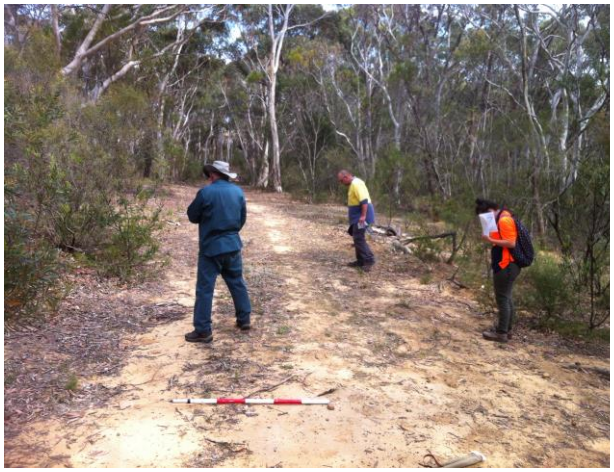

**Plate 5: Survey team members inspecting the Site**

**Plate 6: Survey team members inspecting the Site**

### 7.2.2 Survey Methods

The areas that were proposed to be disturbed at the time of the surveys[1] within the Site were inspected on foot by the project archaeologists and Aboriginal community representatives (**Figure 3**). The field teams examined the ground surface for any archaeological traces such as stone artefacts, rock shelters, axe-grinding grooves, hearths, hearthstones, shells, bones and mounds. All mature trees in the areas of proposed disturbance were inspected for scarring or carving by Aboriginal people.

Particular attention was paid to areas with high ground surface visibility such as along fencelines and stock and vehicle tracks and in scalds, gullies and other eroded areas.

The team members walked abreast across the surveyed areas in a series of closely spaced transects. These were evenly distributed over the areas of proposed disturbance and approximately 10-20 m apart. Due to the general openness of the landscape it was usually possible to identify likely site locations from at least 10-20 m and deviate from the transects to make closer inspections.

Survey units and descriptions of the visibility conditions for each survey unit are provided in **Table 5**.

[1] The areas of proposed disturbance have been reduced since the surveys were undertaken (see **Figure 3**)

**Table 5: Visibility Conditions at the Site.**

| Survey Unit* | Landforms | Vegetation | Exposures | Visibility | Survey Method |
|---|---|---|---|---|---|
| 1 | Lower hill slope<br>Upper hill slope | Isolated paddock trees, degraded woodland | Animal tracks, Vehicle tracks, Contour banks, Gullies, Scalds, Fencelines | 30 % | Pedestrian |
| 2 | Ridge crest | Isolated paddock trees, degraded woodland | Animal tracks, Vehicle tracks, Contour banks, Gullies, Scalds, Fencelines | 20 % | Pedestrian |
| 3 | Lower hill slope | Regrowth woodland | Animal tracks, Vehicle track, Gullies, Scalds, Fencelines | 5 % | Pedestrian |
| 4 | Upper hill slope | Remnant woodland | Animal tracks, Gullies, Scalds | 1 % | Pedestrian |
| 5 | Ridge crest | Remnant and regrowth woodland | Animal tracks, Vehicle tracks, Gullies, Scalds | 10 % | Pedestrian |
| 6 | Lower hill slope | Remnant and regrowth woodland | Animal tracks, Vehicle tracks, Gullies, Scalds | 10 % | Pedestrian |
| 7 | Upper hill slope | Remnant and regrowth woodland | Animal tracks, Gullies, Scalds | 5 % | Pedestrian |
| 8 | Ridge crest | Remnant and regrowth woodland | Animal tracks, Gullies, Scalds | 5 % | Pedestrian |
| 9 | Middle hill slope | Isolated paddock trees | Animal tracks, Vehicle tracks, Contour banks, Gullies, Scalds, Fencelines | 30 % | Pedestrian |
| 10 | Middle hill slope | Isolated paddock trees | Animal tracks, Vehicle tracks, Gullies, Scalds, Fencelines | 30 % | Pedestrian |
| 11 | Lower hill slope<br>Upper hill slope | Isolated paddock trees, degraded woodland | Animal tracks, Vehicle tracks, Contour banks, Gullies, Scalds, Fencelines | 30 % | Pedestrian |
| 12 | Middle hill slope | Degraded woodland | Animal tracks, Vehicle tracks, Scalds, Fencelines | 50 % | Pedestrian |

* See **Figure 3**

## **7.3** CULTURAL HERITAGE SITE DEFINITION AND RECORDING

In accordance with the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011) and Requirement 7 of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010b) sufficient information was collected at each site to enable completion of an AHIMS site recording form. For this investigation, Aboriginal archaeological sites were defined as a concentration of stone artefacts or cluster of axe-grinding grooves on a single outcrop. Stone artefacts that were not part of a concentration were recorded as isolated finds. When a site was located, the following variables were recorded:

- *Site designation*: sites were designated Sutton Forest Quarry (SFQ) followed by a numeric identifier.
- *Site type*: site types recorded were stone artefact scatters and a rock shelter with stone artefacts and art.

- *Grid reference*: this information was obtained using a Garmin handheld Global Positioning System and confirmed using the Canyon Leigh 8928-4-N 1:25 000 topographic map sheet.
- *Environmental setting*: this describes the sites' environmental context including such factors as landform, slope, vegetation and local hydrology.
- *Aspect*: direction at which the site faces. Aspect is often thought to be a key determinant of site location.
- *Site size*: refers to the dimensions over which artefacts are visible.
- *Visibility*: a measurement of the conditions of ground surface visibility in the survey area. Ground surface visibility conditions will affect whether sites are detected and whether their full extent has been recorded.
- *Site contents*: this is a description of the artefacts at the site. With open campsites the features recorded included raw material, artefact type, artefact dimensions, presence of retouch or use wear and any general comments considered relevant. It is important to realise that these artefact descriptions are only preliminary descriptions, as more detailed recording is considered to be more appropriate if a mitigation phase is undertaken for this or other regional projects.
- *Site condition*: describes the condition of the site in terms of factors which may have disturbed it or which may have the potential to disturb.
- *Management considerations*: this details the potential threat to the site specifically in terms of the planned development. In addition, specific ameliorative measures are recommended if warranted.

## **7.4** SURVEY COVERAGE DATA

### 7.4.1 Conditions of Visibility

Conditions of ground surface visibility affect how many sites are located. Visibility may also skew the results of a survey. If, for example, conditions of ground surface visibility vary dramatically between different environments, then this would be reflected in the numbers of sites reported for each area. The area with the best visibility may be reported as having the most sites (because they are visible on the ground) while another area with less visibility but perhaps more sites would be reported as having very little occupation. It is important therefore to consider the nature of ground surface visibility as part of any archaeological investigation.

Conditions of ground surface visibility were typically around 30% (**Table 6**). Grass and herbaceous plant growth was low and the ground surface was exposed is by erosion by scalding and gullying and stock and vehicular traffic (**Plates 7** to **10**).

Survey units and descriptions of the visibility conditions for each survey unit are provided in **Table 6** and **Figure 3**.

**Plate 7: Example of surface exposure at the Site**

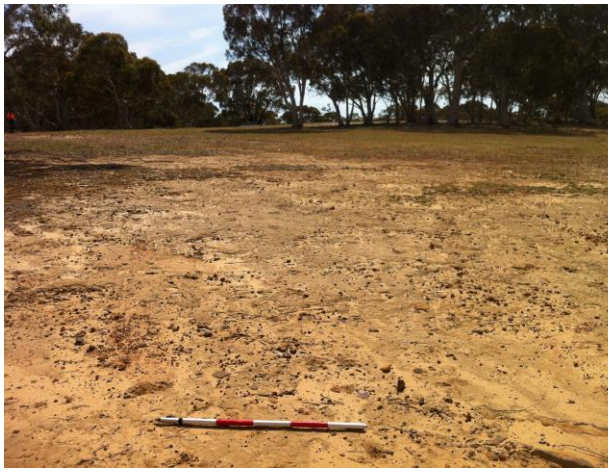

**Plate 8: Example of surface exposure at the Site**

**Plate 9: Example of surface exposure at the Site**

**Plate 10: Example of surface exposure at the Site**

### 7.4.2 Coverage Analysis

Coverage analysis is a useful measurement to allow cultural resource managers to assess surveys from adjacent areas and it also allows some meaningful calculation of the actual sample size surveyed. The *actual* or *effective* area surveyed by a study depends on the conditions of ground surface visibility. Conditions of surface visibility are affected by vegetation cover, geomorphic processes such as sedimentation and erosion rates and the abundance of natural rock that may obscure the remains of cultural activities.

All of the surface areas of the proposed development areas for the Proposal were inspected on foot. The areas covered during the survey are outlined in **Table 6**. Survey coverage was considered adequate, given the intensive nature of the survey.

**Table 6: Coverage of the Study Area.**

| Survey Unit | Area ($m^2$) | Coverage ($m^2$) | Visibility (%) | Effective Cover ($m^2$) | Effective Cover (%) | Sites |
|---|---|---|---|---|---|---|
| 1 | 133,000 | 120,000 | 30 | 36,000 | 27.1 | 6 |
| 2 | 42,000 | 17,000 | 20 | 3400 | 8.1 | - |
| 3 | 86,000 | 35,000 | 5 | 1750 | 2.0 | - |
| 4 | 78,000 | 30,000 | 1 | 300 | 0.3 | 1 |
| 5 | 172,000 | 70,000 | 10 | 7000 | 4.1 | 1 |
| 6 | 92,000 | 35,000 | 10 | 3500 | 3.8 | 1 |
| 7 | 80,000 | 30,000 | 5 | 1500 | 1.9 | - |
| 8 | 101,000 | 40,000 | 5 | 2000 | 2.0 | - |
| 9 | 73,000 | 30,000 | 30 | 9000 | 12.3 | - |
| 10 | 49,000 | 20,000 | 30 | 6000 | 12.2 | - |
| 11 | 65,000 | 55,000 | 30 | 16,500 | 25.4 | - |
| 12 | 58,000 | 50,000 | 50 | 25,000 | 43.1 | - |
| **Total** | **1,029,000** | **532,000** | **-** | **111,950** | **10.9** | **9** |

# **8** RESULTS

Nine Aboriginal cultural heritage sites were identified during the cultural heritage surveys of the Site (**Table 7** and **Figure 4**). These comprise eight stone artefact scatters and a rock shelter with art and stone artefacts.

A brief description of each of the Aboriginal cultural heritage sites identified during the field surveys is provided in Sections 8.1-8.9. Representative photographs of the Aboriginal cultural heritage sites are provided in **Plates 11** to **20**. AHIMS site cards for each of the recorded Aboriginal cultural heritage sites are included in **Appendix 6**.

**Table 7: Aboriginal cultural heritage places within the Site**

| AHIMS Site Number | Field Code | Feature | Location GDA94 56 mE | Location GDA94 56 mN | Site Dimensions | Site Contents |
|---|---|---|---|---|---|---|
| 52-4-0315 | SFQ AS1 | Stone artefact scatter | 243165 | 6166200 | 150 x 200 m | 7 silcrete flakes, cores and flaked pieces, 4 quartz flakes, cores and flaked pieces |
| 52-4-0316 | SFQ AS2 | Stone artefact scatter | 243037 | 6166253 | 80 x 150 m | 2 silcrete flakes and cores |
| 52-4-0317 | SFQ AS3 | Stone artefact scatter | 243344 | 6166261 | 10 x 10 m | 2 silcrete flakes |
| 52-4-0318 | SFQ AS4 | Stone artefact scatter | 243940 | 6166179 | 30 x 30 m | 5 silcrete flakes, cores and flaked pieces, 3 quartz flakes and flaked pieces |
| 52-4-0319 | SFQ AS5 | Stone artefact scatter | 244032 | 6166246 | 30 x 90 m | 10 silcrete flakes, cores and flaked pieces, 2 quartz flaked pieces and cores |
| 52-4-0320 | SFQ AS6 | Stone artefact scatter | 244052 | 6166352 | 30 x 120 | 5 silcrete flakes and flaked pieces, 2 quartz flakes and flaked pieces |
| 52-4-0321 | SFQ AS7 | Stone artefact scatter | 244047 | 6166869 | 30 x 250 | 3 quartz flakes, cores and flaked pieces |
| 52-4-0322 | SFQ AS8 | Stone artefact scatter | 244294 | 6166779 | 40 x 170 | 7 quartz flakes and flaked pieces, 1 silcrete flake, 1 volcanic core |
| 52-4-0323 | SFQ SH1 | Rock shelter with art and stone artefacts | 242443 | 6166498 | 6 x 50 m | Red pigment hand stencils, charcoal motifs and pecked images, 6 silcrete flakes, flaked pieces and cores, 2 quartz flakes |

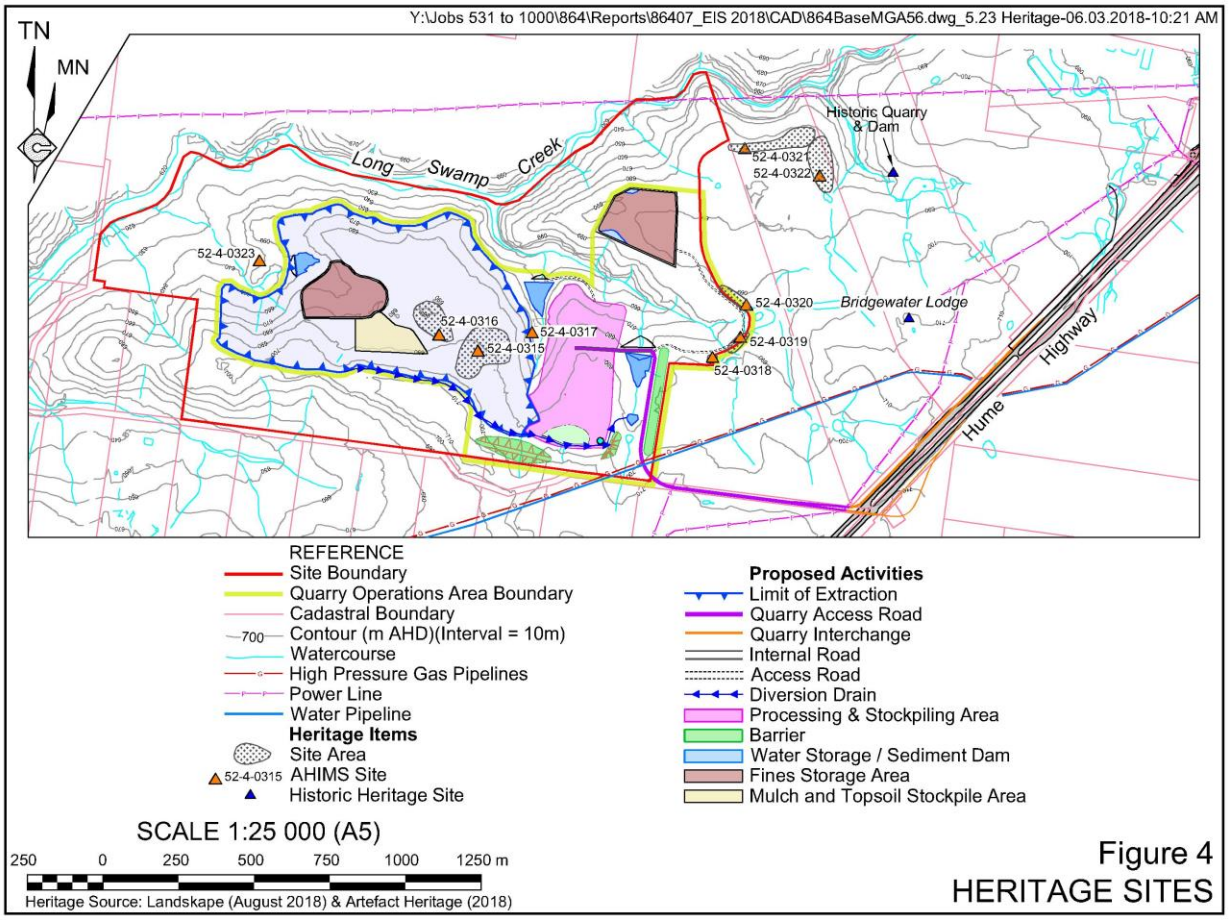


Figure 4
HERITAGE SITES

**Plate 11: AHIMS site number 52-4-0318**

**Plate 12: AHIMS site number 52-4-0322**

**Plate 13: AHIMS site number 52-4-0321**

**Plate 14: AHIMS site number 52-4-0315**

**Plate 15: AHIMS site number 52-4-0323**

**Plate 16: AHIMS site number 52-4-0323**

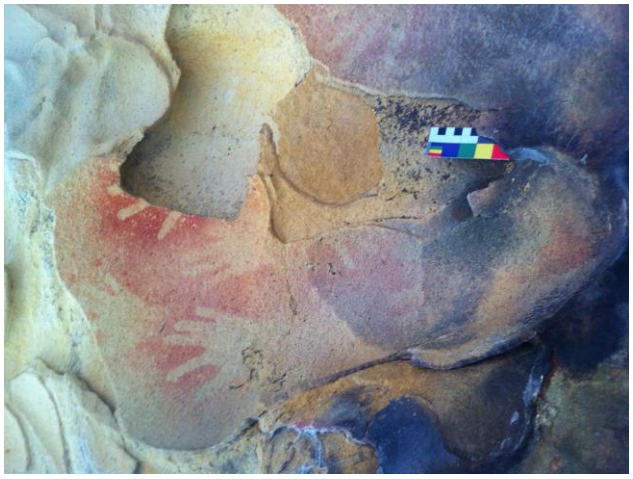

**Plate 17: AHIMS site number 52-4-0323**

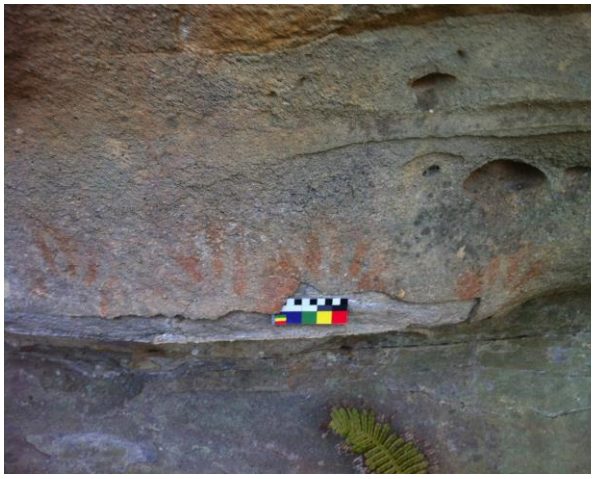

**Plate 18: AHIMS site number 52-4-0323**

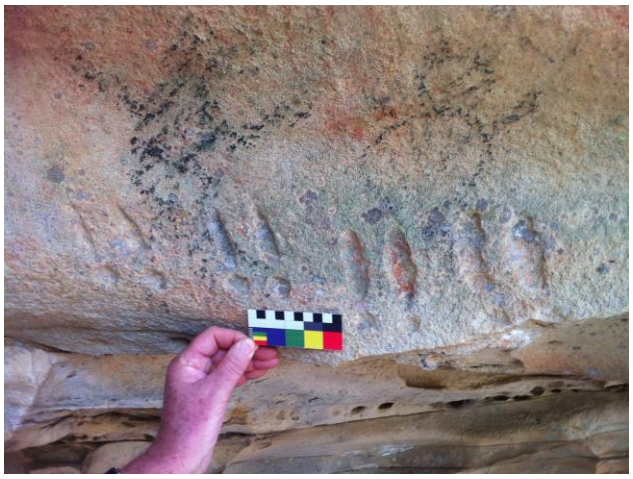

**Plate 19: AHIMS site number 52-4-0323**

**Plate 20: AHIMS site number 52-4-0323**

## **8.1** AHIMS SITE NUMBER 52-4-0315 (SFQ AS1)

Landform: Hill slope

Coordinates: GDA94 MGA56 243165 mE, 6166200 mN

Site type: Open artefact scatter

Site Length: 200 m  Site Width: 150 m

AHIMS Site Number 52-4-0315 (SFQ AS1) comprises a scatter of 11 artefacts identified across a gentle northwest dipping slope towards a tributary of Long Swamp Creek at an elevation of around 690-680 mAHD. The artefacts are eroding out of a light grey to buff weathered sandy regolith of the Hawkesbury Sandstone.

The original vegetation has been felled, but regrowth eucalypt woodland has re-established (**Figure 2**). In addition to past land clearing, previous disturbance of this area includes the bulldozing of several access tracks, which bisect the site. Due to previous disturbance and erosion, there is little soil development and any topsoil is thin. Weathered cobbles and pebbles from the eroded bedrock are exposed on the land surface.

The 11 artefacts were identified at five separate locations across the site area, which measured approximately 200 m southwest–northeast and 150 m southeast-northwest. Identified raw materials included quartz and silcrete. The silcrete was predominantly a light grey to white colour, with one purple silcrete also identified. A summary of artefact characteristics, including artefact typology and measurements is included in **Table 8**.

**Table 8: Characteristics of artefacts identified at 52-4-0315**

| Raw Material | Colour | Typology | Length (mm) | Width (mm) | Thickness (mm) |
|---|---|---|---|---|---|
| Silcrete | Light grey | Flake | 27 | 24 | 10 |
| Silcrete | Light grey | Proximal flake fragment | 23 | 14 | 5 |
| Silcrete | Light grey | Medial flake fragment | 11 | 10 | 4t |
| Silcrete | Purple | Flake | 23 | 15 | 4 |
| Silcrete | Light grey | Proximal flake fragment | 14 | 10 | 2 |
| Silcrete | Light grey | Proximal flake fragment | 19 | 11 | 8 |
| Silcrete | Light grey | Core | 41 | 21 | 16 |
| Quartz | White | Flake | 19 | 14 | 7 |
| Quartz | White | Flake | 22 | 15 | 6 |
| Quartz | White | Flaked piece | 20 | 8 | 8 |
| Quartz | White | Bifacial core | 36 | 32 | 25 |

## **8.2** AHIMS SITE NUMBER 52-4-0316 (SFQ AS2)

Landform: Hill slope

Coordinates: GDA94 MGA56 243037 mE, 6166253 mN

Site type: Open artefact scatter

Site Length: 80 m Site Width: 150 m

AHIMS site number 52-4-0316 is a scatter of two artefacts identified on the edge of a recently bulldozed vehicle track approximately 90 m west of AHIMS site number 52-4-0315. The site is in a similar context to AHIMS site number 52-4-0315.

Characteristics of the two identified silcrete artefacts are outlined in **Table 9**.

**Table 9: Characteristics of artefacts identified at 52-4-0316**

| Raw Material | Colour | Typology | Length (mm) | Width (mm) | Thickness (mm) |
|---|---|---|---|---|---|
| Silcrete | Grey | Unifacial core | 30 | 28 | 15 |
| Silcrete | Grey | Proximal flake fragment | 47 | 38 | 20 |

## **8.3** AHIMS SITE NUMBER 52-4-0317 (SFQ AS3)

Landform: Slope

Coordinates: GDA94 MGA56 243344 mE, 6166261 mN

Site type: Open artefact scatter

Site Length: 10 m Site Width: 10 m

AHIMS site number 52-4-0317 is 60 m northeast of AHIMS site number 52-4-0315. It comprises two artefacts on a steep slope towards a tributary of Long Swamp Creek at approximately 660 mAHD. The artefacts were identified on a narrow, unformed track.

Characteristics of the two identified artefacts are outlined in **Table 10**.

**Table 10: Characteristics of artefacts identified at AHIMS site number 52-4-0317**

| Raw Material | Colour | Typology | Length (mm) | Width (mm) | Thickness (mm) |
|---|---|---|---|---|---|
| Silcrete | Dark red | Flake | 21 | 36 | 6 |
| Silcrete | Dark red | Medial flake fragment | 25 | 15 | 6 |

## **8.4** AHIMS SITE NUMBER 52-4-0318 (SFQ AS4)

Landform: Slope

Coordinates: GDA94 MGA56 243940 mE, 6166179 mN

Site type: Open artefact scatter

Site Length: 30 m Site Width: 30 m

AHIMS site number 52-4-0318 is a scatter of 5 silcrete flakes, cores and flaked pieces and 2 quartz flakes and flaked pieces (Table 11) located at the headwaters of the same drainage line that flows north of AHIMS site numbers 52-4-0315, -0316 and -0317 towards Long Swamp Creek. This area is at an elevation of around 685 mAHD on sandy regolith of the Hawkesbury Sandstone. The original vegetation has been cleared for pasture and an earthen dam and access track have also been constructed adjacent to the site. A line of regrowth eucalypts is located across the southern boundary of the site. Soils are thin and weathered cobbles and pebbles from the eroded bedrock are exposed on the land surface.

**Table 11: Characteristics of artefacts identified at AHIMS site number 52-4-0318**

| Raw Material | Colour | Typology | Length (mm) | Width (mm) | Thickness (mm) |
|---|---|---|---|---|---|
| Silcrete | Grey | Unifacial core | 25 | 19 | 14 |
| Silcrete | Grey | Flake | 30 | 23 | 14 |
| Silcrete | Grey | Rotated core | 25 | 20 | 14 |
| Silcrete | Grey | Proximal flake fragment | 14 | 15 | 4 |
| Silcrete | Grey | Medial flake fragment | 15 | 12 | 5 |
| Quartz | White | Distal flake fragment | 14 | 11 | 4 |
| Quartz | Translucent | Medial flake fragment | 16 | 11 | 5 |

## **8.5** AHIMS SITE NUMBER 52-4-0319 (SFQ AS5)

Landform: Slope

Coordinates: GDA94 MGA56 244032 mE, 6166246 mN

Site type: Open artefact scatter

Site Length: 90 m Site Width: 30 m

AHIMS site number 52-4-0319 is a scatter of 12 artefacts (**Table 12**) at the headwaters of the same drainage line as AHIMS site number 52-4-0318 and 60 m to that site's northeast.

The site area covers approximately 90 m east-west and 30 m north-south. The area has been disturbed by construction of a large dam by impounding the creek.

**Table 12: Characteristics of artefacts identified at 52-4-0319**

| Raw Material | Colour | Typology | Length (mm) | Width (mm) | Thickness (mm) |
|---|---|---|---|---|---|
| Silcrete | Red | Proximal flake fragment | 30 | 21 | 9 |
| Silcrete | Light grey | Flake | 28 | 13 | 4 |
| Quartz | Translucent | Flaked piece | 17 | 11 | 5 |
| Silcrete | Pink | Flake | 19 | 12 | 4 |
| Silcrete | Light grey | Proximal flake fragment | 18 | 15 | 5 |
| Silcrete | Light grey | Proximal flake fragment | 14 | 12 | 2 |
| Silcrete | Light grey | Proximal flake fragment | 18 | 15 | 5 |
| Silcrete | Light grey | Proximal flake fragment | 17 | 12 | 3 |
| Silcrete | Light grey | Flake | 24 | 16 | 6 |
| Silcrete | Grey | Medial flake fragment | 27 | 25 | 14 |
| Silcrete | Light grey | Medial flake fragment | 24 | 18 | 4 |
| Quartz | White | Unifacial core | 33 | 25 | 15 |

## **8.6** AHIMS SITE NUMBER 52-4-0320 (SFQ AS6)

Landform: Slope

Coordinates: GDA 94 MGA56 244052 mE, 6166352 mN

Site type: Open artefact scatter

Site Length: 120 m  Site Width: 30 m

AHIMS site number 52-4-0320 comprises a scatter of artefacts on the northern side of the large dam the forms the northern boundary of adjacent AHIMS site number 52-4-0319.

The assessed site area covered approximately 120 m northwest-southeast and 30 m southwest-northeast. Identified artefact materials included silcrete and quartz, with two pieces of black silcrete observed. Characteristics of artefacts identified at AHIMS site number 52-4-0320 are included in **Table 13**.

**Table 13: Characteristics of artefacts identified at AHIMS site number 52-4-0320**

| Raw Material | Colour | Typology | Length (mm) | Width (mm) | Thickness (mm) |
|---|---|---|---|---|---|
| Silcrete | Light grey | Proximal flake fragment | 15 | 13 | 4 |
| Silcrete | White | Split flake | 22 | 20 | 8 |
| Silcrete | Dark grey | Proximal flake fragment | 21 | 21 | 5 |
| Silcrete | Black | Split flake | 23 | 15 | 5 |
| Silcrete | Black | Retouched proximal flake | 19 | 19 | 5 |
| Quartz | White | Proximal flake fragment | 19 | 12 | 5 |
| Quartz | Translucent | Flaked piece | 34 | 22 | 14 |

## **8.7** AHIMS SITE NUMBER 52-4-0321 (SFQ AS7)

Landform: Slope

Coordinates: GDA94 MGA56 244047 mE, 6166869 mN

Site type: Open artefact scatter

Site Length: 250 m Site Width: 30 m

AHIMS site number 52-4-0321 is a scatter of artefacts bordering the southern rim of the steeply incised stream-course of Long Swamp Creek at approximately 685 mAHD. A total of three artefacts were identified over a 20 m x 20 m area on sandy regolith and bedrock outcrops of the Hawkesbury Sandstone.

Characteristics of the three identified artefacts are outlined in **Table 14**.

**Table 14: Characteristics of artefacts identified at AHIMS site number 52-4-0321**

| Raw Material | Colour | Typology | Length (mm) | Width (mm) | Thickness (mm) |
|---|---|---|---|---|---|
| Quartz | White | Medial flake fragment | 10 | 7 | 1 |
| Quartz | White | Unifacial core | 30 | 28 | 15 |
| Quartz | White | Flaked piece | 28 | 17 | 12 |

## **8.8** AHIMS SITE NUMBER 52-4-0322 (SFQ AS8)

Landform: Slope

Coordinates: GDA 94 MGA56 244294 mE, 6166779 mN

Site type: Open artefact scatter

Site Length: 170 m Site Width: 40 m

AHIMS site number 52-4-0322 comprises a scatter of artefacts immediately east of AHIMS site number 52-4-0321.

A total of nine artefacts at site SFQ AS8 were identified over a 40 m x 10 m area (**Table 15**).

**Table 15: Characteristics of artefacts identified at AHIMS site number 52-4-0322**

| Raw Material | Colour | Typology | Length (mm) | Width (mm) | Thickness (mm) |
|---|---|---|---|---|---|
| Silcrete | Light grey | Medial flake fragment | 17 | 14 | 3 |
| Quartz | White | Distal flake fragment | 12 | 8 | 1 |
| Quartz | White | Flake | 10 | 8 | 1 |
| Quartz | White | Medial flake fragment | 10 | 5 | 1 |
| Quartz | White | Distal flake fragment | 19 | 10 | 3 |
| Quartz | White | Flaked piece | 18 | 12 | 3 |
| Quartz | White | Flake | 24 | 19 | 9 |
| Volcanic | Grey | Core | 30 | 18 | 8 |
| Quartz | Translucent | Medial flake fragment | 9 | 7 | 1 |

## **8.9** AHIMS SITE NUMBER 52-4-0323 (SFQ SH1)

Landform: Slope

Coordinates: GDA94 MGA56 242443 mE, 6166498 mN

Site type: Shelter with deposit and art

Site Length: 50 m Site Width: 6m

AHIMS site number 52-4-0323 is a large shelter site located within a natural sandstone overhang formation approximately 100 m west of the western limit of the proposed extraction area and on the same tributary of Long Swamp Creek that contains AHIMS site numbers 52-4-0315 to 52-4-0320.

The shelter formation faces northwest towards the watercourse. It is approximately 35m long and at its deepest is approximately 6m wide and 4.5m high. Art motifs on the rear shelter wall include hand stencils, charcoal motifs and pecked images. Red pigment was used for the hand stencils. The charcoal motifs included humanoid characters and abstract patterns. Pecked images were located in two clusters on the rear wall of the shelter, one large batch including at least nine images of animal feet.

The shelter floor was flat and sandy. Numerous artefacts were identified across the shelter floor, especially towards the northern end. A sample of eight artefacts were recorded, with artefact characteristics outlined in **Table 16**.

**Table 16: Characteristics of artefacts identified at AHIMS site number 52-4-0323**

| Raw Material | Colour | Typology | Length (mm) | Width (mm) | Thickness (mm) |
|---|---|---|---|---|---|
| Silcrete | Grey | Flake | 37 | 14 | 13 |
| Silcrete | Grey | Core | 38 | 32 | 15 |
| Quartz | White | Flake | 18 | 27 | 8 |
| Quartz | Translucent | Split flake | 27 | 25 | 5 |
| Silcrete | Light grey | Flake | 65 | 56 | 15 |
| Silcrete | Light grey | Core | 27 | 26 | 20 |
| Silcrete | Light pink | Distal flake fragment | 17 | 14 | 8 |
| Silcrete | Dark red | Flaked piece | 9 | 7 | 1 |

## **8.10** SURVEY RESULTS SUMMARY

A total of 9 Aboriginal cultural heritage sites, were identified during the field surveys of the Study Area. These are eight stone artefact scatters and a rock shelter with art and stone artefacts. The locations of all recorded sites are provided on **Figure 4**.

All of the sites located at the Site were associated with the margins of Long Swamp Creek and an unnamed tributary of the creek. Stone assemblages are generally small in size ranging from two artefacts to 12 artefacts encountered in one scatter.

Lithics were generally sourced from locally available raw materials such as silcrete and quartz. Most were cores and waste flakes and flaked pieces from knapping, with few formal implements encountered.

# 9 DISCUSSION

## 9.1 EFFECTIVENESS OF THE SURVEYS

The archaeological record of the Study Area can be assessed based on the cultural features identified during the present field surveys and previous studies. There are two site types represented, which are open sites containing low-density scatters of stone artefacts, and a closed site, a rock shelter with art and stone artefacts. The pattern of site distribution and type is partly attributable to the degree of land surface modification that has occurred since European settlement, as such past disturbance associated with pastoralism, agriculture and quarrying may have obliterated other archaeological sites, had they occurred previously.

Previous tree clearing and land levelling could have destroyed earthen features such as mounds and hearths and stone arrangements including ceremonial rings. Shell middens were not encountered because most occur within 100 m of sources of permanent freshwater, absent from the Site.

None of the old growth trees present in the areas of proposed disturbance bore any evidence of having had bark or wood removed or carved by Aboriginal people. Additionally, none of the sandstone outcrops exhibited evidence of axe-grinding grooves.

The Study Area does not contain culturally sensitive landforms such as lunettes or source-bordering sand dunes where subsurface Aboriginal cultural deposits (e.g. burials) have been recorded previously.

The findings of the survey confirm the predictive model outlined in Section 7.1. The expected site extents and artefact densities largely corresponded to proximity to water sources (see Section 8). Previous regional surveys recorded similar densities of artefacts to the current study.

The findings of the surveys as well as the findings of past archaeological/cultural investigations in and around the Site, provide detailed information on land use and past Aboriginal activities. The results provide grounding for a significance assessment of these past Aboriginal activities and therefore can contribute towards a risk based impact assessment and development of management and mitigation measures (including the development of recommendations for future archaeological investigations and recordings prior to disturbance).

## 9.2 ABORIGINAL CULTURAL LANDSCAPE

Scientific information collected from the Aboriginal archaeological sites identified during this assessment, combined with social and cultural information provided by ethno-historical sources, allows interpretation of the Aboriginal cultural landscape of the Site and its surrounds provided in the following sections.

### 9.2.1 Summary of the Archaeological Record

The material culture of past Aboriginal occupants of the Study Area comprises eight scatters of stone artefacts and a rock shelter site with art and stone artefacts.

Artefact assemblages are generally small in size ranging from 2 artefacts to 12 artefacts encountered in one scatter. All of the sites located within the Study Area were associated with the margins of Long Swamp Creek and an unnamed tributary of the creek.

Lithics were generally sourced from locally available raw materials such as silcrete and quartz. Most were cores and waste flakes and flaked pieces from knapping. Formal implements were not prevalent.

### 9.2.2 Aboriginal Settlement Patterns

The location of freshwater sources are likely to have been the main controlling factor of Aboriginal occupation of the Site and its surrounds. Humans carry out most of their activities close to freshwater, rarely straying far from reliable water sources (see Gould 1969, 1980, Allen 1974, Jochim 1976, Mitchell 1990, McNiven 1998). They also prefer larger or more persistent water sources to smaller, ephemeral waterbodies. As well as the obvious abundance of aquatic molluscs, fish and birds at large, permanent water sources; mammals such as macropods that were hunted for protein and skins are also limited by water availability.

The Aboriginal archaeological sites identified during the survey are near Long Swamp Creek, a semi-permanent watercourse that would have retained surface water in ponds (waterholes) even during drier weather.

### 9.2.3 Aboriginal Subsistence Strategies

Hunter-fisher-gatherers obtained the resources necessary for life by foraging and collecting subsistence strategies. Foragers gathered food as it is encountered, regularly moving between resource zones and rarely storing food (Binford 1980, 1989). Collectors, alternatively, adopted a logistical strategy for procuring resources. They often relied on stores of food and may have maintained base camps, with smaller groups dispersing to collect resources. Foraging and collecting are two end-members of a subsistence continuum, with most hunter-fisher-gatherer societies engaging in a combination of both strategies (Yellen 1977, Binford 1980, 1989, Renfrew and Bahn 1991).

Sites occupied by hunter-fisher-gatherer people may reflect these strategies (Binford 1980, Foley 1981). For example, base camps were generally occupied for long periods of the year and were used for a range of domestic and industrial activities. Alternatively, base camps may have been intensively used for part of the year, acting as congregative focal points. Temporary field camps were dispersive sites, created when groups charged with carrying out a specific task journeyed beyond the daily foraging radius.

The frequency of site occupation can sometimes be determined from their contents and structure. Residential base campsites, occupied over relatively long periods of time, tend to have a more complex structure than short-term campsites. Base camps may contain evidence of a wide variety of activities associated with daily habitation. Short-term sites were probably only occupied for a specific reason, such as to collect a particular resource. These usually display evidence of being occupied only once or twice, and are often smaller, with fewer and less diverse archaeological remains.

It is probable that the Aborigines who occupied the Site and its surrounds were hunter-fisher-gatherers employing both foraging and collecting subsistence strategies. These people would have primarily occupied the riparian zone of Long Swamp Creek, for example visiting the rock shelter site (AHIMS site number 52-4-0323) to paint and engrave motifs, dispersing from the

watercourse to exploit ephemeral resources of the hinterland during favourable climatic conditions, as invoked in the subsistence model of Kohen and Lampert (1987).

Only small areas were investigated in a heterogeneous landscape, but it is probable that the archaeological record reflects the occupation of Long Swamp Creek and its immediate hinterland by both larger, family groups and smaller, mobile bands.

The archaeology of the Site and its surrounds probably mainly derives from temporary sites used by small groups or individuals. The small number and density of stone artefacts, paucity of formal implement types, suggests that Aboriginal people only visited or occupied most of the cultural heritage places for brief periods on an intermittent basis.

# **10** ABORIGINAL CULTURAL HERITAGE VALUES

## **10.1** BACKGROUND

All Aboriginal objects are afforded protection under the NP&W Act, but decisions about appropriate management of individual cultural heritage items or sites are usually based on their assessed significance (archaeological and cultural) as well as the likely impact of the proposed development and the benefits of the development. The *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011) and *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010b) requires significance assessment in accordance with the processes set out in the Burra Charter (Australia ICOMOS 1988, 1999).

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. The significance of Aboriginal archaeological sites such as those found during this study are usually assessed in terms of their importance to archaeologists (i.e. their scientific or research significance), their importance to contemporary Aboriginal people and their importance to the general public. Once the significance of a site has been assessed, it can be ranked against others and specific recommendations formulated. Criteria for assessing scientific significance are set out below.

Under the Burra Charter (Australia ICOMOS 1988, 1999), cultural significance means aesthetic, historic, scientific, or social value for past, present or future generations. Cultural significance is a concept that helps in estimating the value of places. The places that are likely to be of significance are those that help an understanding of the past, enrich the present, and may be of value to future generations. Cultural significance is embodied in the place itself, its "*fabric, setting, use, associations, meanings*, records, *related places* and *related objects*" (Australia ICOMOS 1999). The components of significance - aesthetic, historic, scientific, social and spiritual - are described below.

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 (Australia ICOMOS 1988).

A place may have historic value because it has influenced, or has been influenced by, a 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 (Australia ICOMOS 1988).

The scientific or research value of a place will depend on the importance of the data involved, on its rarity, quality (integrity) or representativeness, and on the degree to which the place may contribute further substantial information (Australia ICOMOS 1988). 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.

Social value is broadly defined as *the qualities for which a place has become a focus of spiritual, political, natural or other cultural sentimental to a majority or minority group* (Australia ICOMOS 1988: 30). Johnston (1994) explains *"Social value is about collective attachment to places that embody meaning important to a community, these places are usually community owned or publicly accessible or in some other way "appropriated" into people's daily lives. Such meanings are in addition to other values, such as the evidence of valued aspects of history or beauty, and these meanings may not be apparent in the fabric of the place, and may not be apparent to the disinterested observer"* (Johnston 1994: 10).

Although encompassed within the criterion of social value, the spiritual value of a place was added to The Burra Charter in 1999 (Australia ICOMOS 1999: 1). Spiritual value is predominantly used to assess places of cultural significance to Aboriginal Australians.

## **10.2** ASSESSMENT OF ABORIGINAL CULTURAL HERITAGE SIGNIFICANCE

Aboriginal cultural heritage 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. The perceptions of Aboriginal people on the significance of archaeological sites usually stem from traditional, cultural and educational beliefs although most local Aboriginal communities also value the scientific information that archaeological sites may be able to provide.

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. Such Aboriginal 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 (Australia ICOMOS 1988).

Archaeological sites provide connections to the past for the present Aboriginal community and for future generations. Aboriginal cultural heritage sites such as those identified during this survey can also provide information about past lifestyles and strengthen the links between Aboriginal people and the land.

The level of significance attributed to individual sites may vary according to a number of factors including the nature and integrity of the heritage items and the landscape in which the site is located. The views of the Aboriginal representatives on the cultural significance of recorded sites were sought during the field survey, community field inspections, discussion forums and review of the draft report. The documented opinions are based on feedback received from representatives of the registered Aboriginal parties and may not reflect the views of the Aboriginal community as a whole.

A number of Aboriginal representatives expressed concern about developments that might impact upon Aboriginal heritage and other values on land that is traditionally theirs. All land has high cultural significance for Aboriginal people. It should also be noted that development upon, or disturbance of land is often contrary to principal Aboriginal beliefs regarding land, its values and its inherent cultural significance.

A number of Aboriginal community representatives involved in the study identified the Quarry Operations Area as a place that Aboriginal people had occupied in the past. Comments

received regarding the cultural significance of the Study Area from the registered Aboriginal parties are documented in the Aboriginal consultation log (**Appendix 2**) and provided in full in the written correspondence received from the Aboriginal parties (**Appendix 4**).

Generally, the Aboriginal representatives viewed all the archaeological sites as significant because they preserve a record of how and where people lived in the past. Such cultural heritage sites also stand as testimony to the continuation of Aboriginal culture and association with the land.

## **10.3** ASSESSMENT OF SCIENTIFIC SIGNIFICANCE

A number of criteria are used to assess the scientific or archaeological significance of a site. These include the integrity of a site, its structure and contents. All of these criteria combine to give a site its value as a research tool for archaeologists. In addition to the above criteria, a site may also be of scientific significance because of its representativeness or rarity. It is a basic tenet of archaeology that any site which is not represented elsewhere is of great value because archaeologists are concerned with preserving a representative sample of all site types for future generations.

### **10.3.1 Site Integrity**

Site integrity refers to its state of preservation or condition. A site can be disturbed through a number of factors including natural erosional processes, destructive land use practices or repeated use of a site in the past by both humans and animals. 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 thermoluminescence).
- 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.

Assessment values for site integrity are set out below:

| | |
|---|---|
| low | highly disturbed or poorly preserved with little research potential. |
| moderate | some disturbance but remaining cultural material allows for some research potential. |
| high | little or no disturbance to site, good preservation and considerable research potential. |

In terms of site integrity, the sites located during this survey would rate moderate to low. This assessment is based on the degree of disturbance noted during the investigation. The stone artefact scatters were typically identified in modified contexts within cleared areas, particularly in places with past earthworks such as along graded tracks and near dams. They have also been disturbed by repeated ploughed cultivation, traffic of hooved animals and vehicles,

coupled with erosion by wind and water. The rock shelter site is in an area of less disturbed forest and is well preserved.

### 10.3.2 Site Structure

Site structure refers to the physical dimensions of a site (i.e. its area and depth or stratification). A large site or a site with stratified deposits usually has more research potential than a small site or surface scatter. In some instances, however, specific research questions may be aimed at smaller sites in which case they would be rated at a higher significance than normal.

| | |
|---|---|
| low | small surface scatters with no stratified deposit. |
| moderate | medium to large surface scatters with or without stratification. |
| high | large *in situ* surface scatters, any site with stratified deposit. |

The shallow and stony soils over almost all of the Study Area, coupled with the degree of past disturbance from land clearing and soil stripping for pastoralism, agriculture and quarrying, means that *in situ* subsurface cultural deposits are improbable are unlikely at the stone artefact scatter sites. The potential for significant sub-surface deposits that provide intact chronological sequences is assessed to be low based on the soil profiles within the extent of the Site. Artefacts generally form a lag deposit on scalded surfaces. The surfaces of all these sites are degrading.

Most of the stone artefact scatters are small in size and have a low site structure. The rock shelter site (AHIMS site number 52-4-0323) has the potential for intact floor deposits and rates high.

### 10.3.3 Site Contents

Site contents refers to the range and type of occupation debris found in a site. Generally, sites that contain a large and varied amount of organic and non-organic material are considered to have greater research potential than those sites with small, uniform artefacts.

| | |
|---|---|
| low | small amount and low diversity of cultural material. |
| moderate | medium amount and diversity of cultural material. |
| high | large and diverse amount of cultural material. |

The original cultural materials of the sites recorded during the survey have been exposed to weathering. Only stone artefacts remain at the open sites, with no organic materials preserved. Stone artefacts are mainly of silcrete and quartz, although volcanic artefacts were also recorded. Formal tool types are not prevalent. The stone artefact assemblage is dominated by unmodified flakes and cores. Artefact density at these sites is typically relatively low.

Most of the stone artefact rate low to moderate by the site contents criterion. They could be useful for studies of human subsistence strategies.

The rock shelter (AHIMS site number 52-4-0323) rates highly, containing painted and engraved art and stone artefacts. There is also the potential that any intact floor deposits may contain other cultural materials such as charcoal from hearths.

### 10.3.4 Site Representativeness and Rarity

Representativeness or rarity refers to how often a particular site type occurs in an area and requires some knowledge of the background archaeology of the area in which the study is

being undertaken. Sites that are representative of the local and regional archaeological record may have value for that reason and if a site is rare or unique in some way then it is *ipso facto* significant (Bowdler 1983). 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, then this category subdivided until a satisfactory level of (dis)similarity is achieved. Within the general group "stone 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.

| | |
|---|---|
| low | many of the same site type occurring in a single area or region. |
| moderate | site type occurs elsewhere but not in great quantity or with good preservation. |
| high | site type is rare or unique. |

On the basis of the results of previous archaeological investigations (e.g. Rich 1988, Boot 2002) and information held on the OEH AHIMS site register it is clear that stone artefact scatters are widespread in the region. These types of archaeological sites located during this study are therefore not unique and are well represented outside the Site. The rock shelter site (AHIMS site number 52-4-0323), alternatively, contains a diversity of painted and engraved art relatively uncommon to the region and rates moderate.

### 10.3.5 Educational Value

The value of archaeological sites to the general public is generally assessed by their potential to educate the public about the Aboriginal past. The stone artefact sites rank low by this criterion. They are generally small, isolated and unlikely to attract particular interest in Aboriginal heritage. The rock shelter's painted and engraved art is of high educational value.

## **10.4** AESTHETIC SIGNIFICANCE

Aesthetic significance relates to the scale, form, materials, texture, colour, space and relationship of the components of the place. The relationship of the place with its setting is equally important.

The stone artefact scatters are subdued features in the landscape and lack high aesthetic value. The aesthetic significance of the cultural heritage sites mainly relates to their setting along the Long Gully Creek corridor. The rock shelter's setting and its painted and engraved art in particular have high aesthetic qualities.

## **10.5** HISTORIC SIGNIFICANCE

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 (Australia ICOMOS 1988).

The historic value of the Aboriginal archaeological sites in the Study Area largely stems from their importance in providing evidence of Aboriginal peoples' association with the area. It is within a region that was occupied by the Gundungurra tribal group at the time of first contact with Europeans (Mitchell, 1839). Archaeological and ethno-historical sources show that past Aboriginal people frequented specific places within the region such as the stone artefact scatter and rock shelter sites in the Study Area for habitation, to manufacture lithic implements and ritual, mythological and artistic activities (e.g. see Kohen and Lampert 1987).

## **10.6** SUMMARY OF ARCHAEOLOGICAL SIGNIFICANCE

The following significance assessment is based on the scientific or research value and is not based on the insight of Aboriginal people for their cultural significance assessment of these sites. The registered Aboriginal parties have been requested to provide comment on the cultural significance of the Study Area and the recorded sites throughout the consultation process (Section 10.2). The Study Area has the potential to provide archaeological information as it contains stone artefact scatters and a rock shelter with art and stone artefacts. The overall Study Area is assessed as containing low to moderate significance due to the number of sites present and the way in which this information contributes to the nature of Aboriginal land use in the region. **Table 17** provides significance ratings for known Aboriginal sites within the Study Area.

**Table 17: Significance Ratings for Recorded Sites**

| AHIMS Site Number | Site Code | Significance Rating for Individual Criterion | | | | Overall Archaeological Significance Rating |
|---|---|---|---|---|---|---|
| | | Scientific | Aesthetic | Social | Historical | |
| 52-4-0315 | SFQ AS1 | Low | Low | Low | Low | Low |
| 52-4-0316 | SFQ AS2 | Low | Low | Low | Low | Low |
| 52-4-0317 | SFQ AS3 | Low | Low | Low | Low | Low |
| 52-4-0318 | SFQ AS4 | Low | Low | Low | Low | Low |
| 52-4-0319 | SFQ AS5 | Low | Low | Low | Low | Low |
| 52-4-0320 | SFQ AS6 | Low | Low | Low | Low | Low |
| 52-4-0321 | SFQ AS7 | Low | Low | Low | Low | Low |
| 52-4-0322 | SFQ AS8 | Low | Low | Low | Low | Low |
| 52-4-0323 | SFQ SH1 | High | High | High | High | High |

# **11** IMPACT ASSESSMENT

In accordance with the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011), the principles of ecologically sustainable development (ESD) were considered in assessing the likely harm of the Proposal to Aboriginal objects.

The Proposal could potentially directly and indirectly impact the Aboriginal cultural heritage of the Study Area. Potential negative direct and indirect impacts may result from the proposed extraction area, and ancillary infrastructure and could include the destruction of the sites via earthworks, burial by spoil or indirect physical affects (e.g. dust deposition) or aesthetic affects.

## **11.1** POTENTIAL DIRECT IMPACTS

The quarrying Operations would disturb the current land surface and could directly impact archaeological material associated with the affected landforms and its landscape context. The Proposal would result in the direct disturbance of approximately 75ha of land.

Such impacts on archaeological values typically fall into three categories:

- the loss of information which could otherwise be gained by conducting research today;
- the loss of the archaeological resource for future research using methods and addressing questions not available today; and
- the permanent loss of the physical record.

These impacts can usually be mitigated to various degrees, depending on the nature and significance of the cultural heritage. Where sites are of low significance, their destruction (without salvage) may have little consequence. This could be due to the lack of useful information that could be gained from research, or the availability of many equivalent and alternative sites for study.

Sites with greater significance may be the subject of archaeological investigation prior to their disturbance. This allows for the salvage of information, and the recovery of a sample of artefactual materials according to current methods and research priorities. Sites and site groupings that are common elsewhere may not require the same degree of salvage attention as those which are rare, of high significance, and subject to active deterioration.

Salvage investigations can provide for the discovery of new knowledge about the Aboriginal occupation of an area. Despite the loss of physical evidence involved, the information gained can in turn aid the interpretation and better management of the remaining archaeological resource.

## **11.2** POTENTIAL INDIRECT IMPACTS

In areas where the proposed works for the Proposal would not involve significant earthmoving, impacts may be limited to minor surface disturbance, limited disturbance of the associated substrates or landforms and no significant alteration of the landscape context.

Potential indirect impacts to archaeological sites could include the following:

- deposition of dust generated by quarrying;
- ground vibration caused by ripping activities;
- accidental disturbance by peripheral activities; and
- inappropriate visitation including the unauthorized removal of Aboriginal objects.

## **11.3** CULTURAL HERITAGE POTENTIALLY IMPACTED BY THE PROPOSAL

Nine Aboriginal cultural heritage sites comprising eight stone artefact scatters and one rock shelter with art and stone artefacts have been identified during the field surveys of the Study Area. The impact of the Proposal on these sites is determined by the development of the Sutton Forest Sand Quarry and the degree of harm this would cause. The type of harm defined in this assessment is direct and therefore the consequence of harm is a total or a partial loss in value. A total loss in value would occur when the entire site is impacted by the Proposal. A partial loss of value would occur when only part of the site (such as in the case of an artefact scatter) is impacted by the Proposal.

The Proposal would result in a total loss of value for two known stone artefact scatter sites (AHIMS site numbers 52-4-0315 and 52-4-0316). Two known stone artefact scatter sites (AHIMS site numbers 52-4-0319 and 52-4-0320) would be partially impacted by an access road. Four known stone artefact scatter sites would not be directly impacted by the Proposal (**Table 18**) as the Applicant has designed the alignment of the Quarry Access Road to avoid six sites. The Applicant has also designed the western limit of the extraction area to be at least 100m from the rock shelter site (AHIMS site number 52-4-0323).

**Table 18: Impacts on Recorded Sites**

| AHIMS Site Number | Site Code | Type of Harm | Degree and Consequence of Harm |
|---|---|---|---|
| 52-4-0315 | SFQ AS1 | Direct | Total loss of value |
| 52-4-0316 | SFQ AS2 | Direct | Total loss of value |
| 52-4-0317 | SFQ AS3 | Nil | No loss of value |
| 52-4-0318 | SFQ AS4 | Nil | No loss of value |
| 52-4-0319 | SFQ AS5 | Direct | Partial loss of value |
| 52-4-0320 | SFQ AS6 | Direct | Partial loss of value |
| 52-4-0321 | SFQ AS7 | Nil | No loss of value |
| 52-4-0322 | SFQ AS8 | Nil | No loss of value |
| 52-4-0323 | SFQ SH1 | Nil | No loss of value |

Importantly, the rock shelter site (AHIMS site number 52-4-0323) would not be directly impacted (i.e. subject to surface disturbance) by the Proposal as the closest area of disturbance would be >100 m from the site. However, there is a low likelihood the site may be susceptible to damage from vibration generated by bulldozer ripping. As part of the vibration assessment for the Proposal, the potential vibration levels at the rock shelter site attributable to bulldozer ripping will be determined. If necessary, a larger buffer must be established around the rock shelter site such that no vibration-induced damage will occur at the site.

## **11.4** POTENTIAL FOR PREVIOUSLY UNIDENTIFIED ABORIGINAL CULTURAL HERITAGE TO OCCUR IN THE STUDY AREA

All of the Study Area was inspected for cultural heritage sites during the field surveys. It is possible that some archaeology was obscured by grass, leaf-litter or soil. Such previously unidentified features, should they occur, would probably be additional isolated finds or low-

density concentrations of stone artefacts (based on the predictive model outlined in Section 7.1 and informed by the results of the current survey, summarized in Sections 8.3 and 9.1).

Further sites of a type or significance not previously encountered in the Study Area are improbable. This is partly attributable to the degree of land surface modification that has occurred since European settlement, because past disturbance associated with pastoralism, agriculture and sand quarrying may have obliterated many archaeological features, had they occurred previously. For example, previous tree clearing and land levelling could have destroyed scarred trees and earthen features such as mounds and hearths and stone arrangements including ceremonial rings. Shell middens were not encountered because most occur within 100 m of sources of permanent freshwater, absent from the Study Area.

None of the old growth trees present in the areas of proposed disturbance bore any evidence of having had bark or wood removed or carved by Aboriginal people. Additionally, none of the sandstone outcrops exhibited evidence of axe-grinding grooves.

The shallow and stony soils of the gently undulating higher and lower slopes that comprise almost all of the Quarry Operations Area, coupled with the degree of past disturbance from land clearing and soil stripping for pastoralism, agriculture and quarrying, means that significant *in situ* subsurface cultural deposits are improbable. Artefacts comprising the stone assemblage sites in the Study Area generally form a lag deposit on eroded land surfaces, which are still degrading.

The Study Area does not contain culturally sensitive landforms such as lunettes or source-bordering sand dunes where subsurface Aboriginal cultural deposits (e.g. burials) have been recorded previously.

A strategy for managing any newly identified Aboriginal objects during the life of the Proposal is outlined in Section 12.3.1.

## **11.5** POTENTIAL CUMULATIVE IMPACTS OF THE PROPOSAL

Considering the nature and scale of previous and ongoing land disturbance processes in the region (predominately due to past pastoral, agricultural and quarrying activities), the nature and extent of identified Aboriginal heritage sites and archaeological potential in the Study Area and the nature and scale of impacts associated with the Proposal, it is considered that the Proposal would not substantially increase cumulative impacts to Aboriginal heritage in the region.

## **11.6** FLEXIBILITY OF THE DESIGN OF THE PROPOSAL

The locations of the proposed quarry components associated with the Proposal are currently within their optimum design locations, having already been reduced in footprint to minimise disturbance to alluvium, drainage lines and threatened ecological communities, and avoiding all but two of the cultural heritage sites identified within the Study Area.

# **12** MANAGEMENT STRATEGIES FOR CULTURAL HERITAGE

## **12.1** INTRODUCTION

This section presents proposed strategies for the management of cultural heritage values within the Study Area that may be subject to direct impacts by the Proposal.

Based on the known and predicted Aboriginal heritage values within the Study Area, it is concluded that impacts to Aboriginal heritage as a result of the Proposal can be effectively managed or mitigated through the following actions and strategies.

An Aboriginal Cultural Heritage Management Plan would be prepared for the Proposal in consultation with the Aboriginal community and the OEH to define, develop and formalise the management and mitigation measures described in Sections 12.2, 12.3 and 12.4. The Plan would be developed prior to any Proposal-related works that would harm Aboriginal cultural heritage sites AHIMS site numbers 52-4-0315 and 52-4-0316 and partially harm Aboriginal cultural heritage sites AHIMS site numbers 52-4-0319 and 52-4-0320

The measures presented below are considered best practice in the quarrying industry. Their effectiveness and reliability is demonstrated by their continued use and inclusion in management plans and strategies developed in consultation with the Aboriginal community and to the satisfaction of OEH.

## **12.2** MANAGEMENT OF CULTURAL HERITAGE WITHIN THE DISTURBANCE AREAS

The location of the proposed quarry components, which would disturb the two Aboriginal cultural heritage sites, are relatively inflexible, as they have already been optimised based on environmental constraints/considerations and avoidance of six of eight stone artefact scatter sites identified. Engineering and resource constraints mean that these quarry components cannot be relocated away from the cultural heritage sites to avoid disturbance. Additionally, any such relocation would not remove threats to the sites from indirect disturbance.

This assessment has concluded that eight of the nine Aboriginal cultural heritage sites are not of high scientific significance and do not have high social or cultural value (Section 10). Representatives of the registered Aboriginal parties visited the cultural heritage sites, where options for their management were discussed.

Based on the results of these discussions with representatives of the registered Aboriginal parties, it is recommended that the following measures be undertaken to manage the impact of surface disturbance on Aboriginal heritage sites within the Study Area:

- The Applicant maintains a record of known Aboriginal heritage sites and marks these sites on site plans and relevant Proposal documentation and implement a protocol for surface works to avoid the risk of accidental damage to the known Aboriginal Heritage sites beyond the proposed area of disturbance.
- AHIMS site numbers 52-4-0315, 52-4-0316, 52-4-0319 and 52-4-032 to be impacted should be subject to baseline recording in consultation with representatives of the Aboriginal community prior to disturbance and artefacts salvaged for safekeeping in consultation with the Aboriginal community.

It is anticipated that the Aboriginal community would provide advice on the storage of collected artefacts and management of artefacts at the completion of Proposal-related activities (e.g. artefact replacement onto the post-quarrying landscape).

## **12.3** GENERAL RECOMMENDATIONS

### 12.3.1 Introduction

It is recommended that the following general approach be taken to manage Aboriginal cultural heritage during the life of the Proposal:

- Ongoing consultation with the Aboriginal community throughout the life of the Proposal including appropriate Aboriginal representation during archaeological fieldwork (e.g. collection of artefacts prior to disturbance).
- The Applicant should provide opportunities for Aboriginal community members to access known Aboriginal sites located on within the Study Area (e.g. for cultural reasons or as part of scheduled field activities) in accordance with Occupational Health and Safety requirements.
- Erosion and sediment control works be undertaken in accordance with the requirements of the development consent and in consideration of other Aboriginal cultural heritage management measures.
- Any new Aboriginal heritage sites identified during the development of the Proposal be registered with the OEH in consultation with the Aboriginal community.
- A record of known Aboriginal heritage sites, their status and location be maintained by the Applicant.

### 12.3.2 Aboriginal Cultural Heritage Management Plan

The optimal means of coordinating and implementing the proposed management strategies is to integrate them into a single programme and document in the form of an Aboriginal Cultural Heritage Management Plan (ACHMP). The ACHMP would reflect the proposed management of the cultural heritage sites within the Study Area. The ACHMP would cover all relevant actions and requirements to be conducted at the Study Area. The ACHMP will remain active for the life of the Proposal and define the tasks, scope and conduct of all Aboriginal cultural heritage management activities.

### 12.3.3 Role of the Local Aboriginal Community

The Applicant needs to be committed to involving the local Aboriginal community as an integral participant in the management of Aboriginal cultural heritage values in the Study Area. The strategies outlined in this report have incorporated the views of community representatives and the ACHMP should be drafted in consultation with the registered Aboriginal parties (Section 4.2.1).

The recording, collection, curation, storage and replacement of salvaged Aboriginal objects would occur with the invited participation of local Aboriginal community representatives.

### 12.3.4 Site Management and Cultural Awareness Training

The effective application of the ACHMP and its strategies is dependent on an appreciation of its content and function by on-site staff and employees.

It is recommended that the Applicant provides training to all on-site personnel regarding the Aboriginal Cultural Heritage Management Plan strategies relevant to their employment tasks.

## **12.4** SUMMARY RECOMMENDATIONS

Based on the results of this cultural heritage investigation and consultation with representatives of the local Aboriginal community, the following recommendations are provided for the Applicant to implement:

- The Applicant arrange to salvage all visible Aboriginal artefacts at the two Aboriginal cultural heritage sites located within the proposed Extraction Area and those artefacts at the two Aboriginal cultural heritage sites within the alignment of access road to the proposed Fines Storage Area 1. A suitably qualified archaeologist and representatives of the local Aboriginal community should be engaged to record and collect the Aboriginal objects. These items should be properly curated and stored in a “Keeping Place” at the Illawarra Local Aboriginal Land Council office. Following decommissioning of the Quarry, artefacts should be replaced within rehabilitated areas in consultation with local Aboriginal groups and the OEH.
- In the unlikely event that human skeletal remains are encountered during the course of the development associated with the Proposal, all work with the potential to impact the remains must cease. Remains must not be handled or otherwise disturbed except to prevent further disturbance. If the remains are thought to be less than 100 years old the Police or the State Coroner’s Office (tel: 02 9552 4066) must be notified. If there is reason to suspect that the skeletal remains are more than 100 years old and Aboriginal, the Applicant should contact the OEH’s Environmental Line (tel: 131 555) for advice. In the unlikely event that an Aboriginal burial is encountered, strategies for its management would need to be developed with the involvement of the local Aboriginal community.
- The Applicant should coordinate and implement these proposed management strategies by integrating them into a single programme and document in the form of an ACHMP. The ACHMP should remain active for the life of the Proposal and define the tasks, scope and conduct of all Aboriginal cultural heritage management activities. The ACHMP should be developed in consultation with the registered Aboriginal parties.
- The Applicant should provide training to all on-site personnel regarding the ACHMP strategies relevant to their employment tasks.
- The Applicant should continue to involve the registered Aboriginal parties and any other relevant Aboriginal community groups or members in matters pertaining to the Proposal. In particular, the recording, collection, curation, storage and replacement of Aboriginal objects should occur with the invited participation of local Aboriginal community representatives.

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# APPENDICES

Appendix 1 Glossary

Appendix 2* Consultation Log

Appendix 3* Correspondence to Aboriginal Community Stakeholders

Appendix 4* Correspondence from Aboriginal Community Stakeholders

Appendix 5* AHIMS Register Search

Appendix 6* AHIMS Cultural Heritage Site Recording Forms

* This Appendix is only available on the digital version of this document

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## APPENDIX 1: GLOSSARY

**Archaeological site** - A place with evidence of past human activity. This evidence may include Aboriginal and/or historic artefacts, features, structures or organic traces.

**Artefact scatter** - A surface scatter of Aboriginal or historic cultural material. Scatters of stone artefacts are a common archaeological site type. These scatters may also contain charcoal, discarded animal bones, shell and ochre.

**Assemblage** - A collection of artefacts from a single archaeological site.

**Burial site** - A place with a concentration of human remains. Ochre, stone tools, charcoal and grave goods may be associated with burials. Most burial sites are found in sand dunes but dead trees, caves and rock shelters were also used.

**Ceremonial ground** - Place that may be associated with initiation ceremonies, meetings or sacred rituals. Stone arrangements may be present, including cairns, stone circles or standing slabs of rock.

**Chert** - A fine-grained opaline rock ranging in colour from white to black, but most often grey, brown, greyish brown and light green to rusty red.

**Core** - A piece of stone from which flakes have been removed. They usually have negative flake scares that have resulted from the removal of flakes.

**Cultural material** - Any material remains or objects resulting from human activity.

**Debitage** - Any waste material including flakes and cores produced during the manufacture of chipped stone tools.

**Flake** - A piece of stone detached from a core that typically displays a striking platform, bulb of percussion and flake scars on the ventral surface.

**Flaked piece** - Small fragments of stone resulting from the manufacture of stone tools. A striking platform or bulb of percussion may not be evident.

**Formalized tools** - An artefact that has been deliberately shaped by flaking, retouch or grinding to produce a predetermined tool type.

**Ground surface visibility** - The amount of bare ground exposed, usually expressed as a percentage.

**Hearth** - The remains of a campfire containing charcoal, discoloured soil, and possibly, hearthstones, heat retainers or the remains of animals or shellfish cooked and consumed at the campsite.

**Hearthstone** – Stone cobble placed in a campfire to retain heat for cooking. The types of stone used as hearthstones in western Victoria includes calcrete and sandstone.

**Heat retainer** - Nodule of baked clay, thought to have been placed in campfires to retain heat for cooking.

***in situ*** - An artefact or other feature that has not been disturbed from its original position.

**Mound** - Raised areas of earth ranging from 3 to 35m in diameter and from 0.5m to 2m in height. Earth oven material, stone artefacts, food refuse and the remains of hut foundations have been recovered from excavated earth mounds in the central and western parts of Victoria.

**Ochre** - Soft varieties of the iron oxides goethite, limonite or haematite usually coloured red or yellow and used as pigment for painting.

**Quarry** - An outcrop of stone or ochre where Aboriginal people have extracted the raw material for use or trade. Stone quarries are identifiable by a dense scatter of broken stone and flakes or consist of pits or hollows where material has been dug out of the ground.

**Quartz** – A silica mineral resistant to weathering because of its hardness. It is commonplace in the landscape as a consequence.

**Quartzite** - A metamorphic rock formed by the re-crystallization of quartz.

**Retouch** - A stone artefact with fine, secondary flaking along one or more edges.

**Scarred tree** - A tree with a scar on its trunk caused by bark removal.

**Shell midden** - A surface scatter or heap of discarded shell often with charcoal, animal bones and stone artefacts. Middens may be found near coastlines, rivers, creeks, swamps and ancient lakes.

**Silcrete** - A hard, fine-grained rock composed of silica cement.

**Stone feature** - Cairns, rock wells, grinding groves, stone structures, fish traps and stone arrangements are examples of stone features.

**Stratified deposit** - Material that has been laid down over time forming a sequence of events.

**Subsurface testing** - A method of excavation used for detecting cultural material below the ground surface. Testing is commonly by shovel, trowel or hand auger.

**Survey** - An inspection of land either by foot or vehicle for the purpose of identifying archaeological sites.

**Transect** - A predetermined area or a path that directs the course of a survey.

## APPENDIX 2: CONSULTATION LOG

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| Date | Person Contacted | Organization Represented | Form of Contact | Contacted By | Organization Represented | Nature of consultation |
|---|---|---|---|---|---|---|
| 31/10/13 | Glenda Chalker | Cubbitch Barta Native Title Claimants Aboriginal Corporation | Email | Matt Cupper | Sutton Forest Quarries | Invitation to attend field surveys |
| 31/10/13 | Kim Moran | Bellambi Indigenous Corporation | Email | Matt Cupper | Sutton Forest Quarries | Invitation to attend field surveys |
| 31/10/13 | Sharon Brown | Gundungurra Aboriginal Heritage Association Incorporated | Email | Matt Cupper | Sutton Forest Quarries | Invitation to attend field surveys |
| 31/10/13 | Sharralyn Robinson | Illawarra Local Aboriginal Land Council | Email | Matt Cupper | Sutton Forest Quarries | Invitation to attend field surveys |
| 31/10/13 | Peter Falk | Peter Falk Consulting | Email | Matt Cupper | Sutton Forest Quarries | Invitation to attend field surveys |
| 31/10/13 | Matt Cupper | Sutton Forest Quarries | Tel | Glenda Chalker | Cubbitch Barta Native Title Claimants Aboriginal Corporation | Details for involvement in assessment |
| 31/10/13 | Matt Cupper | Sutton Forest Quarries | Tel | Peter Falk | Peter Falk Consulting | Details for involvement in assessment |
| 6/11/13 | Matt Cupper | Sutton Forest Quarries | Email | Glenda Chalker | Cubbitch Barta Native Title Claimants Aboriginal Corporation | Details for involvement in assessment |
| 6/11/13 | Matt Cupper | Sutton Forest Quarries | Tel | Sharon Brown | Gundungurra Aboriginal Heritage Association Incorporated | Details for involvement in assessment |
| 6/11/13 | Peter Falk | Peter Falk Consulting | Email | Matt Cupper | Sutton Forest Quarries | Details for involvement in assessment |

| Date | Person Contacted | Organization Represented | Form of Contact | Contacted By | Organization Represented | Nature of consultation |
|---|---|---|---|---|---|---|
| 6/11/13 | Sharon Brown | Gundungurra Aboriginal Heritage Association Incorporated | Email | Matt Cupper | Sutton Forest Quarries | Details for involvement in assessment |
| 8/11/13 | Chris Hall | Gundungurra Aboriginal Heritage Association Incorporated | Meeting | Matt Cupper | Sutton Forest Quarries | Involvement in field assessment |
| 8/11/13 | Kristy-Lee Chalker | Cubbitch Barta Native Title Claimants Aboriginal Corporation | Meeting | Matt Cupper | Sutton Forest Quarries | Involvement in field assessment |
| 8/11/13 | Peter Falk | Peter Falk Consulting | Meeting | Matt Cupper | Sutton Forest Quarries | Involvement in field assessment |
| 12/11/13 | Matt Cupper | Sutton Forest Quarries | Email | Peter Falk | Peter Falk Consulting | Report of field assessment |
| 23/10/14 | Glenda Chalker | Cubbitch Barta Native Title Claimants Aboriginal Corporation | Email | Matt Cupper | Sutton Forest Quarries | Draft report for comment |
| 23/10/14 | Kim Moran | Bellambi Indigenous Corporation | Email | Matt Cupper | Sutton Forest Quarries | Draft report for comment |
| 23/10/14 | Sharon Brown | Gundungurra Aboriginal Heritage Association Incorporated | Email | Matt Cupper | Sutton Forest Quarries | Draft report for comment |
| 23/10/14 | Sharralyn Robinson | Illawarra Local Aboriginal Land Council | Email | Matt Cupper | Sutton Forest Quarries | Draft report for comment |
| 23/10/14 | Peter Falk | Peter Falk Consulting | Email | Matt Cupper | Sutton Forest Quarries | Draft report for comment |
| 24/10/14 | Kim Moran | Bellambi Indigenous Corporation | Tel | Matt Cupper | Sutton Forest Quarries | Requested involvement in salvage |

| Date | Person Contacted | Organization Represented | Form of Contact | Contacted By | Organization Represented | Nature of consultation |
|---|---|---|---|---|---|---|
| 27/10/14 | Matt Cupper | Sutton Forest Quarries | Email | Glenda Chalker | Cubbitch Barta Native Title Claimants Aboriginal Corporation | Requested hardcopy of draft report |
| 27/10/14 | Glenda Chalker | Cubbitch Barta Native Title Claimants Aboriginal Corporation | Letter | Matt Cupper | Sutton Forest Quarries | Draft report for comment |
| 22/08/16 | Glenda Chalker | Cubbitch Barta Native Title Claimants Aboriginal Corporation | Email | Matt Cupper | Sutton Forest Quarries | Invitation to attend field surveys |
| 22/08/16 | Kim Moran | Bellambi Indigenous Corporation | Email | Matt Cupper | Sutton Forest Quarries | Invitation to attend field surveys |
| 22/08/16 | Sharon Brown | Gundungurra Aboriginal Heritage Association Incorporated | Email | Matt Cupper | Sutton Forest Quarries | Invitation to attend field surveys |
| 22/08/16 | Sharralyn Robinson | Illawarra Local Aboriginal Land Council | Email | Matt Cupper | Sutton Forest Quarries | Invitation to attend field surveys |
| 22/08/16 | Peter Falk | Peter Falk Consulting | Email | Matt Cupper | Sutton Forest Quarries | Invitation to attend field surveys |
| 23/08/16 | Matt Cupper | Sutton Forest Quarries | Email | Peter Falk | Peter Falk Consulting | Details for involvement in assessment |
| 23/08/16 | Matt Cupper | Sutton Forest Quarries | Email | Paul Knight | Illawarra Local Aboriginal Land Council | Details for involvement in assessment |
| 25/08/16 | Matt Cupper | Sutton Forest Quarries | Tel | Kim Moran | Bellambi Indigenous Corporation | Details for involvement in assessment |
| 01/09/16 | Pamela Glover | Illawarra Local Aboriginal Land Council | Meeting | Matt Cupper | Sutton Forest Quarries | Involvement in field assessment |

| Date | Person Contacted | Organization Represented | Form of Contact | Contacted By | Organization Represented | Nature of consultation |
|---|---|---|---|---|---|---|
| 01/09/16 | Glenda Chalker | Cubbitch Barta Native Title Claimants Aboriginal Corporation | Meeting | Matt Cupper | Sutton Forest Quarries | Involvement in field assessment |
| 01/09/16 | Duncan Falk | Peter Falk Consulting | Meeting | Matt Cupper | Sutton Forest Quarries | Involvement in field assessment |

## APPENDIX 3: CORRESPONDENCE TO ABORIGINAL COMMUNITY STAKEHOLDERS

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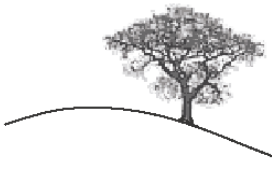


Landskape
Natural and Cultural Heritage Management
a division of M.L. Cupper Pty Ltd
ABN: 48 107 932 918

23 October 2014

Kim Moran
Chief executive officer
Bellambi Indigenous Corporation
48 Rothery Street
Bellambi NSW 2518

Dear Ms Moran,

**Re: Draft Aboriginal Cultural Heritage Assessment of the Sutton Forest Sand Quarry Project**

Please find enclosed for comment a copy of the draft Aboriginal Cultural Heritage Assessment of the Sutton Forest Sand Quarry Project. The Aboriginal Cultural Heritage Assessment will form part of an Environmental Assessment of the Project to be assessed under Part 4, Division 4.1 of the *Environmental Planning and Assessment Act 1979*.

Consistent with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010), we have provided this draft Cultural Heritage Assessment to all registered Aboriginal stakeholders for their review and comment. Please note that your comments or feedback in regard to the draft Cultural Heritage Assessment will be received up until 5.00 pm on 21 November 2014.

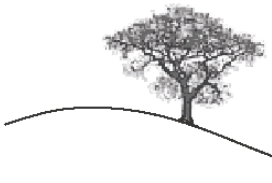
Could you please provide any comments to me via fax, email or post: Dr Matt Cupper, Landskape, PO Box 246, Merbein 3505; e-mail: landskape@telstra.com; tel: 0408 006 690.

Please do not hesitate to contact me should you have any queries or wish to discuss.

Yours sincerely,

**Dr Matt Cupper**

PO Box 246 Merbein Victoria 3505
Tel: 0408 006 690 Fax: 03 5025 2549 E-mail:
landskape@telstra.com



Landskape
Natural and Cultural Heritage Management
a division of M.L. Cupper Pty Ltd
ABN: 48 107 932 918

23 October 2014

Mr Peter Falk
Peter Falk Consulting
PO Box 1018
Mittagong NSW 2574

Dear Peter,

**Re: Draft Aboriginal Cultural Heritage Assessment of the Sutton Forest Sand Quarry Project**

Please find enclosed for comment a copy of the draft Aboriginal Cultural Heritage Assessment of the Sutton Forest Sand Quarry Project. The Aboriginal Cultural Heritage Assessment will form part of an Environmental Assessment of the Project to be assessed under Part 4, Division 4.1 of the *Environmental Planning and Assessment Act 1979*.

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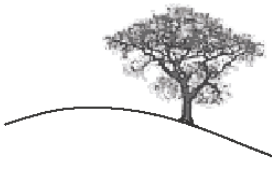

Landskape
Natural and Cultural Heritage Management
a division of M.L. Cupper Pty Ltd
ABN: 48 107 932 918

23 October 2014

Ms Sharon Brown
Aboriginal Community Representative
Gundungurra Tribal Council Aboriginal Corporation
14 Oak Street
Katoomba NSW 2780

Dear Ms Brown

**Re: Draft Aboriginal Cultural Heritage Assessment of the Sutton Forest Sand Quarry Project**

Please find enclosed for comment a copy of the draft Aboriginal Cultural Heritage Assessment of the Sutton Forest Sand Quarry Project. The Aboriginal Cultural Heritage Assessment will form part of an Environmental Assessment of the Project to be assessed under Part 4, Division 4.1 of the *Environmental Planning and Assessment Act 1979*.

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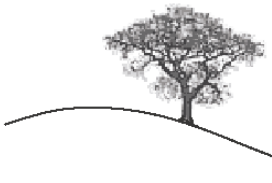

Landskape
Natural and Cultural Heritage Management
a division of M.L. Cupper Pty Ltd
ABN: 48 107 932 918

23 October 2014

Ms Sharralyn Robinson
Chief executive officer
Illawarra Local Aboriginal Land Council
3 Ellen Street
Woollongong 2500

Dear Ms Robinson,

**Re: Draft Aboriginal Cultural Heritage Assessment of the Sutton Forest Sand Quarry Project**

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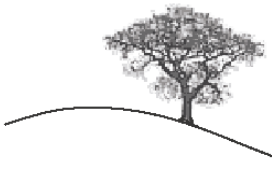

Landskape
Natural and Cultural Heritage Management
a division of M.L. Cupper Pty Ltd
ABN: 48 107 932 918

23 October 2014

Ms Sharyn Halls
Aboriginal Community Representative
Gundungurra Aboriginal Heritage Association Incorporated
PO Box 31
Lawson NSW 2783

Dear Ms Halls,

**Re: Draft Aboriginal Cultural Heritage Assessment of the Sutton Forest Sand Quarry Project**

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Please do not hesitate to contact me should you have any queries or wish to discuss.

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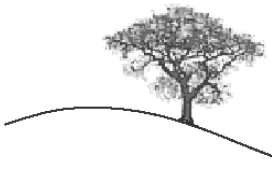

Landskape
Natural and Cultural Heritage Management
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ABN: 48 107 932 918

23 October 2014

Ms Glenda Chalker
Honorary Chairperson
Cubbitch Barta Native Title Claimants Aboriginal Corporation
55 Nightingale Road
Pheasants Nest NSW 2574

Dear Ms Chalker,

**Re: Draft Aboriginal Cultural Heritage Assessment of the Sutton Forest Sand Quarry Project**

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Please do not hesitate to contact me should you have any queries or wish to discuss.

Yours sincerely,

**Dr Matt Cupper**

PO Box 246 Merbein Victoria 3505
Tel: 0408 006 690 Fax: 03 5025 2549 E-mail:
landskape@telstra.com

## APPENDIX 4: CORRESPONDENCE FROM ABORIGINAL COMMUNITY STAKEHOLDERS

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OFFICE OF THE REGISTRAR
ABORIGINAL LAND RIGHTS ACT 1983 (NSW)

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

Josh Symons
Artefact Heritage
PO Box 772
Rose Bay NSW 2029

25 September 2012

Dear Josh

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

I refer to your letter dated 24th September 2012 regarding Aboriginal stakeholders within the Sutton Forest 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 Illawarra Local Aboriginal Land Council. They will be able to assist you in identifying other Aboriginal stakeholders for this project.

Yours sincerely

Williams

Shannon Williams
**Project Officer**
Office of the Registrar, *Aboriginal Land Rights Act* (1983)

**Friday, 24 October 2014 7:21:12 am Australian Eastern Daylight Time**

**Subject:** proposed sand quarry at/near Sutton Forest
**Date:** Tuesday, 2 October 2012 3:02:59 pm Australian Eastern Standard Time
**From:** Peter Schultz
**To:** josh.symons@artefact.net.au

Good afternoon Josh Symons - I refer to your letter of 24 September 2012 regarding the above matter.
Would you please provide a locality diagram of the subject land ; via email will suffice.
We acknowledge that section 4.1.2 of the Office of Environment & Heritage's Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 require you to contact us in order to compile a list of Aboriginal 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. However, we advise that NTSCORP's privacy guidelines restrict us from providing proponents with contact details of traditional owners who may have such an interest or hold such knowledge.
In response to your notification , **subject to receipt of a locality diagram** , NTSCORP 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. Recipients of our correspondence will be invited to register their interest in the project directly with you as soon as possible.
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.
NB: Ntscorp will require 21 days to effect the said process – again, subject to provision of a locality diagram. Thank you.

**Peter Schultz** | Senior Consultant - Land and Notifications

ntscorp

**NTSCORP proudly acknowledge that our office is situated on the country of the Gadigal People of the Dharug Nation. We also acknowledge and pay our respect to their Elders past and present.**

t 61 2 9310 3188 | f 61 2 9310 4177
e pschultz@ntscorp.com.au | w www.ntscorp.com.au
Level 1, 44-70 Rosehill Street, Redfern, NSW 2016 Australia

NTSCORP is committed to supporting local Aboriginal businesses where possible through the purchase of goods and services.

Cubbitch Barta Native Title Claimants
Aboriginal Corporation
55 Nightingale Road,
PHEASANTS NEST. N.S.W. 2574

Artefact Heritage,
P.O. Box 772,
ROSE BAY. N.S.W. 2029

Dear Josh,

RE; SUTTON FOREST SAND QUARRY

This letter is to confirming our interest in registering for the above project in writing. Our interest was confirmed by telephone on the 22nd October.

Thank you.

Yours sincerely,

G. Chalker

Glenda Chalker
Hon. Chairperson
Phone/Fax 0246841129 0427218425

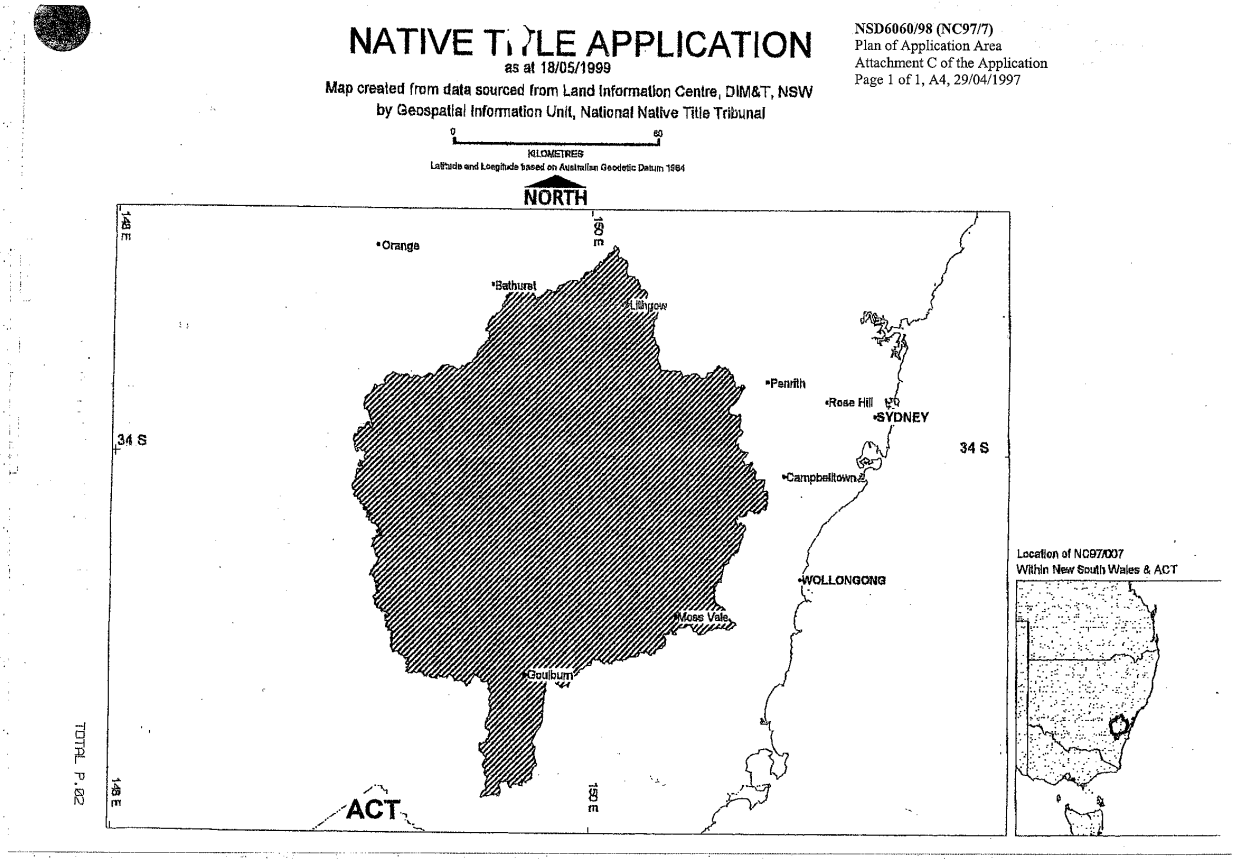
29th October 2012

**Friday, 24 October 2014 7:22:11 am Australian Eastern Daylight Time**

**Subject:** Proposed Sand QuarrySutton Forest Aboriginal Heritage Assessment
**Date:** Monday, 22 October 2012 9:01:33 am Australian Eastern Daylight Time
**From:** Sharyn Halls
**To:** josh.symons@artefact.net.au

Hi Josh,
Thank you for your letter to register for Proposed Sand Quarry at Sutton Forest Aboriginal Heritage Assessment project.
Gundungurra Aboriginal Heritage Association Inc would like register and be involved in the proposed project.

We look forward to hearing from you
mobile 0428 270 594
email ghal6522@bigpond.net.au
Kind Regards
Sharyn Halls
GAHAI


NATIVE TITLE APPLICATION
as at 18/05/1999
Map created from data sourced from Land Information Centre, DIM&T, NSW
by Geospatial Information Unit, National Native Title Tribunal
0
60
KILOMETRES
Latitude and Longitude based on Australian Geodetic Datum 1984
NORTH
NSD6060/98 (NC97/7)
Plan of Application Area
Attachment C of the Application
Page 1 of 1, A4, 29/04/1997
148 E
150 E
149 E
34 S
Orange
Bathurst
Lithgow
Penrith
Rose Hill
SYDNEY
Campbelltown
WOLLONGONG
Moss Vale
Goulburn
ACT
TOTAL P.02
Location of NC97/007
Within New South Wales & ACT

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## APPENDIX 5: AHIMS REGISTER SEARCH

This Appendix is only available on the digital version of this document

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Office of Environment & Heritage
NSW GOVERNMENT

# AHIMS Web Services (AWS)
## Search Result

Purchase Order/Reference : Sutton Forest

Client Service ID : 242297

LandSkape - Natural & Cultural Heritage Management

P O Box 246
Merbein Victoria 3505

Attention: Matt Cupper

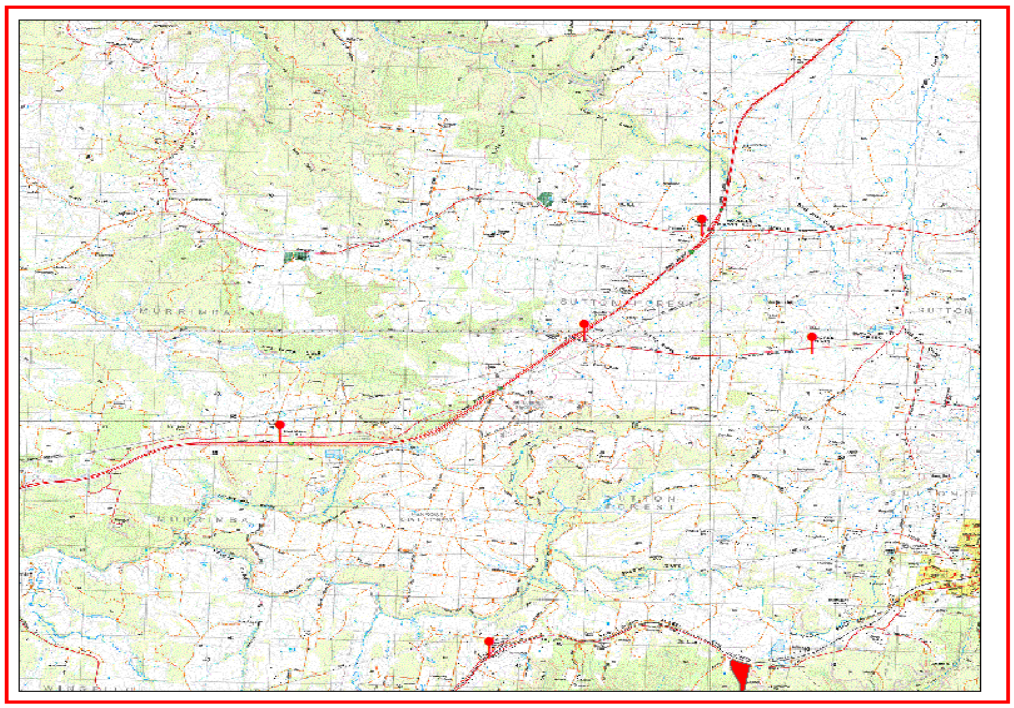
Email: landskape@telstra.com

Date: 02 September 2016

Dear Sir or Madam:

**AHIMS Web Service search for the following area at Datum :GDA, Zone : 56, Eastings : 237000 - 252000, Northings : 6160000 - 6173000 with a Buffer of 0 meters, conducted by Matt Cupper on 02 September 2016.**

**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:

| | |
|---|---|
| 117 | Aboriginal sites are recorded in or near the above location. |
| 0 | Aboriginal places have been declared in or near the above location. * |

Office of Environment & Heritage
NSW GOVERNMENT

# AHIMS Web Services (AWS)

## Extensive search - Site list report

Your Ref/PO Number : Sutton Forest
Client Service ID : 242297

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| 52-4-0087 | PD 1; | AGD | 56 | 239800 | 6165950 | Open site | Valid | Artefact : - | Open Camp Site | 1917 |
| | Contact | Recorders | Ms.Jillian Comber | | | | | Permits | | |
| 52-4-0088 | PD 2; | AGD | 56 | 239900 | 6166000 | Open site | Valid | Artefact : - | Open Camp Site | 1917 |
| | Contact | Recorders | Ms.Jillian Comber | | | | | Permits | | |
| 52-4-0089 | PD 3; | AGD | 56 | 239500 | 6166260 | Open site | Valid | Artefact : - | Open Camp Site | 1917 |
| | Contact | Recorders | Ms.Jillian Comber | | | | | Permits | | |
| 52-4-0090 | PD 4; | AGD | 56 | 239600 | 6166270 | Open site | Valid | Artefact : - | Open Camp Site | 1917 |
| | Contact | Recorders | Ms.Jillian Comber | | | | | Permits | | |
| 52-4-0091 | PD 5; | AGD | 56 | 240070 | 6166080 | Open site | Valid | Artefact : - | Open Camp Site | 1917 |
| | Contact | Recorders | Ms.Jillian Comber | | | | | Permits | | |
| 52-4-0094 | Lot 3 Paddy's River A2;A2; | AGD | 56 | 241040 | 6164060 | Open site | Valid | Artefact : - | Open Camp Site | 2243 |
| | Contact | Recorders | Vivienne Wood | | | | | Permits | | |
| 52-4-0095 | Lot 4, Paddy's River_A3;A3; | AGD | 56 | 241200 | 6164000 | Open site | Valid | Artefact : - | Open Camp Site | 2243 |
| | Contact | Recorders | N Wood | | | | | Permits | | |
| 52-4-0096 | Lot 5, Paddy's River A1;A1; | AGD | 56 | 241400 | 6163340 | Open site | Valid | Artefact : - | Open Camp Site | 2243 |
| | Contact | Recorders | Vivienne Wood | | | | | Permits | | |
| 52-4-0110 | PR-66-1;?; | AGD | 56 | 240790 | 6164090 | Open site | Valid | Grinding Groove : - | Axe Grinding Groove | |
| | Contact | Recorders | Mrs.Robynne Mills | | | | | Permits | | |
| 52-4-0111 | P-RS-1;?; | AGD | 56 | 240420 | 6163200 | Closed site | Valid | Artefact : -, Art (Pigment or Engraved) : - | Shelter with Art,Shelter with Deposit | |
| | Contact | Recorders | Mrs.Robynne Mills | | | | | Permits | | |
| 52-4-0100 | HR1 (Penrose) | AGD | 56 | 239500 | 6163200 | Open site | Valid | Artefact : - | Open Camp Site | 2960 |
| | Contact | Recorders | Elizabeth Rich | | | | | Permits | | |
| 52-4-0007 | Boronia Ridge | AGD | 56 | 250362 | 6160929 | Closed site | Valid | Art (Pigment or Engraved) : - | Shelter with Art | 99334 |
| | Contact | Recorders | B.B Slater,Mr.P Bindon | | | | | Permits | | |
| 52-4-0025 | Lynwood | AGD | 56 | 250719 | 6161393 | Open site | Valid | Grinding Groove : - | Axe Grinding Groove | |
| | Contact | Recorders | B.B Slater | | | | | Permits | | |
| 52-4-0030 | HCA I A&B | AGD | 56 | 248178 | 6169577 | Open site | Valid | Grinding Groove : -, Artefact : - | Axe Grinding Groove,Open Camp Site | 498 |
| | Contact | Recorders | Rex Silcox | | | | | Permits | | |
| 52-4-0031 | Bob's Creek | AGD | 56 | 247781 | 6171124 | Open site | Valid | Grinding Groove : - | Axe Grinding Groove | 498 |

**Report generated by AHIMS Web Service on 02/09/2016 for Matt Cupper for the following area at Datum :GDA, Zone : 56, Eastings : 237000 - 252000, Northings : 6160000 - 6173000 with a Buffer of 0 meters. Additional Info : Identify previously recorded cultural heritage sites in the activity area. Number of Aboriginal sites and Aboriginal objects found is 117**

Office of Environment & Heritage
NSW GOVERNMENT

# AHIMS Web Services (AWS)

## Extensive search - Site list report

Your Ref/PO Number : Sutton Forest
Client Service ID : 242297

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| | Contact | Recorders | Rex Silcox | | | | | Permits | | |
| 52-4-0033 | HCA 2 Sutton Forest | AGD | 56 | 248178 | 6169577 | Open site | Valid | Modified Tree (Carved or Scarred) : - | Scarred Tree | 498 |
| | Contact | Recorders | Rex Silcox | | | | | Permits | | |
| 52-4-0046 | HR#1;Lot 4/Long Swamp Creek; | AGD | 56 | 241880 | 6165310 | Open site | Valid | Artefact : - | Open Camp Site | 991 |
| | Contact | Recorders | Elizabeth Rich | | | | | Permits | | 338 |
| 52-4-0047 | HR#2;Lot 4/Long Swamp Creek; | AGD | 56 | 241890 | 6165500 | Open site | Valid | Artefact : - | Open Camp Site | 991 |
| | Contact | Recorders | Elizabeth Rich | | | | | Permits | | 338 |
| 52-4-0048 | HR#3;Lot4/Long Swamp Creek; | AGD | 56 | 241900 | 6165710 | Open site | Valid | Artefact : - | Open Camp Site | |
| | Contact | Recorders | Elizabeth Rich | | | | | Permits | | |
| 52-4-0049 | Lot 5#1;Lot 5/Hanging Rock; | AGD | 56 | 241970 | 6163880 | Open site | Valid | Artefact : - | Open Camp Site | |
| | Contact | Recorders | Elizabeth Rich | | | | | Permits | | |
| 52-4-0006 | Jumping Rock | AGD | 56 | 248892 | 6161266 | Closed site | Valid | Art (Pigment or Engraved) : - | Shelter with Art | 99334 |
| | Contact | Recorders | B.B Slater,Mr.P Bindon | | | | | Permits | | |
| 52-4-0123 | Freestone Road | AGD | 56 | 240500 | 6161960 | Open site | Valid | Artefact : 13 | | |
| | Contact | Recorders | Doctor,Julie Dibden | | | | | Permits | | |
| 52-4-0280 | Freestone Tower PAD | GDA | 56 | 238500 | 6162650 | Open site | Valid | Potential Archaeological Deposit (PAD) : - | | 102284 |
| | Contact | Recorders | Mr.John Appleton,Archaeological Surveys and Reports | | | | | Permits | | |
| 52-4-0198 | Paddys River SU7/L1 | GDA | 56 | 238698 | 6160657 | Open site | Valid | Artefact : 1 | | 100500 |
| | Contact Searle | Recorders | Doctor,Julie Dibden | | | | | Permits | | |
| 52-4-0140 | GBF | AGD | 56 | 251600 | 6162340 | Open site | Valid | Artefact : 225 | | 99720 |
| | Contact T Russell | Recorders | Michael Therin | | | | | Permits | | |
| 52-4-0215 | Jumping Rock-Rock shelter SU4/L1 | AGD | 56 | 245799 | 6161963 | Closed site | Valid | Art (Pigment or Engraved) : 1 | | 100719 |
| | Contact | Recorders | Doctor,Rebecca Parkes | | | | | Permits | | |
| 52-4-0216 | Jumping rock-Grinding Grooves: SU4/L2 | AGD | 56 | 245817 | 6161942 | Open site | Valid | Grinding Groove : 1 | | 100719 |
| | Contact T Russell | Recorders | Doctor,Rebecca Parkes | | | | | Permits | | |
| 52-4-0217 | Jumping Rock-SU6/L1 | AGD | 56 | 247167 | 6162009 | Open site | Valid | Artefact : 1 | | 100719 |
| | Contact T Russell | Recorders | Doctor,Rebecca Parkes | | | | | Permits | | |
| 52-4-0218 | Jumping Rock-SU8/L1 | AGD | 56 | 247737 | 6161839 | Open site | Valid | Artefact : 1 | | 100719 |
| | Contact T Russell | Recorders | Doctor,Rebecca Parkes | | | | | Permits | | |
| 52-4-0219 | Jumping Rock-SU8/L2 | AGD | 56 | 247952 | 6161858 | Open site | Valid | Artefact : 1 | | 100719 |

**Report generated by AHIMS Web Service on 02/09/2016 for Matt Cupper for the following area at Datum :GDA, Zone : 56, Eastings : 237000 - 252000, Northings : 6160000 - 6173000 with a Buffer of 0 meters. Additional Info : Identify previously recorded cultural heritage sites in the activity area. Number of Aboriginal sites and Aboriginal objects found is 117**

Office of Environment & Heritage
NSW GOVERNMENT

# AHIMS Web Services (AWS)

## Extensive search - Site list report

Your Ref/PO Number : Sutton Forest
Client Service ID : 242297

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| | Contact T Russell | Recorders | Doctor.Rebecca Parkes | | | | | Permits | | |
| 52-4-0220 | Jumping Rock-SU11/L1 | AGD | 56 | 247994 | 6161564 | Open site | Valid | Artefact : 1 | | 100719 |
| | Contact T Russell | Recorders | Doctor.Rebecca Parkes | | | | | Permits | | |
| 52-4-0221 | Jumping Rock-SU11/L2 | AGD | 56 | 247796 | 6161472 | Closed site | Valid | Art (Pigment or Engraved) : 1 | | 100719 |
| | Contact T Russell | Recorders | Doctor.Rebecca Parkes | | | | | Permits | | |
| 52-4-0222 | Jumping Rock-Rock Shelter SU12/L1 | AGD | 56 | 248216 | 6161405 | Open site | Valid | Art (Pigment or Engraved) : 1 | | 100719 |
| | Contact T Russell | Recorders | Doctor.Rebecca Parkes | | | | | Permits | | |
| 52-4-0401 | HC_096 | GDA | 56 | 250520 | 6170506 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0402 | HC_097 | GDA | 56 | 250485 | 6170562 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0403 | HC_099 | GDA | 56 | 250333 | 6170821 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0404 | HC_100 | GDA | 56 | 250270 | 6171221 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0405 | HC_101 | GDA | 56 | 250258 | 6171417 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0406 | HC_102 | GDA | 56 | 250288 | 6171674 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0407 | HC_103 | GDA | 56 | 250368 | 6171791 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0408 | HC_104 | GDA | 56 | 250345 | 6172067 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0409 | HC_105 | GDA | 56 | 250295 | 6172205 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0410 | HC_106 | GDA | 56 | 250440 | 6172473 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0411 | HC_107 | GDA | 56 | 250564 | 6172496 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0414 | HC_111 | GDA | 56 | 250990 | 6172024 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0415 | HC_112 | GDA | 56 | 250865 | 6171333 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |

**Report generated by AHIMS Web Service on 02/09/2016 for Matt Cupper for the following area at Datum :GDA, Zone : 56, Eastings : 237000 - 252000, Northings : 6160000 - 6173000 with a Buffer of 0 meters. Additional Info : Identify previously recorded cultural heritage sites in the activity area. Number of Aboriginal sites and Aboriginal objects found is 117**

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.

Office of Environment & Heritage
NSW GOVERNMENT

# AHIMS Web Services (AWS)

## Extensive search - Site list report

Your Ref/PO Number : Sutton Forest
Client Service ID : 242297

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| 52-4-0416 | HC_113 | GDA | 56 | 250822 | 6171328 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0417 | HC_114 | GDA | 56 | 250328 | 6171321 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0418 | HC_110 | GDA | 56 | 251013 | 6172498 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0421 | HC_098 | GDA | 56 | 250431 | 6170645 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0458 | HC_157 | GDA | 56 | 250999 | 6172451 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0476 | HC_175 | GDA | 56 | 249967 | 6171144 | Open site | Valid | Grinding Groove : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | | |
| 52-4-0480 | WSF5 | GDA | 56 | 250683 | 6171156 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0481 | WSF6 | GDA | 56 | 250611 | 6170334 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0482 | WSF7 | GDA | 56 | 250262 | 6171223 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0483 | WSF8 | GDA | 56 | 250269 | 6171194 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0484 | WSF9 | GDA | 56 | 250301 | 6170985 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0485 | WSF10 | GDA | 56 | 250310 | 6170923 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0486 | WSF11 | GDA | 56 | 250315 | 6170889 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0487 | WSF12 | GDA | 56 | 250323 | 6170870 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0488 | WSF13 | GDA | 56 | 250330 | 6170842 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0489 | WSF15 | GDA | 56 | 250526 | 6170494 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0490 | WSF16 | GDA | 56 | 250553 | 6170447 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |

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Office of Environment & Heritage
NSW GOVERNMENT

# AHIMS Web Services (AWS)

## Extensive search - Site list report

Your Ref/PO Number : Sutton Forest
Client Service ID : 242297

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| 52-4-0491 | WSF17 | GDA | 56 | 250250 | 6171355 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0492 | WSF18 | GDA | 56 | 250252 | 6170393 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0493 | WSF19 | GDA | 56 | 250252 | 6171447 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0494 | WSF20 | GDA | 56 | 250250 | 6171516 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0495 | WSF22 | GDA | 56 | 250254 | 6171611 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0496 | WSF21 | GDA | 56 | 250253 | 6171555 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0497 | WSF23 | GDA | 56 | 250270 | 6171653 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0498 | WSF24 | GDA | 56 | 250371 | 6171978 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0499 | WSF25 | GDA | 56 | 250289 | 6172203 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0500 | WSF26 | GDA | 56 | 250323 | 6172457 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0501 | WSF27 | GDA | 56 | 250432 | 6172947 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0502 | WSF28 | GDA | 56 | 250694 | 6170817 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0503 | WSF29 | GDA | 56 | 250689 | 6170643 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0506 | WSF32 | GDA | 56 | 250592 | 6172551 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0507 | WSF33 | GDA | 56 | 250476 | 6172482 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0508 | WSF14 | GDA | 56 | 250550 | 6170532 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0516 | WSF36 | GDA | 56 | 250261 | 6171721 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |

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# AHIMS Web Services (AWS)

## Extensive search - Site list report

Your Ref/PO Number : Sutton Forest
Client Service ID : 242297

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| 52-4-0509 | WSF34 | GDA | 56 | 250440 | 6172470 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0510 | WSF35 | GDA | 56 | 250443 | 6170423 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0511 | WSF37 | GDA | 56 | 250028 | 6172392 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0512 | WSF_1 | GDA | 56 | 251031 | 6172678 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0513 | WSF_4 | GDA | 56 | 250700 | 6171217 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0514 | WSF_3 | GDA | 56 | 250836 | 6170899 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0515 | WSF_2 | GDA | 56 | 250904 | 6172397 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | EMGAMM-St Leonards (previously EMGA),Mr.Ryan Desic | | | | | Permits | 3945 | |
| 52-4-0112 | PQ-JI-1 | AGD | 56 | 240650 | 6163550 | Open site | Valid | Artefact : - | Isolated Find | |
| | Contact | Recorders | Miss.Jackie Taylor | | | | | Permits | | |
| 52-4-0113 | PQ-JI-2 | AGD | 56 | 240490 | 6163240 | Open site | Valid | Artefact : - | Open Camp Site | |
| | Contact | Recorders | Miss.Jackie Taylor | | | | | Permits | | |
| 52-3-1098 | PQ-JI-2 | AGD | 56 | 240490 | 6163240 | Open site | Valid | Artefact : - | Open Camp Site | |
| | Contact | Recorders | Miss.Jackie Taylor | | | | | Permits | | |
| 52-4-0126 | BFR1 & ASSOCIATED PAD | GDA | 56 | 251455 | 6162268 | Open site | Valid | Artefact : 2, Potential Archaeological Deposit (PAD) : 1 | | 99146 |
| | Contact T Russell | Recorders | Michael Therin | | | | | Permits | 2235,2410 | |
| 52-4-0127 | BFR2 | AGD | 56 | 251710 | 6162078 | Open site | Valid | Artefact : 1 | | 99347 |
| | Contact Searle | Recorders | Michael Therin | | | | | Permits | 2235,2442 | |
| 52-4-0128 | BGR1 | AGD | 56 | 251530 | 6162435 | Open site | Valid | Artefact : 2 | | 99350 |
| | Contact Searle | Recorders | Michael Therin,Mr.Shaun Suddery | | | | | Permits | 2235,2409 | |
| 52-4-0129 | BGR2 | AGD | 56 | 251473 | 6162351 | Open site | Valid | Artefact : 2 | | 99350 |
| | Contact Searle | Recorders | Michael Therin,Mr.Shaun Suddery | | | | | Permits | 2235 | |
| 52-4-0225 | Emu Creek GG2007 | GDA | 56 | 240662 | 6168727 | Open site | Valid | Grinding Groove : 12 | | |
| | Contact | Recorders | Umwelt (Australia) Pty Limited | | | | | Permits | | |
| 52-4-0226 | Emu Creek IF2007 | GDA | 56 | 240000 | 6169337 | Open site | Valid | Grinding Groove : 1 | | |
| | Contact | Recorders | Umwelt (Australia) Pty Limited | | | | | Permits | | |
| 52-4-0227 | Emu Creek AS2007 | GDA | 56 | 240503 | 6171010 | Open site | Valid | Artefact : 13 | | |

**Report generated by AHIMS Web Service on 02/09/2016 for Matt Cupper for the following area at Datum :GDA, Zone : 56, Eastings : 237000 - 252000, Northings : 6160000 - 6173000 with a Buffer of 0 meters. Additional Info : Identify previously recorded cultural heritage sites in the activity area. Number of Aboriginal sites and Aboriginal objects found is 117**

Office of Environment & Heritage
NSW GOVERNMENT

# AHIMS Web Services (AWS)

## Extensive search - Site list report

Your Ref/PO Number : Sutton Forest
Client Service ID : 242297

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| | Contact | Recorders | Umwelt (Australia) Pty Limited | | | | | Permits | | |
| 52-4-0324 | Comfort Hill Grooves | GDA | 56 | 247616 | 6171529 | Open site | Valid | Grinding Groove : 7 | | |
| | Contact | Recorders | Rod Wellington | | | | | Permits | | |
| 52-4-0325 | Comfort Hill MT | GDA | 56 | 247986 | 6171332 | Open site | Valid | Modified Tree (Carved or Scarred) : 1 | | |
| | Contact | Recorders | Rod Wellington | | | | | Permits | | |
| 52-4-0314 | HSP 31 | GDA | 56 | 245475 | 6166340 | Open site | Destroyed | Artefact : 1 | | |
| | Contact | Recorders | Navin Officer Heritage Consultants Pty Ltd | | | | | Permits | | |
| 52-4-0316 | SFQAS2 | GDA | 56 | 243037 | 6166253 | Open site | Valid | Artefact : 1 | | |
| | Contact | Recorders | Artefact - Cultural Heritage Management ,Mr Josh Symons | | | | | Permits | | |
| 52-4-0317 | SFQAS3 | GDA | 56 | 243344 | 6166261 | Open site | Valid | Artefact : 1 | | |
| | Contact | Recorders | Artefact - Cultural Heritage Management | | | | | Permits | | |
| 52-4-0318 | SFQAS4 | GDA | 56 | 243940 | 6166179 | Open site | Valid | Artefact : 1 | | |
| | Contact | Recorders | Artefact - Cultural Heritage Management ,Mr Josh Symons | | | | | Permits | | |
| 52-4-0319 | SFQAS5 | GDA | 56 | 244032 | 6166246 | Open site | Valid | Artefact : 1 | | |
| | Contact | Recorders | Artefact - Cultural Heritage Management ,Mr Josh Symons | | | | | Permits | | |
| 52-4-0320 | SFQAS6 | GDA | 56 | 244052 | 6166352 | Open site | Valid | Artefact : 1 | | |
| | Contact | Recorders | Artefact - Cultural Heritage Management ,Mr Josh Symons | | | | | Permits | | |
| 52-4-0321 | SFQAS7 | GDA | 56 | 244047 | 6166869 | Open site | Valid | Artefact : 1 | | |
| | Contact | Recorders | Artefact - Cultural Heritage Management ,Mr Josh Symons | | | | | Permits | | |
| 52-4-0322 | SFQAS8 | GDA | 56 | 244294 | 6166779 | Open site | Valid | Artefact : 1 | | |
| | Contact | Recorders | Artefact - Cultural Heritage Management ,Mr Josh Symons | | | | | Permits | | |
| 52-4-0323 | SFQSH1 | GDA | 56 | 242443 | 6166498 | Open site | Valid | Artefact : 1 | | |
| | Contact | Recorders | Artefact - Cultural Heritage Management ,Mr Josh Symons | | | | | Permits | | |
| 52-4-0286 | HSP35 | GDA | 56 | 249904 | 6168486 | Open site | Partially Destroyed | Potential Archaeological Deposit (PAD) : 1, Artefact : 1 | | |
| | Contact | Recorders | Navin Officer Heritage Consultants Pty Ltd,Navin Officer Heritage Consultants Pty I | | | | | Permits | | |
| 52-4-0287 | HSP36 | GDA | 56 | 251295 | 6168817 | Open site | Partially Destroyed | Artefact : 1, Potential Archaeological Deposit (PAD) : 1 | | |
| | Contact | Recorders | Navin Officer Heritage Consultants Pty Ltd | | | | | Permits | | |
| 52-4-0290 | SFQAS1 | GDA | 56 | 243132 | 6166148 | Open site | Valid | Artefact : 1 | | |
| | Contact | Recorders | Artefact - Cultural Heritage Management | | | | | Permits | | |

**Report generated by AHIMS Web Service on 02/09/2016 for Matt Cupper for the following area at Datum :GDA, Zone : 56, Eastings : 237000 - 252000, Northings : 6160000 - 6173000 with a Buffer of 0 meters. Additional Info : Identify previously recorded cultural heritage sites in the activity area. Number of Aboriginal sites and Aboriginal objects found is 117**

Office of Environment & Heritage NSW GOVERNMENT

# AHIMS Web Services (AWS)

## Extensive search - Site list report

Your Ref/PO Number : Sutton Forest
Client Service ID : 242297

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| 52-4-0114 | P2 | AGD | 56 | 240440 | 6163230 | Closed site | Valid | Art (Pigment or Engraved) : - | | 100654,10065 |
| | Contact | Recorders | Mrs.Robyne Mills | | | | | Permits | 1315 | 5 |
| 52-4-0142 | GFB | AGD | 56 | 251600 | 6162340 | Open site | Valid | Artefact : 225, Potential Archaeological Deposit (PAD) : 1 | | 99145,99347,9 9350,99720 |
| | Contact | Recorders | Michael Therin | | | | | Permits | 2409,2410,2442 | |
| 52-4-0124 | Prestone Tower Road | AGD | 56 | 238340 | 6162500 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | Doctor Julie Dibden | | | | | Permits | | |
| 52-4-0125 | Hanging Rock Swamp Road | AGD | 56 | 241370 | 6162490 | Open site | Valid | Artefact : - | | |
| | Contact | Recorders | Doctor Julie Dibden | | | | | Permits | | |
| 52-4-0136 | Sutton Forest Grooves | AGD | 56 | 2499921 | 6169007 | Open site | Valid | Grinding Groove : 3 | | |
| | Contact Searle | Recorders | Mr Wayne Williams | | | | | Permits | | |
| 52-4-0378 | Prestone Towers - GDG01 | GDA | 56 | 238018 | 6161990 | Open site | Valid | Grinding Groove : 18 | | |
| | Contact | Recorders | Mr Mark Simon | | | | | Permits | | |

**Report generated by AHIMS Web Service on 02/09/2016 for Matt Cupper for the following area at Datum :GDA, Zone : 56, Eastings : 237000 - 252000, Northings : 6160000 - 6173000 with a buffer of 0 meters. Additional Info : Identify previously recorded cultural heritage sites in the activity area. Number of Aboriginal sites and Aboriginal objects found is 117**

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.

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## APPENDIX 6: AHIMS CULTURAL HERITAGE SITE RECORDING FORMS

This Appendix is only available on the digital version of this document

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## Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220

NSW GOVERNMENT Office of Environment & Heritage

**Office Use Only**

**Site Number** ___-___-____

Date received / / Date entered into system / / Date catalogued / /

Entered by (I.D.)

### Information Access

☐ Gender/male ☐ Gender/female ☐ Location restriction ☐ General restriction ☐ No access

Office Use Only

### For Further Information Contact:

☐ **Nominated Trustee**

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

Client on system ☐

☐ **Knowledge Holder**

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

Client on system ☐

**Aboriginal Heritage Unit or Cultural Heritage Division Contacts**

### Geographic Location

Site Name: SFQ_AS2

Easting: 243037 Northing: 6166253 AGD/GDA: GDA

Mapsheet: Canyonleigh 8928-4-N

**Zone**: 56 Location Method: Non-Differential GPS

Other Registration:

### Primary Recorder

Title | Surname: Symons | First Name: Josh | Initials

Organisation: Artefact Heritage

Address: PO Box 772 Rose Bay NSW 2029

Phone number: 90253958 Fax: 90253990

Date recorded: 21/11/2012

Client on system ☐

## NPWS Aboriginal Site Recording Form - Site Information

*page 2*

**OPEN/CLOSE SITE** Open Site

### Site Context

**Landform**

- ☐ Mountainous
- ☐ Plain
- ☐ Rolling hills
- ☑ Steep hills
- ☐ Undulating plain

**Slope**

☐ degrees

**Landform Unit**

- ☐ Beach
- ☐ Coastal rock platform
- ☐ Dune
- ☐ Intertidal flat
- ☐ Lagoon
- ☐ Tidal Creek
- ☐ Tidal Flat
- ☐ Cliff
- ☑ Crest
- ☐ Flat
- ☐ Lower slope
- ☑ Mid slope
- ☐ Upper slope
- ☐ Plain
- ☐ Ridge
- ☐ Tor
- ☐ Valley flat
- ☐ Levy
- ☐ Stream bank
- ☐ Stream channel
- ☐ Swamp
- ☐ Terrace
- ☐ Terrace flat

**Vegetation**

- ☐ Closed forest
- ☐ Grasslands
- ☐ Isolated clumps of trees
- ☐ Open forest
- ☑ Open woodland
- ☐ Scrub
- ☐ Woodland
- ☐ Cleared
- ☐ Revegetated
- ☐ N/A

**Land use**

- ☐ Conservation
- ☐ Established urban
- ☐ Farming-intensive
- ☐ Farming-low intensity
- ☐ Forestry
- ☐ Industrial
- ☑ Mining
- ☐ Pastoral/grazing
- ☐ Recreation
- ☐ Semi-rural
- ☐ Service corridor
- ☐ Transport corridor
- ☐ Urban expansion
- ☐ N/A

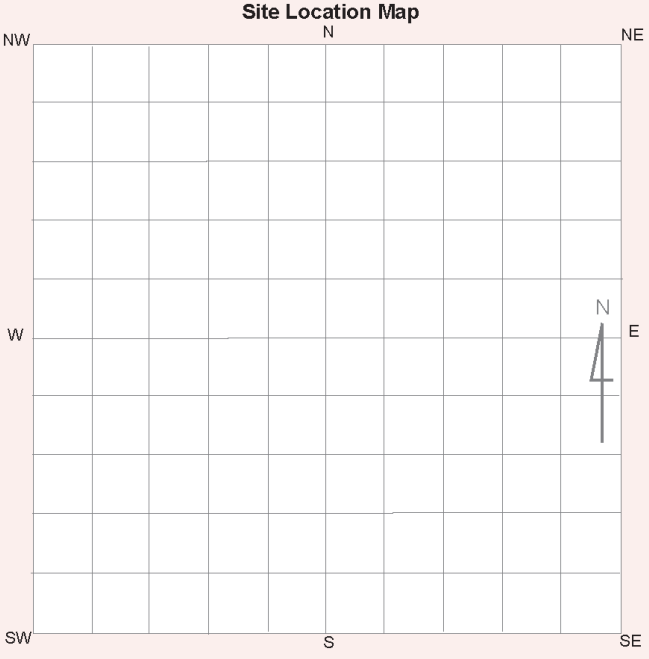
**Water**

| | |
|---|---|
| Distance to permanent water source | 430 metres |
| Distance to temporary water source | 300 metres |
| Name of nearest permanent water source | Long Swamp |
| Name of nearest temporary water | 1st order |

Directions for Relocation

Site located within Lot 4 DP 253435, which is accessed off the Hume Highway opposite Burnt Cottage Road. Drive across property and proceed 600m west into forested area.

**Site Location Map**




**Current Land Tenure**

- ☐ Public — National Park / other Government Dept.
- ☐ Private

**Primary report** **I.D.** (I.D. Office Use only)

## NPWS Aboriginal Site Recording Form - Site Information

*page 3*

### General Site Information

**Closed Site**

**Shelter/Cave Formation**
- ☐ Boulder
- ☐ Wind erosion
- ☐ Water erosion
- ☐ Rock collapse

**Rock Surface Condition**
- ☐ Boulder
- ☐ Sandstone platform
- ☐ Silica gloss
- ☐ Tessellated
- ☐ Weathered
- ☐ Other platform

**Open Site**

**Site Orientation**
- ☐ N-S
- ☐ NE-SW
- ☐ E-W
- ☐ SE-NW
- ☑ N/A

**Condition of Ceiling**
- ☐ Boulder
- ☐ Sandstone platform
- ☐ Silica gloss
- ☐ Tessellated
- ☐ Weathered
- ☐ Other platform

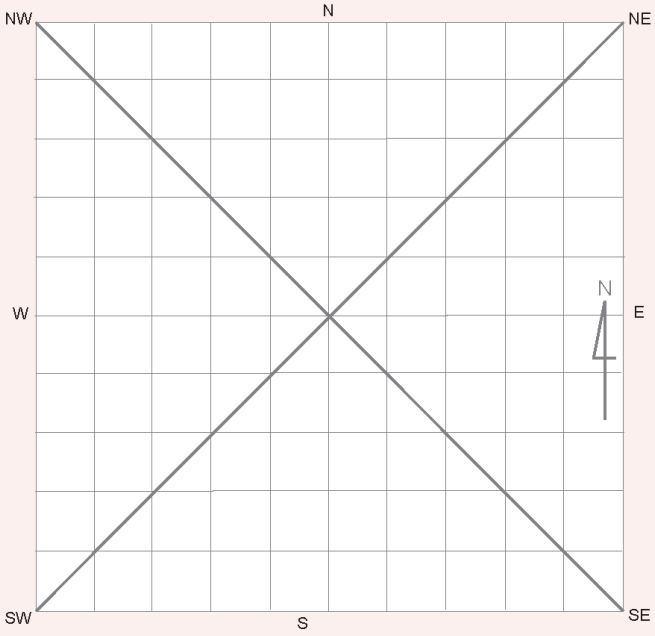
**Shelter Aspect**
- ☐ North
- ☐ North East
- ☐ East
- ☐ South East
- ☐ South
- ☐ South West
- ☐ West
- ☐ North West

### Features

- ☐ 1. Aboriginal Ceremony & Dreaming
- ☐ 2. Aboriginal Resource & Gathering
- ☐ 3. Art
- ☑ 4. Artefact
- ☐ 5. Burial
- ☐ 6. Ceremonial Ring
- ☐ 7. Conflict
- ☐ 8. Earth Mound
- ☐ 9. Fish Trap
- ☐ 10. Grinding Groove
- ☐ 11. Habitation Structure
- ☐ 12. Hearth
- ☐ 13. Non Human Bone & Organic Material
- ☐ 14. Ochre quarry
- ☐ 15. Potential Archaeological Deposit
- ☐ 16. Stone Quarry
- ☐ 17. Shell
- ☐ 18. Stone Arrangement
- ☐ 19. Modified Tree
- ☐ 20. Water Hole

### Site Plan

Indicate scale, boundaries of site, features




### Site Dimensions

**Closed Site Dimensions (m)**

| | |
|---|---|
| | Internal length |
| | Internal width |
| | Shelter height |
| | Shelter floor area |

**Open Site Dimensions (m)**

| | |
|---|---|
| 80 | Total length of visible site |
| 150 | Average width of visible site |
| | Estimated area of visible site |
| | Length of assessed site area |

## NPWS Aboriginal Site Recording Form - Site Interpretation and Community Statement *page 4*

**Aboriginal Community Interpretation and Management Recommendations**

### Preliminary Site Assessment

**Site Cultural & Scientific Analysis and Preliminary Management Recommendations**

This section should only be filled in by the Endorsees

**Endorsed by:** ☐ Knowledge Holder ☐ Nominated Trustee ☐ Native Title Holder ☐ Community Consensus

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

**Attachments (No.)**

- ☑ A4 location map
- ☐ B/W photographs
- ☑ Colour photographs
- ☐ Slides
- ☐ Aerial photographs
- ☐ Site plans, drawings
- ☐ Recording tables
- ☑ Other
- ☐ Feature inserts-No. ☐

**Comments**

See attached.

**SFQ AS2** (Sutton Forest Quarry Artefact Scatter 2)

Landform: Slope / Crest
Coordinates: 243037E 6166253N (GDA 94 MGA56)
Site type: Open artefact scatter
Site Length: 80 m
Site Width: 150 m

Site SFQ AS2 consisted of a scatter of two artefacts identified on the edge of a recently bulldozed vehicle track and an associated area of archaeological potential to the northwest. The site area measured approximately 150 m southeast – northwest and 80 m southwest – northeast. Vegetation across the site consisted of open woodland with occasional to moderately dense undergrowth. Occasional pine trees, likely to have been introduced to the area by birds from the neighbouring pine plantation at Penrose, were also observed across the site area.

Surface visibility was very high across the bulldozed track where the artefacts were identified in the southeastern corner of the site area. The artefacts were identified on a small raised area of overburden that had been pushed aside by the bulldozer on the northern side of the vehicle track. The remaining site area consisted of gentle to moderate slopes and a small and well defined crest formation in the northwestern portion of the site area.

Site SFQ AS2 was located approximately 90 m west of site SFQ AS1. Characteristics of the two identified silcrete artefacts are outlined in Table 1 below.

**Table 1: Characteristics of artefacts identified at SFQ AS2**

| Raw Material | Colour | Fragment | Length (mm) | Width (mm) | Thickness (mm) |
|---|---|---|---|---|---|
| Siilcrete | Grey | Unifacial core | 30* | 28* | 15* |
| Silcrete | Grey | Proximal flake fragment | 47* | 38* | 20* |

* = block measurements (maximum dimensions)

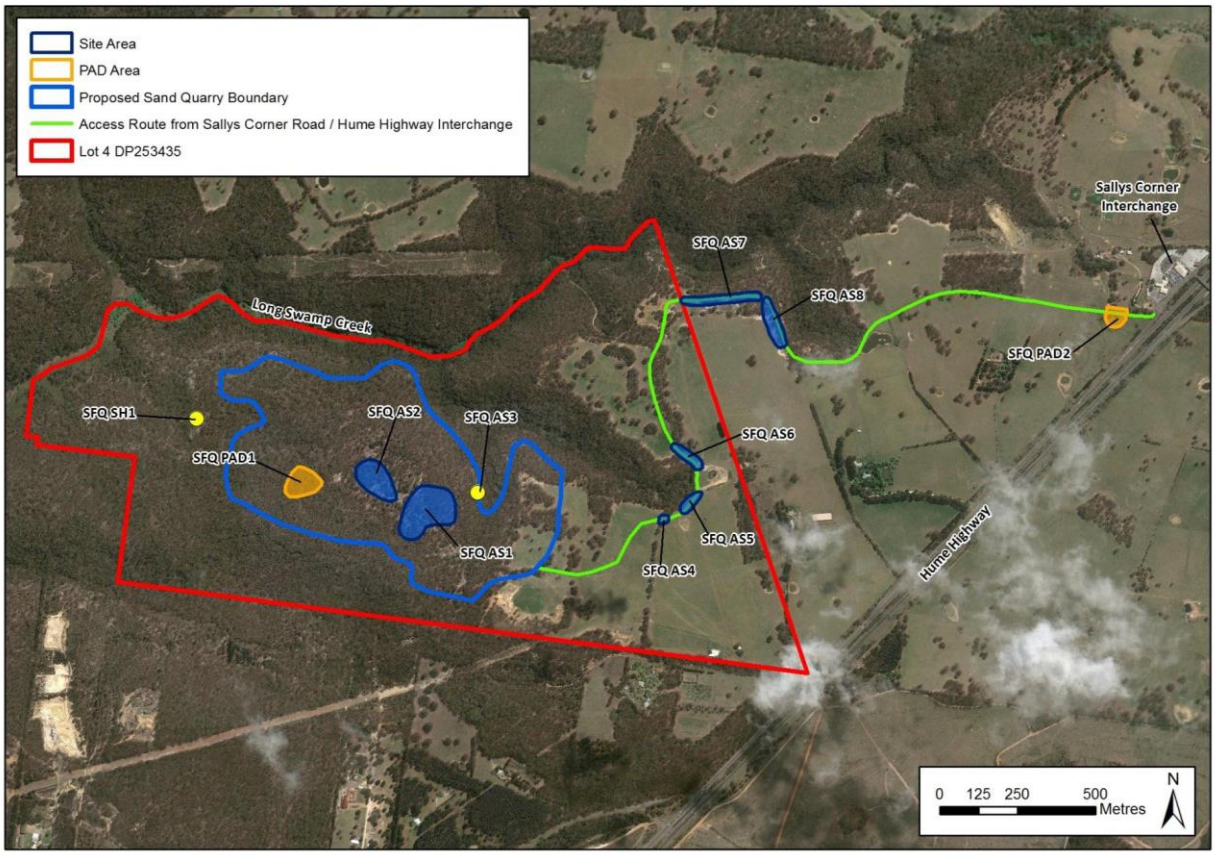
**Plate 1: Detail of artefact 1, SFQ AS2**

**Plate 2: Detail of artefact 2, SFQ AS2**


**Plate 3: View northwest across location where artefacts were identified**

**Plate 4: View west across raised crest landform, site SFQ AS2**

**Plate 5: View south from raised crest landform, site SFQ AS2**


Site Area
PAD Area
Proposed Sand Quarry Boundary
Access Route from Sallys Corner Road / Hume Highway Interchange
Lot 4 DP253435
Sallys Corner Interchange
SFQ AS7
SFQ AS8
Long Swamp Creek
SFQ PAD2
SFQ SH1
SFQ AS2
SFQ AS3
SFQ AS6
SFQ PAD1
SFQ AS5
SFQ AS1
SFQ AS4
Hume Highway
0 125 250 500
Metres
N

AHIMS Aboriginal Heritage Information Management System

## Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220

NSW GOVERNMENT Office of Environment & Heritage

**Office Use Only**

**Site Number** ___-___-____

Date received / / Date entered into system / / Date catalogued / /

Entered by (I.D.)

### Information Access

☐ Gender/male ☐ Gender/female ☐ Location restriction ☐ General restriction ☐ No access

Office Use Only

### For Further Information Contact:

☐ **Nominated Trustee**

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

Client on system ☐

☐ **Knowledge Holder**

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

Client on system ☐

**Aboriginal Heritage Unit or Cultural Heritage Division Contacts**

### Geographic Location

Site Name: SFQ AS3

Easting: 243344 Northing: 6166261 AGD/GDA: GDA

Mapsheet: CANYONLEIGH 8928-4-N

**Zone**: 56 Location Method: Non-Differential GPS

Other Registration:

### Primary Recorder

Title | Surname | First Name | Initials

Symons | Josh

Organisation: Artefact Heritage

Address: PO Box 772 Rose Bay NSW 2029

Phone number: 90253958 Fax: 90253990

Date recorded: 21/11/2012

Client on system ☐

## NPWS Aboriginal Site Recording Form - Site Information

*page 2*

**OPEN/CLOSE SITE** Open Site

### Site Context

**Landform**

- ☐ Mountainous
- ☐ Plain
- ☐ Rolling hills
- ☑ Steep hills
- ☐ Undulating plain

**Slope**

☐ degrees

**Landform Unit**

- ☐ Beach
- ☐ Coastal rock platform
- ☐ Dune
- ☐ Intertidal flat
- ☐ Lagoon
- ☐ Tidal Creek
- ☐ Tidal Flat
- ☐ Cliff
- ☐ Crest
- ☐ Flat
- ☐ Lower slope
- ☑ Mid slope
- ☐ Upper slope
- ☐ Plain
- ☐ Ridge
- ☐ Tor
- ☐ Valley flat
- ☐ Levy
- ☐ Stream bank
- ☐ Stream channel
- ☐ Swamp
- ☐ Terrace
- ☐ Terrace flat

**Vegetation**

- ☐ Closed forest
- ☐ Grasslands
- ☐ Isolated clumps of trees
- ☐ Open forest
- ☑ Open woodland
- ☐ Scrub
- ☐ Woodland
- ☐ Cleared
- ☐ Revegetated
- ☐ N/A

**Land use**

- ☐ Conservation
- ☐ Established urban
- ☐ Farming-intensive
- ☐ Farming-low intensity
- ☐ Forestry
- ☐ Industrial
- ☑ Mining
- ☐ Pastoral/grazing
- ☐ Recreation
- ☐ Semi-rural
- ☐ Service corridor
- ☐ Transport corridor
- ☐ Urban expansion
- ☐ N/A

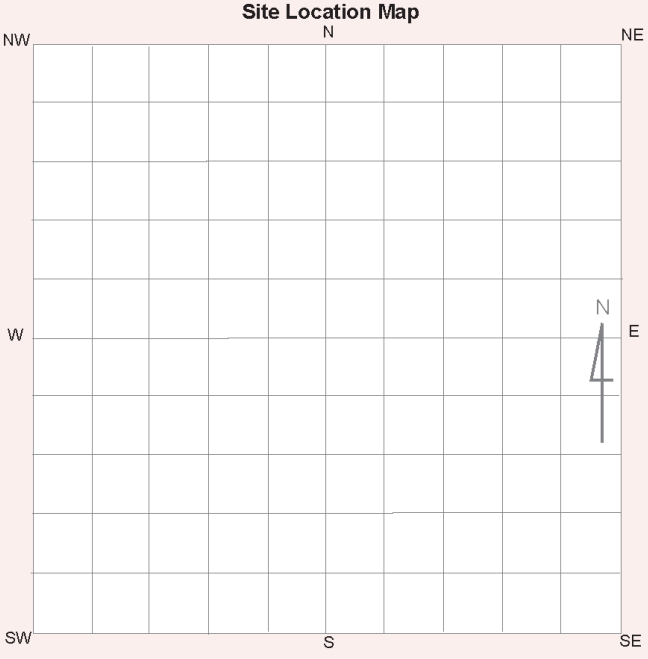
**Water**

| | |
|---|---|
| Distance to permanent water source | 520 metres |
| Distance to temporary water source | 410 metres |
| Name of nearest permanent water source | Long Swamp |
| Name of nearest temporary water | 1st order |

Directions for Relocation

Site was located within Lot 4 DP253435, which is accessed off the Hume Highway opposite Burnt Cottage Road. Drive west across property and proceed northwest 350m into forested area.

**Site Location Map**




**Current Land Tenure**

- ☐ Public — National Park / other Government Dept.
- ☐ Private

**Primary report** **I.D.** ☐ (I.D. Office Use only)

## NPWS Aboriginal Site Recording Form - Site Information

*page 3*

### General Site Information

**Closed Site**

**Shelter/Cave Formation**
- [ ] Boulder
- [ ] Wind erosion
- [ ] Water erosion
- [ ] Rock collapse

**Rock Surface Condition**
- [ ] Boulder
- [ ] Sandstone platform
- [ ] Silica gloss
- [ ] Tessellated
- [ ] Weathered
- [ ] Other platform

**Condition of Ceiling**
- [ ] Boulder
- [ ] Sandstone platform
- [ ] Silica gloss
- [ ] Tessellated
- [ ] Weathered
- [ ] Other platform

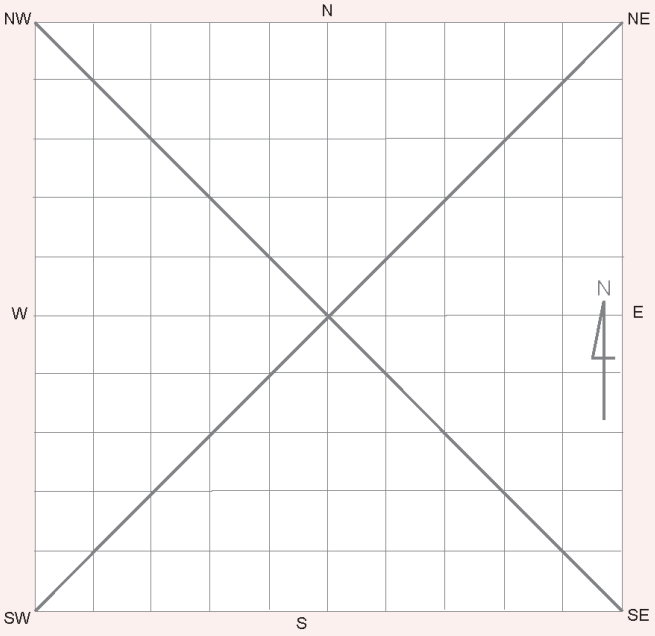
**Shelter Aspect**
- [ ] North
- [ ] North East
- [ ] East
- [ ] South East
- [ ] South
- [ ] South West
- [ ] West
- [ ] North West

**Open Site**

**Site Orientation**
- [ ] N-S
- [ ] NE-SW
- [ ] E-W
- [ ] SE-NW
- [x] N/A

### Features
- [ ] 1. Aboriginal Ceremony & Dreaming
- [ ] 2. Aboriginal Resource & Gathering
- [ ] 3. Art
- [x] 4. Artefact
- [ ] 5. Burial
- [ ] 6. Ceremonial Ring
- [ ] 7. Conflict
- [ ] 8. Earth Mound
- [ ] 9. Fish Trap
- [ ] 10. Grinding Groove
- [ ] 11. Habitation Structure
- [ ] 12. Hearth
- [ ] 13. Non Human Bone & Organic Material
- [ ] 14. Ochre quarry
- [ ] 15. Potential Archaeological Deposit
- [ ] 16. Stone Quarry
- [ ] 17. Shell
- [ ] 18. Stone Arrangement
- [ ] 19. Modified Tree
- [ ] 20. Water Hole

### Site Plan
Indicate scale, boundaries of site, features




### Site Dimensions

**Closed Site Dimensions (m)**
- [ ] Internal length
- [ ] Internal width
- [ ] Shelter height
- [ ] Shelter floor area

**Open Site Dimensions (m)**
- [10] Total length of visible site
- [10] Average width of visible site
- [ ] Estimated area of visible site
- [ ] Length of assessed site area

## NPWS Aboriginal Site Recording Form - Site Interpretation and Community Statement *page 4*

**Aboriginal Community Interpretation and Management Recommendations**

### Preliminary Site Assessment

**Site Cultural & Scientific Analysis and Preliminary Management Recommendations**

This section should only be filled in by the Endorsees

**Endorsed by:** ☐ Knowledge Holder ☐ Nominated Trustee ☐ Native Title Holder ☐ Community Consensus

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

**Attachments (No.)**

- ☑ A4 location map
- ☐ B/W photographs
- ☑ Colour photographs
- ☐ Slides
- ☐ Aerial photographs
- ☐ Site plans, drawings
- ☐ Recording tables
- ☑ Other
- ☐ Feature inserts-No. ☐

**Comments**

See attached.

**SFQ AS3** (Sutton Forest Quarry Artefact Scatter 3)

Landform: Slope
Coordinates: 243344E 6166261N (GDA 94 MGA56)
Site type: Open artefact scatter
Site Length: 10 m
Site Width: 10 m

Site SFQ AS3 consisted of two artefacts identified on a steep slope on the northern boundary of the study area. The artefacts were located at approximately 660 m ASL, and halfway between the raised break of slope at 680 m ASL to the south and the unnamed deeply incised drainage channel at 640 m ASL to the north.

The two artefacts were identified on a narrow, unformed track that followed a similar contour across the slope landform. The track was possibly the result of repeated animal movement in the area. Surface visibility across the track was approximately 30%, whilst away from the track surface visibility was less than 1%.

Artefact scatter SFQ AS1 was located across the crest landform south of the break of slope and approximately 60 m southwest of site SFQ AS3. Based on the steep landform context in which the artefacts were identified, it is possible that the two artefacts had eroded out of the higher deposit associated with SFQ AS1 and gradually moved downslope with colluvial and erosional soil movement.

Characteristics of the two identified artefacts are outlined in Table 1 below.

**Table 1: Characteristics of artefacts identified at SFQ AS3**

| Raw Material | Colour | Fragment | Length (mm) | Width (mm) | Thickness (mm) |
|---|---|---|---|---|---|
| **Fine-grained siliceous** | Dark-reddish black | Flake | 21 | 36 | 6 |
| **Fine-grained siliceous** | Dark-reddish black | Medial flake fragment | 25* | 15* | 6* |

* = block measurements (maximum dimensions)

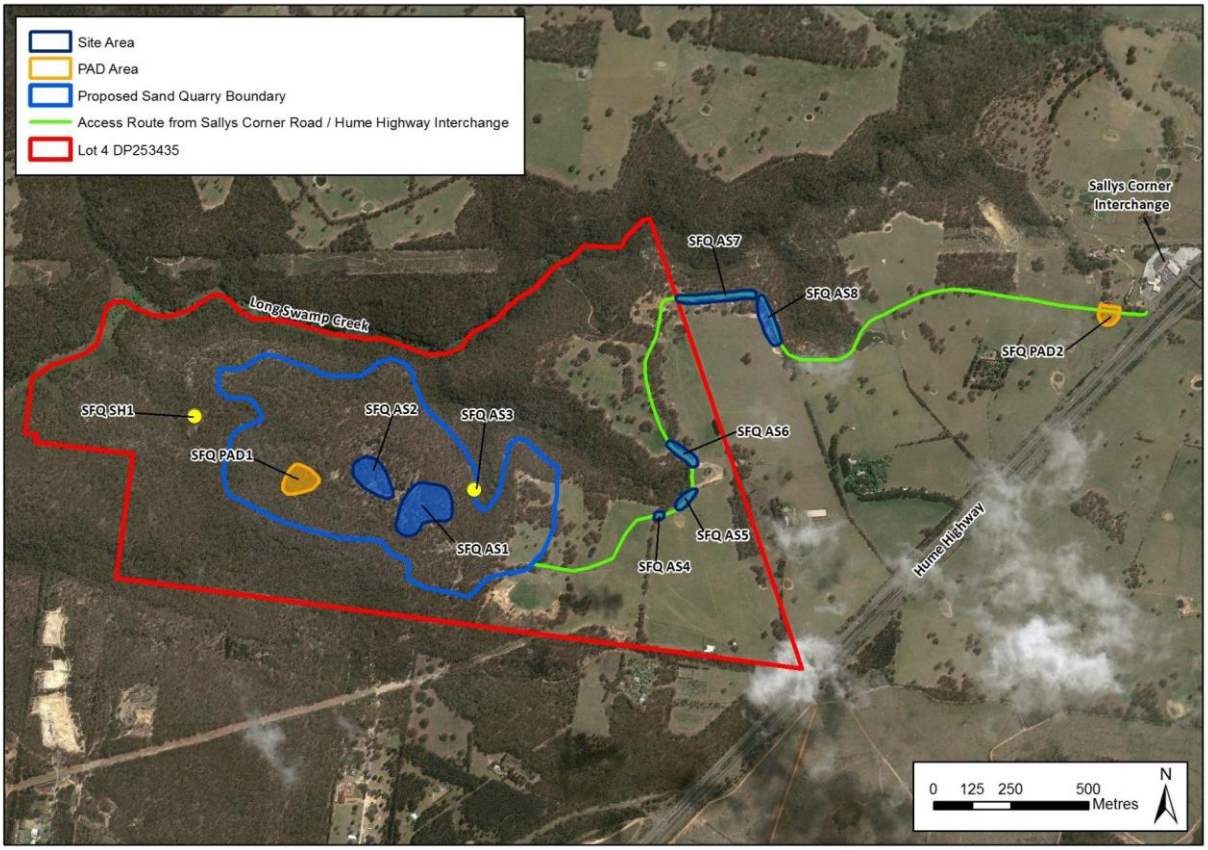
**Plate 1: Detail of artefact 1, site SFQ AS3**


**Plate 2: Detail of artefact 2, site SFQ AS3**


**Plate 3: View southwest across location of artefacts, SFQ AS3**

**Plate 4: View northwest across location of artefacts, SFQ AS3**

**Plate 5: Vegetation in the vicinity of SFQ AS3**


Site Area
PAD Area
Proposed Sand Quarry Boundary
Access Route from Sallys Corner Road / Hume Highway Interchange
Lot 4 DP253435
Sallys Corner Interchange
SFQ AS7
SFQ AS8
Long Swamp Creek
SFQ PAD2
SFQ SH1
SFQ AS2
SFQ AS3
SFQ AS6
SFQ PAD1
SFQ AS5
SFQ AS1
SFQ AS4
Hume Highway
0 125 250 500
Metres
N


## Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220

NSW GOVERNMENT Office of Environment & Heritage

**Office Use Only**

Site Number

Date received / / Date entered into system / / Date catalogued / /

Entered by (I.D.)

### Information Access

☐ Gender/male ☐ Gender/female ☐ Location restriction ☐ General restriction ☐ No access

Office Use Only

### For Further Information Contact:

☐ **Nominated Trustee**

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

Client on system ☐

☐ **Knowledge Holder**

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

Client on system ☐

**Aboriginal Heritage Unit or Cultural Heritage Division Contacts**

### Geographic Location

Site Name SFQ_AS4

Easting 243940 Northing 6166179 AGD/GDA GDA

Mapsheet CANYON LEIGH

**Zone** 56 Location Method Non-Differential GPS

Other Registration

### Primary Recorder

Title | Surname | First Name | Initials

MR | SYMONS | JOSH

Organisation ARTEFACT HERITAGE

Address PO BOX 7722 ROSE BAY NSW 2029

Phone number 90253958 Fax

Date recorded 21/11/2012

Client on system ☐

## NPWS Aboriginal Site Recording Form - Site Information

*page 2*

**OPEN/CLOSE SITE** Open Site

### Site Context

**Landform**

- ☐ Mountainous
- ☐ Plain
- ☑ Rolling hills
- ☐ Steep hills
- ☐ Undulating plain

**Slope**

☐ degrees

**Landform Unit**

- ☐ Beach
- ☐ Coastal rock platform
- ☐ Dune
- ☐ Intertidal flat
- ☐ Lagoon
- ☐ Tidal Creek
- ☐ Tidal Flat
- ☐ Cliff
- ☐ Crest
- ☐ Flat
- ☐ Lower slope
- ☑ Mid slope
- ☐ Upper slope
- ☐ Plain
- ☐ Ridge
- ☐ Tor
- ☐ Valley flat
- ☐ Levy
- ☐ Stream bank
- ☐ Stream channel
- ☐ Swamp
- ☐ Terrace
- ☐ Terrace flat

**Vegetation**

- ☐ Closed forest
- ☐ Grasslands
- ☐ Isolated clumps of trees
- ☐ Open forest
- ☐ Open woodland
- ☐ Scrub
- ☐ Woodland
- ☑ Cleared
- ☑ Revegetated
- ☐ N/A

**Land use**

- ☐ Conservation
- ☐ Established urban
- ☐ Farming-intensive
- ☐ Farming-low intensity
- ☐ Forestry
- ☐ Industrial
- ☐ Mining
- ☑ Pastoral/grazing
- ☐ Recreation
- ☐ Semi-rural
- ☐ Service corridor
- ☐ Transport corridor
- ☐ Urban expansion
- ☐ Residential

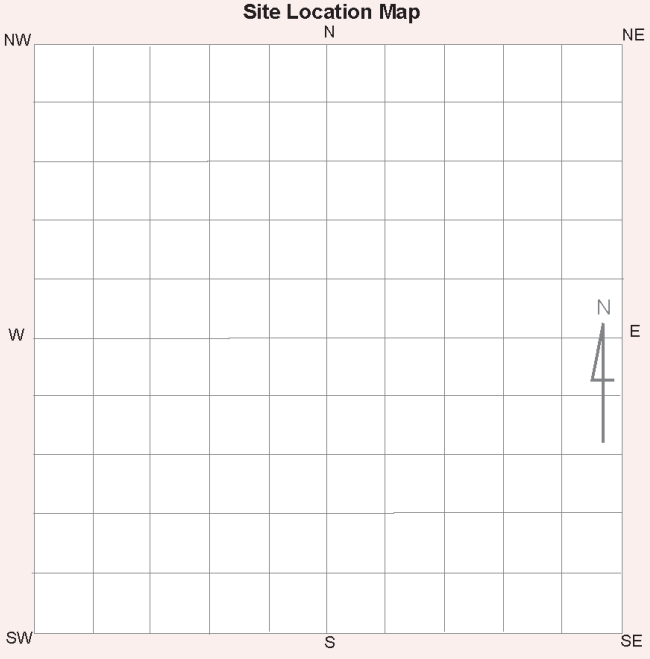
**Water**

| | |
|---|---|
| Distance to permanent water source | 880 metres |
| Distance to temporary water source | 80 metres |
| Name of nearest permanent water source | Long Swamp Creek |
| Name of nearest temporary water | Unnamed tributary |

Directions for Relocation

Site was located within Lot 4 DP253435, which is accessed off the Hume Highway opposite Burnt Cottage Road. Drive west along main access track for approximately 600m then head north across the paddock for 400m to the southern edge of a wooded area bordering a watercourse.

**Site Location Map**




**Current Land Tenure**

- ☐ Public — National Park / other Government Dept.
- ☑ Private

**Primary report** **I.D.** (I.D. Office Use only)

Artefact Heritage, 2012. 'Sutton Forest Sand Quarry: Aboriginal Heritage Constraints Assessment'. Report to RW Corkey on behalf of Sutton Forest Sand Quarries.

## NPWS Aboriginal Site Recording Form - Site Information

*page 3*

### General Site Information

**Closed Site**

**Shelter/Cave Formation**
- ☐ Boulder
- ☐ Wind erosion
- ☐ Water erosion
- ☐ Rock collapse

**Rock Surface Condition**
- ☐ Boulder
- ☐ Sandstone platform
- ☐ Silica gloss
- ☐ Tessellated
- ☐ Weathered
- ☐ Other platform

**Open Site**

**Site Orientation**
- ☐ N-S
- ☐ NE-SW
- ☐ E-W
- ☐ SE-NW
- ☐ N/A

**Condition of Ceiling**
- ☐ Boulder
- ☐ Sandstone platform
- ☐ Silica gloss
- ☐ Tessellated
- ☐ Weathered
- ☐ Other platform

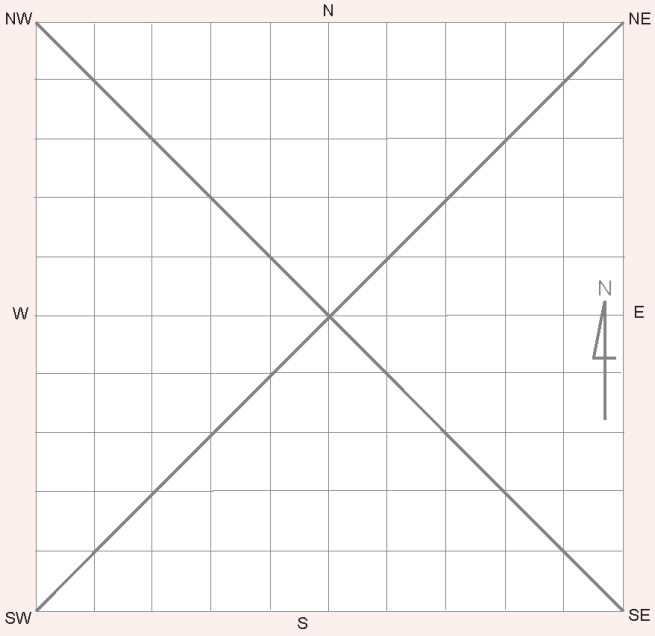
**Shelter Aspect**
- ☐ North
- ☐ North East
- ☐ East
- ☐ South East
- ☐ South
- ☐ South West
- ☐ West
- ☐ North West

### Features

- ☐ 1. Aboriginal Ceremony & Dreaming
- ☐ 2. Aboriginal Resource & Gathering
- ☐ 3. Art
- ☑ 4. Artefact
- ☐ 5. Burial
- ☐ 6. Ceremonial Ring
- ☐ 7. Conflict
- ☐ 8. Earth Mound
- ☐ 9. Fish Trap
- ☐ 10. Grinding Groove
- ☐ 11. Habitation Structure
- ☐ 12. Hearth
- ☐ 13. Non Human Bone & Organic Material
- ☐ 14. Ochre quarry
- ☐ 15. Potential Archaeological Deposit
- ☐ 16. Stone Quarry
- ☐ 17. Shell
- ☐ 18. Stone Arrangement
- ☐ 19. Modified Tree
- ☐ 20. Water Hole

### Site Plan

Indicate scale, boundaries of site, features




### Site Dimensions

**Closed Site Dimensions (m)**

| | |
|---|---|
| | Internal length |
| | Internal width |
| | Shelter height |
| | Shelter floor area |

**Open Site Dimensions (m)**

| | |
|---|---|
| 3 0 | Total length of visible site |
| 3 0 | Average width of visible site |
| 9 0 | Estimated area of visible site |
| | Length of assessed site area |

## NPWS Aboriginal Site Recording Form - Site Interpretation and Community Statement *page 4*

**Aboriginal Community Interpretation and Management Recommendations**

### Preliminary Site Assessment

**Site Cultural & Scientific Analysis and Preliminary Management Recommendations**

This section should only be filled in by the Endorsees

**Endorsed by:** ☐ Knowledge Holder ☐ Nominated Trustee ☐ Native Title Holder ☐ Community Consensus

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

**Attachments (No.)**

- ☑ A4 location map
- ☐ B/W photographs
- ☑ Colour photographs
- ☐ Slides
- ☐ Aerial photographs
- ☐ Site plans, drawings
- ☑ Recording tables
- ☑ Other
- ☐ Feature inserts-No. ☐

**Comments**

See attached information

**SFQ AS4** (Sutton Forest Quarry Artefact Scatter 4)

Landform: Slope
Coordinates: 243940E 6166179N (GDA 94 MGA56)
Site type: Open artefact scatter
Site Length: 30 m (assessed area)
Site Width: 30 m (assessed area)

Site SFQ AS4 consisted of a scatter of artefacts located across a slope landform context. The site was located across the northern end of a gently sloping crest landform, with a break of slope to moderately sloping terrain approximately 20 m north of the site.

Vegetation across the site area consisted predominantly of grass cover with patches of surface exposure. A line of regrowth eucalypts was located across the southern boundary of the site. The artefacts were identified across the patches of surface exposure. The paddock immediately to the west of the site covered a similar landform context, but appeared to have been covered by fill and building waste. Immediately to the east, a small dam had been constructed within a shallow open drainage channel. Site SFQ AS5 was located on the eastern side of the small dam and approximately 60 m east of SFQ AS4.

The SFQ AS4 site area appeared to have been disturbed to an extent by vegetation clearance and surface erosion. Artefact materials included silcrete and quartz, with artefact characteristics outlined in Table 1 below.

**Table 1: Characteristics of artefacts identified at SFQ AS4**

| Raw Material | Colour | Fragment | Length (mm) | Width (mm) | Thickness (mm) |
|---|---|---|---|---|---|
| Silcrete | Grey | Unifacial core | 25* | 19* | 14* |
| Silcrete | Grey | Flake | 30 | 23 | 14 |
| Silcrete | Grey | Rotated core | 24* | 20* | 14* |
| Silcrete | Grey | Proximal flake fragment | 14* | 15* | 4* |
| Silcrete | Grey | Medial flake fragment | 15* | 12* | 5* |
| Quartz | White | Distal flake fragment | 9* | 6* | 1* |
| Quartz | White | Flake | 14 | 11 | 4 |
| Quartz | Translucent | Medial flake fragment | 16* | 11* | 5* |

* = block measurements (maximum dimensions)

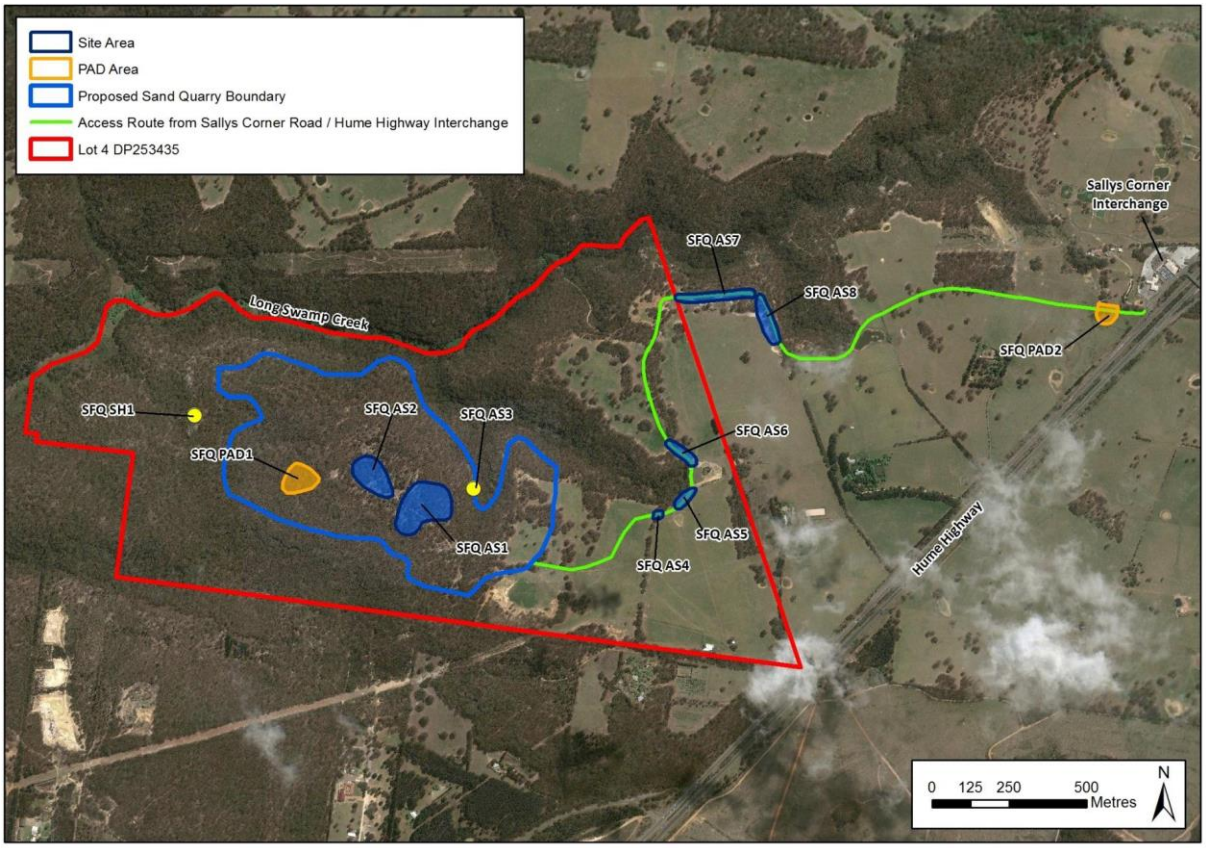
**Plate 1: Detail of artefacts 1-4, SFQ AS4**


**Plate 2: Detail of artefacts 5-8, SFQ AS4**


**Plate 3: View north across surface exposures where artefacts were identified, SFQ AS4**

**Plate 4: View northeast across site SFQ AS4**

**Plate 5: View northeast towards SFQ AS4 from adjacent paddock**


Site Area
PAD Area
Proposed Sand Quarry Boundary
Access Route from Sallys Corner Road / Hume Highway Interchange
Lot 4 DP253435
Sallys Corner Interchange
SFQ AS7
SFQ AS8
Long Swamp Creek
SFQ PAD2
SFQ SH1
SFQ AS2
SFQ AS3
SFQ AS6
SFQ PAD1
SFQ AS5
SFQ AS1
SFQ AS4
Hume Highway
0 125 250 500
Metres
N

AHIMS Aboriginal Heritage Information Management System

## Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220

NSW Government Office of Environment & Heritage

**Office Use Only**

**Site Number** _ _ _ _ _ _ _

Date received / / Date entered into system / / Date catalogued / /

Entered by (I.D.)

### Information Access

Office Use Only

☐ Gender/male ☐ Gender/female ☐ Location restriction ☐ General restriction ☐ No access

### For Further Information Contact:

☐ **Nominated Trustee**

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

Client on system ☐

☐ **Knowledge Holder**

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

Client on system ☐

**Aboriginal Heritage Unit or Cultural Heritage Division Contacts**

### Geographic Location

Site Name: SFQ_AS5

Easting: 244032 Northing: 6166246 AGD/GDA: GDA

Mapsheet: CANYONLEIGH

**Zone**: 56 Location Method: Non-Differential GPS

Other Registration:

### Primary Recorder

Title: MR | Surname: SYMONS | First Name: JOSH | Initials:

Organisation: ARTEFACT HERITAGE

Address: PO BOX 7722 ROSE BAY NSW 2029

Phone number: 90253958 Fax:

Date recorded: 21/11/2012

Client on system ☐

## NPWS Aboriginal Site Recording Form - Site Information

*page 2*

**OPEN/CLOSE SITE** Open Site

### Site Context

**Landform**

- [ ] Mountainous
- [ ] Plain
- [x] Rolling hills
- [ ] Steep hills
- [ ] Undulating plain

**Slope**

[ ] degrees

**Landform Unit**

- [ ] Beach
- [ ] Coastal rock platform
- [ ] Dune
- [ ] Intertidal flat
- [ ] Lagoon
- [ ] Tidal Creek
- [ ] Tidal Flat
- [ ] Cliff
- [x] Crest
- [ ] Flat
- [ ] Lower slope
- [x] Mid slope
- [ ] Upper slope
- [ ] Plain
- [ ] Ridge
- [ ] Tor
- [ ] Valley flat
- [ ] Levy
- [ ] Stream bank
- [ ] Stream channel
- [ ] Swamp
- [ ] Terrace
- [ ] Terrace flat

**Vegetation**

- [ ] Closed forest
- [ ] Grasslands
- [ ] Isolated clumps of trees
- [ ] Open forest
- [ ] Open woodland
- [ ] Scrub
- [ ] Woodland
- [x] Cleared
- [ ] Revegetated
- [ ] N/A

**Land use**

- [ ] Conservation
- [ ] Established urban
- [ ] Farming-intensive
- [ ] Farming-low intensity
- [ ] Forestry
- [ ] Industrial
- [ ] Mining
- [x] Pastoral/grazing
- [ ] Recreation
- [ ] Semi-rural
- [ ] Service corridor
- [ ] Transport corridor
- [ ] Urban expansion
- [ ] N/A

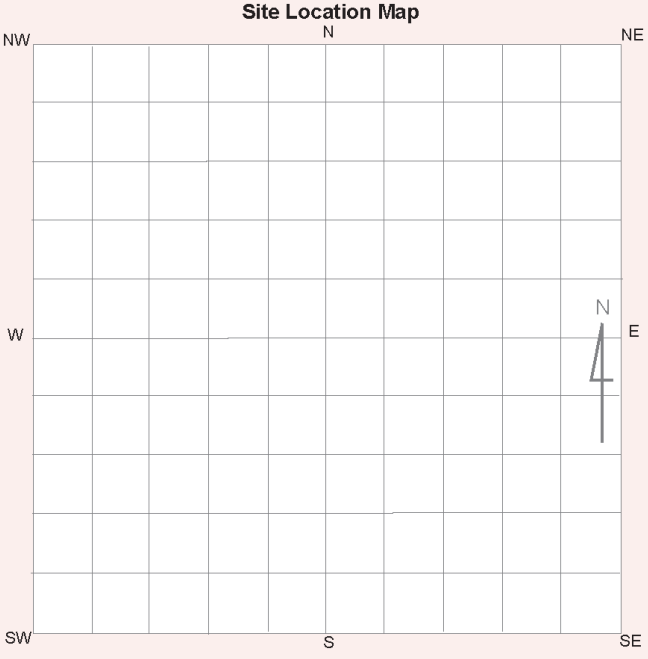
**Water**

| | |
|---|---|
| Distance to permanent water source | 830 metres |
| Distance to temporary water source | 40 metres |
| Name of nearest permanent water source | Long Swamp |
| Name of nearest temporary water | Unnamed |

Directions for Relocation

Site was located within Lot 4 DP253435, which is accessed off the Hume Highway opposite Burnt Cottage Road. Drive west along main access track for approximately 600m then head north across the paddock for 400m to the southern edge of a wooded area. Head northeast for 130m to southern edge of large dam.

**Site Location Map**




**Current Land Tenure**

- [ ] Public — National Park / other Government Dept.
- [ ] Private

**Primary report** **I.D.** [ ] (I.D. Office Use only)

Artefact Heritage, 2012. 'Sutton Forest Sand Quarry: Aboriginal Heritage Constraints Assessment'. Report to RW Corkey on behalf of Sutton Forest Sand Quarries.

## NPWS Aboriginal Site Recording Form - Site Information

*page 3*

### General Site Information

**Closed Site**

**Shelter/Cave Formation**
- ☐ Boulder
- ☐ Wind erosion
- ☐ Water erosion
- ☐ Rock collapse

**Rock Surface Condition**
- ☐ Boulder
- ☐ Sandstone platform
- ☐ Silica gloss
- ☐ Tessellated
- ☐ Weathered
- ☐ Other platform

**Open Site**

**Site Orientation**
- ☐ N-S
- ☐ NE-SW
- ☐ E-W
- ☐ SE-NW
- ☐ N/A

**Condition of Ceiling**
- ☐ Boulder
- ☐ Sandstone platform
- ☐ Silica gloss
- ☐ Tessellated
- ☐ Weathered
- ☐ Other platform

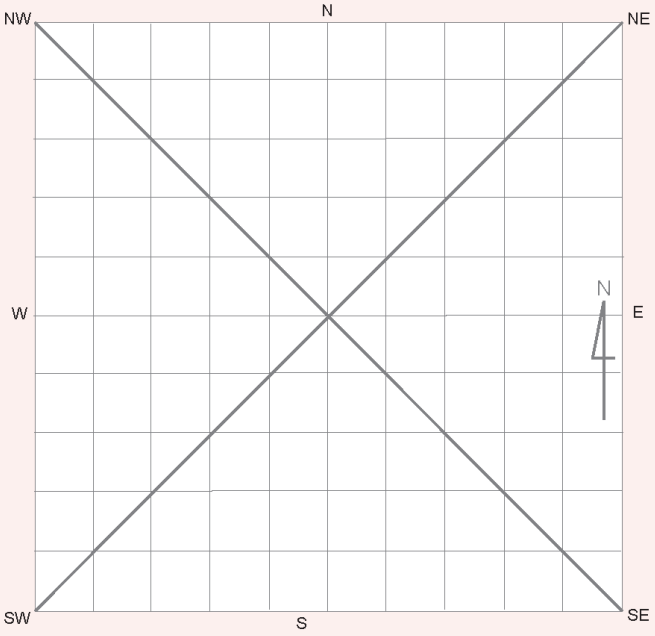
**Shelter Aspect**
- ☐ North
- ☐ North East
- ☐ East
- ☐ South East
- ☐ South
- ☐ South West
- ☐ West
- ☐ North West

### Features

- ☐ 1. Aboriginal Ceremony & Dreaming
- ☐ 2. Aboriginal Resource & Gathering
- ☐ 3. Art
- ☑ 4. Artefact
- ☐ 5. Burial
- ☐ 6. Ceremonial Ring
- ☐ 7. Conflict
- ☐ 8. Earth Mound
- ☐ 9. Fish Trap
- ☐ 10. Grinding Groove
- ☐ 11. Habitation Structure
- ☐ 12. Hearth
- ☐ 13. Non Human Bone & Organic Material
- ☐ 14. Ochre quarry
- ☐ 15. Potential Archaeological Deposit
- ☐ 16. Stone Quarry
- ☐ 17. Shell
- ☐ 18. Stone Arrangement
- ☐ 19. Modified Tree
- ☐ 20. Water Hole

### Site Plan

Indicate scale, boundaries of site, features




### Site Dimensions

**Closed Site Dimensions (m)**

| | |
|---|---|
| | Internal length |
| | Internal width |
| | Shelter height |
| | Shelter floor area |

**Open Site Dimensions (m)**

| | |
|---|---|
| 90 | Total length of visible site |
| 30 | Average width of visible site |
| 270 | Estimated area of visible site |
| | Length of assessed site area |

## NPWS Aboriginal Site Recording Form - Site Interpretation and Community Statement *page 4*

**Aboriginal Community Interpretation and Management Recommendations**

### Preliminary Site Assessment

**Site Cultural & Scientific Analysis and Preliminary Management Recommendations**

This section should only be filled in by the Endorsees

**Endorsed by:** ☐ Knowledge Holder ☐ Nominated Trustee ☐ Native Title Holder ☐ Community Consensus

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

**Attachments (No.)**

- ☑ A4 location map
- ☐ B/W photographs
- ☑ Colour photographs
- ☐ Slides
- ☐ Aerial photographs
- ☐ Site plans, drawings
- ☑ Recording tables
- ☑ Other
- ☐ Feature inserts-No. ☐

**Comments**

See attached information

**SFQ AS5** (Sutton Forest Quarry Artefact Scatter 5)

Landform: Slope / crest
Coordinates: 244032E 6166246N (GDA 94 MGA56)
Site type: Open artefact scatter
Site Length: 90 m (assessed area)
Site Width: 30 m (assessed area)

Site SFQ AS5 consisted of an extensive scatter of artefacts in a slope landform context on the southern side of a large dam and dam wall. Prior to the construction of the dam, the site would originally have been located within 50 m of an unnamed 1st order watercourse that flowed towards the northwest. The site was associated with SFQ AS6, which was an extensive scatter of artefacts on the northern side of the dam.

The site area covered approximately 90 m east-west and 30 m north-south. The site area would likely extend further to the east and south outside the current study area. To the west, the western boundary of the site consisted of a small, raised spur overlooking a small dam that had been constructed within a shallow open drainage channel. Site SFQ AS4 was located approximately 60 m to the west on the opposite side of the small dam. Vegetation consisted of dense grass cover, with the majority of surface visibility associated with an unformed vehicle track that ran south off the dam wall. Away from the vehicle track surface visibility was very low and less than 3%. Artefact characteristics are outlined in Table 1 below.

**Table 1: Characteristics of artefacts identified at SFQ AS5**

| Raw Material | Colour | Fragment | Length (mm) | Width (mm) | Thickness (mm) |
|---|---|---|---|---|---|
| Silcrete | Red | Proximal flake fragment | 30* | 21* | 9* |
| Silcrete | Banded light grey | Flake | 28 | 13 | 4 |
| Quartz | Translucent | Flaked piece | 17* | 11* | 5* |
| Silcrete | Pink | Flake | 19 | 12 | 4 |
| Silcrete | Light grey | Unifacial core | 28* | 14* | 10* |
| Silcrete | Light grey | Proximal flake fragment | 14* | 12* | 2* |
| Silcrete | Light grey | Proximal flake fragment | 18* | 15* | 5* |
| Silcrete | Light grey | Proximal flake fragment | 17* | 12* | 3* |
| Silcrete | Light grey | Flake | 24 | 16 | 6 |
| Silcrete | Grey | Medial flake fragment | 27* | 25* | 14* |
| Silcrete | Light grey | Medial flake fragment | 24* | 18* | 4* |
| Quartz | White | Unifacial core | 33* | 25* | 15* |

* = block measurements (maximum dimensions)

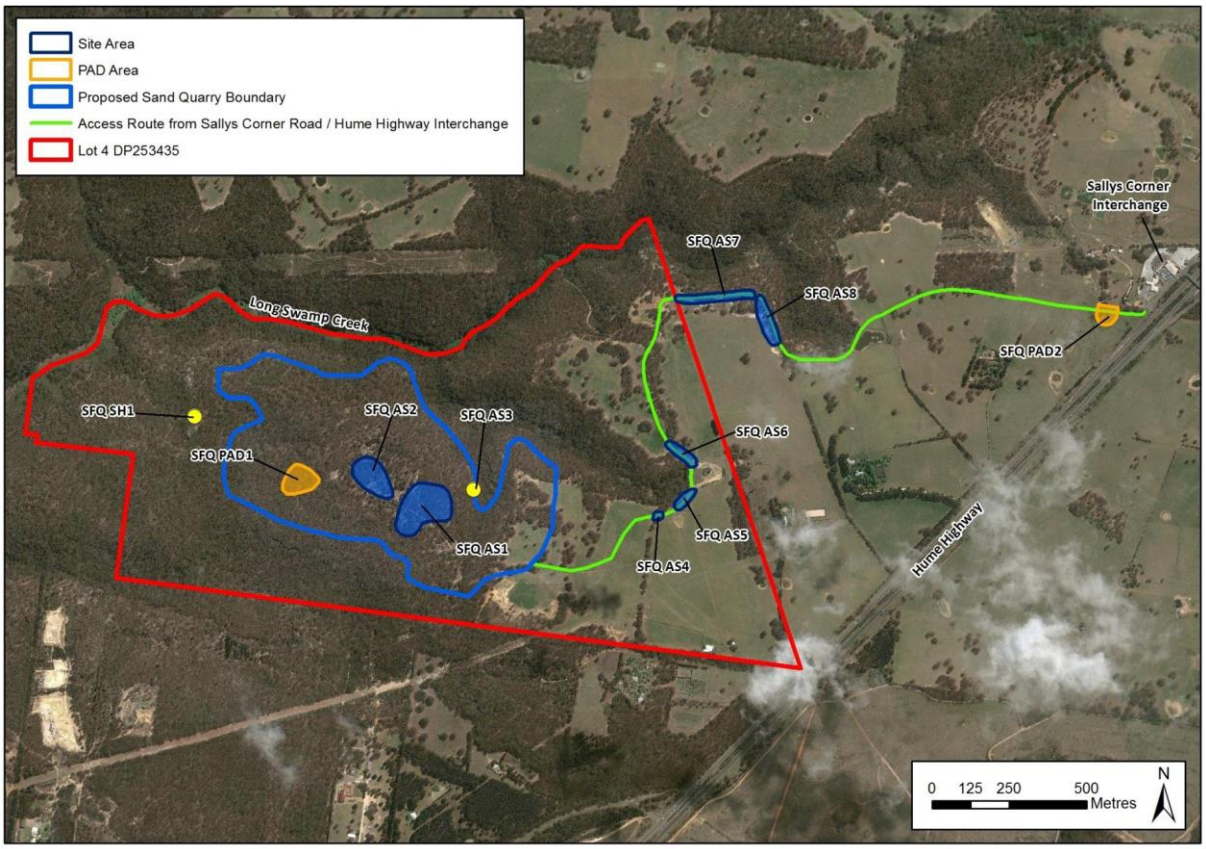
**Plate 1: Detail of artefacts 1-4, SFQ AS5**


**Plate 2: Detail of artefacts 5-8, SFQ AS5**


**Plate 3: View south towards SFQ AS5 from dam wall**

**Plate 4: Detail of artefacts 9-12, SFQ AS5**


**Plate 5: View northeast across vehicle track exposure with dam in background, SFQ AS5**


Site Area
PAD Area
Proposed Sand Quarry Boundary
Access Route from Sallys Corner Road / Hume Highway Interchange
Lot 4 DP253435
Sallys Corner Interchange
SFQ AS7
SFQ AS8
Long Swamp Creek
SFQ PAD2
SFQ SH1
SFQ AS2
SFQ AS3
SFQ AS6
SFQ PAD1
SFQ AS5
SFQ AS1
SFQ AS4
Hume Highway
0 125 250 500
Metres
N


## Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220

NSW GOVERNMENT Office of Environment & Heritage

**Office Use Only**

**Site Number** ___-___-____

Date received / / Date entered into system / / Date catalogued / /

Entered by (I.D.)

### Information Access

☐ Gender/male ☐ Gender/female ☐ Location restriction ☐ General restriction ☐ No access

Office Use Only

### For Further Information Contact:

☐ **Nominated Trustee**

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

Client on system ☐

☐ **Knowledge Holder**

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

Client on system ☐

**Aboriginal Heritage Unit or Cultural Heritage Division Contacts**

### Geographic Location

Site Name: SFQ_AS6

Easting: 244052 Northing: 6166352 AGD/GDA: GDA

Mapsheet: CANYONLEIGH

**Zone**: 56 Location Method: Non-Differential GPS

Other Registration:

### Primary Recorder

Title | Surname | First Name | Initials

MR | SYMONS | JOSH

Organisation: ARTEFACT HERITAGE

Address: PO BOX 7722 ROSE BAY NSW 2029

Phone number: 90253958 Fax:

Date recorded: 21/11/2012

Client on system ☐

## NPWS Aboriginal Site Recording Form - Site Information

*page 2*

**OPEN/CLOSE SITE** Open Site

### Site Context

**Landform**

- [ ] Mountainous
- [ ] Plain
- [x] Rolling hills
- [ ] Steep hills
- [ ] Undulating plain

**Slope**

[ ] degrees

**Landform Unit**

- [ ] Beach
- [ ] Coastal rock platform
- [ ] Dune
- [ ] Intertidal flat
- [ ] Lagoon
- [ ] Tidal Creek
- [ ] Tidal Flat
- [ ] Cliff
- [ ] Crest
- [ ] Flat
- [ ] Lower slope
- [x] Mid slope
- [ ] Upper slope
- [ ] Plain
- [ ] Ridge
- [ ] Tor
- [ ] Valley flat
- [ ] Levy
- [ ] Stream bank
- [ ] Stream channel
- [ ] Swamp
- [ ] Terrace
- [ ] Terrace flat

**Vegetation**

- [ ] Closed forest
- [ ] Grasslands
- [ ] Isolated clumps of trees
- [ ] Open forest
- [ ] Open woodland
- [ ] Scrub
- [ ] Woodland
- [x] Cleared
- [ ] Revegetated
- [ ] N/A

**Land use**

- [ ] Conservation
- [ ] Established urban
- [ ] Farming-intensive
- [ ] Farming-low intensity
- [ ] Forestry
- [ ] Industrial
- [ ] Mining
- [x] Pastoral/grazing
- [ ] Recreation
- [ ] Semi-rural
- [ ] Service corridor
- [ ] Transport corridor
- [ ] Urban expansion
- [ ] N/A

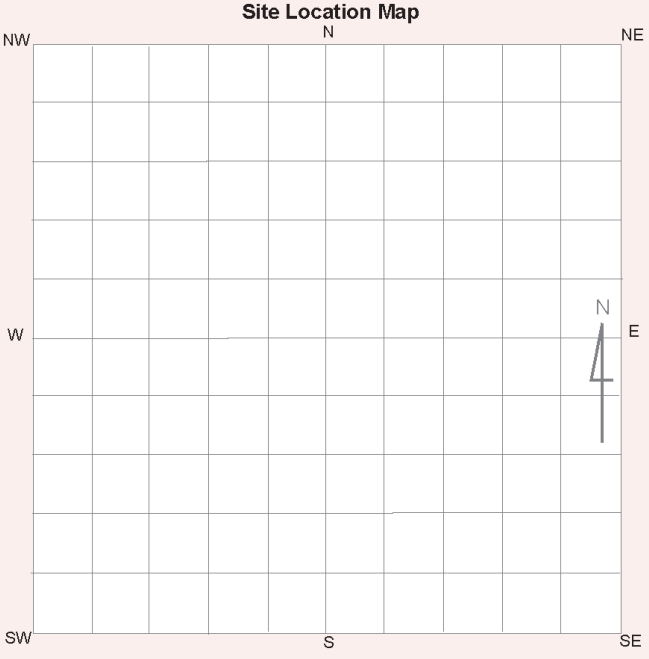
**Water**

| | |
|---|---|
| Distance to permanent water source | 830 metres |
| Distance to temporary water source | 50 metres |
| Name of nearest permanent water source | Long Swamp |
| Name of nearest temporary water | Unnamed |

**Directions for Relocation**

Site was located within Lot 4 DP253435, which is accessed off the Hume Highway opposite Burnt Cottage Road. Drive west along main access track for approximately 600m then head north across the paddock for 400m to the southern edge of a wooded area. Head northeast for 130m to southern edge of large dam then head north across dam wall.

**Site Location Map**




**Current Land Tenure**

- [ ] Public — National Park / other Government Dept.
- [x] Private

**Primary report** **I.D.** [ ] (I.D. Office Use only)

Artefact Heritage, 2012. 'Sutton Forest Sand Quarry: Aboriginal Heritage Constraints Assessment'. Report to RW Corkey on behalf of Sutton Forest Sand Quarries.

## NPWS Aboriginal Site Recording Form - Site Information

*page 3*

### General Site Information

**Closed Site**

**Shelter/Cave Formation**
- ☐ Boulder
- ☐ Wind erosion
- ☐ Water erosion
- ☐ Rock collapse

**Rock Surface Condition**
- ☐ Boulder
- ☐ Sandstone platform
- ☐ Silica gloss
- ☐ Tessellated
- ☐ Weathered
- ☐ Other platform

**Open Site**

**Site Orientation**
- ☐ N-S
- ☐ NE-SW
- ☐ E-W
- ☐ SE-NW
- ☐ N/A

**Condition of Ceiling**
- ☐ Boulder
- ☐ Sandstone platform
- ☐ Silica gloss
- ☐ Tessellated
- ☐ Weathered
- ☐ Other platform

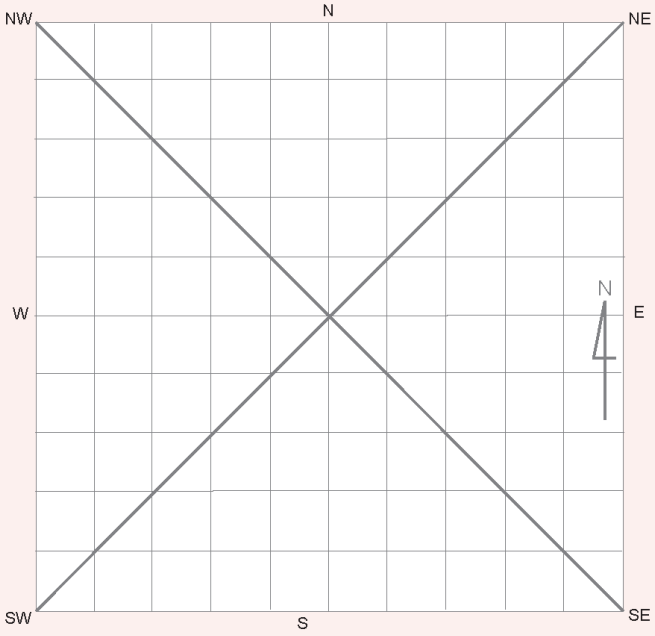
**Shelter Aspect**
- ☐ North
- ☐ North East
- ☐ East
- ☐ South East
- ☐ South
- ☐ South West
- ☐ West
- ☐ North West

### Features

- ☐ 1. Aboriginal Ceremony & Dreaming
- ☐ 2. Aboriginal Resource & Gathering
- ☐ 3. Art
- ☑ 4. Artefact
- ☐ 5. Burial
- ☐ 6. Ceremonial Ring
- ☐ 7. Conflict
- ☐ 8. Earth Mound
- ☐ 9. Fish Trap
- ☐ 10. Grinding Groove
- ☐ 11. Habitation Structure
- ☐ 12. Hearth
- ☐ 13. Non Human Bone & Organic Material
- ☐ 14. Ochre quarry
- ☐ 15. Potential Archaeological Deposit
- ☐ 16. Stone Quarry
- ☐ 17. Shell
- ☐ 18. Stone Arrangement
- ☐ 19. Modified Tree
- ☐ 20. Water Hole

### Site Plan

Indicate scale, boundaries of site, features




### Site Dimensions

**Closed Site Dimensions (m)**
- ☐ Internal length
- ☐ Internal width
- ☐ Shelter height
- ☐ Shelter floor area

**Open Site Dimensions (m)**
- ☐ Total length of visible site
- ☐ Average width of visible site
- ☐ Estimated area of visible site
- ☐ Length of assessed site area

## NPWS Aboriginal Site Recording Form - Site Interpretation and Community Statement *page 4*

**Aboriginal Community Interpretation and Management Recommendations**

### Preliminary Site Assessment

**Site Cultural & Scientific Analysis and Preliminary Management Recommendations**

This section should only be filled in by the Endorsees

**Endorsed by:** ☐ Knowledge Holder ☐ Nominated Trustee ☐ Native Title Holder ☐ Community Consensus

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

**Attachments (No.)**

- ☑ A4 location map
- ☐ B/W photographs
- ☑ Colour photographs
- ☐ Slides
- ☐ Aerial photographs
- ☐ Site plans, drawings
- ☑ Recording tables
- ☑ Other
- ☐ Feature inserts-No. ☐

**Comments**

See attached information

**SFQ AS6** (Sutton Forest Quarry Artefact Scatter 6)

Landform: Slope
Coordinates: 244052E 6166352N (GDA 94 MGA56)
Site type: Open artefact scatter
Site Length: 120 m (assessed area)
Site Width: 30 m (assessed area)

Site SFQ AS6 consisted of a scatter of artefacts in a slope landform context on the northern side of a large dam and dam wall. Prior to the construction of the dam, the site would originally have been located within 50 m of an unnamed 1st order watercourse that flowed towards the northwest. The site was associated with SFQ AS5, which was an extensive scatter of artefacts on the southern side of the dam.

The assessed site area covered approximately 120 m northwest-southeast and 30 m southwest-northeast. The site area would likely continue further to the west and east outside the current study area. To the north, the northern boundary of the site was associated with the southern margin of a large, gently sloping crest landform outside the study area.

Vegetation coverage across the site consisted of dense grass cover, with occasional Eucalypts towards the western and southern site boundaries. The artefacts were predominantly identified across a surface exposure associated with a vehicle track that ran south off the dam wall. The surface exposure appeared to be extensively disturbed by vehicle movement and erosion. Surface visibility across the remaining densely grassed portion of the site, which appeared to be less disturbed, was less than 3%.

Identified artefact materials included silcrete and quartz, with two pieces of black silcrete observed. Characteristics of artefacts identified at site SFQ AS6 are included in Table 1 below.

**Table 1: Characteristics of artefacts identified at SFQ AS6**

| Raw Material | Colour | Fragment | Length (mm) | Width (mm) | Thickness (mm) |
|---|---|---|---|---|---|
| Silcrete | Light grey | Proximal flake fragment | 15* | 13* | 4* |
| Silcrete | White | Split flake | 22* | 20* | 8* |
| Silcrete | Dark grey | Proximal flake fragment | 21* | 21* | 5* |
| Silcrete | Black | Split flake | 23* | 15* | 5* |
| Silcrete | Black | Retouched proximal flake fragment | 19* | 19* | 5* |
| Quartz | White | Proximal flake fragment | 19* | 12* | 5* |
| Quartz | Translucent | Flaked piece | 34* | 22* | 14* |

* = block measurements (maximum dimensions)

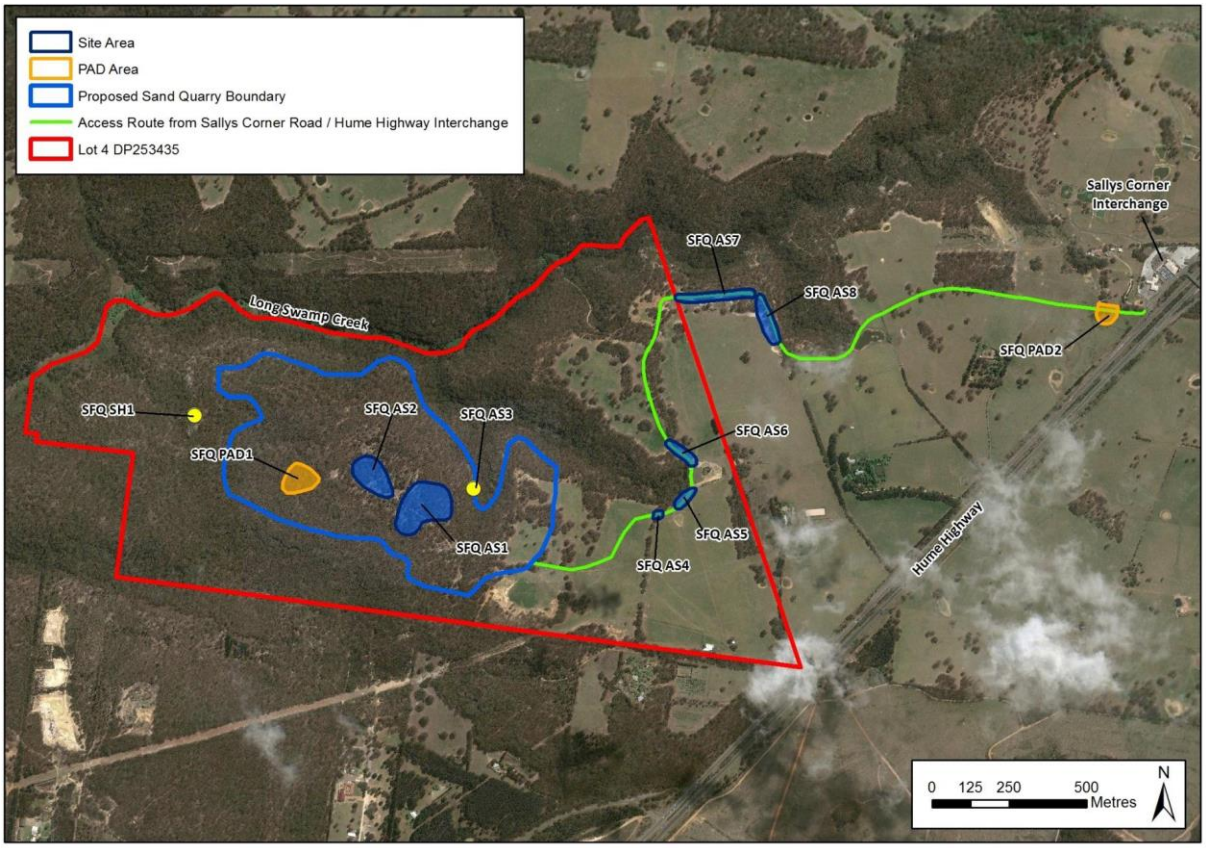
**Plate 1: Detail of artefacts 1-3, SFQ AS6**


**Plate 2: Detail of artefacts 4-7, SFQ AS6**


**Plate 3: View northwest across site SFQ AS6**

**Plate 4: View northeast across surface exposure, site SFQ AS6**

**Plate 5: View south across dam wall towards site SFQ AS5**


Site Area
PAD Area
Proposed Sand Quarry Boundary
Access Route from Sallys Corner Road / Hume Highway Interchange
Lot 4 DP253435
Sallys Corner Interchange
SFQ AS7
SFQ AS8
Long Swamp Creek
SFQ PAD2
SFQ SH1
SFQ AS2
SFQ AS3
SFQ AS6
SFQ PAD1
SFQ AS5
SFQ AS1
SFQ AS4
Hume Highway
0 125 250 500
Metres
N

AHIMS Aboriginal Heritage Information Management System

## Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220

NSW GOVERNMENT Office of Environment & Heritage

**Office Use Only**

**Site Number** _ _ _ _ _ _

Date received / / Date entered into system / / Date catalogued / /

Entered by (I.D.)

### Information Access

☐ Gender/male ☐ Gender/female ☐ Location restriction ☐ General restriction ☐ No access

Office Use Only

### For Further Information Contact:

☐ **Nominated Trustee**

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

Client on system ☐

☐ **Knowledge Holder**

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

Client on system ☐

**Aboriginal Heritage Unit or Cultural Heritage Division Contacts**

### Geographic Location

Site Name: SFQ AS8

Easting: 244294 Northing: 6166779 AGD/GDA: GDA

Mapsheet: CANYON LEIGH 8928-4-N

**Zone**: 56 Location Method: Non-Differential GPS

Other Registration:

### Primary Recorder

Title | Surname: Symons | First Name: Josh | Initials

Organisation: Artefact Heritage

Address: PO Box 772 Rose Bay NSW 2029

Phone number: 90253958 Fax: 90253990

Client on system ☐

Date recorded: 21/11/2012

## NPWS Aboriginal Site Recording Form - Site Information

*page 2*

**OPEN/CLOSE SITE** Open Site

### Site Context

**Landform**

- ☐ Mountainous
- ☐ Plain
- ☑ Rolling hills
- ☐ Steep hills
- ☐ Undulating plain

**Slope**

☐ degrees

**Landform Unit**

- ☐ Beach
- ☐ Coastal rock platform
- ☐ Dune
- ☐ Intertidal flat
- ☐ Lagoon
- ☐ Tidal Creek
- ☐ Tidal Flat
- ☐ Cliff
- ☑ Crest
- ☐ Flat
- ☐ Lower slope
- ☑ Mid slope
- ☐ Upper slope
- ☐ Plain
- ☐ Ridge
- ☐ Tor
- ☐ Valley flat
- ☐ Levy
- ☐ Stream bank
- ☐ Stream channel
- ☐ Swamp
- ☐ Terrace
- ☐ Terrace flat

**Vegetation**

- ☐ Closed forest
- ☐ Grasslands
- ☐ Isolated clumps of trees
- ☐ Open forest
- ☑ Open woodland
- ☐ Scrub
- ☐ Woodland
- ☐ Cleared
- ☐ Revegetated
- ☐ N/A

**Land use**

- ☐ Conservation
- ☐ Established urban
- ☐ Farming-intensive
- ☐ Farming-low intensity
- ☐ Forestry
- ☐ Industrial
- ☐ Mining
- ☑ Pastoral/grazing
- ☐ Recreation
- ☐ Semi-rural
- ☐ Service corridor
- ☐ Transport corridor
- ☐ Urban expansion
- ☐ N/A

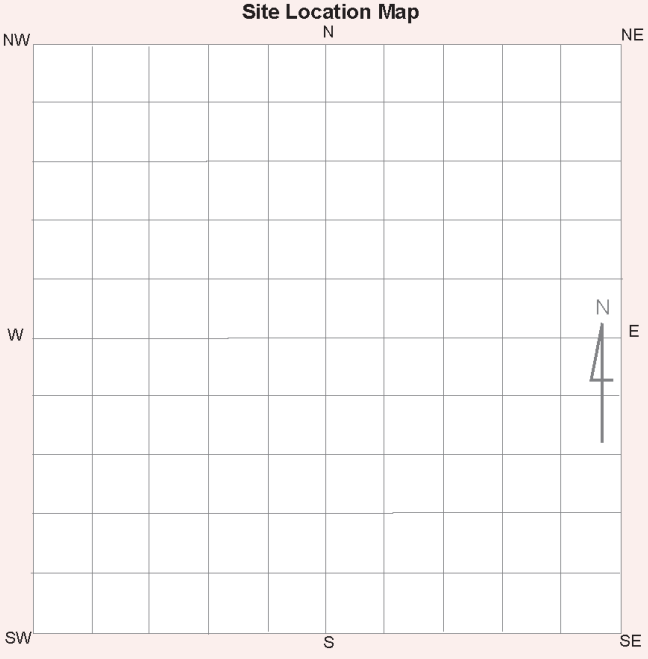
**Water**

| | |
|---|---|
| Distance to permanent water source | 150 metres |
| Distance to temporary water source | 650 metres |
| Name of nearest permanent water source | Long Swamp |
| Name of nearest temporary water | 1st Order |

Directions for Relocation

Site was located within Lot 3 DP253435, which is accessed off the Hume Highway. The site was located at the northeastern end of the property. Please seek permission before entering.

**Site Location Map**




**Current Land Tenure**

- ☐ Public — National Park / other Government Dept.
- ☑ Private

**Primary report** **I.D.** (I.D. Office Use only)

Artefact Heritage, 2012. 'Sutton Forest Sand Quarry: Aboriginal Heritage Constraints Assessment'. Report to RW Corkey on behalf of Sutton Forest Sand Quarries.

## NPWS Aboriginal Site Recording Form - Site Information

*page 3*

### General Site Information

**Closed Site**

**Shelter/Cave Formation**
- [ ] Boulder
- [ ] Wind erosion
- [ ] Water erosion
- [ ] Rock collapse

**Rock Surface Condition**
- [ ] Boulder
- [ ] Sandstone platform
- [ ] Silica gloss
- [ ] Tessellated
- [ ] Weathered
- [ ] Other platform

**Open Site**

**Site Orientation**
- [ ] N-S
- [ ] NE-SW
- [ ] E-W
- [ ] SE-NW
- [x] N/A

**Condition of Ceiling**
- [ ] Boulder
- [ ] Sandstone platform
- [ ] Silica gloss
- [ ] Tessellated
- [ ] Weathered
- [ ] Other platform

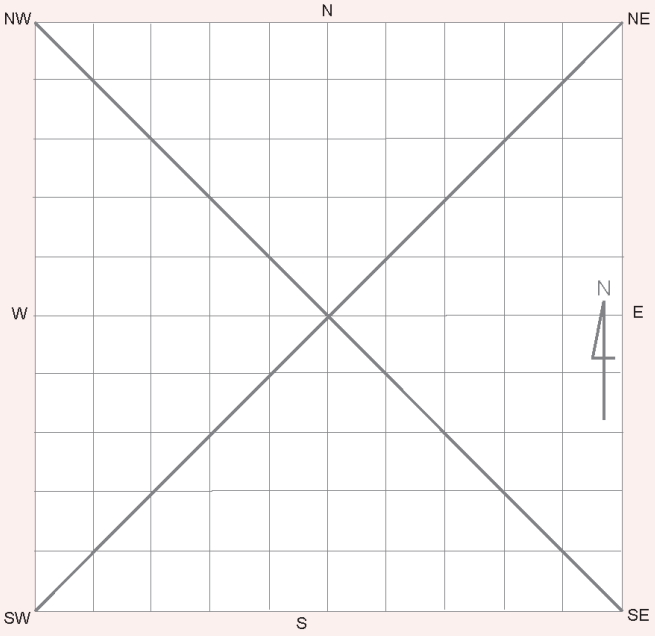
**Shelter Aspect**
- [ ] North
- [ ] North East
- [ ] East
- [ ] South East
- [ ] South
- [ ] South West
- [ ] West
- [ ] North West

### Features

- [ ] 1. Aboriginal Ceremony & Dreaming
- [ ] 2. Aboriginal Resource & Gathering
- [ ] 3. Art
- [x] 4. Artefact
- [ ] 5. Burial
- [ ] 6. Ceremonial Ring
- [ ] 7. Conflict
- [ ] 8. Earth Mound
- [ ] 9. Fish Trap
- [ ] 10. Grinding Groove
- [ ] 11. Habitation Structure
- [ ] 12. Hearth
- [ ] 13. Non Human Bone & Organic Material
- [ ] 14. Ochre quarry
- [ ] 15. Potential Archaeological Deposit
- [ ] 16. Stone Quarry
- [ ] 17. Shell
- [ ] 18. Stone Arrangement
- [ ] 19. Modified Tree
- [ ] 20. Water Hole

### Site Plan

Indicate scale, boundaries of site, features




### Site Dimensions

**Closed Site Dimensions (m)**

| | |
|---|---|
| | Internal length |
| | Internal width |
| | Shelter height |
| | Shelter floor area |

**Open Site Dimensions (m)**

| | |
|---|---|
| 170 | Total length of visible site |
| 40 | Average width of visible site |
| 210 | Estimated area of visible site |
| 170 | Length of assessed site area |

## NPWS Aboriginal Site Recording Form - Site Interpretation and Community Statement *page 4*

**Aboriginal Community Interpretation and Management Recommendations**

### Preliminary Site Assessment

**Site Cultural & Scientific Analysis and Preliminary Management Recommendations**

This section should only be filled in by the Endorsees

**Endorsed by:** ☐ Knowledge Holder ☐ Nominated Trustee ☐ Native Title Holder ☐ Community Consensus

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

**Attachments (No.)**

- ☑ A4 location map
- ☐ B/W photographs
- ☑ Colour photographs
- ☐ Slides
- ☐ Aerial photographs
- ☐ Site plans, drawings
- ☑ Recording tables
- ☑ Other
- ☐ Feature inserts-No. ☐

**Comments**

See attached.

**SFQ AS8** (Sutton Forest Quarry Artefact Scatter 8)

| | |
|---|---|
| Landform: | Slope / crest |
| Coordinates: | 244294E 6166779N (GDA 94 MGA56) |
| Site type: | Open artefact scatter |
| Site Length: | 170 m (assessed area) |
| Site Width: | 40 m (assessed area) |

Site SFQ AS8 consisted of a scatter of artefacts bordering the eastern side of a gently sloping crest landform. The crest landform to the west was outside the current study area. Site SFQ AS8 was located across flat to gently sloping landform contexts bordering a shallow open drainage channel immediately to the east. The site was located in a similar landform context to site SFQ AS7, which was located on the northern edge of the crest landform to immediately northwest of site SFQ AS8.

A total of nine artefacts at site SFQ AS8 were identified at three locations within over a 40 m x 10 m area. The artefacts were identified across a deflated surface with large exposures of the underlying sandstone bedrock present across the northern portion of the site. Soils across the site appeared to be subject to intense surface erosion processes. It is possible that the artefacts have eroded out of the slightly higher landform immediately west of the site area and outside the current study area.

Vegetation across the site area consisted of dense grass cover in parts, occasional small shrubs, occasional young Eucalypts and occasional large scribbly gums. Surface visibility over large portions of the study area was very high due to erosional process. Surface visibility across the remainder of the site area was low due to either dense grass cover or leaf litter.

Characteristics of the nine identified artefacts are outlined in Table 1 below.

**Table 1: Characteristics of artefacts identified at SFQ AS8**

| Raw Material | Colour | Fragment | Length (mm) | Width (mm) | Thickness (mm) |
|---|---|---|---|---|---|
| Silcrete | Light grey | Medial flake fragment | 17* | 14* | 3* |
| Quartz | White | Distal flake fragment | 12* | 8* | 1* |
| Quartz | White | Flake | 10 | 8 | 1 |
| Quartz | White | Medial flake fragment | 10* | 5* | 1* |
| Quartz | White | Distal flake fragment | 19* | 10* | 3* |
| Quartz | White | Flaked piece | 18* | 12* | 3* |
| Quartz | White | Flake | 24 | 19 | 9 |
| Volcanic | Dark grey | Core | 30* | 18* | 8* |
| Quartz | Translucent | Medial flake fragment | 9* | 7* | 1* |

* = block measurements (maximum dimensions)

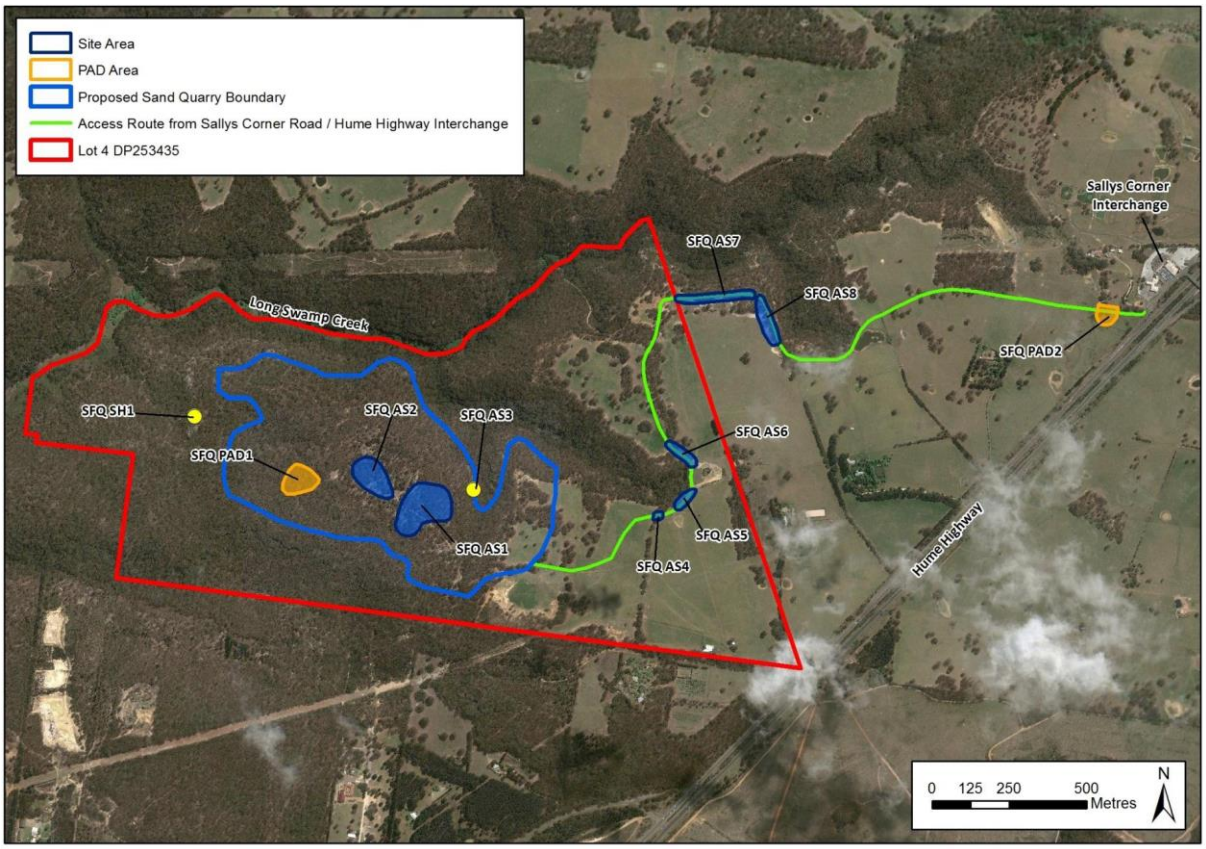
**Plate 1: Detail of artefacts 1-6, site SFQ AS8**


**Plate 2: Detail of artefact 7, site SFQ AS8**


**Plate 3: View north across site SFQ AS8 showing surface exposure and exposed sandstone bedrock in the background**

**Plate 4: Detail of artefacts 8 and 9, site SFQ AS8**


**Plate 5: View south across site SFQ AS8**


Site Area
PAD Area
Proposed Sand Quarry Boundary
Access Route from Sallys Corner Road / Hume Highway Interchange
Lot 4 DP253435
Sallys Corner Interchange
SFQ AS7
SFQ AS8
Long Swamp Creek
SFQ PAD2
SFQ SH1
SFQ AS2
SFQ AS3
SFQ AS6
SFQ PAD1
SFQ AS5
SFQ AS1
SFQ AS4
Hume Highway
0 125 250 500
Metres
N


## Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220

NSW GOVERNMENT Office of Environment & Heritage

**Office Use Only**

Site Number

Date received / / Date entered into system / / Date catalogued / /

Entered by (I.D.)

### Information Access

☐ Gender/male ☐ Gender/female ☐ Location restriction ☐ General restriction ☐ No access

Office Use Only

### For Further Information Contact:

☐ **Nominated Trustee**

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

Client on system ☐

☐ **Knowledge Holder**

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

Client on system ☐

**Aboriginal Heritage Unit or Cultural Heritage Division Contacts**

### Geographic Location

Site Name SFQ SH1

Easting 244443 Northing 6166498 AGD/GDA GDA

Mapsheet Canyonleigh

**Zone** 56 Location Method Non-Differential GPS

Other Registration

### Primary Recorder

Title | Surname | First Name | Initials

MR | SYMONS | JOSH

Organisation ARTEFACT HERITAGE

Address PO BOX 7722 ROSE BAY NSW 2029

Phone number 90253958 Fax

Date recorded 20/11/2012

Client on system ☐

## NPWS Aboriginal Site Recording Form - Site Information

*page 2*

**OPEN/CLOSE SITE** Closed Site

### Site Context

**Landform**

- ☐ Mountainous
- ☐ Plain
- ☑ Rolling hills
- ☐ Steep hills
- ☐ Undulating plain

**Slope**

☐ degrees

**Landform Unit**

- ☐ Beach
- ☐ Coastal rock platform
- ☐ Dune
- ☐ Intertidal flat
- ☐ Lagoon
- ☐ Tidal Creek
- ☐ Tidal Flat
- ☐ Cliff
- ☐ Crest
- ☐ Flat
- ☐ Lower slope
- ☑ Mid slope
- ☐ Upper slope
- ☐ Plain
- ☐ Ridge
- ☐ Tor
- ☐ Valley flat
- ☐ Levy
- ☐ Stream bank
- ☐ Stream channel
- ☐ Swamp
- ☐ Terrace
- ☐ Terrace flat

**Vegetation**

- ☐ Closed forest
- ☐ Grasslands
- ☐ Isolated clumps of trees
- ☐ Open forest
- ☑ Open woodland
- ☐ Scrub
- ☐ Woodland
- ☐ Cleared
- ☐ Revegetated
- ☐ N/A

**Land use**

- ☐ Conservation
- ☐ Established urban
- ☐ Farming-intensive
- ☐ Farming-low intensity
- ☐ Forestry
- ☐ Industrial
- ☑ Mining
- ☐ Pastoral/grazing
- ☐ Recreation
- ☐ Semi-rural
- ☐ Service corridor
- ☐ Transport corridor
- ☐ Urban expansion
- ☐ Residential

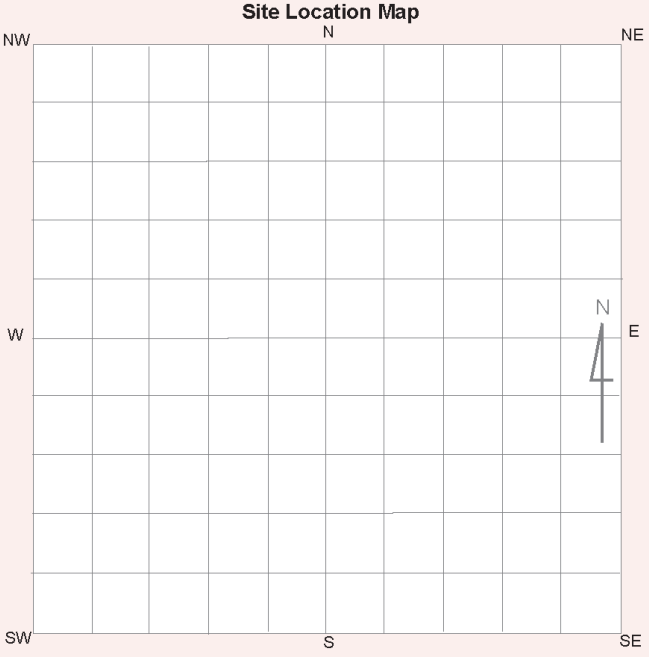
**Water**

| | |
|---|---|
| Distance to permanent water source | 320 metres |
| Distance to temporary water source | 50 metres |
| Name of nearest permanent water source | Long Swamp Creek |
| Name of nearest temporary water | Unnamed tributary |

**Directions for Relocation**

Site was located within Lot 4 DP253435, which is accessed off the Hume Highway opposite Burnt Cottage Road. Drive across property and proceed 1.4km along cleared vehicle track through forested area. Shelter is a 40m walk northeast of the vehicle track.

**Site Location Map**




**Current Land Tenure**

- ☐ Public — National Park / other Government Dept.
- ☑ Private

**Primary report** **I.D.** (I.D. Office Use only)

Artefact Heritage, 2012. 'Sutton Forest Sand Quarry: Aboriginal Heritage Constraints Assessment'. Report to RW Corkey on behalf of Sutton Forest Sand Quarries.

## NPWS Aboriginal Site Recording Form - Site Information

*page 3*

### General Site Information

**Closed Site**

**Shelter/Cave Formation**
- ☐ Boulder
- ☑ Wind erosion
- ☑ Water erosion
- ☐ Rock collapse

**Rock Surface Condition**
- ☐ Boulder
- ☐ Sandstone platform
- ☐ Silica gloss
- ☐ Tessellated
- ☑ Weathered
- ☐ Other platform

**Open Site**

**Site Orientation**
- ☐ N-S
- ☐ NE-SW
- ☐ E-W
- ☐ SE-NW
- ☐ N/A

**Condition of Ceiling**
- ☐ Boulder
- ☐ Sandstone platform
- ☐ Silica gloss
- ☐ Tessellated
- ☑ Weathered
- ☐ Other platform

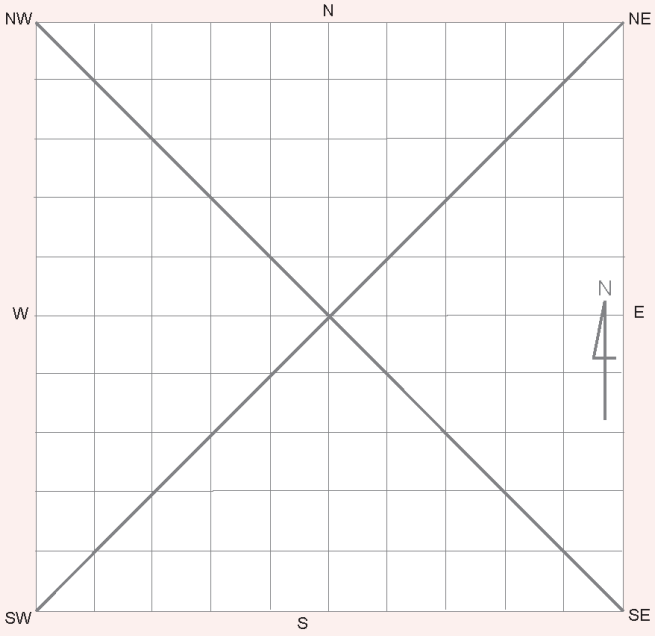
**Shelter Aspect**
- ☐ North
- ☐ North East
- ☐ East
- ☐ South East
- ☐ South
- ☐ South West
- ☐ West
- ☑ North West

### Features

- ☐ 1. Aboriginal Ceremony & Dreaming
- ☐ 2. Aboriginal Resource & Gathering
- ☑ 3. Art
- ☑ 4. Artefact
- ☐ 5. Burial
- ☐ 6. Ceremonial Ring
- ☐ 7. Conflict
- ☐ 8. Earth Mound
- ☐ 9. Fish Trap
- ☐ 10. Grinding Groove
- ☐ 11. Habitation Structure
- ☐ 12. Hearth
- ☐ 13. Non Human Bone & Organic Material
- ☐ 14. Ochre quarry
- ☐ 15. Potential Archaeological Deposit
- ☐ 16. Stone Quarry
- ☐ 17. Shell
- ☐ 18. Stone Arrangement
- ☐ 19. Modified Tree
- ☐ 20. Water Hole

### Site Plan

Indicate scale, boundaries of site, features




### Site Dimensions

**Closed Site Dimensions (m)**

| | |
|---|---|
| 35 | Internal length |
| 6 | Internal width |
| 4.5 | Shelter height |
| 210 | Shelter floor area |

**Open Site Dimensions (m)**

| | |
|---|---|
| | Total length of visible site |
| | Average width of visible site |
| | Estimated area of visible site |
| | Length of assessed site area |

## NPWS Aboriginal Site Recording Form - Site Interpretation and Community Statement *page 4*

**Aboriginal Community Interpretation and Management Recommendations**

### Preliminary Site Assessment

**Site Cultural & Scientific Analysis and Preliminary Management Recommendations**

This section should only be filled in by the Endorsees

**Endorsed by:** ☐ Knowledge Holder ☐ Nominated Trustee ☐ Native Title Holder ☐ Community Consensus

Title | Surname | First Name | Initials

Organisation

Address

Phone number | Fax

**Attachments (No.)**

- ☑ A4 location map
- ☐ B/W photographs
- ☑ Colour photographs
- ☐ Slides
- ☐ Aerial photographs
- ☐ Site plans, drawings
- ☐ Recording tables
- ☐ Other
- ☐ Feature inserts-No. ☐

**Comments**

The natural overhang formation was located on the western side of a sandstone outcrop that extended approximately 100 m southwest of a ridgeline located immediately to the south. The sandstone outcrop continued south for approximately 50 m beyond the southern margin of the large overhang formation.The shelter formation faced northwest across an unnamed 1st order watercourse. The shelter formation was approximately 35 m long and at its deepest was approximately 6 m wide and 4.5 m high. Art motifs on the rear shelter wall included hand stencils, charcoal motifs and petroglyphs. Occasional modern charcoal graffiti was also observed within the shelter. The shelter floor was flat and sandy. Numerous artefacts were identified across the shelter floor, especially towards the northern end. A sample of eight artefacts were recorded.

**SFQ SH1** (Sutton Forest Quarry Shelter 1)

Landform: Slope
Coordinates: 242443E 6166498N (GDA 94 MGA56)
Site type: Shelter with deposit and art
Site Length: 35 m
Site Width: 6 m

Site SFQ SH1 consisted of a large shelter site located within a natural sandstone overhang formation immediately outside the western boundary of the study area. The natural overhang formation was located on the western side of a sandstone outcrop that extended approximately 100 m southwest of a ridgeline located immediately to the south. The sandstone outcrop continued south for approximately 50 m beyond the southern margin of the large overhang formation.

The shelter formation faced northwest across an unnamed 1st order watercourse. The shelter formation was approximately 35 m long and at its deepest was approximately 6 m wide and 4.5 m high. Art motifs on the rear shelter wall included hand stencils, charcoal motifs and petroglyphs. Red pigment was used for the hand stencils. The charcoal motifs included humanoid characters and geometric patterns. The petroglyphs were located in two clusters on the rear wall of the shelter, one including at least nine images of animal feet. Occasional modern charcoal graffiti was also observed within the shelter.

The shelter floor was flat and sandy. Numerous artefacts were identified across the shelter floor, especially towards the northern end of the shelter. A sample of eight artefacts were recorded, with artefact characteristics outlined in Table 1 below.

**Table 1: Characteristics of artefacts identified at SFQ SH1**

| Raw Material | Colour | Fragment | Length (mm) | Width (mm) | Thickness (mm) |
|---|---|---|---|---|---|
| Silcrete | Grey | Flake | 37 | 14 | 13 |
| Silcrete | Grey | Core | 38* | 32* | 15* |
| Quartz | White | Flake | 18 | 27 | 8 |
| Quartz | Translucent | Split flake | 27* | 25* | 5* |
| Silcrete | Light grey | Flake | 65 | 56 | 15 |
| Silcrete | Light grey | Core | 27* | 26* | 20* |
| Silcrete | Light pink | Distal flake fragment | 17* | 14* | 8* |
| Silcrete | Dark red | Flaked piece | 24* | 14* | 9* |

* = block measurements (maximum dimensions)

**Plate 1: Detail of hand stencils, site SFQ SH1**

**Plate 2: Detail of charcoal motifs, site SFQ SH1**

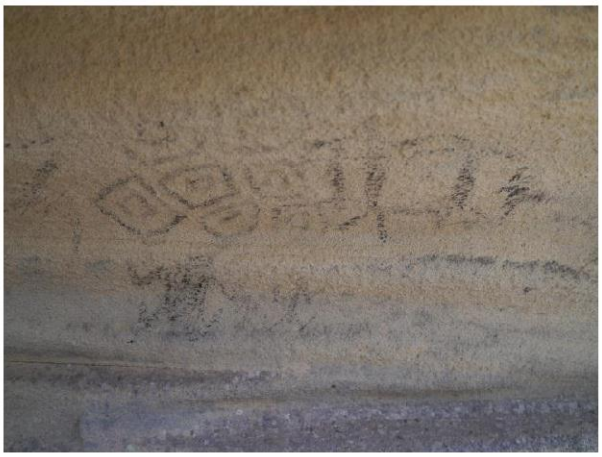
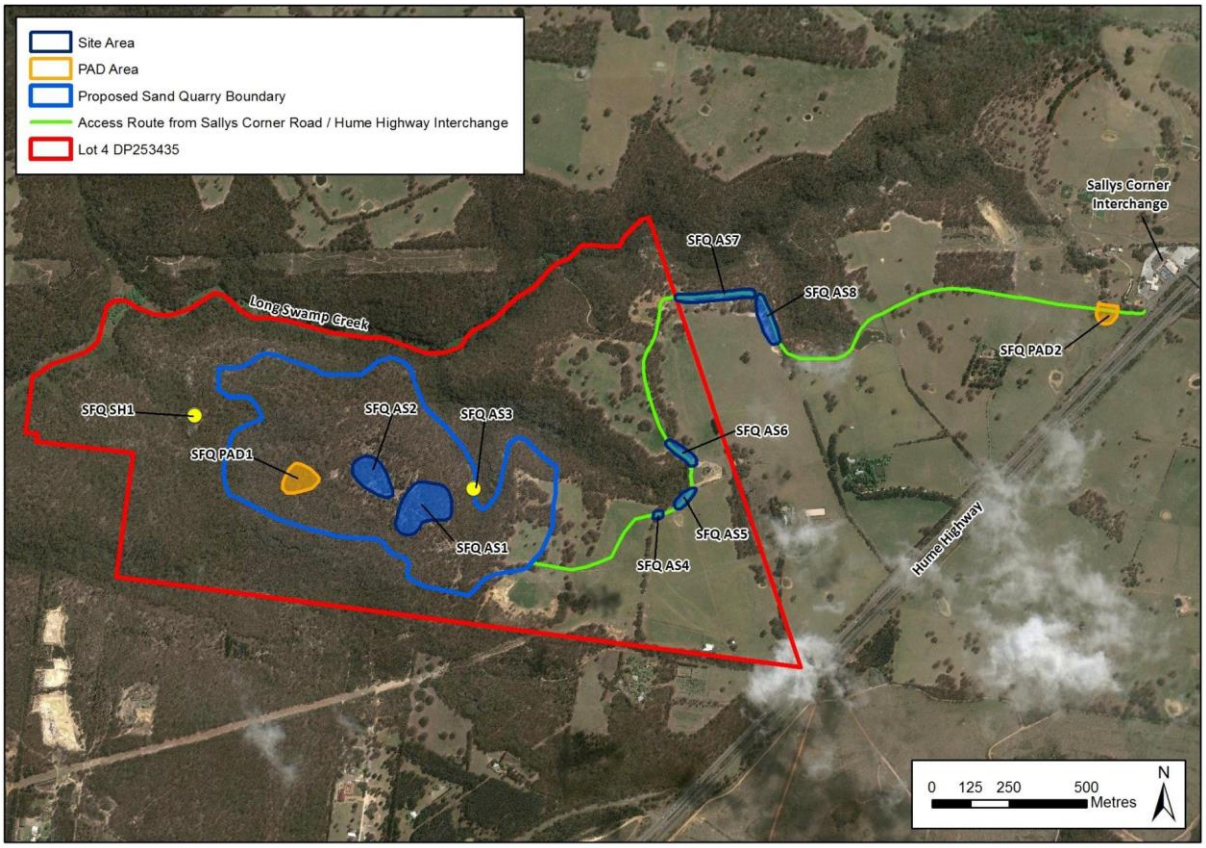


**Plate 3: View north through shelter site SFQ SH1**

**Plate 4: Detail of petroglyphs, site SFQ SH1**

**Plate 5: Detail of artefacts 5-8, site SFQ SH1**


Site Area
PAD Area
Proposed Sand Quarry Boundary
Access Route from Sallys Corner Road / Hume Highway Interchange
Lot 4 DP253435
Sallys Corner Interchange
SFQ AS7
SFQ AS8
SFQ PAD2
Long Swamp Creek
SFQ SH1
SFQ AS2
SFQ AS3
SFQ AS6
SFQ PAD1
SFQ AS5
SFQ AS1
SFQ AS4
Hume Highway
0 125 250 500
Metres
N

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