

Key

- Transect
- Survey corridor
- Study Area

Acknowledgements: Google Earth



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Figure 4: Survey transects completed within the Study Area

DATE: 13 December 2006

Checked by: MT

File number: S4445

Location:..4000\4400s\4445\Mapping\S4445 F4 transects.WOR

Scale:

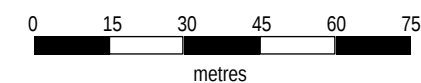


Figure 4: Survey transects completed within the Study Area



Key
 Area of sensitivity
 Study Area

Acknowledgements: Google Earth



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Figure 5: Areas of Aboriginal potential located within the Study Area

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Scale:

0

15

30

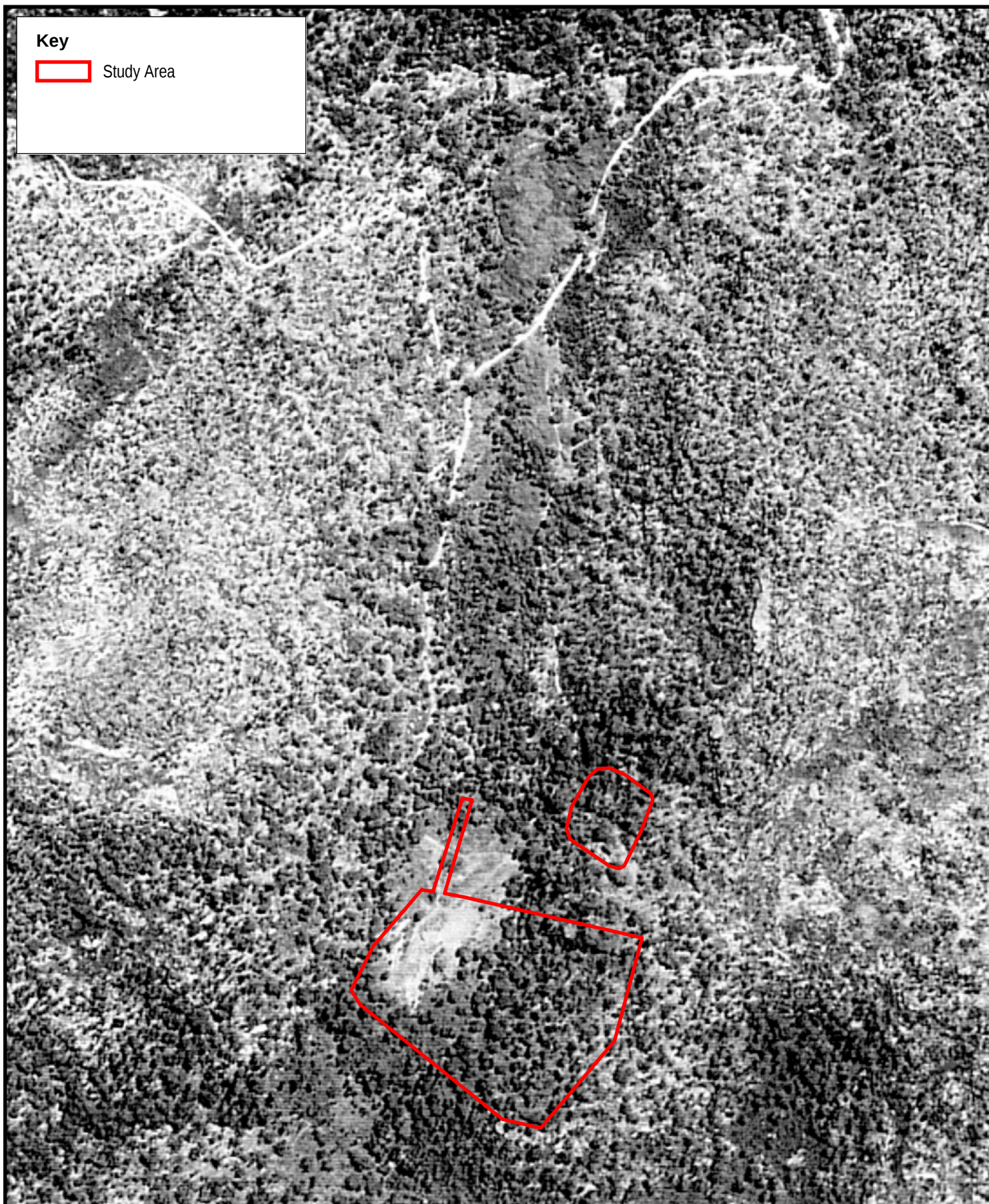
45

60

75

metres





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Figure 6: Historic aerial photography with Study Area

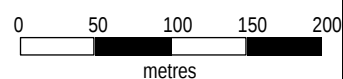
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APPENDICES

APPENDIX 1

A1. Indigenous community comment



ABORIGINAL HERITAGE SITE SURVEY

Aboriginal Cultural Heritage Survey For Woy Woy Tip Proposed Green Waste Depot

Darkinjung Local Aboriginal Land Council site officer Jodi Cameron accompanied Melanie Thomson of Biosis Natural and Cultural Heritage Consultants on an Aboriginal cultural heritage survey of the proposed new green waste areas for the Woy Woy Tip site. This survey was carried out on the **10th August 2006**.

The objectives of the Aboriginal heritage assessment are:

- Assess the proposed green waste area's locations for the impact on Aboriginal sites and relics in the area
- To protect and preserve all Aboriginal heritage and cultural sites found during the Aboriginal heritage assessment.
- To search for and locate any Aboriginal sites and relics in the study area.

Methodology

The field investigation at the proposed development site was undertaken on foot, covering the entire area of the proposed enclosed green waste building. Although small shelters and exposed sandstone outcrops were found, no art or engravings were noted.

Three interesting round shaped engravings were noted, they appear to be partially manmade or natural shapes enhanced with grooving to complete or define the shape. There were no large trees in the area that displayed any non-natural scarring, all exposed ground was examined for open surface scatter such as flakes and tools, and all natural and manmade erosion was inspected.

The proposed area for the organic storage facility appears to be an area that is already part of the working tip. There were no natural landscape features for this highly disturbed and impacted on area. No Aboriginal sites were noted.

Previous land use impacts to the study area

The area of investigation is the Southern boundary section of the Woy Woy Tip. The small gully the tip is situated in is heavily disturbed due to the creation of a waste facility.

Other disturbance to the area is within the Lot 110 southern boundary. The previous stone quarry has disturbed the natural landscape of the area and its surrounds. The area has heavy disturbance because of the previous and current use of the area.

Prior use of the area by Aboriginal people is evidenced by the amount of sites surrounding the tip gully area. It is possible the area was used for camping or shelter. It is more likely the area was used in an annual way in conjunction with the other surrounding areas as part of a learning path to the Somersby and surrounding area.

Surface Visibility

The location of Aboriginal sites depends on surface visibility, which is a measure of bare ground visible during the investigation to detect Aboriginal sites and relics.

Visibility of the ground within the survey area was good, the recent fires allowing good visibility.

Target areas for the survey where, ridge tops, open space rock platforms, caves / shelters, old growth trees and gully's.

Results of the investigation

Within the building footprint area, for the proposed enclosed waste facility no Aboriginal sites or artifacts were located during the field investigation at Woy Woy Tip.

The circular shaped marks that were located on the northeastern boundary area are just outside the proposed building area.

No sites or Aboriginal artifact scatter was found or noted within the proposed building area.

Recommendations

For the protection and preservation of Aboriginal sites in the area, it is recommended that:

- Gosford Council seek the appropriate approvals from the Dept of Environment and Conservation in relation to the sites found just outside the boundary area to ensure they are not impacted upon
- That should any artefact matter be detected that work cease immediately and the appropriate authorities be contacted, that is the land council, National Parks and Wildlife and an archaeologist.

This report has been prepared and written by Jodi Cameron Cultural and Heritage Officer for the Darkinjung Local Aboriginal Land Council. Should you have any queries regarding this report please do not hesitate to contact me on **4351 2930** or j.cameron@dlalc.org.au.

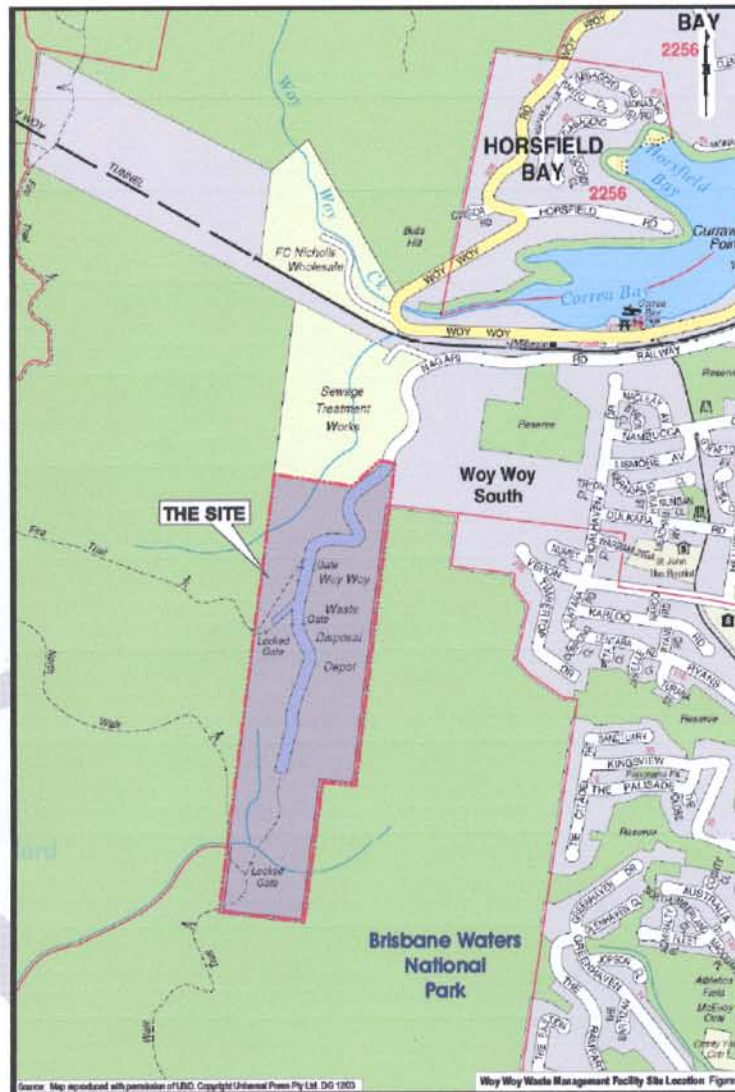
APPENDIX 2

A2. Project brief

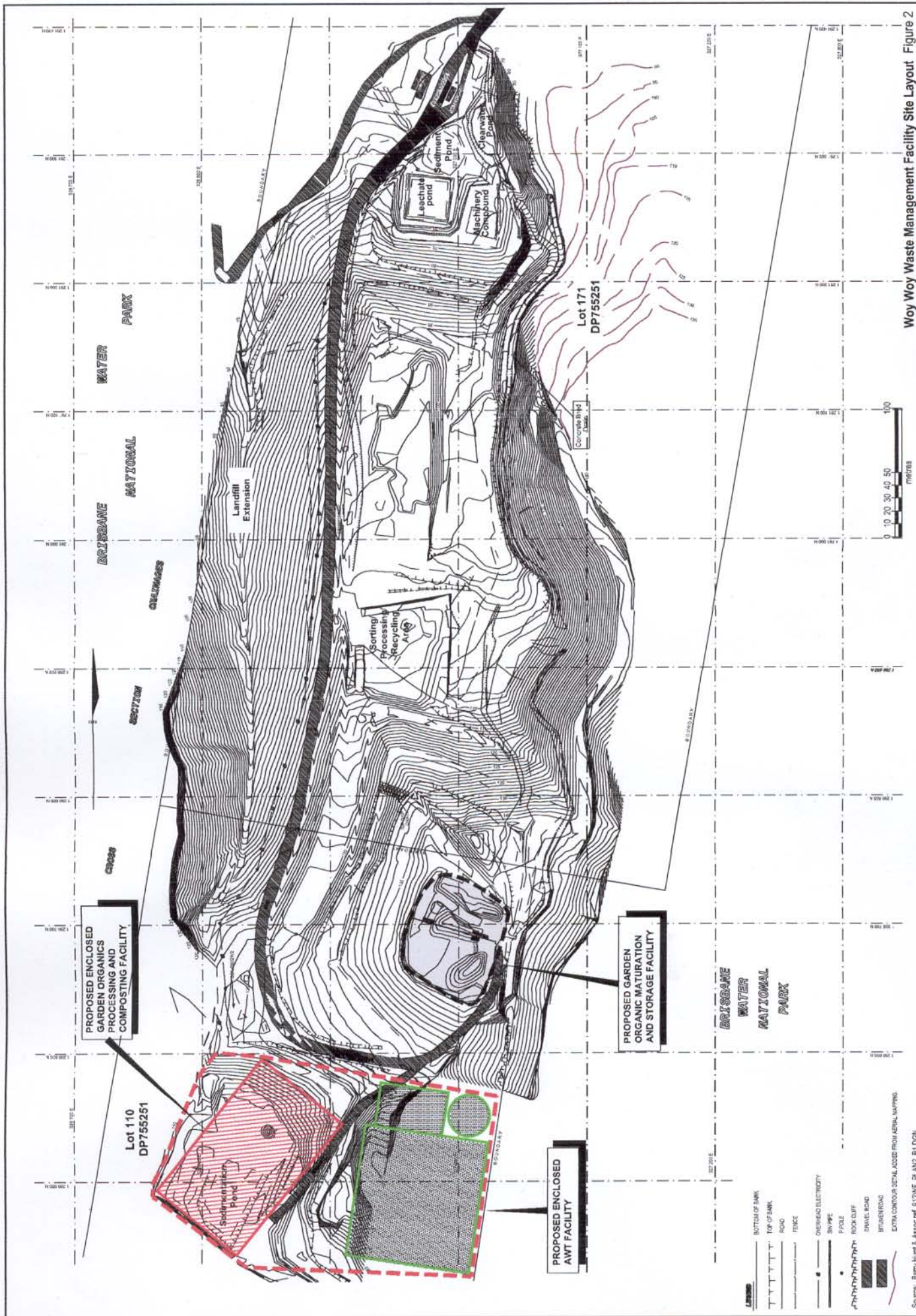
2.1 Site Location

As described earlier the site for the proposed AWT and composting facility are within the existing WMF. The location of the WMF is shown in Figure 1.

Figure 1: Woy Woy WMF Site Location



The WMF is bordered to the west, east and south by the Brisbane Waters National Park. The Woy Woy Sewage Treatment works are located to the north of the WMF. Patonga Creek is located within the National Park, approximately 20m from the south boundary of the site. The closest residence to the WMF is approximately 600m to the east, however the nearest residence to the proposed composting/AWT facilities, is located approximately 750m to the east of the site. Civil works are



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currently being proposed to fill and level the southern end of the site, where an existing stormwater pond is located, this will then provide a 3-4ha area for the proposed facilities.

2.2 Proposed Facilities

Council is proposing an AWT for processing of MSW and a composting facility for managing primarily source separated garden organics. It is proposed that both the AWT and composting facility will be established within a 3-4ha area located towards the south end of the WMF. Council will procure both facilities through a tendering process in the future.

2.2.1 Greenwaste Processing

Council requires an enclosed composting facility for the processing of up to 30,000tpa of garden organics along with biosolids, agri-wastes and potentially food/restaurant wastes.

An Options Report (URS, 2006¹) has been prepared, which identified the following preferred composting types:

- Aerated Static Pile Composting (eg. Gore™ Cover System)
- Forced Aerated Static Piles (eg. BioWise by SITA Environmental Solutions)
- In Vessel Composting(eg. HotRot™); and
- Vermicomposting (eg Tryton Group)

It is proposed that the processing and composting components of these technologies will be conducted within an enclosed building envelope. Design details including footprint estimates of 1-2ha were obtained from the Options Report.

2.2.2 Municipal Waste Processing

Council's MSW design throughput for the proposed AWT is approximately 70,000tpa. The following six technologies have been identified (URS, 2006) to match these throughput requirements;

- Tunnel Composting (eg. Remondis);
- Continuous Dano® Composting Drum (eg. Keppel Segher);
- Dry Separation & Hybrid Biological System (eg. ORT Limited);

¹ URS, 2006 *Alternative Waste Technologies and Composting Options Assessment*, Gosford City Council

- SITA Environmental Solutions (SAWT Technology);
- Wet Separation & Anaerobic Digestion (eg. ArrowBio); and
- Autoclaving, Resource Recovery &/or Enclosed Composting (eg. BioMass Solutions).

The sorting, processing and treatment components of these AWT's will be conducted within an enclosed building. Design details including footprint estimates of 1-2ha were obtained from the Options Report.

2.3 Proposed Design Footprint

The concept layout / location of the Composting and AWT facilities, at the Woy Woy WMF is shown in Figure 2.

APPENDIX 3

A3. Assessment of Heritage Significance

A3.1 Introduction

Assessing the significance of a cultural heritage place is undertaken to make decisions about the best way to protect and manage that particular heritage place. The category and significance of a heritage place will also determine if it is to be given statutory protection.

Places that are assessed as having National heritage significance can be added to the Commonwealth Register of the National Estate, those of State significance to the NSW State Heritage Register. The NSW Department of Environment and Conservation maintains a register of known Aboriginal sites. A heritage place can also be protected under a planning scheme administered by local government. The National Trust maintains a list of significant heritage places, and local historical societies and Aboriginal communities will often have substantial knowledge about local heritage places.

Assessment of the significance of a heritage place can be complex and include a range of heritage values. The cultural heritage values of a site or place are broadly defined in the Burra Charter – the set of guidelines on cultural heritage management and practice prepared by Australia ICOMOS (International Council on Monuments and Sites) – as the “aesthetic, historic, scientific, social or spiritual value for past, present or future generations” (Australia ICOMOS 1999). Various government agencies, including the Australian Heritage Commission and the NSW Heritage Office, have developed formal criteria for assessing heritage significance. These have been included at the end of this appendix and used in this report as applicable. Many Aboriginal sites also have significance to a specific Aboriginal community – this is discussed in a separate section below.

The primary criterion used to assess archaeological sites is *scientific* significance. This is based on the capacity of archaeological relics and sites to provide us with historical, cultural or social information. The following evaluation will assess the scientific significance of the archaeological sites recorded during this project. The **scientific significance assessment** methodology outlined below is based on scores for research potential (divided into site contents and site condition) and for representativeness. This system is refined and derived from Bowdler (1981) and Sullivan and Bowdler (1984).

A3.2 Criteria for significance assessment – archaeological sites

i) **Scientific significance assessment: historical archaeological sites and Aboriginal artefact scatters and isolated artefacts**

Scientific significance is assessed by examining the *research potential* and *representativeness* of archaeological sites.

Research potential is assessed by examining *site contents* and *site condition*. Site contents refers to all cultural materials and organic remains associated with human activity at a site. Site contents also refers to the site structure – the size of the site, the patterning of cultural materials within the site, the presence of any stratified deposits and the rarity of particular artefact types. As the site contents criterion is not applicable to scarred trees, the assessment of scarred trees is outlined separately below. Site condition refers to the degree of disturbance to the contents of a site at the time it was recorded.

The *site contents* ratings used for archaeological sites are:

- 0 No cultural material remaining.
- 1 Site contains a small number (e.g. 0–10 artefacts) or limited range of cultural materials with no evident stratification.
- 2 Site contains:
 - (a) a larger number, but limited range of cultural materials; and/or
 - (b) some intact stratified deposit remains; and/or
 - (c) rare or unusual example(s) of a particular artefact type.
- 3 Site contains:
 - (a) a large number and diverse range of cultural materials; and/or
 - (b) largely intact stratified deposit; and/or
 - (c) surface spatial patterning of cultural materials that still reflect the way in which the cultural materials were deposited.

The *site condition* ratings used for archaeological sites are:

- 0 Site destroyed.
- 1 Site in a deteriorated condition with a high degree of disturbance; some cultural materials remaining.
- 2 Site in a fair to good condition, but with some disturbance.
- 3 Site in an excellent condition with little or no disturbance. For surface artefact scatters this may mean that the spatial patterning of cultural materials still reflects the way in which the cultural materials were laid down.

Representativeness refers to the regional distribution of a particular site type. Representativeness is assessed by whether the site is *common*, *occasional*, or *rare* in a given region. Assessments of representativeness are subjectively biased by current knowledge of the distribution and number of archaeological sites in a region. This varies from place to place depending on the extent of archaeological research. Consequently, a site that is assigned low significance values for contents and condition, but a high significance value for representativeness, can only be regarded as significant in terms of knowledge of the regional archaeology. Any such site should be subject to re-assessment as more archaeological research is undertaken.

Assessment of representativeness also takes into account the contents and condition of a site. For example, in any region there may only be a limited number of sites of any type that have suffered minimal disturbance. Such sites would therefore be given a high significance rating for representativeness, although they may occur commonly within the region.

The *representativeness* ratings used for archaeological sites are:

- 1 common occurrence
- 2 occasional occurrence
- 3 rare occurrence

Overall scientific significance ratings for sites, based on a cumulative score for site contents, site integrity and representativeness are given as follows:

- 1-3 low scientific significance
- 4-6 moderate scientific significance
- 7-9 high scientific significance

ii) Scientific significance assessment: scarred trees

The scientific significance assessment for scarred trees varies from the significance assessment outlined above because a scarred tree has no site contents rating (a tree either is, or is not, a scarred tree). Although scarred trees are a site type usually associated with traditional Aboriginal cultural activity, there are examples of scarred trees associated with non-Aboriginal activity (survey blazes for example).

The *site condition* ratings used for scarred trees are:

- 1 poorly preserved tree scar
- 2 partly preserved tree scar
- 3 well preserved example of a scarred tree

Representativeness refers to the regional distribution of scarred trees.

Representativeness is assessed on whether the site is common, occasional or rare in a given region. Representativeness should take into account the type and condition of the scar(s)/tree (the tree will be in: good health, poor health, dying, dead-standing, dead-on ground or destroyed) and the tree species involved.

The *representativeness* ratings used for scarred trees are:

- 1 common occurrence
- 2 occasional occurrence
- 3 rare occurrence

Overall scientific significance ratings for scarred tree sites based on a cumulative score for site condition and representativeness are:

- 1-2 low scientific significance
- 3-4 moderate scientific significance
- 4-6 high scientific significance

A3.4 Aboriginal Cultural Significance

Aboriginal sites and areas of land for which a local Aboriginal community has custodianship usually have a special significance for Australian Aboriginal people.

Australian Aborigines have a very ancient and distinct traditional culture, which is very much alive. At the same time, in Australian society today they constitute a visibly oppressed and disadvantaged minority. These two elements give their heritage and history a special significance, ... Aboriginal places may be important to Aboriginal people in a number of ways.

In southern Australia the vast majority of sites are prehistoric {rather than ‘sacred’ or historic}. They relate to evidence of Aboriginal occupation of the continent over 60,000 years, but they have no specific traditional significance to any particular group. They are usually as unknown to Aborigines as to others until located and identified by archaeological survey of other research.

(Pearson & Sullivan 1995: 159, 162)

All pre-contact (pre-European settlement) sites that are located in the study area are considered to be of cultural significance to the Darkinjung Local Aboriginal Land Council. The sites are evidence of past Aboriginal occupation and use of the area, and are the main source of information about the Aboriginal past. The consultants cannot comment directly on such cultural significance – comment can only be made by the Aboriginal community. In addition, any recorded (and unrecorded) pre-contact sites are of cultural significance because they are rare or, at least, uncommon site-types. In particular, many sites in the greater Sydney region have been destroyed as a result of land clearance and land-use practices in the historic period.

A3.5 Non-Aboriginal sites – Cultural Heritage Significance

The NSW Heritage Office is the state government body responsible for protecting non-Aboriginal heritage places in NSW, including gardens, buildings, shipwrecks and historical archaeological sites. The *Heritage Act* 1977 is administered by the NSW Heritage Council, through the Heritage Office.

The NSW Heritage Office has prepared a detailed set of criteria for assessing the State’s cultural heritage. These criteria are divided into two categories: nature of significance, and comparative significance.

Heritage assessment criteria in NSW fall broadly within the four significance values outlined in the Australia ICOMOS Burra Charter (Australia ICOMOS 1999). These are:

- **historical** significance (evolution and association)
- **aesthetic** significance (Scenic/architectural qualities, creative accomplishment)
- **scientific** significance (Archaeological, industrial, educational, research potential and scientific significance values)
- **social** significance (contemporary community esteem).

The NSW Heritage office has also issued a more detailed set of criteria to provide consistency with heritage agencies in other states and to avoid ambiguity and misinterpretation.

The detailed criteria are based on criteria used by the Australian Heritage Commission for the assessment of potential items for the Register of the National Estate (RNE). The Heritage Council of NSW determines the criteria for State significance and issues guidelines to assist in their application. The following criteria were gazetted following amendments to the *Heritage Act*

which came into effect in April 1999.

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

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

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

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

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

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

Criterion (g) - an item is important in demonstrating the principal characteristics of a class of NSW's

- cultural or natural places; or
- cultural or natural environments.

(or a class of the local area's)

- cultural or natural places; or
- cultural or natural environments.

An item is not to be excluded from the Register on the ground that items with similar characteristics have already been listed on the Register.

The heritage guidelines on assessing significance also include set of gradings of significance these are used to assist in assessing any diminishment of significance due to loss of integrity or condition.

GRADING	JUSTIFICATION	STATUS
EXCEPTIONAL	Rare or outstanding item of local	Fulfil criteria for local or State

	or State significance. High degree of intactness. Item can be interpreted relatively easily.	listing.
HIGH	High degree of original fabric. Demonstrates a key element of the item's significance. Alterations do not detract from significance.	Fulfil criteria for local or State listing.
MODERATE	Altered or modified elements. Elements with little heritage value, but which contribute to the overall significance of the item.	Fulfil criteria for local or State listing.
LITTLE	Alterations detract from significance. Difficult to interpret.	Does not fulfil criteria for local or State listing.
INTRUSIVE	Damaging to the item's heritage significance.	Does not fulfil criteria for local or State listing.

LEVELS OF HERITAGE SIGNIFICANCE

Items, places, buildings, works, relics, movable objects or precincts can be of either local or State heritage significance, or have both local and State heritage significance.

Local heritage items

Local heritage items are those of significance to the local government area. In other words they contribute to the individuality and streetscape, townscape, landscape or natural character of an area and are irreplaceable parts of its environmental heritage. Collectively, such items reflect the socio-economic and natural history of a local area. Items of local heritage significance form an integral part of the State's environmental heritage.

State heritage items

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

Regional heritage items

In past years assessments of geographical regions in NSW - such as the Illawarra and the North Coast - have been undertaken. These surveys have added a third level - regional significance - between local and state. To simplify the assessment process the *Heritage Act* now uses only local and State significance as statutory terms. However, it remains the case that an item may have significance beyond the local area but not be of State significance.

A comparative analysis of an item with other like items is usually necessary to assist in determining a level of significance.

APPENDIX 4

A4. Statutory regulations

A4.1 Aboriginal Sites

i) NSW Aboriginal cultural heritage legislation

National Parks and Wildlife Act 1974

The State *National Parks and Wildlife Act* 1974 provides protection for material and places relating to the past Aboriginal occupation of Australia, both before and after European occupation. This includes individual artefacts, scatters of stone artefacts, rock art sites, ancient camp sites, human burials, scarred trees, and ruins and archaeological deposits associated with Aboriginal missions or reserves. Aboriginal relics (any material evidence of the indigenous occupation of NSW) are protected under Sections 86, 87 and 90 of the Act. Aboriginal places (areas of cultural significance to the Aboriginal Community declared by the Minister) are protected under Section 84 of the Act. Section 91 of the Act requires the mandatory reporting of the discovery of Aboriginal relics, and establishes a mechanism for interim protection orders that may be used to protect relics. The NSW Department of Environment and Conservation administers the *National Parks and Wildlife Act*.

The NSW Department of Environment and Conservation also provides guidelines for standard archaeological reporting and assessment (NSW NPWS 1997). These guidelines are currently being updated and are in draft form (NSW NPWS n.d.)

The *National Parks and Wildlife Act* requires that a permit from the Director General be obtained before archaeological fieldwork involving disturbance to an Aboriginal site is carried out. Queries and applications to excavate or disturb an Aboriginal archaeological site for purposes of archaeological fieldwork, should directed to Cultural Heritage Unit Manager at the

relevant DEC Aboriginal Heritage Division regional Office.

ii) Commonwealth Aboriginal cultural heritage legislation

Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The Commonwealth *Aboriginal and Torres Strait Islander Heritage Protection Act* 1984 provides protection for Aboriginal cultural property. Whereas the State Act provides legal protection for all the physical evidence of past Aboriginal occupation, the Commonwealth Act deals with Aboriginal cultural property in a wider sense. Such cultural property includes any places, objects and folklore that 'are of particular significance to Aboriginals in accordance with Aboriginal tradition'. There is no cut-off date and the Act may apply to contemporary Aboriginal cultural property as well as ancient sites.

A4.2 Non-Aboriginal Sites

i) NSW cultural heritage legislation

Heritage Act 1977

The *Heritage Act* 1977 details statutory responsibilities for historic buildings and gardens, historic places and objects, historical archaeological sites, and historic shipwrecks. The Act is administered by the Heritage Council of New South Wales, through the NSW Heritage Office.

The *Heritage Act* protects all historical archaeological sites, places and relics in NSW older than 50 years, regardless of their level of cultural heritage significance.

An excavation permit is required for any works, excavations or activities, associated with an archaeological site. Excavation permits are issued by the Heritage Council of New South Wales in accordance with

sections 60 or 140 of the *Heritage Act*. It is an offence to disturb or excavate land to discover, expose or move a relic without obtaining a permit from the NSW Heritage Council. Excavation permits are usually issued subject to a range of conditions that will relate to matters such as reporting requirements and artefact cataloguing, storage and curation.

The State Heritage Register is a list of places and items with State heritage significance endorsed by the Heritage Council and the Minister that came into effect on 2 April 1999. The register was established under the *Heritage Amendment Act* 1998. It replaces the earlier system of Permanent Conservation Orders as a means for protecting items with State significance. The processes of listing and monitoring the conservation and protection of items are essentially the same.

Items are added to the register by the Minister on the recommendation of the Heritage Council, following an assessment of their significance and consultation with owners and the broader community. The Heritage Council has established the State Heritage Register Committee to recommend items to the Minister for inclusion in the register.

A permit may be required from the Heritage Council of NSW for works or activities associated with a registered place or object.

General queries about site issues and permit applications can be made to the archaeological officers at the Heritage Office. The contact details are:

NSW Heritage Office
3 Marist Place
PARRAMATTA NSW 2150
Ph: (02) 9873 8500
Fax: (03) 9873 8599

Consultation and discussion with the NSW Heritage Office should begin well before lodging an application for a permit to disturb or destroy a historical archaeological site.

A4.3 Additional Legislation

Commonwealth Heritage Legislation

Environment Protection and Biodiversity Conservation Act 1999

In January 2004 three new pieces of Commonwealth Heritage Legislation were enacted. The three new Acts are the:

1. Environment and Heritage Legislation Amendment Act (No. 1) 2003 which:
 - (a) amends the Environment Protection and Biodiversity Conservation Act 1999 to include 'national heritage' as a new matter of National Environmental Significance and protects listed places to the fullest extent under the Constitution
 - (b) establishes the National Heritage List
 - (c) establishes the Commonwealth Heritage List
2. Australian Heritage Council Act 2003 which establishes a new heritage advisory body to the Minister for the Environment and Heritage, the Australian Heritage Council, and retains the Register of the National Estate.
3. Australian Heritage Council (Consequential and Transitional Provisions) Act 2003 which repeals the Australian Heritage Commission Act, amends various Acts as a consequence of this repeal and allows for the transition to the new heritage system.

Any place that has been nominated and assessed as having cultural heritage significance at a national level can be added to the National Heritage List.

Under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) an action requires approval from the Federal Environment Minister if the action will, or is likely to, have a significant impact on a matter of national environmental significance. Matters of national environmental significance are:

- World Heritage properties,

- National Heritage Places,
- Ramsar wetlands,
- nationally listed threatened species and communities,
- migratory species listed under international agreements,
- nuclear actions, and
- the Commonwealth marine environment.

The listing and further information about the EPBC Act can be found at the Department of Environment and Heritage website: www.ea.gov.au/epbc. Actions that are likely to have a significant impact on the environment of Commonwealth land (even if taken outside Commonwealth land), and actions taken by the Commonwealth that are likely to have a significant impact on the environment anywhere in the world, may also require approval under the EPBC Act.

Environmental Planning and Assessment Act 1979

The *NSW Environmental Planning and Assessment Act* will have relevance for all development projects because it requires that environmental impacts are considered in land-use planning and decision making. The definition of ‘environment impacts’ includes impacts on the cultural heritage of the project area. The Act has three relevant parts: Part III, which governs the preparation of planning instruments; Part IV, which relates to development where consent is required under an environmental planning instrument

(EPI); and Part V, which relates to activity where development consent is not required but some other government approval assessments are needed.

Under the Act, local government authorities and The Department of Infrastructure, Planning and Natural Resources (formerly Planning NSW) prepare local and regional environmental planning instruments (LEPs and REPs) to give statutory force to planning controls. These may incorporate specific provisions for conserving and managing archaeological sites.

Integrated Development Assessment (IDA) was introduced under the *Environmental Planning and Assessment Act* so that all matters affecting a development application would be considered by the consent authority in an integrated way.

Integrated Development is one which requires development consent as well as one or more approvals from different government agencies. Such agencies may include NSW DEC or the NSW Heritage Council. If a development is likely to impact a heritage item, the consent authority must refer it, to NSW DEC (for Indigenous objects) or the NSW Heritage Council (for sites listed on the State Heritage Register) prior to approval determination.

The Local Government Act 1993

Under the State Local Government Act, councils can prepare local approvals policies that set out specific matters for consideration in relation to applications to demolish, build or undertake works. Archaeological sites could be considerations under such policies

GLOSSARY & REFERENCES

GLOSSARY

Introduction & terminology

The following list provides definitions of various terms used in this report. Many of the terms have been referenced and the sources included in the reference list at the end of this report.

There is often a degree of confusion about the use of terms such as *heritage place*, *historical site*, *archaeological site* and so on. The definitions of these terms, as used in this report, have been included in the glossary and their relationship outlined in **Figure 1** below. The term used most consistently is *heritage place* and this is defined as follows:

Heritage place: A place that has aesthetic, historic, scientific or social values for past, present or future generations – ‘... this definition encompasses all cultural places with any *potential* present or future value as defined above’ (Pearson & Sullivan 1995: 7).

For the purpose of discussion in this document ‘heritage place’ can be sub-divided into **Aboriginal place** and **historic place** (i.e. a historic place refers more particularly to non-Aboriginal sites).

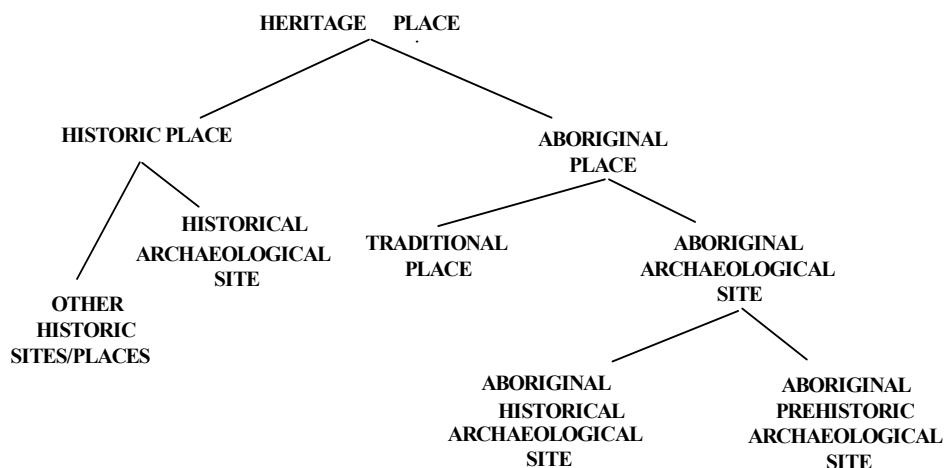


Figure G1: Terminology used for categories of heritage places.

Archaeological site types

The archaeological site types encountered in Australia can be divided into three main groups:

Historical archaeological site: an archaeological site formed since non-Aboriginal settlement that contains physical evidence of past human activity (for example a structure, landscape or artefact scatter).

Aboriginal historical archaeological site (or contact site): a site with a historical context such as an Aboriginal mission station or provisioning point; or a site that shows evidence of Aboriginal use of non-Aboriginal materials and ideas (for example: artefact scatter sites that have artefacts made from glass, metal or ceramics).

Aboriginal prehistoric archaeological site: a site that contains physical evidence of past Aboriginal activity, formed or used by Aboriginal people either before, or not long after, European settlement. These sites are commonly grouped as follows (further definition of each is contained in the glossary list):

- artefact scatter
- mound
- structures
- burial
- quarry
- rock art
- hearth
- scarred tree
- rock shelter
- isolated artefact
- shell midden
- rock well

One of the most common artefact types that provides evidence of Aboriginal people are those made from stone. Types and categories are outlined below in **Figure 2**, with further definition of each in the glossary list.

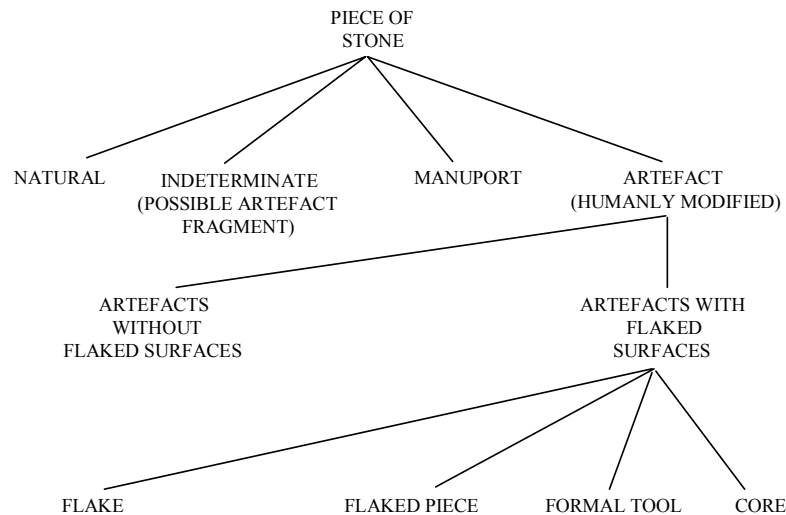


Figure G2: Stone artefact types/categories.

List of definitions

Aboriginal historical archaeological site (or contact site): either a site with an historic context such as an Aboriginal mission station or provisioning point; or a site that shows evidence of Aboriginal use of European/non-Aboriginal materials and ideas (e.g. artefact scatter sites that contain artefacts made from glass, metal or ceramics).

Aboriginal prehistoric archaeological site: a site that contains physical evidence of past Aboriginal use, formed or used by Aboriginal people either before, or not long after, European settlement.

Alluvial terrace: a platform created from deposits of alluvial material along river banks.

Anvil: a portable flat stone, usually a river pebble, used as a base for working stone. Anvils used frequently have a small

circular depression in the centre where cores were held while being struck. An anvil is often a multi-functional tool also used as a grindstone and hammerstone.

Archaeology: the study of the remains of past human activity.

Artefact scatter: a surface scatter of cultural material. Artefact scatters are often the only physical remains of places where people have lived camped, prepared and eaten meals and worked.

Backed piece: a flake or blade that has been abruptly retouched along one or more margins opposite an acute (sharp) edge. Backed pieces include backed blades and geometric microliths. They are thought to have been hafted onto wooden handles to produce composite cutting tools. Backed pieces are a feature of the 'Australian small tool tradition', dating from

between 5000 and 1000 years ago in southern Australia (Mulvaney 1975).

Bipolar working: technique used for the reduction of stone, in particular quartz, by placing a core on an anvil and ‘smashing’ with a hammerstone.

Blade: a flake at least twice as long as it is wide.

Burial site: usually a sub-surface pit containing human remains and sometimes associated artefacts.

Burin: a stone implement roughly rectangular-shaped with a corner flaked to act as point for piercing holes in animal skins. The distinguishing feature is a narrow spall, usually struck from the distal end down the lateral margin of a blade, but sometimes across the end of a flake (McCarthy 1976: 38).

Contact site: see ‘Aboriginal historical archaeological site’.

Core: an artefact from which flakes have been detached using a hammerstone. Core types include single platform, multi-platform and bipolar forms.

Cortex: original or natural (unflaked) surface of a stone.

Edge-ground implement: a tool, such as an axe or adze, which has usually been flaked to a rough shape and then ground against another stone to produce a sharp edge.

Edge modification: irregular small flake scarring along one or more margins of a flake, flaked piece or core, which is the result of utilisation/retouch or natural edge damage.

Flake: a stone piece removed from a core by percussion (striking it) or pressure. It is identified by the presence of a striking platform and bulb of percussion, not usually found on a naturally shattered stone.

Flaked piece: a piece of stone with definite flake surfaces, which cannot be classified as a flake or core.

Formal tool: an artefact that has been shaped by flaking, including retouch, or grinding to a predetermined form for use as a tool.

Formal tools include scrapers, backed pieces and axes.

Gilgai soils: soils with an undulating surface, presenting as a pattern of mounds and depressions. A possible cause is the alternation of swelling and cracking of clay during periods of wet and dry conditions.

Grindstones: upper (handstone) and lower (basal) stones used to grind plants for food and medicine and/or ochre for painting. A handstone sometimes doubles as a hammerstone and/or anvil.

Hammerstone: a piece of stone, often a creek/river pebble/cobble, which has been used to detach flakes from a core by percussion. During flaking, the edges of the hammerstone become ‘bruised’ or crushed by impact with the core.

Hearth: usually a sub-surface feature found eroding from a river or creek bank or a sand dune - it indicates a place where Aboriginal people cooked food. The remains of a hearth are usually identifiable by the presence of charcoal and sometimes clay balls (like brick fragments) and hearth stones. Remains of burnt bone or shell are sometimes preserved within a hearth.

Heat treatment: the thermal alteration of stone (including silcrete) by stone workers to improve its flaking qualities (see Flenniken & White 1983).

Heritage Place: A place with aesthetic, historic, scientific or social values for past, present or future generations – ‘... this definition encompasses all cultural places with any *potential* present or future value as defined above’ (Pearson & Sullivan 1995).

Historic place: a place that has some significance or noted association in history.

Historical archaeological site: an archaeological site formed since non-Aboriginal settlement that contains physical evidence of past human activity (for example a structure, landscape or artefact scatter).

Isolated artefact: the occurrence of one (or a small number as defined by the

survey methodology) of artefacts within a given area. It/they can be evidence of a short-lived (or one-off) activity location, the result of an artefact being lost or discarded during travel, or evidence of an artefact scatter that is otherwise obscured by poor ground visibility.

Manuport: foreign fragment, chunk or lump of stone that shows no clear signs of flaking but is out of geological context and must have been transported to the site by people.

Mound: these sites, often appearing as raised areas of darker soil, are found most commonly in volcanic plains or on higher ground near bodies of water. The majority were probably formed by a slow build-up of debris resulting from earth-oven cooking; although some may have been formed by the collapse of sod or turf structures. It has also been suggested some were deliberately constructed as hut foundations (Bird & Frankel 1991: 7-8).

Obtrusiveness: how visible a site is within a particular landscape. Some site types are more conspicuous than others. A surface stone artefact scatter is generally not obtrusive, but a scarred tree will be (Bird 1992).

Pebble/cobble: natural stone fragments of any shape. Pebbles are 2–60 mm in size and cobbles are 60–200 mm in size (McDonald et al. 1984: 78).

Percussion: the act of hitting a core with a hammerstone to strike off flakes.

Platform preparation: removal of small flake scars on the dorsal edge of a flake, opposite the bulb of percussion. These overhang removal scars are produced to prevent a platform from shattering (Hiscock 1986: 49).

Pre-contact: before contact with non-Aboriginal people.

Post-contact: after contact with non-Aboriginal people.

Quarry (stone/ochre source): a place where stone or ochre is exposed and has been extracted by Aboriginal people. The rock types most commonly quarried for artefact manufacture include silcrete,

quartz, quartzite, chert and fine-grained volcanics such as greenstone.

Retouch: a flake, flaked piece or core with intentional secondary flaking along one or more edges.

Rock art: ‘paintings, engravings and shallow relief work on natural rock surfaces’ (Rosenfeld 1988: 1). Paintings were often produced by mineral pigments, such as ochre, combined with clay and usually mixed with water to form a paste or liquid that was applied to an unprepared rock surface. Rock engravings were made by incising, pounding, pecking or chiselling a design into a rock surface. Rare examples of carved trees occasionally survive.

Rock shelter: may contain the physical remains of camping places where people prepared meals, flaked stone, etc. They are often classed as a different type of site due to their fixed boundaries and greater likelihood of containing sub-surface deposits. Rockshelters may also contain rock art.

Rock-well: a natural or modified depression within a stone outcrop, which collects water. The most identifiable of these sites have been modified by Aboriginal people, either by deepening or enlarging.

Scarred tree: scars on trees may be the result of removal of strips of bark by Aboriginal People e.g. for the manufacture of utensils, canoes or for shelter; or resulting from small notches chopped into the bark to provide hand and toe holds for hunting possums and koalas. Some scars may be the result of non-Aboriginal activity, such as surveyors marks.

Scraper: a flake, flaked piece or core with systematic retouch on one or more margins. Scraper types follow Jones (1971).

Shell midden: a surface scatter and/or deposit comprised mainly of shell, sometimes containing stone artefacts, charcoal, bone and manuports. These site types are normally found in association with coastlines, rivers, creeks and swamps – wherever coastal, riverine or estuarine shellfish resources were accessed and

exploited.

Significance: the importance of a heritage place or site for aesthetic, historic, scientific or social values for past, present or future generations.

Striking platform: the surface of a core, which is struck by a hammerstone to remove flakes.

Structures (Aboriginal): can refer to a number of different site types, grouped here only because of their relative rarity and their status as built structures. Most structures tend to be made of locally available rock, such as rock arrangements (ceremonial and domestic), fishtraps, dams and cairns, or of earth, such as mounds or some fishtraps.

Stratified deposit: material that has been laid down, over time, in distinguishable layers.

Utilised artefact: a flake, flaked piece or core that has irregular small flake scarring along one or more margins that does not represent platform preparation.

Visibility: the degree to which the surface of the ground can be seen. This may be influenced by natural processes such as wind erosion or the character of the native vegetation, and by land-use practices, such as ploughing or grading. Visibility is generally expressed in terms of the percentage of the ground surface visible for an observer on foot (Bird 1992).

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