View west of Wagga SAP OS-01 (AHIMS #56-1-0621).

# ABORIGINAL CULTURAL HERITAGE & HISTORIC HERITAGE ASSESSMENT REPORT

## WAGGA WAGGA SPECIAL ACTIVATION PRECINCT

WAGGA WAGGA, NSW

FEBRUARY 2021

## REDACTED VERSION

Report prepared by

OzArk Environment & Heritage

for WSP on behalf of

NSW Department of Planning, Industry and Environment


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# ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT COVER SHEET

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**Acknowledgement**

OzArk acknowledge Traditional Owners of the area on which this assessment took place and pay respect to their beliefs, cultural heritage and continuing connection with the land. We also acknowledge and pay respect to the post-contact experiences of Aboriginal people with attachment to the area and to the elders, past and present, as the next generation of role models and vessels for memories, traditions, culture and hopes of local Aboriginal people.

## ABBREVIATIONS AND GLOSSARY

| | |
|---|---|
| ACHAR | Aboriginal Cultural Heritage Assessment Report. As set out in the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*, all developments where harm to Aboriginal objects is likely must be assessed in an ACHAR. |
| ACHCRs | *Aboriginal Cultural Heritage Consultation Requirements for Proponents.* Guidelines for conducting Aboriginal community consultation for developments where harm to Aboriginal objects is likely. |
| ACHMP | Aboriginal Cultural Heritage Management Plan |
| AHIMS | Aboriginal Heritage Information Management System. Administered by OEH, AHIMS is the central register of all Aboriginal sites within NSW. |
| AHIP | Aboriginal Heritage Impact Permit. Legal instrument issued by the Heritage NSW to allow harm to Aboriginal objects. |
| Heritage NSW | Government department tasked with ensuring compliance with the NPW Act. |
| Code of Practice | *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* under Part 6 NPW Act. Issued by DECCW in 2010, the Code of Practice is a set of guidelines that allows limited test excavation without the need to apply for an AHIP. The test excavation program for this assessment was conducted under the Code of Practice. |
| DPIE | NSW Department of Planning, Industry and Environment |
| GSE | Ground surface exposure |
| GSV | Ground surface visibility |
| NPW Act | *National Parks and Wildlife Act 1974*. Primary legislation governing Aboriginal cultural heritage within NSW. |
| OEH | Office of the Environment and Heritage Former government department tasked with ensuring compliance with the NPW Act. |
| PAD | Potential archaeological deposit. Indicates that a particular location has potential to contain subsurface archaeological deposits, although no Aboriginal objects are visible. |

| | |
|---|---|
| RAP | Registered Aboriginal Party. An individual or group who have indicated through the ACHCR process that they wish to be consulted regarding the project. |
| SOHI | Statement of Heritage Impact |

## EXECUTIVE SUMMARY

OzArk Environment & Heritage (OzArk) has been engaged by WSP Australia Pty Ltd (the client), on behalf of NSW Department of Planning, Industry and Environment (DPIE) to complete an Aboriginal Cultural Heritage Assessment Report (ACHAR) and a historic heritage assessment of the Wagga Wagga Special Activation Precinct (Wagga Wagga SAP; the proposal).

The objective of the Wagga Wagga SAP is to deliver fast tracked planning and approvals processes that will provide businesses and investors with certainty. The Wagga Wagga SAP investigation area covers approximately 4,494 hectares (ha) and is located to the north of Wagga Wagga.

A pedestrian survey sampling sections of the investigation area was undertaken by OzArk archaeologist's Dr Alyce Cameron and Stephanie Rusden on 28–29 August 2019 and Dr Alyce Cameron and Kirwan Williams on 5–6 November 2019. Representatives of two Registered Aboriginal Parties (RAPs) were present for the survey during both field surveys. During the survey, three Aboriginal sites were recorded: Wagga SAP IF-01 (#56-1-0609), Wagga SAP OS-1 (#56-1-0621), and Wagga SAP ST-01 (#56-1-0620). These sites are an artefact scatter and an isolated artefact in disturbed contexts, and one culturally modified tree.

Two historic heritage sites were recorded during the survey (Wagga SAP HS-01 and Wagga SAP HS-02).

The impact footprint represents parcelling the Wagga Wagga SAP investigation area for future land uses. All impact assessment is based only on the area inside the investigation area boundary, and assumes full development within each Structure Plan zones, excepting green infrastructure. Of the nine Aboriginal sites without known management, eight have the potential to be directly impacted by future development.

<u>Aboriginal Cultural Heritage</u>

The following conclusions are made concerning Aboriginal cultural values within the investigation area:

1. The impact footprint represents parcelling the Wagga Wagga SAP investigation area for future land uses. All impact assessment is based only on the area inside the investigation area boundary, and assumes full development within each SAP zone. In total there are nine valid Aboriginal sites in the Wagga Wagga SAP which are known to remain in the landscape and are not being managed by approved solar farm or RIFL hub projects. Eight of these sites have the potential to be impacted by development in the future.

a. The approval pathway for developments inside the SAP investigation area must comply with the relevant legislation regarding heritage and is dependent on whether the development is a State Significant Development/State Significant Infrastructure (SSD/SSI) or non-SSD/SSI under Part 4 and Part 5 of the *Environmental Planning and Assessment Act 1979* (**Section 3.3.1**).

    i. Non-SSD/SSI: the approval to disturb sites under the authority of an *Aboriginal Heritage Impact Permit* (AHIP) must be sought from Heritage NSW. Integral to an AHIP application is the preparation of an *Aboriginal Cultural Heritage Assessment Report* (ACHAR) and the requirement to follow the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs). The *National Parkes and Wildlife Act* (NPW Act) is complemented by the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* that set out the requirements for archaeological investigation in NSW where an application for an AHIP is likely to be made. The Aboriginal community must be provided the opportunity to view the ACHAR, and the ACHAR must make it clear that an AHIP application will be sought so that the Aboriginal community can assess the management recommendations with this knowledge. The AHIP conditions will often stipulate that the Aboriginal community should be involved in any salvage activities and will dictate what the fate of any salvaged Aboriginal objects will be.

    ii. SSD/SSI: the appropriate management of sites will be determined through policies set out in an *Aboriginal Cultural Heritage Management Plan* (ACHMP). The ACHMP should include measures for site conservation, as well as detailing methods for the management of sites to be impacted. The ACHMP must be developed in consultation between the proponent, RAPs and DPIE.

b. Mitigation, avoidance and management of Aboriginal sites will need to be determined in consultation with the RAPs, and the relevant legislation and requirements whether an SSD/SSI or non-SSD/SSI development.

c. There is potential to indirectly impact Bomen Axe Quarry. The recommendations listed in **Section 9.2.1** should be followed to avoid any indirect impacts to the Aboriginal Place.

d. Any Aboriginal sites to be impacted should be salvaged from harm and relocated in the landscape close to where they originated; but outside of any project impacts, possibly within a green infrastructure zone (see **Section 9.2.2**).

e. For future development, **Figure 9-1** should be used to determine if the area needs further heritage assessment as part of the approval process.

2. This assessment is confined to within the assessed investigation area. Should the parameters of the proposed work extend beyond these assessed locations, then further archaeological assessment may be required.

Historic heritage

Conclusions concerning the historic values within study area are as follows.

3. Two historic heritage sites of local significance were recorded during the survey (Former Brucedale post office [Wagga SAP HS-01] and change over stables [Wagga SAP HS-02]). These should be considered for listing on the Wagga Wagga LEP. There is a possibility of further historic heritage being present in the investigation area.
4. The Bomen Railway Station (SHR 01093 & LEP I8) is located in the centre of the Wagga Wagga SAP investigation area. If the station will be impacted, then further assessment and a *Statement of Heritage Impact* (SOHI) will be necessary.
5. This assessment is confined to within the assessed investigation area. Should the parameters of the proposed work extend beyond these assessed locations, then further archaeological assessment may be required.

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# 1 INTRODUCTION

In July 2018, the NSW Government announced Regional NSW's first Special Activation Precinct (SAP) at Parkes. A second SAP was announced in January 2019 in Wagga Wagga centred around Bomen Business Park. To date, the City of Wagga Wagga has undertaken work identifying the opportunities and constraints of the existing industrial estate. The Wagga Wagga SAP is investigating a broader area of approximately 4,180 hectares (ha).

SAPs are a place-based approach to 'activate' strategic locations for job creation and regional economic development. SAPs are areas of state or regional significance that are selected based on an assessment of economic enablers, market failures and catalyst opportunities.

The NSW Department of Planning, Industry and Environment (DPIE) has commissioned WSP Australia Pty Ltd (WSP; the client) to prepare an Environmental Assessment for the Wagga Wagga Special Activation Precinct (Wagga Wagga SAP). This assessment is required to support the preparation of a Structure Plan. This Environment Assessment includes biodiversity and bushfire, heritage, geology soils and contamination and hydrogeology specialist assessments.

Please note that this version of the report has had sensitive information pertaining to the location of Aboriginal and historic sites removed or blanked out.

## 1.1 DESCRIPTION OF THE PROPOSAL

OzArk Environment & Heritage (OzArk) has been engaged by WSP, on behalf of DPIE to complete an *Aboriginal Cultural Heritage Assessment Report* (ACHAR) and a historic heritage assessment of the Wagga Wagga SAP as part of the Environmental Assessment (the proposal).

The objective of the Wagga Wagga SAP is to deliver fast tracked planning and approvals processes that will provide businesses and investors with certainty. The proposal is in the Wagga Wagga Local Government Area (LGA) (**Figure 1-1**).

## 1.2 REPORT STRUCTURE

The ACHAR is presented in **Sections 3** to **9** of this report while the historic heritage assessment is presented in **Sections 10** to **13** of this report. The project background and environmental context of the investigation area presented in **Sections 1** and **2** are also applicable to the historic heritage assessment. Recommendations regarding Aboriginal cultural heritage and historic heritage are provided in **Section 14**.

## 1.3 INVESTIGATION AREA

The Wagga Wagga SAP investigation area covers an area approximately 4,494 ha and is located to the north of Wagga Wagga (**Figure 1-1**). The investigation area includes the Bomen Business Park and the Riverina Intermodal Freight and Logistics Hub (RIFL).

**Figure 1-1: Map showing the location of the proposal.**

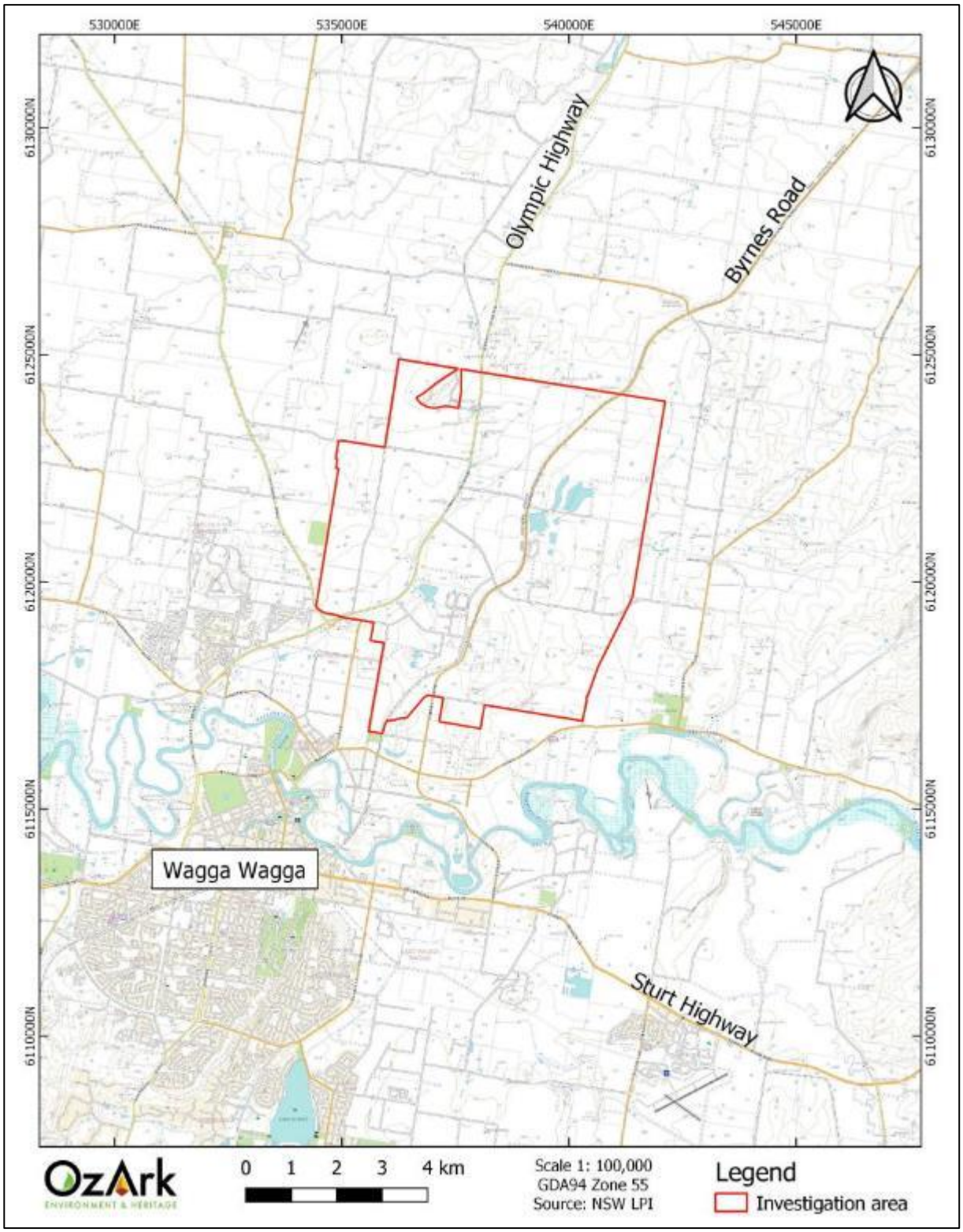
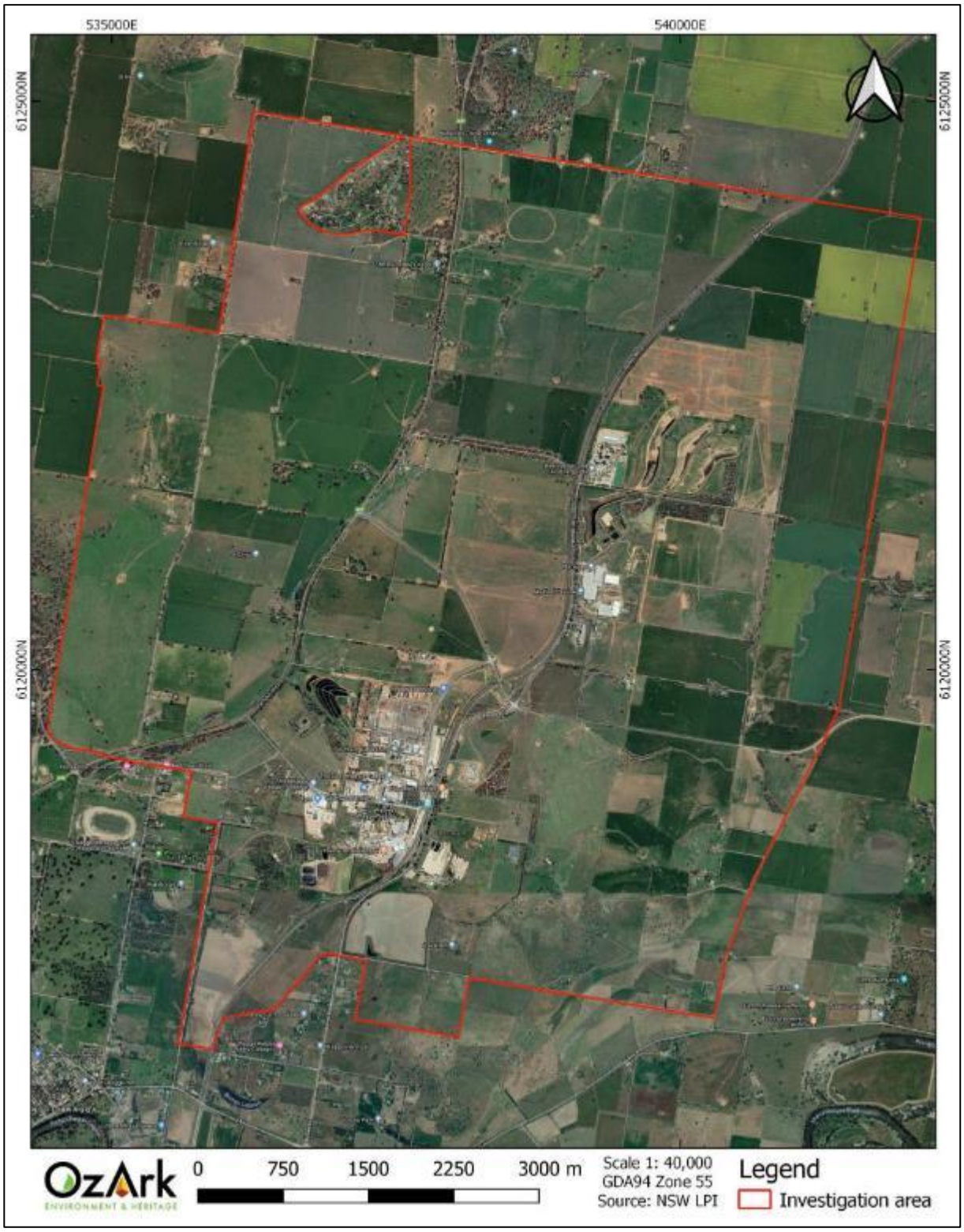


**Figure 1-2: Aerial showing the investigation area.**




## 1.4 PROPOSED WORK

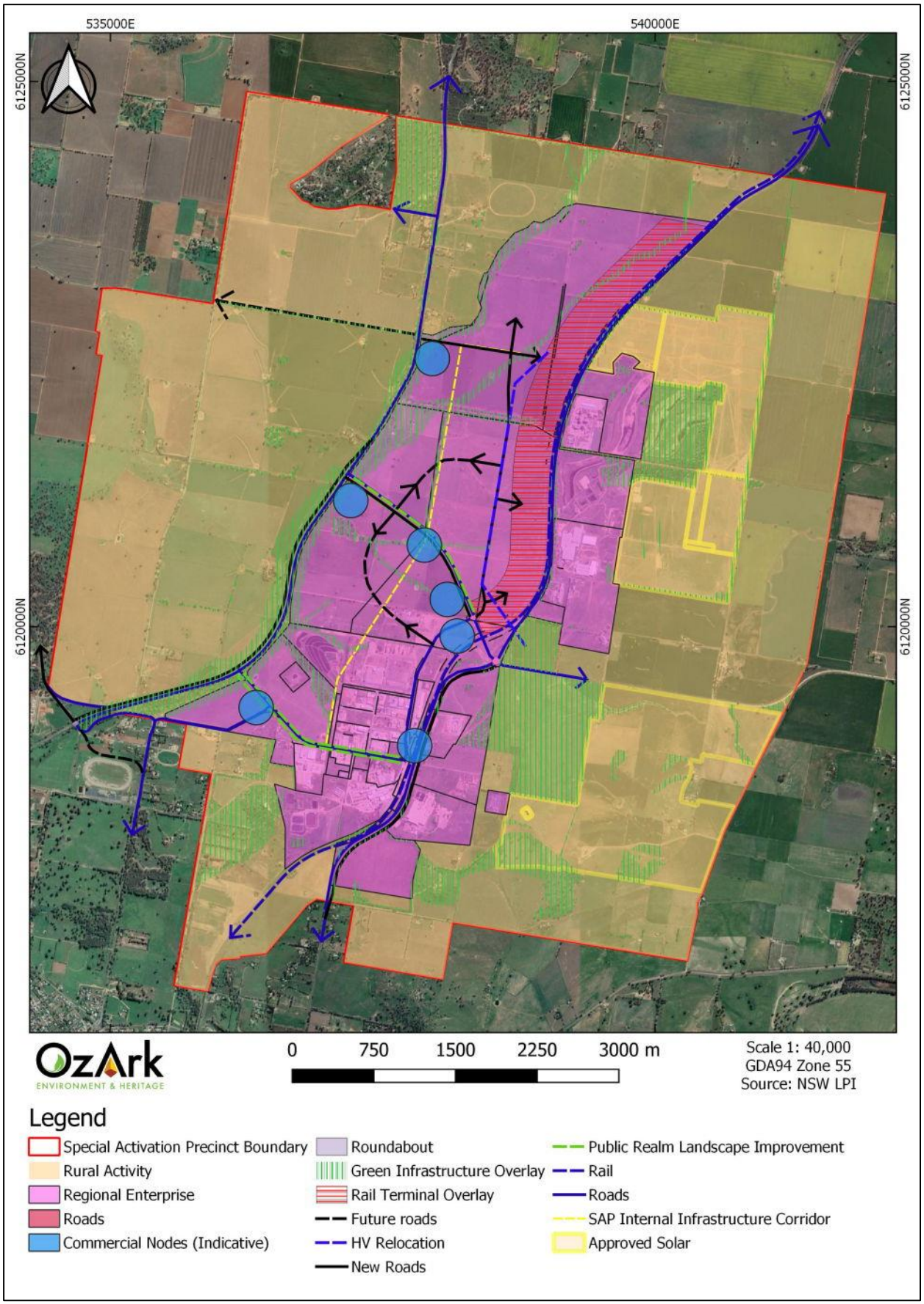
Through a series of workshops regarding the Wagga Wagga SAP, the proposed work and impacts have been refined. The proposed impacts are regarding potential future land use (**Figure 1-3**). At the moment specific impacts (such as buildings, etc.) are unknown. The structure of land uses can be broadly classed into categories, called SAP sub-precincts. Information concerning

the SAP Structure Plan sub-precincts and specific land uses within these areas are outlined in **Table 1-1**.

**Table 1-1: Structure Plan zones and anticipated land uses.**

| Structure Plan sub-precincts | Land Uses |
|---|---|
| Rail Terminals | Car parks<br>Depot facility<br>Freight Transport facility (e.g. rail-road intermodal terminal, grain storage)<br>Hazardous Storage Establishment (where related to a rail freight terminal)<br>Liquid Fuel depot (where related to a rail freight terminal)<br>Roads<br>Transport Depot (e.g. rail sidings, provisioning, maintenance, refuelling, container maintenance)<br>Truck depot<br>Warehouse or Distribution Centre (where related to a rail freight terminal e.g. freight forwarding) |
| Regional enterprise | Agricultural Produce Industry (e.g. advanced manufacturing of agricultural products)<br>Intensive plant agriculture (e.g. glass houses)<br>Depot facility<br>Electricity Generating Works (small scale with negligible off-site air, noise and odour impacts)<br>Emergency Services facility<br>General Industry (e.g. advanced manufacturing of non-agricultural products)<br>Liquid Fuel Depot facility<br>Local Distribution facility<br>Road Transport Depot (e.g. container maintenance, refuelling, mechanics workshop etc.)<br>Truck Depot (e.g. parking, provisioning, maintenance, refuelling)<br>Warehouse and/or Distribution Centre<br>Customs inspection facility<br>Biosolids Treatment facility (e.g. related to Intensive livestock agriculture)<br>Depot facility<br>Electricity Generating Works (e.g. anaerobic digester related to Intensive livestock agriculture)<br>Livestock Processing Industry (e.g. abattoirs, knackeries, tanneries, wool scours, and rendering plants)<br>Roads |
| Commercial Nodes | Highway Service Centre (fuel, food etc)<br>Tertiary or technical training facility<br>Sales Centre<br>Offices<br>Recreation Area / Park<br>Roads<br>Public domain lighting, markers and signage<br>Tavern<br>Data Centre<br>Innovation Hub |
| Green infrastructure | Protected vegetation<br>Offset planting areas, rehabilitation<br>Stormwater treatment wetlands, etc.<br>Green/biodiversity corridor |
| Rural Activity | Agricultural Educational Establishment (tertiary, with agricultural or environmental focus)<br>Extensive agriculture (e.g. irrigated pastures, irrigated fodder cropping)<br>Rural industries<br>Recreational areas<br>Environmental protection works<br>Electricity Generating Works (e.g. small scale (25-35MW) solar PV farms<br>Forestry |

**Figure 1-3: Proposed work showing impact footprint.**



# 2 LANDSCAPE CONTEXT

An understanding of the environmental contexts of a study area is requisite in any archaeological investigation (DECCW 2010). It is a particularly important consideration in the development and implementation of survey strategies for the detection of archaeological sites. In addition, natural geomorphic processes of erosion and/or deposition, as well as humanly activated landscape processes, influence the degree to which these material culture remains are retained in the landscape as archaeological sites; and the degree to which they are preserved, revealed and/or conserved in present environmental settings.

The investigation area is situated in the New South Wales South Western Slopes (NSW SWS) bioregion. This bioregion is comprised of an extensive area of foothills and isolated ranges and has a wide range of rock types which are affected by topographic and rainfall gradients. Such differences have an impact on the nature of soils and vegetation located across the bioregion (NPWS 2003). The investigation area overs two Mitchell (2002) landscape units: Junee Hills and Slopes and Murrumbidgee Tarcutta Channels and Floodplains.

## 2.1 TOPOGRAPHY

The investigation area is mostly located in the NSW SWS lower slopes and consists primarily of undulating and hilly areas with valleys. The south-eastern corner of the investigation area is in the NSW SWS Inland/Upper slopes which tends to consist of steep, hilly and undulating ranges with granite basins, as well as confined river valleys with terrace remnants (NPWS 2003). The investigation can also be further refined using Mitchell's landscape types (2002), with most of the investigation area being in the Junee Hills and Slopes landscape with only small areas of the southeast and southwest corners in the Murrumbidgee Tarcutta Channels and Floodplains landscape (Mitchell 2002) (see **Figure 2-1**).

The Junee Hills and Slopes landscape consists of rolling hills, low ranges and undulating plains, with a general elevation of 300–450 metres (m). The Murrumbidgee Tarcutta Channels and Floodplains landscape tends to consist of channels, floodplains and terraces of Murrumbidgee tributaries, with a general elevation of 200–400 m (Mitchell 2002).

**Figure 2-2** shows the refined assignation of landform types to the investigation area. This is based of topographic information, observations during the first field survey and associated reconnaissance drive around the Wagga Wagga SAP investigation area, and previous studies within the investigation area. There are six types of landforms that have been determined to be inside the investigation area. These are summarised in **Table 2-1.**

**Table 2-1: Landforms inside the Wagga Wagga SAP investigation area.**

| Landform type | Description | Area (ha) |
|---|---|---|
| Ridgeline or crest | The main ridgeline in the investigation area is along part of the western boundary. There are several crests through the centre and west areas of the investigation area. | 190 |
| Rock outcrops along upper hillslope and crests | Rocky outcrops, usually granite, are present throughout the investigation area. These outcrops are located on the upper and middle hill slopes, as well as along parts of ridgelines or crests. | 39 |
| Slopes | Upper or middle hill slopes with a steep to moderate gradient. | 950 |
| Lower slopes and undulating flats | Lower slopes which turn into undulating flats. Covers majority of investigation area, especially surrounding the drainage lines | 2655 |
| Flats & floodplain | Located along the southern edge of the investigation area. This landform has had flooding semi-frequently in the past. | 210 |
| Drainage lines and associated deposits | The drainage lines and associated banks and terraces. | 450 |
| **TOTAL** | | **4494** |

## 2.2 GEOLOGY AND SOILS

The NSW SWS bioregion is in the eastern part of the Lachlan Fold Belt that consists of a series of north to north-westerly folded bodies of Cambrian to Early Carboniferous sedimentary and volcanic rocks. The hilly landscapes developed on sedimentary and volcanic rocks and form lines of hills. The valleys between ranges are either granite or softer rocks such as shale, phyllite or slate. Soils in this bioregion include shallow, stony soils on the top of ridges and hills. Texture contrast soils are predominant downslope, while soils derived from underlying weathering rock are also present along parts of the slope. Valley floors tend to have subsoils in drabber colours (NPWS 2003).

The soils inside the investigation area are likely to be coarse siliceous sands at rock outcrops, and thin red and yellow texture-contrast soils on slopes with block subsoils. On the floodplain areas soils are likely undifferentiated organic sand and loam, with brown loam and yellow texture-contrast soils on higher terraces (Mitchell 2002).

**Figure 2-1: Mitchell (2002) landscape units and waterways in relation to investigation area.**

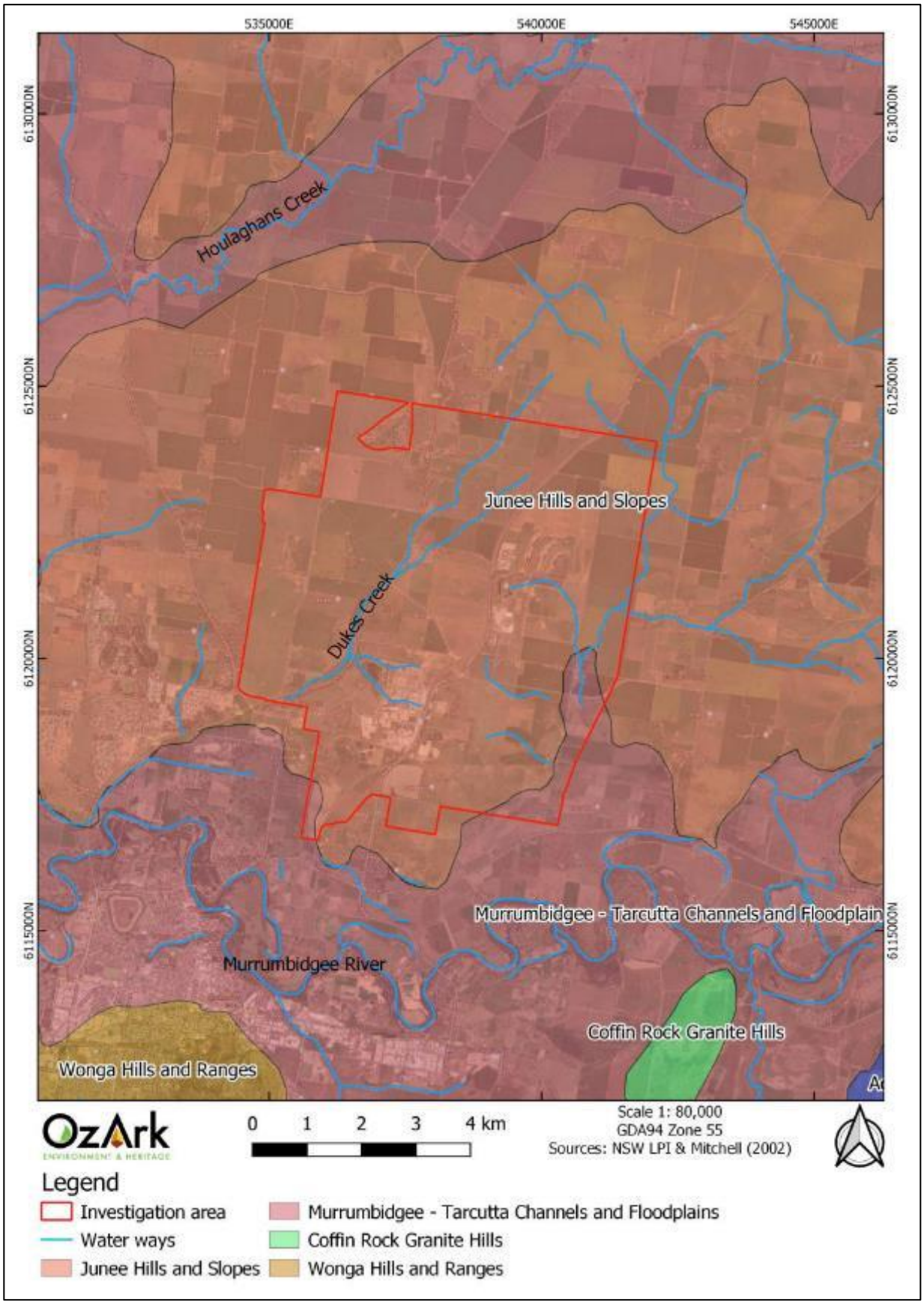
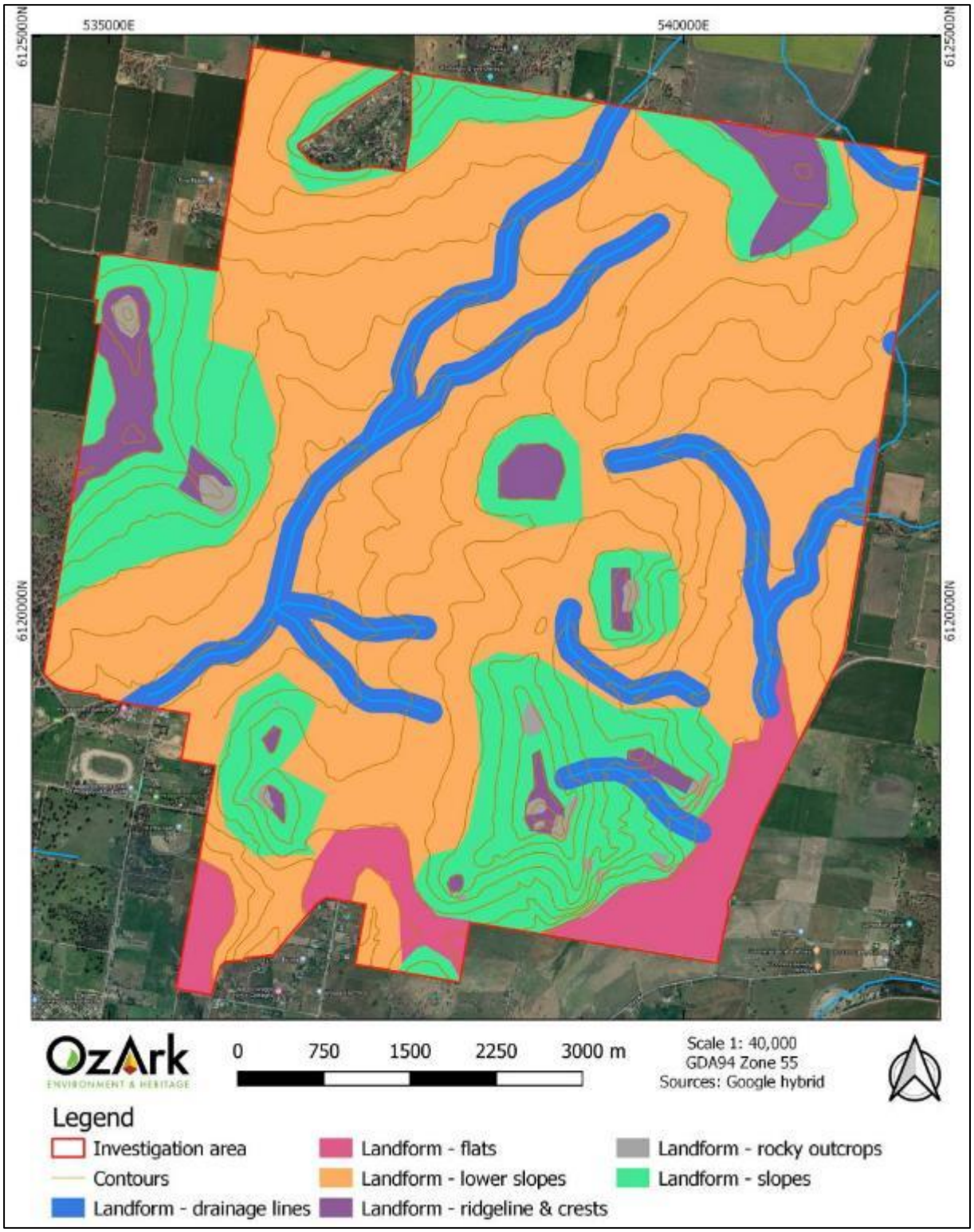


**Figure 2-2: Landforms inside the investigation area.**




## 2.3 HYDROLOGY

The project is located within the Murrumbidgee catchment, which has an area of 84,000 square kilometres ($km^2$). The Murrumbidgee River, located approximately 1.2 kilometres (km) south of the investigation area, generally runs east–west along the northern boundary of urban Wagga Wagga. The Murrumbidgee River extends for approximately 1,485 km, rising in the Monaro Plains

and flowing in a north-westerly direction to its junction with the Murray River downstream of Balranald.

There are several small creeks and drainage lines inside the investigation area. The only named creek is Dukes Creek in the western half of the investigation area (**Figure 2-1**).

## 2.4 VEGETATION

Vegetation across most of the investigation area has been largely modified by land clearance since European settlement for the purposes of agriculture and vegetation is, in the main, currently comprised of exotic cereals and weeds. Isolated stands of remnant native vegetation are present throughout the investigation area, with areas of greater vegetation density present along the road corridors and in remnant groups of vegetation within paddocks.

Previously vegetation in Wagga Wagga SAP would have consisted of woodlands of Dwyer's red gum and mugga on the high rocky areas. On slopes there would have been an open forest of grey box and red stringybark, with patches of black cypress pine in rocky outcrops. Vegetation along the streams of the region would have been river red gum and river oak.

## 2.5 CLIMATE

The climate in the region is temperate, with hot dry summers and cold winters. Climate statistics from Wagga Wagga AMO site, located approximately 5 km south of the investigation area, indicate that temperatures range from a mean maximum temperature of 31.9°C in January and a mean minimum temperature of 2.8°C is in July. October has the highest mean rainfall (56.4 millilitres [mm]) and April has the lowest average rainfall (39.7 mm) (BoM 2019).

## 2.6 LAND–USE HISTORY AND EXISTING LEVELS OF DISTURBANCE

Aboriginal people in prehistory are known to have used fire-stick farming, or controlled burns, to alter vegetation ecosystems to promote the growth of desirable plants. Though it cannot be said at this time whether fire-stick farming was undertaken within the investigation area, it is becoming increasingly believed that Aboriginal fire regimes were widespread (Gammage 2011) and therefore should be considered as a possible early land-use practice.

Squatters began to occupy the SWS bioregion in the 1830s with cattle and sheep grazing becoming the dominant land-use in the early days of European settlement. By the end of the 1800s grazing was expanded due to improved pastures. In the interim, the bioregion has been subjected to a variety of landscape disturbances due to pastoralism, vegetation clearance, erosion, feral animal introductions, river regulation and plant cultivation (HO and DUAP 1996).

The long-standing and existing use of the investigation area is agricultural production, including livestock grazing and crop cultivation.

Disturbance, historical or natural, potentially alters the archaeologically record. It can do this in a variety of ways, directly or indirectly. For example, land clearing directly removes particular site types: usually scarred trees or stone arrangements. Indirectly, land clearing accelerates soil erosion, potentially resulting in previously buried occupation / activity sites becoming exposed and altered / damaged.

The investigation area has moderate to high levels of disturbance mostly consisting of impacts related to the area's agricultural use or industrial use (see **Figure 2-3**). Disturbances across the investigation area are summarised below:

- **Agriculture and Pastoralism.** Farming and grazing are fundamental to the local economy and dominate land-use throughout the area. The investigation area is predominately within farming and grazing land which has had the following impacts:
    - **Vegetation removal.** The investigation area has been subject to significant levels of vegetation removal (**Section 2.4**). Culturally modified trees may have been removed during the land clearance phase in the area, thereby distorting the archaeological landscape by removing this site type
    - **Cultivation.** Much of the investigation area has been subjected to repeated cultivation. Repeated cultivation since the commencement of European settlement will have altered soil profiles and potentially disturbed the integrity of sites and any potential sub-surface archaeological deposits. Research into the impacts upon archaeological sites because of agricultural practices, termed plough zone archaeology, has demonstrated that artefacts can move more than 8 m per season of cultivation (Frink 1984; Gaynor 2001)
    - **Grazing.** The investigation area has been used historically and much of it is currently used for low-intensity livestock grazing. The presence of hoofed livestock is likely to have resulted in trampling and compaction of the ground surface which accelerates soil loss
    - **Farm Infrastructure and remediation works.** The investigation area has an overall low level of disturbance generated by the construction of dams, contour banks, agricultural buildings and fencing. Earthworks associated with contour banking and dams can reveal lithic artefacts which may have been otherwise concealed by low ground surface visibility (GSV).
- **Dwellings.** A low level of disturbance is generated by the construction of the various dwellings located within the investigation area
- **Transport.** There are numerous sealed roads throughout the investigation area. These include the Olympic Highway, Byrnes Road, Dorset Drive and road in the Bomen Business Park, East Bomen Road, Trahairs Road and Bavin Road. There are also several semi-rural residential areas inside the investigation area
- **Commercial services.** Several commercial and industrial services and business are in the Wagga Wagga SAP
    - Bowman Business Park

  - Waste treatment and disposal.

- **Erosion.** Erosion includes gully erosion and sheet wash erosion, primarily adjacent to waterways. Varying scales of erosion on the archaeological landscape has the capacity to completely remove archaeological sites. However, in the process of erosion, many archaeological sites can become freshly exposed.

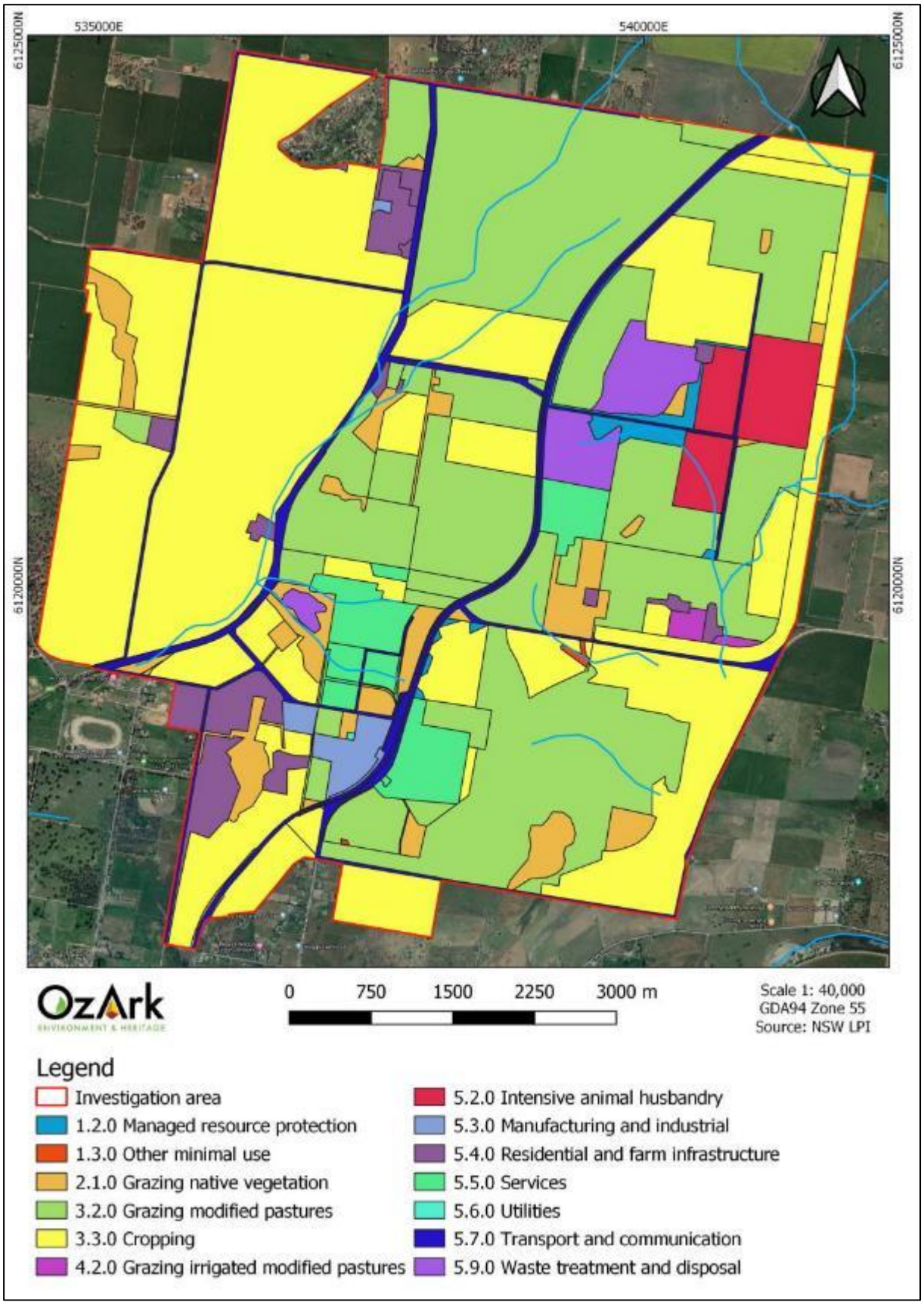
## 2.7 CONCLUSION

The gently undulating hills which dominate the investigation area would not have been an impediment to movement or occupation (camping) by Aboriginal people in the past. The climate of the region would also not have been an impediment to year-round occupation or use. Mature, native species known to be present within the investigation area would have provided resources for Aboriginal people in the past, however, resources likely to have supported a large population of people would have been present closer to the banks of more permanent water sources in the region, such as the Murrumbidgee River. If there is mature native vegetation inside the investigation area, it is possible that some site types such as culturally modified trees may exist. However, broad-scale vegetation clearance, a characteristic of the area reduces the likelihood that any culturally modified trees remain present.

Disturbances arising from past land-use have resulted in localised, significant changes to the landscape. Most of the investigation area has been subject to extensive levels of disturbance from continued ploughing and cultivation and vegetation clearance. In other sections of the investigation area construction of domestic dwellings, farm infrastructure and buildings and the ongoing development of the Bomen Business Park have resulted in moderate to high levels of modification inside specific sections of the investigation area. As noted above, initial vegetation clearing would also have removed culturally modified trees, had they existed in the area. Unobtrusive sites such as open artefact scatters and isolated finds have a greater ability to withstand disturbances and persist within the landscape, however, where present, such sites are likely to be disturbed.

The same factors have likely influenced the presence and preservation of historic archaeology within the investigation area. The generally gentle rolling hills was, attractive for cropping and grazing, and this encouraged the colonial utilisation of the investigation area. Like Aboriginal archaeological deposits, historic archaeological deposits, if they exist in the investigation area, are also likely to have been disturbed by the sustained impact of agriculture.

**Figure 2-3: Land-use of investigation area.**



# ABORIGINAL CULTURAL HERITAGE ASSESSMENT

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# 3 ASSESSMENT INTRODUCTION

## 3.1 DATE OF ARCHAEOLOGICAL ASSESSMENT

The fieldwork component of this assessment was undertaken by OzArk on 28–29 August 2019 and on 5–6 November 2019.

## 3.2 OZARK INVOLVEMENT

### 3.2.1 Field assessment

The fieldwork component of the heritage assessment was undertaken by:

- Fieldwork Director: Dr Alyce Cameron (OzArk Senior Archaeologist, BA [Hons] and PhD [Archaeology & palaeoanthropology] Australian National University)
- Archaeologist: Stephanie Rusden (OzArk Senior Archaeologist, BS University of Wollongong, BA University of New England)
- Archaeologist: Kirwan Williams (OzArk Project Archaeologist, BA University of Queensland).

### 3.2.2 Reporting

The reporting component of the heritage assessment to date was undertaken by:

- Report Author: Dr Alyce Cameron
- Reviewer: Ben Churcher (OzArk Principal Archaeologist; BA [Hons], Dip Ed).

## 3.3 RELEVANT LEGISLATION

Cultural heritage is managed by several state and national Acts. Baseline principles for the conservation of heritage places and relics can be found in the *Burra Charter* (Australia ICOMOS 2013). The *Burra Charter* has become the standard of best practice in the conservation of heritage places in Australia, and heritage organisations and local government authorities have incorporated the inherent principles and logic into guidelines and other conservation planning documents. The *Burra Charter* generally advocates a cautious approach to changing places of heritage significance. This conservative notion embodies the basic premise behind legislation designed to protect our heritage, which operates primarily at a state level.

Several Acts of parliament provide for the protection of heritage at various levels of government.

### 3.3.1 State legislation

***Environmental Planning and Assessment Act 1979*** (EP&A Act)

This Act established requirements relating to land-use and planning. The framework governing environmental and heritage assessment in NSW is contained within the following parts of the EP&A Act:

- Part 4: Local government development assessments, including heritage. May include schedules of heritage items
    - Division 4.7: Approvals process for state significant development
- Part 5: Environmental impact assessment on any heritage items which may be impacted by activities undertaken by a state government authority or a local government acting as a self-determining authority
    - Division 5.2: Approvals process for state significant infrastructure.

The SAP will be managed under the *State Environmental Planning Policy (Activation Precincts) 2020* (Activation Precincts SEPP). The aim of the Activation Precincts SEPP is to promote economic development, industry investment and innovation and to create employment in those Precincts, facilitate strategic and efficient development of land and infrastructure, and protect and enhance land in those Precincts that has natural and cultural heritage value. The framework governing environmental and heritage assessment is contained within the following parts of the Activation Precincts SEPP:

- Part 2: Master plans and delivery plans
    - Section 8 (2): the master plan for an Activation Precinct must contain the following information:
        - 2(d): information about heritage items, heritage conservation areas or places of heritage significance within the Activation Precinct
        - 2(e): limitations on development on land within the Activation Precinct, such as environmentally sensitive areas, contaminated land, flooding and cultural heritage
- Part 3: Exempt and complying development
    - Division 1 Section 8: Complying development
        - 3(c): to be complying development, the development must not be carried out on land on which a heritage item of Aboriginal object is located or that is within a heritage conservation area or Aboriginal place of heritage significance

***National Parks and Wildlife Act 1974*** (NPW Act)

Amended during 2010, the NPW Act provides for the protection of Aboriginal objects (sites, objects and cultural material) and Aboriginal places. Under the Act (Part 6), an Aboriginal object is defined as: any deposit, object or material evidence (not being a handicraft for sale) relating to indigenous and non-European habitation of the area that comprises NSW, being habitation both prior to and concurrent with the occupation of that area by persons of European extraction, and includes Aboriginal remains.

An Aboriginal place is defined under the NPW Act as an area which has been declared by the Minister administering the Act as a place of special significance for Aboriginal culture. It may or may not contain physical Aboriginal objects.

As of 1 October 2010, it is an offence under Section 86 of the NPW Act to 'harm or desecrate an object the person knows is an Aboriginal object'. It is also a strict liability offence to 'harm an Aboriginal object' or to 'harm or desecrate an Aboriginal place', whether knowingly or unknowingly. Section 87 of the Act provides a series of defences against the offences listed in Section 86, such as:

- The harm was authorised by and conducted in accordance with the requirements of an *Aboriginal Heritage Impact Permit* (AHIP) under Section 90 of the Act;
- The defendant exercised 'due diligence' to determine whether the action would harm an Aboriginal object; or
- The harm to the Aboriginal object occurred during the undertaking of a 'low impact activity' (as defined in the regulations).

Under Section 89A of the Act, it is a requirement to notify the Secretary of Premier and Cabinet of the location of an Aboriginal object. Since 1 July 2020, Aboriginal items and sites are required to be reported to Heritage NSW. Identified Aboriginal items and sites are registered on Aboriginal Heritage Information Management System (AHIMS).

### 3.3.2 Commonwealth legislation

***Environment Protection and Biodiversity Conservation Act 1999*** (EPBC Act)

The EPBC Act, administered by the Commonwealth Department of the Environment and Energy, provides a framework to protect nationally significant flora, fauna, ecological communities and heritage places. The EPBC Act establishes both a National Heritage List and Commonwealth Heritage List of protected places. These lists may include Aboriginal cultural sites or sites in which Aboriginal people have interests. The assessment and permitting processes of the EPBC Act are triggered when a proposed activity or development could potentially have an impact on one of the matters of national environment significance listed by the Act. Ministerial approval is required under the EPBC Act for proposals involving significant impacts to National/Commonwealth heritage places.

***Other***

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* is aimed at the protection from injury and desecration of areas and objects that are of significance to Aboriginal Australians. This legislation has usually been invoked in emergency and conflicted situations.

The *Protection of Movable Cultural Heritage Act 1986* includes legislation that prevents objects of cultural heritage significance, such as those that are sacred to Aboriginal peoples' heritage, from being exported out of Australia.

### 3.3.3 Applicability to the proposal

The approval pathway for development proposals within the SAP will be outlined in the SEPP (Activation Precinct) 2020 and the Master Plan. They include exempt and complying development where appropriate within the SAP.

Any Aboriginal sites within the investigation area are afforded legislative protection under the NPW Act. The same level of protection will remain, and the approvals process for impacting Aboriginal sites will remain the same as under the NPW Act and EP&A Act.

It is noted there are no Commonwealth or National heritage listed places within the investigation area, and as such, the heritage provisions of the EPBC Act and other Commonwealth Acts do not apply.

## 3.4 PURPOSE AND OBJECTIVES

The purpose of the current study is to identify and assess heritage constraints relevant to the proposal.

### 3.4.1 Aboriginal archaeological assessment objectives

The current assessment will apply the Code of Practice in the completion of an Aboriginal archaeological assessment to meet the following objectives:

**Objective One**: Undertake background research on the study area to formulate a predicative model for site location within the study area

**Objective Two**: Identify and record objects or sites of Aboriginal heritage significance within the study area, as well as any landforms likely to contain further archaeological deposits

**Objective Three**: Assess the likely impacts of the proposed work to Aboriginal cultural heritage and provide management recommendations.

## 3.5 REPORT COMPLIANCE WITH THE CODE OF PRACTICE

The Code of Practice establishes requirements that should be followed by all archaeological investigations where harm to Aboriginal objects may be possible. **Table 3-1** tabulates the compliance of this report with the requirements established by the Code of Practice.

**Table 3-1: Report compliance with the Code of Practice.**

| Code of Practice Requirement | Context of the Requirement | Concordance in this report |
|---|---|---|
| Requirement 1 | Review previous archaeological work | |
| Requirement 1a | Previous archaeological work | **Section 5.2** and **5.3.2** |
| Requirement 1b | AHIMS searches | **Section 5.3.1** |
| Requirement 2 | Review the landscape context | **Section 2** |
| Requirement 3 | Summarise and discuss the local and regional character of Aboriginal land use and its material traces | **Section 5.4** |
| Requirement 4 | Predict the nature and distribution of evidence | |
| Requirement 4a | Predictive model | **Section 5.4** |
| Requirement 4b | Predictive model results | **Section 5.4.6** |
| Requirement 5 | Archaeological survey | |
| Requirement 5a | Survey sampling strategy | **Section 6.1** |
| Requirement 5b | Survey requirements | This Requirement was fulfilled during the undertaking of the survey |
| Requirement 5c | Survey units | **Section 6.1** and **Section 6.3** |
| Requirement 6 | Site definition | **Section 5.4.6** |
| Requirement 7 | Site recording | |
| Requirement 7a | Information to be recorded | **Section 6.1** |
| Requirement 7b | Scales for photography | All artefact photographs employed a centimetre scale bar. |
| Requirement 8 | Location information and geographic reporting | |
| Requirement 8a | Geospatial information | All artefact locations were logged using a non-differential handheld GPS. |
| Requirement 8b | Datum and grid coordinates | All coordinates are provided in GDA94 Zone 55. |
| Requirement 9 | Record survey coverage data | **Section 6.3** |
| Requirement 10 | Analyse survey coverage | **Section 6.3** |
| Requirement 11 | Archaeological Report content and format | This report adheres to this Requirement. |
| Requirement 12 | Records | OzArk undertakes to maintain all survey records for at least five years. |
| Requirement 13 | Notifying OEH and reporting | |
| Requirement 13a | Notification of breaches | Not applicable |
| Requirement 13b | Provision of information | Not applicable |
| Requirement 14 | Test excavation which is not excluded from the definition of harm | Not applicable |
| Requirement 15 | Pre-conditions to carrying out test excavation | |
| Requirement 15a | Consultation | Consultation has included the ACHCRs, see **Section 4**. |
| Requirement 15b | Test excavation sampling strategy | Not applicable |
| Requirement 15c | Notification | Not applicable |
| Requirement 16 | Test excavation that can be carried out in accordance with this Code | |
| Requirement 16a | Test excavations | Not applicable |
| Requirement 16b | Objects recovered during test excavations | Not applicable |

| Code of Practice Requirement | Context of the Requirement | Concordance in this report |
|---|---|---|
| Requirement 17 | When to stop test excavations | Not applicable |

## 3.6 ASSESSMENT APPROACH

The current assessment follows the *Code of Practice for the Investigation of Aboriginal Objects in New South Wales* (Code of Practice; DECCW 2010).

Field assessment and reporting followed the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011).

# 4 ABORIGINAL COMMUNITY CONSULTATION

## 4.1 ABORIGINAL COMMUNITY CONSULTATION

The Aboriginal cultural heritage assessment of the proposal is following the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs) (DECCW 2010b). A log and copies of correspondence with Aboriginal community stakeholders to date is presented in **Appendix 1**.

The ACHCRs include four main stages and these will be detailed in the following sections.

### 4.1.1 ACHCRs Stage 1

The aim of Stage 1 is to identify the Registered Aboriginal Parties (RAPs) who wish to be consulted about the proposal.

Written notification of known Aboriginal parties that the then Office of Environment and Heritage (OEH) considers may have interest in the proposal was provided to the client as part of the planning project.

In addition, an advertisement was placed in the Daily Advertiser on 2 July 2019 to solicit further expressions of interest (**Appendix 1**).

A letter seeking information from various agencies was sent on 2 July 2019 (**Appendix 1**). These agencies were: Office of the Registrar; National Native Title Tribunal; NTSCORP; Wagga Wagga Council; Wagga Wagga Local Aboriginal Land Council (LALC) and the Riverina Local Land Services. OEH had already provided an up to date list of stakeholders for the project through the client.

Letters were sent to the contact details provided by OEH for known Aboriginal parties on 4 July 2019 (**Appendix 1**).

By the end of Stage 1, four RAPs registered for the project:

- Bundyi Aboriginal Cultural Knowledge
- Yalmambirra
- Bidya Marra Consultancy
- Wagga Wagga LALC

### 4.1.2 ACHCRs Stages 2 & 3

The aim of Stages 2 and 3 is provide information about the proposal to the RAPs and to acquire information regarding Aboriginal cultural values associated with the proposal either through consultation and/or field work. Often these two stages are run together, and the detailed project information is provided in the assessment methodology that is issued to all RAPs for their consideration.

The RAPs were sent the project overview and survey methodology on 24 July 2019. A 28 day review period was provided closing on 21 August 2019. No feedback regarding survey methodology or cultural values of the area was provided by the RAPs.

### 4.1.3 ACHCRs Stage 4

Stage 4 involves the production of a draft ACHAR that is issued to all RAPs for their consideration. The ACHAR will document the results of the assessment, outline opportunities for the conservation of Aboriginal cultural values, and suggest recommendations for the management of Aboriginal objects should impacts to these objects be unavoidable.

No specific comments were received from RAPs concerning the ACHAR during Stage 4.

[redacted] (Bundyi Aboriginal Cultural Knowledge) did initially request a face-to-face meeting, however, when this followed up by OzArk, [redacted] stated he had already had meeting with SAP personnel in Wagga and did not have further questions. [redacted] stated that since he did not participate in the field survey that he should not provide comment on the report. Full details of these correspondences are provided in **Appendix 1**.

## 4.2 ABORIGINAL COMMUNITY INVOLVEMENT IN THE ASSESSMENT

The field survey was undertaken in two mobilisations: 28–29 August 2019 and 5–6 November 2019. The following RAPs or representatives of RAPs participated in the fieldwork:

- [redacted] (Bidya Marra Consultancy) Wednesday 28 August 2019
- [redacted] (Bidya Marra Consultancy) Wednesday 28 August 2019, Thursday 29 August 2019, Tuesday 5 November 2019 and Wednesday 6 November 2019
- [redacted] (Bundyi Aboriginal Cultural Knowledge) Thursday 29 August 2019, Tuesday 5 November 2019 and Wednesday 6 November 2019.

### 4.2.1 Comments arising from the assessment

[redacted] provided information about the nearby creeks and watercourses which were used as ‘highways’ by the Wiradjuri. These include Houlaghans Creek (approximately 3 km northwest of the investigation area) and the series of unnamed drainage lines east of Byrnes Road).

[redacted] provided information concerning sites he recorded or helped to record inside the investigation area, especially concerning a scarred tree with a canoe scar. During the second mobilisation [redacted] stated that the rocky outcrop where Wagga SAP OS-01 is recorded is also an Aboriginal Ceremony and Dreaming location and that he would submit a site card outlining the cultural aspects of this location (AHIMS #56-1-0619 ‘Dreaming Site Rocky Hill Wagga’). [redacted] stated Rocky Hill (#56-1-0619) was important in the landscape as it provided a view southward toward the ‘two sisters’ with Kengal (also known as the Rock) able to be seen through the dip between.

# 5 ABORIGINAL ARCHAEOLOGY BACKGROUND

## 5.1 ETHNO-HISTORIC SOURCES OF REGIONAL ABORIGINAL CULTURE

The project site is within the southern boundaries of the territory of the Wiradjuri tribal and linguistic group (Tindale 1974). The Wiradjuri tribal area is situated within the Murray Darling Basin and extends across three general physiographic regions: the highlands or central tablelands in the east, the riverine plains in the west, and the transitional western slopes zone in-between.

The Wiradjuri is one of the largest language groups within New South Wales, extending across the districts of Mudgee, Bathurst, Dubbo, Parkes, West Wyalong, Forbes, Orange, Junee, Cowra, Young, Holbrook, Wagga Wagga, Narrandera, Griffith, and Mossgiel (Tindale 1974). While the area was noted to have a single basic language, various dialects were found throughout the region. The current project site is located within the Riverina on the south-western margin of the Wiradjuri territory.

It is important to recognise the use and meaning of the term ‘tribe’ and the designation of lines on a map as ‘tribal boundaries’ as being controversial issues (Bowdler 1983: 22). There is no doubt that there were distinctive groups which can be defined by their linguistic traits, but the designation of lines on a map as boundaries, although useful, must also be accepted as problematic. Unlike Tindale’s map, the map (from NSW NPWS) reproduced in Bowdler (1983: 17, Figure 2) shows a more general relationship of the language groups known to exist in NSW.

Prior to European settlement, the eastern margins of the Murrumbidgee River basin supported woodland and forest habitats that provided home to a wide range of exploitable resources for the Indigenous population. These resources included possums, which provided a ready source of meat and fur for cloaks (Kabaila 1998: 12). Also used were vegetables including the roots of daisy yams (Myrrnong), the tubers of lilies and orchids, stands of bracken fern, and Kurrajong roots. As the river enters the western slopes of the Wagga Wagga area and out onto the red brown earth plains around Hay and Griffith, the landscape becomes more an open plain woodland becoming increasingly arid with the western flow of the river. The grassland plains were characterised by kangaroos and emus that were hunted, often using the firing of vegetation as a tool (Kabaila 1998: 12). The frequent floods of the Murrumbidgee provided the local Indigenous population with an abundance of resources: as the flood waters receded, they left the drying pools stocked with freshwater mussels, yabbies, fish and waterfowl as well as aquatic plants (Kabaila 1998: 12).

The social organisation of the Wiradjuri appears to have been along the grounds of kinship systems based on totem names and associations. This system governed and controlled marriage and determined ceremonial kinship obligations. Individual identity and clan affiliations were expressed partly through elaborate carvings on wooden implements and on skin cloaks (White and Cane 1986: 61).

From very early in the contact era, as early as the 1790s, disease travelled the rivers of south-eastern Australia and decimated Indigenous populations even before the earliest physical presence of Europeans. The beginnings of settlement by squatters, selectors, and eventually ex-gold diggers, significantly disrupted the Aboriginal population. From the 1830s the Aborigines became familiar with European foods, tools, and tobacco and began wearing clothes. They often took on the names of the local property owners or landholdings (Green 2002: 105). Conflict arose here due to the same reasons as elsewhere: settlers being unwilling to share their goods and reacting violently to the Aborigines killing sheep or cattle. While the remnant Indigenous population was eventually provided with rations, they were dying rapidly from disease, starvation, the ill effects of alcohol and as a result of localised massacres. It is thought that by the 1900s there may have been as few as 20 local Aborigines left in the Wagga Wagga district (Green 2002: 105)[1].

## 5.2 REGIONAL ARCHAEOLOGICAL CONTEXT

Within the Wiradjuri region, the presence of Aboriginal people in the Darling Basin has been dated to 40,000 years ago (Hope 1981 as cited in Haglund 1985). A spread east into the mountains is thought to have occurred between 14,000 to 12,000 years ago. Systematic, regional based archaeological studies have not been undertaken in this area. Development driven studies have, however, comprised the bulk of archaeological assessment within the Wagga Wagga district over the past 30 years.

In 1981, an extensive survey was undertaken in the Murrumbidgee River corridor between Angle Crossing and Kambah Pool (Barz and Winston-Gregson in Navin Officer 1998: 8). This study focussed on the river corridor and recorded 62 prehistoric sites, primarily artefact scatters that extended over considerable areas. Unifacially flaked, quartzite river cobble choppers were the most common artefact recorded but artefacts of quartz, chalcedony, jasper and sandstone were also recorded. Seven scarred trees were also recorded, along with three quarries and seven beaten earth rings that may have been used for ceremonial purposes. In terms of site location, the authors found that in many cases sites were not located on valley floors or on the tops of ridges but on median altitude locations in relation to the surrounding terrain. Sites were focussed on flattened hilltops and small terraces above the valley floor that provided shelter above the cold air drainage of the valley floors.

In 1983, Stage 1 of a study for the Murrumburrah–Yass and Murrumburrah–Wagga Wagga electricity transmission lines was initiated (Witter and Hughes 1983). A 16 km section of the former line was assessed while only a 4 km section was surveyed of the latter. Both these survey corridors lie to the north of the Hume Highway at Jugiong. In terms of environmental settings,

[1] 1 OzArk is aware that pre-1967 population estimates of Aboriginal people are often very inaccurate and based more on assumption rather than verifiable data. Early population estimates tend to underestimate the local Aboriginal population who had become very marginalised and overlooked by European writers of the day.

they comprise rolling hills and low granite rises with deeply incised streams that characterise the western slopes of the Great Dividing Range. These corridors lie within the contact area between the Wiradjuri and the Ngunnawal tribes. The results of this survey recorded four open camp sites, 13 isolated finds and one possible scarred tree. The open camp sites were all quite large, comprising between 40 and 70 artefacts made predominantly from quartz (Witter and Hughes 1983: 7). Estimates made on the effective survey coverage, land systems traversed, and sites recorded led the authors to suggest that there is likely to have been 15 sites along the surveyed corridors, with 10 being “invisible” (Witter and Hughes 1983: 8).

Later in 1983, Stage 2 of the Murrumburrah–Yass electricity line was assessed. The results of this survey recorded 11 isolated finds, five open camp sites and two scarred trees (Packard and Hughes 1983: 3).

The location of a proposed Telecom site at Mount Galore 50 km west of Wagga Wagga was surveyed in 1986 (Stone 1986). Only a very small area was surveyed, c. 30 x 30 m and no Indigenous sites were recorded.

Assessment for a proposed water treatment works was undertaken in Gundagai in 1986 (Koettig 1986c). The two options included a site on the Murrumbidgee River bank and the second on a hill to the south of the river. One site was recorded in the latter study area, being an open site containing four artefacts.

Assessment in Wagga Wagga for the establishment of a naval communications base was undertaken in 1992 (Wood 1992). The area assessed comprised c. 150 ha for the receiving station and 1.1 ha for the transmitting station. Over both study areas, 14 oven mounds (described as circular to oval mounds used for cooking food in oven pits) were recorded, mostly adjacent to watercourses. Of these only two remain in reasonable condition. Also recorded were 10 hearths, some in association with mounds or artefact scatters; eight open camp sites and 14 scarred trees.

A proposed pipeline extending from Wodonga to Wagga Wagga was surveyed in 1996 (SKM). This assessment recorded 25 Aboriginal sites, 10 being isolated finds, 12 open artefact scatters and three scarred trees. These include sites within the easement as well as those recorded in the close vicinity. Results of the survey deemed that artefact scatters were recorded primarily in well-drained contexts within riparian zones adjacent to water sources, scarred trees occurred anywhere, and that areas that had been heavily used for agriculture and were distant from water had low archaeological potential (SKM 1996: 9–5).

Assessment of a proposed bypass of Coolac along the Hume Highway resulted in the completion of three archaeological assessments, the first two of which were undertaken in 1994 and 1996 respectively and the last of which was undertaken in 2004 (Navin Officer 2004). The most recent assessment recorded two sites, one open camp site and a potential archaeological deposit (PAD). The open site was comprised of six artefacts (five quartz and one tuff) located on an

elevated secondary terrace 150 m from the junction of Ginger Beer Creek with Muttama Creek. The PAD was identified in association with the terrace adjacent to Daisy Bed Creek near the junction of Muttama Creek.

## 5.3 LOCAL ARCHAEOLOGICAL CONTEXT

### 5.3.1 Desktop database searches conducted

A desktop search was conducted on the following databases to identify any potential previously-recorded heritage within the study area. The results of this search are summarised in **Table 5-1** and presented in detail in **Appendix 2**.

**Table 5-1: Aboriginal cultural heritage: desktop-database search results.**

| Name of Database Searched | Date of Search | Type of Search | Comment |
|---|---|---|---|
| Commonwealth Heritage Listings | 19 June 2019 | Wagga Wagga LGA | No places listed on either the National or Commonwealth heritage lists are located within the study area |
| National Native Title Claims Search | 8 July 2019 | NSW | No Native Title Claims cover the study area. |
| AHIMS register | 19 June 2019 | 3 km x 3 km centred on the investigation area | 103 Aboriginal sites within the search area.<br>One Aboriginal Place inside investigation area: Bowman Axe Quarry |
| AHIMS register | 20 July 2020 | 2 km x 2 km centred on the investigation area | An additional 20 Aboriginal sites recorded inside the investigation area. |
| Local Environment Plan (LEP) | 19 June 2019 | Wagga Wagga LEP of 2010 | None of the Aboriginal places noted occur near the study area. |

A search of the AHIMS database conducted on 19 July 2019 returned 103 records for Aboriginal heritage sites within the designated 3 km search area (Eastings 532146–545149; Northings 6113938–6127880). This search was updated with a new extensive search conducted on 20 July 2020 which returned 86 records for Aboriginal heritage within a 2 km search area (Eastings 533026–544177; Northings 6114739–6126950). Combining the results of the two AHIMS searches, there are 126 Aboriginal sites within 2–3 km or inside the investigation area (note that one site is a duplicate and has been removed from the data set, while another is incorrectly labelled as a quarry on AHIMS (#56-1-0110) when it is an artefact scatter).

**Table 5-2** summarises the 126 AHIMS sites that have been recorded and **Figure 5-1** shows the location of these AHIMS sites. Artefact scatters are the most prevalent site type (47%) followed by modified trees (40%) and isolated finds (7%).

**Table 5-2: Site types and frequencies of AHIMS sites around the investigation area.**

| Site Type | Number | % Frequency |
|---|---|---|
| Artefact scatter | 59 | 47 |
| Modified tree | 51 | 40 |

| Site Type | Number | % Frequency |
|---|---|---|
| Isolated Find | 9 | 7 |
| Artefact scatter & modified tree | 2 | 2 |
| Quarry and isolated find | 2 | 2 |
| Quarry | 1 | 1 |
| Open Camp Site & midden | 1 | 1 |
| Aboriginal ceremony & dreaming | 1 | 1 |
| **Total** | **126** | **100** |

An updated search of the AHIMS data conducted on 20 July 2020 (Eastings 533026–544177; Northings 6114739–6126950) resulted in an additional 20 Aboriginal sites having been recorded inside the investigation area since June 2019. This results in 61 AHIMS sites recorded inside the investigation area (see **Table 5-3**). Technically there are 63 sites, though two sites are duplicate recordings (AHIMS #56-1-0111 is a duplicate recording of AHIMS #56-1-0109, and AHIMS #56-1-0606 is a duplicate recording of AHIMS #56-1-0604 (NGH 2019: 68)). The duplicate recordings have been removed from the data set for the purposes of this report.

Of the 61 AHIMS sites inside the investigation area, there are 42 artefact scatters, 11 isolated finds, four modified trees, one modified tree and artefact scatter, one quarry and isolated find, one quarry and artefact scatter, and one Aboriginal ceremony and dreaming site. Three of these sites (#56-1-0609, #56-1-0620 and #56-1-0621) were recorded by OzArk during the field survey for this report (see **Section 6.4**) and one site (#56-1-0619) was recorded by a RAP during the survey. **Figure 5-2** shows the location of AHIMS sites inside the investigation area.

To date, ten sites have been recorded as destroyed (nine artefact scatters and one quarry with isolated find). All other sites inside the investigation area are registered on AHIMS as being valid though some sites have had Aboriginal Heritage Impact Permits (AHIPs) applied for (see **Table 5-4** and **Figure 5-3**).

**Table 5-3: Site types and frequencies of AHIMS sites inside the investigation area.**

| Site Type | Number | % Frequency |
|---|---|---|
| Artefact scatter | 42 | 69 |
| Isolated Find | 11 | 18 |
| Modified tree | 4 | 7 |
| Artefact scatter & modified tree | 1 | 2 |
| Quarry and isolated find | 1 | 2 |
| Aboriginal ceremony and dreaming | 1 | 2 |
| Quarry and artefact scatter | 1 | 2 |
| **Total** | **61** | **100** |

One of the previously recorded sites is #56-1-0043 (East Bomen 1) is also a gazetted Aboriginal Place (Bomen Axe Quarry). This site, recorded by Navin Officer in 1998 (Navin Officer 1998), is a stone quarry and artefact site. The 150 m x 70 m site is located on the crest of a spur near

Bomen and consists of outcropping granite, naturally occurring basalt cobbles and artefacts providing evidence for on-site raw material acquisition and on-site reduction. Navin Officer (1998: 16) note that '*the site provides evidence for the on-site procurement of basalt rock through the flaking of naturally occurring surface cobbles, and subsequent on-site reduction of this flaked material to form axe (or hatchet) preforms*'. Navin Officer note that there is a surface scatter of around 500 artefacts, including hammer stones, cores, primary flakes and secondary flakes. Artefact types included hammer stones (3%), cores (20%), primary and secondary flakes (77%) and axe preforms (1%). Bomen Axe Quarry is classified as 'E2 – Environmental Conservation' on the Wagga Wagga LEP 2010. It is surrounded by an area classified as 'RE1 – Public Recreation'. The curtilage for Bomen Axe Quarry as an Aboriginal Place, matches the E2 designated area.

This site was visited by OzArk in 2011 and 2012 (OzArk 2012), however, it was not possible to confirm the current extent of the site due to the overall lack of ground surface visibility. Nevertheless, several small exposures were visible in which were present a small number of objects bearing some resemblance to those photographed by Navin Officer (1998: 42). OzArk's inability to re-record artefacts at this site in 2011/2012 did not reduce the extent or significance of this site. The site was gazetted as an Aboriginal Place in March 2012.

A further gazetted Aboriginal Place near the investigation area is Bomen Lagoon located 1.2 km to the south. Bomen Lagoon was gazetted as an Aboriginal Place in 2015. The State Heritage Register does not provide details on the heritage significance of this place as it is restricted, however, one AHIMS site returned in the search, #56-1-0081 (WW110), a stone artefact site with an unknown number of artefacts, is located to the north of the lagoon.

Of the 61 AHIMS sites recorded inside the investigation area, 39 already have management recommendations in place through issued AHIPs or an SSD ACHMP. Fourteen AHIMS sites will be managed by the recommendations in NGH 2019, and likely to include AHIPs where necessary. Four sites will be managed under this report as outlined in **Section 9**. **Table 5-4** summarises the AHIMS information for each of the sites inside the investigation area, whether the site is recorded on AHIMS as still valid or has been destroyed, and what other current management recommendations may already be in place. Current management includes issued Aboriginal Heritage Impact Permits (AHIPs), SSD Aboriginal Cultural Heritage Management Plans (ACHMPs), an Aboriginal Place Plan of Management, and a possible future AHIP.

There are five sites (AHIMS #56-1-0033, #56-1-0110, #56-1-0120, #56-1-0384 and #56-1-0624) where further information regarding existing management was unable to be located. These five sites will be included as part of the impact assessment in **Section 8.3**. **Figure 5-3** shows the AHIMS sites inside the investigation area and current (as of July 2020) known management recommendations concerning the sites.

**Figure 5-1: Location of previously recorded AHIMS sites in relation to the investigation area.**

This figure has been redacted due to sensitive information

**Figure 5-2: Location of previously recorded AHIMS sites inside investigation area.**

This figure has been redacted due to sensitive information

**Table 5-4: Current management of AHIMS sites inside Wagga Wagga SAP investigation area.**

| Site ID | Site name | GDA 94 Zone 55 Easting | GDA 94 Zone 55 Northing | Site types | Site status | Current management and/or recommendations concerning site |
|---|---|---|---|---|---|---|
| 56-1-0033 | BOM-1 | [redacted] | [redacted] | Isolated find | Valid | None known. |
| 56-1-0043 | EAST BOMEN 1 | [redacted] | [redacted] | Quarry | Valid | Bomen Axe Quarry. Registered Aboriginal Place under the NPW Act Currently has a management plan (OEH 2016). Recommended in AECOM 2017 to be avoided. |
| 56-1-0044 | EAST BOMEN IF2 | [redacted] | [redacted] | Isolated Find | Valid | Recommended for avoidance in AECOM 2018. |
| 56-1-0045 | EAST BOMEN IF1 | [redacted] | [redacted] | Isolated Find | Valid | Recommended for avoidance in AECOM 2018. |
| 56-1-0109 | Bomen Isolated Find BIF1 duplicate of 56-1-0111 | [redacted] | [redacted] | Quarry and isolated find | Destroyed | Recommended for surface collection in AECOM 2018. |
| 56-1-0110 | BSSC-IF1 | [redacted] | [redacted] | Isolated find | Valid | None known. |
| 56-1-0120 | APA36 | [redacted] | [redacted] | Artefact scatter | Valid | None known. |
| 56-1-0384 | Windmill RD 1 | [redacted] | [redacted] | Modified tree | Valid | None known. |
| 56-1-0432 | Bomen RIFL IF2 | [redacted] | [redacted] | Artefact scatter | Valid | AHIP issued for site (permit number 4016). See NGH 2016a. Still listed as valid on AHIMS, though based on information provided by RAP site officers, suspect site has been destroyed during construction of Merino Road. |
| 56-1-0433 | Bomen RIFL IF1 | [redacted] | [redacted] | Artefact scatter | Valid | AHIP issued for site (permit number 4016). See NGH 2016a. Still listed as valid on AHIMS, though based on information provided by RAP site officers, suspect site has been destroyed during construction of Merino Road. |
| 56-1-0434 | Bomen RIFL IF3 | [redacted] | [redacted] | Artefact scatter | Valid | AHIP issued for site (permit number 4016). See NGH 2016a. Still listed as valid on AHIMS, though based on information provided by RAP site officers, suspect site has been destroyed during construction of Dorset Drive. |
| 56-1-0437 | Bomen Solar IS01 | [redacted] | [redacted] | Isolated Find | Destroyed | Recommended for surface collection in AECOM 2018. |
| 56-1-0457 | Bomen RIFL IF4 | [redacted] | [redacted] | Artefact scatter | Valid | AHIP issued for site (permit number 4243). See NGH 2016a. Site is still currently listed as valid. |
| 56-1-0458 | Bomen RIFL IF5 | [redacted] | [redacted] | Artefact scatter | Valid | AHIP issued for site (permit number 4016). See NGH 2016a. Still listed as valid on AHIMS, though based on information provided by RAP site officers, suspect site has been destroyed during construction of Dorset Drive. |
| 56-1-0459 | Bomen RIFL ST1 | [redacted] | [redacted] | Modified tree | Valid | AHIP issued for site (permit number 4243). See NGH 2016a. Site is still currently listed as valid. |
| 56-1-0460 | Bomen RIFL AS1 | [redacted] | [redacted] | Artefact scatter | Valid | AHIP issued for site (permit number 4016). See NGH 2016a. Still listed as valid on AHIMS, though based on information provided by RAP site officers, suspect site has been destroyed during construction of Dorset Drive. |

| Site ID | Site name | GDA 94 Zone 55 Easting | GDA 94 Zone 55 Northing | Site types | Site status | Current management and/or recommendations concerning site |
|---|---|---|---|---|---|---|
| 56-1-0461 | Bomen RIFL AS2 | [redacted] | [redacted] | Artefact scatter | Valid | AHIP issued for site (permit number 4016). See NGH 2016a. Still listed as valid on AHIMS, though based on information provided by RAP site officers, suspect site has been destroyed during construction of Merino Road. |
| 56-1-0462 | Bomen RIFL AS3 | [redacted] | [redacted] | Artefact scatter | Valid | AHIP issued for site (permit number 4016). See NGH 2016a. |
| 56-1-0463 | Bomen RIFL AS4 | [redacted] | [redacted] | Artefact scatter | Valid | AHIP issued for site (permit number 4016). See NGH 2016a. Still listed as valid on AHIMS, though based on information provided by RAP site officers, suspect site has been destroyed during construction of Merino Road. |
| 56-1-0515 | North Wagga Solar IF 1 | [redacted] | [redacted] | Artefact scatter | Valid | AHIP issued for site (permit number 4593). See Access Archaeology 2017. |
| 56-1-0521 | WWSF-5 | [redacted] | [redacted] | Artefact scatter | Valid | AHIP issued for site (permit number 4593). See Access Archaeology 2017. |
| 56-1-0522 | WWSF-1 | [redacted] | [redacted] | Artefact scatter | Valid | AHIP issued for site (permit number 4593). See Access Archaeology 2017. |
| 56-1-0523 | WWSF-3 | [redacted] | [redacted] | Artefact scatter | Valid | AHIP issued for site (permit number 4593). See Access Archaeology 2017. |
| 56-1-0524 | WWSF-4 | [redacted] | [redacted] | Artefact scatter | Valid | AHIP issued for site (permit number 4593). See Access Archaeology 2017. |
| 56-1-0526 | WWSF-2 | [redacted] | [redacted] | Artefact scatter | Valid | AHIP issued for site (permit number 4593). See Access Archaeology 2017. |
| 56-1-0532 | Bomen 539085 | [redacted] | [redacted] | Artefact scatter | Valid | Recommended for avoidance in AECOM 2018. |
| 56-1-0533 | Bomen 539070 | [redacted] | [redacted] | Artefact scatter | Valid | Recommended for avoidance in AECOM 2018. |
| 56-1-0534 | Bomen 538732 | [redacted] | [redacted] | Artefact scatter | Valid | Recommended for avoidance in AECOM 2018. |
| 56-1-0535 | Bomen 539004 | [redacted] | [redacted] | Artefact scatter | Valid | Recommended for avoidance in AECOM 2018. |
| 56-1-0536 | Bomen 539015 | [redacted] | [redacted] | Artefact scatter | Destroyed | Recommended for surface collection in AECOM 2018. |
| 56-1-0537 | Bomen 539072 | [redacted] | [redacted] | Artefact scatter | Valid | Recommended for avoidance in AECOM 2018. |
| 56-1-0538 | Bomen 539071 | [redacted] | [redacted] | Artefact scatter | Valid | Recommended for avoidance in AECOM 2018. |
| 56-1-0542 | Bomen 540684 | [redacted] | [redacted] | Modified tree | Valid | Recommended for avoidance in AECOM 2018. |
| 56-1-0543 | Bomen 540568 | [redacted] | [redacted] | Artefact scatter | Destroyed | Recommended for surface collection in AECOM 2018. |
| 56-1-0550 | BSF-AS2-18 | [redacted] | [redacted] | Artefact scatter | Destroyed | Recommended for surface collection in AECOM 2018. |
| 56-1-0551 | BSF-AS1-18 | [redacted] | [redacted] | Artefact scatter | Destroyed | Recommended for surface collection in AECOM 2018. |
| 56-1-0552 | BSF-IA6-18 | [redacted] | [redacted] | Isolated artefact | Destroyed | Recommended for surface collection in AECOM 2018. |
| 56-1-0553 | BSF-IA5-18 | [redacted] | [redacted] | Isolated artefact | Valid | Recommended for avoidance in AECOM 2018. |
| 56-1-0554 | BSF-IA4-18 | [redacted] | [redacted] | Isolated artefact | Valid | Recommended for avoidance in AECOM 2018. |
| 56-1-0555 | BSF-IA3-18 | [redacted] | [redacted] | Isolated artefact | Destroyed | Recommended for surface collection in AECOM 2018. |

| Site ID | Site name | GDA 94 Zone 55 Easting | GDA 94 Zone 55 Northing | Site types | Site status | Current management and/or recommendations concerning site |
|---|---|---|---|---|---|---|
| 56-1-0556 | BSF-IA2-18 | [redacted] | [redacted] | Isolated artefact | Destroyed | Recommended for surface collection in AECOM 2018. |
| 56-1-0557 | BSF-IA1-18 | [redacted] | [redacted] | Isolated artefact | Destroyed | Recommended for surface collection in AECOM 2018. |
| 56-1-0590 | BSF-ST1-18 | [redacted] | [redacted] | Artefact scatter & modified tree | Valid | Recommended for avoidance in AECOM 2018. |
| 56-1-0593 | Wagga Wagga SF IF5 | [redacted] | [redacted] | Isolated find | Valid | AHIP pending. Surface salvage recommended in NGH 2019. |
| 56-1-0594 | Wagga Wagga SF IF4 | [redacted] | [redacted] | Isolated find | Valid | AHIP pending. Surface salvage recommended in NGH 2019. |
| 56-1-0595 | Wagga Wagga SF IF3 | [redacted] | [redacted] | Isolated find | Valid | AHIP pending. Surface salvage recommended in NGH 2019. |
| 56-1-0596 | Wagga Wagga SF IF2 | [redacted] | [redacted] | Isolated find | Valid | Avoidance recommended in NGH 2019. |
| 56-1-0597 | Wagga Wagga SF IF1 | [redacted] | [redacted] | Isolated find | Valid | AHIP pending. Surface salvage recommended in NGH 2019. |
| 56-1-0598 | Wagga Wagga SF AFT 8 | [redacted] | [redacted] | Artefact scatter | Valid | AHIP pending. Surface salvage recommended in NGH 2019. |
| 56-1-0599 | Wagga Wagga SF AFT 7 | [redacted] | [redacted] | Artefact scatter | Valid | Avoidance recommended in NGH 2019. |
| 56-1-0600 | Wagga Wagga SF AFT 6 | [redacted] | [redacted] | Artefact scatter | Valid | AHIP pending Surface salvage recommended in NGH 2019. |
| 56-1-0601 | Wagga Wagga SF AFT 5 | [redacted] | [redacted] | Artefact scatter | Valid | AHIP pending. Surface salvage recommended in NGH 2019. |
| 56-1-0602 | Wagga Wagga SF AFT 4 | [redacted] | [redacted] | Artefact scatter | Valid | AHIP pending. Surface salvage recommended in NGH 2019. |
| 56-1-0603 | Wagga Wagga SF AFT 3 | [redacted] | [redacted] | Artefact scatter | Valid | AHIP pending. Surface salvage recommended in NGH 2019. |
| 56-1-0604 | Wagga Wagga SF AFT 2 | [redacted] | [redacted] | Artefact scatter | Valid | AHIP pending. Surface salvage recommended in NGH 2019. |
| 56-1-0605 | Wagga Wagga SF AFT 1 | [redacted] | [redacted] | Artefact scatter | Valid | AHIP pending. Surface salvage recommended in NGH 2019. |
| 56-1-0609 | Wagga SAP IF-01 | [redacted] | [redacted] | Artefact scatter | Valid | OzArk 2020 (see **Section 9**). |
| 56-1-0619 | Dreaming Site Rocky Hill Wagga | [redacted] | [redacted] | Aboriginal ceremony & dreaming site | Valid | OzArk 2020 (see **Section 9**). |
| 56-1-0620 | Wagga SAP ST-01 | [redacted] | [redacted] | Modified tree | Valid | OzArk 2020 (see **Section 9**). |
| 56-1-0621 | Wagga SAP OS-01 | [redacted] | [redacted] | Artefact scatter | Valid | OzArk 2020 (see **Section 9**). |
| 56-1-0624 | Bomen AQ core 1 | [redacted] | [redacted] | Artefact scatter | Valid | None known. Site is adjacent to Bomen Axe Quarry Aboriginal Place. |

**Figure 5-3: AHIMS sites and management recommendation inside investigation area.**

This figure has been redacted due to sensitive information

### 5.3.2 Archaeological context inside the investigation area

There have been 16 archaeological studies undertaken since 1980 that include parts of the investigation area. The areas surveyed during these prior archaeological studies are shown on **Figure 5-4**.

Archaeological assessment undertaken for a proposed pipeline between Bomen at Wagga Wagga and Young by Witter in 1980 recorded fourteen open camp sites, 21 isolated finds, a scarred tree and a possible Aboriginal rock well. It cuts through the centre–east portion of the investigation area. Witter (1980) recommended excavation of some of the sites if avoidance was not feasible.

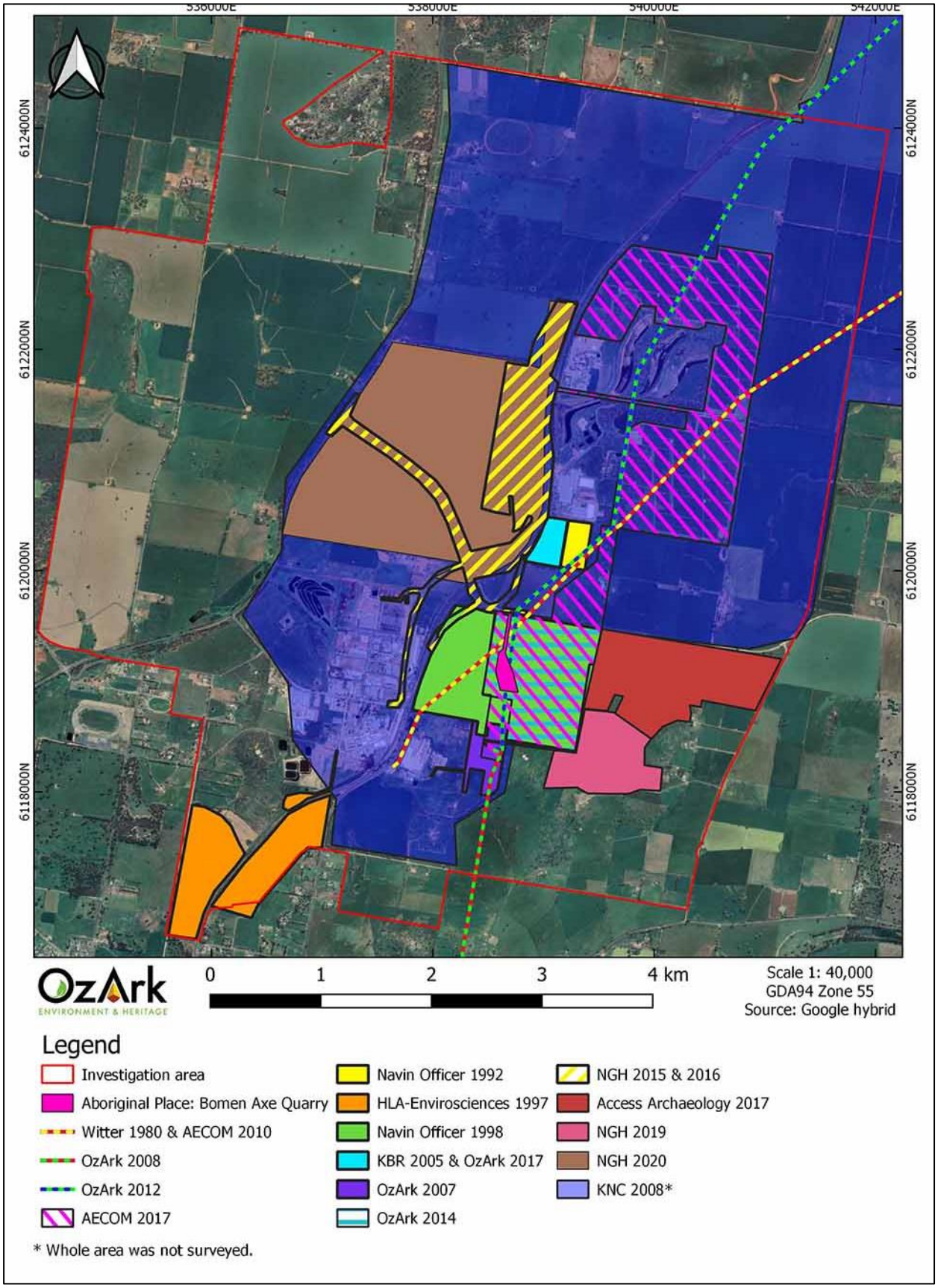
AECOM (2010) conducted a heritage assessment for a pipeline construction project that consisted of an existing 20 m wide gas pipeline easement commencing at the Young Control Station and terminating at the Bomen Meter Station. This is the same pipeline alignment as assessed by Witter in 1980. The easement had been extensively disturbed by the construction of the existing 12-inch pipeline in 1980 and, in part, by the construction of an optical fibre cable in 2006. The total length of Stage 1 of the pipeline was 61 km. A total of 36 Aboriginal artefact sites were located during the survey. The sites consisted of low-density artefact scatters (n=30) and Isolated finds (n=6). One artefact scatter, APA36 (#56-1-0120), was recorded to the east of the pipeline route.

Navin Officer (1992) undertook survey over 1 km x 500 m (50 ha) area for an industrial development inside the Wagga Wagga SAP investigation area. No Aboriginal sites were located during the survey. Navin Officer (1992: 10) note that there is a strong correlation between permanent water sources and the location of Aboriginal sites and that based upon the lack of permanent water within the assessed area, the result was not unexpected.

HLA-Enviroscience Pty Ltd (1997) undertook survey of an effluent utilisation areas at the Bomen Abattoir. The study recorded one isolated find (BOM 1, AHIMS #56-1-0033). The object was made from brown coarse-grained silcrete and measured 70 x 70 x 40 mm and was recorded in a paddock distant from drainage features and naturally occurring stone.

Navin Officer (1998) undertook survey over two portions of land within the Bomen Business Park for a proposed power plant site. The proposed location was adjacent to the east side of Byrnes Road and south of East Bomen Road. One Aboriginal site—a surficial hard rock (basalt) quarry axe manufacturing site (East Bomen 1, AHIMS # 56-1-0043; see **Section 5.3.1** for further details on this site)—and two isolated finds (East Bomen 2 [AHIMS # 56-1-0044] and East Bomen 3 [AHIMS # 56-1-0045]) were recorded. The quarry was assessed as having high-regional archaeological significance; whilst the isolated finds have a low archaeological significance.

**Figure 5-4: Location of previous archaeological studies inside or adjacent to the investigation area.**



An Aboriginal heritage assessment was conducted in 2005 (KBR 2005) for an Environmental Impact Statement (EIS) for an earlier DA application within the Used Lead Acid Battery (ULAB) Resource Recovery Facility located in the investigation area. The assessment used database searches, field survey by Charles Dearling and consultation with the local Wagga Wagga LALC. The assessment recorded no items of aboriginal heritage significance on the then-proposed Lead Battery Recycling Facility site. The EIS stated that a stop work provision would be in place should any item of aboriginal significance be found during construction.

OzArk (2007) conducted an Indigenous heritage study to investigate TransGrid's proposed construction of Wagga North 132kV substation, extensions of a private access road and realignment of connecting electricity lines at the Bomen Business Park. The survey did not record any Indigenous sites, and due to the nature of the landform occupied by the project area and the high level of existing disturbance, it was assessed that there was a low potential for intact sub-surface archaeological deposits to exist within the project area.

In 2008 Kelleher Nightingale Consulting (KNC) were engaged to undertake a heritage assessment to assist the then Wagga Wagga City Council prepare a draft Local Environmental Study (LES) to implement the strategic planning of the Wagga Wagga Spatial Plan 2007. As part of the LES preparation, environmental studies were required of eight areas which are subject to rezoning, one of which, 'Bomen', includes a large amount of the investigation area.

This assessment concluded with the following observation of the Bomen study area (KNC 2008: 15):

> *Parts of the study area that have been dramatically impacted, such as the earthworks in the Riverina Wool Combing property and the location of roads and industrial buildings have very low archaeological sensitivity. The more gently undulating terrain along drainage channels, such as along Dukes Creek, are likely to be moderate to highly archaeologically sensitive. This is demonstrated by the location of Bomen IF1 (B IF1) and by previous archaeological investigations in the area that have demonstrated that a number of Aboriginal archaeological sites and Potential Archaeological Deposits (PAD) have been identified in these contexts. The higher terrain in the southern portion of the study area provides good views over sections of the surrounding area and is part of a series of high points bordering the Murrumbidgee River floodplain. AHIMS Site #56-1-0043 is located in this section and shows that there was exploitation of outcropping bedrock in upper slope and crest contexts. These higher landforms and associated slopes are likely to be moderately archaeologically sensitive, with the likelihood of certain landforms/contexts having high sensitivity, including AHIMS Site# 56-1-0043.*

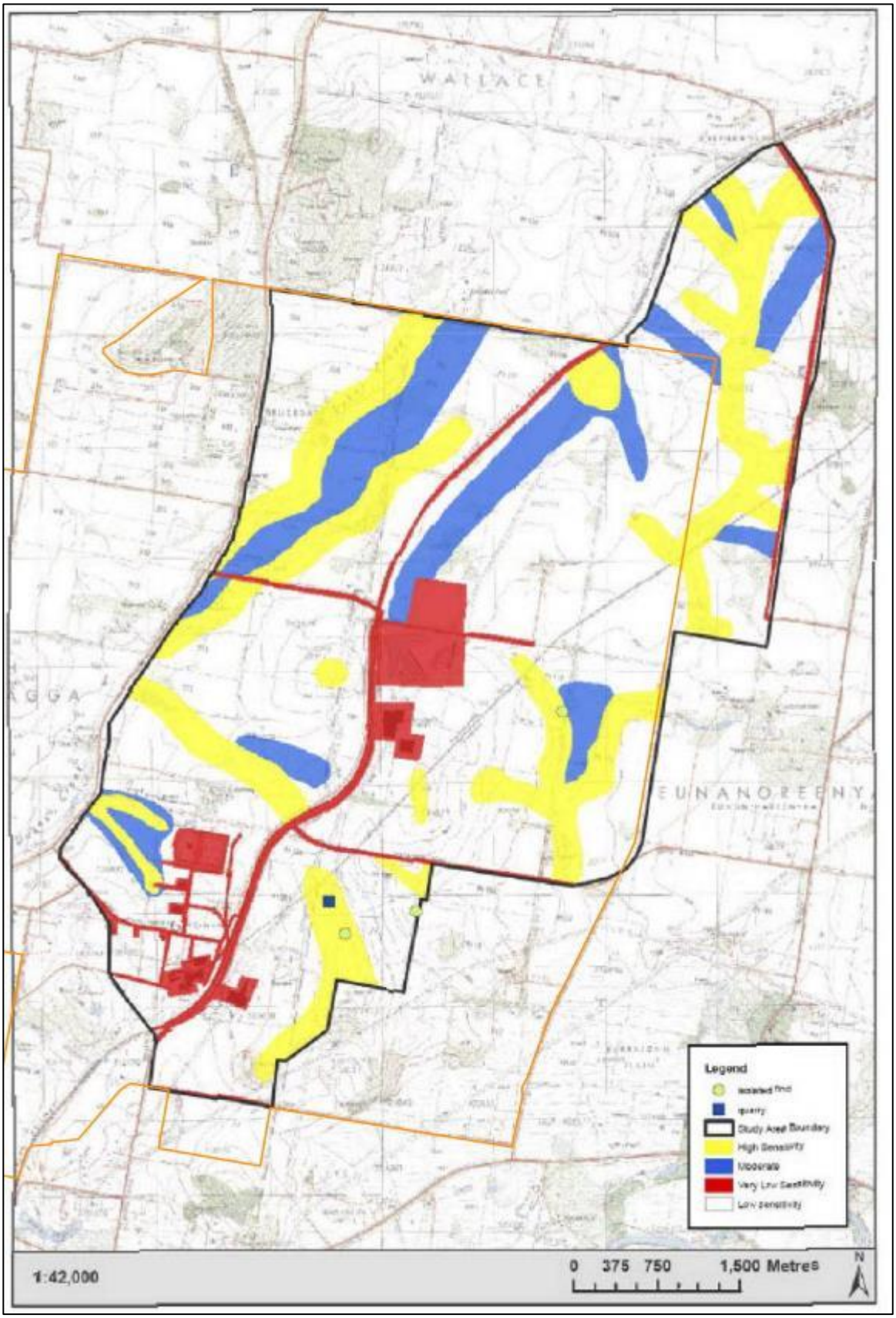
The KNC assessment recorded one site: Bomen IF1 (B IF1). This site consists of a stone artefact recorded in an exposed paddock in the Riverina Wool Combing property. The site was located on a gentle slope on the northern side of a small rise running approximately north–south between a first order ephemeral stream immediately to the west, and a second order ephemeral stream further to the east. The artefact is a mid-reddish-brown mudstone flake with a flaked platform, feather termination, multiple dorsal scars, 10% dorsal cortex. The flake measured 23 x 25 x 8 mm. Part of the KNC assessment was to produce maps of the study areas with archaeological sensitivity assigned. **Figure 5-5** illustrates the Bomen sensitivity map produced by KNC with the investigation area overlaid. It is important to note that while the whole Bomen study area as shown on **Figure 5-5** was assessed at a desktop level, the pedestrian survey was limited to the private properties Wilks and Riverina Wool Combing Pty Ltd, and the land owned by Wagga Wagga City Council. Unfortunately, KNC did not provide a map of the areas physically assessed via pedestrian survey.

A due diligence assessment was conducted by NGH (2015) for the Stage 1 of the proposed Riverina Intermodal Freight and Logistics (RIFL) Hub north of Bomen Business Park. During the visual inspection, three isolated finds (#56-1-0432, #56-1-0433 and# 56-1-0434) were recorded within disturbed contexts. Two PADs were also identified and recommended for subsurface testing. In 2016, further survey and a subsurface test excavation program were undertaken by NGH. The survey resulted in one additional isolated find, four artefact scatters with PADs and a scarred tree being recorded. The scarred tree was identified as having high cultural significance to the local Aboriginal community (NGH 2016a).

In addition to the PADs identified by NGH, two areas of archaeological sensitivity identified by KNC (2008) were included in the subsurface test excavation program. Seventy-three test pits were excavated, with 14 pits containing stone artefacts. A total of 28 artefacts were recorded from the test pits. The artefacts were predominately quartz and no retouched artefacts or tools were identified in the assemblage. NGH concluded that the artefacts and site distribution are not restricted to a single or main landform as artefacts were present across similar landforms tested. NGH also state that the KNC predictive modelling of archaeological sensitivity needs to be further revised and ground truthed (NGH 2016a).

A due diligence assessment was conducted by NGH (2016b) for the Bomen Solar Energy development. During the visual inspection, one site was recorded (#56-1-0437). The site was in an area designed by the KNC sensitivity map (2008: 17) as having high archaeological sensitivity. The area of archaeological sensitivity which was inside the boundary for the Bomen Solar Energy development was recommended for subsurface test excavation by NGH, to establish the archaeological potential and extent of sites in the area.

**Figure 5-5: Archaeological sensitivity within the Bomen study area (KNC 2008: 17). Wagga Wagga SAP investigation area in orange.**




OzArk (2008) conducted an Aboriginal heritage study during December 2007 to investigate proposed cut-in connections to the Wagga North 132kV Substation, north of Wagga Wagga that

would link the proposed substation with existing electricity lines. The project area comprised an area of land southeast of the Wagga Wagga Vinidex factory. The study corridor followed the proposed route of the 991 cut-in connection (Option 2) which ran roughly south from the location of the proposed North Wagga 132 KV substation. An area of 30 m either side of the centre line of the cut-in connection was surveyed for both Aboriginal and historical heritage items. No Aboriginal archaeological or cultural heritage sites were recorded as a result of the survey. Further, it was assessed that there was low potential for the presence of undetected sites.

In 2012, OzArk undertook an assessment for the Wagga Wagga to Junee 132kV electricity transmission line. The assessment focused on surveying the proposed transmission line easement with a 40 m buffer on each side. In total, this section of the electricity transmission line was 28 km long with an area of 224 ha. The areas of the electricity transmission line inside the Wagga Wagga SAP investigation area were surveyed on foot. Several already recorded AHIMS sites were located during the assessment including: #50-5-0012 (Harefield Modified Tree); #56-1-0043 (East Bomen 1, see **Section 5.3.1**); and #56-1-0120 (APA36).

OzArk (2014) conducted a desktop assessment for a telecommunications facility at Bomen, located at Lot 22 DP1085826 inside the investigation area. The proposed facility location is fully comprised of a lower toe slope formation at the base of a north trending ridge and it does not exhibit any landscape features identified as being archaeologically sensitive. A previous survey conducted by Navin Officer (1998) of the location also recorded no artefacts and noted substantial disturbances related to ploughing, clearing of vegetation and construction of the sealed East Bomen Road.

AECOM (2017) conducted an Aboriginal and historic archaeological assessment for the Bomen Solar Farm, located in the central-east section of the investigation area. Nine Aboriginal sites were recorded during the field survey: two isolated finds, two artefact scatters and one potential scarred tree. A further eight sites were also recorded by the RAPs during the survey. The field survey also located five previously recorded AHIMS sites. Following the survey, AECOM identified the likelihood of PADs by dividing the proposed Solar Farm area into nil, low and high archaeological likelihood categories. A test excavation program was undertaken along an unnamed creek line at the eastern edge of the Solar Farm boundary and consisted of 20 test pits being excavated, all 0.5 m by 0.5 m, and the expansion of one of these test pits into a 1 m by 1 m square. The findings of the overall assessment included:

- Soils within the Bomen Solar Farm project area were consistent with those described for the East Bomen landscape. There were simple texture contrast or duplex soil profiles with clay loam A-horizon soils overlying B-horizon clays. The A-horizons tended to comprise of dark reddish-brown silty clay loams, while the B-horizons comprised of reddish-brown light clays

- 36 individual artefacts were recorded during the survey on the ground surface. Of these, half the artefacts were non-flake debitage. Quartz was the only raw material recorded, and artefacts were generally small in size. Most artefacts recorded during the survey were located within 200 m of a watercourse (80%, n=30) and located on the lower slope landform (47.2%, n=17)
- The text excavations resulted in 29 lithic artefacts. These included flake debitage (62%, n=18), non-flake debitage such as angular shatter (34.5%, n=10), and one core. Quartz was the predominant raw material (90.1%, n=27) followed by fine gain silcrete (6.1%, n=2). There were no retouched implements or tools identified in the assemblage. All artefacts were recovered from the test pits on the western side of the creek line
- The subsurface artefacts recovered from the test excavation are associated with BSF-AS2-18 (#56-1-0550)
- The pattern of surface artefact distribution shows a low density of artefacts closer to a watercourse and that the sites are consistent with a 'background scatter'.

AECOM produced an Aboriginal Cultural Heritage Management Plan (ACHMP) in 2018 for the Bomen Solar Farm project. The ACHMP summarises and outlines the heritage recommendations for each site within the project area and was based off the assessment report (AECOM 2017). There are 11 Aboriginal sites within the Bomen Solar Farm project boundary, including ten artefact sites which would be impacted and were recommended for surface collection, and one possible modified tree which was recommended for conservation and avoidance.

OzArk (2018) undertook an Aboriginal heritage assessment to inform a development consent for the continued operation and expansion of the existing ULAB Resource Recovery Facility. The assessment determined that the project area had either been moderately or highly modified. A field survey was undertaken, with areas designated moderately modified fully assessed via pedestrian means. The field survey confirmed that the locations had been impacted by high levels of ground surface disturbance. No Aboriginal cultural heritage sites were identified in the area and it was assessed that it is unlikely that further, undetected subsurface archaeological deposits are present.

Access Archaeology (2017) conducted an archaeological assessment over approximately 100 ha of Lot 15 DP1108978 for the proposed development of solar farm. NGH Environmental also conducted a preliminary assessment of this area and recorded one site (AHIMS #56-1-0515), an isolated artefact which was unable to be found during the Access Archaeology (2017) assessment. During the Access Archaeology (2017) assessment, six archaeological sites were recorded: two artefact scatters (WWSF-1, WWSF-2), one isolated artefact and PAD (WWSF-3), one isolated artefact (WWSF-4), and two PADs (WWSF-PAD1 and WWSF-PAD2). WWSF-1 is an extensive artefact scatter consisting of at least 98 artefacts spread over approximately 6 ha on a sandy rise on the western edge of an ephemeral creek line. The site has diversity in stone

materials present, as well as a range of technological artefact types present. WWSF-2 is a small scatter of two flaked artefact on the margins of a minor drainage gully. Of the stone artefacts recorded, the majority were quartz flakes, cores, or flaked pieces.

A test excavation program was undertaken to determine whether there was subsurface material located at WWSF-1, WWSF-3, WWSF-PAD1 and WWSF-PAD2. In total, 55 test pits of 0.5 by 0.5 m were excavated during the test excavation program. WWSF-1 had 20 test pits, WWSF-3 had 5 test pits, and WWSF-PAD1 and WWSF-PAD2 had 15 test pits excavated each. The results of the test excavation program consisted of:

- WWSF-1 had 6 artefacts per metre square on average spread widely across the site and located in 16 test pits. The extent of the site is along the east boundary of the assessment area and is located on a sandy rise adjacent to the creek
- WWSF-3 had an average of 2.4 artefacts per metre square, with only two test pits containing archaeological material. The site extent cover, at a minimum, a low rise south of the ephemeral drainage line, in the northern half of the assessment area for this project
- WWSF-PAD1 had 9 test pits containing archaeological material, with an average of 3.2 artefacts per metre square. This site has been registered as a site and redesignated WWSF-5, which also includes the recorded location of #56-1-0515. The extent of WWSF-5 is between the north boundary of the assessment area to the northern edge of ephemeral drainage line
- WWSF-PAD2 had no archaeological material recorded, and the location is not a PAD.

The majority of artefacts recorded during the test excavations are quartz, with most artefacts being smaller in size (between 21–30 mm). Most of the excavated artefacts were complete flakes, followed by flaked pieces and cores. One backed artefact was also recorded.

The conclusions of the survey and test excavation program for this project noted that as the test pit location moved away from level ground and proximity to water, the artefact density decreased markedly. It is noted in the discussion that the results of this assessment are broadly comparable with other similar local study including the test excavations at Gumly by Silcox (1987) and the survey by NGH Environmental at Forest Hill (2015). The discussion also notes that due to the density of archaeological scatter and the high core to flake ratio at WWSF-1, indicates that this site was occupied as “more of a base camp than in a transitory fashion” (Access Archaeology 2017: 37). The discussion also includes refinement of the predictive model outlined by KNC (2008) stating that denser and more complex sites are located closer to higher order water courses with level well drained ground, while moderate scatters of artefacts are likely to be present on level terraces, spurs and rise close to watercourses, including low order drainage lines. It was also noted that archaeological material is less prevalent further from sources of water,

and that the high ridge tested during the test excavation program resulted in no archaeological material being identified (Access Archaeology 2017: 37).

In 2019, NGH conducted a survey and test excavation for an extension to the Wagga Wagga Solar Farm South at Lot 15 DP1108978. During the due diligence assessment conducted by NGH for the Wagga Wagga Solar Farm North and South areas (the north area assessment is outlined above and conducted by Access Archaeology 2017), three PADs were identified in association with elevated flats adjacent to a drainage line, and along a spur line. During the survey for the ACHAR assessment, three additional PADs were identified. Subsurface test excavation was undertaken at each of the PAD locations, and five of the PADs contained subsurface artefacts. The results of the assessment concluded that most artefact sites are on level or gently sloping low elevations near ephemeral watercourses or resources with low artefact density, and there were no signs of long term occupational deposits within the NGH 2019 assessment area. The artefacts recorded were all quartz. In total, the assessment resulted in thirteen artefact sites recorded consisting of nine artefact scatters and four isolated finds.

In 2020, NGH conducted a survey for the Bomen Stage 3 areas across portions of Lots 14 and 15 DP1229343, Lots 11 and 12 DP1223041, Lot 41 DP1215424, Lot 16 DP1223064 and Lot 1 DP592928. The area assessed is in the centre section of the Wagga Wagga SAP boundary, and was also partially surveyed by OzArk (see **Section 6.1**), and by NGH in 2016 (as detailed above). No Aboriginal sites were recorded during the NGH 2020 assessment, though one area of PAD (Dukes Creek PAD 1) was identified on the western side of Dukes Creek, just north of the intersection of Merino Street and the Olympic Highway.

## 5.4 PREDICTIVE MODEL FOR SITE LOCATION

Across Australia, numerous archaeological studies in widely varying environmental zones and contexts have demonstrated a high correlation between the permanence of a water source and the permanence and/or complexity of Aboriginal occupation. Site location is also affected by the availability of and/or accessibility to a range of other natural resources including plant and animal foods; stone and ochre resources and rock shelters; as well as by their general proximity to other sites/places of cultural/mythological significance. Consequently, sites tend to be found along permanent and ephemeral water sources, along access or trade routes or in areas that have good flora/fauna resources and appropriate shelter.

In formulating a predictive model for Aboriginal archaeological site location within any landscape it is also necessary to consider post-depositional influences on Aboriginal material culture. In all but the best preservation conditions very little of the organic material culture remains of ancestral Aboriginal communities survives to the present. Generally, it is the more durable materials such as stone artefacts, stone hearths, shell, and some bones that remain preserved in the current landscape. Even these, however, may not be found in their original depositional context since

these may be subject to either (a) the effects of wind and water erosion/transport—both over short- and long-time scales—or (b) the historical impacts associated with the introduction of colonial farming practices including grazing and cropping, land degradation, and farm related infrastructure. Scarred trees, due to their nature, may survive for up to several hundred years but rarely beyond.

### 5.4.1 Land-use models

A land-use model has been developed by Witter (1980, cited in Witter and Hughes 1983) which proposed a number of stages of land-use for the western slopes of the Dividing Range depending on the timing, intensity and duration of rainfall.

The drainage pattern is essentially dendritic (tree-like), with watercourses crossing the slopes of the Dividing Range joining to form larger water courses flowing across the plains to the west. Most of the headwater streams are ephemeral and only the larger trunk watercourses contain permanent or semi-permanent water.

Witter's model suggests that occupation was economically oriented toward the major stream valleys with perhaps occasional forays into the drier uplands. Movement over the area was triggered by rainfall events. Consequently, during dry periods, occupation was confined to the major watercourse valleys, whilst in wetter periods Aboriginal people were able to move along the temporarily watered headwaters of minor water courses and onto the plateau areas. When conditions became dry again, people retreated back to the wetter valleys. Witter suggests that in times of extreme drought, people may have retreated downstream as far as the Murrumbidgee and Lachlan Rivers.

The archaeological work conducted in the region to date indicates that occupation sites were certainly more frequent in higher-order watercourse valleys. As Witter and Hughes (1983: 12) suggest, the archaeological results do not necessarily confirm Witter's land-use model, but they do not contradict it either.

Witter and Hughes (1983: 12–13) also propose another factor in site location: that of cold air drainage. According to this hypothesis, on the plains Aboriginal sites are found adjacent to drainage channels partly because of proximity to fuel, and partly because the denser vegetation is where bodies of warm air still develop in the morning. In hilly country, sites will more often occur on low ridges or benches overlooking watercourses that are away from the cold night air flowing into the valleys. As topography increases, sites tend to be above the cold air drainage but below the cloudy inversion layer. Consequently, a northeast aspect becomes important. Witter and Hughes' (1983) survey results supported this concept.

A review of previous archaeological work in the region can be used to develop an understanding of Aboriginal site patterning. Aboriginal sites can be found in any landform context, but a

predictive model seeks to identify landforms that provide the most likely locations where Aboriginal artefacts may be found. These include:

- The banks of major rivers
- The banks and floodplains of major and minor watercourses
- Areas of lower, mid and upper slopes where these slopes are in close proximity to watercourses
- The crests of low ridges or spurs in close proximity to watercourses
- Elevated areas adjacent to natural water bodies (e.g. swamps, billabongs and water holes).

### 5.4.2 Settlement strategies

The large number of archaeological studies undertaken within the investigation area provides information to obtain a sound understanding of the nature and distribution of archaeological sites within the area. Although there is some conjecture about the relationship between stream order, site numbers and densities, the general pattern is that most sites are present closer to watercourses. The previous studies conducted in the investigation area indicate that artefact sites will be present in a variety of landforms. Of the 61 AHIMS sites registered inside the investigation area, only 14 (23%) are located inside the high archaeologically sensitivity areas as categorised by KNC (2008). This indicates that strategic mapping for Aboriginal site location in the landforms of the Wagga Wagga SAP is of limited benefit.

### 5.4.3 Past land-use

Crucial for the preservation of archaeological deposits is the history of past land-use in an area. Most of the investigation area has been used extensively for cropping, grazing, and manufacturing and industrial purposes. As noted in **Section 2.6**, this activity has had the effect of destroying some site types (such as scarred trees) or dispersing other site types, such as artefact scatters.

### 5.4.4 Previously recorded sites

The results of past archaeological investigations inside the investigation area indicates that the most common site type will be isolated artefacts and artefact scatters. The majority of the previously recorded sites are artefact scatters or isolated finds in the central east section of the investigation area. In comparison to the overall AHIMS results within a 3 km area of the investigation area, there are only four modified trees recorded inside the investigation area itself. The grouping of the sites in the central-east area is likely due to the number of development driven assessments which have been conducted there, as well as the presence of Bomen Axe Quarry, a raw material procurement location.

### 5.4.5 Previous studies

Previous archaeological studies indicate that the site types that will possibly be recorded within the investigation area will be artefact scatters. The surveys which have been conducted in the investigation area indicate that GSV is a main factor in identifying surface artefact scatters. Previous studies involving test excavation has demonstrated there are subsurface archaeological deposits present, though they tend to be low density and relatively dispersed across the landscape.

### 5.4.6 Conclusion

Previous archaeological surveys indicate that the investigation area is a landscape that retains high Aboriginal cultural and archaeological values. A declared Aboriginal Place (Bomen Axe Quarry) exists to the south of East Bomen Road. More recent surveys for the RIFL Hub have identified several sites on the western side of Byrnes Road.

The pattern of recorded site dispersal and proximity to the Bomen Axe Quarry make it likely that additional sites will occur in the investigation area that has not been previously assessed. This is supported by more recent assessments in the area that have identified further Aboriginal sites/objects and potential archaeological deposits at Bomen.

In **Figure 5-6**, the archaeological sensitivity as mapped by KNC (2008) has been expanded on, considering the results of more recent studies, and the landforms which extend outside the KNC project area. The areas categorised as having higher archaeological sensitivity are in closer proximity to watercourses throughout the investigation area. Previous studies (such as NGH 2016a and AECOM 2017) have shown that even minor watercourses in the investigation area, which would have been dependent on the season for provision of fresh water, have a higher archaeological potential for artefact scatters. These prior studies also helped show that higher elevated landforms also have higher archaeological potential (NGH 2016a).

Of the 61 AHIMS sites registered inside the investigation area, 40 sites (65%) are within the higher archaeological potential areas as shown on **Figure 5-6** and the majority of these sites are artefact scatters or isolated finds. The areas categorised as having moderate archaeological potential, include landforms directly adjacent to high potential areas, as well as landforms such as lower slopes near watercourses. Lower archaeological potential areas are generally further away from any watercourses, have development and / or disturbance visibly present on aerial imagery or include sloped landforms away from water.

Knowledge of the environmental contexts of the investigation area and a desktop review of the known local and regional archaeological record, the following predictions are made concerning the probability of those site types being recorded within the investigation area:

- As isolated finds have been recorded inside the investigation area, there is a chance of further isolated finds being located during the survey

- Open artefact scatters are defined as two or more artefacts, not located within a rock shelter, and located no more than 50 m away from any other constituent artefact. This site type may occur almost anywhere that Aboriginal people have travelled and may be associated with hunting and gathering activities, short- or long-term camps, and the manufacture and maintenance of stone tools. Artefact scatters typically consist of surface scatters or sub-surface distributions of flaked stone discarded during the manufacture of tools but may also include other artefactual rock types such as hearth and anvil stones. Artefact scatters are most likely to occur on level or low gradient contexts, along the crests of ridgelines and spurs, and elevated areas fringing watercourses or wetlands. Larger sites may be expected in association with permanent water sources. Artefact scatters have been recorded inside the investigation area and it is possible further scatters may be located

- Aboriginal scarred trees contain evidence of the removal of bark (and sometimes wood) in the past by Aboriginal people, in the form of a scar. Bark was removed from trees for a wide range of reasons. It was a raw material used in the manufacture of various tools, vessels and commodities such as string, water containers, roofing for shelters, shields and canoes. Bark was also removed because of food gathering activities, such as collecting wood boring grubs or creating footholds to climb a tree for possum hunting. Scarred trees have been recorded inside the investigation area and it is possible that further scarred trees could be recorded where remnant mature vegetation exists

- Quarry sites and stone procurement sites typically consist of exposures of stone material where evidence for human collection, extraction and/or preliminary processing has survived. Typically, these involve the extraction of siliceous or fine grained igneous and meta-sedimentary rock types for the manufacture of artefacts. The presence of quarry/extraction sites is dependent on the availability of suitable rock formations. One stone hatchet quarry has been recorded inside in the investigation area; the declared Aboriginal Place (Bomen Axe Quarry; #56-1-0043). An additional quarry with isolated artefact was also recorded (#56-1-0109) in the east section of the investigation area. If there are further sources of raw stone materials in the investigation area, it is possible further quarries may be recorded

- Burials are generally found in soft sediments such as aeolian sand, alluvial silts and rock shelter deposits. In valley floor and plains contexts, burials may occur in locally elevated topographies rather than poorly drained sedimentary contexts. Burials are also known to have occurred on rocky hilltops in some limited areas. Burials are generally only visible where there has been some disturbance of sub-surface sediments or where some erosional process has exposed them. Although it is possible that this site type could be found within the investigation area, it is considered a rare site type especially given the disturbance that has occurred within the investigation area.

**Figure 5-6: Archaeological sensitivity for the investigation area.**

This figure has been redacted due to sensitive information

# 6 RESULTS OF ABORIGINAL ARCHAEOLOGICAL ASSESSMENT

## 6.1 SAMPLING STRATEGY AND FIELD METHODS

Standard archaeological field survey and recording methods were employed in this study (Burke & Smith 2004). The Aboriginal cultural heritage assessment of the investigation area followed the Code of Practice, as well as the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales* (OEH 2011).

The survey focused on sampling sections of the investigation area that have not been previously surveyed. Sections of the investigation area were identified during the desktop assessment, with a focus on areas that were less disturbed and more likely to contain Aboriginal sites. Pedestrian transects were undertaken by four surveyors spaced approximately 25–30 m apart. **Figure 6-1** shows the pedestrian transects of two surveyors and the survey areas of the investigation area. **Figure 6-2** shows the pedestrian transects in relation to the landforms of the survey areas. There were eleven proposed survey areas and the details of these are outlined in **Table 6-1**. Of these eleven areas, seven were either surveyed completely or sampled. The three survey areas which were not surveyed was due to issues regarding access by the landowners.

**Table 6-1: Details of survey areas.**

| Survey Area | Landform & description. | Representative photograph of area |
|---|---|---|
| 1 | Ridgeline/crest & slopes.<br>Crops.<br>Soil predominately red-brown loam. | |
| 2 | Drainage line & gentle slopes/undulating flats.<br>Grazing.<br>Soil predominately brown-red loam. | |
| 3 | Drainage line & gentle slopes/undulating flats. | Unable to survey |

| Survey Area | Landform & description. | Representative photograph of area |
|---|---|---|
| 4 | Drainage line & gentle slopes/undulating flats.<br>Grazing.<br>Soil was mid-light brown loam which was hard and dry. | |
| 5 | Gentle slopes/undulating flats.<br>Grazing and crops.<br>Soil was mid-light brown loam which was hard and dry. | |
| 6 | Slopes.<br>Grazing.<br>Soil was mid-light brown loam which was hard and dry. | |
| 7 | Rocky outcrop & slopes | Unable to survey |
| 8 | Drainage line. | Unable to survey |
| 9 | Drainage line & gentle slopes/undulating flats. | Unable to survey |
| 10 | Rocky outcrop & ridgeline/crest.<br>Used for grazing.<br>Soil was mid-light brown loam which was hard and dry. | |

| Survey Area | Landform & description. | Representative photograph of area |
|---|---|---|
| 11 | Drainage line & gentle slopes/undulating flats.<br>Crops.<br>Soil was mid-light brown loam which was hard and dry. | |

**Figure 6-1: Survey areas and pedestrian transects.**

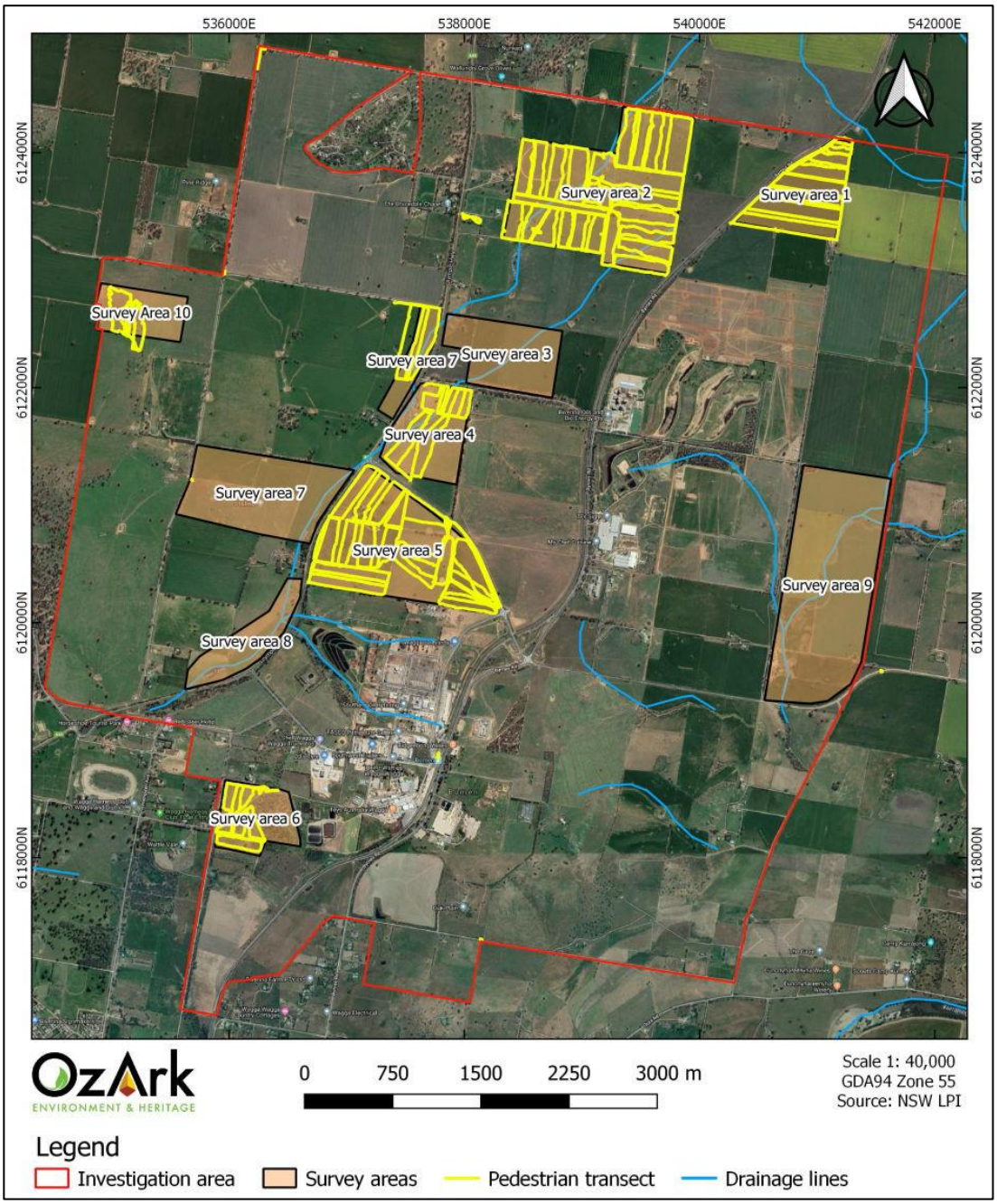
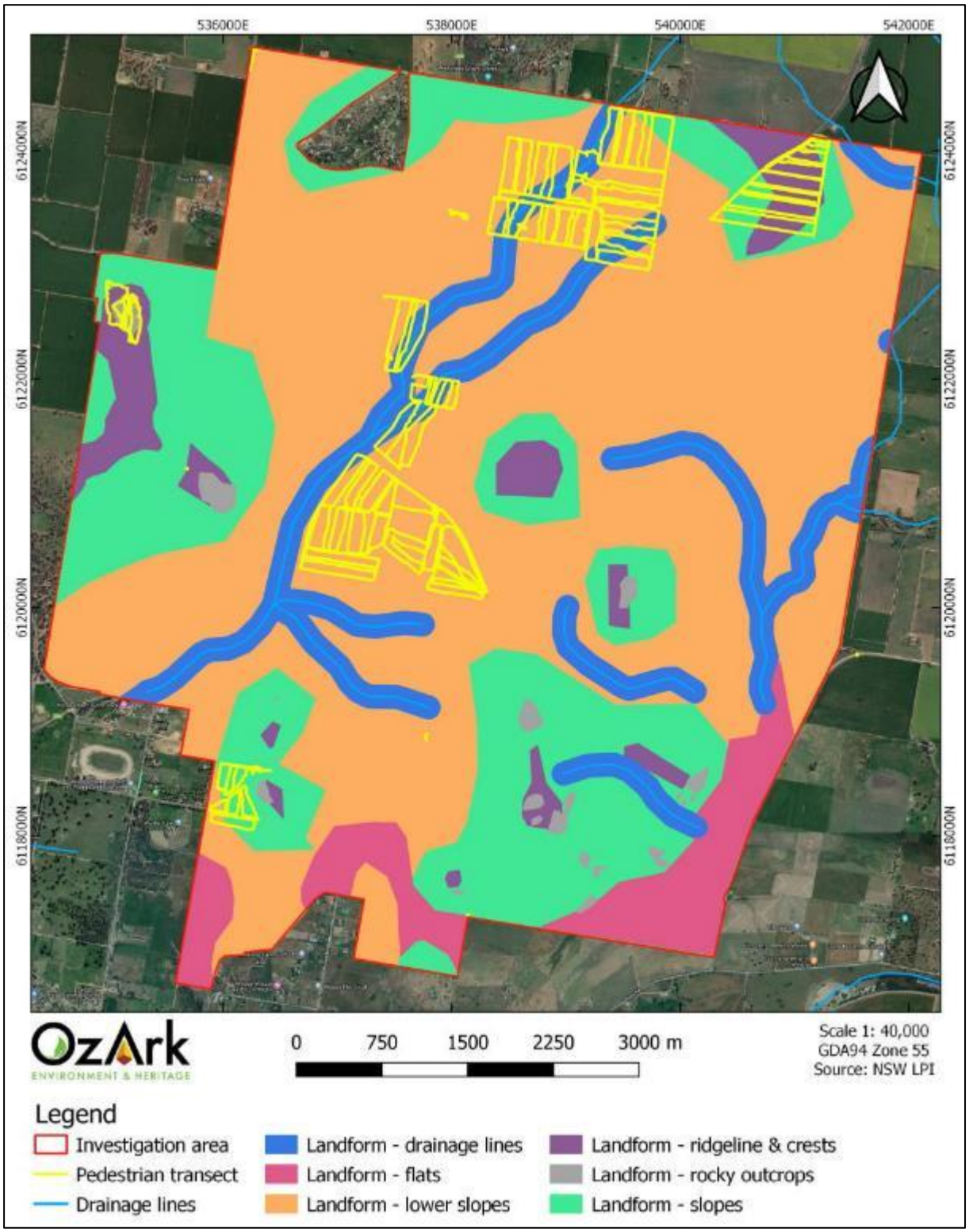


**Figure 6-2: Pedestrian transect and landforms.**




## 6.2 PROJECT CONSTRAINTS

The largest constraint to this project was acquiring permission from landowners for access. Some landowner details which were provided were either incorrect or the owners decided not to reply. The second main constraint was GSV. Most of the investigation area consists of ploughed and

cultivated paddocks, and as such, there were several paddocks where visibility was reduced due to the paddocks still containing live crop.

## 6.3 EFFECTIVE SURVEY COVERAGE

Two of the key factors influencing the effectiveness of archaeological survey are GSV and ground surface exposure (GSE). These factors are quantified to ensure that the survey data provides adequate evidence for the evaluation of the archaeological materials across the landscape. For the purposes of the current assessment, these terms are used in accordance with the definitions provided in the Code of Practice.

GSV is defined as:

> *… the amount of bare ground (or visibility) on the exposures which might reveal artefacts or other archaeological materials. It is important to note that visibility, on its own, is not a reliable indicator of the detectability of buried archaeological material. Things like vegetation, plant or leaf litter, loose sand, stone ground or introduced materials will affect the visibility. Put another way, visibility refers to 'what conceals'* (DECCW 2010: 39).

GSE is defined as:

> *… different to visibility because it estimates the area with a likelihood of revealing buried artefacts or deposits rather than just being an observation of the amount of bare ground. It is the percentage of land for which erosion and exposure was sufficient to reveal archaeological evidence on the surface of the ground. Put another way, exposure refers to 'what reveals'* (DECCW 2010: 37).

**Table 6-2** calculates the effective survey coverage within the study area. In general, **Table 6-2** presents an approximation of the amount of ground surface able to be seen at any location within particular landform units. For example, at any one location within the lower slopes and undulating flats of the investigation area approximately 50% of the ground surface could be seen. Exposures in these landforms were scaldings caused by erosion or grazing cattle. The amount of visible ground increased where crops had been harvested or the predominate land use was grazing only. Rocky outcrops often contained sizeable exposures where the soils had been depleted by erosion.

**Table 6-2: Effective survey coverage within the study area.**

| Survey Unit | Landform | Survey Unit Area (sq m) | Visibility % | Exposure % | Effective Coverage Area (sq m) (= Survey Unit Area x Visibility % x Exposure %) | Effective Coverage % (= Effective Coverage Area / Survey Unit Area x 100) |
|---|---|---|---|---|---|---|
| 1 | Ridgeline/crest & slopes | 470405 | 20 | 40 | 37632 | 8 |

| Survey Unit | Landform | Survey Unit Area (sq m) | Visibility % | Exposure % | Effective Coverage Area (sq m) (= Survey Unit Area x Visibility % x Exposure %) | Effective Coverage % (= Effective Coverage Area / Survey Unit Area x 100) |
|---|---|---|---|---|---|---|
| 2 | Drainage line & lower slopes/undulating flats | 1506706 | 60 | 50 | 452012 | 30 |
| 4 | Drainage line & lower slopes/undulating flats | 463195 | 50 | 30 | 69479 | 15 |
| 5 | Lower slopes/undulating flats | 1132622 | 40 | 50 | 226524 | 20 |
| 6 | Slopes | 340359 | 40 | 50 | 68072 | 20 |
| 10 | Rocky outcrop & ridgeline/crest | 289110 | 40 | 50 | 57822 | 20 |
| 11 | Drainage line & lower slopes/undulating flats | 166420 | 70 | 50 | 58247 | 35 |

**Table 6-3** demonstrates that although the survey efficacy within flats and floodplains was the lowest. This is due to this landform not being present inside any of the survey areas. Of the landforms present inside survey areas, rock outcrops had the lowest survey efficacy at 0.15%, followed by lower slopes and undulating flats (1.09%). However, the lower survey efficacy in lower slopes and undulating flats did not hamper the recording of sites; generally, because the available exposures were in the most archaeologically sensitive areas as this landform surrounds the drainage lines.

**Table 6-3: Effective survey coverage and incidences of site recording.**

| Landform | Landform area (sq m) | Area Effectively Surveyed (sq m) (= Effective Coverage Area) | % of Landform Effectively Surveyed (= Area Effectively Surveyed / Landform x 100) | Number of sites | Number of Artefacts or Features |
|---|---|---|---|---|---|
| Ridgeline or crest | 1900000 | 37632 | 1.98 | 0 | 0 |
| Rock outcrops along upper hillslope and crests | 390000 | 578 | 0.15 | 1 | 11 |
| Slopes | 9500000 | 294078 | 3.10 | 0 | 0 |
| Lower slopes and undulating flats | 26550000 | 290387 | 1.09 | 2 | 2 |
| Flats & floodplain | 2100000 | 0 | 0.00 | 0 | 0 |
| Drainage lines and associated deposits | 4500000 | 289869 | 6.44 | 0 | 0 |

## 6.4 ABORIGINAL SITES RECORDED

**Table 6-4** summarises the Aboriginal cultural heritage sites recorded during the survey of the investigation area by OzArk archaeologists. **Figure 6-3** shows the location of the sites recorded. Further details on each site follows.

**Table 6-4: Aboriginal cultural heritage sites recorded during the survey.**

| Site Name & Number | Feature(s) | Survey Unit | Landform |
|---|---|---|---|
| Wagga SAP IF-01<br>#56-1-0609 | Isolated artefact | [redacted] | Lower slopes and undulating flats |
| Wagga SAP OS-01<br>#56-1-0621 | Artefact scatter | [redacted] | Rock outcrop |
| Wagga SAP ST-01<br>#56-1-0620 | Culturally modified tree | [redacted] | Lower slopes and undulating flats |

**Figure 6-3: Location of recorded sites.**

This figure has been redacted due to sensitive information

## Wagga SAP IF-01 (#56-1-0609)

**Site Type**: Isolated artefact

**GPS Coordinates**: [redacted]E / [redacted]N (GDA Zone 55)

**Location of Site**: [redacted]

**Description of Site**: The artefact is located on the north edge of a dirt track, approximately 3 m wide. It is approximately 5 m south of a fence line. [redacted] (**Figure 6-3**). The site consists of a single quartz proximal flake. The artefact is 25 mm in length, 20 mm in width and 7 mm in thickness. It has a simple platform and no signs of retouch (**Figure 6-4**). The soil at the site is thin red-brown loam on top of browner hard clay. There is short dense vegetation in the areas away from patches of scalding or any tracks. The site does not have the potential for *in situ* archaeological deposits.

**Figure 6-4: Wagga SAP IF-01. View of site and the recorded artefact.**

| | |
|---|---|
| | |
| 1. View east of Wagga SAP IF-01. | 2. Artefact from Wagga SAP IF-01. |

## Wagga SAP OS-01 (#56-1-0621)

**Site Type**: Artefact scatter

**GPS Coordinates**: [redacted]E / [redacted]N (GDA Zone 55)

**Location of Site**: [redacted]

**Description of Site**: [redacted] The site is located around the base of a tree. The site consists of a quartz proximal flake (20 mm in length, 15 mm in width and 8 mm thickness) and approximately 10 pieces of quartz debitage. The proximal flake has a simple platform, tertiary reduction and no signs of retouch. The soil at the site is mid-dark brown loam. The overall area is affected by water and wind erosion, and the general location is used for grazing. There are some remnant trees amongst the granite outcrop. The site does not have the potential for *in situ* archaeological deposits.

**Figure 6-5: Wagga SAP OS-01. View of site and the recorded artefact.**

| | |
|---|---|
| | |
| 1. View west of Wagga SAP OS-01. | 2. Artefact from Wagga SAP OS-01. |

## Wagga SAP ST-01 (#56-1-0620)

**Site Type**: Culturally modified (scarred) tree

**GPS Coordinates**: [redacted]E / [redacted]N (GDA Zone 55)

**Location of Site**: [redacted]

**Description of Site**: The scarred tree is located in a cleared paddock used for crops. [redacted] The scar is 162 cm in length, 31.5 cm in width, and has 14 cm of regrowth. The bottom of the scar is 47 cm from the ground surface. The scar is an elongated oval, with the bottom of the scar splitting along the base of the trunk and facing southwest. The tree is approximately 20 m in height and dead. The soil at the site is light brown loam. The tree has been ringbarked.

**Figure 6-6: Wagga SAP ST-01. View of site.**

| | |
|---|---|
| | |
| 1. View north of Wagga SAP ST-01. | 2. Detail of scar on Wagga SAP ST-01. |

## 6.5 PREVIOUSLY RECORDED ABORIGINAL SITES LOCATED

No previously recorded Aboriginal sites were located during the survey.

The survey on Tuesday 5 and Wednesday 6 November 2019 was adjacent and overlapped with some areas surveyed for the RIFL Hub (NGH 2015, 2016a), the location of #56-1-0433, an isolated find, was re-surveyed. No artefact was present at this location. Also, near the northeast edge of survey area 5 are three sites which were located where Merino Road has been constructed (#56-1-0432, #56-1-0461 and #56-1-0463). Despite still being listed on AHIMS as valid, according to the RAP site officers, these sites have been salvaged and / or destroyed under an Aboriginal Heritage Impact Permit (AHIP) (C0002180 and C0003609). No further artefacts or sites were identified in proximity to any of these sites. Further information regarding these sites is provided in **Section 5.3.1** and **Section 8.3.2**.

# 7 DISCUSSION

## 7.1 DISCUSSION OF SURVEY RESULTS

### 7.1.1 Summary of survey results

The survey of the sampled areas of the investigation area resulted in three Aboriginal sites being recorded (Wagga SAP IF-01 [#56-1-0609], Wagga SAP OS-01 [#56-1-0621] and Wagga SAP ST-01 [#56-1-0620]).

- Two sites are located in the lower slope / undulating flats landform and one site is located in the rock outcrop landform. All sites recorded are without associated archaeological deposits (**Section 6.4**)
- All artefacts are quartz.

### 7.1.2 Discussion

The results of the survey conform to the predictive model (**Section 5.4**). Wagga SAP IF-01 and Wagga SAP ST-01 are both located on lower slopes / undulating flats and in proximity to Dukes Creek. Wagga SAP OS-01 is located on a rock outcrop at the edge of a ridge.

The previous studies and predictive model suggested that artefact scatters and isolated finds would be the most common site type recorded and this is supported by the survey results. Most of the survey areas have been cleared of vegetation, and only one scarred tree was recorded. There were no stone quarries recorded, despite there being rock outcrops within Survey Areas 10 and 6.

All three sites were identified to be in disturbed contexts and did not have any associated PADs. The low density of artefacts and sites recorded inside the survey areas is reflective of the high levels of prior disturbance due to land use, as well as lower GSV in some areas due to ground cover such as crops. Previous studies show that most artefact sites consist of quartz artefacts, while the most frequent types of artefacts include flakes and flaked pieces, which match the artefact/s recorded at Wagga SAP IF-01 (#56-1-0609) and Wagga SAP OS-01 (#56-1-0621).

The landforms within the investigation area which were likely to be associated with Aboriginal sites, in particular isolated artefacts, are the lower slopes and undulating flats, though there are previously recorded sites also present on the sloped landforms and directly along the drainage lines.

There has been a moderate level of previous disturbance to most of the investigation area. This includes the widespread clearance of native vegetation, extensive ploughing practices, long-term grazing, ground disturbance due to soil erosion or construction of dams.

The sites recorded during the survey are representative of sites recorded in the region. In terms of site size, artefact density, raw materials and artefact types these complement the

archaeological context highlighted in **Section 5.3**. In the past, sites such as isolated finds and artefact scatters would not have been rare and on a state-wide scale, low density artefact scatters and isolated finds would remain the most common site type recorded. Although the sites recorded during this assessment are in no way remarkable, their presence alone, in albeit a much-modified landscape, remains a memory of the past in a landscape that is fast changing (or has changed). The results of the survey conclude that the general site integrity is low. As noted, the investigation area has been subject to wide range of past and current land uses.

Though four survey areas were unable to be accessed during the survey, a range of different landforms were able to be assessed. Using the results of this survey, as well as previous studies inside the investigation area, it is possible to better predict where archaeological sites are most likely to be located in the investigation area. It is likely there are further artefact sites along the drainage lines in survey area 9, including potential locations adjacent to the drainage lines for subsurface deposits. AECOM (2017) recorded several sites along the east branch of this drainage line during the solar farm assessment, and during a vehicle reconnaissance of the investigation area, it was noted that the west branch of this drainage line looked to have flat terraces along it, indicating possible locations for artefact sites. Furthermore, the presence of Bomen Axe Quarry in the western half of the investigation area, and the number and density of sites recorded around it, indicate a higher likelihood of further sites in this area. The area north of E Bomen Road and between AECOM 2017 and Survey area 9 is also highly likely to contain further sites.

It is also likely there will be further low density artefact sites or isolated finds in survey area 3, as well as the area between survey area 3 and survey area 2. The presence of two minor drainage lines with a slight rise between them would provide an ideal location for temporary occupation sites depending on the water in the drainage lines. It is also possible there will be artefact sites to the west of Dukes Creek in survey area 7.

# 8 SIGNIFICANCE AND IMPACT ASSESSMENT

## 8.1 ASSESSMENT OF SIGNIFICANCE

### 8.1.1 Introduction

The appropriate management of cultural heritage items is usually determined based on their assessed significance, as well as the likely impacts of any proposed developments. Cultural, scientific, aesthetic and historical significance are identified as baseline elements of significance assessment, and it is through the combination of these elements that the overall cultural heritage values of a site, place or area are resolved.

*Social or Cultural Value*

This area of assessment concerns the importance of a site or features to the relevant cultural group: in this case the Aboriginal community. Aspects of social value include assessment of sites, items, and landscapes that are traditionally significant or that have contemporary importance to the Aboriginal community. This importance involves both traditional links with specific areas, as well as an overall concern by Aboriginal people for their sites generally and the continued protection of these. This type of value may not be in accord with interpretations made by the archaeologist: a site may have low archaeological value but high social value, or vice versa.

*Archaeological/Scientific Value*

Assessing a site in this context involves placing it into a broader regional framework, as well as assessing the site's individual merits in view of current archaeological discourse. This type of value relates to the ability of a site to answer current research questions and is also based on a site's condition (integrity), content and representativeness.

The overriding aim of cultural heritage management is to preserve a representative sample of the archaeological resource. This will ensure that future research within the discipline can be based on a valid sample of the past. Establishing whether a site can contribute to current research also involves defining 'research potential'. Questions regularly asked when determining significance are: can this site contribute information that no other site can? Is this site representative of other sites in the region?

*Aesthetic Value*

This refers to the sensory, scenic, architectural and creative aspects of the place. It is often closely linked with the social values. It may consider form, scale, colour, texture and material of the fabric or landscape, and the smell and sounds associated with the place and its use (Burra Charter 2013).

*Historic Value*

Historic value refers to the associations of a place with a historically important person, event, phase or activity in an Aboriginal community. Historic places do not always have physical evidence of their historical importance (such as structures, planted vegetation or landscape modifications). They may have 'shared' historic values with other (non-Aboriginal) communities.

Places of post-contact Aboriginal history have generally been poorly recognised in investigations of Aboriginal heritage. Consequently, the Aboriginal involvement and contribution to important regional historical themes is often missing from accepted historical narratives. This means it is often necessary to collect oral histories along with archival or documentary research to gain enough understanding of historic values.

## 8.2 ASSESSED SIGNIFICANCE OF THE RECORDED SITES

**Table 8-1** presents a summary of the significance assessment of Aboriginal cultural heritage sites recorded during this assessment so far. Further details of each of the assessment criteria are provided below.

*Social or Cultural Value*

The assessment of cultural or social value concerns the importance of a site or features to the relevant cultural group; in this case the Aboriginal community. Aspects of social value include assessment of sites, items, and landscapes that are traditionally significant or that have contemporary importance to the Aboriginal community. This importance involves both traditional links with specific areas, as well as an overall concern by Aboriginal people for their sites generally and the continued protection of these. This type of value may not be in accord with interpretations made by the archaeologist: a site may have low archaeological value but high social value, or vice versa.

All sites have been afforded high cultural values based on OzArk's experience of working with the Aboriginal community in the area and comments made by RAP site officers during the field survey. Artefacts and modified trees, even isolated artefacts, are seen by the community as a marker of ancient occupation across the region, as well as being a tangible link to their ancestors. [redacted] (Bundyi Aboriginal Cultural Knowledge) expressed a strong cultural tie to the rocky hill top where Wagga SAP OS-01 and recorded the area as a ceremony and dreaming site (#56-1-0619) due to intangible cultural values concerning the cultural landscape of the area. [redacted] stated that Rocky Hill (#56-1-0619) was important in the landscape as it provided a view southward towards the 'two sisters' with Kengal (also known as the Rock) able to be seen through the dip between.

*Archaeological/Scientific Value*

The scientific significance of Wagga SAP IF-01 (#56-1-0609) and Wagga SAP OS-01 (#56-1-0621) is assessed as low and Wagga SAP ST-01 (#56-1-0620) is assessed and low-moderate. Wagga SAP IF-01 and Wagga SAP OS-01 are described as having low scientific/archaeological significance based on the following values:

- The two artefact sites represent artefacts in secondary contexts
- Low density of artefacts
- No formal tool types
- No associated archaeological deposits
- Widespread past and current disturbance through ploughing and cultivation practices.

Wagga SAP ST-01 is described as having low-moderate scientific/archaeological significance based on the following values:

- The scarred tree represents a rare site type inside the investigation area, but not in the broader region.
- The tree itself is dead
- Not a good example of scarred tree for the broader region
- No associated archaeological deposits

The determination of low or low-moderate scientific values is also because all sites have little or no research potential and a very limited ability to inform researchers about the nature and extent of Aboriginal occupation in the area. All sites are highly representative of other sites in the broader Wagga Wagga region.

*Aesthetic Value*

Wagga SAP IF-01 (#56-1-0609) and Wagga SAP OS-01 (#56-1-0621) have been assessed as having low aesthetic value. None of the Aboriginal sites recorded have significant aesthetic value as the integrity of the sensory landscape has been altered in historic and modern times. Additionally, the artefacts themselves are generally not remarkable.

Wagga SAP ST-01 (#56-1-0620) is assessed as having low-moderate aesthetic value. The tree itself is aesthetically pleasing, though the integrity of the landscape around it has been drastically altered by agricultural practices. Furthermore, the scar itself is not a good example of a cultural scar, especially compared to other scarred trees in the region.

*Historic Value*

None of the Aboriginal sites recorded have an apparent direct relationship to known historical Aboriginal sites (such as missions or massacre sites). It is possible that the area saw some of the

earliest contact between Aboriginals and non-Aboriginal settlers, however, none of the recorded Aboriginal sites display evidence that they constitute 'contact' or 'post-contact' Aboriginal sites. To that end, all recorded sites are assessed as having no historic value.

**Table 8-1: Aboriginal cultural heritage: significance assessment.**

| Site Name & Number | Social or Cultural Value | Archaeological / Scientific Value | Aesthetic Value | Historic Value |
|---|---|---|---|---|
| Wagga SAP IF-01 (#56-1-0609) | High | Low | Low | Low |
| Wagga SAP OS-01 (#56-1-0621) | High | Low | Low | Low |
| Wagga SAP ST-01 (#56-1-0620) | High | Low-moderate | Low-moderate | Low |

## 8.3 LIKELY IMPACTS TO ABORIGINAL HERITAGE FROM THE PROPOSAL

**Table 8-2** presents a summary of potential impacts to Aboriginal cultural heritage associated with the proposal. The impact footprint represents parcelling the Wagga Wagga SAP investigation area for future land uses (**Figure 8-1**). These future land uses have been outlined in full in **Section 1.3**.

The previously recorded sites which are associated with management recommendations from previous assessments (see **Table 5-4**) have not been included in this impact assessment, as these sites are located in portions of the investigation area which already have development consent and the Aboriginal cultural heritage inside these areas have management recommendations and/or *Aboriginal Cultural Heritage Management Plans* (ACHMPs) in place already. This includes the 42 sites covered by the solar farm assessments (see AECOM 2018, Access Archaeology 2017, NGH 2019) as well as the 10 sites recorded during the RIFL Hub assessments (NGH 2015 and 2016a). These sites are discussed in **Section 8.3.1** and **Section 8.3.2**.

The immediate surrounds of the Bomen Axe Quarry will not be impacted, and the site itself will be surrounded by green infrastructure (revegetation) area according to the structure plan for Wagga Wagga SAP. However, there are potential indirect impacts on the aesthetic qualities of the Aboriginal Place. There are several management strategies already outlined for Bomen Axe Quarry (Go Green 2011) to help its aesthetic significance. These include: that scenic views from the site towards the north, east and south east are retained to an appropriate extent to maintain the landscape context values of the site; and that a visual screen using native vegetation is used (while avoiding artefact materials at the site) to help block the industrial features to the west. A current visual impact assessment for the Wagga Wagga SAP is being undertaken which includes Bomen Axe Quarry. Some specific recommendations for preserving the various qualities of Bomen Axe Quarry are outlined in **Section 9.2.2**.

Of the five sites inside the investigation area without known management, it is possible that four sites will be directly or partially impacted by the proposal as these sites are inside either the rural activity or the regional enterprise zones (#56-1-0033, #56-1-0120, #56-1-0110, #56-1-0384). One

site, #56-1-0624, will have no impacts to it since it is located inside a green infrastructure area adjacent to Bomen Axe Quarry (#56-1-0624).

Of the four sites recorded during this assessment by OzArk archaeologists or a RAP site officer, one will likely be directly impacted as it is inside the regional enterprise zone (#56-1-0609), while the other three sizes may possibly be impacted since they are located inside rural activity zones (#56-1-0621, #56-1-0620 and #56-1-0619).

**Table 8-2: Aboriginal cultural heritage: impact assessment.**

| Site Name & Number | Type of Harm (Direct/Indirect / None) | Degree of Harm (Total/Partial / None) | Consequence of Harm (Total/Partial/No Loss of Value) |
|---|---|---|---|
| Wagga SAP IF-01<br>56-1-0609 | Direct.<br>Regional enterprise zone | Total | Total |
| Wagga SAP OS-01<br>56-1-0621 | Possible direct impacts.<br>Rural activity zone | Total or Partial | Possible total or partial |
| Wagga SAP ST-01<br>56-1-0620 | Possible direct impacts.<br>Rural activity zone | Total or Partial | Possible total or partial |
| Dreaming Site Rocky Hill Wagga<br>56-1-0619 | Possible direct impacts<br>Rural activity zone | Total or Partial | Possible total or partial |
| BOM-1<br>56-1-0033 | Possible direct impacts<br>Rural activity zone | Total or Partial | Possible total or partial |
| APA36<br>56-1-0120 | Possible direct impacts<br>Existing regional enterprise zone | Total or Partial | Possible total or partial |
| BSSC-IF1<br>56-1-0110 | Possible direct impacts<br>Rural activity zone | Total or Partial | Possible total or partial |
| Windmill Rd 1<br>56-1-0384 | Possible direct impacts<br>Located in road corridor and next to green infrastructure area (biodiversity and riparian) | Total or Partial | Possible total or partial |
| Bomen AQ core 1<br>56-1-0624 | None<br>Located in green infrastructure area directly adjacent to west of Bomen Axe Quarry | None | No loss of value |
| Bomen Axe Quarry<br>56-1-0043 | Possible indirect impacts ameliorated by rural activity zone and surrounded by green infrastructure (revegetation) area | None | No loss of value |

**Figure 8-1: Recorded sites, previously recorded sites with no known management and impacts.**

This figure has been redacted due to sensitive information

### 8.3.1 Solar Farm sites

There are 42 sites recorded inside boundaries of approved solar developments within the investigation area (**Table 8-3**). These sites already have had impact assessment and management recommendations formulated for them. As such, they have been excluded from the impact assessment in **Section 8.3** as well as further management recommendations. Of these 42 sites, 10 are listed on AHIMS as having been destroyed, though it is likely further have been destroyed but the AHIMS site cards not yet updated.

**Table 8-3: Sites with existing management recommendations due to solar farm developments.**

| Site ID | Site name | Site types | Site status | Management recommendations and associated report |
|---|---|---|---|---|
| 56-1-0044 | EAST BOMEN IF2 | Isolated Find | Valid | SSD ACHMP. See AECOM 2018. |
| 56-1-0045 | EAST BOMEN IF1 | Isolated Find | Valid | SSD ACHMP. See AECOM 2018. |
| 56-1-0109 | Bomen Isolated Find BIF1 duplicate of 56-1-0111 | Quarry and isolated find | Destroyed | SSD ACHMP. See AECOM 2018. |
| 56-1-0437 | Bomen Solar IS01 | Isolated Find | Destroyed | SSD ACHMP. See AECOM 2018. |
| 56-1-0515 | North Wagga Solar IF 1 | Artefact scatter | Valid | AHIP issued for site (permit number 4593). See Access Archaeology 2017. |
| 56-1-0521 | WWSF-5 | Artefact scatter | Valid | AHIP issued for site (permit number 4593). See Access Archaeology 2017. |
| 56-1-0522 | WWSF-1 | Artefact scatter | Valid | AHIP issued for site (permit number 4593). See Access Archaeology 2017. |
| 56-1-0523 | WWSF-3 | Artefact scatter | Valid | AHIP issued for site (permit number 4593). See Access Archaeology 2017. |
| 56-1-0524 | WWSF-4 | Artefact scatter | Valid | AHIP issued for site (permit number 4593). See Access Archaeology 2017. |
| 56-1-0526 | WWSF-2 | Artefact scatter | Valid | AHIP issued for site (permit number 4593). See Access Archaeology 2017. |
| 56-1-0532 | Bomen 539085 | Artefact scatter | Valid | SSD ACHMP. See AECOM 2018. |
| 56-1-0533 | Bomen 539070 | Artefact scatter | Valid | SSD ACHMP. See AECOM 2018. |
| 56-1-0534 | Bomen 538732 | Artefact scatter | Valid | SSD ACHMP. See AECOM 2018. |
| 56-1-0535 | Bomen 539004 | Artefact scatter | Valid | SSD ACHMP. See AECOM 2018. |
| 56-1-0536 | Bomen 539015 | Artefact scatter | Destroyed | SSD ACHMP. See AECOM 2018. |
| 56-1-0537 | Bomen 539072 | Artefact scatter | Valid | SSD ACHMP. See AECOM 2018. |
| 56-1-0538 | Bomen 539071 | Artefact scatter | Valid | SSD ACHMP. See AECOM 2018. |
| 56-1-0542 | Bomen 540684 | Modified tree | Valid | SSD ACHMP. See AECOM 2018. |
| 56-1-0543 | Bomen 540568 | Artefact scatter | Destroyed | SSD ACHMP. See AECOM 2018. |
| 56-1-0550 | BSF-AS2-18 | Artefact scatter | Destroyed | SSD ACHMP. See AECOM 2018. |
| 56-1-0551 | BSF-AS1-18 | Artefact scatter | Destroyed | SSD ACHMP. See AECOM 2018. |
| 56-1-0552 | BSF-IA6-18 | Isolated artefact | Destroyed | SSD ACHMP. See AECOM 2018. |
| 56-1-0553 | BSF-IA5-18 | Isolated artefact | Valid | SSD ACHMP. See AECOM 2018. |
| 56-1-0554 | BSF-IA4-18 | Isolated artefact | Valid | SSD ACHMP. See AECOM 2018. |
| 56-1-0555 | BSF-IA3-18 | Isolated artefact | Destroyed | SSD ACHMP. See AECOM 2018. |
| 56-1-0556 | BSF-IA2-18 | Isolated artefact | Destroyed | SSD ACHMP. See AECOM 2018. |
| 56-1-0557 | BSF-IA1-18 | Isolated artefact | Destroyed | SSD ACHMP. See AECOM 2018. |
| 56-1-0590 | BSF-ST1-18 | Artefact scatter & modified tree | Valid | SSD ACHMP. See AECOM 2018. |

| Site ID | Site name | Site types | Site status | Management recommendations and associated report |
|---|---|---|---|---|
| 56-1-0593 | Wagga Wagga SF IF5 | Isolated find | Valid | AHIP application pending. Surface salvage recommended in NGH 2019. |
| 56-1-0594 | Wagga Wagga SF IF4 | Isolated find | Valid | AHIP application pending. Surface salvage recommended in NGH 2019. |
| 56-1-0595 | Wagga Wagga SF IF3 | Isolated find | Valid | AHIP application pending. Surface salvage recommended in NGH 2019. |
| 56-1-0596 | Wagga Wagga SF IF2 | Isolated find | Valid | Avoidance recommended in NGH 2019. |
| 56-1-0597 | Wagga Wagga SF IF1 | Isolated find | Valid | AHIP application pending. Surface salvage recommended in NGH 2019. |
| 56-1-0598 | Wagga Wagga SF AFT 8 | Artefact scatter | Valid | AHIP application pending. Surface salvage recommended in NGH 2019. |
| 56-1-0599 | Wagga Wagga SF AFT 7 | Artefact scatter | Valid | Avoidance recommended in NGH 2019. |
| 56-1-0600 | Wagga Wagga SF AFT 6 | Artefact scatter | Valid | AHIP application pending. Surface salvage recommended in NGH 2019. |
| 56-1-0601 | Wagga Wagga SF AFT 5 | Artefact scatter | Valid | AHIP application pending. Surface salvage recommended in NGH 2019. |
| 56-1-0602 | Wagga Wagga SF AFT 4 | Artefact scatter | Valid | AHIP application pending. Surface salvage recommended in NGH 2019. |
| 56-1-0603 | Wagga Wagga SF AFT 3 | Artefact scatter | Valid | AHIP application pending. Surface salvage recommended in NGH 2019. |
| 56-1-0604 | Wagga Wagga SF AFT 2 | Artefact scatter | Valid | AHIP application pending. Surface salvage recommended in NGH 2019. |
| 56-1-0605 | Wagga Wagga SF AFT 1 | Artefact scatter | Valid | AHIP application pending. Surface salvage recommended in NGH 2019. |

### 8.3.2 RIFL Hub sites

The RIFL Hub assessments (NGH 2015 and 2016a) recorded 10 sites (**Table 8-4**). All sites are still listed as valid on AHIMS, however, based on information provided by RAP site officers, it is likely that at least seven of these sites (#56-1-0432, #56-1-0433, #56-1-0434, #56-1-0458, #56-1-0460, #56-1-0461 and #56-1-0463) have been salvaged and / or destroyed during the construction of Merino Road and Dorset Drive and the relevant site cards not yet updated to reflect this change. All sites listed in **Table 8-4** are covered by two AHIPs (permit numbers 4016 and 4243). Since these 10 sites already have management in place, they have been excluded from the impact assessment for Wagga Wagga SAP.

**Table 8-4: Sites with existing management recommendations due to RIFL Hub.**

| Site ID | Site name | Site types | Site status | Management recommendations and associated report |
|---|---|---|---|---|
| 56-1-0432 | Bomen RIFL IF2 | Artefact scatter | Valid | AHIP issued (permit number 4016). See NGH 2015 & 2016a |
| 56-1-0433 | Bomen RIFL IF1 | Artefact scatter | Valid | AHIP issued (permit number 4016). See NGH 2015 & 2016a |
| 56-1-0434 | Bomen RIFL IF3 | Artefact scatter | Valid | AHIP issued (permit number 4016). See NGH 2015 & 2016a |
| 56-1-0457 | Bomen RIFL IF4 | Artefact scatter | Valid | AHIP issued (permit number 4243). See NGH 2015 & 2016a |
| 56-1-0458 | Bomen RIFL IF5 | Artefact scatter | Valid | AHIP issued (permit number 4016). See NGH 2015 & 2016a |

| Site ID | Site name | Site types | Site status | Management recommendations and associated report |
|---|---|---|---|---|
| 56-1-0459 | Bomen RIFL ST1 | Modified tree | Valid | AHIP issued (permit number 4243). See NGH 2015 & 2016a |
| 56-1-0460 | Bomen RIFL AS1 | Artefact scatter | Valid | AHIP issued (permit number 4016). See NGH 2015 & 2016a |
| 56-1-0461 | Bomen RIFL AS2 | Artefact scatter | Valid | AHIP issued (permit number 4016). See NGH 2015 & 2016a |
| 56-1-0462 | Bomen RIFL AS3 | Artefact scatter | Valid | AHIP issued (permit number 4016). See NGH 2015 & 2016a |
| 56-1-0463 | Bomen RIFL AS4 | Artefact scatter | Valid | AHIP issued (permit number 4016). See NGH 2015 & 2016a |

## 8.4 ECOLOGICALLY SUSTAINABLE DEVELOPMENT PRINCIPLES

The goal of ecologically sustainable development (ESD) is:

> Development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends.

The Core Objectives of ESD are:

- To enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations
- To provide for equity within and between generations
- To protect biological diversity and maintain essential ecological processes and life-support systems.

As such, the ESD principles have limited applicability to cultural heritage although the notion of inter-generational equity is relevant. This is understood to refer to future generations being able to enjoy, interact with and study aspects of cultural heritage that are available to current generations.

### 8.4.1 Applicability to the proposal

The development adds to the cumulative impact on the region's Aboriginal cultural heritage as two sites will likely be harmed. However, the heritage impact value of this loss is low to moderate as the potentially impacted sites consist mainly of isolated finds or low-density artefact scatters in disturbed contexts. These site types are common at a regional level and have a limited ability to inform the general community about the Aboriginal settlement distribution or use of the area.

It will be recommended here that the artefacts be removed from harm and relocated in the landscape close to where they originated; but outside of any project impacts, possibly within a green infrastructure zone. As all recorded artefacts are currently in secondary contexts, moving the already displaced artefacts a short distance out of harm's way constitutes a very minimal loss of heritage value as the artefacts remain associated with the landscape in which they were recorded.

# 9 MANAGEMENT OF ABORIGINAL CULTURAL HERITAGE SITES

## 9.1 GENERAL MANAGEMENT PRINCIPLES

Appropriate management of cultural heritage items is primarily determined based on their assessed significance as well as the likely impacts of the proposed development. **Section 8.2** and **Section 8.3** describe, respectively, the significance / potential of the recorded sites and the likely impacts of the development. The following management options are general principles, in terms of best practice and desired outcomes, rather than mitigation measures against individual site disturbance.

- Avoid impact by altering the development proposal or in this case by avoiding impact to a recorded Aboriginal site. If this can be done, then a suitable curtilage around the site must be provided to ensure its protection both during the short-term construction phase of development and in the long-term use of the area. If plans are altered, care must be taken to ensure that impacts do not occur to areas not previously assessed.

- If impact is unavoidable
    - The approval pathway for developments inside the SAP investigation area must comply with the relevant legislation regarding heritage and is dependent on whether the development is an SSD/SSI or non-SSD/SSI under Part 4 and Part 5 of the EP&A Act (**Section 3.3.1**).
        - Non-SSD/SSI: the approval to disturb sites under the authority of an AHIP must be sought from Heritage NSW. Integral to an AHIP application is the preparation of an ACHAR and the requirement to follow the ACHCRs. The NP&W Act is complemented by the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* that set out the requirements for archaeological investigation in NSW where an application for an AHIP is likely to be made. The Aboriginal community must be provided the opportunity to view the draft ACHAR, the ACHAR must make it clear that an AHIP application will be sought so that the Aboriginal community can assess the management recommendations with this knowledge. The AHIP conditions will often stipulate that the Aboriginal community should be involved in any salvage activities and will dictate what the fate of any salvaged Aboriginal objects will be.
        - SSD/SSI: the appropriate management of sites will be determined through policies set out in an ACHMP. The ACHMP should include measures for site conservation, as well as detailing methods for the management of sites

to be impacted. The ACHMP must be developed in consultation between the proponent, RAPs and DPIE.

## 9.2 MANAGEMENT AND MITIGATION OF RECORDED ABORIGINAL SITES

### 9.2.1 Opportunities to conserve Aboriginal cultural heritage values

The structure plan for Wagga Wagga SAP has consistently considered the already recorded Aboriginal cultural heritage inside the investigation area as well as the cultural landscape of the overall Wagga Wagga and Bomen area.

As mentioned in **Section 8.3** there is a potential to indirectly impact Bomen Axe Quarry. The following, in conjunction with the visual impact assessment currently being undertaken, should be considered to help conserve the various qualities of the site:

- Development to the north, east and south east of Bomen Axe Quarry should not exceed existing building heights. This will help to preserve the landscape context currently able to be viewed from the quarry
- Native trees should be planted along the outside west edge of the site to help block views of most of the regional enterprise zone west of Byrnes Road
- Access to the site should be maintained and improved. There is currently a proposal before Wagga Wagga City Council regarding access for Aboriginal people to visit the Bomen Axe Quarry, including open / green space and convenient parking locations to improve the visitor experience to the Bomen Axe Quarry. At a minimum a proper carpark area accessible from East Bomen Road should be installed adjacent to the Bomen Axe Quarry boundary to facilitate access from the local Aboriginal community. In addition, a drive with locked gate, could extend from the carpark to the quarry proper, to help less able-bodied members of the Aboriginal community continue to visit the site. The local Aboriginal community should have access to a key for the gate. The drive should avoid artefactual material and might best be in the area surrounding the Bomen Axe Quarry boundary
- The Bomen Axe Quarry is already classified as ‘E2 – Environmental Conservation’ on the Wagga Wagga LEP 2010. The objectives and principles contained in the E2 Environmental Conservation Zone covering the Bomen Axe Quarry should be retained for the Wagga Wagga SAP to ensure conservation of the Bomen Axe Quarry Aboriginal Place
- The Aboriginal community should continue be consulted as to their views on how to protect and conserve their heritage within the investigation area, and about potential long-term management plans.

### 9.2.2 Management of potentially impacted Aboriginal sites

Where possible, recorded Aboriginal sites should be avoided. This can be done with appropriate buffers placed around the site extents during the construction phase using temporary hi-visibility fencing. Regardless of the approval pathway (i.e. non-SSD/SSI or SSD/SSI), any Aboriginal sites which will be impacted should, at a minimum, have the processes outlined below followed.

#### *9.2.2.1 Recorded Aboriginal sites*

Any Aboriginal sites which end up impacted by a proposal should adhere to the following general conditions:

- Isolated artefacts and artefact scatters
    - Salvage of the artefacts should take place prior to works commencing near the sites
    - A location outside of impact should be decided on in consultation with the RAPs for the artefacts to be relocated to
    - Site cards of the salvaged Aboriginal sites will need to be updated using Aboriginal Site Impact Recording Forms (ASIRFs) following the salvage and relocation
    - A new site card with the information of which sites were salvaged and where the relocated artefacts are positioned will need to be submitted to AHIMS.
- The preparation of a report detailing the salvage process for any impacted Aboriginal sites.

### 9.2.3 Future development in areas not surveyed

There are areas in the 'regional enterprise zone' and the 'rural activity zone' for the Wagga Wagga SAP that warrant further heritage-based assessment. These are shown in **Figure 9-1** and consist of areas which have:

- not previously been surveyed (excepting the area between Bomen Axe Quarry and Byrnes Road)
- are not already developed
- are not heavily modified
- and that have moderate or high archaeological potential.

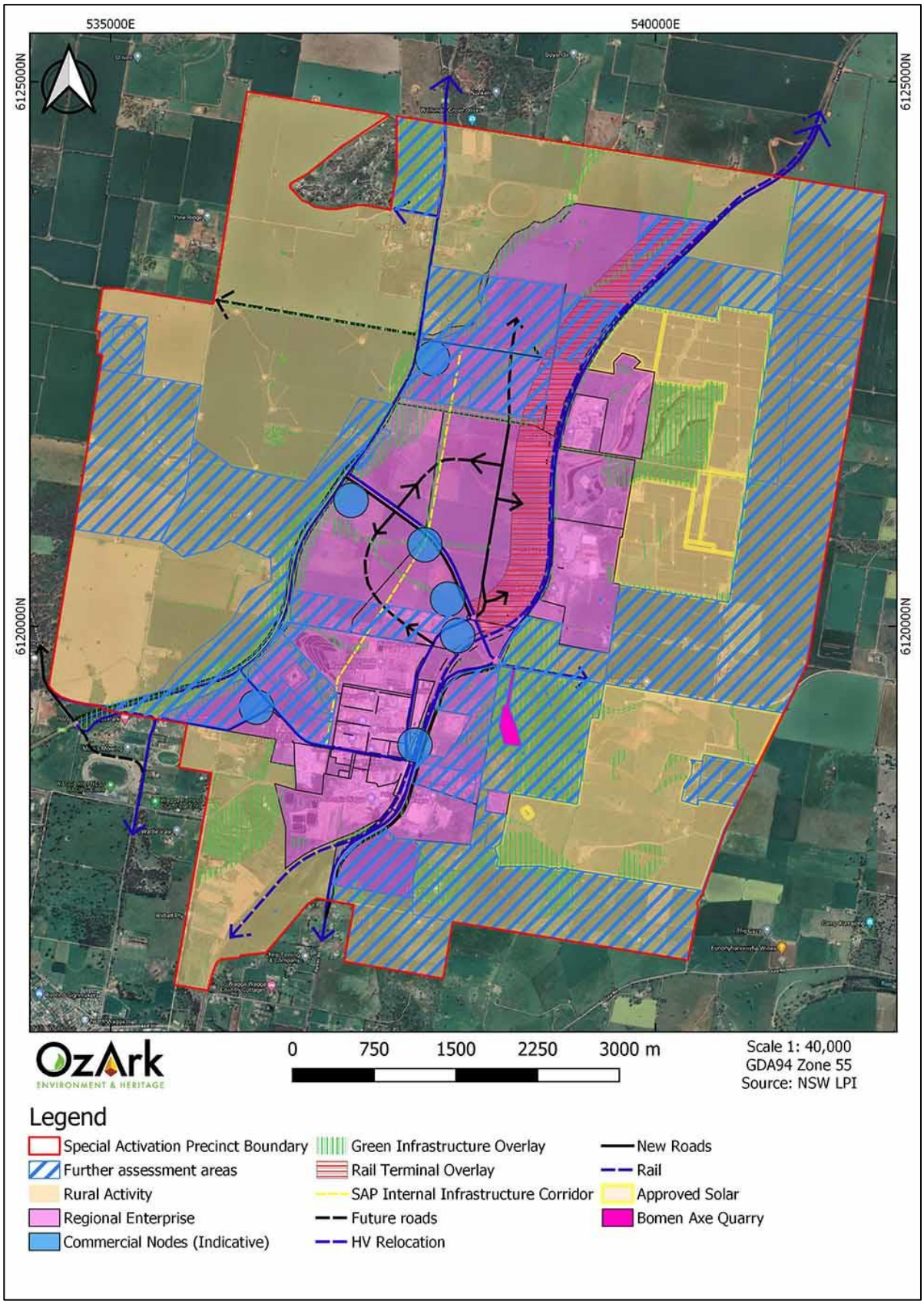
Within the 'regional enterprise zone' the high number of sites recorded east of Byrnes Road, and the few recorded west of Byrnes Road, indicate that this section of the investigation area has archaeological potential.

Further areas of assessment inside the 'rural activity zone' has also been included due to possible developments such as Agricultural Educational Establishments, additional small scale solar PV farms, forestry, and rural industries (see **Section 1.4** for further details).

As the eventual purpose of the regional enterprise zone and parts of the rural activity zone will be for further developments, the locations of further assessment areas are shown on **Figure 9-1**.

If, in the future, development is planned to occur in an area that has not already been assessed, heritage assessment will likely be necessary, especially for areas designated as green infrastructure zones which have been partially excluded from **Figure 9-1**.

**Figure 9-1: Further assessment areas inside the regional enterprise zone.**



# HISTORIC HERITAGE ASSESSMENT

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# 10 HISTORIC HERITAGE ASSESSMENT: INTRODUCTION

## 10.1 BRIEF DESCRIPTION OF THE PROPOSAL

Please refer to **Sections 1** and **2** for a description of the proposal and the environmental context of the investigation area.

## 10.2 RELEVANT LEGISLATION

### 10.2.1 State legislation

***Environmental Planning and Assessment Act 1979*** (EP&A Act)

Please refer to **Section 3.3.1** for a description of the EP&A Act.

***Heritage Act 1977*** (Heritage Act)

The *Heritage Act 1977* (Heritage Act) is applicable to the current assessment. This Act established the Heritage Council of NSW. The Heritage Council's role is to advise the government on the protection of heritage assets, make listing recommendations to the Minister in relation to the State Heritage Register, and assess/approve/decline proposals involving modification to heritage items or places listed on the Register. Most proposals involving modification are assessed under Section 60 of the Heritage Act.

Automatic protection is afforded to 'relics', defined as 'any deposit or material evidence relating to the settlement of the area that comprised New South Wales, not being Aboriginal settlement, and which holds state or local significance' (note: formerly the Act protected any 'relic' that was more than 50 years old. Now the age determination has been dropped from the Act and relics are protected according to their heritage significance assessment rather than purely on their age). Excavation of land on which it is known or where there is reasonable cause to suspect that 'relics' will be exposed, moved, destroyed, discovered or damaged is prohibited unless ordered under an excavation permit.

### 10.2.2 Commonwealth legislation

***Environment Protection and Biodiversity Conservation Act 1999*** (EPBC Act)

Please refer to **Section 3.3.2** for a description of the EPBC Act.

### 10.2.3 Applicability to the proposal

The approval pathway of this project is yet to be finalised however will include preparation of an exempt and complying style Special Activation State Environmental Planning Policy. Work is currently being undertaken to consider how the environmental approval, including those relating to Aboriginal sites may be able to be streamlined.

Any items of local or state historical heritage significance within the investigation area are afforded legislative protection under the Heritage Act.

It is noted there are no Commonwealth or National heritage listed places within the investigation area, and as such, the heritage provisions of the EPBC Act do not apply.

## 10.3 HISTORIC HERITAGE ASSESSMENT OBJECTIVES

The current assessment will apply the Heritage Council's *Historical Archaeology Code of Practice* (Heritage Council 2006) in the completion of a historical heritage assessment, including field investigations, to meet the following objectives:

**Objective One:** To identify whether historical heritage items or areas are, or are likely to be, present within the study area

**Objective Two:** To assess the significance of any recorded historical heritage items or areas

**Objective Three**: Determine whether the proposal is likely to cause harm to recorded historical heritage items or areas

**Objective Four:** Provide management recommendations and options for mitigating impacts.

## 10.4 DATE OF HISTORIC HERITAGE ASSESSMENT

The historic heritage assessment took place at the same time as the Aboriginal heritage assessment. Please refer to **Section 3.1** for the dates of the fieldwork.

## 10.5 OZARK INVOLVEMENT

The fieldwork and reporting of the historic heritage assessment are the same personnel involved with the Aboriginal heritage assessment. Please see **Section 3.1** for details.

# 11 HISTORIC HERITAGE ASSESSMENT: BACKGROUND

## 11.1 BRIEF HISTORY OF WAGGA WAGGA

Although there was some early pastoral settlement in the 1820s, it was the 1829 exploration of the river system by Charles Sturt and party that opened the area up to settlers, mostly from the Gundagai area. Runs were established on the south and north banks of the Murrumbidgee in 1832 by Robert Best (who owned the Wagga Wagga station and built a homestead there in 1832), and Charles Thompson (OzArk 2008). 'Nangus' homestead, on Billabong Creek, was stocked by the MacArthur's of Camden Park around the same time, which was a period when river frontage was taken up and stations on tributary creeks were established.

The Wagga Wagga area became an important river crossing, situated as it was at the intersection of the north-south track between NSW and Victoria and the east-west track along the Murrumbidgee. The first crop farming occurred in 1846 and the town itself was gazetted in 1847. A police building and court premises were established the same year. A punt service opened in 1850 and in 1851 the first store opened.

Development faltered with the floods of 1852–53 but, being on the main thoroughfare to the goldfields, Wagga Wagga ultimately benefited from the through-traffic, becoming an important stock sales centre in the late 1850s. Stock sales began in 1855 and the population doubled between 1856 and 1861 experiencing vigorous growth in the 1870s (pop. 1000) and 1880s (pop. 4000). The paddle steamers of the inland river system began operations in the 1850s and the first one arrived at Wagga Wagga in 1858 (they could not make it to Gundagai), but the importance of the road links always overshadowed the steamer trade. Few steamers reached Wagga Wagga regularly and it was only in the 1870s that there was any significant link with the Murray and Victoria (HO and DUAP 1996: 109). The last steamer to visit Wagga Wagga arrived in 1905 (OzArk 2008).

The first Anglican church was built in 1860, a school opened in 1861 and a gaol replaced the old lock-up in 1862; prisoners previously being chained to a log while awaiting their hearing. A toll bridge across the river, opened in 1862 and was replaced in 1895 by the Hampden Bridge, which is still standing. This helped Wagga Wagga to compete with Gundagai and Albury which had prospered as river crossings due to their bridges.

The successful experiments of William Farrer at the Wagga Wagga Experimental Farm (now the Wagga Wagga Agricultural Research Institute) in the 1890s produced new disease resistant strains and higher yields and the soldier settlement schemes after the two world wars further expanded local wheat production.

The railway arrived in North Wagga Wagga in 1878 with a 2,500 m trestle built across the Murrumbidgee in 1879 to allow the line to continue to South Wagga Wagga. The longest railway trestle in NSW, it was extended in 1879 and renewed with steel in 1910.

The years from 1880–1920 were a period of modest growth after the boom of the 1870s. Large pastoral holdings around the town were broken up for closer settlement. Fruit growing, and dairying were added to the local economy. The first cinematograph arrived in 1897 and electricity in 1922. With continuing expansion Wagga Wagga was declared a city in 1946 (OzArk 2008).

**Bomen and north Wagga Wagga**

The Thompson's established 'Eunanoreenya' in 1832, a property which included the area of Bomen and North Wagga Wagga and covered approximately 1028 ha. Charles Thompson was an ex-convict who became one of the largest landowners in NSW (KBR 2005). Charles Thompson's sons, Frederick and Edwin, ran 'Eunanoreeya', and the property remained in the family until it was sold to the Australian Mercantile Land and Finance Company in 1870. The property was then sold again in 1910, around the same time as the Closer Land Acts of 1910 were passed. The Closer Land Acts of 1910 aimed to place more people into rural populations and expand farming settlements, and there were three types of schemes to help achieve this: subdivision of crown land, subdivision of purchased estates, and individual p0roperties purchased by the Crown and then taken over by settlers. The Closer Land Acts of 1910 saw Wagga Wagga move into more mixed farming with sheep, wheat and dairying (KBR 2005). Further settlement of the Bomen and north Wagga Wagga area occurred due to the NSW Returned Soldiers Settlement Act of 1916 which aimed for the rehabilitation of returned soldiers from the First World War. It is likely the land which was part of 'Eunanoreenya' was part of this scheme.

The construction of the railway station and yards saw the development of the Bomen area begin. The Bomen Railway Station, known as the North Wagga Wagga Station at the time, was on the Main Southern Railway Line from 1878. The depot and works which was at Bomen was moved to the Wagga Wagga Station when it opened in 1879. A railway bridge across the Murrumbidgee River was erected in 1881 (OEH 2019).

One of the earliest business in the Bomen area is the Riverina Wool Combing facility that was established in 1980, with a new wool processing plant added in 1993.

**Brucedale**

The Brucedale area is located in the northwest section of the Wagga Wagga SAP boundary. One of the first reports regarding Brucedale was in November 1872 of a Wesleyan Church which had opened along the Junee Road, and was located on the property Brucedale Farm, owned then by William Macauley.

In addition, a school, known as the Junee Road School, was in operation at Brucedale since around November 1872 (BHC 1998). The Wesleyan Church the school was hosted in burnt down 1875 and was closed until 1877. By 1879, the new school building made of stone, had been completed. The school was closed in 1967. The building of the former school is listed on the Wagga Wagga LEP 2010 (I24).

Following the Wesleyan Church burning down in 1872, a new church was built, and opened for use in 1876, despite the interior not being finished. The church is now known as the Holy Family Chapel and is listed on the Wagga Wagga LEP 2010 (I25)

The railway between Sydney to Bomen was opened in 1878 which had a large impact on the Brucedale locality, with many of the construction workers of the railway line staying on in the general region. The Brucedale Post Office was in operation from around 1884, with the stone cottage Devonhurst (see **Section 12.1**) built around 1898 .

In the 1920's a reserve for public recreation was created at Brucedale. This location is where the current tennis courts are. The reserve was gazetted in December 1920. Part of this reserve was made available for the construction of the public hall in 1935 (BHC 1998). These items are also listed on the Wagga Wagga LEP 2010 (I23).

## 11.2 LOCAL CONTEXT

### 11.2.1 Desktop database searches conducted

A desktop search was conducted on the following databases to identify any potential previously-recorded heritage within the investigation area. The results of this search are summarised in **Table 11-1**.

**Table 11-1: Historic heritage: desktop-database search results.**

| Name of Database Searched | Date of Search | Type of Search | Comment |
|---|---|---|---|
| National and Commonwealth Heritage Listings | 19 June 2019 | Wagga Wagga LGA | No places listed inside or adjacent to investigation area |
| State Heritage Register (SHR) | 19 June 2019 | Wagga Wagga LGA | One place listed inside the investigation area: Bomen Railway Station SHR 01093 |
| Local Environment Plan (LEP) | 19 June 2019 | Wagga Wagga LEP 2010 | Seven places listed inside the investigation area, and one place adjacent to area. |

A search of the Heritage Council of NSW administered heritage databases and the Wagga Wagga LEP 2010 returned eight records for historical heritage sites within the investigation area, and one place adjacent to the investigation area boundary.

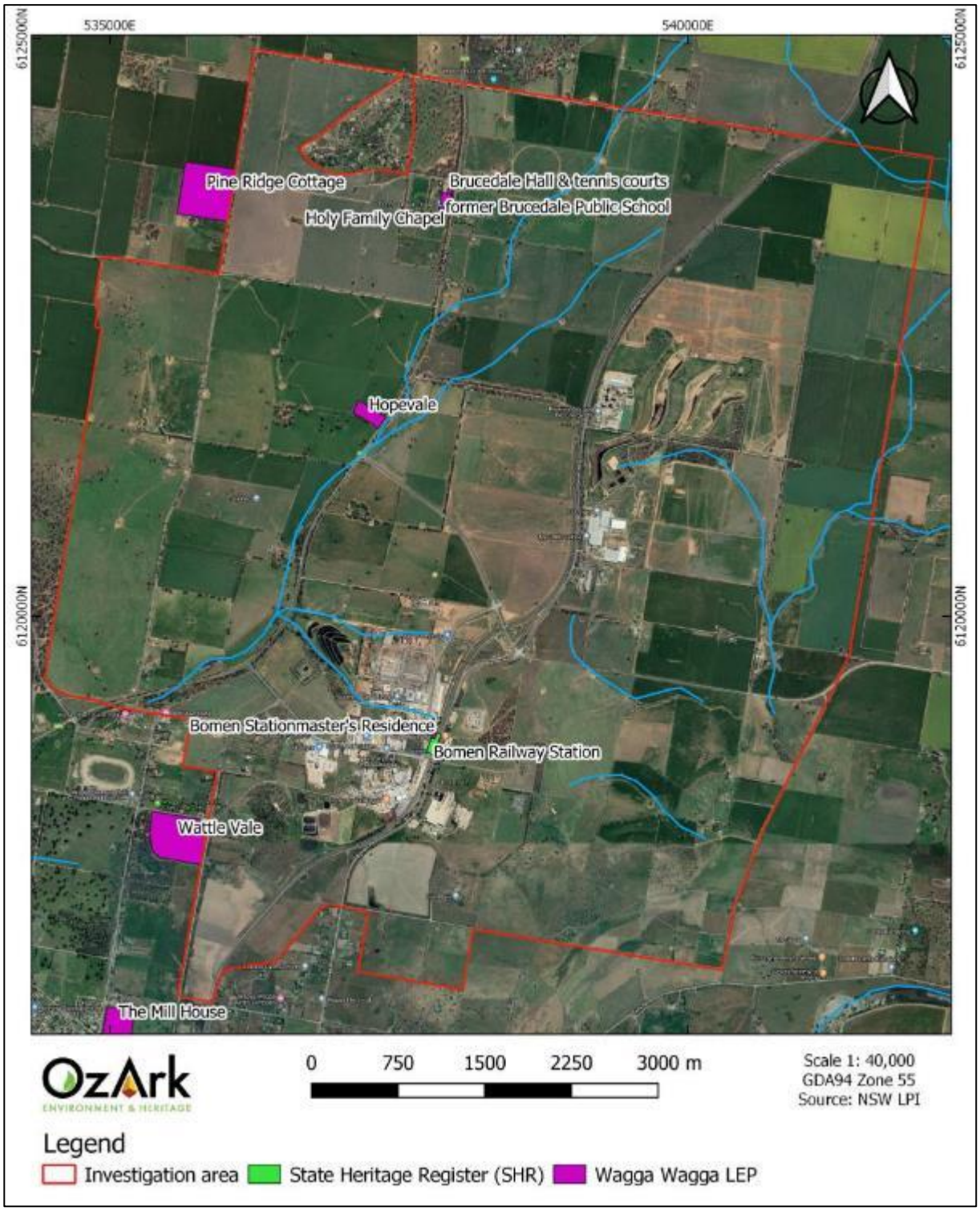
A list of the places registered inside or adjacent the investigation area is summarised in **Table 11-2** and shown on **Figure 11-1**. The Bowmen Railway Station is listed on the SHR (01093)

and the Wagga Wagga LEP (I8). It is in the central-south section of the investigation area on the west side of the railway line. The Bomen Stationmaster's Residence (I9) is directly north of the railway station.

**Table 11-2: Historic heritage places inside or adjacent to the investigation area.**

| Name | Significance | Location | Description |
|---|---|---|---|
| Bomen Railway Station (SHR 01093 & LEP I8) | State & local | Inside investigation area. | The station building was constructed in 1877. Bomen station group and residence is a rare one-off design station from the boom period of railway construction. The station has several rare or unusual features, including a continuous pitched roof which extends over the platform, an unusual veranda at the street entrance to the building, and a well. This station was the terminus of the southern line from September 1878 to September 1879 while the rail bridge over the Murrumbidgee River and flood plain was finished. |
| Bomen Stationmaster's Residence (I9) | Local | Inside investigation area. | Constructed in 1877, the Stationmaster's Residence is a simple rendered brick residence with a symmetrical facade and a timber post supported veranda across the front elevation. There is a hip roof and two well detailed chimneys. |
| Wattle Vale (I31) | Local | Adjacent to southwestern boundary of investigation area. | Located on top of Cartwrights Hill. The building is a red brick residence and features include a hip roof and three well detailed chimneys. An encircling veranda has been enclosed to the sides. |
| Hopevale (I26) | Local | Inside investigation area. | An aesthetically pleasing stone residence situated at the top of a slope.<br>In 1872 the property was owned by William Macauley and called Brucedale Farm. By the late 1880s it was owned by the Norman family and named Hopevale. The homestead was built in the 1870s and has been sympathetically extended to in the rear since 2000.<br>The front [original] section of the house is random rubble roughly scored, with brick quoining to the window and door openings; stone and brickwork is now painted. There is a timber and paved encircling veranda. The broken-back, hip roof is clad with corrugated galvanised iron. |
| Former Brucedale Public School (I24) | Local | Inside investigation area. | The Brucedale School came into operation as a public school on 1 November 1872. Initially the school was conducted in the Wesleyan Church, a wooden structure which was burnt to the ground on 21 lune 1875. A new stone school building was completed in 1879. In 1884 eight acres of land was granted as a reservation for School use. Two weatherboard rooms were added on in around 1915 and in 1929 a new porch was built to the south side of the school. A shelter shed was demolished in 1997.<br>The school building is constructed of granite blocks measuring 12 x 12 x 36 inches, quarried from Shepherds Hill, approximately 1 mile to the north of the school. The residence and school room were all incorporated under one shingle roof. The schoolroom measured 32 by 16 feet. |
| Brucedale Hall & Tennis courts (I23) | Local | Inside investigation area. | The Brucedale Tennis Club commenced in 1899. These six courts, the third for Brucedale, were constructed in 1981 by male members and helpers. In 1983 the tennis dub took over responsibility for the hall. The Brucedale Hall was constructed in 1935. |
| Holy Family Chapel (I25) | Local | Inside investigation area. | The first Wesleyan Church was constructed of slabs in about 1872 and burnt down in 1875. The foundation stone of a new Church was laid on 9 November 1875. The internal works were not completed for another 13 years. The church was deconsecrated, presumably mid to late 20th century, and reconsecrated in 1995.<br>Listing consists of a simple brick church building. The original shingle roof has been replaced with iron. There are no original internal furnishings. |
| Pine Ridge Cottage (I27) | Local | Adjacent to western boundary of investigation area. | A simple timber settlers' cottage, in fair to poor condition. |

**Figure 11-1: Location of historic heritage places listed inside or adjacent to investigation area.**




## 11.3 SURVEY METHODOLOGY

Standard archaeological field survey and recording methods were employed in this study (Burke & Smith 2004). The historic heritage field survey was completed concurrently with the Aboriginal heritage field assessment (**Section 6.1**). GPS coordinates and photographs were taken of all heritage items, if located.

## 11.4 PROJECT CONSTRAINTS

The only constraint to the historic heritage assessment was the inability to access particular survey areas.

# 12 RESULTS OF HISTORIC HERITAGE ASSESSMENT

## 12.1 HISTORIC HERITAGE SITES

Two historic sites were recorded within the investigation area during the assessment (**Figure 12-1**). The details of the two sites are provided below.

**Figure 12-1: Location of historical sites.**

This figure has been redacted due to sensitive information

## Wagga Wagga SAP HS-01

**Site Type**: Former Brucedale Post Office

**GPS Coordinates**: [redacted]E / [redacted]N (centroid) (GDA94 Zone 55)

**Location of Site**: The site is located directly adjacent to the east side of the Olympic Highway, [redacted]

**Description of Site**: The former Brucedale post office is a small cottage that has been renovated. The owner of the property has provided the following information concerning the cottage's history which was prepared by Nick Jackson (2015). The cottage at [redacted], is known as Devonhurst and was built by John Wells Shepherd around 1898. John Wells Shepherd was the son of Rebecca Jane Wells and George Shepherd, who became a prominent pastoralist after moving to the Brucedale area in 1871. Devonhurst Cottage was the Brucedale post office for the period between 1898 until 1910, with a residence for the post master at the back of the cottage.

The cottage itself is a single storey and brick built in the Victorian Georgian style. It has a hipped, corrugated metal roof and high brick chimneys. There is a timber veranda to the front of the cottage with a corrugated metal roof supported on timber posts (**Figure 12-2**). There is skillion wing to the rear of the cottage that has been rebuilt with the original brick kitchen and laundry to one side. The owner informed that the interiors have been renovated, but retain the timber ceilings.

**Figure 12-2: Wagga SAP HS-01. View of site and selection of recorded artefacts.**

| | |
|---|---|
| | |
| 1. Front view of Wagga SAP HS-01. | 2. Back view of Wagga SAP HS-01. |

## Wagga Wagga SAP HS-02

**Site Type**: Former change over stables

**GPS Coordinates**: [redacted]E / [redacted]N (centroid) (GDA94 Zone 55)

**Location of Site**: T[redacted]

**Description of Site**: The site consists of a large weatherboard and timber shed located east of the former Brucedale post office (Wagga SAP HS-01). Much of the shed has had corrugated metal sheets applied to the outside walls (**Figure 12-3**). According to the owner, there is original log framing on the inside of the shed. It is possible this shed was used as a changeover station for horses in the 1890s.

**Figure 12-3: Wagga SAP HS-02. View of site and selection of recorded artefacts.**

| | |
|---|---|
| | |
| 1. View southwest of Wagga SAP HS-02. | 2. View northwest of Wagga SAP HS-02. |

## 12.2 ASSESSMENT OF HISTORIC HERITAGE SIGNIFICANCE

### 12.2.1 Assessment of significance—general principles

The current assessment will evaluate the heritage significance of the historic heritage sites identified within the study area in accordance with the NSW Heritage Office's publication *Assessing Heritage Significance* (Heritage Office 2001). A historic heritage site must satisfy at minimum one of the following criteria to be assessed as having heritage significance:

**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 a 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 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).*

Significance assessments are carried out on the basis that decisions about the future of heritage items must be informed by an understanding of these items' heritage values. The *Australia ICOMOS Burra Charter* (Burra Charter 2013) recognises four categories of heritage value: historic, aesthetic, scientific, and social significance

Items are categorised as having local or state level, or no significance. The level of significance is assessed in accordance with the geographical extent of the item's value. An item of state significance is one that is important to the people of NSW whilst an item of local significance is one that is principally important to the people of a specific LGA.

### 12.2.2 Assessment of significance of historic items

**Table 12-1** details the assessed significance of recorded historic heritage items in accordance with the NSW Heritage Office guidelines and the *Burra Charter*.

**Table 12-1: Historic heritage: assessment of significance.**

| Site Name | Level of Significance |
|---|---|
| Wagga SAP HS-01 (former Brucedale post office) | Local |
| Wagga SAP HS-02 (former change-over stables) | Local |

## Wagga Wagga SAP HS-01

**Table 12-2** assesses Wagga SAP HS-01 against the assessment criteria established in the Heritage Office publication, *Assessing Heritage Significance* (Heritage Office 2001).

**Table 12-2: Assessment of heritage significance – Wagga SAP HS-01.**

| Criteria | Comments | Significance |
|---|---|---|
| **a** | The site is associated with the early development of Brucedale, including travel routes north between Wagga Wagga and Junee. | Local |
| **b** | The site is associated with the well-known and prominent Shepherd family of the region. The Shepherd family was one of the early pastoralists in the region and owned the Shepherd Siding property. | Local |
| **C** | The original fabric of the cottage which fronts the Olympic Highway is aesthetically pleasing and adds to the historical landscape of Brucedale. | Local |
| **d** | There are no known associations of the site with an identifiable group or a community's sense of place. | Nil |
| **e** | The site has little potential for further scientific and/or archaeological information. It does not have the qualities of an important benchmark or reference site or type. | Nil |
| **f** | The site is not a rare site type for the Wagga Wagga region or NSW. | Nil |
| **g** | The original fabric of the cottage does represent the characteristics of an early post office and residence for the local region. | Local |

## Wagga Wagga SAP HS-02

**Table 12-3** assesses Wagga SAP HS-02 against the assessment criteria established in the Heritage Office publication, *Assessing Heritage Significance* (Heritage Office 2001).

**Table 12-3: Assessment of heritage significance – Wagga SAP HS-02.**

| Criteria | Comments | Significance |
|---|---|---|
| a | The site an example of early change-over stables for the route between Wagga Wagga and Junee. | Local |
| b | There are no known associations of the sites with a significant event, person or group of persons. | Nil |
| C | The site is typical of large stables from the late 1800s. | Nil |
| d | There are no known associations of the site with an identifiable group or a community's sense of place. | Nil |
| e | The site has little potential for further scientific and/or archaeological information. It does not have the qualities of an important benchmark or reference site or type. | Nil |
| f | The site is not a rare site type for the Wagga Wagga region or NSW. | Nil |
| g | The site does not represent well the characteristics of the site type. | Nil |

## 12.3 DISCUSSION

There are several historical listings throughout the investigation area. The two historical sites (Wagga SAP HS-01 and Wagga SAP HS-02) recorded during the survey are of a similar era to other historical listings in Brucedale. Wagga SAP HS-01 (the former Brucedale post office) is a good example of sympathetically renovating a historical building, with much of the original fabric being retained. The former Brucedale post office and the Changeover stables should be considered for listing on the Wagga Wagga LEP.

## 12.4 LIKELY IMPACTS TO HISTORIC HERITAGE FROM THE PROPOSAL

**Table 12-4** details the anticipated impacts to historic heritage from the proposal. This includes the two historic sites recorded during the survey, as well as Bomen Railway Station (SHR 01093 & LEP I8). Bomen Railway Station is inside the regional enterprise zone and an indicative commercial node (**Figure 12-4**).

**Table 12-4: Historic heritage: impact assessment.**

| Survey Area | Site Name | Will this site be impacted? |
|---|---|---|
| 2 | Wagga SAP-HS01 (former Brucedale post office) | Unlikely |
| 2 | Wagga SAP-HS01 (former change-over stables) | Unlikely |
| - | Bomen Railway Station (SHR 01093 & LEP I8) and Stationmaster's residence (LEP I9). | Unknown |

**Figure 12-4: Historic heritage and impacts.**

This figure has been redacted due to sensitive information

# 13 MANAGEMENT AND MITIGATION: HISTORIC HERITAGE

## 13.1 GENERAL PRINCIPLES FOR THE MANAGEMENT OF HISTORIC SITES

Appropriate management of heritage items is primarily determined based on their assessed significance as well as the likely impacts of the proposed development.

In terms of best practice and desired outcomes, avoiding impact to any historical item is a preferred outcome, however, where a historical site has been assessed as having no heritage value, impacts to these items does not require any legislated mitigation.

## 13.2 MANAGEMENT AND MITIGATION OF RECORDED HISTORIC SITES

The two historic sites (Wagga SAP HS-01 and Wagga SAP HS-02) are both located in the rural activity zone of the Wagga Wagga SAP investigation area. As such, these buildings will not be impacted by any proposed development.

It is unknown at this point whether there will be any impact on the Bomen Railway Station (SHR 01093 & LEP I8) and Stationmaster's residence (LEP I9). As the Bomen Railway Station is listed on the SHR, if there are impacts planned to the station, it will be necessary to complete a Statement of Heritage Impact (SOHI) prior to works beginning. It may be possible to repurpose the station building, as at the moment it is sitting empty and starting to decay.

# 14 CONCLUSIONS

## 14.1 ABORIGINAL CULTURAL HERITAGE

Under Section 89A of the NPW Act it is mandatory that all newly-recorded Aboriginal sites be registered with AHIMS. As a professional in the field of cultural heritage management it is the responsibility of OzArk to ensure this process is undertaken.

To this end it is noted that three Aboriginal sites were recorded during the assessment.

The following recommendations are made based on these impacts and with regard to:

- Legal requirements under the terms of the NPW Act whereby it is illegal to damage, deface or destroy an Aboriginal place or object without the prior written consent of Heritage NSW
- The findings of the current investigations undertaken within the study area
- The interests of the Aboriginal community.

The following conclusions are made concerning Aboriginal cultural values within the investigation area:

1. The impact footprint represents parcelling the Wagga Wagga SAP investigation area for future land uses. All impact assessment is based only on the area inside the investigation area boundary, and assumes full development within each SAP zone. In total there are nine valid Aboriginal sites in the Wagga Wagga SAP which are known to remain in the landscape and are not being managed by approved solar farm or RIFL hub projects. Eight of these sites have the potential to be impacted by development in the future.
    a. The approval pathway for developments inside the SAP investigation area must comply with the relevant legislation regarding heritage and is dependent on whether the development is an SSD/SSI or non-SSD/SSI under Part 4 and Part 5 of the EP&A Act (**Section 3.3.1**).
        i. Non-SSD/SSI: the approval to disturb sites under the authority of an AHIP must be sought from Heritage NSW. Integral to an AHIP application is the preparation of an ACHAR and the requirement to follow the ACHCRs. The NP&W Act is complemented by the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* that set out the requirements for archaeological investigation in NSW where an application for an AHIP is likely to be made. The Aboriginal community must be provided the opportunity to view the draft ACHAR, the ACHAR must make it clear that an AHIP application will be sought so that the Aboriginal community can

assess the management recommendations with this knowledge. The AHIP conditions will often stipulate that the Aboriginal community should be involved in any salvage activities and will dictate what the fate of any salvaged Aboriginal objects will be.

ii. SSD/SSI: the appropriate management of sites will be determined through policies set out in an ACHMP. The ACHMP should include measures for site conservation, as well as detailing methods for the management of sites to be impacted. The ACHMP must be developed in consultation between the proponent, RAPs and DPIE.

b. Mitigation, avoidance and management of Aboriginal sites will need to be determined in consultation with the RAPs, and the relevant legislation and requirements whether through an AHIP or an ACHMP.

c. There is potential to indirectly impact Bomen Axe Quarry. The recommendations listed in **Section 9.2.1** should be followed to avoid any indirect impacts to the Aboriginal Place.

d. Any Aboriginal sites to be impacted should be salvaged from harm and relocated in the landscape close to where they originated; but outside of any project impacts, possibly within a green infrastructure zone (see **Section 9.2.2**).

e. For development future development, **Figure 9-1** should be used to determine if the area needs further heritage assessment as part of the approval process.

2. This assessment is confined to within the assessed investigation area. Should the parameters of the proposed work extend beyond these assessed locations, then further archaeological assessment may be required.

## 14.2 HISTORIC HERITAGE

Two historic heritage sites were recorded during the survey (Wagga SAP HS-01 and Wagga SAP HS-02). Both these locations will not be harmed by the proposal.

The following recommendations are made based on the impacts associated with the proposal and with regard to:

- Legal requirements under the terms of the Heritage Act
- Guidelines presented in the *Burra Charter*
- The findings of the current assessment
- The interests of the local community.

Conclusions concerning the historic values within study area are as follows.

3. Two historic heritage sites of local significance were recorded during the survey (Former Brucedale post office [Wagga SAP HS-01] and change over stables [Wagga SAP HS-02]). These should be considered for listing on the Wagga Wagga LEP. There is a possibility of further historic heritage being present in the investigation area.
4. The Bomen Railway Station (SHR 01093 & LEP I8) is located in the centre of the Wagga Wagga SAP investigation area. If the station will be impacted, then further assessment and a SOHI will be necessary.
5. This assessment is confined to within the assessed investigation area. Should the parameters of the proposed work extend beyond these assessed locations, then further archaeological assessment may be required.

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# APPENDIX 1: CONSULTATION LOG AND ACHCRS

| Aboriginal Consultation Log - Wagga Wagga SAP | | | |
|---|---|---|---|
| **Date** | **Organisation** | **Comment** | **Method** |
| 2.7.19 | Daily Advertiser | Newspaper is printed daily<br>The cut off is by 2pm the day prior | Phone |
| 2.7.19 | Daily Advertiser | Rebecca Hardman (RH) sent ad off to the newspaper | Email |
| 2.7.19 | OEH | No letter was sent as DPE supplied current letter from OEH with Stakeholders | Email |
| 2.7.19 | Wagga Wagga LALC | RH sent stage1 agency letter requesting potential stakeholders. Closing date 16.7.19 | Email |
| 2.7.19 | Office of The Registrar, ALRA | RH sent stage1 agency letter requesting potential stakeholders. Closing date 16.7.19 | Email |
| 2.7.19 | National Native Title Tribunal | RH sent stage1 agency letter requesting potential stakeholders. Closing date 16.7.19 | Email |
| 2.7.19 | NTSCORP | RH sent stage1 agency letter requesting potential stakeholders. Closing date 16.7.19 | Email |
| 2.7.19 | Wagga Wagga Council | RH sent stage1 agency letter requesting potential stakeholders. Closing date 16.7.19 | Email |
| 2.7.19 | Riverina Local Land Services | RH sent stage1 agency letter requesting potential stakeholders. Closing date 16.7.19 | Email |
| 3.7.19 | National Native Title Tribunal | RH received notification<br>Records held by the National Native Title Tribunal as at 3 July 2019 indicate that there are no Native Title Determination Applications, Determinations of Native Title, or Indigenous Land Use Agreements over the identified area. | Email |
| 3.7.19 | Wagga Wagga Council | RH received list of stakeholders and contact details | Email |
| 3.7.19 | Bundyi Aboriginal Cultural Knowledge | RH received email registering as a RAP and requested confirmation | Email |
| 4.7.19 | Bundyi Aboriginal Cultural Knowledge | RH thanked [redacted] and confirmed received | Email |
| 4.7.19 | Wagga Wagga LALC | RH sent stage 1 round 2 Community letters | Email |
| 4.7.19 | Brungle/Tumut Local Aboriginal Land Council | RH sent stage 1 round 2 Community letters | Email |
| 4.7.19 | Narrandera Local Aboriginal Land Council | RH sent stage 1 round 2 Community letters | Email |
| 4.7.19 | Waagan Project Group | RH sent stage 1 round 2 Community letters | Post |
| 4.7.19 | Yalmambirra | RH sent stage 1 round 2 Community letters | Email |
| 4.7.19 | Wagga Wagga Aboriginal Elders Group Inc. - Isobel | RH sent stage 1 round 2 Community letters | Post |
| 4.7.19 | Wagga Wagga Aboriginal Elders Group Inc. - James | RH sent stage 1 round 2 Community letters | Post |
| 4.7.19 | Madison Fisher | RH sent stage 1 round 2 Community letters | Email |
| 4.7.19 | Riverina Murray Regional Alliance | RH sent stage 1 round 2 Community letters | Email |
| 4.7.19 | Leanne Sanders | RH sent stage 1 round 2 Community letters | Email |
| 4.7.19 | Madison Fisher | Email Undeliverable | RTS |
| 4.7.19 | Wagga Wagga Council | RH emailed council to see if they have another email address for [redacted] | Email |
| 5.7.19 | Yalmambirra | Registered as a RAP | Email |
| 8.7.19 | Riverina Local Land Services | RH received email recommending contacting the LALC | Email |
| 11.7.19 | Bidya Marra Consultancy | RH received registration as a RAP | Email |
| 20.7.19 | Bidya Marra Consultancy | RH received email:<br><br>Just ensuring that my nephew [redacted] will be consider under my EOI for the Bomen Activation | Email |

| Aboriginal Consultation Log - Wagga Wagga SAP | | | |
|---|---|---|---|
| **Date** | **Organisation** | **Comment** | **Method** |
| | | Project. If he has not been registered, please accept this email as his formal registration | |
| 22.7.19 | Bidya Marra Consultancy | RH responded thanking for registering and confirming details. | Email |
| 24.7.19 | Bundyi Aboriginal Cultural Knowledge | RH sent stage 2. Feedback ends 21.8.19 | Email |
| 24.7.19 | Yalmambirra | RH sent stage 2. Feedback ends 21.8.19 | Email |
| 24.7.19 | Bidya Marra Consultancy | RH sent stage 2. Feedback ends 21.8.19 | Email |
| 24.7.19 | Wagga Wagga LALC | RH sent stage 2. Feedback ends 21.8.19 | Email |
| 24.7.19 | Bidya Marra Consultancy | RH received response:<br><br>No problems I will respond according. | Email |
| 1.8.19 | OEH | RH sent notification of the RAPs | Email |
| 1.8.19 | Wagga Wagga LALC | RH sent notification of the RAPs | Email |
| 2.8.19 | BCD DPIE (OEH) | RH received email:<br><br>Thank you for providing this documentation.<br><br>We note that the proponent was not named, apart from a reference to NSW Government – which we take to be intentional.<br><br>If you could also supply a copy of the newspaper advertisement for our records that would be appreciated | Email |
| 6.8.19 | Office of The Registrar, ALRA | RH received email:<br><br>A search of the RAO has shown that there are not currently any Registered Aboriginal Owners in the project area.<br>We suggest you contact Wagga Wagga Local Aboriginal Land Council | Email |
| 6.8.19 | BCD DPIE (OEH) | RH responded:<br><br>Please find attached as requested, a copy of the advertisement that was placed for the project calling for EOI.<br><br>Our client nominated that they be referred to as The NSW Government. Our presumption is that the changing of the departments had not fully settled and that a broad client name safely covered the project. | Email |
| 20.8.19 | Bundyi Aboriginal Cultural Knowledge | RH phoned and left a message to see if available for fieldwork | Phone |
| 20.8.19 | Yalmambirra | RH sent email to see if available for fieldwork | Email |
| 20.8.19 | Bidya Marra Consultancy | RH phoned and confirmed is available for fieldwork should it go ahead | Phone |
| 20.8.19 | Wagga Wagga LALC | RH phoned, [redacted] is in the car and will call back this afternoon | Phone |
| 20.8.19 | Wagga Wagga LALC | RH phoned; [redacted] cancelled the call | Phone |
| 20.8.19 | Bundyi Aboriginal Cultural Knowledge | RH sent invitation to fieldwork, mentioned in email Project is 90% confirmed to proceed. Will let them know if it gets cancelled | Email |
| 20.8.19 | Yalmambirra | RH sent invitation to fieldwork, mentioned in email Project is 90% confirmed to proceed. Will let them know if it gets cancelled | Email |
| 20.8.19 | Bidya Marra Consultancy | RH sent invitation to fieldwork, mentioned in email Project is 90% confirmed to proceed. Will let them know if it gets cancelled.<br>RH also enquired what availability James has if 2 site officers for 4 days are required | Email |

| Aboriginal Consultation Log - Wagga Wagga SAP | | | |
|---|---|---|---|
| **Date** | **Organisation** | **Comment** | **Method** |
| 20.8.19 | Wagga Wagga LALC | RH sent invitation to fieldwork, mentioned in email Project is 90% confirmed to proceed. Will let them know if it gets cancelled.<br>RH also noted the fee offered is $[redacted] and the client is unable to extend the fee offer to the $[redacted] as requested in the past with previous clients | Email |
| 20.8.19 | Bundyi Aboriginal Cultural Knowledge | RH received response that fieldwork is short notice and would appreciate 4 weeks minimum. Will try and confirm ASAP. | Email |
| 20.8.19 | Bidya Marra Consultancy | RH received response stating would be able to provide site officers, though early knowledge of when would be appreciated. | Email |
| 21.8.19 | Yalmambirra | RH received response thanking for information and letting us know was unavailable on the proposed dates. | Email |
| 21.8.19 | Yalmambirra | RH received response stating didn't have workers compensation. | Email |
| 21.8.19 | Yalmambirra | RH responded thanking for letting us know about unavailability and lack of workers compensation. | Email |
| 21.8.19 | Bundyi Aboriginal Cultural Knowledge | RH received response from Mark confirming dates of fieldwork and workers compensation insurance. | Email |
| 21.8.19 | Bundyi Aboriginal Cultural Knowledge | RH responded to [redacted], thanking him. | Email |
| 21.8.19 | Bidya Marra Consultancy | RH responded to [redacted] thanking him. | Email |
| 21.8.19 | Bidya Marra Consultancy | RH received: Cheers | Email |
| 21.8.19 | Bundyi Aboriginal Cultural Knowledge | RH received Thanks | Email |
| 21.8.19 | Wagga Wagga LALC | RH phoned and spoke to [redacted], confirmed she will send 1 site officer for the Wednesday of fieldwork. RH confirmed the fee offered. [redacted] said that should be fine. She will confirm the fee tomorrow morning | Phone |
| 21.8.19 | Bidya Marra Consultancy | RH received: Cheers | Email |
| 21.8.19 | Bidya Marra Consultancy | RH sent email apologising for fieldwork being postponed. | Email |
| 21.8.19 | Bundyi Aboriginal Cultural Knowledge | RH sent email to [redacted] confirming dates and times of fieldwork. | Email |
| 21.8.19 | Bidya Marra Consultancy | RH received response from [redacted] confirming fieldwork. | Email |
| 21.8.19 | Bundyi Aboriginal Cultural Knowledge | RH received response from [redacted] | Email |
| 22.8.19 | Bundyi Aboriginal Cultural Knowledge | RH sent amended letter of offer | Email |
| 22.8.19 | Bidya Marra Consultancy | RH sent amended letter of offer and requested a copy of workers comp | Email |
| 22.8.19 | Wagga Wagga LALC | RH sent amended letter of offer | Email |
| 22.8.19 | Wagga Wagga LALC | RH received email stating LALC's fee's for site officers. | Email |
| 22.8.19 | Wagga Wagga LALC | RH responded to Wagga Wagga LALC and reinstated the offered fee for a site officer per day was non-negotiable. | Email |
| 22.8.19 | Wagga Wagga LALC | RH received response from Wagga Wagga LALC asking for client contact details. | Email |
| 22.8.19 | Wagga Wagga LALC | RH responded to Wagga Wagga LALC and said that had raised concerns to client regarding fee amount. | Email |
| 22.8.19 | Bidya Marra Consultancy | RH sent email to [redacted] concerning additional site officer for Wednesday 28th and Thursday 29th | Email |
| 22.8.19 | Bidya Marra Consultancy | RH received email from [redacted] confirming that site officers are available for the fieldwork. | Email |

| Aboriginal Consultation Log - Wagga Wagga SAP | | | |
|---|---|---|---|
| **Date** | **Organisation** | **Comment** | **Method** |
| 22.8.19 | Bidya Marra Consultancy | RH responded to [redacted] concerning number of site officers per day. | Email |
| 22.8.19 | Wagga Wagga LALC | RH received email from [redacted] concerning service delivery and the LALC. | Email |
| 22.8.19 | Bidya Marra Consultancy | RH received response from [redacted] with workers compensation policy information and confirming fieldwork. | Email |
| 22.8.19 | Bidya Marra Consultancy | RH thanked [redacted] | Email |
| 30.8.19 | Bundyi Aboriginal Cultural Knowledge | RH received Invoice for fieldwork | Email |
| 18.10.19 | Bidya Marra Consultancy | AC sent invitation to fieldwork for Tues 5 and Wed 6 November 2019. | Email |
| 18.10.19 | Bundyi Aboriginal Cultural Knowledge | AC sent invitation to fieldwork for Tues 5 and Wed 6 November 2019. | Email |
| 23.10.19 | Bundyi Aboriginal Cultural Knowledge | AC received email asking if the fieldwork days are confirmed as he would need to rearrange his schedule | Email |
| 28.10.19 | Bundyi Aboriginal Cultural Knowledge | AC received email requesting confirmation | Email |
| 29.10.19 | Bidya Marra Consultancy | AC received email from [redacted] confirmed a site officer [redacted] would be at the survey for 5 and 6 November 2019. | Email |
| 30.10.19 | Bundyi Aboriginal Cultural Knowledge | AC responded noting fieldwork days are confirmed | Email |
| 30.10.19 | Bidya Marra Consultancy | RH phoned [redacted] to confirm he is attending. [redacted] confirmed [redacted] will attend both days | Phone |
| 30.10.19 | Bundyi Aboriginal Cultural Knowledge | RH phoned and left message for [redacted] to call back and confirm attending | Phone |
| 30.10.19 | Bundyi Aboriginal Cultural Knowledge | RH received call back; [redacted] confirmed will attend | Phone |
| 5.11.19 | Bundyi Aboriginal Cultural Knowledge | Site officer attended field survey | In person |
| 5.11.19 | Bidya Marra Consultancy | Site officer attended field survey | In person |
| 6.11.19 | Bundyi Aboriginal Cultural Knowledge | Site officer attended field survey | In person |
| 6.11.19 | Bidya Marra Consultancy | Site officer attended field survey | In person |
| 6.11.19 | Bundyi Aboriginal Cultural Knowledge | [redacted] sent through invoice for field survey to AC. AC forwarded to RH & SB. | Email |
| 11.11.19 | Bundyi Aboriginal Cultural Knowledge | RH thanked [redacted] and let him know the INV should be paid this Friday | Email |
| 13.11.19 | Bidya Marra Consultancy | [redacted] sent AC invoice. AC forwarded to RH. | Email |
| 3.8.20 | Bundyi Aboriginal Cultural Knowledge | RH sent stage 4. feedback ends 31.8.20 | Email |
| 3.8.20 | Yalmambirra | RH sent stage 4. feedback ends 31.8.20 | Email |
| 3.8.20 | Bidya Marra Consultancy | RH sent stage 4. feedback ends 31.8.20 | Email |
| 3.8.20 | Wagga Wagga LALC | RH sent stage 4. feedback ends 31.8.20 | Email |
| 4.8.20 | Bundyi Aboriginal Cultural Knowledge | RH received email from [redacted] asking for a face to face meeting and saying he did have questions. RH forwarded to AC. | Email |
| 4.8.20 | Yalmambirra | RH received email from [redacted] saying that since he hadn't participated in the fieldwork he didn't feel as if he could provide comment, and that the RAPs who did the fieldwork would be the appropriate people. | Email |
| 4.8.20 | Yalmambirra | RH thanked [redacted]. | Email |
| 7.8.20 | Bundyi Aboriginal Cultural Knowledge | AC replied to [redacted] email letting him know no OzArk archaeologists are able to get to Wagga Wagga the next couple of weeks, but that request for in person meeting will be passed on and if other RAPs on project would like a meeting, then one may be able to be organised. Offered to ring [redacted] at his convenience after getting back from fieldwork in a week and half. | Email |

| Aboriginal Consultation Log - Wagga Wagga SAP | | | |
|---|---|---|---|
| **Date** | **Organisation** | **Comment** | **Method** |
| 4.9.20 | Bundyi Aboriginal Cultural Knowledge | AC emailed [redacted] following up on previous email concerning questions about the ACHAR. | Email |
| 4.9.20 | Bundyi Aboriginal Cultural Knowledge | [redacted] responded to AC letting her know that he's had several meeting with the SAP personnel in Wagga Wagga. | Email |
| 4.9.20 | Bundyi Aboriginal Cultural Knowledge | AC thanked [redacted] for her letting her know. | Email |

## ACHCRs Stage 1 - advertisement

**Expression of Interest**
**Cultural Heritage Management**

The NSW Government is seeking registrations of interest from Aboriginal groups or individuals of the Wagga Wagga area, who wish to be consulted over the Wagga Wagga Special Activation Precinct. The anticipated site is located on approximately 4100 hectares of land northeast of Wagga Wagga, NSW and includes 300–400 hectares of Bomen Business Park.

The purpose of this consultation is to identify stakeholders to assist in the Aboriginal cultural heritage assessment of the proposed Special Activation precinct. If you hold cultural knowledge relevant to determining the impacts to the cultural significance of the abovementioned area, please register your interest by post:
OzArk EHM, PO Box 2069, Dubbo NSW 2830; email: rebecca@ozarkehm.com.au, or by phoning OzArk between 9.00am and 5.00pm weekdays on 02 6882 0118.

All submissions should be received no later than **COB Wednesday 17th July 2019.**

## ACHCRs Stage 1 – example letter to agencies

OzArk Environment & Heritage ABN: 59 104 582 354
T: 02 6882 0118
enquiry@ozarkehm.com.au
www.ozarkehm.com.au
145 Wingewarra St
PO Box 2069
DUBBO NSW 2830

2nd July 2019

Attn: Elizabeth Loane
Office of the Registrar, ALRA
PO Box 5068
Parramatta NSW 2124
elizabeth.loane@det.nsw.edu.au

***ABORIGINAL & NON-ABORIGINAL CULTURAL HERITAGE ASSESSMENT FOR WAGGA WAGGA SPECIAL ACTIVATION PRECINCT.***

Dear Elizabeth,

The NSW Government is currently developing the plans for the Wagga Wagga Special Activation Precinct, to deliver a 20-year vision for job creation and economic development in the area.

The precinct is located approximately 10 kilometres north-east of Wagga Wagga NSW and comprises an area of approximately 4100 hectares. It is understood that 300-400 hectares of the area has already been developed as a business park with the remainder undeveloped private land (**Figure 1**). A Structure Plan and related environmental planning instruments is required.

To develop these plans, we will be undertaking Aboriginal community consultation as per the Office of Environment and Heritage (OEH) *Aboriginal cultural heritage consultation requirements for proponents 2010,* on behalf of the Department of Planning and Environment.

Accordingly, we are seeking Expressions of Interest from relevant Aboriginal groups and individuals in the Wagga Wagga area, to form a consultation group. This consultation is to assist OzArk and the Department of Planning and Environment in the identification of Aboriginal Cultural Heritage and/or values on the project site, for the purpose of ensuring appropriate management.

If your organisation can recommend and provide contact details for any known Aboriginal groups or individuals with a cultural interest in this area, we can then include them in the consultation process with regards to the proposed heritage management for this project.

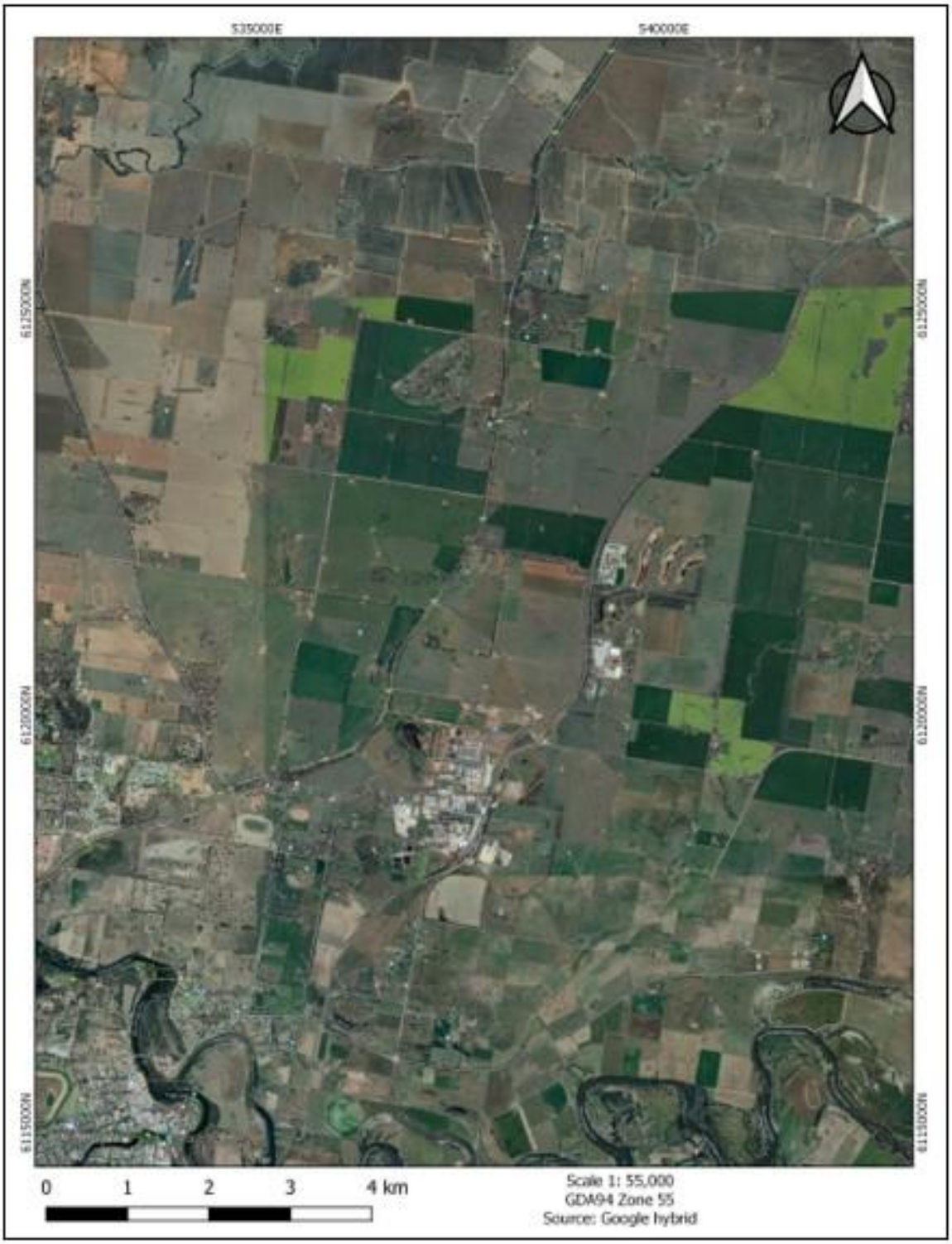
We would appreciate it if you could provide any feedback, to the contact details provided above, regarding these Aboriginal stakeholder groups by **COB Tuesday 16th July 2019,** or sooner if possible.

Once relevant groups and individuals have been identified, they will form part of the formal consultation process for the project.

Kind regards,

Rebecca Hardman
**Consultation Officer**

**Figure 1: Indicative location of Wagga Wagga SAP.**



## ACHCRs Stage 1 – example EOI letter for potential RAPs

OzArk Environment & Heritage ABN: 59 104 582 354
DUBBO QUEANBEYAN
T: 02 6882 0118
enquiry@ozarkehm.com.au
www.ozarkehm.com.au
145 Wingewarra St
PO Box 2069
DUBBO NSW 2830

4 July 2019

[redacted]

***ABORIGINAL & NON-ABORIGINAL CULTURAL HERITAGE ASSESSMENT FOR WAGGA WAGGA SPECIAL ACTIVATION PRECINCT.***

Dear [redacted],

The NSW Government is currently developing the plans for the Wagga Wagga Special Activation Precinct, to deliver a 20-year vision for job creation and economic development in the area.

The precinct is located approximately 10 kilometres north-east of Wagga Wagga NSW and comprises an area of approximately 4100 hectares. It is understood that 300-400 hectares of the area has already been developed as a business park with the remainder undeveloped private land (**Figure 1**). A Structure Plan and related environmental planning instruments is required.

To develop these plans, we will be undertaking Aboriginal community consultation as per the Office of Environment and Heritage (OEH) *Aboriginal cultural heritage consultation requirements for proponents 2010*, on behalf of the Department of Planning and Environment.

Accordingly, we are seeking Expressions of Interest from relevant Aboriginal groups and individuals in the Wagga Wagga area, to form a consultation group. This consultation is to assist OzArk and the Department of Planning and Environment in the identification of Aboriginal Cultural Heritage and/or values on the project site, for the purpose of ensuring appropriate management.

If you hold cultural knowledge relevant to determining the impacts to the cultural significance of this project area, please register your interest by contacting our office. The closing date for expressions of interest is COB Wednesday 13th February 2019.

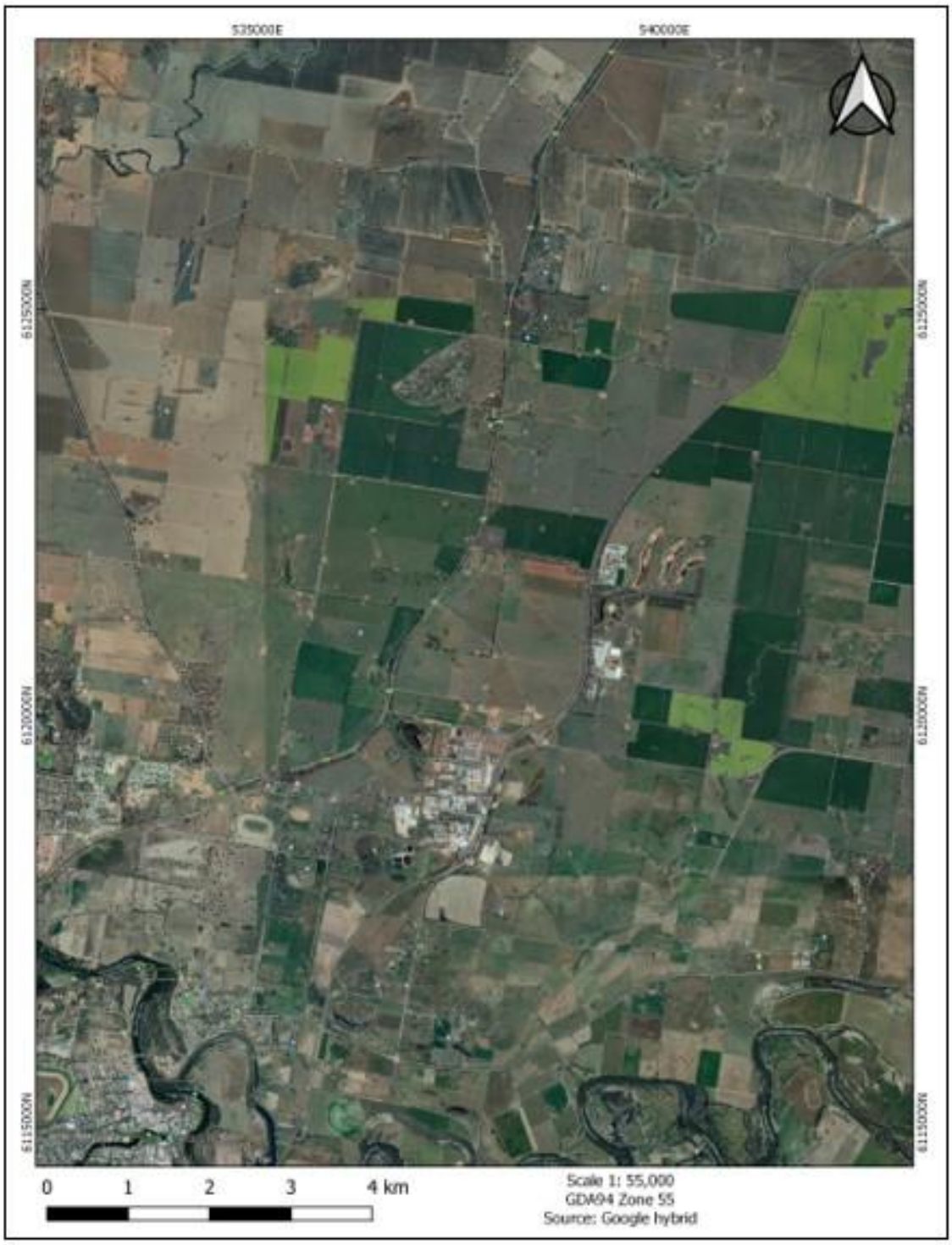
If you wish to register interest it is noteworthy that as per the OEH guidelines we are required to provide your details to the OEH unless advised you do not wish your details to be released.

Once relevant groups and individuals have been identified, they will form part of the formal consultation process for the project.

Kind regards,

Rebecca Hardman
**Consultation Officer**

**Figure 1: Indicative location of Wagga Wagga SAP.**



**ACHCRs Stage 2/3 – example of letter and methodology sent to RAPs**

OzArk Environment & Heritage
ABN 59 104 582 354
Dubbo T: 02 6882 0118 145 Wingewarra St
Queanbeyan enquiry@ozarkehm.com.au PO Box 2069
Newcastle www.ozarkehm.com.au DUBBO NSW 2830

24 July 2019

Members
Wagga Wagga Local Aboriginal Land Council
159 Docker Street
PO Box 6289
Wagga Wagga NSW 2650
lorraine@waggawaggalalc.org.au

***ABORIGINAL & NON-ABORIGINAL CULTURAL HERITAGE ASSESSMENT FOR WAGGA WAGGA SPECIAL ACTIVATION PRECINCT.***

Dear Members,

Thank-you for your registration of interest to become a Registered Aboriginal Party (RAP) for consultation for the Wagga Wagga Special Activation Precinct (SAP), to deliver a 20-year vision for job creation and economic development in the area.

OzArk is preparing an Aboriginal and non-Aboriginal cultural heritage assessment on behalf of the NSW Government. We are seeking your input to understand and identify the heritage values of the investigation area.

The cultural heritage studies are being undertaken as part of a broader range of technical, environmental and planning studies for the SAP. The objective of the SAP is to provide a streamlined approach to land use and infrastructure planning, along with simplified planning and approvals processes. Further information regarding the Wagga Wagga SAP has been provided in the attached fact sheet (**Attachment 1**). Also attached for your information and comment is a draft methodology for a pedestrian survey of the investigation area (**Attachment 2**). The proposed methodology has been designed to help understand cultural heritage and inform strategic planning and management of future development.

In addition to comments on the proposed methodology, it would be appreciated if you can share any Aboriginal cultural heritage knowledge relevant to the investigation area. This knowledge is welcomed as it will improve the quality of assessment outcomes and ensure cultural heritage values are understood, identified and protected through the Structure Plan.

In accordance with *Code of Practice for the Investigation of Aboriginal Objects in New South Wales (Code of Practice; DECCW 2010)* we are required to give you 28 days to supply feedback on the attached documents. This period ends on **Wednesday 21st August 2019.**

OzArk Environment & Heritage

If you need any help supplying feedback or have any queries in relation to the enclosed information, please do not hesitate to contact our office.

Kind regards,

Rebecca Hardman
Community Liaison & Administration

Attachment 1 – Wagga Wagga SAP Fact Sheet
Attachment 2 – Wagga Wagga SAP proposed Aboriginal Cultural Heritage survey methodology

OzArk Environment & Heritage

Attachment 1 – Wagga Wagga SAP Fact Sheet

Special Activation Precinct

# Wagga Wagga

The NSW Government announced the establishment of Special Activation Precincts as part of its *20-Year Economic Vision for Regional NSW*.

The precincts will be funded as part of the NSW Government's $4.2 billion Snowy Hydro Legacy Fund, following the sale of the Snowy Hydro Scheme to the Commonwealth.

NSW GOVERNMENT

Special Activation Precinct // Wagga Wagga

## What is a Special Activation Precinct?

Special Activation Precincts are a new way of planning and delivering infrastructure projects in certain regional locations in NSW, to attract and grow businesses, stimulate the regional economy and provide more employment opportunities.

Each location will be chosen for its unique regional offering, services and competitive advantage.

## Benefits of Special Activation Precincts

Special Activation Precincts are unique in regional NSW as they bring together planning and investment support services. This means that businesses will be able to establish and grow with certainty and confidence knowing that the right planning framework is in place.

Key elements include:

- faster and easier planning processes
- government-led development in some locations
- investment in infrastructure
- coordinated land-use and infrastructure planning
- business concierge services to help businesses start up in Special Activation Precincts, including grants and interest-free loans for eligible businesses under the Regional Investment Attraction Package.

# A unique opportunity for the Eastern Riverina

The Wagga Wagga Special Activation Precinct will be a world-class business precinct that capitalises on the Inland Rail, with a focus on freight and logistics, advanced manufacturing, agribusiness, recycling and renewable energy. It will look to cover approximately 4,100 hectares, with 300 to 400 hectares already developed in the Bomen Business Park.

## Freight and logistics

Wagga Wagga is a highly accessible city due to its rail and road connections with Australia's major cities. The Special Activation Precinct will build on existing and already-planned private and government investments, creating an efficient transport and logistics hub that will incorporate the Riverina Intermodal Freight & Logistics (RIFL) Hub, create faster and easier access to global markets, create jobs, and attract investors and developers.

## Advanced manufacturing and agribusiness

The Bomen Business Park, within the Special Activation Precinct investigation area, is already home to food manufacturers, transport companies and a range of enterprises that benefit from co-location. The Special Activation Precinct creates an opportunity for new investment, growth in advanced manufacturing and agribusiness, and the potential to add value at every stage of the global supply chain.

## Recycling and renewable energy

The Bomen Business Park already has a lead and battery recycling facility. The benefits of increased freight and logistics connections could allow higher value-add industries that reduce waste streams and recycle products to be established.

Renew Estate, an Australian renewable energy company, is developing a 120-megawatt solar farm in the industrial precinct, and there is potential for more energy generation in the investigation area.

## Innovation, skills and education

Wagga boasts the the ability to foster a culture of world-class innovation, research and education. The city has a growing reputation for international agricultural research, education and technology commercialisation based on its cluster of university and TAFE campuses, agtech research centres, industry groups and businesses.

Special Activation Precinct // Wagga Wagga

## The facts

| | |
|---|---|
| Program investigation area | 4,100 ha (including 300–400 ha of Bomen Business Park) |
| Location | North of Wagga Wagga CBD |
| Population growth forecast | ↑ 21.53% to 81,000 by 2036 (66,635 in 2018) |
| New job creation | Up to 6,000 jobs over 20 years |
| Recent public investments | 1. $52m for Wagga Wagga High Productivity Freight Route<br>2. RiFL Stage 1 - Enabling Roads = $35m<br>3. Eunony Bridge upgrade = $9.8m<br>4. Byrnes Road reconstruction = $868,000 + $1m<br>5. Eunony Bridge Road Deviation Project = $5.5m |
| Industrial land cost | Industrial land cost: one-tenth the cost of an equivalent block in Western Sydney |

## The timeline

If you want to know more about the master planning process, the consultation process and the benefits to the Wagga Wagga community:

P 1300 REGION (1300 73 44 66) E waggasap@dpc.nsw.gov.au

If you are interested in setting up a business: E info@investregional.nsw.gov.au

NSW GOVERNMENT

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Attachment 2 – Wagga Wagga SAP proposed Aboriginal Cultural Heritage survey methodology

## 1 PROJECT INFORMATION

In July 2018, the NSW Government announced Regional NSW's first Special Activation Precinct (SAP) at Parkes. A second SAP was announced in January 2019 in Wagga Wagga centred around Bomen Business Park. To date, the City of Wagga Wagga has undertaken work identifying the opportunities and constraints of the existing industrial estate. The Wagga Wagga SAP is investigating a broader area of approximately 4,180 hectares (ha).

SAPs are a place-based approach to 'activate' strategic locations for job creation and regional economic development. SAPs are areas of State or regional significance that are selected based on an assessment of economic enablers, market failures and catalyst opportunities. The objective of the Wagga Wagga SAP is to deliver fast tracked planning and approvals processes that will provide businesses and investors with certainty.

## 2 BACKGROUND INFORMATION

### 2.1 LANDSCAPE OF THE INVESTIGATION AREA

The investigation area is mostly located in the NSW SWS lower slopes and consists primarily of undulating and hilly areas with valleys. The south-eastern corner of the investigation area is in the NSW SWS Inland/Upper slopes which tends to consist of steep, hilly and undulating ranges with granite basins, as well as confined river valleys with terrace remnants (NPWS 2003). The investigation can also be further refined using Mitchell's landscape types (2002), with most of the investigation area being in the Junee Hills and Slopes landscape with only small areas of the southeast and southwest corners in the Murrumbidgee Tarcutta Channels and Floodplains landscape (Mitchell 2002).

The Junee Hills and Slopes landscape consists of rolling hills, low ranges and undulating plains, with a general elevation of 300–450 metres (m). The Murrumbidgee Tarcutta Channels and Floodplains landscape tends to consist of channels, floodplains and terraces of Murrumbidgee tributaries, with a general elevation of 200–400 m (Mitchell 2002).

The project is located within the Murrumbidgee catchment, which has an area of 84,000 square kilometres ($km^2$). The Murrumbidgee River, located approximately 1.2 kilometres (km) south of the investigation area, generally runs east–west along the northern boundary of urban Wagga Wagga. There are several small creeks and drainage lines inside the investigation area. The only named creek is Dukes Creek in the western half of the investigation area.

Vegetation across most of the investigation area has been largely modified by land clearance since European settlement for the purposes of agriculture and vegetation is, in the main, currently comprised of exotic cereals and weeds. Isolated stands of remnant native vegetation are present throughout the investigation area, with areas of greater vegetation density present along the road corridors and in remnant groups of vegetation within paddocks. Previously vegetation in Wagga Wagga SAP would have consisted of woodlands of Dwyer's red gum and mugga on the high rocky areas. On slopes there would have been an open forest of grey box and red stringybark, with patches of black cypress pine in rocky outcrops. Vegetation along the streams of the region would have been river red gum and river oak.

The gently undulating hills which dominate the investigation area would not have been an impediment to movement or occupation (camping) by Aboriginal people in the past. The climate of the region would also

not have been an impediment to year-round occupation or use. Mature, native species known to be present within the investigation area would have provided resources for Aboriginal people in the past, however, resources likely to have supported a large population of people would have been present closer to the banks of more permanent water sources in the region, such as the Murrumbidgee River. If there is mature native vegetation inside the investigation area, it is possible that some site types such as culturally modified trees may exist. However, broad-scale vegetation clearance, a characteristic of the area reduces the likelihood that any culturally modified trees remain present.

Disturbances arising from past land-use have resulted in localised, significant changes to the landscape. Most of the investigation area has been subject to extensive levels of disturbance from continued ploughing and cultivation and vegetation clearance. In other sections of the investigation area construction of domestic dwellings, farm infrastructure and buildings and the ongoing development of the Bomen Business Park have resulted in moderate to high levels of modification inside specific sections of the investigation area. As noted above, initial vegetation clearing would also have removed culturally modified trees, had they existed in the area. Unobtrusive sites such as open artefact scatters and isolated finds have a greater ability to withstand disturbances and persist within the landscape, however, where present, such sites are likely to be disturbed.

The same factors have likely influenced the presence and preservation of historic archaeology within the investigation area. The generally gentle rolling hills was, attractive for cropping and grazing, and this encouraged the colonial utilisation of the investigation area. Like Aboriginal archaeological deposits, historic archaeological deposits, if they exist in the investigation area, are also likely to have been disturbed by the sustained impact of agriculture.

## 2.2 DESKTOP DATABASE SEARCHES CONDUCTED

A desktop search was conducted on the following databases to identify any potential previously-recorded heritage within the study area. The results of this search are summarised in **Table 2-1**.

**Table 2-1: Aboriginal cultural heritage: desktop-database search results.**

| Name of Database Searched | Date of Search | Type of Search | Comment |
|---|---|---|---|
| Commonwealth Heritage Listings | 19 June 2019 | Wagga Wagga LGA | No places listed on either the National or Commonwealth heritage lists are located within the study area |
| National Native Title Claims Search | 8 July 2019 | NSW | No Native Title Claims cover the study area. |
| State Heritage Register (SHR) | 19 June 2019 | Wagga Wagga LGA | One Aboriginal Place inside investigation area: Bowman Axe Quarry |
| OEH AHIMS | 19 June 2019 | 3 km x 3 km centred on the investigation area | 103 sites within the search area. |
| Local Environment Plan (LEP) | 19 June 2019 | Wagga Wagga LEP of 2010 | None of the Aboriginal places noted occur near the study area. |

A search of the OEH administered AHIMS database returned 103 records for Aboriginal heritage sites within the designated 3 km search area (Eastings 532146–545149; Northings 6113938–6127880). One of these sites is a duplicate and has been removed from the data set, while another is incorrectly labelled as a quarry on AHIMS (#56-1-0110) when it is an artefact scatter. **Table 2-2** summarises the AHIMS sites that have been recorded and there are 42 AHIMS sites inside the investigation area. Of these sites, there are 32 artefact scatters, five isolated finds, three modified trees, one modified tree and artefact scatter, one quarry, and one quarry and isolated find. Ten sites have been destroyed (eight artefact scatters, one

isolated find, and one quarry with isolated find). All other sites inside the investigation area are registered on AHIMS as being valid (see **Figure 1-2**).

One of the previously recorded sites is #56-1-0043 (East Bomen 1): a gazetted Aboriginal Place (Bomen Axe Quarry). This site, recorded by Navin Officer in 1998 (Navin Officer 1998), is a stone quarry and artefact site. The 150 m x 70 m site is located on the crest of a spur near Bomen and consists of outcropping granite, naturally occurring basalt cobbles and artefacts providing evidence for on-site raw material acquisition and on-site reduction. Navin Officer (1998: 16) note that '*the site provides evidence for the on-site procurement of basalt rock through the flaking of naturally occurring surface cobbles, and subsequent on-site reduction of this flaked material to form axe (or hatchet) preforms*'. Navin Officer note that there is a surface scatter of around 500 artefacts, including hammer stones, cores, primary flakes and secondary flakes. Artefact types included hammer stones (3%), cores (20%), primary and secondary flakes (77%) and axe preforms (1%).

This site was visited by OzArk in 2011 and 2012 (OzArk 2012), however, it was not possible to confirm the current extent of the site due to the overall lack of ground surface visibility. Nevertheless, several small exposures were visible in which were present a small number of objects bearing some resemblance to those photographed by Navin Officer (1998: 42). OzArk's inability to re-record artefacts at this site in 2011/2012 did not reduce the extent or significance of this site. The site was gazetted as an Aboriginal Place in March 2012.

A further gazetted Aboriginal Place near the investigation area is Bomen Lagoon located 1.2 km to the south. Bomen Lagoon was gazetted as an Aboriginal Place in 2015. The State Heritage Register does not provide details on the heritage significance of this place as it is restricted, however, one AHIMS site returned in the search, #56-1-0081 (WW110), a stone artefact site with an unknown number of artefacts, is located to the north of the lagoon.

**Figure 1-1** shows the location of these AHIMS sites. Modified trees are the most prevalent site type from the search area (49%), followed by artefact scatters (35%) and isolated finds (10%).

**Table 2-2: Site types and frequencies of AHIMS sites around the investigation area.**

| Site Type | Number | % Frequency |
|---|---|---|
| Modified tree | 50 | 49.0 |
| Artefact scatter | 36 | 35.3 |
| Isolated Find | 10 | 9.8 |
| Artefact scatter & modified tree | 2 | 2.0 |
| Quarry | 1 | 1.0 |
| Open Camp Site & midden | 1 | 1.0 |
| Open Camp Site | 1 | 1.0 |
| Quarry and isolated find | 1 | 1.0 |
| **Total** | **102** | **100** |

There are 42 AHIMS sites inside the investigation area. Of these sites, there are 32 artefact scatters, five isolated finds, three modified trees, one modified tree and artefact scatter, one quarry, and one quarry and isolated find. Ten sites have been destroyed (eight artefact scatters, one isolated find, and one quarry with isolated find). All other sites inside the investigation area are registered on AHIMS as being valid (see **Figure 2-2**).

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One of the previously recorded sites is #56-1-0043 (East Bomen 1): a gazetted Aboriginal Place (Bomen Axe Quarry). This site, recorded by Navin Officer in 1998 (Navin Officer 1998), is a stone quarry and artefact site. The 150 m x 70 m site is located on the crest of a spur near Bomen and consists of outcropping granite, naturally occurring basalt cobbles and artefacts providing evidence for on-site raw material acquisition and on-site reduction. Navin Officer (1998: 16) note that '*the site provides evidence for the on-site procurement of basalt rock through the flaking of naturally occurring surface cobbles, and subsequent on-site reduction of this flaked material to form axe (or hatchet) preforms*'. Navin Officer note that there is a surface scatter of around 500 artefacts, including hammer stones, cores, primary flakes and secondary flakes. Artefact types included hammer stones (3%), cores (20%), primary and secondary flakes (77%) and axe preforms (1%).

This site was visited by OzArk in 2011 and 2012 (OzArk 2012), however, it was not possible to confirm the current extent of the site due to the overall lack of ground surface visibility. Nevertheless, several small exposures were visible in which were present a small number of objects bearing some resemblance to those photographed by Navin Officer (1998: 42). OzArk's inability to re-record artefacts at this site in 2011/2012 did not reduce the extent or significance of this site. The site was gazetted as an Aboriginal Place in March 2012.

A further gazetted Aboriginal Place near the investigation area is Bomen Lagoon located 1.2 km to the south. Bomen Lagoon was gazetted as an Aboriginal Place in 2015. The State Heritage Register does not provide details on the heritage significance of this place as it is restricted, however, one AHIMS site returned in the search, #56-1-0081 (WW110), a stone artefact site with an unknown number of artefacts, is located to the north of the lagoon.

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**Figure 2-1: Location of previously recorded AHIMS sites in relation to the study area.**

This figure has been redacted due to sensitive information

OzArk Environment & Heritage

**Figure 2-2: Location of previously recorded AHIMS sites inside investigation area.**

This figure has been redacted due to sensitive information

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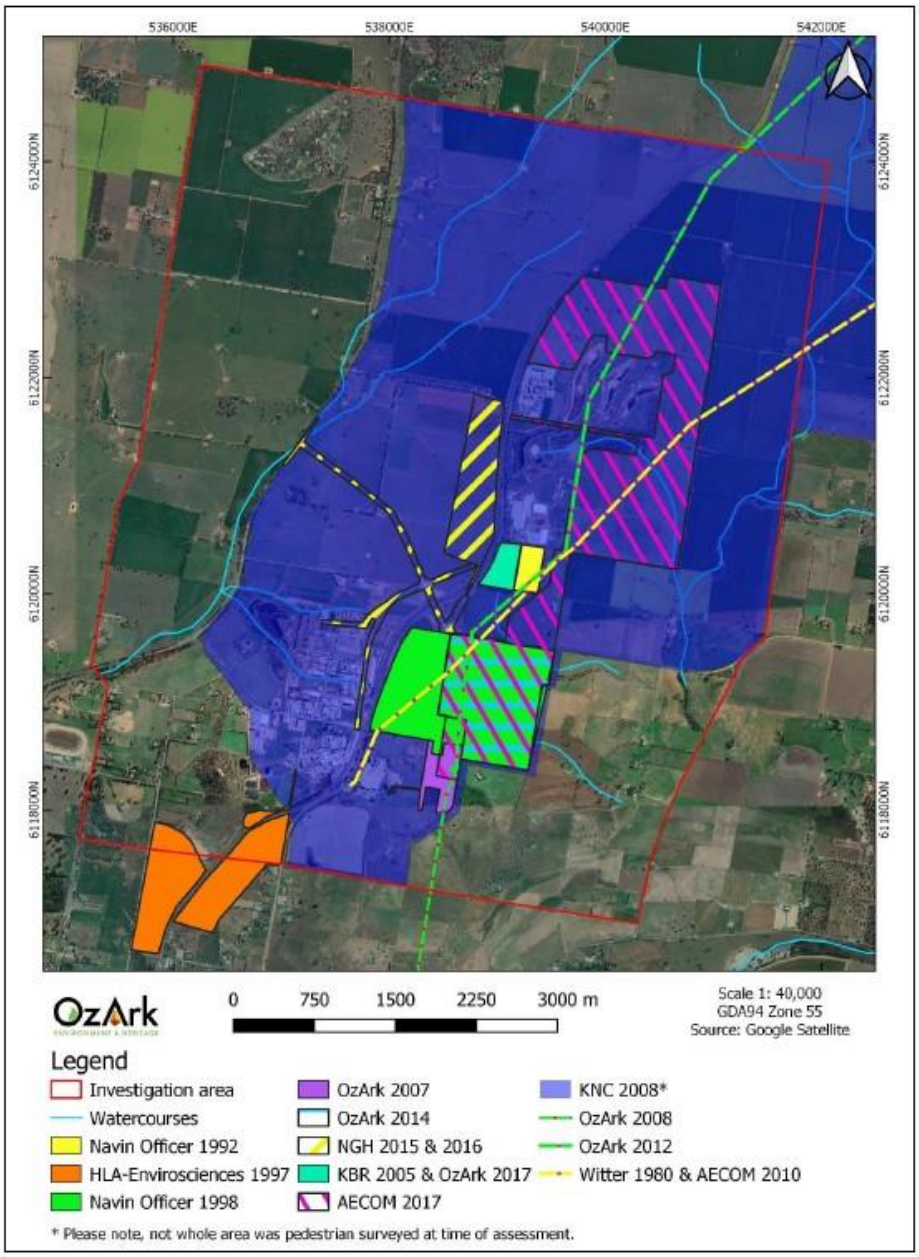
## 2.3 ARCHAEOLOGICAL CONTEXT INSIDE THE INVESTIGATION AREA

There have been 15 archaeological studies undertaken since 1980 that include parts of the investigation area. The areas surveyed during these prior archaeological studies are shown on **Figure 2-3**.

**Figure 2-3: Location of previous archaeological studies inside or adjacent to the investigation area.**



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Archaeological assessment undertaken for a proposed pipeline between Bomen at Wagga Wagga and Young by Witter in 1980 recorded fourteen open camp sites, 21 isolated finds, a scarred tree and a possible Aboriginal rock well. It cuts through the centre–east portion of the investigation area. Witter (1980) recommended excavation of some of the sites if avoidance was not feasible.

AECOM 2010 conducted a heritage assessment for a pipeline construction project that consisted of an existing 20 m wide gas pipeline easement commencing at the Young Control Station and terminating at the Bomen Meter Station. This is the same pipeline alignment as assessed by Witter in 1980. The easement had been extensively disturbed by the construction of the existing 12-inch pipeline in 1980 and, in part, by the construction of an optical fibre cable in 2006. The total length of Stage 1 of the pipeline was 61 km. A total of 36 Aboriginal artefact sites were located during the survey. The sites consisted of low-density artefact scatters (n=30) and Isolated finds (n=6). One artefact scatter, APA36 (#56-1-0120), was recorded to the east of the pipeline route.

Navin Officer (1992) undertook survey over 1 km x 500 m (50 ha) area for an industrial development inside the Wagga Wagga SAP investigation area. No Aboriginal sites were located during the survey. Navin Officer (1992: 10) note that there is a strong correlation between permanent water sources and the location of Aboriginal sites and that based upon the lack of permanent water within the assessed area, the result was not unexpected.

HLA-Enviroscience Pty Ltd (1997) undertook survey of an effluent utilisation areas at the Bomen Abattoir. The study recorded one isolated find (BOM 1, AHIMS #56-1-0033). The object was made from brown coarse-grained silcrete and measured 70 x 70 x 40 mm and was recorded in a paddock distant from drainage features and naturally occurring stone.

Navin Officer (1998) undertook survey over two portions of land within the Bomen Industrial Estate for a proposed power plant site. The proposed location was adjacent to the east side of Byrnes Road and south of East Bomen Road. One Aboriginal site—a surficial hardrock (basalt) quarry axe manufacturing site (East Bomen 1, AHIMS # 56-1-0043; see **Section 5.3.1** for further details on this site)—and two isolated finds (East Bomen 2 [AHIMS # 56-1-0044] and East Bomen 3 [AHIMS # 56-1-0045]) were recorded. The quarry was assessed as having high-regional archaeological significance; whilst the isolated finds have a low archaeological significance.

An aboriginal heritage assessment was conducted in 2005 (KBR 2005) for an Environmental Impact Statement (EIS) for an earlier DA application within the Used Lead Acid Battery (ULAB) Resource Recovery Facility located in the investigation area. The assessment used database searches, field survey by Charles Dearling and consultation with the local Wagga Wagga LALC. The assessment recorded no items of aboriginal heritage significance on the then-proposed Lead Battery Recycling Facility site. The EIS stated that a stop work provision would be in place should any item of aboriginal significance be found during construction.

OzArk (2007) conducted an Indigenous heritage study to investigate TransGrid's proposed construction of Wagga North 132kV substation, extensions of a private access road and realignment of connecting electricity lines at the Bomen Industrial Estate. The survey did not record any Indigenous sites, and due to the nature of the landform occupied by the study area and the high level of existing disturbance, it was assessed that there was a low potential for intact sub-surface archaeological deposits to exist within the study area.

In 2008 Kelleher Nightingale Consulting (KNC) were engaged to undertake a heritage assessment to assist the then Wagga Wagga City Council prepare a draft Local Environmental Study (LES) to implement the

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strategic planning of the Wagga Wagga Spatial Plan 2007. As part of the LES preparation, environmental studies were required of eight areas which are subject to rezoning, one of which, 'Bomen', includes a large amount of the investigation area.

This assessment concluded with the following observation of the Bomen study area (KNC 2008: 15):

> *Parts of the study area that have been dramatically impacted, such as the earthworks in the Riverina Wool Combing property and the location of roads and industrial buildings have very low archaeological sensitivity. The more gently undulating terrain along drainage channels, such as along Dukes Creek, are likely to be moderate to highly archaeologically sensitive. This is demonstrated by the location of Bomen IF1 (B IF1) and by previous archaeological investigations in the area that have demonstrated that a number of Aboriginal archaeological sites and Potential Archaeological Deposits (PAD) have been identified in these contexts. The higher terrain in the southern portion of the study area provides good views over sections of the surrounding area and is part of a series of high points bordering the Murrumbidgee River floodplain. AHIMS Site #56-1-0043 is located in this section and shows that there was exploitation of outcropping bedrock in upper slope and crest contexts. These higher landforms and associated slopes are likely to be moderately archaeologically sensitive, with the likelihood of certain landforms/contexts having high sensitivity, including AHIMS Site# 56-1-0043.*

The KNC assessment recorded one site: Bomen IF1 (B IF1). This site consists of a stone artefact recorded in an exposed paddock in the Riverina Wool Combing property. The site was located on a gentle slope on the northern side of a small rise running approximately north–south between a first order ephemeral stream immediately to the west, and a second order ephemeral stream further to the east. The artefact is a mid-reddish-brown mudstone flake with a flaked platform, feather termination, multiple dorsal scars, 10% dorsal cortex. The flake measured 23 x 25 x 8 mm. Part of the KNC assessment was to produce maps of the study areas with archaeological sensitivity assigned. **Figure 2-4** illustrates the Bomen sensitivity map produced by KNC with the investigation area overlaid. It is important to note the whole Bomen study area as shown on **Figure 2-4** was assessed at a desktop level, the pedestrian survey was limited to the private properties Wilks and Riverina Wool Combing Pty Ltd, and the land owned by Wagga Wagga City Council. Unfortunately, KNC did not provide a map of the areas physically assessed via pedestrian survey.

A due diligence assessment was conducted by NGH (2015) for the Stage 1 of the proposed Riverina Intermodal Freight and Logistics (RIFL) Hub north of Bomen Business Park. During the visual inspection, three isolated finds (#56-1-0432, #56-1-0433 and# 56-1-0434) were recorded within disturbed contexts. Two PADs were also identified and recommended for subsurface testing. In 2016, further survey and a subsurface test excavation program were undertaken by NGH. The survey resulted in one additional isolated find, four artefact scatters with PADs and a scarred tree being recorded. The scarred tree was identified as having high cultural significance to the local Aboriginal community (NGH 2016a).

In addition to the PADs identified by NGH, two areas of archaeological sensitivity identified by KNC (2008) were included in the subsurface test excavation program. Seventy-three test pits were excavated, with 14 pits containing stone artefacts. A total of 28 artefacts were recorded from the test pits. The artefacts were predominately quartz and no retouched artefacts or tools were identified in the assemblage. NGH concluded that the artefacts and site distribution are not restricted to a single or main landform as artefacts were present across similar landforms tested. NGH also state that the KNC predictive modelling of archaeological sensitivity needs to be further revised and ground truthed (NGH 2016a).

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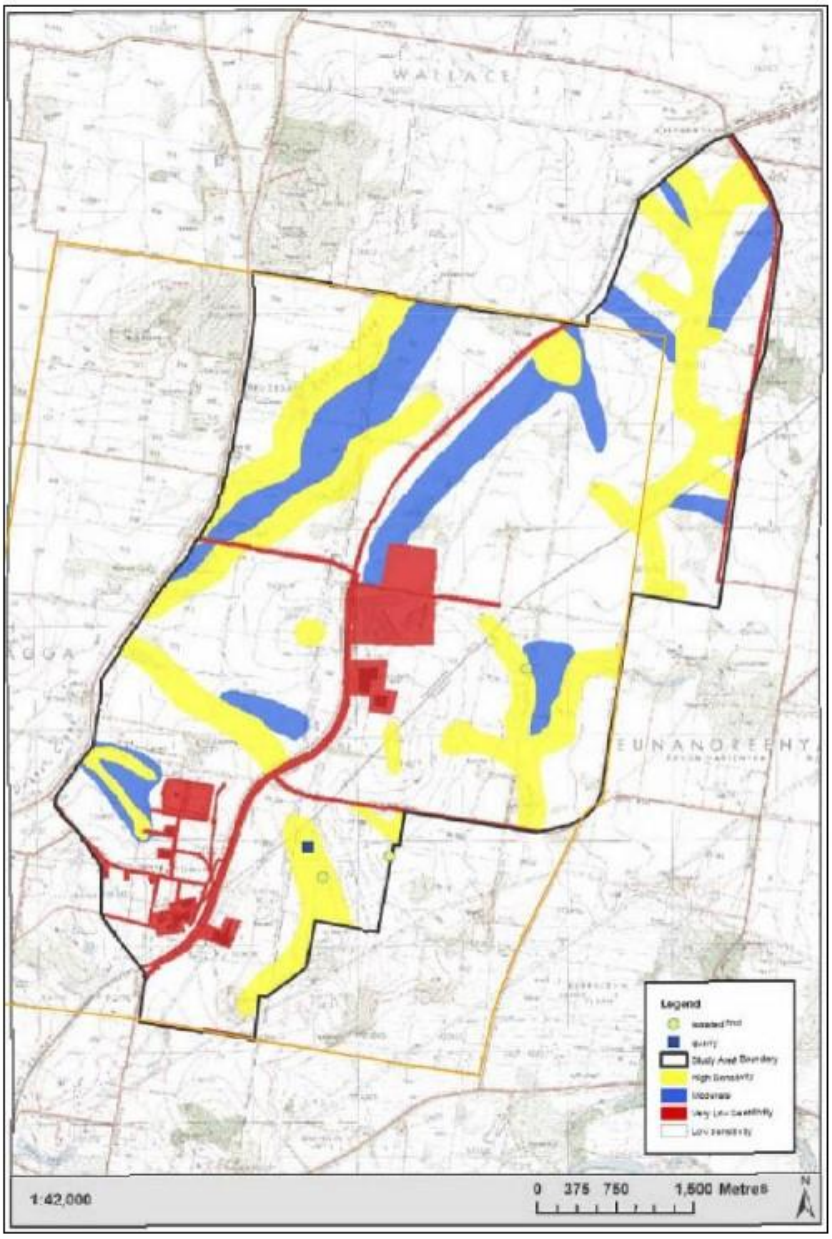
A due diligence assessment was conducted by NGH (2016b) for the Bomen Solar Energy development. During the visual inspection, one site was recorded (#56-1-0437). The site was in an area designed by the KNC sensitivity map (2008: 17) as having high archaeological sensitivity. The area of archaeological sensitivity which was inside the boundary for the Bomen Solar Energy development was recommended for subsurface test excavation by NGH, to establish the archaeological potential and extent of sites in the area.

**Figure 2-4: Archaeological sensitivity within the Bomen study area (KNC 2008: 17). Wagga Wagga SAP investigation area in orange.**



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OzArk (2008) conducted an Aboriginal heritage study during December 2007 to investigate proposed cut-in connections to the Wagga North 132kV Substation, north of Wagga Wagga that would link the proposed substation with existing electricity lines. The study area comprised an area of land southeast of the Wagga Wagga Vinidex factory. The study corridor followed the proposed route of the 991 cut-in connection (Option 2) which ran roughly south from the location of the proposed North Wagga 132 KV substation. An area of 30 m either side of the centre line of the cut-in connection was surveyed for both Aboriginal and historical heritage items. No Aboriginal archaeological or cultural heritage sites were recorded as a result of the survey. Further, it was assessed that there was low potential for the presence of undetected sites.

In 2012, OzArk undertook an assessment for the Wagga Wagga to Junee 132kV electricity transmission line. The assessment focused on surveying the proposed transmission line easement with a 40 m buffer on each side. In total, this section of the electricity transmission line was 28 km long with an area of 224 ha. The areas of the electricity transmission line inside the Wagga Wagga SAP investigation area were surveyed on foot. Several already recorded AHIMS sites were located during the assessment including: #50-5-0012 (Harefield Modified Tree); #56-1-0043 (East Bomen 1, see **Section 5.3.1**); and #56-1-0120 (APA36).

OzArk (2014) conducted a desktop assessment for a telecommunications facility at Bomen, located at Lot 22 DP1085826 inside the investigation area. The proposed facility location is fully comprised of a lower toe slope formation at the base of a north trending ridge and it does not exhibit any landscape features identified as being archaeologically sensitive. A previous survey conducted by Navin Officer (1998) of the location also recorded no artefacts and noted substantial disturbances related to ploughing, clearing of vegetation and construction of the sealed East Bomen Road.

AECOM (2017) conducted an Aboriginal and historic archaeological assessment for the Bomen Solar Farm, located in the central-east section of the investigation area. Nine Aboriginal sites were recorded during the field survey: two isolated finds, two artefact scatters and one potential scarred tree. A further eight sites were also recorded by the RAPs during the survey. The field survey also located five previously recorded AHIMS sites. Following the survey, AECOM identified the likelihood of PADs) by dividing the proposed Solar Farm area into nil, low and high archaeological likelihood categories. A test excavation program was undertaken along an unnamed creek line at the eastern edge of the Solar Farm boundary and consisted of 20 test pits being excavated, all 0.5 m by 0.5 m, and the expansion of one of these test pits into a 1 m by 1 m square. The findings of the overall assessment included:

- Soils within the Bomen Solar Farm study area were consistent with those described for the East Bomen landscape. There were simple texture contrast or duplex soil profiles with clay loam A-horizon soils overlying B-horizon clays. The A-horizons tended to comprise of dark reddish-brown silty clay loams, while the B-horizons comprised of reddish-brown light clays
- 36 individual artefacts were recorded during the survey on the ground surface. Of these, half the artefacts were non-flake debitage. Quartz was the only raw material recorded, and artefacts were generally small in size. Most artefacts recorded during the survey were located within 200 m of a watercourse (80%, n=30) and located on the lower slope landform (47.2%, n=17)
- The text excavations resulted in 29 lithic artefacts. These included flake debitage (62%, n=18), non-flake debitage such as angular shatter (34.5%, n=10), and one core. Quartz was the predominant raw material (90.1%, n=27) followed by fine gain silcrete (6.1%, n=2). There were no retouched implements or tool identified in the assemblage. All artefacts were recovered from the test pits on the western side of the creek line
- The subsurface artefacts recovered from the test excavation are associated with BSF-AS2-18 (#56-1-0550)

- The pattern of surface artefact distribution shows a low density of artefacts closer to a watercourse and that the sites are consistent with a 'background scatter'.

OzArk (2018) undertook an Aboriginal heritage assessment to inform a development consent for the continued operation and expansion of the existing ULAB Resource Recovery Facility. The assessment determined that the study area had either been moderately or highly modified. A field survey was undertaken, with areas designated moderately modified fully assessed via pedestrian means. The field survey confirmed that the locations had been impacted by high levels of ground surface disturbance. No Aboriginal cultural heritage sites were identified in the area and it was assessed that it is unlikely that further, undetected subsurface archaeological deposits are present.

## 2.4 PREDICTIVE MODEL FOR SITE LOCATION

Across Australia, numerous archaeological studies in widely varying environmental zones and contexts have demonstrated a high correlation between the permanence of a water source and the permanence and/or complexity of Aboriginal occupation. Site location is also affected by the availability of and/or accessibility to a range of other natural resources including plant and animal foods; stone and ochre resources and rock shelters; as well as by their general proximity to other sites/places of cultural/mythological significance. Consequently, sites tend to be found along permanent and ephemeral water sources, along access or trade routes or in areas that have good flora/fauna resources and appropriate shelter.

In formulating a predictive model for Aboriginal archaeological site location within any landscape it is also necessary to consider post-depositional influences on Aboriginal material culture. In all but the best preservation conditions very little of the organic material culture remains of ancestral Aboriginal communities survives to the present. Generally, it is the more durable materials such as stone artefacts, stone hearths, shell, and some bones that remain preserved in the current landscape. Even these, however, may not be found in their original depositional context since these may be subject to either (a) the effects of wind and water erosion/transport—both over short- and long-time scales—or (b) the historical impacts associated with the introduction of European farming practices including grazing and cropping, land degradation, and farm related infrastructure. Scarred trees, due to their nature, may survive for up to several hundred years but rarely beyond.

### *2.4.1 Land-use models*

A land-use model has been developed by Witter (1980, cited in Witter and Hughes 1983) which proposed a number of stages of land-use for the western slopes of the Dividing Range depending on the timing, intensity and duration of rainfall.

The drainage pattern is essentially dendritic (tree-like), with watercourses crossing the slopes of the Dividing Range joining to form larger water courses flowing across the plains to the west. Most of the headwater streams are ephemeral and only the larger trunk watercourses contain permanent or semi-permanent water.

Witter's model suggests that occupation was economically oriented toward the major stream valleys with perhaps occasional forays into the drier uplands. Movement over the area was triggered by rainfall events. Consequently, during dry periods, occupation was confined to the major watercourse valleys, whilst in wetter periods Aboriginal people were able to move along the temporarily watered headwaters of minor water courses and onto the plateau areas. When conditions became dry again, people retreated back to

the wetter valleys. Witter suggests that in times of extreme drought, people may have retreated downstream as far as the Murrumbidgee and Lachlan Rivers.

The archaeological work conducted in the region to date indicates that occupation sites were certainly more frequent in higher-order watercourse valleys. As Witter and Hughes (1983: 12) suggest, the archaeological results do not necessarily confirm Witter's land-use model, but they do not contradict it either.

Witter and Hughes (1983: 12–13) also propose another factor in site location: that of cold air drainage. According to this hypothesis, on the plains Aboriginal sites are found adjacent to drainage channels partly because of proximity to fuel, and partly because the denser vegetation is where bodies of warm air still develop in the morning. In hilly country, sites will more often occur on low ridges or benches overlooking watercourses that are away from the cold night air flowing into the valleys. As topography increases, sites tend to be above the cold air drainage but below the cloudy inversion layer. Consequently, a northeast aspect becomes important. Witter and Hughes' (1983) survey results supported this concept.

A review of previous archaeological work in the region can be used to develop an understanding of Aboriginal site patterning. Aboriginal sites can be found in any landform context, but a predictive model seeks to identify landforms that provide the most likely locations where Aboriginal artefacts may be found. These include:

- The banks of major rivers
- The banks and floodplains of major and minor watercourses
- Areas of lower, mid and upper slopes where these slopes are in close proximity to watercourses
- The crests of low ridges or spurs in close proximity to watercourses
- Elevated areas adjacent to natural water bodies (e.g. swamps, billabongs and water holes).

### 2.4.2 *Settlement strategies*

The large number of archaeological studies undertaken within the investigation area provides information to obtain a sound understanding of the nature and distribution of archaeological sites within the area. Although there is some conjecture about the relationship between stream order, site numbers and densities, the general pattern is that most sites are present closer to watercourses. The previous studies conducted in the investigation area indicate that artefact sites will be present in a variety of landforms. Of the 42 AHIMS sites registered inside the investigation area, only 13 (31%) are located inside the high archaeologically sensitivity areas as categorised by KNC (2008).

### 2.4.3 *Past land-use*

Crucial for the preservation of archaeological deposits is the history of past land-use in an area. Most of the investigation area has been used extensively for cropping, grazing, and manufacturing and industrial purposes. As noted in **Section 2.1** this activity has had the effect of destroying some site types (such as scarred trees) or dispersing other site types, such as artefact scatters.

### 2.4.4 *Previously recorded sites*

The results of past archaeological investigations inside the investigation area indicates that the most common site type will be isolated artefacts and artefact scatters. The majority of the previously recorded sites are artefact scatters or isolated finds in the central east section of the investigation area. In comparison to the overall AHIMS results within a 3 km area of the investigation area, there are only three modified trees recorded inside the investigation area itself. The grouping of the sites in the central-east area is likely due

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to the number of development driven assessments which have been conducted there, as well as the presence of Bomen Axe Quarry, a raw material procurement location.

### 2.4.5 *Previous studies*

Previous archaeological studies indicate that the site types that will possibly be recorded within the study area will be artefact scatters. The surveys which have been conducted in the investigation area indicate that GSV is a main factor in identifying surface artefact scatters. Previous studies involving test excavation has demonstrated there are subsurface archaeological deposits present, though they tend to be low density and relatively dispersed across the landscape.

### 2.4.6 *Conclusion*

Previous archaeological surveys indicate that the investigation area is a landscape that retains high Aboriginal cultural and archaeological values. A declared Aboriginal Place (Bomen Axe Quarry) exists to the south of East Bomen Road, and #56-1-0120 has been recorded among granite outcropping on Lot 3 DP594679 near the east side of the investigation area. More recent surveys for the RIFL Hub have identified several sites on the western side of Byrnes Road.

The pattern of recorded site dispersal and proximity to the Bomen Axe Quarry make it likely that additional sites will occur in the investigation area that has not been previously assessed. This is supported by more recent assessments in the area that have identified further Aboriginal sites/objects and potential archaeological deposits at Bomen.

In **Figure 2-5**, the archaeological sensitivity as mapped by KNC (2008) has been expanded on, considering the results of more recent studies, and the landforms which extend outside the KNC project area. The areas categorised as having higher archaeological sensitivity are in closer proximity to watercourses throughout the investigation area. Previous studies (such as NGH 2016a and AECOM 2017) have shown that even minor watercourses in the investigation area, which would have been dependent on the season for provision of fresh water, have a higher archaeological potential for artefact scatters. These studies also helped show that higher elevated landforms also have higher archaeological potential. Of the 42 AHIMS sites registered inside the investigation area, 32 sites (76%) are within the higher archaeological potential areas as shown on **Figure 2-5** and the majority of these sites are artefact scatters. The areas categorised as having moderate archaeological potential, include landforms directly adjacent to high potential areas, as well as landforms such as lower slopes near watercourses. Lower archaeological potential areas are generally further away from any watercourses, have development and / or disturbance visibly present on aerial imagery or include sloped landforms away from water.

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**Figure 2-5: Archaeological sensitivity for the investigation area.**

This figure has been redacted due to sensitive information

Knowledge of the environmental contexts of the investigation area and a desktop review of the known local and regional archaeological record, the following predictions are made concerning the probability of those site types being recorded within the investigation area:

- As isolated finds have been recorded inside the investigation area, there is a chance of further isolated finds being located during the survey

- Open artefact scatters are defined as two or more artefacts, not located within a rock shelter, and located no more than 50 m away from any other constituent artefact. This site type may occur almost anywhere that Aboriginal people have travelled and may be associated with hunting and gathering activities, short- or long-term camps, and the manufacture and maintenance of stone tools. Artefact scatters typically consist of surface scatters or sub-surface distributions of flaked stone discarded during the manufacture of tools but may also include other artefactual rock types such as hearth and anvil stones. Artefact scatters are most likely to occur on level or low gradient contexts, along the crests of ridgelines and spurs, and elevated areas fringing watercourses or wetlands. Larger sites may be expected in association with permanent water sources. Artefact scatters have been recorded inside the investigation area and it is possible further scatters may be located

- Aboriginal scarred trees contain evidence of the removal of bark (and sometimes wood) in the past by Aboriginal people, in the form of a scar. Bark was removed from trees for a wide range of reasons. It was a raw material used in the manufacture of various tools, vessels and commodities such as string, water containers, roofing for shelters, shields and canoes. Bark was also removed because of food gathering activities, such as collecting wood boring grubs or creating footholds to climb a tree for possum hunting. Scarred trees have been recorded inside the investigation area and it is possible that further scarred trees could be recorded where remnant mature vegetation exists

- Quarry sites and stone procurement sites typically consist of exposures of stone material where evidence for human collection, extraction and/or preliminary processing has survived. Typically, these involve the extraction of siliceous or fine grained igneous and meta-sedimentary rock types for the manufacture of artefacts. The presence of quarry/extraction sites is dependent on the availability of suitable rock formations. One stone hatchet quarry has been recorded inside in the investigation area; the declared Aboriginal Place (Bomen Axe Quarry; #56-1-0043). An additional quarry with isolated artefact was also recorded (#56-1-0109) in the east section of the investigation area. If there are further sources of raw stone materials in the investigation area, it is possible further quarries may be recorded

- Burials are generally found in soft sediments such as aeolian sand, alluvial silts and rock shelter deposits. In valley floor and plains contexts, burials may occur in locally elevated topographies rather than poorly drained sedimentary contexts. Burials are also known to have occurred on rocky hilltops in some limited areas. Burials are generally only visible where there has been some disturbance of sub-surface sediments or where some erosional process has exposed them. Although it is possible that this site type could be found within the investigation area, it is considered a rare site type especially given the disturbance that has occurred within the investigation area.

## 3 Proposed Survey Methodology

The Aboriginal cultural heritage assessment of the study area will follow the *Code of Practice for the Investigation of Aboriginal Objects in New South Wales* (Code of Practice; DECCW 2010). The field inspection will follow the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales* (OEH 2011).

This survey methodology is produced to satisfy Stage 3 of the ACHCRs and Requirements 1–4 in the Code of Practice.

The survey area will focus on sampling sections of the investigation area that have not been previously surveyed. **Figure 3-1** shows a map displaying the proposed six areas to be surveyed.

Transects will be undertaken at 100m intervals. Should areas require a greater survey coverage (i.e. landforms near waterways or landforms in which a concentration of sites is encountered), this will be reduced to 50 m transects. Conversely, should there be areas within the survey area where landforms present little opportunity for the preservation of Aboriginal sites (such as modified landforms or swampy

landforms), these landforms may be excluded from the survey coverage. If there is a large concentration of Aboriginal sites in particular areas then further research and investigation may be recommended if the survey cannot adequately cover the area.

While all effort will be made to maintain straight survey transects, sometimes deviations may be required to avoid thick vegetation or other obstacles.

### 3.1 RESEARCH QUESTIONS

Beyond forming an opinion regarding the nature of the archaeological resource within the study area with the aim of conserving any areas of high archaeological significance, the survey will also attempt to:

- Test the veracity of the predictive model that indicates that artefact sites, primarily consisting of artefacts made from quartz, silcrete, or volcanic material, will be the most likely site to be recorded
- Establish how the findings within the study area (if any) accord with the regional archaeological context
- Establish whether high significance sites such as burials, stone arrangements, rock engravings and hearths are present or absent from the study area.

### 3.2 RECORDING

When recording a site, the following details will be noted:

- GPS location/s of site features (i.e. stone artefact locations, etc.)
- Site type
- Site extent
- Landform and context of site
- Details for each artefact (size, type, raw material, etc.)
- Digital photographs of the site location and context, and of site features (i.e. artefacts)
- Whether the site has a PAD associated with it
- Notes on discussion from RAPs regarding possible mitigation measures and their views concerning the site.

These details will then be used to register sites on AHIMS and compile information for the ACHAR.

All survey areas will be recorded by landform type (i.e. flat plains, slope, ridge, etc.), and the ground surface visibility (GSV) and ground surface exposure (GSE) also recorded for each survey area. There will also be digital photographs, representative of the survey area, taken during the survey.

### 3.3 TEST EXCAVATION

Until the survey has been conducted, it is unknown whether test excavation will be necessary. Based on the desktop assessment, it is considered unlikely that test excavation will be necessary due to the disturbed landforms within the study area. However, there is potential that landforms may be identified during the survey where test excavation under the Code of Practice will be required. If this occurs, the test excavation methodology will be prepared as a separate document.

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**Figure 3-1: Locations of proposed survey areas inside investigation area.**

This figure has been redacted due to sensitive information

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## 4 REFERENCES


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| | |
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## Example of invitation to participate in fieldwork sent to RAPs (August 2019)

OzArk Environment & Heritage
ABN 59 104 582 354
Dubbo T: 02 6882 0118 145 Wingewarra St
Queanbeyan enquiry@ozarkehm.com.au PO Box 2069
Newcastle www.ozarkehm.com.au DUBBO NSW 2830

22nd August 2019

Members
[redacted]

**ABORIGINAL & NON-ABORIGINAL CULTURAL HERITAGE ASSESSMENT FOR WAGGA WAGGA SPECIAL ACTIVATION PRECINCT.**

Dear Members,

Thank you for your ongoing interest in this project. As you are aware the NSW is currently developing the plans for the Wagga Wagga Special Activation Precinct, to deliver a 20-year vision for job creation and economic development in the area (**Figure 1**).

OzArk would like to invite you to provide one (1) Site Officer to participate in one (1) day of fieldwork, scheduled for Thursday 29th August 2019.

| | |
|---|---|
| FIELD WORK DATE: | Thursday 29th August 2019 |
| TIME TO MEET: | 8am |
| LOCATION TO MEET: | Shell Wagga Wagga Truckstop<br>4 Bomen Rd<br>Bomen NSW 2650 |
| DURATION: | One (1) full day |
| FEE OFFER: | The fee offered is $[redacted] for the full day of participation in the fieldwork for the experienced Site Officer (excl. GST). This fee is all inclusive of travel, travel time, fuel, accommodation, meal expenses and participation in the field work. Breaks are not paid. |
| OZARK FIELD STAFF: | Alyce Cameron<br>[redacted] |

OzArk Environment & Heritage

**INVOICES:** Invoices are to be addressed to:

OzArk Environment & Heritage
C/- Sheridan Baker
PO Box 2069
Dubbo, NSW 2830
Sheridan@ozarkehm.com.au

PLEASE NOTE THE ABOVE FIELDWORK MAY BE CANCELLED AT SHORT NOTICE DUE TO CIRCUMSTANCES OUTSIDE OUR CONTROL. SHOULD THIS HAPPEN WE WILL CONTACT YOU AS SOON AS POSSIBLE AND ATTEMPT TO RESCHEDULE FOR A LATER DATE.

You must ensure that you or your representative has enough water and snacks / lunch for the duration of the fieldwork.

Personal Protective Equipment (PPE) – your Site Officer will need:

- Long pants and long sleeve shirt
- High visibility safety shirt / vest
- Enclosed, sturdy footwear
- Water / Sunscreen / Hat.

You or your representative must be physically fit and will need to identify if you have any medical conditions / allergies that should be known to other people participating in the fieldwork in the event of an emergency. The OzArk field director will send home anyone who they determine to be 'unfit for work' or who may pose a WH&S risk to themselves or others.

Please note, if you are a sending a representative who has any underlying medical conditions or severe allergies, it is important that they have on their person appropriate treatment such as asthma inhalers or EpiPens and notify us accordingly.

As previously noted due to NSW WH&S legislation we need to have on record current Workers Compensation insurances before going into the field. Unfortunately, we will **NOT** be able to allow participation in the fieldwork without seeing your **current Workers Compensation Certificate of Currency**. These can be emailed through to rebecca@ozarkehm.com.au. Please note that if you are unable to send a representative from your organisation, we will proceed with the fieldwork with the OzArk archaeologist only.

Please advise our office by **Thursday 22nd August 2019**, if you are available as well as the name and contact number of the site officer who will participate in the fieldwork. After this date, if we have not heard from you, we will either proceed with the survey with the OzArk archaeologist only or offer this position to other relevant groups.

If you have any feedback or relevant cultural heritage knowledge that you would like to offer, please discuss with the archaeologist during the fieldwork or contact our office.

Should you have any queries in relation to the enclosed information please do not hesitate to contact our office.

Kind regards,

Rebecca Hardman
**Consultation Officer**

OzArk Environment & Heritage

**Figure 1: Indicative location of Wagga Wagga SAP.**

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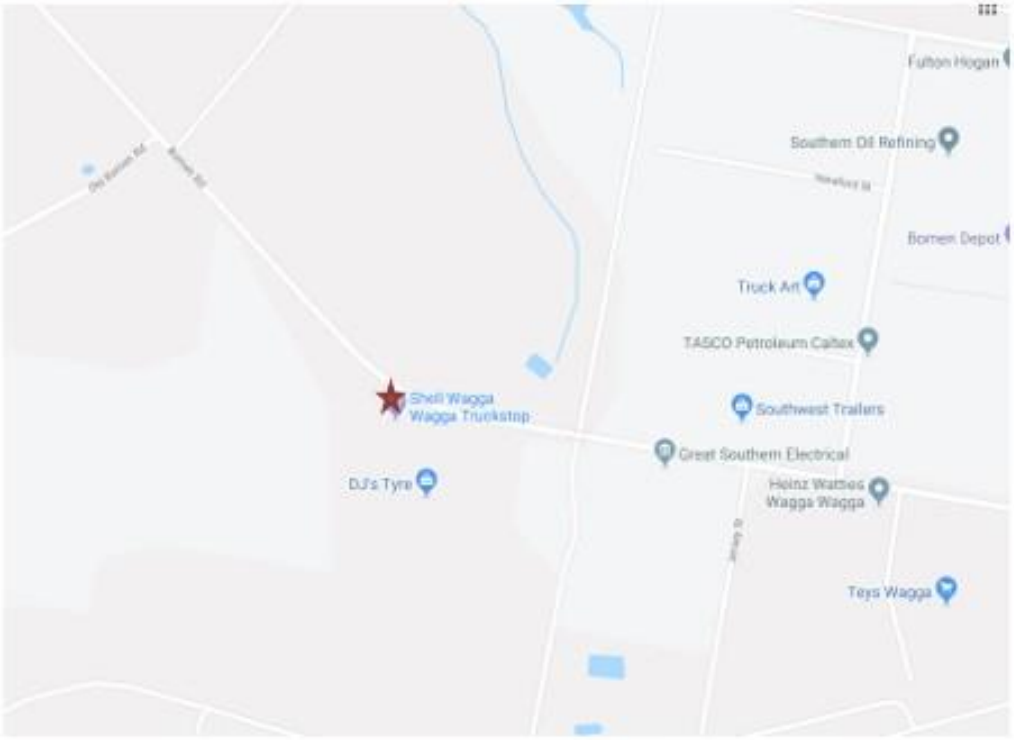
**Figure 2: Meeting Location.**



**Example of invitation to participate in fieldwork sent to RAPs (November 2019)**

OzArk Environment & Heritage
Dubbo
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T: 02 6882 0118
enquiry@ozarkehm.com.au
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PO Box 2069
DUBBO NSW 2830

18 October 2019

Members
[redacted]

**ABORIGINAL & NON-ABORIGINAL CULTURAL HERITAGE ASSESSMENT FOR WAGGA WAGGA SPECIAL ACTIVATION PRECINCT.**

Dear Members,

Thank you for your ongoing interest in this project. As you are aware the NSW is currently developing the plans for the Wagga Wagga Special Activation Precinct, to deliver a 20-year vision for job creation and economic development in the area (**Figure 1**).

OzArk would like to invite you to provide one (1) Site Officer to participate in two (2) days of fieldwork, scheduled for Tuesday 5 November and Wednesday 6 November 2019.

| | |
|---|---|
| FIELD WORK DATE: | Tuesday 5 and Wednesday 6 November 2019 |
| TIME TO MEET: | 8am |
| LOCATION TO MEET: | Bomen HotSpot Cafe<br>21 Bomen Rd<br>Bomen NSW 2650 |
| DURATION: | Two (2) full days |
| FEE OFFER: | The fee offered is $[redacted] for each full day of participation in the fieldwork for the experienced Site Officer (excl. GST). This fee is all inclusive of travel, travel time, fuel, accommodation, meal expenses and participation in the field work. Breaks are not paid. |
| OZARK FIELD STAFF: | Alyce Cameron<br>[redacted] |

INVOICES: Invoices are to be addressed to:

OzArk Environment & Heritage
C/- Sheridan Baker
PO Box 2069
Dubbo, NSW 2830
Sheridan@ozarkehm.com.au

PLEASE NOTE THE ABOVE FIELDWORK MAY BE CANCELLED AT SHORT NOTICE DUE TO CIRCUMSTANCES OUTSIDE OUR CONTROL. SHOULD THIS HAPPEN WE WILL CONTACT YOU AS SOON AS POSSIBLE AND ATTEMPT TO RESCHEDULE FOR A LATER DATE.

You must ensure that you or your representative has enough water and snacks / lunch for the duration of the fieldwork.

Personal Protective Equipment (PPE) – your Site Officer will need:

- Long pants and long sleeve shirt
- High visibility safety shirt / vest
- Enclosed, sturdy footwear
- Water / Sunscreen / Hat.

You or your representative must be physically fit and will need to identify if you have any medical conditions / allergies that should be known to other people participating in the fieldwork in the event of an emergency. The OzArk field director will send home anyone who they determine to be 'unfit for work' or who may pose a WH&S risk to themselves or others.

Please note, if you are a sending a representative who has any underlying medical conditions or severe allergies, it is important that they have on their person appropriate treatment such as asthma inhalers or EpiPens and notify us accordingly.

As previously noted due to NSW WH&S legislation we need to have on record current Workers Compensation insurances before going into the field. Unfortunately, we will **NOT** be able to allow participation in the fieldwork without seeing your **current Workers Compensation Certificate of Currency**. These can be emailed through to rebecca@ozarkehm.com.au. Please note that if you are unable to send a representative from your organisation, we will proceed with the fieldwork with the OzArk archaeologist only.

Please advise our office by **Wednesday 30 October 2019**, if you are available as well as the name and contact number of the site officer who will participate in the fieldwork. After this date, if we have not heard from you, we will either proceed with the survey with the OzArk archaeologist only or offer this position to other relevant groups.

If you have any feedback or relevant cultural heritage knowledge that you would like to offer, please discuss with the archaeologist during the fieldwork or contact our office.

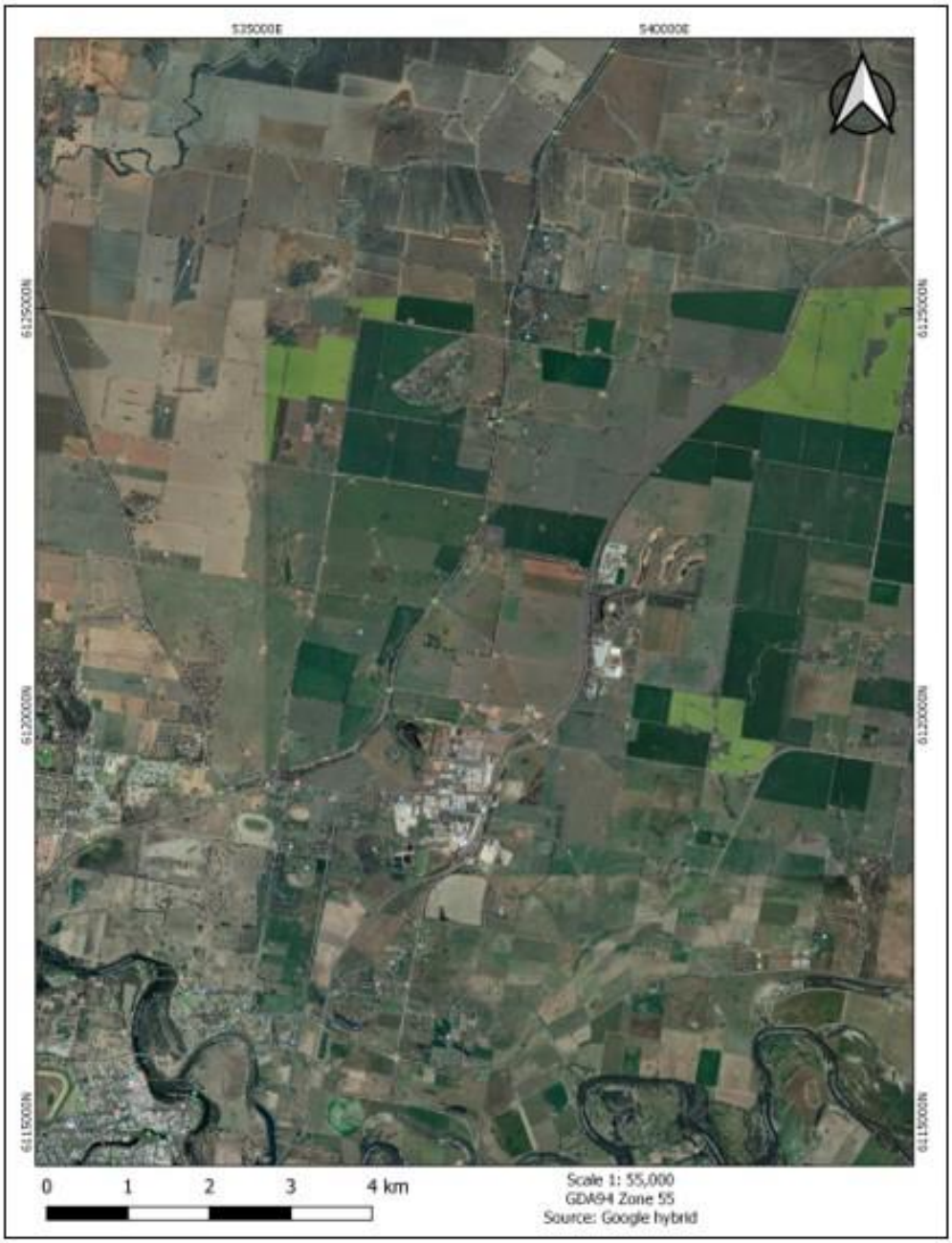
Should you have any queries in relation to the enclosed information please do not hesitate to contact our office.

Kind regards,

Alyce Cameron
**Archaeologist**

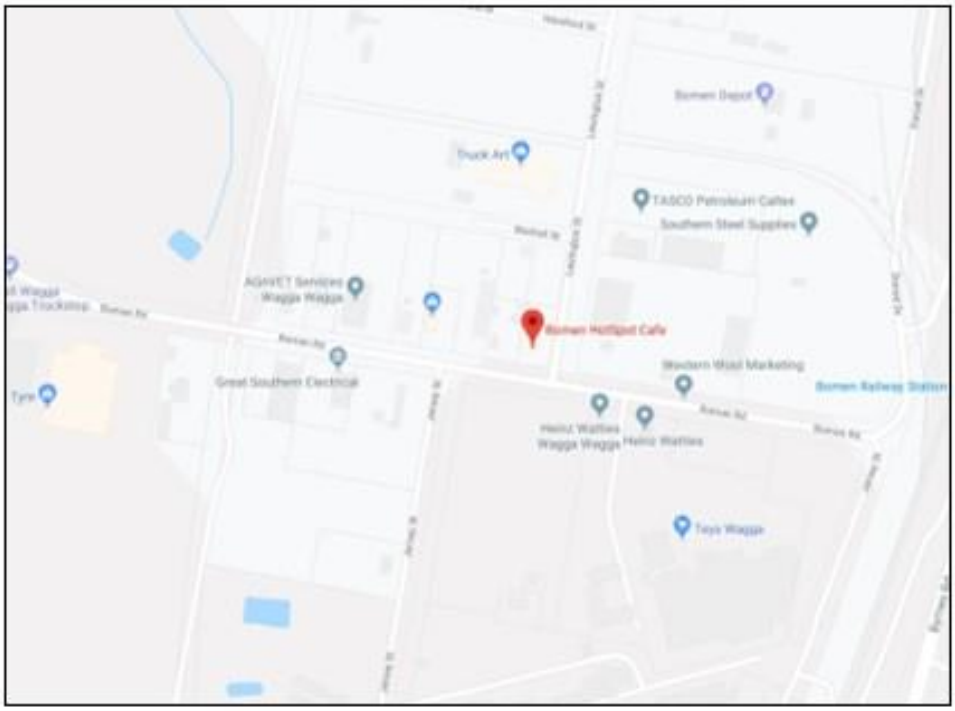
OzArk Environment & Heritage

**Figure 1: Indicative location of Wagga Wagga SAP.**



OzArk Environment & Heritage

**Figure 2: Meeting Location.**



## Stage 4: Example letter sent to RAPs

OzArk Environment & Heritage
ABN 59 104 582 354
Dubbo T: 02 6882 0118 145 Wingewarra St
Queanbeyan enquiry@ozarkehm.com.au PO Box 2069
Newcastle www.ozarkehm.com.au DUBBO NSW 2830

3 August 2020

Members
Wagga Wagga Local Aboriginal Land Council
159 Docker Street
PO Box 6289
Wagga Wagga NSW 2650
lorraine@waggawaggalalc.org.au

***ABORIGINAL & NON-ABORIGINAL CULTURAL HERITAGE ASSESSMENT FOR WAGGA WAGGA SPECIAL ACTIVATION PRECINCT.***

Dear Members,

Thank-you for your continued participation as a Registered Aboriginal Party (RAP) and involvement in the above-mentioned project.

The NSW Government (the Proponent) would like to offer you the opportunity to provide feedback on the draft report that has been undertaken in accordance with stage four (4) of the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCR).

As per the ACHCRs, we are required to give you twenty-eight (28) days to supply feedback on the Aboriginal Cultural Heritage & Historic Heritage Assessment Report (ACH&HHAR) for Wagga Wagga Special Activation Precinct. This period closes on the **Monday 31st August 2020**.

To provide feedback on the ACH&HHAR you should contact our office within this time frame via email (rebecca@ozarkehm.com.au) or by phone (02 6882 0118). If you need any help supplying feedback or have any queries, please don't hesitate to contact us. Should our office not be contacted, we will presume that you are satisfied with the contents of the report as it stands.

For your information and at the request of WSP:

- We have included a copy of the *Aboriginal Planning Principles: Wagga Wagga Special Activation Precinct.*
- For your information the draft Master Plan for the Wagga Wagga Special Activation Precinct is on public exhibition, until 15 September. To provide your feedback or make a submission regarding the Master Plan, please go to: www.planning.nsw.gov.au/WaggaWaggaSAP.

We look forward to receiving your feedback.

Kind regards,

Rebecca Hardman
**Community Liaison & Administration**

# APPENDIX 2 AHIMS SEARCHES

19 June 2019

Office of Environment & Heritage NSW

## AHIMS Web Services (AWS)

**Extensive search - Site list report**

Your Ref/PO Number : Wagga SAP
Client Service ID : 428885

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| 56-1-0081 | WW110 | [redacted] | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0088 | WW129 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : 1 | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0090 | Wollundry | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : 1 | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0095 | WW 126 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : 1 | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0122 | Wollundry Tree | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : 1 | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0135 | Houlaghan 3 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0136 | Wagga Wagga Downside Dry TSR Scar Tree 6 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0137 | Wagga Wagga Downside Dry TSR Core Stone 1 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0138 | Wagga Wagga Downside Dry TSR Canoe 1 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0139 | Wagga Wagga Downside Dry TSR Tree Scar Foot Holes 1 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0140 | Wagga Wagga Downside Dry TSR Tree Scar 5 occluded | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |

**Report generated by AHIMS Web Service on 19/06/2019 for Alyce Cameron for the following area at Datum :GDA, Zone : 55, Eastings : 532146 - 545149, Northings : 6113938 - 6127880 with a Buffer of 0 meters. Additional Info : Background. Number of Aboriginal sites and Aboriginal objects found is 103**

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Office of Environment & Heritage NSW

## AHIMS Web Services (AWS)

**Extensive search - Site list report**

Your Ref/PO Number : Wagga SAP
Client Service ID : 428885

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| 56-1-0141 | Wagga Wagga Downside Dry TSR Tree Scar 4 occluded | [redacted] | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0142 | Wagga Wagga Downside Dry TSR. Tree Scar 3 occluded | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0143 | Wagga Wagga Downside Dry TSR Tree Fire Scar 2 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0144 | Wagga Wagga Downside Dry TSR Tree Scar 2 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0145 | Wagga Wagga Downside Dry TSR Tree Fire Scar 1 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0146 | Wagga Wagga Downside dry TSR Tree Scar 1 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0153 | Meggison 1 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0154 | Wagga Wagga Downside Dry TSR Stone Flake 1 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0155 | Wagga Wagga Downside Dry TSR ScarTree 7 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0384 | Windmill RD 1 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |

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

Your Ref/PO Number : Wagga SAP
Client Service ID : 428885

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| 56-1-0304 | 10 Chain 15 | [redacted] | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0305 | 10 Chain 16 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0306 | 10 Chain 17 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0310 | 10 Chain 18 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-2-0124 | TQ-IF1 | | | | | Open site | Destroyed | Artefact : -, Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | age Management,Mr.Peter Ingram,Miss.Stephanie B | | Permits | | |
| 56-1-0133 | Houlaghan 1 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0134 | Houlaghans 2 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0426 | Murrumbidya Wetlands 1 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0427 | Murrumbidya Wetlands 2 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0182 | Smith 1 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |

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

Your Ref/PO Number : Wagga SAP
Client Service ID : 428885

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| 56-1-0183 | Smith 3 | [redacted] | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0184 | Smith 4 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0185 | Smith 5 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0192 | Smith 2 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0314 | Wagga WaggaGumly Gumly Common Scar Tree 1 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0315 | Wagga Wagga Gumly Gumly Common Scar Tree 2 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0316 | Wagga Wagga Gumly Gumly Common Scar Tree 3 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0317 | Wagga Wagga Gumly Gumly Common Scar Tree 4 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0318 | Wagga Wagga Gumly Gumly Common Fire Scar Tree 1 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0319 | Wagga Wagga Gumly Gumly Common Fire Scar Tree 2 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |

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

Your Ref/PO Number : Wagga SAP
Client Service ID : 428885

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| 56-1-0320 | Wagga Wagga Gumly Gumly Common Fire Scar Tree 3<br>Contact | [redacted] | | | | Open site<br>Permits | Valid | Modified Tree (Carved or Scarred) : - | | |
| 56-1-0321 | Wagga Wagga Gumly Gumly Common Fire Scar 4<br>Contact | [redacted] | | | | Open site<br>Permits | Valid | Modified Tree (Carved or Scarred) : - | | |
| 56-1-0428 | Olive Grove Wagga 1<br>Contact | [redacted] | | | | Open site<br>Permits | Valid | Modified Tree (Carved or Scarred) : - | | |
| 56-1-0590 | BSF-ST1-18<br>Contact | [redacted] | | | | Open site<br>alia Pty Ltd (previously HLA-Envirosciences) Permits | Valid | Artefact : -, Modified Tree (Carved or Scarred) : - | | |
| 56-1-0009 | GG1;<br>Contact | [redacted] | | | | Open site<br>Permits | Valid | Artefact : - | Open Camp Site | 1277,98475 |
| 56-1-0010 | Gumly Bore No.6;GG 2;<br>Contact | [redacted] | | | | Open site<br>Permits | Valid | Artefact : -, Shell : - | Midden,Open Camp Site<br>505 | 98475 |
| 56-1-0033 | BOM-1;<br>Contact | [redacted] | | | | Open site<br>Permits | Valid | Artefact : - | Isolated Find | 3899 |
| 56-1-0110 | BSSC-1F1<br>Contact | [redacted] | | | | Open site<br>age Management Permits | Valid | Stone Quarry : 5 | | |
| 56-1-0109 | Bomen Isolated Find BIF1 duplicate of 56-1-0111<br>Contact | [redacted] | | | | Open site<br>ingale Consulting Pty Ltd,AECOM Australia Pty Ltd Permits | Destroyed | Artefact : 1, Stone Quarry : 1 | | 102413 |
| 56-1-0111 | Bomen Isolated Fin 1 (BIF1) duplicate of 56-1-0109<br>Contact | [redacted] | | | | Open site<br>Pty Ltd Permits | Deleted | Artefact : 1 | | |
| 56-1-0124 | TARCOOLA QUARRY ISOLATED FIND 1<br>Contact | [redacted] | | | | Open site<br>age Management,Mr.NICHOLAS HARROP,Miss.Step Permits | Destroyed | Artefact : 1 | 3914 | |
| 56-1-0126 | Boor 1<br>Contact | [redacted] | | | | Open site<br>Permits | Valid | Artefact : 1 | | |
| 56-1-0534 | Bomen 538732<br>Contact | [redacted] | | | | Open site<br>Permits | Valid | Artefact : - | | |
| 56-1-0535 | Bomen 539004<br>Contact | [redacted] | | | | Open site<br>Permits | Valid | Artefact : - | | |

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

Your Ref/PO Number : Wagga SAP
Client Service ID : 428885

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| 56-1-0536 | Bomen 539015<br>Contact | [redacted] | | | | Open site<br>alia Pty Ltd (previously HLA-Envirosciences),Mr.M. Permits | Destroyed | Artefact : - | | |
| 56-1-0537 | Bomen 539072<br>Contact | [redacted] | | | | Open site<br>Permits | Valid | Artefact : - | | |
| 56-1-0538 | Bomen 539071<br>Contact | [redacted] | | | | Open site<br>Permits | Valid | Artefact : - | | |
| 56-1-0542 | Bomen 540684<br>Contact | [redacted] | | | | Open site<br>Permits | Valid | Modified Tree (Carved or Scarred) : - | | |
| 56-1-0543 | Bomen 540568<br>Contact | [redacted] | | | | Open site<br>alia Pty Ltd (previously HLA-Envirosciences),Mr.M. Permits | Destroyed | Artefact : - | | |
| 56-1-0544 | Marrambidya Wagga 534384<br>Contact | [redacted] | | | | Open site<br>Permits | Valid | Modified Tree (Carved or Scarred) : - | | |
| 56-1-0526 | WWSF-2<br>Contact | [redacted] | | | | Open site<br>eology and Heritage Pty Ltd Permits | Valid | Artefact : - | | |
| 56-1-0521 | WWSF-5<br>Contact | [redacted] | | | | Open site<br>ams,Access Archaeology and Heritage Pty Ltd,Acce Permits | Valid | Artefact : - | | |
| 56-1-0522 | WWSF-1<br>Contact | [redacted] | | | | Open site<br>ams,Access Archaeology and Heritage Pty Ltd,Acce Permits | Valid | Artefact : - | | |
| 56-1-0523 | WWSF-3<br>Contact | [redacted] | | | | Open site<br>ams,Access Archaeology and Heritage Pty Ltd,Acce Permits | Valid | Artefact : - | | |
| 56-1-0524 | WWSF-4<br>Contact | [redacted] | | | | Open site<br>eology and Heritage Pty Ltd Permits | Valid | Artefact : - | | |
| 56-1-0550 | BSF-AS2-18<br>Contact | [redacted] | | | | Open site<br>akes,AECOM Australia Pty Ltd (previously HLA-Env Permits | Destroyed | Artefact : - | | |
| 56-1-0551 | BSF-AS1-18<br>Contact | [redacted] | | | | Open site<br>akes,AECOM Australia Pty Ltd (previously HLA-Env Permits | Destroyed | Artefact : - | | |
| 56-1-0552 | BSF-IA6-18<br>Contact | [redacted] | | | | Open site<br>akes,AECOM Australia Pty Ltd (previously HLA-Env Permits | Destroyed | Artefact : - | | |
| 56-1-0553 | BSF-IA5-18<br>Contact | [redacted] | | | | Open site<br>alia Pty Ltd (previously HLA-Envirosciences) Permits | Valid | Artefact : - | | |
| 56-1-0554 | BSF-IA4-18<br>Contact | [redacted] | | | | Open site<br>alia Pty Ltd (previously HLA-Envirosciences) Permits | Valid | Artefact : - | | |

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Office of Environment & Heritage NSW

## AHIMS Web Services (AWS)

### Extensive search - Site list report

Your Ref/PO Number : Wagga SAP
Client Service ID : 428885

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| 56-1-0555 | BSF-IA3-18 | [redacted] | | | | Open site | Destroyed | Artefact : - | | |
| Contact | | | | | | kes,AECOM Australia Pty Ltd (previously HLA-Env | | Permits | | |
| 56-1-0556 | BSF-IA2-18 | | | | | Open site | Destroyed | Artefact : - | | |
| Contact | | | | | | kes,AECOM Australia Pty Ltd (previously HLA-Env | | Permits | | |
| 56-1-0557 | BSF-IA1-18 | | | | | Open site | Destroyed | Artefact : - | | |
| Contact | | | | | | kes,AECOM Australia Pty Ltd (previously HLA-Env | | Permits | | |
| 56-1-0532 | Bomen 539085 | | | | | Open site | Valid | Artefact : - | | |
| Contact | | | | | | | | Permits | | |
| 56-1-0533 | Bomen 539070 | | | | | Open site | Valid | Artefact : - | | |
| Contact | | | | | | | | Permits | | |
| 56-1-0545 | Downside Travelling Stock Reserve | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| Contact | | | | | | | | Permits | | |
| 56-1-0043 | EAST BOMEN 1 | | | | | Open site | Valid | Stone Quarry : -, Artefact : - | Quarry | 102413,102549,102603,102993,103042 |
| Contact | | | | | | | | Permits | | |
| 56-1-0044 | EAST BOMEN IF2 | | | | | Open site | Valid | Artefact : - | Isolated Find | 102413 |
| Contact | | | | | | | | Permits | | |
| 56-1-0045 | EAST BOMEN IF1 | | | | | Open site | Valid | Artefact : - | Isolated Find | 102413,102549 |
| Contact | | | | | | | | Permits | | |
| 56-1-0115 | APA31 | | | | | Open site | Valid | Artefact : 1 | | |
| Contact | | | | | | | | Permits | | |
| 56-1-0118 | APA34 | | | | | Open site | Valid | Artefact : 1 | | |
| Contact | | | | | | | | Permits | | |
| 56-1-0119 | APA35 | | | | | Open site | Valid | Artefact : 1 | | |
| Contact | | | | | | | | Permits | | |
| 56-1-0120 | APA36 | | | | | Open site | Valid | Artefact : 1 | | |
| Contact | | | | | | | | Permits | | |
| 56-1-0130 | Wiradjuri 1 | | | | | Open site | Valid | Artefact : 23 | | 102973 |
| Contact | | | | | | | | Permits | 3673 | |
| 56-1-0437 | Bomen Solar IS01 | | | | | Open site | Destroyed | Artefact : - | | |
| Contact | | | | | | lia Pty Ltd (previously HLA-Enviroscences),Mr.M. | | Permits | | |

**Report generated by AHIMS Web Service on 19/06/2019 for Alyce Cameron for the following area at Datum :GDA, Zone : 55, Eastings : 532146 - 545149, Northings : 6113938 - 6127880 with a Buffer of 0 meters. Additional Info : Background. Number of Aboriginal sites and Aboriginal objects found is 103**

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## AHIMS Web Services (AWS)

### Extensive search - Site list report

Your Ref/PO Number : Wagga SAP
Client Service ID : 428885

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| 56-1-0511 | Karrajong TSR 2 | [redacted] | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| Contact | | | | | | | | Permits | | |
| 56-1-0512 | Karrajong TSR 2 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| Contact | | | | | | | | Permits | | |
| 56-1-0513 | Karrajong TSR 1 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| Contact | | | | | | | | Permits | | |
| 56-1-0457 | Bomen BIPL IF4 | | | | | Open site | Valid | Artefact : - | | |
| Contact | | | | | | - Fyshwick | | Permits | 4243 | |
| 56-1-0458 | Bomen BIPL IF3 | | | | | Open site | Valid | Artefact : - | | |
| Contact | | | | | | - Fyshwick | | Permits | 4016 | |
| 56-1-0459 | Bomen BIPL ST1 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| Contact | | | | | | - Fyshwick | | Permits | 4243 | |
| 56-1-0460 | Bomen BIPL AS1 | | | | | Open site | Valid | Artefact : - | | |
| Contact | | | | | | - Fyshwick | | Permits | 4016 | |
| 56-1-0461 | Bomen BIPL AS2 | | | | | Open site | Valid | Artefact : - | | |
| Contact | | | | | | - Fyshwick | | Permits | 4016 | |
| 56-1-0462 | Bomen BIPL AS3 | | | | | Open site | Valid | Artefact : - | | |
| Contact | | | | | | - Fyshwick | | Permits | 4016 | |
| 56-1-0463 | Bomen BIPL AS4 | | | | | Open site | Valid | Artefact : - | | |
| Contact | | | | | | - Fyshwick | | Permits | 4016 | |
| 56-1-0409 | Bowlins TSR | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| Contact | | | | | | | | Permits | | |
| 56-1-0429 | Mark Saddler CSF 1 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| Contact | | | | | | | | Permits | | |

**Report generated by AHIMS Web Service on 19/06/2019 for Alyce Cameron for the following area at Datum :GDA, Zone : 55, Eastings : 532146 - 545149, Northings : 6113938 - 6127880 with a Buffer of 0 meters. Additional Info : Background. Number of Aboriginal sites and Aboriginal objects found is 103**

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Office of Environment & Heritage NSW

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

Your Ref/PO Number : Wagga SAP
Client Service ID : 428885

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| 56-1-0490 | Brick Kiln 1 | [redacted] | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0515 | North Wagga Solar IF 1 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | e - Pyshwick | | Permits | | |
| 56-1-0432 | Bomen RIFL IF2 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | e - Pyshwick | | Permits | 4016 | |
| 56-1-0433 | Bomen RIFL IF1 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | e - Pyshwick | | Permits | 4016 | |
| 56-1-0434 | Bomen RIFL IF3 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | e - Pyshwick | | Permits | 4016 | |

**Report generated by AHIMS Web Service on 19/06/2019 for Alyce Cameron for the following area at Datum :GDA, Zone : 55, Eastings : 532146 - 545149, Northings : 6113938 - 6127898 with a Buffer of 0 meters. Additional Info : Background. Number of Aboriginal sites and Aboriginal objects found is 103**
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## 20 July 2020

Office of Environment & Heritage NSW

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

Your Ref/PO Number : Wagga Wagga SAP
Client Service ID : 521508

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| 56-1-0081 | WW110 | [redacted] | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0088 | WW129 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : 1 | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0384 | Windmill RD 1 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0314 | Wagga WaggaGumly Gumly Common Scar Tree 1 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0315 | Wagga Wagga Gumly Gumly Common Scar Tree 2 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0316 | Wagga Wagga Gumly Gumly Common Scar Tree 3 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0317 | Wagga Wagga Gumly Gumly Common Scar Tree 4 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0318 | Wagga Wagga Gumly Gumly Common Fire Scar Tree 1 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0319 | Wagga Wagga Gumly Gumly Common Fire Scar Tree 2 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0320 | Wagga Wagga Gumly Gumly Common Fire Scar Tree 3 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |

**Report generated by AHIMS Web Service on 20/07/2020 for Alyce Cameron for the following area at Datum :GDA, Zone : 55, Eastings : 533026 - 544177, Northings : 6114739 - 6126950 with a Buffer of 0 meters. Additional Info : Background. Number of Aboriginal sites and Aboriginal objects found is 86**
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## AHIMS Web Services (AWS)
### Extensive search - Site list report

Your Ref/PO Number : Wagga Wagga SAP
Client Service ID : 521508

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| 56-1-0321 | Wagga Wagga Gumly Gumly Common Fire Scar 4 | [redacted] | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0609 | Wagga SAP IF-01 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | age Management,Doctor.Alyce Cameron | | Permits | | |
| 56-1-0428 | Olive Grove Wagga 1 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0606 | Axe Quarry 539645 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0598 | Wagga Wagga SF AFT 8 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | | |
| 56-1-0599 | Wagga Wagga SF AFT 7 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | | |
| 56-1-0600 | Wagga Wagga SF AFT 6 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | | |
| 56-1-0601 | Wagga Wagga SF AFT 5 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | | |
| 56-1-0602 | Wagga Wagga SF AFT 4 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | | |
| 56-1-0603 | Wagga Wagga SF AFT 3 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | | |
| 56-1-0604 | Wagga Wagga SF AFT 2 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | | |
| 56-1-0605 | Wagga Wagga SF AFT 1 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | | |
| 56-1-0593 | Wagga Wagga SF IF5 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | | |
| 56-1-0594 | Wagga Wagga SF IF4 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | | |
| 56-1-0595 | Wagga Wagga SF IF3 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | | |
| 56-1-0596 | Wagga Wagga SF IF2 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | | |

**Report generated by AHIMS Web Service on 20/07/2020 for Alyce Cameron for the following area at Datum :GDA, Zone : 55, Eastings : 533026 - 544177, Northings : 6114739 - 6126950 with a Buffer of 0 meters. Additional Info : Background. Number of Aboriginal sites and Aboriginal objects found is 86**

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

Your Ref/PO Number : Wagga Wagga SAP
Client Service ID : 521508

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| 56-1-0597 | Wagga Wagga SF IF1 | [redacted] | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | | |
| 56-1-0590 | BSF-ST1-18 | | | | | Open site | Valid | Artefact : -, Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | alia Pty Ltd - Sydney | | Permits | | |
| 56-1-0619 | Dreaming Site Rocky Hill Wagga | | | | | Closed site | Valid | Aboriginal Ceremony and Dreaming : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0620 | Wagga SAP ST-01 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | age Management,Doctor.Alyce Cameron | | Permits | | |
| 56-1-0621 | Wagga SAP OS-01 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | age Management,Doctor.Alyce Cameron | | Permits | | |
| 56-1-0009 | GG1; | | | | | Open site | Valid | Artefact : - | Open Camp Site | 1277,98475 |
| | Contact | | | | | | | Permits | | |
| 56-1-0033 | BOM-1; | | | | | Open site | Valid | Artefact : - | Isolated Find | 3899 |
| | Contact | | | | | | | Permits | | |
| 56-1-0110 | BSSC-1F1 | | | | | Open site | Valid | Stone Quarry : 5 | | |
| | Contact | | | | | age Management | | Permits | | |
| 56-1-0109 | Bomen Isolated Find BIF1 duplicate of 56-1-0111 | | | | | Open site | Destroyed | Artefact : 1, Stone Quarry : 1 | | 102413 |
| | Contact | | | | | tingale Consulting Pty Ltd,AECOM Australia Pty Ltd | | Permits | | |
| 56-1-0111 | Bomen Isolated Fin 1 (BIF1) duplicate of 56-1-0109 | | | | | Open site | Deleted | Artefact : 1 | | |
| | Contact | | | | | Pty Ltd | | Permits | | |
| 56-1-0126 | Boor 1 | | | | | Open site | Valid | Artefact : 1 | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0534 | Bomen 538732 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0535 | Bomen 539004 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0536 | Bomen 539015 | | | | | Open site | Destroyed | Artefact : - | | |
| | Contact | | | | | alia Pty Ltd - Sydney,Mr.Mark Saddler | | Permits | | |
| 56-1-0537 | Bomen 539072 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | | | Permits | | |

**Report generated by AHIMS Web Service on 20/07/2020 for Alyce Cameron for the following area at Datum :GDA, Zone : 55, Eastings : 533026 - 544177, Northings : 6114739 - 6126950 with a Buffer of 0 meters. Additional Info : Background. Number of Aboriginal sites and Aboriginal objects found is 86**

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

Your Ref/PO Number : Wagga Wagga SAP
Client Service ID : 521508

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| 56-1-0538 | Bomen 539071 | [redacted] | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0542 | Bomen 540684 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0543 | Bomen 540568 | | | | | Open site | Destroyed | Artefact : - | | |
| | Contact | | | | | lia Pty Ltd - Sydney,Mr.Mark Saddler | | Permits | | |
| 56-1-0526 | WWSF-2 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | Pty Ltd,Mr.Douglas Williams | | Permits | 4593 | |
| 56-1-0521 | WWSF-5 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | Pty Ltd,Access Archaeology and Heritage Pty Ltd, | | Permits | 4593 | |
| 56-1-0522 | WWSF-1 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | Pty Ltd,Access Archaeology and Heritage Pty Ltd, | | Permits | 4593 | |
| 56-1-0523 | WWSF-3 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | Pty Ltd,Access Archaeology and Heritage Pty Ltd, | | Permits | 4593 | |
| 56-1-0524 | WWSF-4 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | Pty Ltd,Mr.Douglas Williams | | Permits | 4593 | |
| 56-1-0550 | BSF-AS2-18 | | | | | Open site | Destroyed | Artefact : - | | |
| | Contact | | | | | kes,AECOM Australia Pty Ltd - Sydney,AECOM Aus | | Permits | | |
| 56-1-0551 | BSF-AS1-18 | | | | | Open site | Destroyed | Artefact : - | | |
| | Contact | | | | | kes,AECOM Australia Pty Ltd - Sydney,AECOM Aus | | Permits | | |
| 56-1-0552 | BSF-IA6-18 | | | | | Open site | Destroyed | Artefact : - | | |
| | Contact | | | | | kes,AECOM Australia Pty Ltd - Sydney,AECOM Aus | | Permits | | |
| 56-1-0553 | BSF-IA5-18 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | lia Pty Ltd - Sydney | | Permits | | |
| 56-1-0554 | BSF-IA4-18 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | lia Pty Ltd - Sydney | | Permits | | |
| 56-1-0555 | BSF-IA3-18 | | | | | Open site | Destroyed | Artefact : - | | |
| | Contact | | | | | kes,AECOM Australia Pty Ltd - Sydney,AECOM Aus | | Permits | | |
| 56-1-0556 | BSF-IA2-18 | | | | | Open site | Destroyed | Artefact : - | | |
| | Contact | | | | | kes,AECOM Australia Pty Ltd - Sydney,AECOM Aus | | Permits | | |
| 56-1-0557 | BSF-IA1-18 | | | | | Open site | Destroyed | Artefact : - | | |
| | Contact | | | | | kes,AECOM Australia Pty Ltd - Sydney,AECOM Aus | | Permits | | |
| 56-1-0532 | Bomen 539085 | | | | | Open site | Valid | Artefact : - | | |

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

Your Ref/PO Number : Wagga Wagga SAP
Client Service ID : 521508

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| | Contact | [redacted] | | | | | | Permits | | |
| 56-1-0533 | Bomen 539070 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0043 | EAST BOMEN 1 | | | | | Open site | Valid | Stone Quarry : -, Artefact : - | Quarry | 102413,102549,102603,102993,103042 |
| | Contact | | | | | | | Permits | | |
| 56-1-0044 | EAST BOMEN IF2 | | | | | Open site | Valid | Artefact : - | Isolated Find | 102413 |
| | Contact | | | | | | | Permits | | |
| 56-1-0045 | EAST BOMEN IF1 | | | | | Open site | Valid | Artefact : - | Isolated Find | 102413,102549 |
| | Contact | | | | | | | Permits | | |
| 56-1-0115 | APA31 | | | | | Open site | Valid | Artefact : 1 | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0120 | APA36 | | | | | Open site | Valid | Artefact : 1 | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0130 | Wiradjuri 1 | | | | | Open site | Valid | Artefact : 23 | | 102973 |
| | Contact | | | | | | | Permits | 3673 | |
| 56-1-0437 | Bomen Solar IS01 | | | | | Open site | Destroyed | Artefact : - | | |
| | Contact | | | | | lia Pty Ltd - Sydney,Mr.Matthew Barber,NGH Heri | | Permits | | |
| 56-1-0511 | Kurrajong TSR 3 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0512 | Kurrajong TSR 2 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0513 | Kurrajong TSR 1 | | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0457 | Bomen RIFL IF4 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | e - Fyshwick | | Permits | 4243 | |
| 56-1-0458 | Bomen RIFL IF5 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | e - Fyshwick | | Permits | 4016 | |

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## AHIMS Web Services (AWS)

**Extensive search - Site list report**

Your Ref/PO Number : Wagga Wagga SAP

Client Service ID : 521508

| SiteID | SiteName | Datum | Zone | Easting | Northing | Context | Site Status | SiteFeatures | SiteTypes | Reports |
|---|---|---|---|---|---|---|---|---|---|---|
| 56-1-0459 | Bomen RIFL ST1 | [redacted] | | | | Open site | Valid | Modified Tree (Carved or Scarred) : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | 4243 | |
| 56-1-0460 | Bomen RIFL AS1 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | 4016 | |
| 56-1-0461 | Bomen RIFL AS2 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | 4016 | |
| 56-1-0462 | Bomen RIFL AS3 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | 4016 | |
| 56-1-0463 | Bomen RIFL AS4 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | 4016 | |
| 56-1-0515 | North Wagga Solar IF 1 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | 4593 | |
| 56-1-0432 | Bomen RIFL IF2 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | 4016 | |
| 56-1-0433 | Bomen RIFL IF1 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | 4016 | |
| 56-1-0434 | Bomen RIFL IF3 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | 4016 | |
| 56-1-0625 | Boorooma AFT2 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | | |
| 56-1-0626 | Boorooma AFT1 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | | |
| 56-1-0624 | Bomen AQ core 1 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | | | Permits | | |
| 56-1-0627 | Boorooma AFT5 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | | |
| 56-1-0628 | Boorooma AFT4 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | | |
| 56-1-0629 | Boorooma AFT3 | | | | | Open site | Valid | Artefact : - | | |
| | Contact | | | | | ge - Fyshwick | | Permits | | |

**Report generated by AHIMS Web Service on 20/07/2020 for Alyce Cameron for the following area at Datum :GDA, Zone : 55, Eastings : 533026 - 544177, Northings : 6114739 - 6126950 with a Buffer of 0 meters. Additional Info : Background. Number of Aboriginal sites and Aboriginal objects found is 86**

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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