Our Ref: 25856:PS

23 October 2009

PORT STEPHENS COUNCIL
PO BOX 42
RAYMOND TERRACE NSW 2324

ATTENTION: CARMEL FOSTER

Dear Madam,

RE: ABORIGINAL ARCHAEOLOGICAL DUE DILIGENCE SURVEY SALAMANDER WAY, SALAMANDER BAY

RPS Harper Somers O'Sullivan (RPS HSO) was commissioned to conduct an archaeological assessment of Lot 284 DP 806310 at Salamander Way, Salamander Bay, hereafter referred to as the Study Area (Refer Figure 1).

The Study Area surrounds the east, north and west portions of the Salamander Bay Town Centre. North east of the Study Area lies a commercial centre and to the west of that a set of townhouses, north west of the study area lies a residential zone and to the east a wetlands area and possible ex-sand mining locales. The Study Area has been subject to extreme levels of disturbance caused by sand dumping from construction activities associated with the Salamander Town Centre and its previous use for sand mining purposes.

1 Introduction

The survey area is located in the Port Stephens Local Government Area. This report details the results of the pedestrian survey undertaken on the 6th October 2009 by Philippa Sokol, Archaeologist for RPS HSO, together with Jamie Merrick of the Worimi Local Aboriginal Land Council (WLALC), Anthony Anderson of Mur-roo-ma Incorporated (MRMI) and Leanne Anderson of Nur-Run-Gee Pty Ltd (NRG). The archaeological assessment was required in support of the submission of a Development Application (DA) for subdivision, which includes site regrading over the Study Area. The Development Application is required to facilitate the construction of a subdivision development at Lot 284, DP 806310, located immediately adjacent and to the north, east and west of the current Salamander Town Centre. It is proposed to lodge this report concurrently with the Development Application for the Study Area.

241 Denison Street Broadmeadow NSW | PO Box 428 Hamilton NSW 2303
ABN 11 093 343 858
T 02 4961 6500
F 02 4961 6794
E enquiries@rpshso.com.au
W www.rpshso.com.au
MJ O'Sullivan B Surv MIS
CJ Anderson B APP Sc (EAM)
RJ Dwyer B Sc GDip URP

2 Background and Scope

Historically the survey area has been sand mined and is highly disturbed and modified from the development of the adjacent Salamander Town Centre and residential developments to the north. Anthropogenic modification of the landscape includes stockpiling of the mined sand, cutting of drainage channels as well as naturally occurring erosion processes. Disturbances include the formation of access tracks and bicycle trails, materials dumped during building construction, sand dune modification, sand mining and illegal rubbish dumping. The scope of this archaeological survey was to traverse the Study Area on foot in order to determine the location of any archaeological or Aboriginal cultural heritage sites.

3 Potential Disturbances to Cultural Heritage Sites

The aims of the archaeological survey were to identify areas of Aboriginal cultural heritage value or sensitivity, categorise any potential disturbances, and subsequently to develop management and mitigation strategies.

4 Geology, Topography and Hydrology

The survey area is located on the Tomago Coastal Plain. The area is predominantly poorly drained Pleistocene sand sheets which are comprised of rounded quartz grains and minor isolated swampy areas in deflation basins (Murphy 1995: 119-122). Water tables are often close to the surface. Slope gradients on undisturbed dunes are generally <5% with local relief from <5m to elevations up to 15m. This area comprising the Shoal Bay landscape has non-cohesive soil, poor soil fertility, experiences seasonal water-logging and is typically comprised of *Melaleuca* forest swamp (Murphy 1995: 119-122).

Dunes develop as a result of accretion of sand forming a series of ridges. Once formed, dune transgression or active dune movement can occur, followed by periods of stabilisation. These processes of accretion, transgression and stabilisation are important factors in the location and preservation of Aboriginal archaeological or cultural material. Material is often substantially reworked during these processes and archaeological sites can thereby be destroyed. Sites may also be adversely affected by wind and water erosion, ground water fluctuations and water-logging. Rounded quartz grains are indications of the natural processes of re-worked sand dune deposits. These processes in the past can effectively destroy evidence of previously existing sites.

Owing to its geographic location it was likely that this area would have been predominantly waterlogged prior to European settlement, making the area unsuitable for occupation by Aboriginal people. Such conditions may have prevailed through the Holocene and particularly during the last 6,000 years when sea levels were the same as today or higher. During the mid Holocene, (3,500 years ago) the lower lying

areas would almost certainly have been waterlogged, as sea levels were 1.5m higher during that period, than current levels.

In undisturbed environments, on dry, well drained dunes and slopes, shell and artefact scatters and isolated finds may be evident. Shell middens may occur in areas used in the past for temporary or permanent campsites. In the older, undisturbed Pleistocene sand dunes evidence of occupation such as hearths and knapping sites may occur. Burials may also be found. Such sites would predominantly occur in areas with access to raw materials, plentiful food and fresh water resources (Dean-Jones, 1990).

5 Survey Strategy

The survey strategy was to conduct a pedestrian survey walking abreast to give maximum coverage of the site. Any archaeological or Aboriginal cultural heritage sites were to be recorded. Disturbances that may have affected the site were also to be noted. Safe practices were to prevail at all times.

6 Field Survey Methods

The survey was conducted in humid, slightly overcast conditions with some occasional light wind. The area was surveyed by four people walking 5 metres apart thereby achieving maximum survey coverage. This allowed effective coverage of all areas of the site excepting those areas that were densely vegetated or waterlogged.

7 Field Survey Results

The site survey identified one Aboriginal archaeological site identified as an Artefact Scatter containing one medial broken flake and two distal broken flakes manufactured from tuff (Plate 1). This site is called RPS SW AS1 (Appendix 2). The artefacts were not *in situ* and were lying on the surface of the sand dune protected by native shrubs. Only three artefacts were identified and all three were broken flakes.

The survey area has been extremely disturbed by extensive sand mining and sand dumping as a result of the Salamander Town Centre development, adjacent residences and is traversed by tracks used by walkers and cyclists. The excavated sand from the town centre development has been piled into small and large sand piles with steep sided slopes in the north east, north and north west of the Study Area (Plate 2). The portion of land situated between the western carpark and the swamp zone contains steep sided slopes resulting from modification to the landscape from the car park development. This area had no visibility and was very steep resulting in the survey team assessing the area as unsafe to enter. The region surrounding the Study Area has had a history of sand mining and evidence of this was observed in the south western portion of the Study Area by a network of vehicle and access dirt tracks presumed to be associated with previous sand mining activities. Surrounding the dirt tracks was predominantly young regrowth vegetation (Plate 3 & 4).

Dumping of small and large piles of rubbish including loose pieces of rubbish and evidence of lighting of fires were consistent through the study area (Plate 5). The swamp zone area may contain rubbish similar to other parts but due to the inaccessibility of the area this was unable to be determined. The only form of disturbance visible to the swamp zone was a drainage pipe extending from underneath the carpark in a south west direction (Plate 6). Previous sand mining activity works, commercial and residential developments, access tracks, rubbish dumping and fire lighting are all factors that reduced the likelihood of finding *in-situ* Aboriginal archaeological sites in the Study Area.

Since the development of the Salamander Town Centre and adjacent residences revegetation has occurred across the survey area. The areas that contained the densest portions of vegetation was the land extending from the north east to north west (Plate 7) and the swamp zone (Plate 8). Areas of dense vegetation contained low visibility and access into these areas was limited. The remaining vegetated areas were not as dense and were accessible by the survey team. The vegetation observed through the survey comprised of exotic weeds, grasses and African daisies, ground cover plants including Bitou Bush and Bracken fern, native shrubs and Paper bark (Plate 9).

The Study Area boundary and location of Aboriginal archaeological site are referred to in Figure 1.

TITLE: FIGURE 1 STUDY AREA WITH NEW SITE LOCATION

LOCATION: SALAMADER WAY SALAMANDER BAY

DATUM: DATUM
PROJECTION: MGA ZONE 56 (GDA 94)

DATE: 21/10/2009
PURPOSE:

J:\JOBS\25K\25856 Salamander Bay\10- Drafting \25856 Figure 1 A-A4.wor
LAYOUT REF:
VERSION (PLAN BY): A-A4 (L.STEEL)

CLIENT: PORT STEPHENS COUNCIL
JOB REF: 25856

241 DENISON STREET BROADMEADOW PO BOX 428 HAMILTON NSW 2303
T: 02 4961 6500 F: 02 4961 6794 www.rpshso.com.au

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8 Discussion

One Aboriginal archaeological site was identified inside the study area RPS SW AS1. The site was located on an open access track on the dune crest in the northern portion of the Study Area. The site is an Artefact Scatter comprising three tuff stone artefacts. These artefacts were identified as one medial and distal broken flake; two distal broken flakes. The landscape where the site was located was searched but no remaining artefacts were identified. The artefacts were not *in situ* and were made from tuff which is a common stone raw material for the area. All three artefacts were broken flakes and the artefacts were all common typology to the Port Stephens area. Mitigation measures for the site are outlined in Recommendation 1.

The vegetation surrounding the site was both exotic and native bush but with much of it containing bitou bush. Bitou bush grows in areas of disturbed context and is classified as an introduced species and originated from South Africa. It was used for stabilizing disturbed dune areas. The swamp zone was very thick with vegetation and water with zero visibility. This portion of the study area was not entered as it was considered unsafe by the survey team owing to the lack of visibility, overgrowth of thick vegetation and water sodden areas. Remaining parts of the Study Area contained varying levels of vegetation density; areas of high density offered low visibility and were difficult to traverse and areas that were less dense were easily accessible by the survey team. Many of the plant species observed were common to disturbed coastal dune systems. The artefact material located on the modified dune crest may have been deposited there during construction of the Salamander Town Centre and adjacent residential blocks and therefore were not identified as being *in situ* to the landscape and have no contextual relationship to it.

9 Conclusion

The water table penetrated the surface in the swamp zone area making access difficult therefore this area was not surveyed. A comprehensive pedestrian survey was conducted across the remainder of the Study Area. The Study Area was found to be extremely modified and disturbed from previous sand mining and commercial and residential construction works, with extensive excavation of the sands, associated sand piling, formation of access tracks, dumping of rubbish and fire lighting, and evidence of remnant building and drainage works. Conglomerate material was scattered across the Study Area which was comprised predominantly of gravel material together with rubbish, brick and cement fragments.

The Artefact Scatter identified during the filed survey contained three broken flakes that were not *in situ*. Recommendations for the mitigation strategies for this site have been outlined in Recommendation 1 in this report.

10 Recommendations

The pedestrian survey identified one artefact scatter (RPS SW AS1) but no other Aboriginal archaeological constraints were identified in the survey area.

In the event that any additional sites are uncovered during these site regrading works then the proponent will be required to consult with the various Aboriginal Stakeholder groups.

The management recommendations that stem from this archaeological assessment are based on the legislation designed to address the impact of development upon sites of cultural significance. With regard to the proposed site regrading operations;

Recommendation 1
RPS SW AS1 is not an *in situ* site and is located on the edge of a track on a modified dune ridge. The artefacts are protected by native shrubs but if the area where the site is located has potential for impact by the proposed subdivision development, then a Section 87 Community Collection Permit should be sought from the Department of Environment, Climate Change and Water (DECCW) prior to any subdivision works commencing. In the event that the artefacts are salvaged under a S87 Permit then they will be placed in the safe keeping of the Worimi Local Aboriginal Land Council. Under the *National Parks and Wildlife Act* (1974), it is an offence to knowingly destroy, damage or deface an Aboriginal site or object without obtaining the prior written permission of the Director General of the DECCW.

Recommendation 2
In the event that the proponent uncovers previously unidentified Aboriginal artefacts or archaeological sites, work must cease in that immediate area and they will need to consult with the DECCW and relevant Aboriginal Community Stakeholders.

Recommendation 3
In the event that skeletal remains are uncovered, work must cease immediately in that area and the proponent will need to contact the NSW Police Coroner to determine if the material is of Aboriginal origin. If determined to be Aboriginal, they must then contact the DECCW and relevant Aboriginal Community Stakeholders in order to determine an action plan for the management of the skeletal remains prior to works re-commencing.

Recommendation 4
In terms of Historical archaeological management, if during the course of clearing work, non-Indigenous heritage material exceeding 50 years in age is uncovered, work should cease immediately in the vicinity. The NSW Heritage Branch and a suitably qualified archaeologist should be notified and works only recommence when an appropriate and approved management strategy is implemented.

At any time, if the proponent is uncertain about their risk of impacting Aboriginal sites, they will need to contact a suitably qualified archaeologist to investigate.

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We trust the information and the advice provided will meet all legal requirements for the proposed works by the proponent in the survey area. We also trust that the proponent has ensured that every measure has been taken to avoid impact on any cultural heritage sites.

If you have any further queries, please do not hesitate to contact Philippa Sokol or Darrell Rigby (Archaeology Manager) on (02) 4961 6500.

Yours Faithfully
RPS HARPER SOMERS O'SULLIVAN PTY LTD

Philippa Sokol
Archaeologist

REFERENCES

Dean-Jones, P (1990). 'Newcastle Bight Aboriginal Sites Study'. A report to the NSW National Parks and Wildlife Service and National Estate Grants Committee.

Murphy, C. L., (1995). 'Soil Landscapes of the Port Stephens 1: 100 000 Sheet Map'. Department of Land and Water Conservation, Sydney.

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APPENDIX 1 – PLATES

Plate 1: RPS SW AS1 Artefact Scatter of three broken Tuff flakes.

Plate 2: View north west of site showing steeply piled sands and dense vegetation in the background.

Plate 3: Vehicle track in the south west of the Study Area surrounded by immature vegetation.

Plate 4: Access track in south west of Study Area surrounded by immature vegetation.

Plate 5: View of rubbish dumping in the Study Area.

Plate 6: Drainage pipe extending west into swamp zone from underneath the carpark.

Plate 7: Dense vegetation in the north of the Study Area.

Plate 8: View of the swamp zone area.

Plate 9: Sample of vegetation common to the Study Area.

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APPENDIX 2 – Site Card RPS SW AS1

Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville NSW 2220

Department of Environment & Climate Change NSW

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 RPS SW AS 1

Easting 416278 Northing 6377857 AGD/GDA GDA

Mapsheet PORT STEPHENS

Zone 56 Location Method Non-Differential GPS

Other Registration

Primary Recorder

Title | Surname | First Name | Initials

MS | SOKOL | PHILIPPA

Organisation RPS HARPER SOMERS O'SULLIVAN

Address PO BOX 428 HAMILTON NSW 2303

Phone number 02 4961650 0 Fax 02 4961679 4

Date recorded 06/10/2009

Client on system ☐

NPWS Aboriginal Site Recording Form - Site Information

OPEN/CLOSE SITE Open Site

Site Context

Landform

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

Landform Unit

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

Slope

0 degrees

Vegetation

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

Land use

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

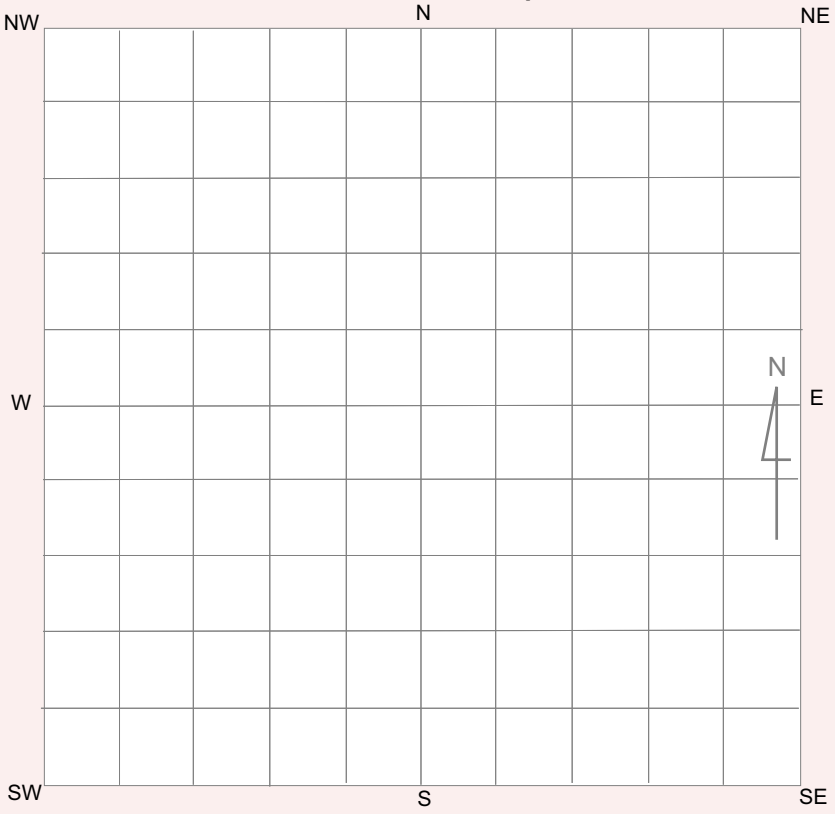
Water

Distance to permanent water source	20,000 metres
Distance to temporary water source	metres
Name of nearest permanent water source	Karuah River
Name of nearest temporary water	

Directions for Relocation

Enter the Salamander Town Centre, Salamander Bay. North east corner of the town centre. Head north west direction until east end top of the dune ridge is reached. Artefacts located at the base of native shrubs adjacent to a large open access track intersection.

Site Location Map



Current Land Tenure

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

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

NPWS Aboriginal Site Recording Form - Site Information

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

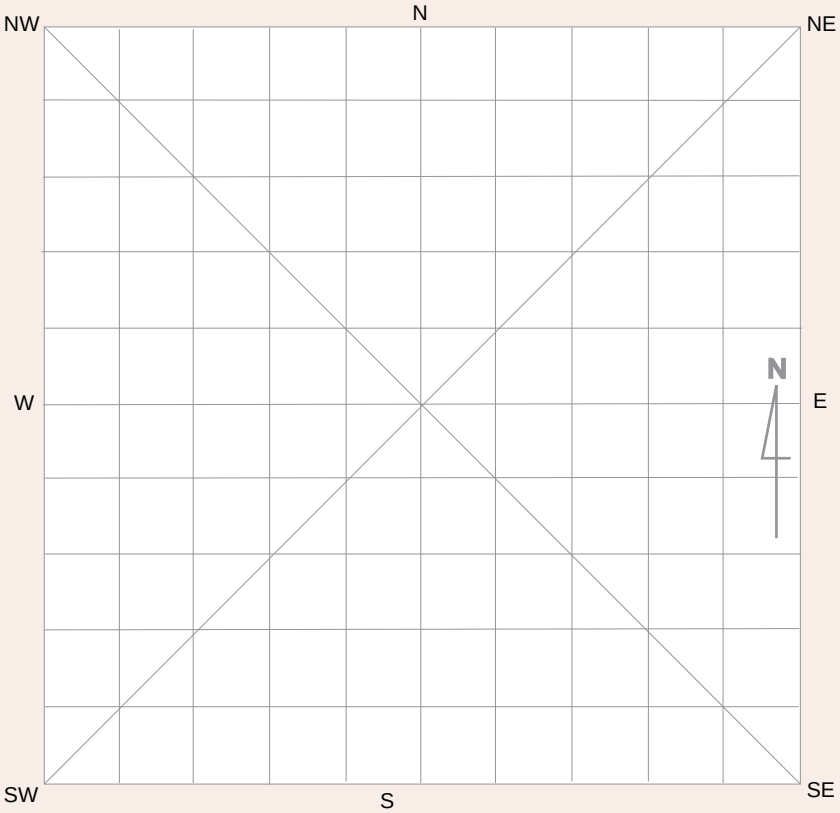
- [ ] N-S
- [ ] NE-SW
- [ ] E-W
- [x] SE-NW
- [ ] N/A

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)

- [5 metre] Total length of visible site
- [2 metre] Average width of visible site
- [10 metre] Estimated area of visible site
- [ ] Length of assessed site area

Aboriginal Community Interpretation and Management Recommendations

Artefacts are situated to the side of the track protected by native shrubs. Recommended to leave as is unless the site is likely to be impacted upon by future development works.

Preliminary Site Assessment

Site Cultural & Scientific Analysis and Preliminary Management Recommendations

If the site is to be impacted upon by future works to the area a Section 87 Community Collection Permit will need to be sought from The Department of Environment, Climate Change and Water (DECCW) by the proponent.

This site is in an area that would have likely to have been inundated by tidal waters and the nearest fresh waterwould have been the Karuah River catchment or the Hunter River catchment.

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

Photo 1: View to south east of the RPS SW AS1 site area.

NPWS FEATURE RECORDING FORM - ARTEFACT

Site I.D.

Site Name: RPS SW AS1

First recorded date: 06/10/2009

Importance: Cannot be presently determined

No. of instances: 1

Recorded by: P. Sokol

	Yes	No
Stone artefacts only	Yes	
Artefacts collected		No
Permit issued		No

Percentage of Non-stone Artefacts to Percentage of Stone Artefacts

0-9% | 10-19% | 20-29% | 30-39% | 40-49% | 50-59% | 60-69% | 70-79% | 80-89% | 90-100%

0-9%

Feature Context & Condition

Scatter No. 3

Easting 416278

Northing 6377785 7

Density (Artefact count per square metre)

Dimensions: 5 Length (m) × 2 Width (m) × 0 Depth (m)

	Yes	No
In situ		No
Stratified		No

Feature Condition

- [ ] Very good
- [ ] Good
- [x] Poor

General Condition

- [x] Weathered
- [ ] Vehicle damage
- [x] Surface water wash
- [ ] Fire damage
- [x] Erosion
- [ ] Stock damage
- [x] Exposed archaeological material

Recommended Action

- [ ] Boardwalk
- [ ] Fencing
- [ ] Closure to public
- [x] Continued inspection
- [ ] Fire hazard reduction
- [ ] Expert assessment
- [ ] Meeting with land manager
- [ ] Revegetation
- [ ] Signage
- [ ] Soil erosion control
- [ ] Track closure/re-routing
- [ ] Additional recording

Feature Plan (Indicate scale, location of instances)

Feature Environment

(Complete when *feature* environment differs to *site* environment, use attributes from cover card, p. 2)

Land form: Undulating Plain

Land form unit: Dune, Crest

Slope: 0

Vegetation: Native shrub, Bitou bush

Land use: dirt access track

Water

Distance to permanent water source: 20,000 metres

Distance to temporary water source: metres

Name of nearest permanent water source: Karuah River

Name of nearest temporary water:

Site: RPS SW AS1

Photo 1: View facing south east of RPS SW AS1.