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URBIS

ABORIGINAL CULTURAL HERITAGE ASSESSMENT

Deniliquin East BESS
21356 Riverina Highway, Deniliquin
Wamba Wamba and Perrepa Perrepa Lands

Prepared for
BESS ARCTIC PTY LTD
C/O GRANSOLAR DEVELOPMENT AUSTRALIA
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GLOSSARY

Term	Definition
Aboriginal ceremony and dreaming site	Previously referred to as mythological sites, these are spiritual/story places where no physical evidence of previous use of the place may occur, e.g. natural unmodified landscape features, ceremonial or spiritual areas, men's/women's sites, dreaming (creation) tracks, marriage places etc. These are Aboriginal site features recordable on AHIMS.
Aboriginal cultural heritage	The tangible (objects) and intangible (dreaming stories, legends and places) cultural practices and traditions associated with past and present-day Aboriginal communities.
Aboriginal object	As defined in the NPW Act, any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises NSW, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.
Aboriginal place	As defined in the NPW Act, any place declared to be an Aboriginal place (under s.84 of the NPW Act) by the Minister administering the NPW Act, by order published in the NSW Government Gazette, because the Minister is of the opinion that the place is or was of special significance with respect to Aboriginal culture. It may or may not contain Aboriginal objects.
Aboriginal resource and gathering sites	Related to everyday activities such as food gathering, hunting, or collection and manufacture of materials and goods for use or trade. These are Aboriginal site features recordable on AHIMS.
AHIMS	Aboriginal Heritage Information Management System. A register of previously reported Aboriginal objects and Aboriginal places in NSW, managed under Section 90 of the NPW Act.
AHIP	Aboriginal Heritage Impact Permit. A permit issued under Section 90, Division 2 of Part 6 of the NPW Act.
Archaeology	The scientific study of material remains of past human life, including artefacts, relics, ruins, buildings and their environment and context.
Art	Art is found in shelters, overhangs and across rock formations. Techniques include painting, drawing, scratching, carving engraving, pitting, conjoining, abrading and the use of a range of binding agents and the use of natural pigments obtained from clays, charcoal and plants. These are Aboriginal site features recordable on AHIMS.
Artefact	Objects such as stone tools, and associated flaked material, spears, manuports, grindstones, discarded stone flakes, modified glass or shell demonstrating evidence of use of the area by Aboriginal people. These are Aboriginal site features recordable on AHIMS.
Artefact scatter	Multiple artefacts associated with one another in the same context. These are recordable on AHIMS as 'artefacts'.
Burial	A traditional or contemporary (post-contact) burial of an Aboriginal person, which may occur outside designated cemeteries and may not be marked, e.g. in caves, marked by stone cairns, in sand areas, along creek banks etc. These are Aboriginal site features recordable on AHIMS.

Term	Definition
Ceremonial ring	A Raised earth ring associated with ceremony. These are Aboriginal site features recordable on AHIMS.
Cliff	A steep rock face
Code of Practice	<i>Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales</i> (DECCW 2010b).
Conflict site	Previously referred to as massacre sites where confrontations occurred between Aboriginal and non-Aboriginal people, or between different Aboriginal groups. These are Aboriginal site features recordable on AHIMS.
DECCW	Department of Environment, Climate Change and Water NSW.
Due Diligence Code	<i>Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales</i> (DECCW 2010a)
Dune	As defined in the Due Diligence Code, a sand ridge or sand hill formed by the wind.
Earth mound	A mounded deposit of round to oval shape containing baked clay lumps, ash, charcoal and, usually, black or dark grey sediment. The deposit may be compacted or loose and ashy. Mounds may contain various economic remains such as mussel shell and bone as well as stone artefacts. Occasionally they contain burials. These are Aboriginal site features recordable on AHIMS.
EPA Act	<i>Environmental Planning and Assessment Act 1979</i> (NSW)
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth)
Fish trap	A modified area on watercourses where fish were trapped for short-term storage and gathering. These are Aboriginal site features recordable on AHIMS.
Grinding grooves	A groove in a rock surface resulting from manufacture of stone tools such as ground edge hatchets and spears, or rounded depressions resulting from grinding of seeds and grains. These are Aboriginal site features recordable on AHIMS.
Harm	As defined in the NPW Act, to destroy, deface, damage or move an Aboriginal object or destroy, deface or damage a declared Aboriginal place. Harm may be direct or indirect (e.g. through increased visitation or erosion). Harm does not include something that is trivial or negligible.
Habitation structure	Structures constructed by Aboriginal people for short- or long-term shelter. Temporary structures are commonly preserved away from the coastline and may include historic camps of contemporary significance. Smaller structures may make use of natural materials such as branches, logs and bark sheets or manufactured materials such as corrugated iron to form shelters. Archaeological remains of a former structure such as chimney/fireplace, raised earth building platform, excavated pits, rubble mounds etc. These are Aboriginal site features recordable on AHIMS.
Headland	A narrow piece of coastal land that projects from a coastline into the sea or ocean
Hearth	Aboriginal site feature recordable on AHIMS. Cultural deposit sometimes marked by hearth stones, usually also contains charcoal and may also contain heat treated stone fragments.
Isolated find	A single artefact found in an isolated context. These are recordable on AHIMS as 'artefacts'.

Term	Definition
Modified Trees	Trees which show the marks of modification as a result of cutting of bark from the trunk for use in the production of shields, canoes, boomerangs, burials shrouds, for medicinal purposes, foot holds etc, or alternately intentional carving of the heartwood of the tree to form a permanent marker to indicate ceremonial use/significance of a nearby area, again these carvings may also act as territorial or burial markers. These are Aboriginal site features recordable on AHIMS.
Non-human bone and organic material	Objects which can be found within cultural deposits as components of an Aboriginal site such as fish or mammal bones, ochres, cached objects which may otherwise have broken down such as resin, twine, dilly bags, nets etc. These are Aboriginal site features recordable on AHIMS.
NPW Act	<i>National Parks and Wildlife Act 1974</i>
NPW Regulation	<i>National Parks and Wildlife Regulation 2019</i>
Ochre quarry	A source of ochre used for ceremonial occasions, burials, trade and artwork. These are Aboriginal site features recordable on AHIMS.
PAD	A 'potential archaeological deposit'. An area where Aboriginal objects may occur below the ground surface. These are Aboriginal site features recordable on AHIMS.
Ridge	A compound landform element comprising a narrow crest that is longer than its width
Ridge top (or ridgeline)	The crest of a ridge that extends along its highest contours
Shell	An accumulation or deposit of shellfish from beach, estuarine, lacustrine or riverine species resulting from Aboriginal gathering and consumption. Usually found in deposits previously referred to as 'shell middens.' These are Aboriginal site features recordable on AHIMS.
SSDA	State Significant Development Application, under Division 4.7 of the EP&A Act
Stone arrangement	Human produced arrangements of stone usually associated with ceremonial activities, or used as markers for territorial limits or to mark/protect burials. These are Aboriginal site features recordable on AHIMS.
Stone quarry	A source of stone which was quarried and used for the production of stone tools by Aboriginal people. These are Aboriginal site features recordable on AHIMS.
Waterhole	A source of fresh water for Aboriginal groups which may have traditional ceremonial or dreaming significance and/or may also be used to the present day as a rich resource gathering area (e.g. waterbirds, eels, clays, reeds etc). These are Aboriginal site features recordable on AHIMS.
Waters	As defined in the Due Diligence Code, the whole or any part of any river, stream, lake, lagoon, swamp, wetlands, natural watercourse and tidal waters (including the sea), where the boundary of tidal waters is defined as the high-water mark.

EXECUTIVE SUMMARY

Urbis was engaged by BESS Arctic Pty Ltd c/o Gransolar Development Australia ('the Proponent') to conduct an Aboriginal Cultural Heritage Assessment ('ACHA') of 21356 Riverina Highway, Deniliquin, legally defined as Part Lot 11/DP 856212 and Part Lot 1/DP 536901 ('the subject area') (Figure 1 and Figure 2).

This ACHA has been prepared to support a State Significant Development Application (SSD-61612229), seeking approval for the development of an approximately 100-Megawatt battery energy storage system (BESS) on land in close proximity to the Deniliquin substation. The proposed works include the construction, operation and decommissioning of a BESS; and construction of associated infrastructure, including transmission and connection works.

In response to the above SEARs requirements, the ACHA was prepared to address the following heritage requirements of the *Planning Secretary's Environmental Assessment Requirements* (SEARs) issued on 28th September 2023:

An assessment of the impact to Aboriginal cultural heritage items (cultural and archaeological) in accordance with the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011) and the Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW (DECCW, 2010), including results of archaeological test excavations (if required);

Evidence of consultation with Aboriginal communities in determining and assessing impacts, developing options and selecting options and mitigation measures (including the final proposed measures), having regard to the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010); and

Assess the impact to historic heritage having regard to the NSW Heritage Manual.

The ACHA was undertaken in accordance with the requirements of regs. 60 and 61 of the *National Parks and Wildlife Regulation 2019* (NSW) and the following guidelines:

- *Applying for an Aboriginal Heritage Impact Permit guide for applicants* (OEH 2011a)
- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011b) ('the Assessment Guidelines').
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010a) ('the Consultation Guidelines')
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b) ('the Code of Practice').

The aim of the ACHA is to investigate whether future development of the subject area is likely to impact any Aboriginal objects or Aboriginal places that may exist within the subject area and to formulate measures for avoiding or minimising any such impacts.

Conclusion 1 – Known Aboriginal Objects and Places

No known Aboriginal objects or Aboriginal places have been identified that are within, or likely to be within the subject area.

Conclusion 2 – Sensitive Landscape Features

The subject area does not contain any landscape features which are considered sensitive for Aboriginal Objects.

Conclusion 3 – Ground Disturbance

Ground disturbance is assessed to be moderate-high across the entire subject area in view of evidence of land clearance, long history of deep ploughing and the construction of roads and irrigation channels.

Conclusion 4 – Archaeological Potential

As the subject area has been subjected to a moderate-high level of historical ground disturbance and it is unlikely that any intact natural topsoil remains anywhere in the subject area, the archaeological potential of the subject area is assessed to be low to nil.

Conclusion 5 – Significance Assessment

No specific comments regarding the significance of the subject area were received from the RAPs during the preparation of the ACHA.

Conclusion 6 – Impact Assessment

As there are no known Aboriginal objects within the subject area, nor any sensitive landforms for Aboriginal objects, and recorded moderate to high disturbance, the proposed physical works are unlikely to cause either direct or indirect harm to Aboriginal objects or negatively impact inter-generational equity.

Based on the above conclusions, Urbis recommends the following:

Recommendation 1 – Submission of Report

A copy of this report should be submitted with the Environmental Impact Statement (EIS) in support of SSD-61612229.

Recommendation 2 – No Further Archaeological Investigation

As the proposed works are unlikely to cause harm to Aboriginal objects, it is recommended that no further investigation is required for the present development. The proposed development can proceed in line with the Archaeological Unexpected Finds Procedure and Human Remains Procedure outlined below.

Recommendation 3 – Unexpected Archaeological Finds Procedure

Should any archaeological deposits be uncovered during any site works, the following steps must be followed:

1. All works within the vicinity of the find must immediately stop. The find location and minimum 2m buffer should be cordoned off with signage identifying the area as a 'no-go zone' to prevent accidental impact. The find must not be moved 'out of the way' without assessment.
2. The site supervisor or another nominated site representative must contact either the project archaeologist (if relevant) or Heritage NSW (Enviroline 131 555) to contact a suitably qualified archaeologist.
3. The nominated archaeologist must examine the find, provide a preliminary assessment of significance, record the item and decide on appropriate management measures. Heritage NSW/ Place Making NSW should be notified of the find through a Section 146 notification. Such management may require further consultation with the approval authority, preparation of a research design and archaeological investigation/salvage methodology.
4. Depending on the significance of the find, reassessment of the archaeological potential of the subject site may be required and further archaeological investigation undertaken.
5. Reporting may need to be prepared regarding the find and approved management strategies.
6. Works in the vicinity of the find can only recommence upon receipt of approval from Heritage NSW or Place Making NSW.

Recommendation 4 – Human Remains Procedure

Should clearly identifiable human remains be uncovered anywhere within the subject site, the following procedure should be implemented:

7. All works within the vicinity of the find must immediately stop. The find location and minimum 2m buffer should be cordoned off with signage identifying the area as a 'no-go zone' to prevent accidental impact. The find must not be moved 'out of the way' without assessment.
8. The site supervisor or other nominated manager must notify the NSW Police and Heritage NSW.
9. The find must be assessed by the NSW Police, which may include the assistance of a qualified forensic anthropologist.

10. Management recommendations are to be formulated by the NSW Police, Heritage NSW and site representatives.

11. Works are not to recommence until the find has been appropriately managed.

In the event that bones are uncovered which may be human but cannot be confirmed by onsite staff, a suitably qualified archaeologist or heritage specialist should be contacted in the first instance to determine how to proceed.

1. INTRODUCTION

Urbis was engaged by BESS Arctic Pty Ltd c/o Gransolar Development Australia ('the Proponent') to conduct an Aboriginal Cultural Heritage Assessment ('ACHA') of 21356 Riverina Highway, Deniliquin, legally defined as Part Lot 11/DP 856212 and Part Lot 1/DP 536901 ('the subject area') (Figure 1 and Figure 2).

This ACHA has been prepared to support a State Significant Development Application (SSD-61612229), seeking approval for the development of an approximately 100-megawatt battery energy storage system (BESS) on land in close proximity to the Deniliquin Substation. The proposed works include the construction, operation and decommissioning of a BESS; and construction of associated infrastructure, including transmission and connection works.

The ACHA was prepared to address the following heritage requirements of the *Planning Secretary's Environmental Assessment Requirements* (SEARs) issued on 28th September 2023:

An assessment of the impact to Aboriginal cultural heritage items (cultural and archaeological) in accordance with the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011) and the Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW (DECCW, 2010), including results of archaeological test excavations (if required);

Evidence of consultation with Aboriginal communities in determining and assessing impacts, developing options and selecting options and mitigation measures (including the final proposed measures), having regard to the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010); and

In response to the above SEARs requirements, the ACHA was undertaken in accordance with the requirements of regs. 60 and 61 of the *National Parks and Wildlife Regulation 2019* (NSW) and the following guidelines:

- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011b) ('the Assessment Guidelines').
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010a) ('the Consultation Guidelines')
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b) ('the Code of Practice').

The aim of the ACHA is to investigate whether future development of the subject area is likely to impact any Aboriginal objects or Aboriginal places that may exist within the subject area and to formulate measures for avoiding or minimising any such impacts.

1.1. SUBJECT AREA

"Subject area" describes the area which was subject to assessment as part of this ACHA (Figure 1 and Figure 2). The subject area is located at 21356 Riverina Highway, Deniliquin, on traditional lands of the Wamba Wamba and Perrepa Perrepa. Legally, this location is defined as Part Lot 11/DP 856212 and Part Lot 1/DP 536901.

The subject area is located within the Riverina region of NSW, approximately 12km south-east of the town of Deniliquin. It is located in the Edward River Council local government authority (LGA), within the administrative catchment of the Deniliquin Local Aboriginal Land Council (LALC).

The following definitions apply to the subject area and are shown in Figure 3 and Figure 4:

- Project Area (relates to the extent of the proposed development including the BESS compound, overhead transmission lines and road works) = approx. 10.7ha
- Lease Area (relates to the area containing the BESS compound located on the Subject Site Boundary) = approx. 3.5ha
- Subject Site Boundary (relates to the land parcel Lot 11 DP 856212) = 47.5ha

The subject area is currently occupied as agricultural lands (cropping and grazing). Within its southern extent, the subject area partially incorporates the Riverina Highway and Moulamein Channel. It is currently zoned RU1 - Primary Production, with no existing or applicable permit approvals. The subject area is bounded on all sides by agricultural lands.

1.2. PROJECT DESCRIPTION AND PROPOSED ACTIVITY

This ACHA has been prepared to support a State Significant Development Application (SSD-61612229), seeking approval for the development of an approximately 100-megawatt BESS. The project would include a lithium-ion battery energy storage system with a 100 MW/200MWh capacity and associated power conversion systems, switchgear and a control room. Associated infrastructure as part of the project would include overhead lines and collector units, storage area, internal access tracks, on-site parking, security fencing, temporary construction laydown area and landscaped screening.

The project will be connected to the nearby Deniliquin Substation (Deniliquin 132/66kV TS) via a 132kV overhead transmission line crossing between the Mulwala Canal and Riverina Highway. Site access will be via a new six-metre wide access road crossing the Moulamein Channel and connecting to the Riverina Highway.

The key elements of the project include:

- Containerised lithium-ion battery modules with up to 100MW/200MWh capacity.
- Power conversion units, which convert the DC power from the battery modules to 33kV AC.
- On-site 33/132 kV substation, including power transformer and oil containment system.
- A 33kV switch-room.
- Control room.
- Maintenance container.
- A 132 kV overhead transmission line connecting with the Deniliquin Substation.

Permanent supporting infrastructure will include:

- Upgraded site vehicle access road and bridge to provide access to Riverina Highway
- Internal access roads and car parking for maintenance vehicles.
- Three 25,000 litre water tanks.
- Security fencing and CCTV security system.
- Noise wall.
- Landscape screening.
- Lightning mast.

Temporary construction facilities will include:

- Laydown area.
- Construction materials storage.

Plans of the proposed development are provided in Figure 3-Figure 4.

1.3. STATUTORY CONTEXT

The protection and management of Aboriginal cultural heritage items, places and archaeological sites within New South Wales is governed by the relevant Commonwealth, state or local government legislation. These are discussed below in relation to the present subject area.

1.3.1. Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (Cth) ('the EPBC Act') provides protection for properties and places listed on the World Heritage List ('WHL'), the National Heritage List ('NHL') and the Commonwealth Heritage List ('CHL').

The WHL is a list of properties around the world considered to be of outstanding value to humanity, the NHL is a list of places of outstanding significance to the nation and the CHL is a list heritage places owned or controlled by the Australian Government. The WHL, NHL and CHL may include properties and places of Aboriginal heritage significance, in addition to places of natural and historical significance.

It is an offence under sections 15A, 15C, 27A and 27C of the EPBC Act to take any action that is likely to have a significant impact of the relevant heritage values of a place listed on the WHL, NHL or CHL. Approval from the Minister is required for controlled actions which will have a significant impact on items and places included on the WHL, NHL or CHL.

Properties and places listed on the WHL, NHL or CHL, are included in the Australian Heritage Database ('AHD'). The AHD also includes places under consideration, or that may have been considered, for any one of these lists. A search of the AHD was undertaken on 28th February 2024. The search did not identify any Aboriginal heritage properties or places within the curtilage of the subject area that are protected under the EPBC Act.

1.3.2. National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NSW) ('the NPW Act') protects 'Aboriginal objects' and 'Aboriginal places' in NSW. The NPW Act defines 'Aboriginal objects' and 'Aboriginal places' as follows:

- **Aboriginal object** means any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction and includes Aboriginal remains.
- **Aboriginal place** means any place, which may or may not contain Aboriginal objects, that is declared to be an Aboriginal place under section 84 of the NPW Act because it is or was of special significance with respect to Aboriginal culture.

Under section 86 of the NPW Act, it is an offence to harm or desecrate an Aboriginal object or Aboriginal place. Section 87 of the NPW Act provides the following defences to prosecution under s. 86 of the NPW Act:

- The harm was to a previously unknown Aboriginal object, other than a modified tree, and was caused by a low impact activity as defined in reg. 58 of the NPW Reg.
- The harm was to a previously unknown Aboriginal object and due diligence was exercised by the Proponent to determine whether the activity would harm an Aboriginal object and reasonably determined that no Aboriginal object would be harmed, per section 87(2) of the NPW Act.
- The harm or desecration was authorised by an Aboriginal Heritage Impact Permit ('AHIP'), per section 87(1) of the NPW Act.
- The harm or desecration was authorised by an approved State Significant Development Application, per section 4.41(1)(d) of the *Environmental Planning and Assessment Act 1979* (NSW).

As noted in Section 1 above, the ACHA was undertaken in support of a State Significant Development Application (SSD- 61612229) which seeks approval for the proposed works outlined in Section 1.2.

1.3.3. Deniliquin Local Environmental Plan 2013

The *Environmental Planning and Assessment Act 1979* (EP&A Act) requires each LGA to produce a Local Environment Plan (LEP). The LEP identifies items and areas of local heritage significance and outlines development consent requirements.

The subject area falls within the Edward River Council LGA and is subject to the Deniliquin Local Environmental Plan 2013 (Deniliquin LEP 2013). Under Section 5.10, Clause 2 of the Deniliquin LEP 2013, development consent is required when:

(d) disturbing or excavating an Aboriginal place of heritage significance,

(e) erecting a building on land--

(i) on which a heritage item is located or that is within a heritage conservation area, or

(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,

Under Section 5.10, Clause 8 it is specified that:

The consent authority must, before granting consent under this clause to the carrying out of development in an Aboriginal place of heritage significance—

(a) consider the effect of the proposed development on the heritage significance of the place and any Aboriginal object known or reasonably likely to be located at the place by means of an adequate investigation and assessment (which may involve consideration of a heritage impact statement), and

(b) notify the local Aboriginal communities, in writing or in such other manner as may be appropriate, about the application and take into consideration any response received within 28 days after the notice is sent.

Archaeological sites are listed under Schedule 5 of the Deniliquin LEP 2013. A search of the Deniliquin LEP 2013 was undertaken on 28th February 2024. No items of Aboriginal heritage significance are listed on the LEP within proximity of the subject area.

Under Division 4.7 of the EP&A Act, some legislation “does not apply” to development that is State significant development. This development requires approval from the Minister for Planning or Independent Planning Commission. Approval may be granted for an SSDA which does not comply with elements of a local planning instrument. As such, LEP clauses regarding heritage protections may be superseded for an SSDA.

1.4. AUTHORSHIP

The present report has been prepared by Ginger-Rose Harrington (Urbis Consultant Archaeologist), with review and quality control undertaken by Balazs Hansel (Urbis Director of Archaeology).

1.5. LIMITATIONS

The ACHA is limited to consideration of Aboriginal objects and places. Historical heritage properties and places protected under the EPBC Act and historical heritage items and relics protected under the *Heritage Act 1977* (NSW) are not considered.

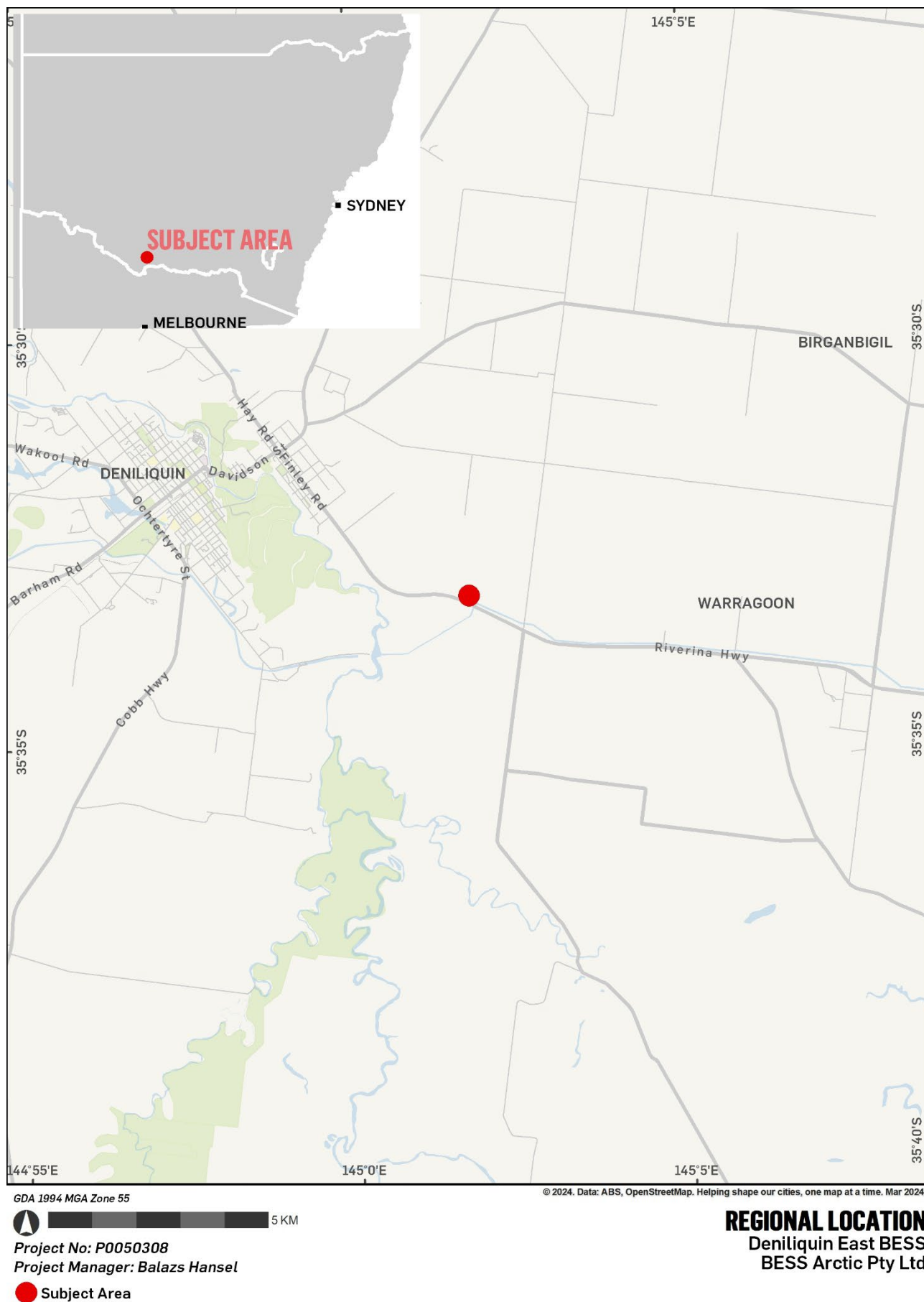
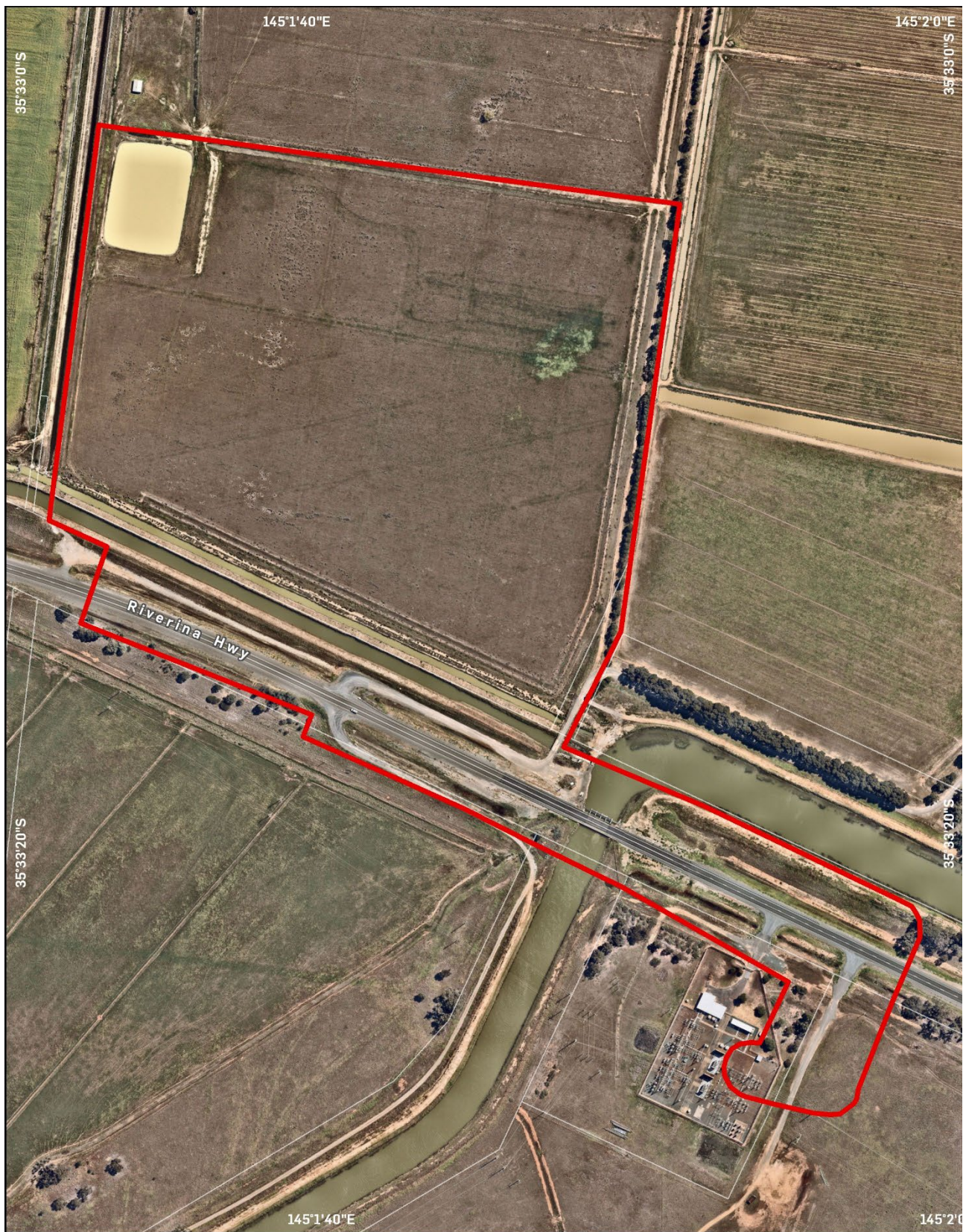


Figure 1 – Regional location of subject area



GDA 1994 MGA Zone 55

© 2025. Data: ABS, OpenStreetMap, Nearmap. Helping shape our cities, one map at a time. Feb 2025



Project No: P0050308

Project Manager: Balazs Hansel

Subject Area

LOCATION OF THE SUBJECT AREA

Deniliquin East BESS

BESS Arctic Pty Ltd

Figure 2 – Subject area

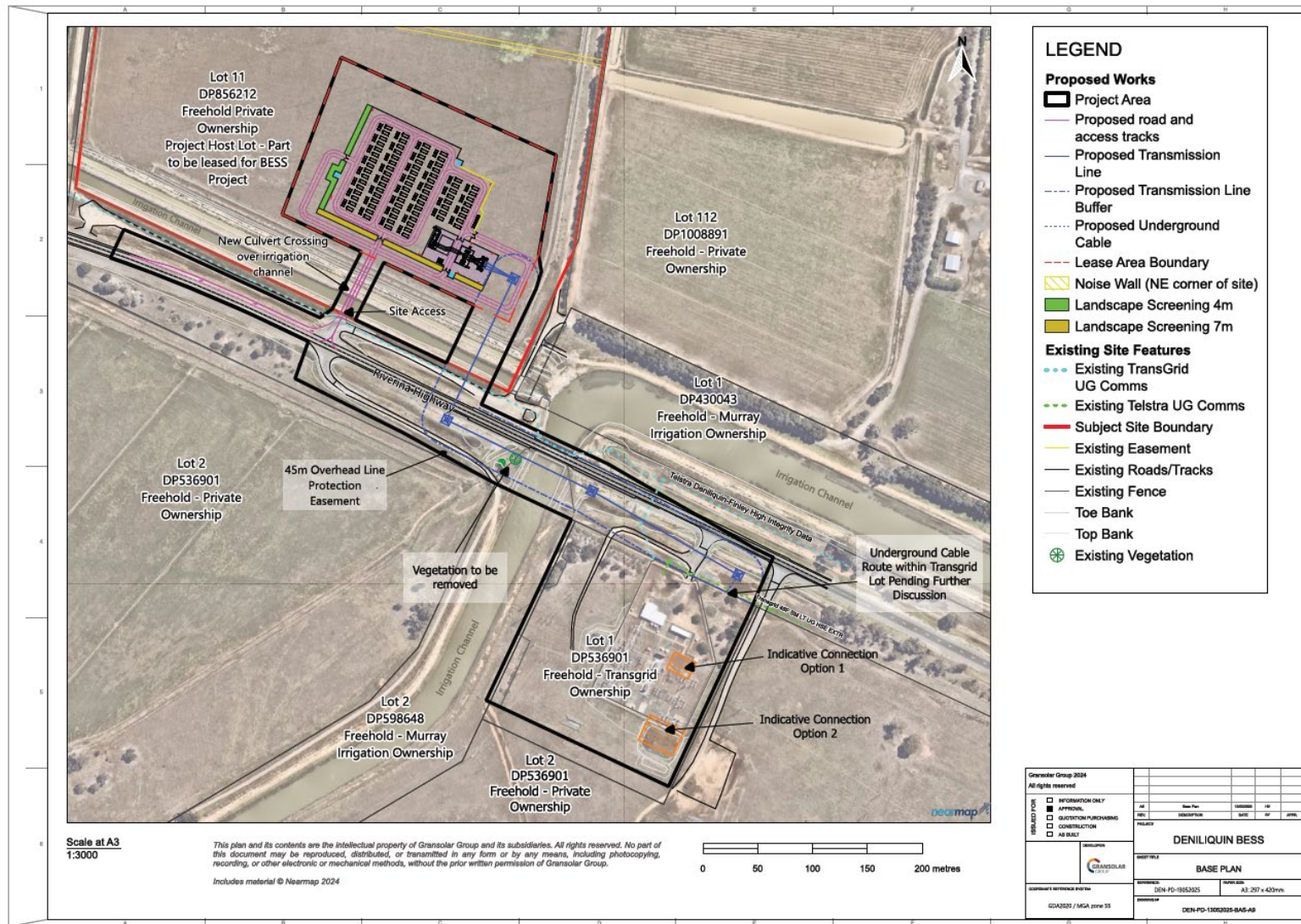


Figure 3 – Proposed Base Plan.

Source: Gransolar Group, 2025.

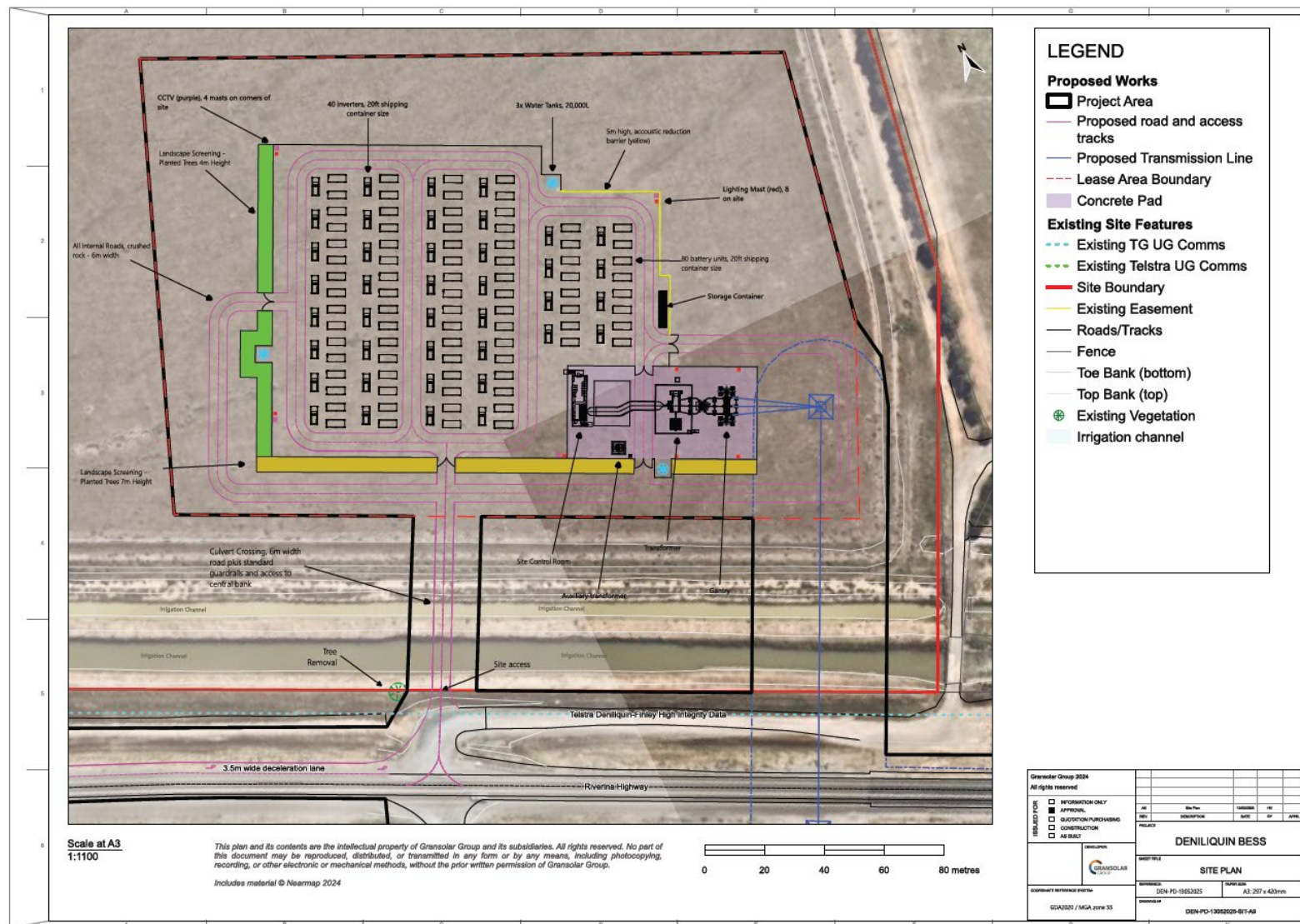


Figure 4 – Proposed BESS Site Plan.

Source: Gransolar Group, 2025.

2. ABORIGINAL CONSULTATION

Consultation with the Aboriginal community is required under reg. 60 of the NPW Reg and the Consultation Requirements. The purpose of consultation with Aboriginal people is to understand their views and concerns about the proposed project and to understand the cultural values present in the area that may be harmed. Consultation ensures that Aboriginal people have the opportunity to improve assessment outcomes by providing relevant cultural information, influencing assessment methodology, contributing to the development of cultural heritage management options and reviewing and commenting the draft assessment report.

The Consultation Requirements outline a four-stage consultation process that includes the following:

- Stage 1 – Notification of project proposal and registration of interest.
- Stage 2 – Presentation of information about the proposed project.
- Stage 3 – Gathering information about the cultural significance.
- Stage 4 – Review of draft cultural heritage assessment report.

The following section documents the conduct and results of the Aboriginal consultation undertaken as part of the present assessment.

2.1. STAGE 1 – NOTIFICATION AND REGISTRATION

The aim of Stage 1 of Aboriginal consultation is to identify, notify and register Aboriginal people who hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the subject area.

2.1.1. Native Title

A search of the National Native Title Tribunal (NNTT) registers and databases was undertaken on 28 February 2024. The search identified no pending Native Title claims or Native Title registrations for the subject area. The NNTT was also contacted by email on 28 February 2024 to request a formal search of the NNTT Register. A reply was received on 28 February 2024 indicating that although there is one Native Title claim (VC2021/001) which intersects with the subject area, this claim was not accepted for registration. Therefore, there are no Native Title matters overlapping with the subject area.

2.1.2. Identification of Cultural Knowledge Holders

To identify Aboriginal people who may be interested in registering as Aboriginal parties for the project, the organisations stipulated in Section 4.1.2 of the Consultation Guidelines were contacted on 8 March 2024 (Table 1). A copy of the email sent to the each of the contacted organisations is included in Appendix C. A total of 12 Aboriginal parties with a potential interest in the subject area were identified during this stage.

Table 1 – Contacted organisations

Organisation	Notification Sent	Response Received
Edward River Council	08 March 2024	N/A
Deniliquin Local Aboriginal Land Council	08 March 2024	N/A
Murray River Local Land Services	08 March 2024	11 March 2024
Heritage NSW	08 March 2024	13 March 2024
National Native Title Tribunal	28 February 2024	28 February 2024
NTS Corp	08 March 2024	19 March 2024
Office of the Registrar, Aboriginal Land Rights Act 1983	08 March 2024	12 March 2024

Letters were sent to the [REDACTED] identified Aboriginal parties by either email or mail on 18 March 2024 to notify them of the proposed project. The letters included a brief introduction to the project and the project location including a map of the subject area and set a deadline for response of 5 April 2024 providing over 14 days to register an interest. A copy of the letter is included in Appendix C.

A public notice was also placed in a local newspaper to open registration to the broader Aboriginal community. A search of an online database of local newspapers ('newspapers.com.au') was undertaken to identify local newspapers within the Deniliquin area. The search identified six local newspapers: (1) 'Border Mail', (2) 'Daily Advertiser', (3) 'Deniliquin Pastoral Times', (4) 'Echuca Riverine Herald', (5) 'Hay Riverine Grazier' and (6) 'Koondrook Barham Bridge'. Of the identified local newspapers, only the 'Deniliquin Pastoral Times' and 'Echuca Riverine Herald' produced print publications. Due to the latter's larger annual readership, the public notice was published in the Echuca Riverine Herald. The advertisement was published on 20th March 2024 and registration was open until 5th April 2024, providing over 14 days to register an interest. A copy of the advertisement is included in Appendix C.

2.1.3. Registration of Interest

A total of 6 Aboriginal parties registered interest in the project as a result of this phase (Table 2). The Deniliquin Local Aboriginal Land Council was registered despite not responding. Acknowledgement emails were made by Urbis to all respondents to confirm registration had been received. [REDACTED]

A list of the Registered Aboriginal Parties (RAPs) was provided to Heritage NSW and Deniliquin Local Aboriginal Land Council on 8th April 2024 (see Appendix C).

2.2. STAGE 2 AND 3 – PRESENTING AND GATHERING INFORMATION

The aim of Stages 2 and 3 of the community consultation process is to provide RAPs with information about the scope of the proposed project and the proposed ACHA methodology, to gather feedback on the proposed project and proposed methodology and to gather any cultural information that the RAPs wish to share.

2.2.1. Presentation of Project Information and Methodology

A Stage 2 and 3 information pack was sent to registered Aboriginal parties via email on 9th April 2024. The information pack was prepared as a combination of Stage 2 and 3 of the Consultation Guidelines, and included the following information:

- An outline of the proposal and an overview of the subject area.
- The proposed methodology for the ACHA, including the impact assessment process and input points for RAPs into the investigation and assessment.

- Critical timelines and milestones for the completion of assessment activities and delivery of reports.
- Agreed roles, functions and responsibilities.
- A request for comment on methodology, recommendations for site investigation any cultural information the respondent wished to share.

A response to the Stage 2 and 3 information pack was requested by 7th May 2024, providing 28 days to respond. A copy of the Stage 2 and 3 information pack is included in Appendix C.

2.2.2. Site Visit and Meeting

A separate communication was sent on 16th May 2024 to all RAPs who had expressed an interest a schedule of rates and copies of insurances by the deadline. The communication invited the RAPs to register for a site visit and meeting to be held on 22nd May 2024 as part of Stage 2 and 3 of the consultation process.

The purpose of the site inspection and meeting was to conduct a thorough briefing with the RAPs about the proposed development, to conduct a walkover of the subject area with the RAPs, to discuss the information provided in the Stage 2 & 3 information pack and to discuss potential archaeological mitigation strategies.

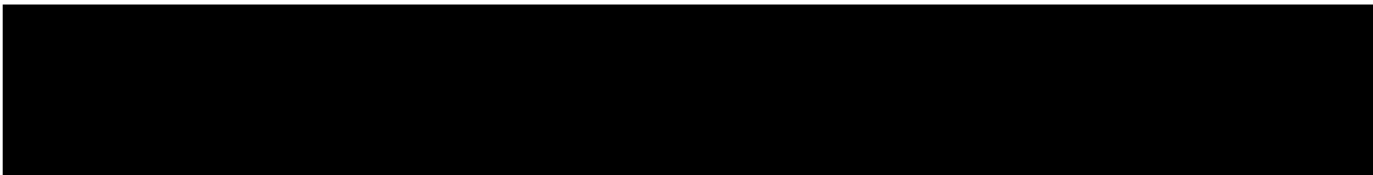
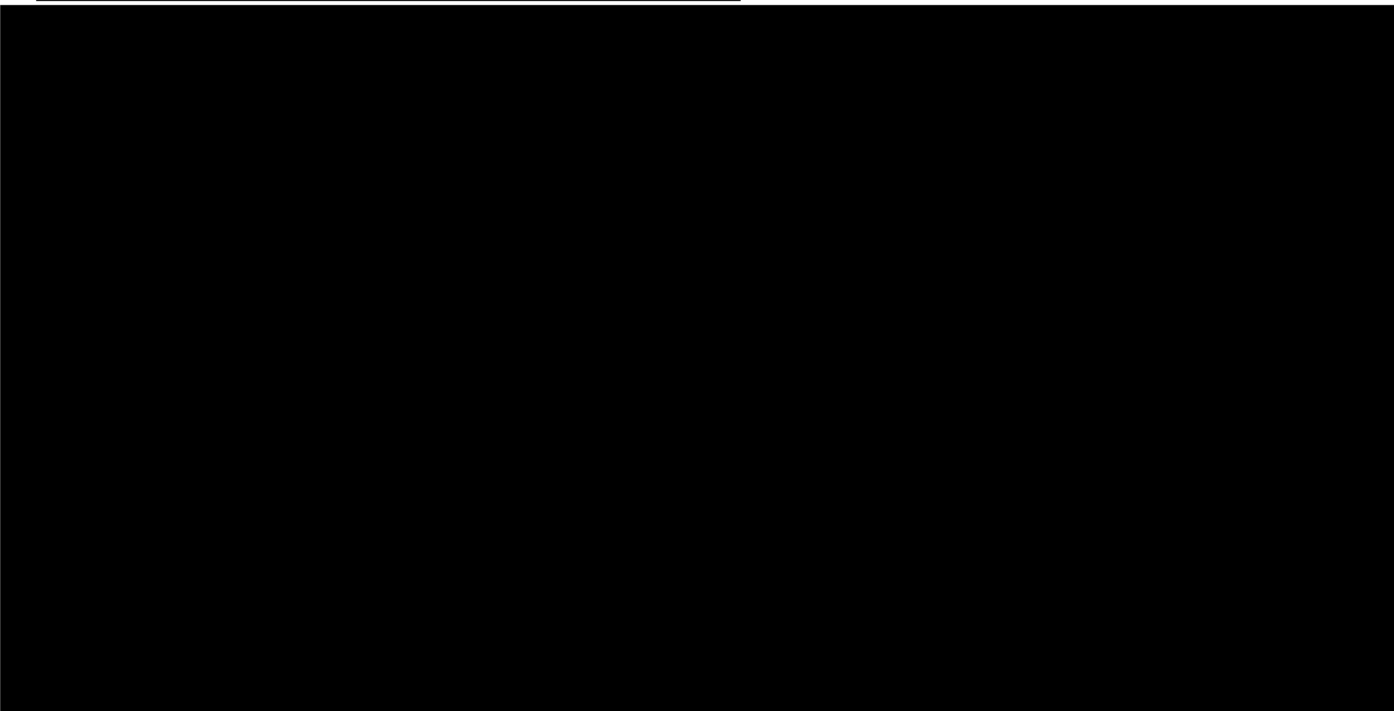
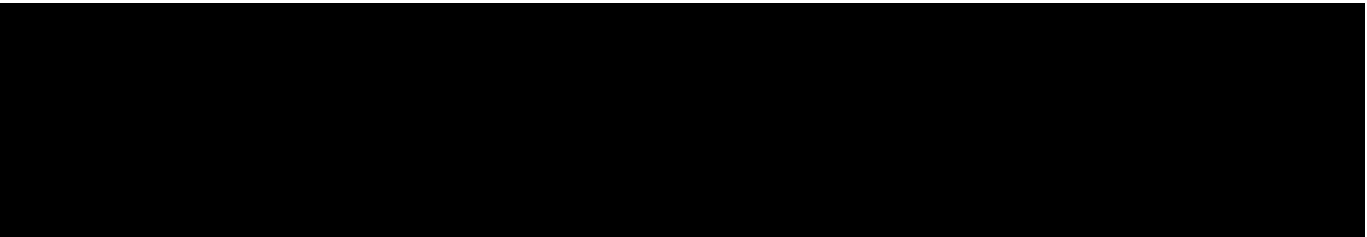


Table 3 – RAP attendees at site visit and meeting

2.2.3. Gathering Feedback

Responses [redacted] were received in relation to the Stage 2 and 3 information pack. The responses are included in Appendix C. [redacted] hose responses are addressed in Table 4 below.



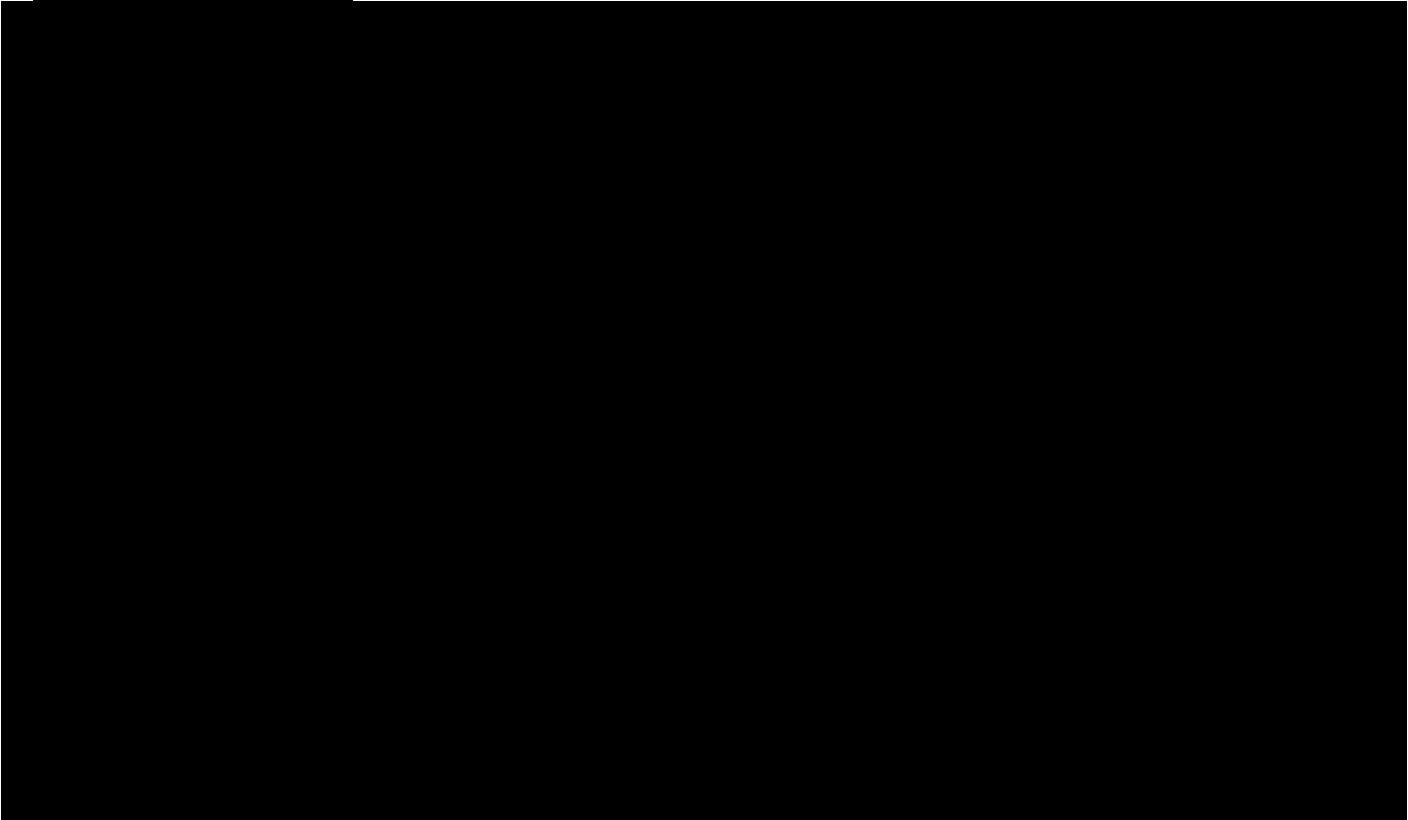


2.3. STAGE 4 – REVIEW OF DRAFT ACHA REPORT

The aim of Stage 4 of the community consultation process is to prepare and finalise an ACHA report with input from RAPs.

A draft of the present ACHAR was sent to RAPs via email on 5 July 2024 with comment on the draft ACHAR requested by 2 August 2024, providing 28 days to respond.

The responses are included in Appendix C and addressed in Table 5 below.



3. DESKTOP ASSESSMENT

The aim of the desktop assessment is to determine whether any known Aboriginal objects are located within the subject and whether the subject area is likely to retain any unknown Aboriginal objects. The findings of the desktop assessment inform the archaeological survey of the subject area and contribute to the determining whether an archaeological test excavation is required.

3.1. ARCHAEOLOGICAL CONTEXT

The archaeological context of the subject area encompasses previous archaeological and ethnohistorical studies that are relevant to determining the nature and distribution of Aboriginal archaeological material within the local region and subject area and local region.

3.1.1. Aboriginal Land Use

Due to the absence of written records, much of our understanding of Aboriginal life pre-colonisation is informed by the histories documented in the late 18th and early 19th century by European observers. These histories provide an inherently biased interpretation of Aboriginal life both from the perspective of the observer but also through the act of observation. The social functions, activities and rituals recorded by Europeans may have been impacted by the Observer Effect, also known as the Hawthorne Effect. According to the Observer/Hawthorne Effect, individuals will modify their behaviour in response to their awareness of being observed. With this in mind, by comparing/contrasting these early observations with archaeological evidence is possible to establish a general understanding of the customs, social structure, languages and beliefs of Aboriginal people (Attenbrow 2010).

Prior to the arrival of Europeans in the area in the 1840s, the subject site was within the traditional lands of the Perrepa Perrepa and the Wampa Wampa people, which covered the area from the north-east (Perrepa Perrepa) and the south-west (Wampa Wampa) regions of the Edward River (Weir et.al 2013). The Edward River, traditionally known as *Kolety*, and the neighbouring Wakool River form an anabranch and floodplain of the Murray River, establishing a resource-rich and fertile landscape in which Aboriginal people seasonally exploited. At the time of European settlement in 1843, observers noted groups of up to an estimated 300 Aboriginal people living and subsisting on the banks of the rivers, although numbers have never been accurately recorded (Buchan 1973). As the habitation patterns of these Aboriginal groups closely followed the economic exploitation of the area, permanent occupation of the riverbanks and floodplains for most of the year occurred with movement to the Uplands in the Spring and Summer months. As their territory expanded based on patterns of seasonal exploitation, the Wampa Wampa and Perrepa Perrepa people were able to vary their diets with seafood, vegetables and terrestrial foods, including kangaroos, bogong moths and edible tubers (Weir et.al 2013). Aquatic resources including fish, freshwater mussels and shellfish were prevalent during flooding events, gathered from the riverbanks and swampy marshes that characterised the riverine area and its associated group of *Eucalyptus* forests.

Plentiful *Eucalyptus* Forests became established in the subject area, 25 000 years ago resulting from the changing path of the Murray River. The establishment of this tree-dominated wetland environment provided key resources for the inhabiting Aboriginal Groups. Ethnographic records in conjunction with the archaeological record suggest that the River Red Gum (*Eucalyptus camaldulensis*) and the Red-Box Tree (*Eucalyptus polyanthemos* Schauer) were utilised extensively as a resource for the construction of canoes and ceremonial carving (Weir et.al 2013). Additionally, the sandhill environment that characterised the riverplains, was favoured for use as primary burial sites. Further, oven mounds served a similar purpose, and provided a readily available burial location.

Archaeological excavation has uncovered site types that are more numerous than others, including oven mounds, burials and scarred trees that have been associated with specific locations within the subject area's contextual landscape. These past archaeological findings indicate the past use of the subject area by its original occupants pointing to a primarily sedentary habitation pattern that relied on the seasonal exploitation of resources for sustenance.

Based on the above background, it is possible that similar evidence of Aboriginal occupation will also be present within original and/or intact topsoils within the present subject area.

3.1.2. Declared Aboriginal Places

The NSW State Heritage Inventory (SHI) includes all declared Aboriginal places within NSW, in addition to historic heritage items listed on the State Heritage Register (SHR), listed Interim Heritage Orders (IHOs) and items listed on Local Environment Plans (LEPs) and State Environmental Planning Policies (SEPPs).

A search of the SHI was undertaken on 29th February 2024. The search identified no heritage items within the curtilage of the subject area.

3.1.3. Registered Aboriginal Objects

The Aboriginal Heritage Information Management System (AHIMS) is a database of registered Aboriginal sites in NSW. Each registered Aboriginal site includes one or more site 'features', which may be considered an Aboriginal object under the NPW Act. An Aboriginal site may include one or more site features.

The *Guide to completing the AHIMS Site Recording Form* (OEH 2012) lists 20 different features that may be recorded on AHIMS. The most common site features registered in NSW are artefacts, modified trees, art, grinding grooves and shell deposits (see Glossary for definitions). However, the likelihood of any particular site feature being found will vary according to region and environment. Less common site features that are encountered are burials, ceremonial rings, earth mounds, fish traps, habitation structures, hearths, non-human bone and organic material, ochre quarries, stone arrangements and stone quarries (see Glossary for definitions).

Other Aboriginal site features that are recorded on AHIMS but are not necessarily 'Aboriginal objects' within the meaning of that term as it is defined in the NPW Act (i.e. are not a 'deposit, object or material evidence... relating to the Aboriginal habitation of the area') are potential archaeological deposits (PADs), Aboriginal ceremony and dreaming sites, Aboriginal resource and gathering sites, conflict sites and waterholes (see Glossary for definitions). These features are only considered to be 'Aboriginal objects' for the purpose of the NPW Act if accompanied by at least one of the other site types defined above.

The AHIMS database also provides information on the context of registered Aboriginal sites. Sites that are recorded as 'closed' context s are those that include a cave or rock overhang, while all other sites are recorded as 'open' context.

It should be noted that the AHIMS register does not represent a comprehensive list of all Aboriginal objects or places as it is limited to sites that have been previously identified and registered. Registration is typically the result of previous archaeological investigation, so the number of registered Aboriginal sites in area is dependent on the amount of such research previously undertaken.

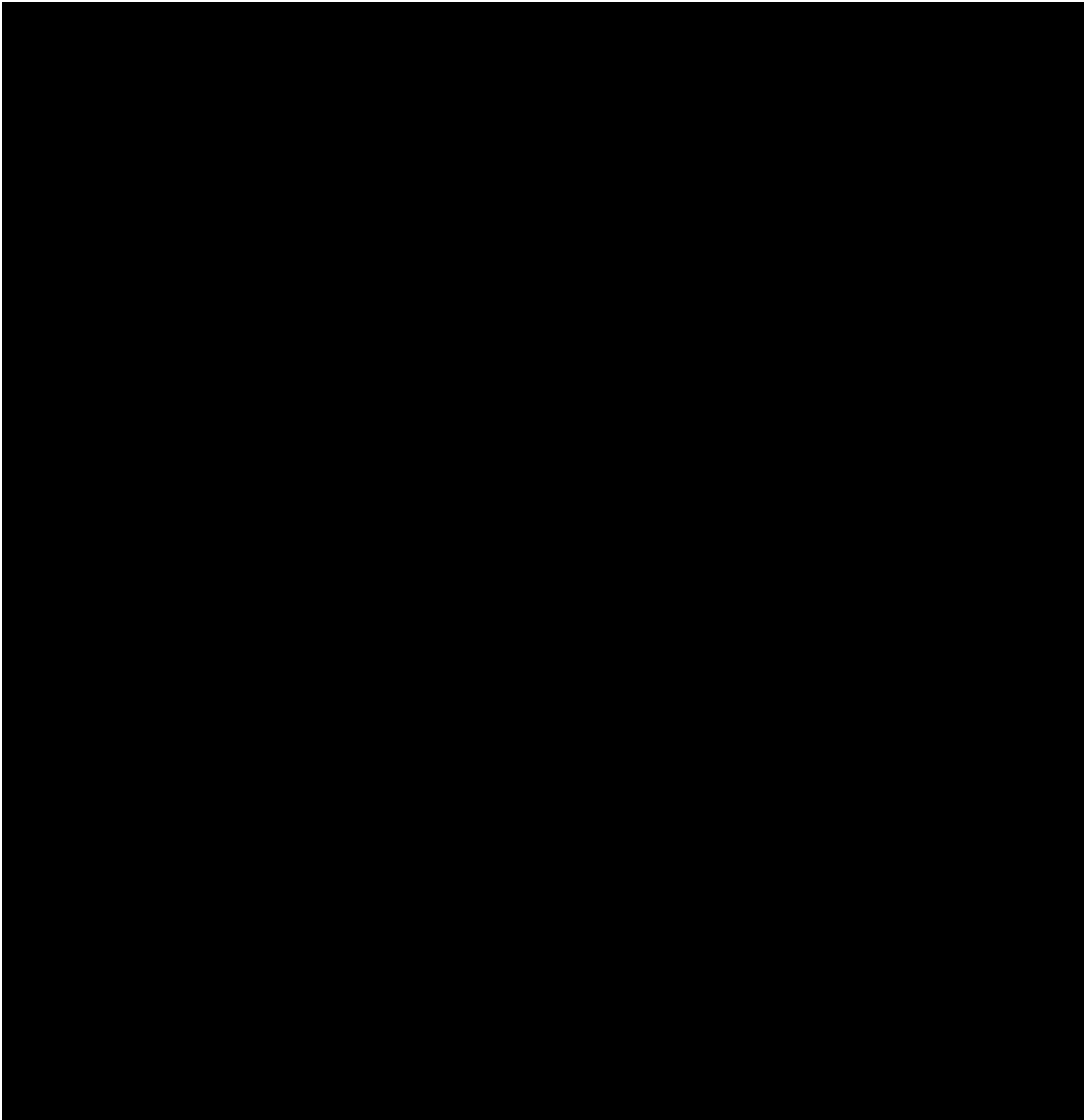
A search of the Aboriginal Heritage Information Management System (AHIMS) was carried out on 04 February 2025 () for an area of approximately 20 km x 20 km centred on the subject area. The Basic and Extensive AHIMS search results are included in Appendix A.

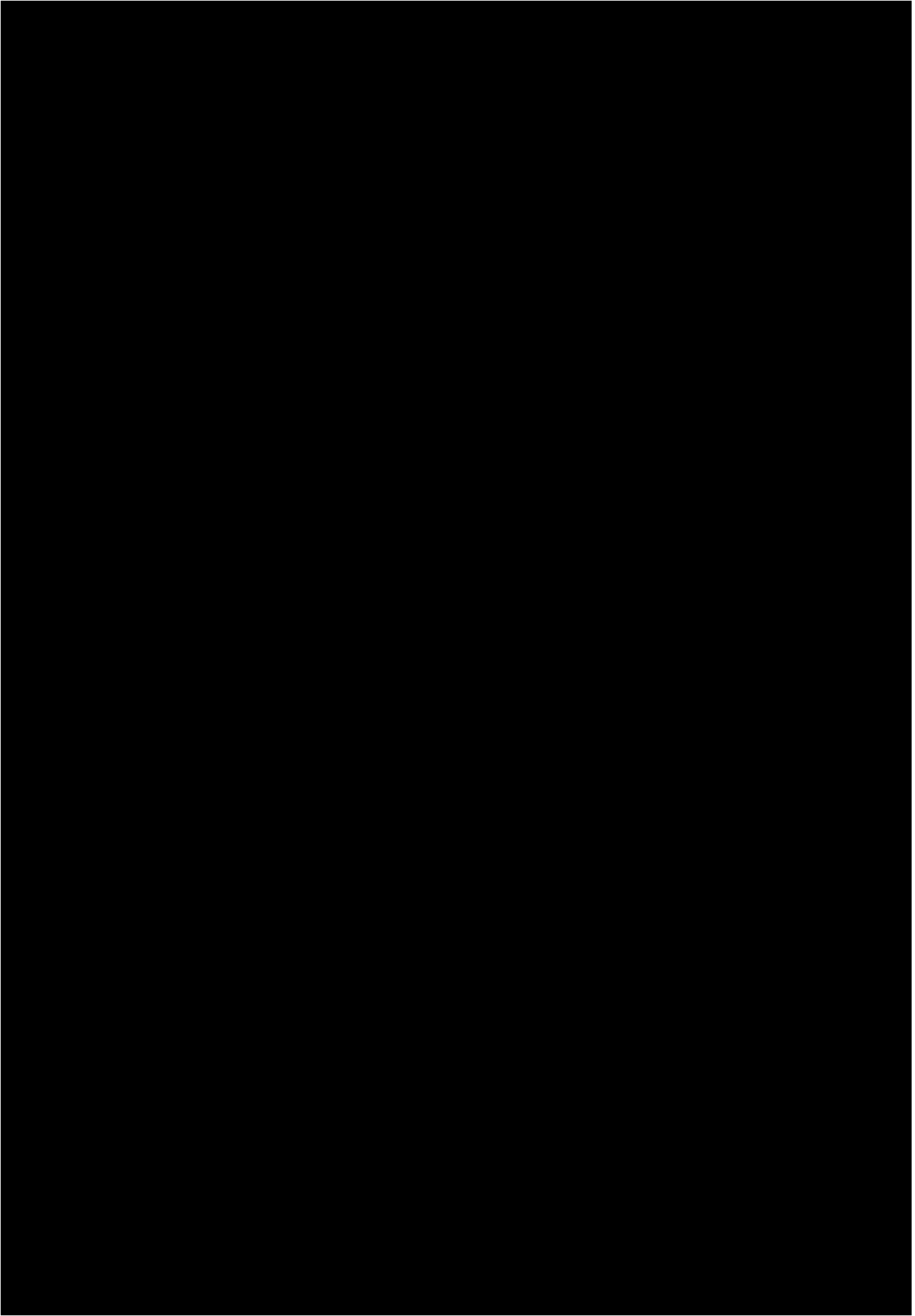
The search was undertaken to determine if:

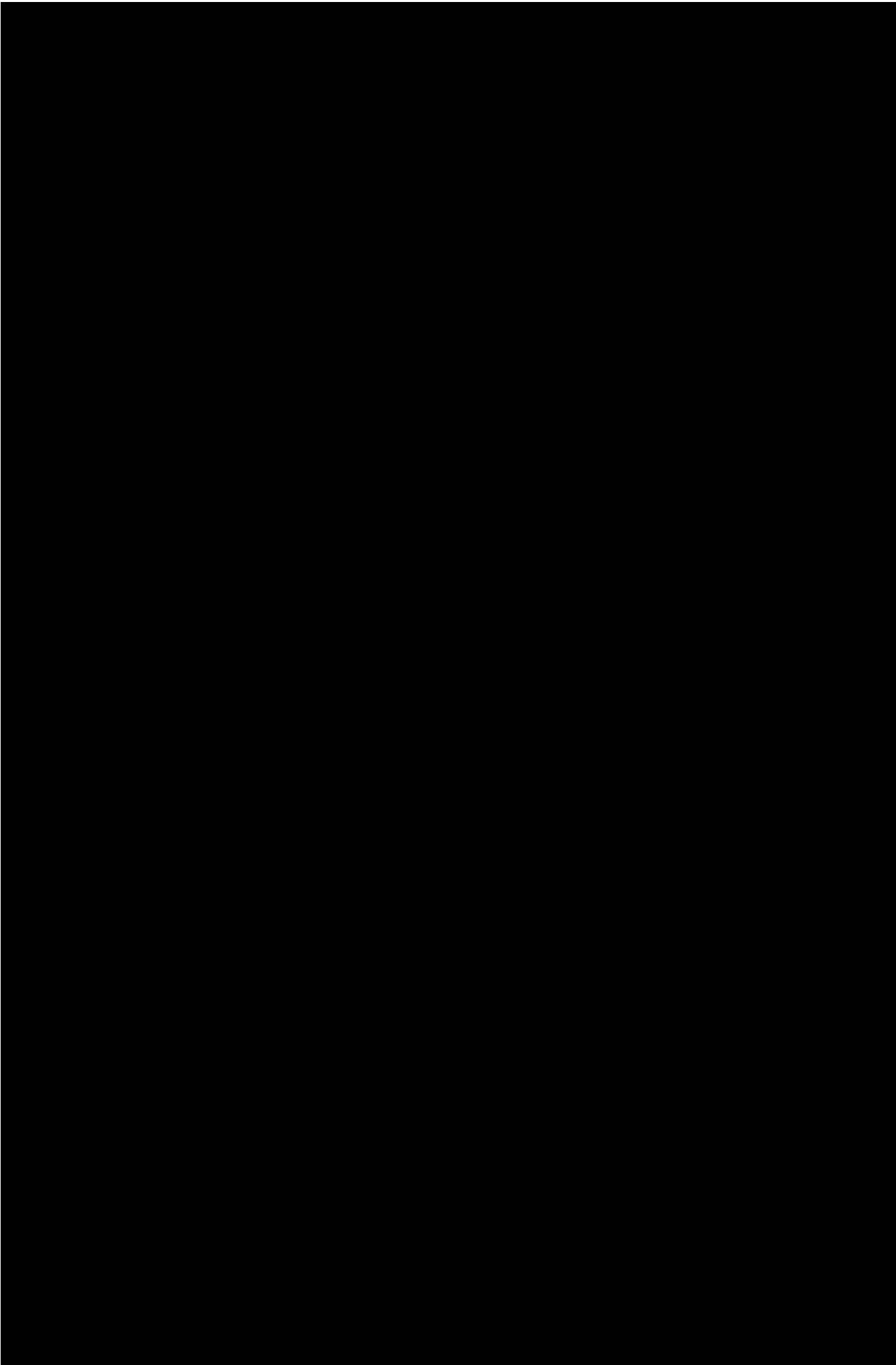
- There are any registered Aboriginal sites registered within the curtilage of the subject area.
- There are any registered Aboriginal sites near the subject area that might extend into it.
- There is any association of Aboriginal sites with certain landscape features within the broader region that may be instructive for determining the likelihood of Aboriginal sites within the subject area.

A summary of all previously registered Aboriginal objects and Aboriginal places within the search area is provided in Table 6. A total of 53 Aboriginal sites are registered in the search area. The locations of the 53 identified Aboriginal sites are shown in Figure 5-Figure 6.

The search identified no Aboriginal objects or Aboriginal places within the curtilage of the subject area. None of the identified Aboriginal objects or Aboriginal places occurred within 50m of the subject area.







3.1.4. Previous Archaeological Investigations

Previous Aboriginal archaeological investigations undertaken within or near to the subject area may provide information about known Aboriginal sites that have not previously registered on the AHIMS database. Additionally, Aboriginal archaeological investigations undertaken in the broader region may provide information on the types of archaeological site features that are likely to occur within the subject area.

3.1.4.1. Investigations of the Subject area

No previous archaeological investigations of the subject area have been identified during the preparation of the present report.

3.1.4.2. Regional Investigations

Several investigations have been undertaken in the broader region. The most relevant investigations to the present subject area are discussed below.

3Rivers (2023) undertook an archaeological investigation of Tuppal Creek as part of the Mid-Murray Anabranches (MMA) Project, located approximately 25km south-east of the subject area. The archaeological investigation consisted of a pedestrian archaeological field survey and subsequent archaeological test excavation.

In the course of the field survey, 17 Aboriginal sites were recorded. Together with previously registered Aboriginal sites in the vicinity of the study area, the survey concluded that the main site type was modified trees (12), two of which were ring trees, advised by the RAPs as being highly significant; earth features (5); PADs (2); Isolated artefacts (2) and artefact scatter (1). The subsequent archaeological test excavation comprised excavating a total of 21 test pits across three locations. Overall, the test excavation identified three stone artefacts, two bone fragments, charcoal, burnt clay and shell fragments. Although a detailed cultural significance assessment of the identified Aboriginal sites remains unpublished, the report notes that the RAPs considered the general study area a meaningful place to the local Aboriginal communities.

Given the subject area's location and known archaeological context, this study indicates a high likelihood for earth features, culturally modified trees and artefact scatters to occur within the site. Due to the subject area's clearance of mature trees suitable for cultural modification, it is unlikely for such sites to be identified at the site.

Archaeological Consulting Services (1996) undertook an archaeological investigation of three stretches of the Edward River between Smart and Robinson Streets, Deniliquin; Browning and Wanderer Streets, Deniliquin; and between Lagoon St. and Brick Kiln Creek, Deniliquin. Overall, these areas are located approximately 4.3km west of the subject area. The archaeological investigation consisted of a desktop assessment of these areas, including consultation with RAPs, followed by an archaeological field survey.

The desktop assessment involved a review of the NPWS Site Register and the general archaeological context of the Riverine Plain/Murray Valley. It concluded that the site types most likely to occur within the study areas included the following:

Mounds, on river and creek floodplains located around the margins of large swamps or adjacent to inlet channels of lakes and swamps.

Culturally modified trees, including black box trees (along ridges or the floodplain) and river red gums (fringing channels).

Burials, usually found in sandy landforms – for example, bordering dunes and lunettes, within levees and mounds.

Artefact scatters, along slightly elevated areas on levees and along the riverbank.

Hearths and middens, found along elevated portions of the high and low alluvial floodplain.

The archaeological field survey involved a pedestrian survey each area and a vehicular survey of the same area, checking any trees for scarring and making spot investigations on foot of areas of high ground surface visibility. Overall, a total of 10 Aboriginal sites were identified, including culturally modified trees and one burial. Modified trees were identified on river red gums located along embankments of the Edward River and along creek banks. Modified trees were also identified on black box trees located within the floodplain and along linear depressed soil. The burial was located in a source bordering dune.

Given the subject area's location and known archaeological context, this study indicates a high likelihood for earth mounds, culturally modified trees and artefact scatters to occur within the site. Due to the subject area's clearance of mature trees suitable for cultural modification, it is unlikely for such sites to be identified at the site.

3.1.5. Existing Predictive Models

Predictive models are used to determine the likelihood of Aboriginal archaeological material being located within a particular area. A review of existing predictive models relevant to the region around the subject area is relevant for formulating a predictive model for the present assessment.

The *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW 2010c) ('The Due Diligence Code') provides an overarching predictive model for the entirety of NSW. The Due Diligence Code specifies the following 'relevant landscape features' that are considered indicative of likely past Aboriginal land use:

- Areas within 200 m of waters including freshwater and the high tide mark of shorelines.
- Areas located within a sand dune system.
- Areas located on a ridge top, ridge line or headland.
- Areas located within 200 m below or above a cliff face.
- Areas within 20 m of or in a cave, rock shelter, or a cave mouth.

As discussed in Section 3.1.3, the *Aboriginal scarred trees in New South Wales, a field manual 2005* prepared by the DEC and Andrew Long (*Aboriginal Scarred Trees 2005*) indicates the likely distribution and species of Culturally Modified Trees throughout the Murray-Darling Basin. Overall, this 'model' may be summarised as follows:

Large trees suitable for bark removal have fairly limited distribution in riverine floodplains and wetlands, though these areas can contain very dense groups of Culturally Modified Trees.

Scarred trees are most commonly found along the banks of waterways, around lakes and swamps and on low lying floodplains.

Common scarred tree species include river red gum (*E. camaldulensis*), black box (*E. largiflorens*), bumble box (*E. populnea*), and gum-barked coolibah (*E. intertexta*).

3.2. ENVIRONMENTAL CONTEXT

The environment context of the subject area encompasses the natural landscape and the impacts of historical human activity. These aspects of the environmental context are relevant to predicting the potential for unknown Aboriginal objects occurring within the subject area.

3.2.1. Natural Landscape

The purpose of reviewing the natural landscape of the subject area is twofold. It assists in the prediction of the intensity and nature of Aboriginal land use and deposition of archaeological material in the subject area by considering the landforms and resources that would have played a part in the everyday lives of Aboriginal people. It also assists in the determining the likelihood that those material remains would have survived any natural geomorphological process or historical ground disturbance (discussed in Section 3.2.2 below).

Topography:

The topography of the subject area is relatively level, gently decreasing in elevation towards the north-west (Figure 7). The subject area comprises part of a broad, low relief floodplain.

Soils and Geology:

The 1:250,000 Geological Map of Australia locates the subject area entirely within the TQs 'Shepparton Formation' geological unit (Figure 8). The TQs geological unit comprises a mixture of highly variable aeolian and alluvial deposits. According to the Australian Stratigraphic Units Database (ASUD), these deposits occur to depths of 50-132cm and are characterised as follows:

*Unconsolidated to poorly consolidated mottled variegated clay, silty clay with lenses of polymictic, coarse to fine sand and gravel; partly modified by pedogenesis, includes intercalated red-brown paleosols. Forms extensive flat alluvial floodplains.*¹

Basement rocks in this area include early Palaeozoic sediments and granites of the Lachlan Fold belt, but almost no outcrops exist in the Riverina.² Therefore, rock outcrops are unlikely to occur within the subject area or its vicinity.

Geomorphic Activity:

The mode of geomorphic activity in the subject area is aggradation. Natural aggrading processes, especially fluvial deposition, have caused the accumulation of overbank sediments within the subject area through a combination of overbank flooding and avulsion. This mode of geomorphic activity is conducive to the retention of stratified archaeological deposits.

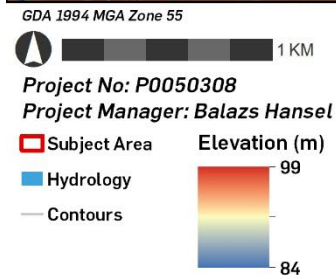
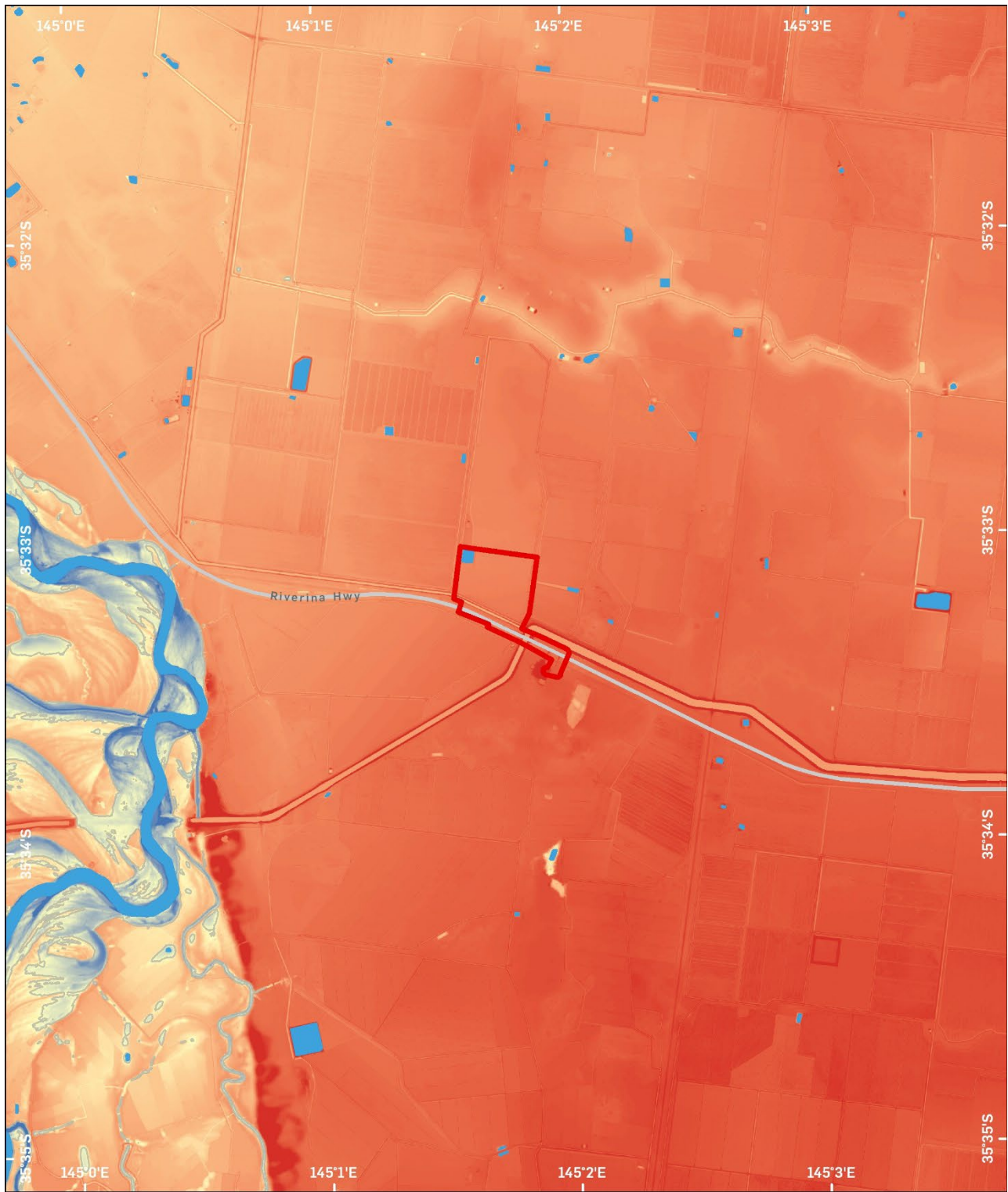
Vegetation: Natural vegetation within the Deniliquin area includes river red gums (*Eucalyptus camaldulensis*) along the banks of the rivers and creeklines and black box (*Eucalyptus largiflorens*) with a lignum (*Muehlenbeckia cunninghamii*) understorey on the surrounding floodplains. Of these species, *Aboriginal Scarred Trees 2005* notes only that the river red gum is commonly subject to cultural modification. However, as pictured in Figure 2, the entirety of the subject area has been cleared of natural vegetation and is planted with green foliage crops (likely, hay or silage).

Hydrology: The subject area is located approximately 1.6km north-east of the Edward River. It is also located 52m west of the Mulwala Canal and partially includes the Moulamein Channel, both of which were constructed during the 20th Century.

The relevance of the natural landscape for the present assessment is discussed in the application of the predictive model to determining Aboriginal archaeological potential in Section 3.4.2 below.

¹ "Stratigraphic Unit Details: Shepparton Formation" (2023), Australian Stratigraphic Unit Database, last accessed 04/03/2024 at <https://asud.ga.gov.au/search-stratigraphic-units/results/25474>.

² NSW National Parks and Wildlife Service (2003), *The Bioregions of New South Wales – Their Biodiversity, Conservation and History*, p. 92.



TOPOGRAPHY

Deniliquin East BESS
 BESS Arctic Pty Ltd

Figure 7 – Topography

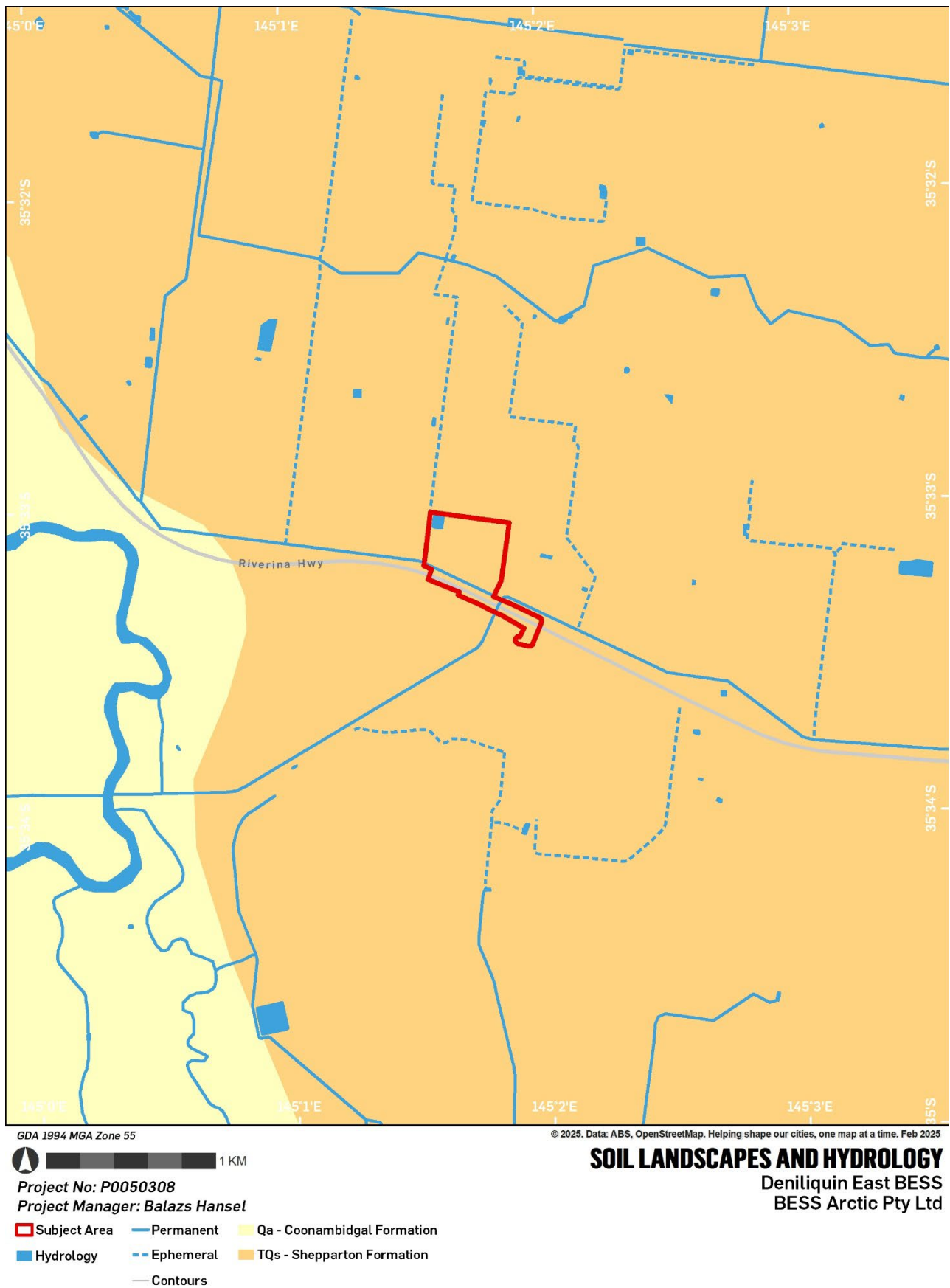


Figure 8 – Soil landscapes and hydrology

3.2.2. Historical Ground Disturbance

Disturbance to the natural landscape, either through human activity (e.g., clearing of vegetation, ploughing and construction of buildings) or natural processes (e.g., erosion), reduces the likelihood of deposited Aboriginal objects being retained, either through destruction of the Aboriginal objects or their removal. Ground disturbance may affect the natural topsoil (A-horizon), within which subsurface Aboriginal archaeological remains are typically found, and other surface features associated with Aboriginal objects, such as trees, rock platforms and rock overhangs.

For the purpose of the present assessment, historical ground disturbance is rated according to the following scheme:

- **High:** all or most topsoil has been removed, with at most only a small part of the lower portion of topsoil possibly remaining intact
- **Moderate:** the upper part of the topsoil has been substantially disturbed or removed, but a substantial amount remains intact
- **Low:** little or no disturbance or removal of topsoil, with all or most topsoil remaining intact

The degree of disturbance is relative to the depth of the natural topsoil. For example, disturbance of the upper 30 cm of a natural soil profile by ploughing may be high if the topsoil only 30 cm deep, but only moderate if the topsoil is 1 m deep.

European settlement of the Deniliquin area commenced around 1842, when Benjamin Boyd commissioned Augustus Morris to acquire new pastoral lands in the Riverina district. Later than year, Morris settled 'Deniliquin Station' approximately 8km upstream of the present town. By 1848, the new Deniliquin town was planned and, by 1850, was gazetted.³

Throughout the following century, the population of Deniliquin gradually increased as European pastoralists migrated inland in search of grazing land. Wool growing quickly became the town's primary local industry, dominated by squatters and their flocks who occupied immense crown grants within and around the town of Deniliquin. By 1877, the subject area was designated part of Squatting Station 159 of 'North Deniliquin' and was presumably occupied for the grazing and agistment of sheep (Figure 9). By 1883, Squatting Station 159 was subdivided for auction, with the subject area now designated Lots 17-18 and 21-22 (Figure 10). At this time, the subject area remained undeveloped with only an early road surface bisecting the site on a north-west to south-east axis (Figure 10). Neighbouring properties are designated homesteads and reserves (Figure 10), with many historical sources documenting the widespread occupation of the area for wool growing.⁴ Altogether, the subject area was occupied as pastoral land until the early-20th Century, whereby it was likely subjected to the clearance of vegetation, grazing and animal agistment.

In the following years, local landholders unsuccessfully petitioned the NSW Government for the construction of water conservation dams and irrigation systems, noting the district's severe drought sensitivity. In 1915, the contentious *Murray River Agreement* was finally signed by the States and Commonwealth, signalling their commitment to the implementation of several large-scale irrigation schemes which would impact the entirety of the Riverina district (including the subject area). These works reached Deniliquin (including the subject area) in 1935 with the construction of the Mulawa Canal (Figure 12).⁵ This canal would transport water from the Murray River at Lake Mulwala to Deniliquin, approximately 156km away, where it bisects the subject area on an east-west axis. The construction of the canal was completed in 1939,⁶ and involved the construction of earthworks, stabilisation works and the construction and installation of the main canal. Historical photos indicate the depth and extent of disturbance this would have caused along its route (including within the subject area) (Figure 12-Figure 13).⁷ In the following year, the subject area was also impacted by the construction of the Riverina Highway, which runs parallel to the south of the Mulawa Canal.⁸ Taken together, the construction of the canal and new road surface would have significantly disturbed the southern portion of the subject area.

³ Murray Irrigation (n.d.), *Our History*. Last accessed 07/06 at <<https://www.murrayirrigation.com.au/our-history>>.

⁴ Peter Freeman & Partners Pty. Ltd. Architects & Planners (1990-91), *Deniliquin Main Street Project*, p. 8.

⁵ Murray Irrigation (n.d.), *Ibid*.

⁶ Murray Irrigation (n.d.), *Ibid*.

⁷ The History of Irrigation in the NSW Murray Region (n.d.), *Maps & Articles*. Last accessed 07/06 at <<https://irrigationhistory.net.au/articles/>>.

⁸ Murray Irrigation (n.d.), *Ibid*.

Until the present day, the subject area has been continually used as agricultural land, whereby it would have been impacted by ploughing. This is indicated by historical aerial images of the site from the late-20th and early 21st centuries (Figure 14-Figure 19).

Taken together, the historical record indicates that the subject area has been occupied as agricultural and/or grazing land from the mid-18th Century until the present day. During this time, it sustained ground disturbances from the initial clearance of vegetation and recurrent ploughing activities. In 1883, it was also subject to the construction of a road which was realigned and resurfaced in 1940, causing further ground impacts within the vicinity of the Riverina Highway. Finally, the subject area was impacted by the construction of the Mulawa Canal in 1935, which would have significantly disturbed natural soils within the vicinity of the current canal. In view of the medium depth of the natural topsoil, ground disturbance is assessed to be **moderate-high** throughout the entire subject area.

The relevance of historical ground disturbance for the present assessment is discussed in the application of the predictive model to determining Aboriginal archaeological potential in Section 3.4.2 below.

3.2.3. Analysis of Historical Aerial Photographs

Historical land use and associated disturbance has the potential to impact on the original soil profiles and consequently on the spatial and vertical integrity of archaeological resources. The level and intensity of historical land use may also have various effects of the survival of archaeological material and can also expose sub-surface deposits of archaeological resources.

One way of assessing the level of soil disturbance is to analyse historical aerial photographs which can provide vital information on the changing environment and the impacts of historical land use within a given area. Aerial photographs between 1968-2022 were obtained and analysed to evaluate previous land use and associated impacts.

A summary and analysis of the aerial images is included in Table 7 below, with reference to Figure 14-Figure 19.

Table 7 – Analysis of historic aerial imagery

Year	Observation
1868	The subject area has been cleared of vegetation and the proximate irrigation channels constructed.
1976	The extant BESS site constructed within the south of the subject area.
1991	Cursory fencing installed in the northern portion of the subject site to facilitate its ongoing agricultural use.
1995	The site continued to be used agriculturally and for grazing with minimal modification.
2015	Extant dam constructed within the north-west of the subject area.
2022	The site continued to be used agriculturally and for grazing with minimal modification.

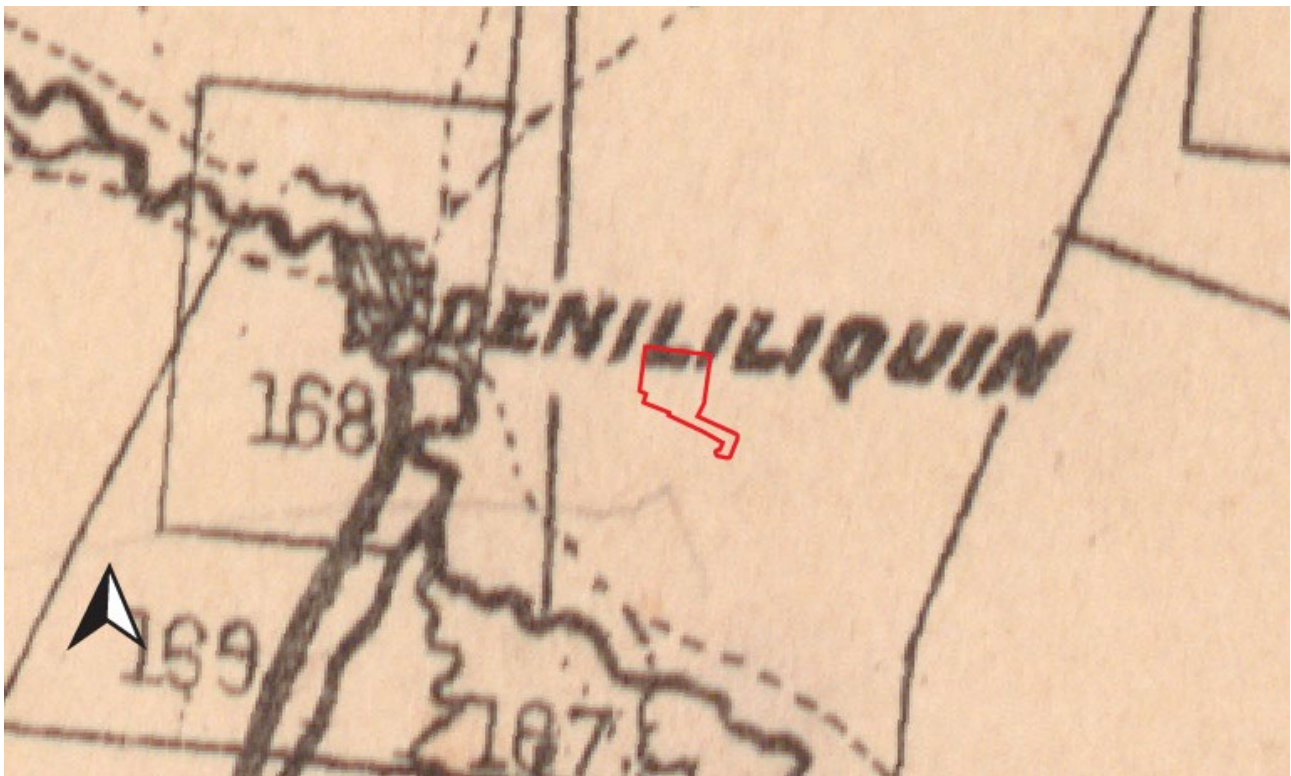


Figure 9 – 1877 Squatting map of Riverina district of N.S.W. showing the approximate location of the subject area.
Source: NLA, 1877. Map F 277.

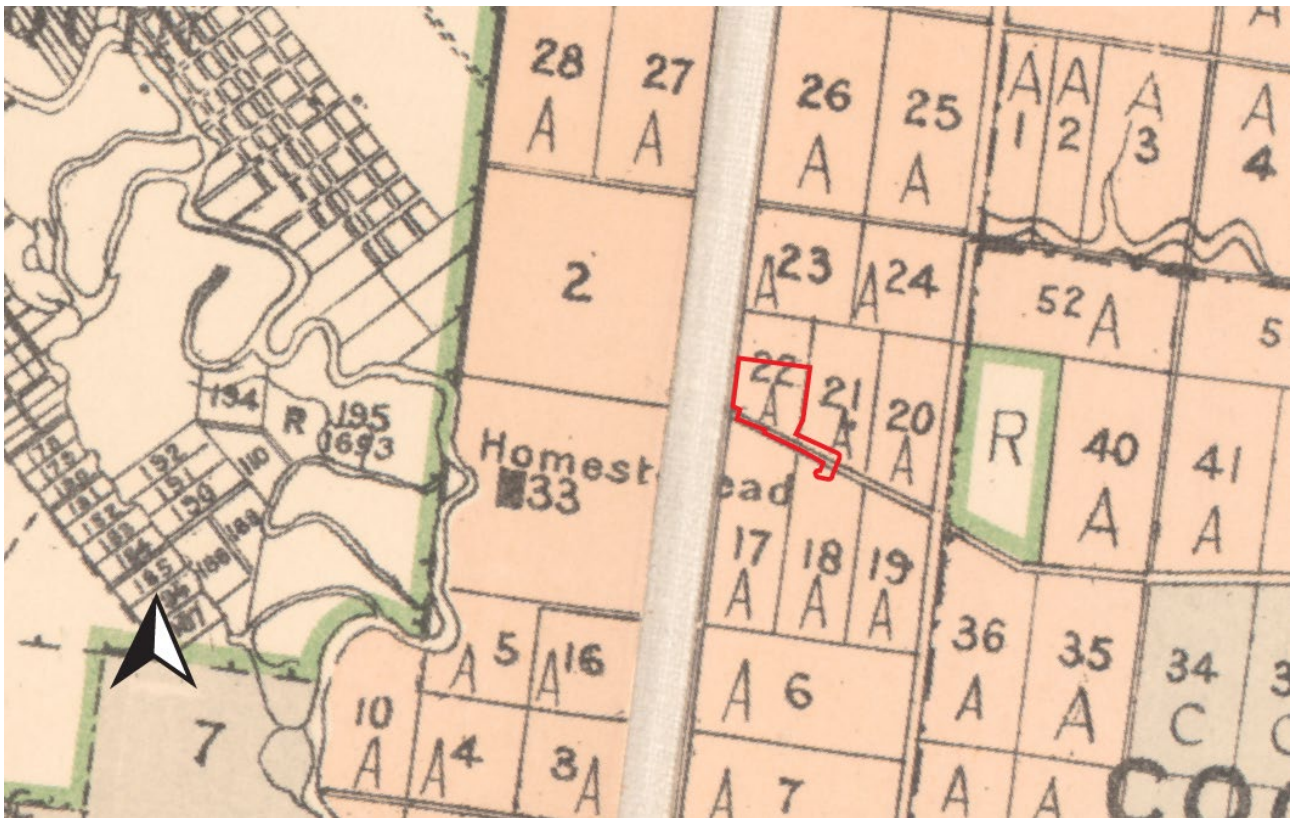


Figure 10 – Subdivision plan of the Town of Deniliquin and its surrounds, showing the location of the subject area.
Source: NLA, 1883. Obj. No. 231690019.



Figure 11 – Berrigun Irrigation District, showing the route of the Mulawa Canal through the subject area.
Source: Dept. of Lands, Sydney NSW, 1948. No. 48-733. .



Figure 12 – Construction of the Mulwala Canal using Bucyrus Erie dragline excavators.
Source: State Water Archives Collection.



Figure 13 – Construction of the Mulwala Canal, showing the depth and extent of ground disturbance.
Source: State Water Archives Collection.

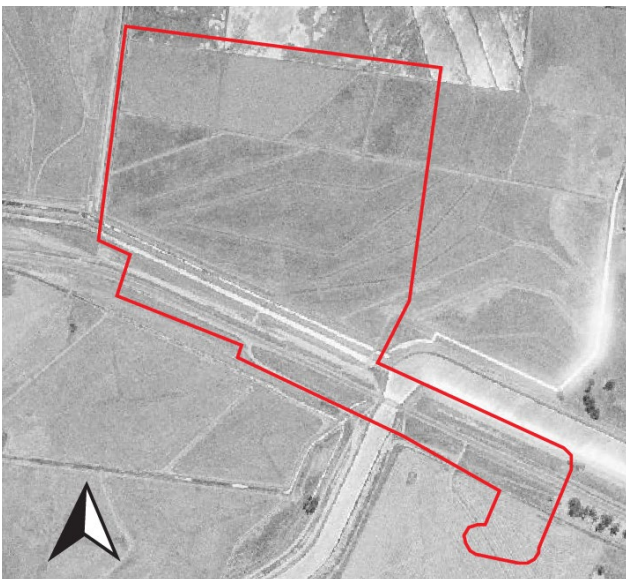


Figure 14 – Aerial image of the subject area from 1968.
Source: NSW Government, Historical Aerial Viewer, 1968.



Figure 15 – Aerial image of the subject area from 1976.
Source: NSW Government, Historical Aerial Viewer, 1976.

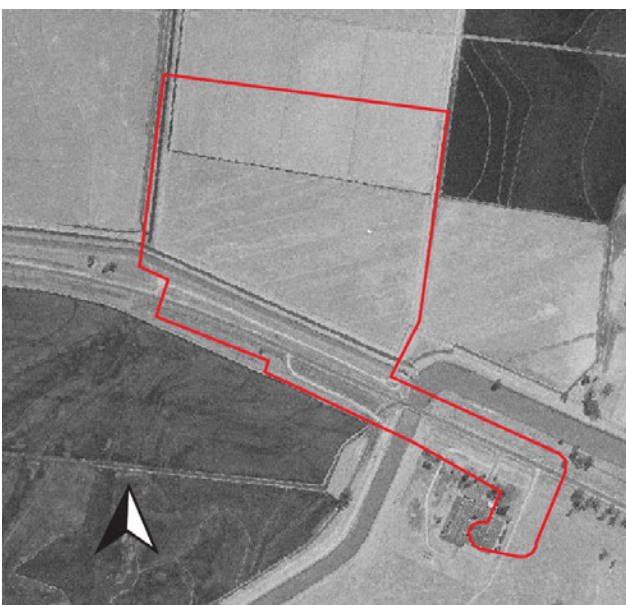


Figure 16 – Aerial image of the subject area from 1991.
Source: NSW Government, Historical Aerial Viewer, 1991.



Figure 18 – Aerial image of the subject area from 2015.
Source: Nearmap, 2015.

Figure 17 – Aerial image of the subject area from 1995.
Source: NSW Government, Historical Aerial Viewer, 1995.



Figure 19 – Aerial image of the subject area from 2022.
Source: Nearmap, 2022.



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250 M

Project No: P0050308

Project Manager: Balazs Hansel

Subject Area Moderate disturbance High disturbance

HISTORICAL GROUND DISTURBANCE

Deniliquin East BESS
BESS Arctic Pty Ltd

Figure 20 – Historical ground disturbance

3.3. LOCAL AND REGIONAL CHARACTER

The evidence from Sections 3.1 and 3.2 is synthesised below to highlight the main issues and regional character of Aboriginal land use and the material traces that it has produced, in accordance with Requirement 11 of the Code of Practice.

Archaeological evidence indicates that Aboriginal land use in the local region was heavily reliant waterways (particularly, the Edward and Wakool Rivers), which engendered a resource rich and fertile landscape. *Eucalyptus* forests are likely to have proved an important resource to the local aboriginal people, with culturally modified trees heavily represented in the known archaeological record. Culturally modified trees are likely to have been located near waterways where land use was more concentrated. Further evidence of occupation including burials, hearths and earth mounds hint at the method of land use by the local Aboriginal people, and in this instance, are associated with a mixture of aeolian and alluvial deposits commonly seen along shorelines and stream courses.

3.4. ARCHAEOLOGICAL POTENTIAL

The Aboriginal archaeological potential of an area is the likelihood that it retains material evidence of past Aboriginal land use. The purpose of undertaking an assessment of Aboriginal archaeological potential is to inform the sampling strategy for the subsequent archaeological survey, to determine if an archaeological test excavation is required and, if so, inform the sampling strategy for that excavation.

3.4.1. Predictive Model

A predictive model for the present assessment has been formulated based on existing predictive models (Section 3.1.5) and the local and regional character summarised above (Section 3.3).

The following landscape features are also considered relevant for indicating likely past Aboriginal land use in the region under *Aboriginal Scarred Trees 2005*:

Scarred trees are most commonly found along the banks of waterways, around lakes and swamps and on low lying floodplains.

Common scarred tree species include river red gum (*E. camaldulensis*), black box (*E. largiflorens*), bimbale box (*E. populnea*), and gum-barked coolibah (*E. intertexta*).

Aboriginal archaeological potential is further dependent on erosional transport and historical ground disturbance. Archaeological material is more likely to accumulate in aggraded landforms than eroded landforms, while higher ground disturbance reduces the likelihood of archaeological material surviving.

Synthesising the above predictors, Aboriginal archaeological potential is rated according to the following scheme:

- **Very High:** at least one relevant landscape feature, low ground disturbance and an aggraded landform
- **High:** at least one relevant landscape feature and either: (i) low ground disturbance and an eroded landform; or (ii) moderate ground disturbance and an aggraded landform
- **Moderate:** at least one relevant landscape feature, moderate ground disturbance and an eroded landform
- **Low:** no relevant landscape features and low or moderate ground disturbance
- **Very Low:** high ground disturbance

Expected site features are based on the following associations landscape features:

Culturally modified trees, where present, are likely to occur along the banks of waterways, around lakes and swamps and on low lying floodplains.

Culturally modified trees are likely to occur in association with other site features, including Artefact Scatter, Burial, Earth Mound and Middens.

High density sub-surface artefact sites are likely to occur in the vicinity of major watercourses, while low density sub-surface artefact sites are more likely in areas away from major watercourses.

Aboriginal burials may be found in a variety of landscapes throughout NSW, but are most likely to be identified in middens, sand dunes, lunettes, and within or nearby earth mounds.

Shell midden sites are more likely to be identified in close proximity to marine and estuarine areas.

Axe grinding grooves are more likely to be identified along the edges of creeks, lakes or swamps.

The predictive model described above is applied in the following section to determine the Aboriginal archaeological potential of the subject area and likely site features.

3.4.2. Assessment of Potential

Based on the predictive model outlined in the preceding section, the archaeological potential of the present subject area is assessed to be **low-nil**. The assessed archaeological potential of the subject area is mapped in Figure 21.

The subject area has limited potential for Isolated Finds and low-intensity Artefact Scatters.

Historical ground disturbance ranges from **moderate-high** (Section 3.2.1), meaning intact natural topsoils are not likely to be present within the subject area. The desktop assessment indicates that the subject area has been cleared of natural vegetation and that natural stone outcrops are unlikely to be identified within the site.

Synthesising the above factors according to the archaeological rating scheme presented in the preceding section, it is determined that there is:

- **Very low potential** for Aboriginal objects to occur in areas of high historical ground disturbance on the low-lying floodplains of the aggraded Shepparton Formation geological unit.
- **Low potential** for Aboriginal objects, such as Isolated Finds and low artefact scatters to occur in areas of moderate historical ground disturbance on the low-lying floodplains of the aggraded Shepparton Formation geological unit.

All other site types are unlikely to occur in the subject area due to the absence of the requisite resource (eg. natural stone outcropping) or a general rarity of those site types in the region and NSW.



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Project No: P0050308

Project Manager: Balazs Hansel

 Subject Area
 Very low potential
 Low potential

ARCHAEOLOGICAL POTENTIAL

Deniliquin East BESS

BESS Arctic Pty Ltd

Figure 21 – Aboriginal archaeological potential

3.5. SUMMARY

The desktop assessment of the subject area is summarised as follows:

No previously identified Aboriginal objects or Aboriginal places have been identified within the subject area.

The subject area contains no landforms which are considered sensitive for Aboriginal objects.

Historical activities within the subject area include the clearance of vegetation, long history of intensive ploughing of soil, construction of roads and the construction of the Mulawa Canal.

In view of the medium depth of the natural topsoil, ground disturbance is assessed to be **moderate-high** throughout the entire subject area.

The archaeological potential of the subject area is **low-nil**.

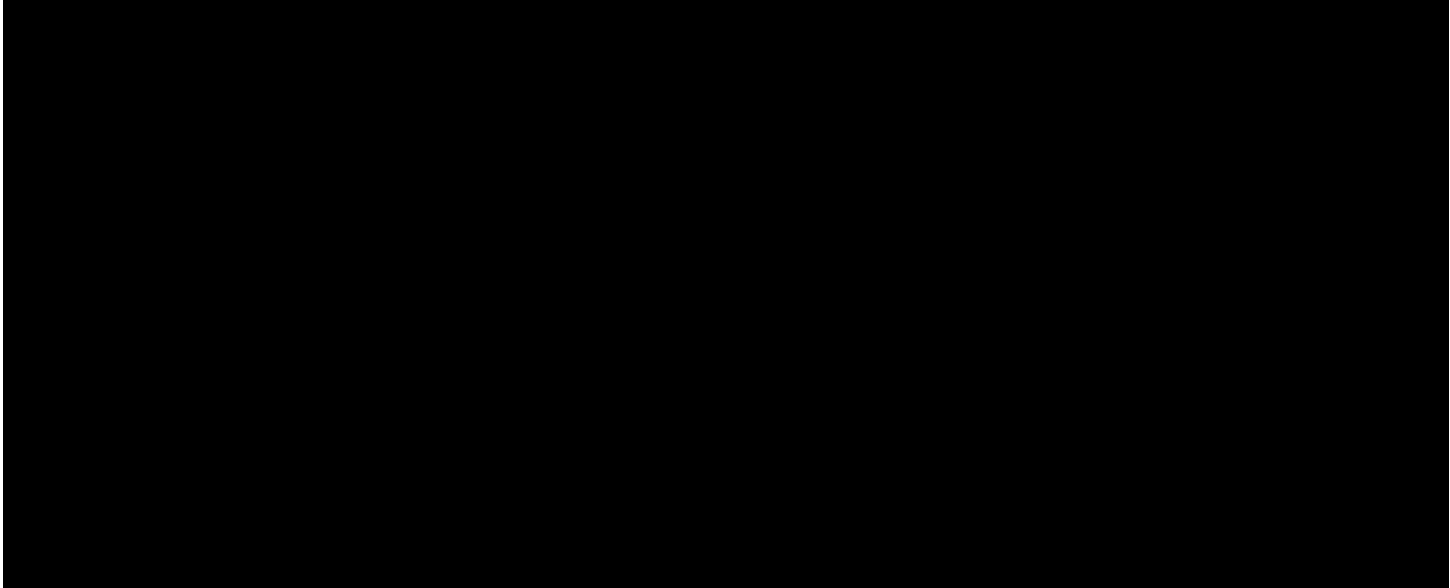
The desktop assessment determined that the entirety of the subject area should be surveyed to determine if any surface artefacts or modified trees are present throughout the site.

4. PHYSICAL ASSESSMENT

4.1. ARCHAEOLOGICAL SURVEY

An archaeological survey of the subject area was undertaken on 22nd May 2024. The archaeological survey was undertaken by a team of RAPs, client representatives and Urbis personnel. Details of the attendees are provided in Table 8 below.

Table 8 Details of survey team



4.1.1. Aim

An aim of the archaeological survey was to cover the entire subject area, and record all (or a representative sample of all) the material traces and evidence of Aboriginal land use that are visible on the ground surface, such as artefacts, if present. It was a further aim of the archaeological and to identify those areas where it can be inferred that, although not visible, material traces or evidence of Aboriginal land use have a likelihood of being present under the ground surface (potential archaeological deposits).

The archaeological survey contributes to the understanding the subject area characteristics, local and regional Aboriginal history and any conservation requirements and harm mitigations measures for Aboriginal objects within the subject area.

4.1.2. Methodology

The survey was carried out with the goal of 100% coverage of the subject area. Given the small size, 24.39ha of the subject area, and the easy access, this aim was achieved during the survey.

The archaeological survey was conducted on foot and covered the entire subject area. The subject area was divided into two survey units (Figure 15), the cleared paddock north of the Riverina Highway (#1), and the road easement and surroundings of the substation south of the highway. Details of the survey units and results of survey coverage are provided in Table 9 below.

Survey units were recorded through a combination of digital photography and field notes including observations of exposure and visibility, levels of disturbance, erosion, vegetation, the presence/absence of Aboriginal sites and other relevant observations or features. Ground surface visibility ('GSV') and exposure were recorded to the nearest 10%.

The survey team traversed the subject area in linear transects utilising GPS navigation, with reference to aerial photographs and property boundaries. The team was arranged in a line at a spacing of 5 to 10 m between each individual and the transects were recorded by hand-held Garmin GPS unit.

4.1.3. Limitations

The subject area was easily accessible, and the conditions were good for the survey. The only limitation was the inability to survey the area of the dam as the water level was quite high. However, this was assessed as negligible, due to the very high level of disturbance around this area, that might have removed all Aboriginal objects within the footprint of the dam.

4.1.4. Results

4.1.4.1. Survey Unit 1

Survey Unit 1 included the entire area of the fenced paddock north of the Riverina Highway and covered 17.21 ha. The paddock has been entirely cleared of native vegetation and has been heavily ploughed at least for the last 60 years according to the aerial imagery available. The entire area has been the subject of high to extreme-level of disturbance, through various types of agricultural activities, including ploughing, constructing contour banks and irrigation channels of various sizes, and constructing at least one dam the north-west corner. The level of impact from the historical land use was clearly visible during the survey. At the time of the survey, it seemed that the paddock has been used for the last few months for grazing sheep.

There were no Aboriginal objects found during the survey, nor were any areas within Survey Unit 1 were identified as PAD(s).

The GSV was around 10% within most of the survey unit, with higher around the dam, the vehicle track along the fence lines, and around the small, dry irrigation channel running just west of the vehicle track along the western boundary.

Exposure was around 10%, and occurred along stock tracks, vehicle tracks and around the dam and irrigation channels.

4.1.4.2. Survey Unit 2

Survey Unit 2 included all areas outside of Survey Unit 1, inclusive of the road easement, embankment of Mulwala Canal, section of the Moulamein Channel and the northern and eastern perimeter of the substation. The entire area has been the subject of extreme level of disturbance, including the construction of Moulamein Channel, Mulwala Canal, the Riverina Highway, the bridge across the canal, and the construction of the substation. Overall, this area measured 8.38 ha.

The level of excavation, grading, cut/fill and the placement of imported fill for the construction of the above listed infrastructure changed the original environment into artificial landscape. There is a very high possibility that all natural soils have been either removed or have been the subject of very high level of disturbance.

There were no Aboriginal objects found during the survey, nor were any areas within Survey Unit 1 were identified as PAD(s).

The GSV was around 40%.

Exposure was around 40%, and occurred along the vehicle tracks, the channel and the canal, as well as around the substation.

4.1.4.3. Survey Coverage

The recorded archaeological survey transects are mapped in Figure 15 below and the survey coverage of each survey unit and landform is summarised in Table 9 and Table 10.

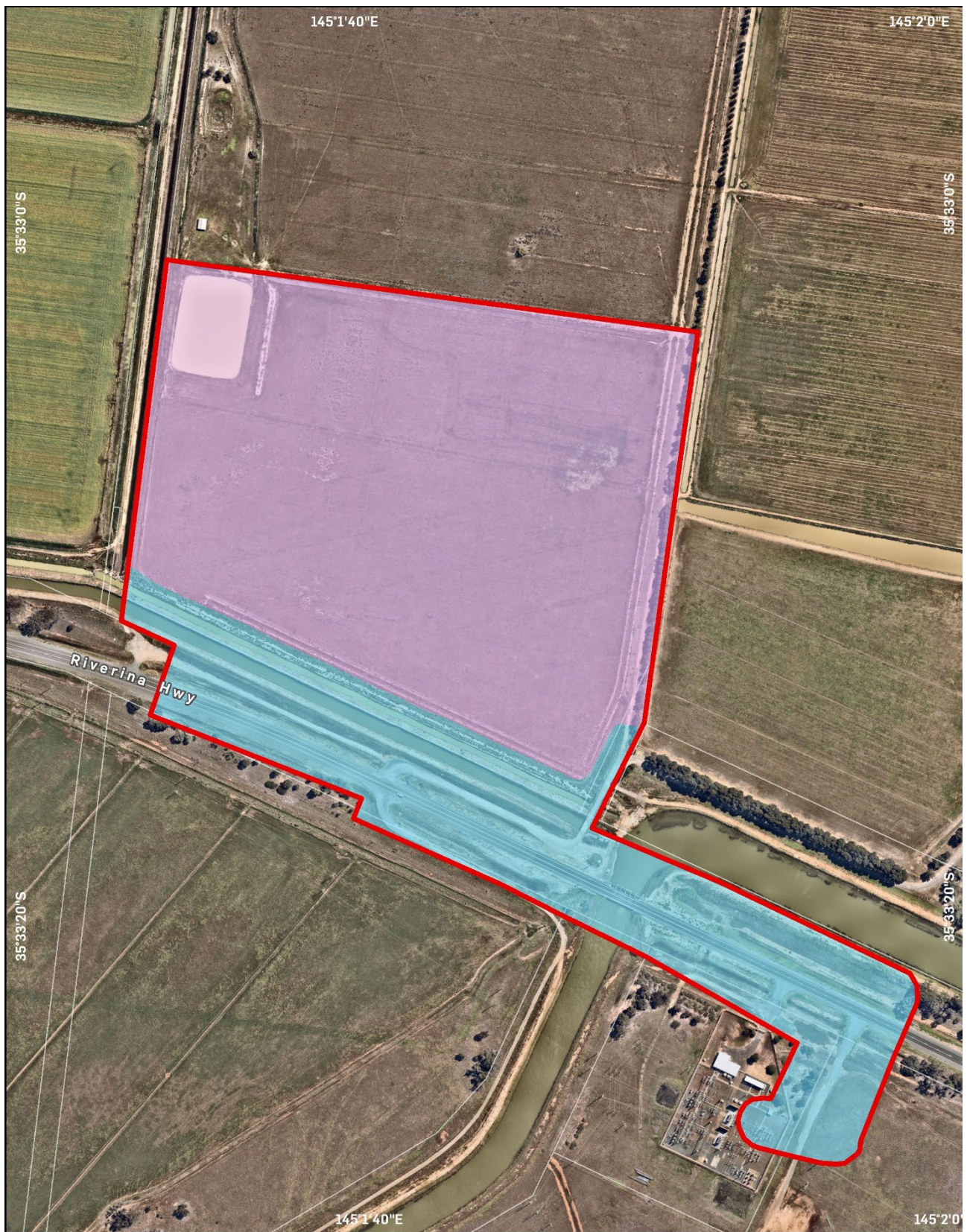
The survey covered the entire subject area.

Table 9 – Survey coverage: survey units

Survey Unit	Landform	Area (m ²)	Visibility (%)	Exposure (%)	Effective Coverage (m ²)	Effective Coverage (%)
1	Floodplain	160, 105	10	10	1,601	1
2	Floodplain	83, 800	40	40	10,083	12

Table 10 – Survey coverage: landforms

Landform	Landform Area (m²)	Area Effectively Surveyed (m²)	% of Landform Effectively Surveyed	Number of Aboriginal Sites	Number of Artefacts or Features
Floodplain	223, 123	11,684	5.24	0	0



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Subject Area Survey Unit #1 Survey Unit #2

SURVEY UNITS
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Figure 22 – Survey units



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Project Manager: Balazs Hansel

Subject Area — Survey transects

SURVEY TRANSECTS AND COVERAGE

Deniliquin East BESS

BESS Arctic Pty Ltd

Figure 23 – Survey transects



Figure 24 – Survey Unit 1: General view of Survey Unit 1, looking west.



Figure 25 – Survey Unit 1: General view of Survey Unit 1, looking east.



Figure 26 – Survey Unit 1: General GSV of Survey Unit 1.



Figure 27 – Survey Unit 1: GSV of Survey Unit 1 east of the dam. Note similar GSV around exposures on tracks and along the channel and canal.



Figure 28 – Survey Unit 2: General view and exposure of Survey Unit 2, north of Riverina Highway, looking west.



Figure 29 – Survey Unit 2: General view and exposure of Survey Unit 2, between substation and Riverina Highway, looking west.

4.2. SUMMARY

The physical assessment of the subject area is summarised as follows:

- There were no Aboriginal objects found during the survey, nor were any areas within Survey Unit 1 (Survey Unit 1) were identified as PAD(s).
- The overall area effectively surveyed measured 9,753m² which equates to 4.4% of the total landform.
- The survey identified high to extreme-level of disturbance all through the subject area.
- No additional investigation, including test excavation is required, as the desktop assessment did not find potential for Aboriginal objects, and the survey confirmed the high to extreme level of disturbance across the subject area.

5. SIGNIFICANCE ASSESSMENT

The following is an assessment and discussion of the cultural significance of the subject area, made in consultation with the RAPs. The assessment follows principles and procedures outlined in the Burra Charter the Assessment Guidelines.

5.1. FRAMEWORK FOR ASSESSMENT

The Burra Charter defines cultural significance as being derived from the following values: social or cultural value, historic value, scientific value and aesthetic value. Aesthetic, historic, scientific and social values are commonly interrelated. All assessments of heritage values occur within a social and historic context. Therefore, all potential heritage values will have a social component.

Heritage significance is assessed by considering each cultural or archaeological site against the significance criteria set out in the Assessment Guidelines. The Assessment Guidelines require that the assessment and justification in a statement of significance includes a discussion of whether any value meets the following criteria:

- Does the subject area have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons? – social value.
- Is the subject area important to the cultural or natural history of the local area and/or region and/or state? – historic value.
- Does the subject area have potential to yield information that will contribute to an understanding of the cultural or natural history of the local area and/or region and/or state? – scientific (archaeological) value.
- Is the subject area important in demonstrating aesthetic characteristics in the local area and/or region and/or state? – aesthetic value.

Assessment of each value should be graded in terms that allow the significance to be described and compared (e.g. high, moderate, or low). In applying these criteria, consideration should be given to:

- Research potential: *does the evidence suggest any potential to contribute to an understanding of the area and/or region and/or state's natural and cultural history?*
- Representativeness: *how much variability (outside and/or inside the subject area) exists, what is already conserved, how much connectivity is there?*
- Rarity: *is the subject area important in demonstrating a distinctive way of life, custom, process, land-use, function or design no longer practised? Is it in danger of being lost or of exceptional interest?*
- Education potential: *does the subject area contain teaching sites or sites that might have teaching potential?*

The Aboriginal heritage significance of the subject area is assessed in the following section within the framework outlined above.

5.2. ASSESSMENT OF HERITAGE VALUES

The following assessment of the social or cultural, historic, scientific and aesthetic values of the subject area has been prepared in accordance with the Assessment Guidelines.

In acknowledgment that the Aboriginal community themselves are in the best position to identify heritage values, the assessment is informed by consultation with the Aboriginal community undertaken as part of the ACHA (Section 2 above).

5.2.1. Social or Cultural Value

Social or cultural value encompasses the qualities for which a place has become a focus of spiritual, political, national or other cultural sentiment for Aboriginal people. Social or cultural value is how people express their connection with a place and the meaning that place has for them. Places of social or cultural value have associations with contemporary community identity. These places can have associations with tragic or warmly remembered experiences, periods, or events. Communities can experience a sense of loss should a place of

social or cultural value be damaged or destroyed. Social or cultural values can therefore only be identified through consultation with Aboriginal people.

In response to the Stage 2 and 3 information pack (see Section 2.2), no comments were received regarding the social or cultural value of the site. [REDACTED]

[REDACTED] Taken together, the ACHA has therefore identified no specific social or cultural values held by Aboriginal people which are associated with the subject area.

5.2.2. Historic Value

Historic value encompasses the history of aesthetics, science and society. A place may have historic value because it is associated with a historic figure, event, phase or activity in an Aboriginal community. The significance of a place will be greater where evidence of the association or event survives in situ, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment. Places may also have 'shared' historic values with other (non-Aboriginal) communities.

No comments regarding the historical value of the subject area were received in response to the Stage 2 and 3 information pack (Section 2.2), during the site inspection (Section 2.2.2) or in response to the Stage 4 draft ACHA (Section 2.3). Additionally, no documentary sources were identified during the ACHA process which indicate the historical value of the subject area. The ACHA has therefore identified no historical associations between Aboriginal people and the subject area.

5.2.3. Scientific (Archaeological) Value

Scientific value relates to the importance of a landscape, area, place or object because of its rarity, representativeness and the extent to which it may contribute to further understanding and information. Information about scientific value will be gathered through any archaeological investigation undertaken.

The subject area is highly unlikely to retain any Aboriginal objects due to a high level of historical ground disturbance. The archaeological survey did not find any Aboriginal objects or PADs. Furthermore, if any Aboriginal objects are present, they are likely to be located within a highly disturbed context. The scientific (archaeological) value of the subject area is therefore assessed to be low.

Should any Aboriginal objects be identified within the subject area during the proposed works as part of the Unexpected Finds Procedure, the scientific (archaeological) value of those objects and the subject area should be reassessed.

5.2.4. Aesthetic Value

Aesthetic value of a place relates to the sensory, scenic, architectural and creative aspects of a place. It may include visual aspects, such as form, scale, colour, texture and material of the fabric, and the smells and sounds associated with the place and its use.

It is evident that the subject area is highly disturbed through clearance of vegetation, ploughing, the construction and demolition of buildings, as well as the construction of earthworks in shallow topsoil. The present visual appearance and other sensory aspects of the subject area are unlikely to resemble those of the landscape of the local area as it existed prior to European contact. The subject area is therefore unlikely to have aesthetic value insofar as it relates to Aboriginal cultural heritage.

Individual Aboriginal objects may have aesthetic value in their own right. There are no known Aboriginal objects within the subject area that could be assessed for aesthetic value. In the event that any Aboriginal objects are identified within the subject area during the proposed works as part of the Unexpected Finds Procedure, these should be assessed for aesthetic value.

5.3. STATEMENT OF SIGNIFICANCE

The subject area is assessed as having social and cultural significance to Aboriginal people. [REDACTED]

[REDACTED] However, no comments regarding the social or cultural value of the subject area were received during the preparation of the ACHA. Additionally, the ACHA identified no previously registered Aboriginal objects or Aboriginal places within the subject area, concluding that the archaeological potential of the subject area is low-nil. Historical ground impacting works (including the clearance of vegetation, grazing, ploughing and the construction of roads and irrigation channels) would have diminished the site's social and cultural value. [REDACTED]

[REDACTED] Therefore, although the social and cultural value of the subject area is acknowledged, the Aboriginal heritage significance of the subject area itself is graded as low.

The assessment of significance should be updated in the event that any Aboriginal objects are found within the subject area during the proposed works.

6. IMPACT ASSESSMENT

The following is an assessment of the potential impact of the proposed development on any Aboriginal objects and/or Aboriginal places within the subject area and the possible strategies for avoiding or minimising harm to those Aboriginal objects and/or Aboriginal places.

6.1. FRAMEWORK FOR ASSESSMENT

The potential harm to Aboriginal objects and Aboriginal places that is likely to be caused by a proposed activity is the effect of that activity on the Aboriginal heritage values identified above. According to the NPW Act, 'harm' to an object or place includes any act or omission that:

- Destroys, defaces, or damages the object or place.
- Moves the object from the land on which it had been situated.
- Causes or permits the object or place to be harmed.

Harm does not include something that is trivial or negligible, such as picking up and replacing a small stone artefact, breaking a small Aboriginal object below the surface when you are gardening, crushing a small Aboriginal object when you walk on or off a track, picnicking, camping or other similar recreational activities.

The Assessment Guidelines define harm to Aboriginal objects and Aboriginal places as being either 'direct' or 'indirect':

- **Direct harm** may occur as the result of any activity which disturbs the ground including, but not limited to, site preparation activities, installation of services and infrastructure, roadworks, excavation, flood mitigation measures.
- **Indirect harm** may affect sites or features located immediately beyond or within the area of the proposed activity. Examples include, but are not limited to, increased impact on art in a shelter from increased visitation, destruction from increased erosion and changes in access to wild food resources.

The present assessment of potential harm follows the principles of ecologically sustainable development (ESD), in particular the precautionary principle and the principle of inter-generational equity:

- The **precautionary principle** states that full scientific certainty about the threat of harm should never be used as a reason for not taking measures to prevent harm from occurring.
- The **principle of inter-generational equity** holds that the present generation should make every effort to ensure the health, diversity and productivity of the environment, which includes cultural heritage, is available for the benefit of future generations. If a site type that was once common in an area becomes rare, the loss of that site (and site type) will result in an incomplete archaeological record and will negatively affect intergenerational equity.

Consideration of potential harm to Aboriginal objects and Aboriginal places according to ecologically sustainable development (ESD) principles allows for an understanding of the cumulative impact of the proposed activity and an understanding of how harm can be avoided or minimised, if possible.

6.2. ASSESSMENT OF POTENTIAL HARM

The assessment of potential harm considers harm that may occur to both known Aboriginal objects and as yet unknown Aboriginal objects within the subject area.

The desktop assessment and field survey identified no known Aboriginal objects within the subject area, nor any landscape features with potential for Aboriginal objects. Furthermore, due to high a level of disturbance across the entire subject area, it is unlikely that any as yet unknown Aboriginal objects are retained anywhere within the subject area. Therefore, any physical works within the subject area, including those presently proposed (Section 1.2), are unlikely to cause either direct or indirect harm to Aboriginal objects.

6.3. INTER-GENERATIONAL EQUITY

The cumulative impact of any development on Aboriginal sites relates to the extent of the proposed impact on the site and how this will affect both the proportion of this type of Aboriginal site in the area and the impact this destruction will have on Aboriginal cultural heritage values generally in the area.

As there are now known Aboriginal objects within the subject and there is very low potential for unknown Aboriginal objects to be retained, the proposed works are unlikely to negatively impact inter-generational equity.

6.4. AVOIDANCE AND MINIMISATION OF HARM

All practicable measures must be taken to avoid harm (i.e. protect and conserve) any significant Aboriginal objects within the subject area along with their cultural heritage values. The precautionary principle states that full scientific certainty about the threat of harm should never be used as a reason for not taking measures to prevent harm from occurring.

If harm to Aboriginal objects and/or Aboriginal places is unavoidable, management strategies must be considered to minimise the harm. The type of management strategies proposed must be appropriate to the significance of Aboriginal heritage values, Aboriginal objects and/or Aboriginal places. Harm avoidance and minimisation measures must be feasible and within the financial viability of the proposed activity.

The ACHA process has been undertaken as a means to mitigate harm to potential Aboriginal objects and cultural values associated with the site. As it is unlikely that any Aboriginal archaeological material is retained within the subject area, no further archaeological investigation is recommended for the present subject area. As precautionary measures, it is recommended that unexpected archaeological finds and human remains procedures described below be implemented.

6.4.1. Unexpected Archaeological Finds Procedure

To mitigate harm to any unknown Aboriginal objects within the subject area, it is recommended that the following unexpected archaeological finds procedure should be followed in the unlikely event that any archaeological material, or suspected archaeological material, is uncovered during any works within the subject area:

1. All works within the vicinity of the find must immediately stop. The find location and minimum 5m buffer should be cordoned off with signage identifying the area as a 'no-go zone' to prevent accidental impact. The find must not be moved 'out of the way' without assessment.
2. The site supervisor or another nominated site representative must contact either the project archaeologist (if relevant) or Heritage NSW (Enviroline 131 555) to contact a suitably qualified archaeologist.
3. The nominated archaeologist must examine the find, provide a preliminary assessment of significance, record the item and decide on appropriate management measures. Heritage NSW should be notified of the find through a Section 146 notification. Such management may require further consultation with the approval authority, preparation of a research design and archaeological investigation/salvage methodology.
4. Depending on the significance of the find, reassessment of the archaeological potential of the subject site may be required and further archaeological investigation undertaken.
5. Reporting may need to be prepared regarding the find and approved management strategies.
6. Works in the vicinity of the find can only recommence upon receipt of approval from Heritage NSW.

6.4.2. Human Remains Procedure

Should clearly identifiable human remains be uncovered anywhere within the subject site, the following procedure should be implemented:

1. All works within the vicinity of the find must immediately stop. The find location and minimum 2m buffer should be cordoned off with signage identifying the area as a 'no-go zone' to prevent accidental impact. The find must not be moved 'out of the way' without assessment.
2. The site supervisor or other nominated manager must notify the NSW Police and Heritage NSW.
3. The find must be assessed by the NSW Police, which may include the assistance of a qualified forensic anthropologist.
4. Management recommendations are to be formulated by the NSW Police, Heritage NSW and site representatives.

5. Works are not to recommence until the find has been appropriately managed.

In the event that bones are uncovered which may be human but cannot be confirmed by onsite staff, a suitably qualified archaeologist or heritage specialist should be contacted in the first instance to determine how to proceed.

7. CONCLUSIONS AND RECOMMENDATIONS

The aim of the ACHA is to investigate whether future development of the subject area is likely to impact any Aboriginal objects or Aboriginal places that may exist within the subject area and to formulate measures for avoiding or minimising any such impacts.

Conclusion 1 – Known Aboriginal Objects and Places

No known Aboriginal objects or Aboriginal places have been identified that are within, or likely to be within the subject area.

Conclusion 2 – Sensitive Landscape Features

The subject area does not contain any landscape features which are considered sensitive for Aboriginal Objects.

Conclusion 3 – Ground Disturbance

Ground disturbance is assessed to be moderate-high across the entire subject area in view of evidence of land clearance, long history of deep ploughing and the construction of roads and irrigation channels.

Conclusion 4 – Archaeological Potential

As the subject area has been subjected to a moderate-high level of historical ground disturbance and it is unlikely that any intact natural topsoil remains anywhere in the subject area, the archaeological potential of the subject area is assessed to be low to nil.

Conclusion 5 – Significance Assessment

No specific comments regarding the significance of the subject area were received from the RAPs during the preparation of the ACHA.

Conclusion 6 – Impact Assessment

As there are no known Aboriginal objects within the subject area, nor any sensitive landforms for Aboriginal objects, and recorded moderate to high disturbance, the proposed physical works are unlikely to cause either direct or indirect harm to Aboriginal objects or negatively impact inter-generational equity.

Based on the above conclusions, Urbis recommends the following:

Recommendation 1 – Submission of Report

A copy of this report should be submitted with the Environmental Impact Statement (EIS) in support of SSD-61612229.

Recommendation 2 – No Further Archaeological Investigation

As the proposed works are unlikely to cause harm to Aboriginal objects, it is recommended that no further investigation is required for the present development. The proposed development can proceed in line with the Archaeological Unexpected Finds Procedure and Human Remains Procedure outlined below.

Recommendation 3 – Unexpected Archaeological Finds Procedure

Should any archaeological deposits be uncovered during any site works, the following steps must be followed:

6. All works within the vicinity of the find must immediately stop. The find location and minimum 2m buffer should be cordoned off with signage identifying the area as a 'no-go zone' to prevent accidental impact. The find must not be moved 'out of the way' without assessment.
7. The site supervisor or another nominated site representative must contact either the project archaeologist (if relevant) or Heritage NSW (Enviroline 131 555) to contact a suitably qualified archaeologist.
8. The nominated archaeologist must examine the find, provide a preliminary assessment of significance, record the item and decide on appropriate management measures. Heritage NSW/ Place Making NSW should be notified of the find through a Section 146 notification. Such management may require further consultation with the approval authority, preparation of a research design and archaeological investigation/salvage methodology.

9. Depending on the significance of the find, reassessment of the archaeological potential of the subject site may be required and further archaeological investigation undertaken.
10. Reporting may need to be prepared regarding the find and approved management strategies.
11. Works in the vicinity of the find can only recommence upon receipt of approval from Heritage NSW or Place Making NSW.

Recommendation 4 – Human Remains Procedure

Should clearly identifiable human remains be uncovered anywhere within the subject site, the following procedure should be implemented:

12. All works within the vicinity of the find must immediately stop. The find location and minimum 2m buffer should be cordoned off with signage identifying the area as a 'no-go zone' to prevent accidental impact. The find must not be moved 'out of the way' without assessment.
13. The site supervisor or other nominated manager must notify the NSW Police and Heritage NSW.
14. The find must be assessed by the NSW Police, which may include the assistance of a qualified forensic anthropologist.
15. Management recommendations are to be formulated by the NSW Police, Heritage NSW and site representatives.
16. Works are not to recommence until the find has been appropriately managed.

In the event that bones are uncovered which may be human but cannot be confirmed by onsite staff, a suitably qualified archaeologist or heritage specialist should be contacted in the first instance to determine how to proceed.

8. REFERENCES

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9. DISCLAIMER

This report is dated 15 May 2025 and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Pty Ltd (**Urbis**) opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of BESS Arctic PL C/- Gransolar Development Australia (**Instructing Party**) for the purpose of an Aboriginal Cultural Heritage Assessment (**Purpose**) and not for any other purpose or use. To the extent permitted by applicable law, Urbis expressly disclaims all liability, whether direct or indirect, to the Instructing Party which relies or purports to rely on this report for any purpose other than the Purpose, and to any other person which relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

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This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.

**APPENDIX A BASIC AND EXTENSIVE AHIMS SEARCH
RESULTS**

Urbis Pty Ltd - Angel Place L8 123 Pitt Street

Date: 04 February 2025

Level 8 123 Angel Street

Sydney New South Wales 2000

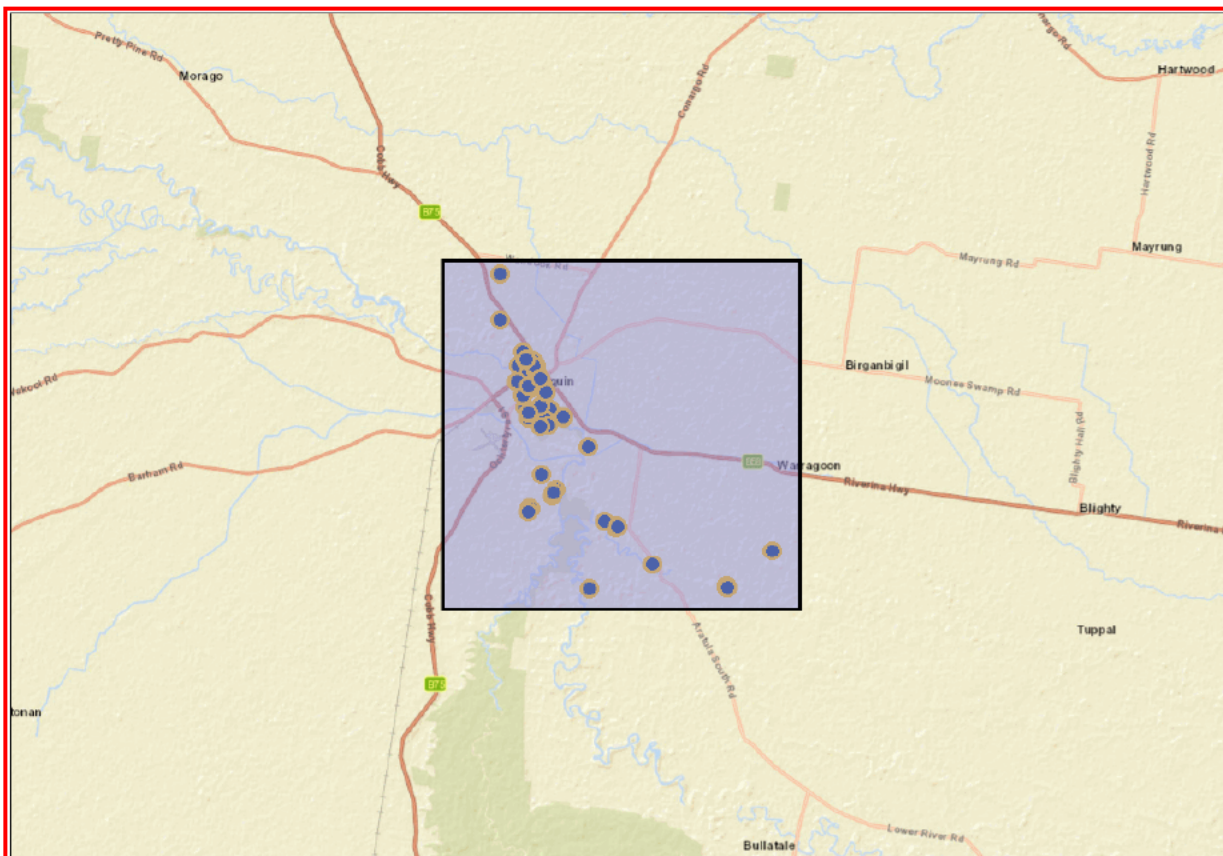
Attention: Ginger-Rose Harrington

Email: gharrington@urbis.com.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Datum :GDA, Zone : 55, Eastings : 311420.816 - 331420.816, Northings : 6053734.0 - 6073734.0 with a Buffer of 0 meters, conducted by Ginger-Rose Harrington on 04 February 2025.

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



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

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

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

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

Important information about your AHIMS search

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