Appin Mine Area 7

Longwalls 712 to 716

Heritage Management Plan

24 April 2026

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DOCUMENT CONTROL

Applicant:	Illawarra Coal Holdings Pty Ltd
Mine:	Appin Mine
Name of operator:	Gear M Illawarra Met Coal Pty Ltd trading as GM^3
Project approval:	MP08_0150
Mining leases:	Consolidated Coal Lease 767, Mine Lease 1698, Mine Lease 1433, Mine Lease 1832, Mine Lease 1847 and Mine Lease 1874
Document Title:	Appin Mine Area 7 Longwalls 712 to 716 Extraction Plan Heritage Management Plan

NAME OF PERSONS AUTHORISING THIS PLAN

NAME	TITLE	DATE
Gary Brassington	Director Sustainability and Government	February 2026

DOCUMENT REVISIONS

REVISION	DESCRIPTION OF CHANGES	DATE
1	New document for consultation	December 2025
2	Document updated following Agency consultation	February 2026
3	Document updated following additional Agency consultation	April 2026

PERSONS INVOLVED IN PREPARATION OF THIS PLAN

NAME	TITLE	EXP (YEARS)
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Renée Regal	Peer Review- Director/ Heritage Consultant Regal Heritage Pty Ltd	20
Lachlan McWha	Principal Mining Approvals	9

1. INTRODUCTION

1.1 Project Background

Illawarra Coal Holdings Pty Ltd (ICHPL) operates the Bulli Seam Operations (BSO) Appin Mine extracting hard coking coal used for steel production. On 22 December 2011 the Planning and Assessment Commission (PAC), under delegation of the Minister for Planning, approved BSO (MP 08_0150) under Part 3A of the Environmental Planning and Assessment Act 1979 (EP&A Act) to continue mining operations until 2041.

This Heritage Management Plan (HMP) supports the Longwalls 712 to 716 Extraction Plan for mining of coal in Appin Area 7 (AA7) mining domain. The HMP describes the monitoring and management of Aboriginal cultural heritage and historic heritage within the Extraction Plan Study Area. The relationship between this HMP and the other components of the Extraction Plan is shown in Figure 3 of the Extraction Plan.

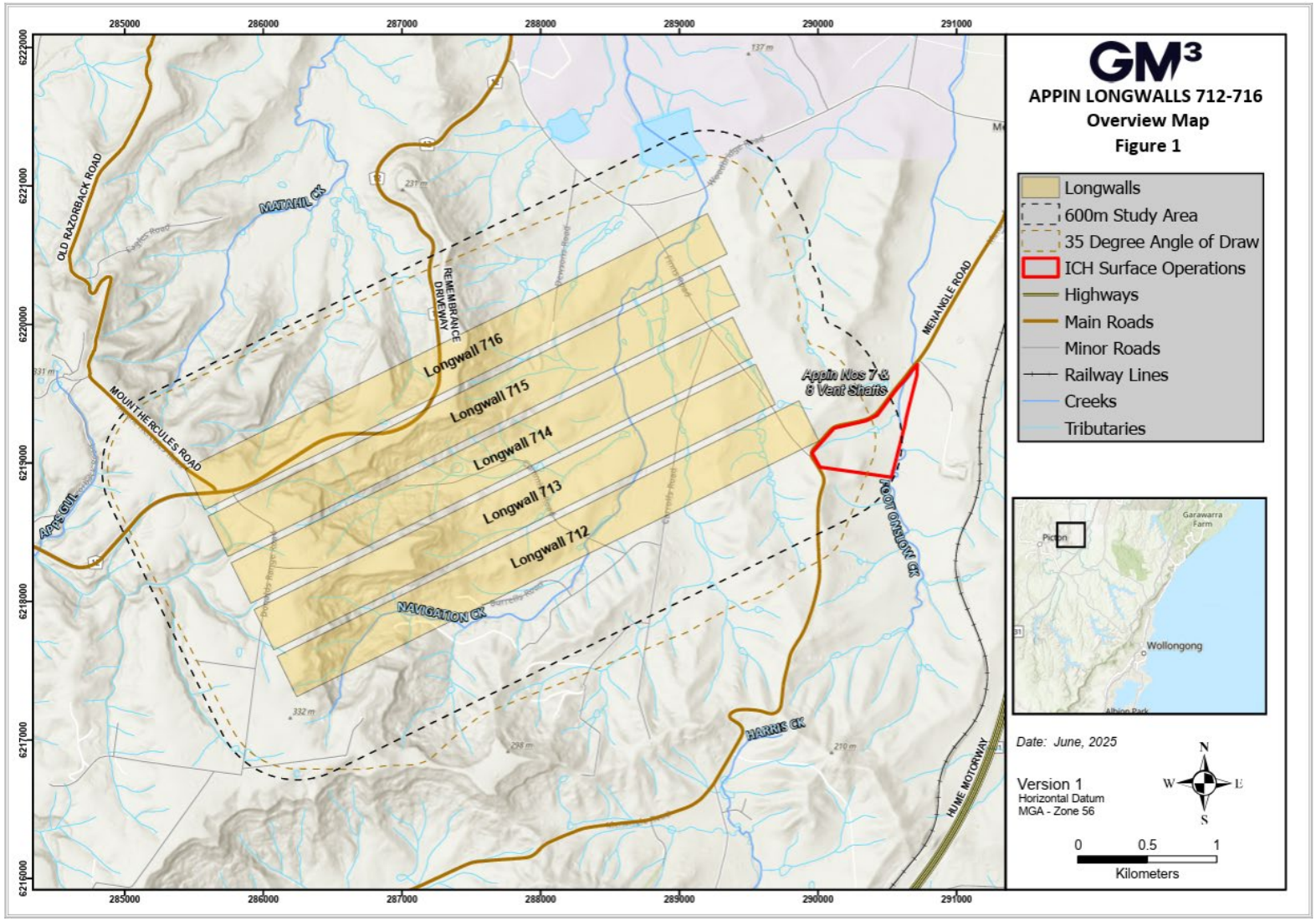
1.2 Scope

The scope of the HMP includes the program of monitoring and management of potential environmental consequences on known and newly identified Aboriginal and historical heritage features within the Longwall 712 to 716 Study Area. The Study Area for the Extraction Plan is defined in accordance with MSEC (2025) as the surface area predicted to be affected by the proposed mining of Longwalls 712 to 716 and encompasses the areas bounded by the following limits (Figure 1):

- A 35° angle of draw line from the maximum depth of cover, which equates to a horizontal distance varying between 555 m and 800 m around the limits of the proposed extraction areas for Longwalls 712 to 716, and
- The predicted limit of vertical subsidence, taken as the 20 mm subsidence contour, resulting from the extraction of the proposed Longwalls 712 to 716.

Additionally, features potentially sensitive to far field movements, which includes horizontal, valley closure and upsidence movements that may be outside the 20 mm subsidence zone or 35° angle of draw line have been assessed (600 m boundary around Longwalls 712 to 716).

Figure 1: Appin Area 7 (Longwalls 712 to 716) Study Area



1.3 Objectives

The objectives of this HMP are to identify heritage items within the Longwalls 712 to 716 Study Area and to manage the potential impacts and/or environmental consequences of the proposed workings on Aboriginal and non-Aboriginal heritage sites and values.

Specific focus will be on Aboriginal heritage sites that may be determined to hold 'special significance', sites determined to hold high or moderate scientific (archaeological) significance, other Aboriginal heritage sites, non-Aboriginal heritage features such as buildings or structures of State or National heritage significance and other buildings or structures of identified heritage significance.

This HMP is specific to heritage sites within the Longwalls 712 to 716 Study Area. The BSO HMP is the overarching document which covers other heritage sites for Appin Mine.

1.4 Consultation

Enquiries were made to the following services to identify new stakeholders for the Extraction Plan:

- The Registrar, Aboriginal Land Rights Act 1983 for an updated list of Aboriginal owners relevant to the study area;
- National Native Title Tribunal for a list of registered native title claimants, native title holders and registered Indigenous Land Use Agreements;
- Native Title Services Corporation Limited;
- Heritage NSW; and
- Wollondilly Shire Council.

Heritage NSW responded, providing a list of potential new stakeholders. No other responses were received. New organisations identified during this enquiry were contacted and given a 14-day period to register their interest in being consulted. This period closed on 28 November 2024.

This HMP will be developed in consultation with Heritage NSW, and relevant stakeholders for both Aboriginal and non-Aboriginal heritage. The HMP was provided to Registered Aboriginal stakeholders on 13 January 2026 for review and comment. No comments or queries were received requiring alterations to the HMP. Records of consultation have been provided in Attachment B1 of Attachment B (Agency Consultation) to the Longwalls 712 to 716 Extraction Plan.

The finalised HMP will be distributed to:

- Department of Planning, Housing and Infrastructure (DPHI);
- Heritage NSW; and
- All registered Aboriginal stakeholders.

Additionally, ICHPL will make the HMP and associated documentation publicly available on the GM^3 website in accordance with Condition 11, Schedule 6 of the BSO Approval.

2. STATUTORY REQUIREMENTS

Extraction of coal from Longwalls 712 to 716 will be in accordance with the conditions set out in the BSO Approval, applicable legislation and the requirements of relevant licences and permits, including conditions attached to mining leases.

2.1 BSO Approval

Condition 5 (k), Schedule 3 of the BSO Approval requires the preparation of an HMP to manage the potential environmental consequences of the proposed workings on both Aboriginal and non-Aboriginal heritage sites or values as shown in Table 1.

Table 1: Key Conditions of the BSO Approval MP 08_0150

No.	Condition Requirement	Section
C3.5(k)	The Proponent shall prepare and implement an Extraction Plan for first and second workings within each longwall mining domain to the satisfaction of the Planning Secretary. Each extraction plan must: include a Heritage Management Plan, which has been prepared in consultation with Heritage NSW and relevant stakeholders for both Aboriginal and historic heritage, to manage the potential environmental consequences of the proposed second workings on both Aboriginal and non-Aboriginal heritage items, and which:	This plan Section 1.4
	– Includes additional investigations (such as surveys and current register searches) for Aboriginal heritage items (including previously known sites) and historic heritage items, sufficient to identify the significance (including "special significance") of all sites which may be impacted by subsidence and to identify any actions required to ensure that the performance measures in Table 1 are met; and;	Section 7.1
	– is prepared in accordance with the relevant requirements for preparation of the Heritage Management Plan required under condition 24 of Schedule 4.	Table 2

This HMP also addresses the requirements detailed in Condition 6, Schedule 3, Condition 24, Schedule 4 and Condition 2, Schedule 6 of the BSO Approval as shown in Table 2.

Table 2: Management Plan Requirements

Project Approval Conditions	Section
Condition 6, Schedule 3 The Proponent shall ensure that the management plans required under Condition 5 (g)-(l) above include: a) an assessment of the potential environmental consequences of the Extraction Plan, incorporating any relevant information that has been obtained since this approval;	Section 3 and 4

Project Approval Conditions	Section
b) a detailed description of the measures that would be implemented to remediate predicted impacts.	Section 8
Condition 24, Schedule 4 – Heritage Management Plan The Proponent shall prepare a Heritage Management Plan for the project to the satisfaction of the Planning Secretary. This plan must: a) be prepared in consultation with Heritage NSW, the Aboriginal community, Council and any local historical organisations and relevant landowners;	Section 1.4
b) be submitted to the Planning Secretary for approval by 31 January 2017;	n/a
c) include the following program/procedures for managing Aboriginal heritage management within the project area: • recording, salvaging, excavating and/or managing the Aboriginal sites and potential archaeological deposits within the site; • conserving, managing, and monitoring the Aboriginal sites outside the site; • managing the discovery of any new Aboriginal objects or skeletal remains during the project; • maintaining and managing access to archaeological sites by the Aboriginal community; and • ongoing consultation and involvement of the Aboriginal communities in the conservation and management of Aboriginal cultural heritage within the project area.	 Section 6 Section 7 Section 8 Not applicable to this HMP. Section 1.4
d) include the following program/procedures for managing other heritage on site • preparing conservation management plans and/or photographic and archival recording of potentially affected heritage items; • making the conservation management plans and photographic and archival recording publicly available for buildings or structures of State or National heritage significance once they are completed; • protection and monitoring of heritage items outside the site; • baseline dilapidation surveys of all heritage items potentially affected by subsidence and/or blasting; • monitoring, notifying and managing the effects of subsidence and/or blasting on potentially affected heritage items (including the Mountbatten Group); and • additional archaeological excavation and/or recording of any significant heritage items requiring demolition	 Section 3.1 Appendix C Section 6 Appendix C Section 6, 7 and 8 Not applicable to this HMP.
Condition 2, Schedule 6 The Proponent shall ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include: (a) detailed baseline data;	 Section 3
(b) a description of: - the relevant statutory requirements (including any relevant approval, licence or lease conditions); - any relevant limits or performance measures/criteria; - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures;	 Section 2 Section 5 Section 5 and Section 7.3

Project Approval Conditions	Section
(c) a description of the measures that would be implemented to comply with the relevant statutory, limits, requirements or performance measures/criteria;	Section 5 and Section 7
(d) a program to monitor and report on the: - impacts and environmental performance of the project; - effectiveness of any management measures (see c above);	Section 6 Section 6.2
(e) a contingency plan to manage any predicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	Section 8
(f) a program to investigate and implement ways to improve the environmental performance of the project over time;	Section 9.5
(g) a protocol for managing and reporting any: - incidents; - complaints; - non-compliances with statutory requirements; and - exceedances of the impact assessment criteria and/or performance criteria; and	Section 9.1 Section 9.2 Section 9.3 Section 9.4
(h) a protocol for periodic review of the plan.	Section 10.4

Due consideration has been given to all the BSO Approval Conditions in the preparation of this HMP, including those relating to auditing, rehabilitation and environmental management.

2.2 Legislation and Guidelines

This HMP has been developed with due consideration of the requirements of relevant legislation and advisory documents and guidelines including:

- Environmental Planning and Assessment Act 1979;
- National Parks and Wildlife Act 1974 (NPW Act).
- Aboriginal Cultural Heritage Consultation requirements for proponents (DECCW, April 2010).
- Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (DECCW 2010).
- The Australia ICOMOS Burra Charter.
- Heritage Act 1977
- NSW Heritage Manual (NSW Heritage, Department of Premier and Cabinet).

2.3 Relevant Leases and Licences

The following licences or permits may be applicable to ICHPL's operations in AA7:

- Mining Leases as per Table 3.
- Environment Protection Licence (EPL) 2504 which applies to BSO operations. A copy of the licence can be accessed at the NSW EPA website.
- All relevant Occupational Health, Safety, Environment and Community approvals.
- Any additional leases, licences and approvals resulting from the BSO Approval.

Table 3: Appin Mine Leases

MINING LEASE – DOCUMENT NUMBER	START	FINISH
CCL 767	29 OCT 1991	08 JUL 2029
ML 1433	24 JULY 1998	24 JULY 2043
ML 1698	26 JUN 2014	26 JUN 2035
ML 1832	9 AUG 2022	9 AUG 2043
ML 1874	20 FEB 2020	20 FEB 2045
ML 1892	4 SEP 2025	4 SEP 2046

The Project is located within the mining tenements listed in Table 3.

3. BASELINE ASSESSMENT

A baseline Aboriginal Heritage Assessment (Biosis Reseach2009) and non-Aboriginal Heritage Assessment (Heritage Management Consultants [HMC], 2009) were undertaken in support of the BSO Environmental Assessment (EA). The Study Area for these assessments included the Longwalls 712 to 716 Study Area:

- Nineteen Aboriginal cultural heritage sites have been identified within the Subject Area based on the 35° angle of draw and/or the Subject Area based on the 600 m boundary. Three of these sites are located above the proposed LW712 to LW716 (AHIMS ID# 52-2-3194, AHIMS ID# 52-2-3231 and AHIMS ID #52-2-3232) and two are located above the approved LW711 (AHIMS ID# 52-2-4226 and AHIMS ID# 52-2-4227). Two of which have been destroyed under Aboriginal Heritage Impact Permits (AHIPs) AHIMS ID# 52-2-3194 and AHIMS ID# 52-2-4508 and seven that have been partially destroy through AHIPs for test excavation (AHIMS ID# 52-2-3053, AHIMS ID# 52-2-3190, AHIMS ID# 52-2-3191, AHIMS ID# 52-2-3192, AHIMS ID#52-2-3193, AHIMS ID# 52-2-3687 and AHIMS ID# 52-2-4507).
- Three non-Aboriginal heritage sites were identified in the Longwall 712 to 716 Study Area during the assessments undertaken for the BSO EA (Item numbers A12, I79 and I85).

Supplementary field surveys for Aboriginal objects and Places were undertaken by Regal Heritage (2025) and representatives of the Registered Aboriginal Parties (RAPs) on a number of properties in the Longwalls 712 to 716 Study Area for the purposes of this Extraction Plan. The results of this assessment are included as Attachment B. During these surveys no additional Aboriginal or historical heritage sites, or intangible cultural values were identified.

The locations of the recorded heritage features within the Longwalls 712 to 716 Study Area are shown in Figure 2.

3.1 Baseline Recording

3.1.1 Aboriginal Heritage

Known Aboriginal archaeological sites within or near the Longwalls 712 to 716 Study Area have been subject to recording at the level appropriate for registration on the Aboriginal Heritage Information Management System (AHIMS) at Heritage NSW.

Detailed baseline recording of any previously undetected Aboriginal heritage sites found prior to or during mining will be undertaken as required.

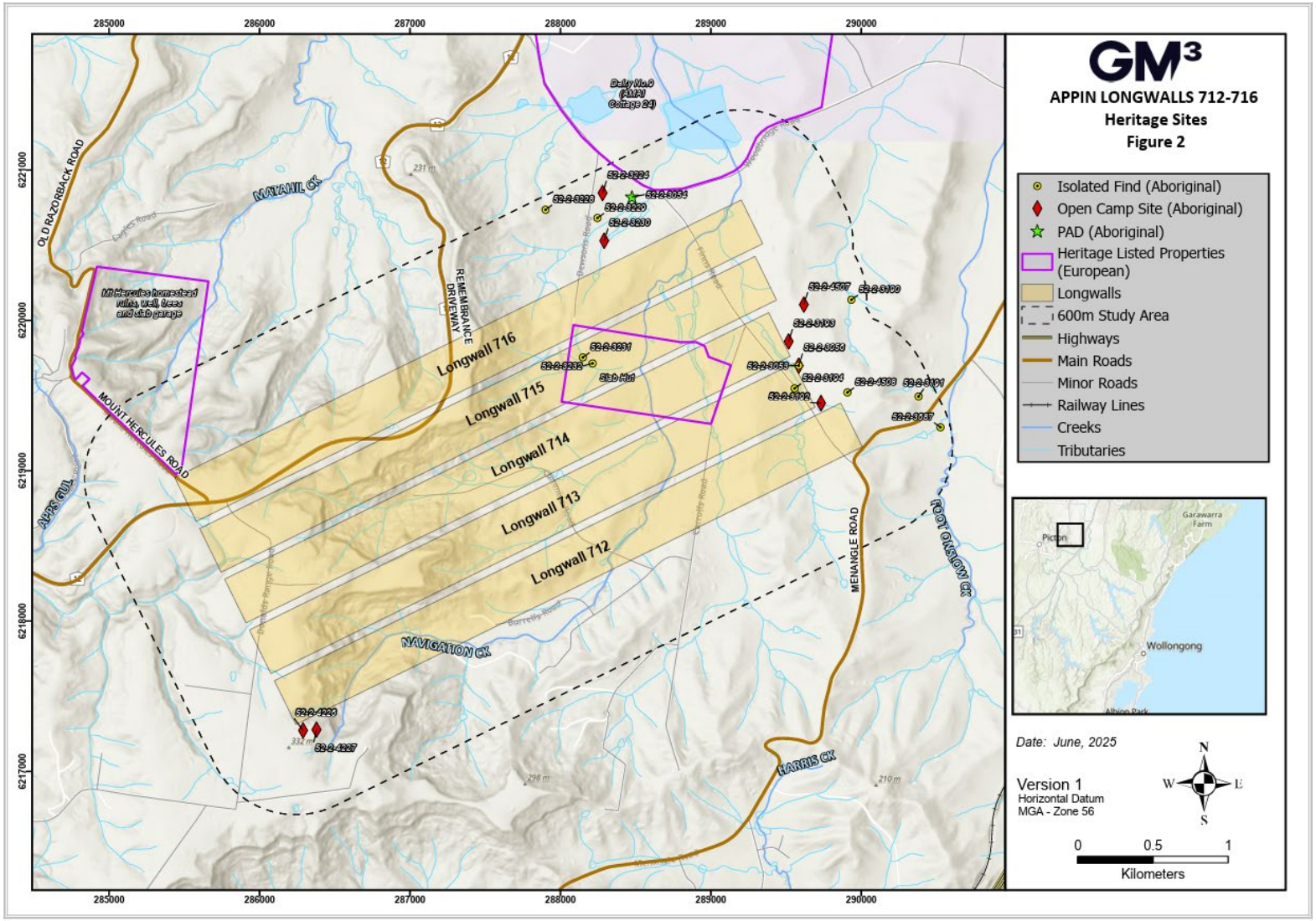
3.1.2 Historic Heritage

Three non-Aboriginal heritage sites were detected in the Longwalls 712 to 716 Study Area during the assessments undertaken for the BSO EA. These include; a Slab Hut above LW714 to 716, Mt

Hercules Homestead ruins outside the proposed mining area but adjacent to the western end of longwall 716, and Dairy No. 9 (EMAI Cottage 24) outside the mining area but at a minimum distance of 190 m north of the eastern end of Longwall 716. No non-Aboriginal heritage sites were located during the supplementary field investigation (Regal Heritage 2025).

A Statement of Heritage Impact for historical sites that may be impacted by Longwalls 712 to 716 has been prepared (Archive Heritage 2025) and is provided in Appendix C.

Figure 2: Recorded Heritage Items within the Longwalls 712 to 716 Study Area



4. PREDICTED IMPACTS

In accordance with the definition from the Independent Expert Panel for Mining in the Catchment (IEPMC, 2019), subsidence effects, subsidence impacts and subsidence consequences are described as:

- Effect - the nature of mining-induced deformation of the ground mass. This includes all mining-induced ground movements such as vertical and horizontal displacements and their expression as ground curvatures, strains and tilts.
- Impact - any physical change caused by subsidence effects to the fabric of the ground, the ground surface, or a structure. In the natural environment these impacts are principally tensile and shear cracking of the rock mass, localised buckling of the strata and changes in ground profile.
- Consequence - any change caused by a subsidence impact to the amenity, function or risk profile of a natural or constructed feature. Some consequences may give rise to secondary consequences. For example, the redirection of surface water to the subsurface through mining-induced fractures may be a primary consequence for water inflow to a reservoir and result in secondary consequences for surface ecology.

4.1 Aboriginal Heritage

4.1.1 Subsidence Effects

MSEC (2009) undertook an initial assessment of predicted subsidence in the Study Area to support the BSO EA. These predictions were updates by MSEC (2025) to account for the revised Mine Plan for Longwalls 712 to 716.

4.1.2 Subsidence Impacts

The Aboriginal heritage sites within the Study Area comprise open sites. Surface cracking could develop above the proposed longwalls. Fracturing of exposed bedrock could also occur along the streams at distances up to approximately 400 m outside the proposed mining area.

Aboriginal cultural heritage features located within the 600 m Study Area are detailed in Table 4.

Table 4 Predicted Subsidence Impacts to Aboriginal Heritage Features

AHIMS-ID	SITE TYPE	SCIENTIFIC SIGNIFICANCE	RISK OF IMPACT
52-2-3053	Isolated find	Low	Negligible
52-2-3054	PAD	Low	Negligible
52-2-3056	Open camp	Low	Negligible
52-2-3190	Isolated find	Low	Negligible
52-2-3191	Isolated find	Low	Negligible

52-2-3192	Open camp	Low	Negligible
52-2-3193	Open camp	Low	Negligible
52-2-3194	Isolated find	Low	Negligible
52-2-3224	Open camp	Low	Negligible
52-2-3228	Isolated find	Low	Negligible
52-2-3229	Isolated find	Low	Negligible
52-2-3230	Open camp	Low	Negligible
52-2-3231	Isolated find	Low	Negligible
52-2-3232	Isolated find	Low	Negligible
52-2-3687	Isolated find	Low	Negligible
52-2-4226	Open camp	Low	Negligible
52-2-4227	Open camp	Low	Negligible
52-2-4507	Open camp	Low	Negligible
52-2-4508	Isolated find	Low	Negligible

Further detail regarding the methodology used to predict the risk of impact can be found in Regal (2025) and MSEC (2025).

4.1.3 Consequences

It is unlikely that the artefacts and deposits themselves would be impacted by surface cracking (MSEC 2025). The risk of impact from Longwalls 712 to 716 has been deemed as negligible (Regal 2025 and MSEC 2025).

4.2 Non-Aboriginal Heritage

4.2.1 Subsidence Effects

MSEC (2009) undertook an initial assessment of predicted subsidence in the Study Area to support the BSO EA. These predictions were revised by MSEC (2025) to account for the revised Mine Plan for Longwalls 712 to 716.

4.2.2 Subsidence Impacts

The non-Aboriginal heritage sites within the Study Area comprise; a Slab Hut, the Mt Hercules homestead ruins, and the Dairy No. 9 (EMAI Cottage 24). Site specific subsidence predictions have been made for there sites in MSEC 2025. The Slab Hut, given it location above Longwalls 714 to 716 will experience full subsidence movements. The other two sites are not located directly above the longwall extraction areas, and will therefore be subject to relatively small ground movements from subsidence.

4.2.3 Consequences

The assessed likelihood of impacts on Slab Hut are approximately 47 % of Nil or Category R0 impacts, approximately 32 % of Category R1 or R2 impacts, approximately 15 % of Category R3 or

R4 impacts, and approximately 5 % of Category R5 impacts. It is most likely that Slab Hut will remain safe and serviceable during and after mining directly beneath it. Cracking and movements may occur in the structure including the light-weight wall cladding. Repairs on any mining-induced damage should consider the heritage aspects of the structure.

Mt Hercules homestead ruins is located outside the mining area but the property boundary is located adjacent to the northern side of Longwall 716. The low-level predicted subsidence effects are unlikely to adversely impact the ruins themselves consisting of brick rubble, roofing iron and other remains on the ground.

Dairy No.9 (EMAI Cottage 24) and Camden Park Estate and Belgenny Farm are located well outside the mining area. It is unlikely that adverse impacts would occur on these properties due to their distances outside the mining area and very low-level predicted subsidence effects.

Further assessment of the consequences of mine subsidence of these historical heritage items is provided in Archive Heritage (2025).

Table 5 – Predicted Subsidence Impacts to Non-Aboriginal Heritage

SITE ID	SIGNIFICANCE	RISK OF IMPACT
Slab Hut	Local	Negligible to low
Mt Hercules Homestead Ruins	Local	Negligible to low
Dairy No.9 (EMAI Cottage 24)	Local	Nil to very low (built fabric assessed as nil impact)
Camden Park Estate and Belgenny Farm	State	Nil to very low (built fabric assessed as nil impact)

5. PERFORMANCE MEASURES AND INDICATORS

The BSO Approval provides Subsidence Impact Performance Measures (Condition 1, Schedule 3). Table 6 below details the conditions relevant to heritage items.

In relation to the performance measures for Aboriginal and non-Aboriginal heritage features the term "negligible" is defined within the Project Approval as "small and unimportant, such as not to be worth considering".

Non-Aboriginal heritage sites are considered to be "affected by subsidence impacts" if they exhibit cracks in timber or the external facade, movement of wall claddings, loss of bearing to isolated walls, or re-levelling of the building as a result of the mining.

Table 6: Subsidence Impact Performance Measures

Feature	Performance Measure
Sites determined to hold "special significance" as a result of studies required for Extraction Plans	Negligible impact or environmental consequence.
Sites determined to hold high or moderate significance as a result of studies required for Extraction Plans	Negligible impact or environmental consequence.
Other Aboriginal heritage sites	Less than 10% of such sites within any longwall mining domain are/is affected by subsidence impacts (other than minor impacts or environmental consequence).
St James Church (Menangle) **St Mary's Tower (Douglas Park)**	Negligible loss of heritage value. Negligible impact on structural integrity or external fabric.
Broughtons Pass Weir	Negligible loss of heritage value.
Other buildings or structures of State or National heritage significance (i.e. Camden Park Es	Negligible loss of heritage value. Negligible impact on structural integrity or external fabric, unless the owner of the feature agrees otherwise in writing.
Other buildings or structures of identified heritage significance	No loss of heritage value greater than predicted under a Heritage Management Plan prepared under condition 6 below

Note: Not all of the above mentioned features are present in the Longwalls 712 to 716 Study Area as the subsidence impact performance measures in Schedule 3 relate to the entire BSO Area.

All identified Aboriginal heritage features located within the Longwalls 712 to 716 Study Area are isolated artefacts or open camp sites and considered to have a negligible risk of impact resulting from the extraction of the proposed longwalls.

6. MONITORING AND REPORTING

6.1.1 Aboriginal Heritage Sites

Nineteen Aboriginal sites, comprising of stone artefacts have been identified within the Study Area and it is considered there is negligible risk of impact resulting from the extraction of the proposed longwalls. No further assessment or monitoring is recommended for these sites (Regal 2025).

If surface works are scheduled to take place within the general area of the Aboriginal sites, this management plan would be updated to include monitoring and management of potential impacts associated with remedial works.

While not all of the Study Area has been surveyed due to land access restrictions, rock shelter and other sandstone shelter sites susceptible to mine subsidence impacts are likely to be only present within landform where Hawkesbury Sandstone is present, which is not present within the Study Area (Regal 2025).

6.1.2 Historic Heritage Sites

Three non-Aboriginal heritage sites have been identified within the Study Area and it is considered there is negligible to low risk of impact resulting from the extraction of the proposed longwalls. A Statement of Heritage Impact (SoHI) for the Slab Hut, Mt Hercules homestead ruins, Dairy No. 9 (EMAI Cottage 24) and Camden Park Estate and Belgenny Farm has been prepared. Property Subsidence Management Plans will be prepared by GM3 for these properties.

Monitoring of the three identified non-Aboriginal heritage sites is not proposed during extraction of Longwalls 712 to 716. This is due to the sites being predicted to have a negligible to low impact and/or due to their location being outside of the area directly mined beneath and therefore being subject to very small subsidence movements.

Archival recordings will be prepared for both 'Slab hut' and 'Mt Hercules homestead – ruin, well and slab garage' in accordance with Section 7.6 – 'Subsidence Monitoring Requirements' of the Appin Mine HMP prior to the influence of subsidence induced ground movements.

Further, the SoHI (Archive Heritage 2025) will be updated with regard to the nature and significance of heritage item 'Slab hut', when access to that property becomes available.

6.2 Reporting

Upon completion of any baseline recording of Aboriginal objects that may be identified during the course of extraction of Longwalls 712-716, a report and archival material would be submitted to Heritage NSW and the RAPs.

Baseline Recording of non-Aboriginal items shall be in accordance with the requirements of the Heritage NSW.

No monitoring is proposed at this time; however, if monitoring is required as a result of surface activities; results from the monitoring program will be reported annually in the Annual Review. This report will:

- detail the outcomes of monitoring undertaken;
- provide results of visual inspections;
- determine whether performance indicators have been exceeded; and
- whether Corrective Management Actions (CMAs) are required.

If required, monitoring results would be reviewed monthly in the ICHPL Subsidence Management Committee. However, if the findings of monitoring are deemed to warrant an immediate response, the Principal Approvals will initiate the requirements of the Management and Mitigation Strategies for applicable sites.

Monitoring results will be made publicly available in accordance with BSO Approval Condition 8 & 11, Schedule 6 and will also be included in the Annual Reporting Condition 4, Schedule 6.

7. MANAGEMENT AND MITIGATION STRATEGIES

7.1 Aboriginal Heritage

The predicted impacts to Aboriginal objects are negligible and no mitigation measures are currently required or proposed.

ICHPL will review the need to implement management or mitigation strategies if additional Aboriginal objects are located within the Study Area.

If required, management strategies will be developed and implemented in accordance with current conservation practice and conservation principles contained within the Australia International Council of monuments and Sites, the Burra Charter, and the NSW Office of Environment and Heritage Guidelines for Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (2011). All management strategies will be developed in consultation with the identified Aboriginal stakeholders, the landowner, DPIE and Heritage NSW.

Possible measures include:

- Remediating of cracking resulting from mining.
- Modification of monitoring methodology in response to any particular subsidence impacts.
- Archival recording.
- Site specific monitoring and reporting.

7.2 Non-Aboriginal Heritage

Three non-Aboriginal heritage sites were identified in the Study Area. Only the Slab Hut is located directly above the mining area, with the other sites predicted to be subject to very small subsidence movements. Given that impacts to all sites are predicted to be nil to very low (Dairy No 9) or negligible to low (Slab Hut & Mt Hercules Homestead), any impacts will be identified via the Property Subsidence Management Plan for the specific property.

In accordance with Archive Heritage (2025) recommendations, ICHPL will:

- undertake archival recordings for both the 'Slab hut' and 'Mt Hercules homestead – ruin, well and slab garage' in accordance with Section 7.6 – 'Subsidence Monitoring Requirements' of the Appin Mine HMP prior to the initiation of ground movements associated with mining;
- update the LW712-716 SoHI with regard to the nature and significance of heritage item 'Slab hut', when access to that property becomes available.

7.3 Trigger Action Response Plan

A TARP has been developed by Regal (2025) in the event that an applicable non-Aboriginal heritage site is subject to impacts through extraction of coal from Longwalls 712 to 716.

Table 7: Non-Aboriginal heritage site TARP

During and Post Mining	Trigger	Action	Response
Non-Aboriginal Heritage	Level 1: Negligible • Cracks or warping of external exterior cladding. • Cracks or movement < 5 mm in width in any external or internal wall claddings, linings, or finish. • Isolated cracked, loose, or drummy floor or wall tiles.	• Inform Subsidence Advisory NSW (SA) of impacts. • Notify relevant specialists. • Monitor the minor effects to observe any further changes. • Implement repairs by filling, patching or painting without the removal or replacement of any external weatherboards, claddings or linings.	• Continue monitoring in consultation with property owners.
	Level 2: Minor • Continuous cracking or warping of exterior cladding. • Slippage along the damp proof course of 5 to 15 mm anywhere in the total external façade. • Loss of bearing to isolated walls, piers, columns, or other load-bearing elements. • Loss of stability of isolated structural elements.	• Inform SA of impacts. • Notify relevant specialists. • Monitor to observe any further changes. • Implement repairs by removal or replacement of proportions of the building, for example weatherboards, or secure the stability of structural elements.	• Continue monitoring in consultation with property owners.
	Level 3: Major	• Inform SA of impacts.	• Continue monitoring in

During and Post Mining	Trigger	Action	Response
	• Slippage along the damp proof course of 15 mm or greater anywhere in the total external façade. • Loss of stability of several structural elements.	• Notify relevant specialists. • Monitor to observe any further changes. • Implement repairs and replacement.	consultation with property owners.

8. CONTINGENCY RESPONSE PLAN

In the event that the Performance Measures detailed in Section 5 of this HMP are considered to have been exceeded, or are likely to be exceeded, ICHPL will implement a Contingency Plan to manage any unpredicted impacts and their consequences.

This would generally involve:

- Capture photographic record.
- Notify relevant stakeholders soon as practicable.
- Notify relevant agencies and specialists soon as practicable.
- Offer site visits with stakeholders.
- Contract specialists to investigate and report on changes identified.
- Provide incident report to relevant agencies.
- Establish weekly monitoring frequency where appropriate until stabilised.
- Updates from specialists on investigation process.
- Inform relevant agencies and stakeholders of results of investigation.
- Develop site CMA in consultation with key stakeholders if required, (pending stakeholder availability) and seek approvals.
- Implement CMA as agreed with stakeholders following approvals.
- Conduct initial follow up monitoring and reporting of CMA completion.
- Review Management Plan.
- Report in regular reporting and Annual Review.

ICHPL will consult with appropriate specialists and relevant agencies in order to devise an appropriate response in respect to any identified exceedance.

The development and implementation of contingency measures will be specifically designed to address the circumstances of the exceedance and assessment of environmental consequences.

If the contingency measures implemented by ICHPL fail to remediate the impact or the Secretary determines that it is not reasonable or feasible to remediate the impact, ICHPL will provide a suitable offset to compensate for the impact to the satisfaction of the Secretary in accordance with the BSO Approval Condition 2, Schedule 3.

8.1 Discovery of Unanticipated Aboriginal Objects

All Aboriginal objects and Places are protected under the NPW Act. It is an offence to knowingly disturb an Aboriginal site without a consent or permit issued by the Heritage NSW.

Where suspected Aboriginal objects becomes newly identified, ICHPL will implement this Contingency Plan to ensure the protection of these items in accordance with the NPW Act. The following Contingency Plan describes the actions that must be taken in instances where Aboriginal cultural material is discovered or unearthed:

- Cessation of works in the vicinity of the find.
- Notify Heritage NSW as soon as practicable.
- Consultation with relevant stakeholders to undertake an impact assessment, and development of a management strategy.
- Develop a monitoring program in accordance with Heritage expert consultants' recommendations.
- Record the site in accordance with the NPW Act and Heritage NSW guidelines.

8.2 Discovery of Aboriginal Ancestral Remains

Aboriginal ancestral remains may be found in a variety of landscapes in NSW, including middens and sandy or soft sedimentary soils (Regal Heritage 2025). If any suspected human remains are discovered during any activity ICHPL will:

- Immediately cease all work at that location and not further move or disturb the remains.
- Notify the NSW Police and Heritage NSW Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location.
- Not recommence work at that location unless authorised in writing by Heritage NSW.

8.3 Baseline recording for Aboriginal Shelter Sites

If unanticipated Aboriginal shelter sites are identified in the Study Area as part of the extraction of Longwalls 712 to 716, then appropriate management actions will be undertaken in consultation with Heritage NSW and Registered Aboriginal parties. This consultation will be informed by an archaeological study and if appropriate an impact assessment. Depending on the results of the

impact assessment, management recommendations for Aboriginal shelter sites may include a monitoring program. Baseline recording of any new Aboriginal sites will be undertaken.

8.4 Discovery of Unanticipated Historical (Non-Aboriginal) Objects

Non-Aboriginal heritage relics are protected under the Heritage Act 1977. The Heritage Act defines a 'relic' as "*any deposit, artefact, object or material evidence that relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and is of State or Local heritage significance*".

Where suspected non-Aboriginal objects becomes newly identified, ICHPL will implement this Contingency Plan to ensure the protection of these items in accordance with the Heritage Act. The following Contingency Plan describes the actions that must be taken in instances where Heritage (non-Aboriginal) relics are discovered or unearthed:

- Cessation of works in the vicinity of the find.
- Cordon off the area as a no-go zone.
- Take photographs of the unexpected heritage find (including a scale) and record any other details that may be relevant (number of objects, type, shape, material etc.)
- Seek further advice immediately by notifying the discovery via the Heritage Management System, providing details of the unexpected find.
- Determine the next steps in consultation with stakeholders (i.e. Heritage Council of NSW and Wollondilly Shire Council).

9. COMPLAINTS AND COMPLIANCE MONITORING

9.1 Incidents

An incident is defined in the BSO Approval as "An occurrence or set of circumstances that causes, or threatens to cause, material harm to the environment, and as a consequence of that environmental harm, may cause harm to the safety of human beings, and which may or may not be or cause a non-compliance".

The reporting of incidents will be conducted in accordance with Condition 7, Schedule 6 of the BSO Approval. ICHPL will notify the Secretary of the DPHI via the NSW Planning Portal and any other relevant agencies of any incident associated with the BSO within 24 hours after ICHPL becomes aware of the incident. Within seven days of the date of the incident, ICHPL will provide the Secretary of the DPHI and relevant agencies with a detailed report on the incident.

An Incident Report will be prepared in accordance with Appendix 7 (3) of the BSO Approval and will:

- identify how the incident was detected;
- identify when ICHPL became aware of the incident;
- identify any actual or potential non-compliance with conditions of consent;
- details on the nature of the incident (including survey results, photographs and date of the incident);
- results of investigation(s) to identify/evaluate the contributing factors to and the cause of the incident;
- proposed course of action (including proposed timeline for implementation of corrective and preventative actions to address the incident and prevent recurrence) and development of contingency measures;
- details of any communication with other stakeholders regarding the incident; and
- relevant ICHPL contact details to obtain further information on the incident.

RAPs will be notified of any incidents involving Aboriginal heritage. ICHPL will provide a detailed report of any incident to any relevant agencies and RAPs if the incident involves Aboriginal heritage.

9.2 Complaints and Dispute Resolution

ICHPL has a readily accessible contact point through a 24-hour toll-free Community Call Line (1800 102 210) and email address (community@gm3.au). The number is displayed on the GM^3 website, prominently on ICHPL Projects and Mine sites in a position visible by the public as well as

on publications, letters and other correspondence provided to the local community. The call line is for all complaints and general enquiries regarding environmental or community issues associated with ICHPL operations.

Community complaints and enquiries may also be received in person by any employee of ICHPL, with details to be immediately shared with the Community Team for investigation. All complaints received in relation to Dendrobium Mine will be managed in accordance with the Handling Community Complaints, Enquiries and Disputes Procedure.

Upon receipt of a community complaint, preliminary investigations will commence as soon as practicable to determine the likely cause of the complaint. An initial response will be provided to the complainant within 24 hours of the complaint being made, with a follow up response being provided as soon as practicable once a more detailed investigation is complete.

A summary of all complaints received during the reporting year will be provided as part of the Annual Review. A log of complaints is also maintained on the GM^3 website.

9.3 Non-Compliance, Corrective Action and Preventative Action

Non-compliances will be notified and reported in accordance with Condition 7A of Schedule 6 of the BSO Approval. ICHPL will notify the DPHI in writing via the NSW Planning Portal and will include the following information:

- the development including the development application number and name;
- the condition of consent that the development is non-compliant with and why it does not comply;
- the reasons for the non-compliance (if known);
- what actions have been undertaken or will be undertaken to address the non-compliance.

The BSO Approval states that “a non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

9.4 Monitoring Compliance with Appin Mine Approval Performance Conditions

Schedule 3 of the BSO Approval provides subsidence performance measures for Aboriginal and historical heritage features as shown in Table 6. In regard to the performance measures described in Table 6, "negligible" is defined as "small and unimportant, such as not to be worth considering" and “minor” is defined as "not very large, important or serious". Monitoring compliance with the BSO Approval performance conditions for heritage sites is discussed in Section 9.

Compliance with BSO Approval performance conditions for Aboriginal and non-Aboriginal heritage are monitored through subsidence monitoring and surface works programs by

responsible site personnel or specialist contractors as appropriate. Monitoring results are published in End of Panel, Salvage and other reports as required. Monitoring Reports and results will be made available on the GM³ website:

www.gm3.au

9.5 Investigating Environmental Performance

Condition 2 (f) of Schedule 6 of the BSO Approval requires that a program be implemented to investigate and implement ways to improve the environmental performance of the Project over time.

ICHPL has committed to fund research to develop improved scientific understanding of subsidence impacts and environmental consequences as detailed in the Environmental Research Program. It is also anticipated that additional information in regard to improving environmental performance relative to Aboriginal and non-Aboriginal heritage will be gathered as part of End of Panel Reports, Impact Management Reports, Incident Reports, Audit Reports, annual reviews and heritage industry papers and reports.

10. PLAN ADMINISTRATION

This HMP will be administered in accordance with the requirements of the Appin Mine Environmental Management Strategy (EMS) and the BSO Approval Conditions. A summary of the administrative requirements is provided below.

10.1 Roles and Responsibilities

Statutory obligations applicable to this Plan are identified and managed via an online compliance management system (TICKIT).

The overall responsibility for the implementation of this HMP resides with the Manager Approvals who will be the HMP's authorising officer.

Parties responsible for environmental management in AA7 and 9 and the implementation of the HMP include:

Manager Approvals

- Ensure that the requisite personnel and equipment are provided to enable this HMP to be implemented effectively.
- Authorise the HMP and any amendments thereto.

Principal Approvals

- Document any changes to the HMP, recognising the potential for those changes to affect other aspects of the HMP.
- Provide regular updates to ICHPL on the results of the HMP.
- Arrange information forums for key stakeholders as required.
- Prepare any report in accordance with the HMP. Maintain records required by the HMP.
- Organise and participate in assessment meetings called to review mining impacts.
- Within 24 hours, respond to any queries or complaints made by members of the public in relation to aspects of this HMP.
- Organise audits and reviews of the HMP.
- Address any identified non-conformances, assess improvement ideas submitted and implement if considered appropriate.
- Arrange for the implementation of any agreed actions, responses or remedial measures.
- Ensure surveys required by this HMP are conducted and record details of instances where circumstances prevent these from taking place.

Coordinator Environment

- Instruct suitable person(s) in the required standards for inspections, recording and reporting and be satisfied that these standards are maintained.
- Investigate significant subsidence impacts.
- Identify and report any non-conformances with the HMP.
- Participate in any other assessment meetings called to review subsidence impacts in the area affected by mining.

Survey Coordinator

- Collate survey data and present in an acceptable form for review at assessment meetings.
- Bring to the attention of the Principal Approvals any findings indicating an immediate response may be warranted.
- Bring to the attention of the Principal Approvals any non-conformances identified with the Plan provisions or ideas aimed at improving the HMP.

Technical Experts

- Conduct the roles assigned to them in a competent and timely manner to the satisfaction of the Principal Approvals and formally provide expert opinion as requested.

Person(s) Performing Inspections

- Formally bring to the attention of the Coordinator Environment any nonconformances identified with the Plan, or ideas aimed at improving the Plan.
- Conduct inspections in a safe manner.

10.2 Resources Required

The Manager Approvals provides resources sufficient to support this HMP.

Equipment may be needed for this HMP. Where this equipment is of a specialised nature, it will be provided by the supplier of the relevant service. All equipment is to be appropriately maintained, calibrated and serviced as required in operation manuals.

It will be the responsibility of the Manager Approvals to ensure that personnel and equipment are provided as required to allow the provisions of this Plan to be implemented.

10.3 Training

All staff and contractors working on ICHPL sites are required to complete the ICHPL training program which includes:

- An initial site induction (including relevant aspects of heritage, environment, safety and community).

- Safe Work Methods Statements and Job Safety Analyses, Toolbox Talks and Preshift communications.
- On-going job specific training and re-training (where required).

All training records are maintained by the ICHPL Training Department.

It will be the responsibility of the Manager Approvals to ensure that all persons and organisations having responsibilities under this Plan are trained and understand their responsibilities.

The person(s) performing regular inspections will be under the supervision of the Coordinator Environment and be trained in observation and reporting. The Coordinator Environment will be satisfied that the person(s) performing the inspections are capable of meeting and maintaining this standard.

10.4 Review and Update

In accordance with Condition 5 of Schedule 6 of the BSO Approval, the Extraction Plan will be reviewed, and if necessary revised, within three months, of:

- the submission of an Annual Review;
- the submission of an incident report;
- the submission of an Independent Environmental Audit (IEA) report; or
- any modification to the conditions of the BSO Approval (unless the conditions require otherwise).

If significant deficiencies in this HMP are identified in the interim period, the Plan will be modified as required. This process has been designed to ensure that documentation continues to meet current requirements, including changes in technology and operational practice, and expectations of stakeholders.

11. REFERENCES

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MSEC 2025, Appin Longwalls 712 to 716: Subsidence Predictions and Impact Assessments for the Natural and Built Features due to the Extraction of the Proposed Longwalls 712 to 716 at Appin Colliery. Report for GM3.

NSW National Parks and Wildlife Service. 1997. Aboriginal Cultural Heritage: Standards and Guidelines Kit. Standards for Archaeological Practice in Aboriginal Heritage Management. NSW NPWS, Hurstville.

Regal Heritage ,2025. Appin Area 7 Longwalls 712 to 716 Heritage Impact Assessment. An unpublished report to GM³

12. APPENDICES

Appendix A: Aboriginal Stakeholder Consultation

A cultural heritage consultation program was undertaken for the BSO Part 3A Environmental Assessment. The details of which can be found in Section 2 of the BSO Part 3A Aboriginal Cultural Heritage Assessment (Biosis Research, 2009).

The following parties/groups registered their interest in the consultation process and will be involved in the ongoing consultation process:

- A1 Indigenous Services
- Amanda Hickey Cultural Services
- Aragung Aboriginal Cultural Heritage Site Assessments
- Barking Owl Aboriginal Corporation
- Barraby Cultural Services
- B.H. Heritage Consultants
- Black Cockatoos Aboriginal Corporation
- Butucarbin Aboriginal Corporation
- Campbelltown City Council.
- Coomaditchie United Aboriginal Corporation.
- Corroboree Aboriginal Corporation
- Cubbitch Barta Native Title Claimants Aboriginal Corporation.
- Darug Boorooberongal Elders Aboriginal Corporation
- Darug Land Observations
- D'harawal Mens Aboriginal Corporation
- Didge Ngunawal Clan
- Freeman & Marx Pty Ltd
- Galamaay Cultural Consultants
- Garrara Aboriginal Corporation
- Gary Caines.
- Gilay Consultants
- Ginniderra Aboriginal Corporation

- Goodradigbee Cultural & Heritage Aboriginal Corporation
- Gundungurra Elder
- Gundungurra Peoples
- Guntawang Aboriginal Resources Incorporated
- Gunjeewong Cultural Heritage Corporation
- Illawarra Local Aboriginal Land Council.
- Kamilaroi Yankuntjatjara Working Group
- Koolkuna Elders
- Korewal Elouera Jerrungarugh Tribal Elders Aboriginal Corporation.
- Kullila Welfare and Housing Aboriginal Corporation.
- Mura Indigenous Corporation
- Murra Bidgee Mullangari Aboriginal Corporation
- Ngambaa Cultural Connections
- Ngunawal Heritage Aboriginal Corporation.
- Ngunawal Heritage Aboriginal Corporation
- Tharawal Local Aboriginal Land Council.
- Thoorga Nura
- Waawaar Awaa
- Wadi Coomaditchie Aboriginal Corporation.
- Wargon and Burra Aboriginal Centre Inc.
- Wodi Elders Corporation.
- Woka Aboriginal Corporation
- Wori Wooilywa
- Wollondilly Shire Council.
- Woronora Plateau Gundungara Elders Corporation
- Wulungulu Elders Council.
- Wurrumay Pty Ltd
- Yulay Cultural Services
- Yurrandaali

The South Coast Peoples Native Title Claimants requested not to be consulted with as part of this assessment as the proposed Project falls outside of their claim area. Supplementary archaeological investigations of the study area were undertaken during March and April 2025 by Renee Regal and Clare Anderson (Regal Heritage archaeologists), Paul Cummins- Woronora Plateau Gundangara Elders Corporation, Khiana Chalker- Cubbitch Barta Native Title Claimants, Dean Delponte- Ngunnawal Heritage Aboriginal, Ryan Johnson- Murra Bidgee Mullangari Aboriginal Corporation, Ralph Hampton-Kamilaroi and James Davis- Wodi Wodi Elders Corporation.

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Appendix B: *Appin Area 7 - 9 Longwalls 712 to 716 Heritage Impact Assessment* (Regal Heritage 2025)



Appin Area 7 Longwalls 712 to 716

Heritage Impact Assessment

Final REV04
Prepared by Regal Heritage for GM³
21 April 2026

Wollondilly Local Government Area

COVER IMAGE: Porton of the Subject Area facing west at 120 Dawson Road Menangle (Regal Heritage 2025)

ACKNOWLEDGEMENT OF COUNTRY

Regal Heritage acknowledges the Traditional Custodians of the land on which this project was undertaken and pays respect to Elders past, present and emerging.

DISCLAIMER

Aboriginal and Torres Strait Islander people are warned that this publication may contain names and images of deceased people and parts of Country that have been impacted by development.

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Final REV01	5 August 2025	Renée Regal	Heritage NSW
Final REV03	10 February 2026	Renée Regal	Lachlan McWha
Final REV04	21 April 2026	Renée Regal	Lachlan McWha

Abbreviations

Term	Definition
ACHA	Aboriginal Cultural Heritage Assessment, usually prepared with respect to *Guide to investigating, assessing and reporting on Aboriginal Cultural heritage in NSW* (OEH 2011) and then *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010).
ACHMP	Aboriginal Cultural Heritage Management Plan
ACT	Australian Capital Territory
AHD	Australian Height Datum
AHD	Australian Heritage Database
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
AR	Archaeological Report, usually prepared with respect to the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010).
BP	Before Present
CHL	Commonwealth Heritage List
DCP	Development Control Plan
DD	Due Diligence, typically referring to a process undertaken in accordance with the *National Parks and Wildlife Regulation 2019.*
DECCW	The former NSW Department of Environment, Climate Change and Water, whose responsibilities with respect to heritage now largely fall within the Department of Climate Change, Energy, the Environment and Water (DCCEEW),
DPC	NSW Department of Premier and Cabinet. Between 2019-2022, some functions of Heritage NSW (now within the DPE) fell within the jurisdiction of the DPC.
DPE	NSW Department of Planning and Environment (DPE)
DPIE	The former NSW Department of Planning, Industry and Environment, whose primary Aboriginal heritage responsibilities are now assumed by the NSW Department of Planning and Environment
EES	Environment Energy and Science Group, which between 2019 and 1 April 2022 including the Office of Environment and Heritage ed the former Office of Environment and Heritage (2011-2019, the functions of which are now fulfilled by Heritage NSW in the DPE) and the NSW Environment Protection Authority
EIS	Environmental Impact Statement
EP&A Act	NSW Environmental Planning and Assessment Act 1979
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EPI	Environmental Planning Instrument

Term	Definition
GPS	Global Positioning System
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
NAIDOC	National Aborigines and Islanders Day Observance Committee
NHL	National Heritage List
NPW Act	NSW National Parks and Wildlife Act 1974, as amended.
NPW Regulation	NSW National Parks and Wildlife Regulation 2019
NSW	New South Wales
OEH	NSW Office of Environment and Heritage, whose Aboriginal heritage responsibilities were assumed by the Department of Planning, Industry and Environment (DPIE)t, then the NSW Department of Premier and Cabinet (DPC), then back to DPIE and now Department of Planning and Environment.
OSL	Optically-Stimulated Luminescence
PAD	Potential Archaeological Deposit
RAP	Registered Aboriginal Party
REF	Review of Environmental Factors
SEPP	State Environmental Planning Policy
SCC	Shoalhaven City Council
SCCLEP	Shoalhaven City Council Local Environmental Plan 2014
SCCDCP	Shoalhaven City Council Development Control Plan 2014
SHR	State Heritage Register
SHI	State Heritage Inventory
TLALC	Tharawal Local Aboriginal Land Council

Glossary

Term	Definition
Aboriginal area	Land declared as an Aboriginal area under the NSW *National Parks and Wildlife Act 1974.*
Aboriginal cultural heritage	Aboriginal cultural heritage refers to places, object and stories which are significant for Aboriginal people and the story of New South Wales.
Aboriginal Cultural Heritage Assessment (ACHA)	An assessment of Aboriginal Cultural Heritage Assessment prepared in accordance with the *Guide to investigating, assessing and reporting on Aboriginal Cultural heritage in NSW* (OEH 2011).
Aboriginal Heritage Impact Permit (AHIP)	A permit issued under Part 6 of the *National Parks and Wildlife Act 1974* which can be used as a defence against harm to an Aboriginal object or place
Aboriginal Heritage Information Management System (AHIMS)	A database of Aboriginal objects and places managed by Heritage NSW in the NSW Department of Planning and Environment to meet obligations under the *National Parks and Wildlife Act 1974 and National Parks and Wildlife Regulation 2019.*
Aboriginal object	The legal definition of an Aboriginal object in accordance with the *NSW National Parks and Wildlife Act 1974* i.e. Any deposit, object or material evidence (not being a handicraft made for sale), including Aboriginal remains, relating to the Aboriginal habitation of NSW.
Aboriginal place	Any place declared to be an Aboriginal Place under section 94 of the National Parks and Wildlife Act 1974 (NSW). This may differ from Aboriginal places recognised or identified in other sources.
Archaeological potential	The likelihood of further Aboriginal objects or archaeological material, either on or below the surface, being present. These may not be visible.
Artefact	An object which provides material evidence of past human modification.
Assemblage	An assemblage is an archaeological term meaning a group of different artefacts found in association with one another.
Catchment	A catchment area or basin is land which is bounded by natural features such as hills or mountains from which all runoff water flows to a low point.
Cumulative impacts	Cumulative impacts are a result of incremental, sustained and combined effects of human action and natural variations over time and can be both positive and negative. They can be caused by the compounding effects of a single project or multiple projects in an area, and by the accumulation of effects from past, current and future activities as they arise.
Environment and Heritage Group	As of 1 April 2022, the Environment and Heritage Group form part of the Department of Planning and Environment and includes, but is not limited to Heritage NSW, the National Parks and Wildlife Service and the NSW Environment Protection Authority.

Term	Definition
Exposure	Exposure is the percentage of land for which erosion and exposure was sufficient to reveal archaeological evidence on the surface of the ground. Put another way, exposure refers to 'what reveals' (see also Burke and Smith 2004: 78–80).
Flake	A piece of stone detached from a core, displaying a bulb of percussion and/or point of impact and striking platform and termination.
Harm	A statutory term meaning '…any act or omission that destroys, defaces, damages an object or place or, in relation to an object – moves the object from the land on which it had been situated' (s.5 NPW Act).
Heritage NSW	Heritage NSW is a branch of the Environment and Heritage Group in the Department of Planning and Environment which is responsible for the protection of the state's cultural heritage, particularly Aboriginal cultural heritage.
Impact	The influence or effect exerted by a project or other proposed activity on the natural, built and community environment.
In-situ	Latin words meaning 'on the spot, undisturbed'.
Isolated find	A single artefact found in an isolated context with no association with any additional cultural material.
Landforms	The units (or similar) of land description explained and defined as 'landform elements' in The National Committee on Soil and Terrain (eds) *Australian Soil and Land Survey Field Handbook.* Landforms have a characteristic dimension of about 40 m. There are 70 landform elements defined in the *Australian Soil and Land Survey Field Handbook* (Speight 2009: 16, 17-44). Landforms are the primary subdivisions for the survey stratification.
Methodology	The procedures employed to undertake an archaeological investigation and/or assessment.
Mitigation	The action taken to address the problem of conflict between land use and site conservation in order to reduce the severity/ seriousness of an activity.
Native Title	The right of Aboriginal peoples to own their traditional lands and waters, as recognized by common law.
Native Title Act	*Native Title Act 1983*
Open camp site	An archaeological site typically consisting of an assemblage of stone artefacts and/or other cultural material situated within an open space (e.g., archaeological material located on a creek bank, on a hill slope etc.).
Potential Archaeological Deposit (PAD)	An area where sub-surface stone artefacts and/or other cultural materials are likely to occur.
Proponent	In accordance with the *Guide to investigating, assessing and reporting on Aboriginal Cultural heritage in NSW* (OEH 2011), the legal entity who proposes to carry out the project or activity.
Site	A place where past human activity, in the form of Aboriginal objects and/or other material traces of past Aboriginal land use, is identifiable.

Term	Definition
Visibility	In accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010), visibility is the amount of bare ground (or visibility) on the exposures which might reveal artefacts or other archaeological materials. It is important to note that visibility, on its own, is not a reliable indicator of the detectability of buried archaeological material. Things like vegetation, plant or leaf litter, loose sand, stony ground or introduced materials will affect the visibility. Put another way, visibility refers to 'what conceals' (see also Burke and Smith 2004: 78-80).

Executive Summary

Regal Heritage Pty Ltd (Regal Heritage) has been commissioned by GM³ to undertake a Heritage Impact Assessment (HIA) for Aboriginal and non-Aboriginal heritage for the proposed Appin Colliery Longwalls 712, 714, 715 and 716. These longwalls are located within close proximity to the townships of Douglas Park and Menangle, NSW (here on referred to as the Subject Area). The Appin Colliery is comprised of a number of Mining Areas; 5, 7, 8, and 9. These Areas, along with the West Cliff mining Areas, are collectively known as the Bulli Seam Operations (BSO). Regal Heritage understands that GM³ are seeking approval of an Extraction Plan (EP) for Longwalls 712-716 and require Aboriginal and non-Aboriginal assessments to support the application.

The study area is located within the suburb of Menangle and Wollondilly Local Government Area (LGA), Parish of Camden, County of Camden. The Subject Area for this HIA is defined as the surface area that could be potentially affected by subsidence and is inclusive of sensitive structures where additional subsidence effects may occur as a result of the extraction of coal from Longwalls 712, 713, 714,715 and 716.

Consultation for this assessment has been undertaken in line with the consultation process undertaken for Biosis Research (2009) Bulli Seam Operations Aboriginal Cultural Heritage Assessment.

Supplementary archaeological investigations of the study area were undertaken as outlined in Table 1 below.

Table 1: Additional assessment dates, locations and Aboriginal community members present

Date Assessed	Property Address	Aboriginal community member present
13 March 2025	15 Gibraltar Drive, Razorback	Paul Cummins- Woronora Plateau Gundangara Elders Corporation Khiana Chalker- Cubbitch Barta Native Title Claimants
	135 Donalds Range Road, Razorback	Paul Cummins- Woronora Plateau Gundangara Elders Corporation Khiana Chalker- Cubbitch Barta Native Title Claimants
7 April 2025	739 Remembrance Driveway, Razorback	Dean Delponte- Ngunnawal Heritage Aboriginal Corporation Khiana Chalker- Cubbitch Barta Native Title Claimants
	790 Remembrance Driveway, Razorback	Dean Delponte- Ngunnawal Heritage Aboriginal Corporation

Date Assessed	Property Address	Aboriginal community member present
		Khiana Chalker- Cubbitch Barta Native Title Claimants
10 April 2025	12 Gibraltar Drive, Razorback	Ryan Johnson- Murra Bidgee Mullangari Aboriginal Corporation
	14 Gibraltar Drive, Razorback	Ryan Johnson- Murra Bidgee Mullangari Aboriginal Corporation
	16 Gibraltar Drive, Razorback	Ryan Johnson- Murra Bidgee Mullangari Aboriginal Corporation
	19 Gibraltar Drive, Razorback	Ryan Johnson- Murra Bidgee Mullangari Aboriginal Corporation
29 April 2025	120 Dawson Road, Menangle	Ralph Hampton-Kamilaroi James Davis- Wodi Wodi Elders Corporation

No new Aboriginal or non-Aboriginal heritage sites were identified during the field investigation.

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1. Introduction

1.1. Project description and background

Regal Heritage Pty Ltd (Regal Heritage) has been commissioned by GM³ to undertake a Heritage Impact Assessment (HIA) for Aboriginal and non-Aboriginal heritage for the proposed Appin Colliery Longwalls 712, 714, 715 and 716. These longwalls are located within close proximity to the townships of Douglas Park and Menangle, NSW (here on referred to as the Subject Area). The Appin Colliery is comprised of a number of Mining Areas; 5, 7, 8, and 9. These Areas, along with the West Cliff Mining Areas, are collectively known as the Bulli Seam Operations (BSO). Regal Heritage understands that GM³ are seeking approval of an Extraction Plan (EP) for Longwalls 712-716 and require Aboriginal and non-Aboriginal assessments to support the application.

Biosis Research previously completed an Aboriginal Cultural Heritage Assessment (ACHA) in 2009 as part of the Bulli Seam Operations Plan development application process that identified 32 new Aboriginal heritage sites within the Appin Colliery (Biosis Research 2009). A supplementary field investigation in 2012 identified an additional site (Biosis Research 2012). A non-Aboriginal heritage assessment (Statement of Heritage Impact) was completed by Michael Pearson Heritage Management Consultants Pty Ltd in 2009 that identified 49 heritage items of local and state significance (Michael Pearson Heritage Management Consultants Pty Ltd 2009). The methodology for this HIA has been developed to meet the requirements of the Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (DECCW 2010, here on referred to as 'the Code') and NSW Heritage Manual 1996 (Heritage Office & DUAP 1996) and associated guidelines.

This HIA should be read in conjunction with other specialist studies as part of the BSO and current EP.

1.2. Location of the Subject Area

The Subject Area is located within the Wollondilly LGA, Parish of Camden, County of Camden (Figure 1 and Figure 2) The Subject Area is located in the suburbs of Razorback and Menangle (Figure 2). The study area for this HIA is defined as the surface area that could be potentially affected by subsidence and is inclusive of sensitive structures where additional subsidence effects may occur as a result of the extraction of coal from Longwalls 712, 713, 714, 715 and 716. The Subject Area is inclusive of the 35-degree angle of draw from the proposed extents of the longwalls, the predicted limit of vertical subsidence and features sensitive to far-field movements and the 600 m boundary (MSEC 2025 REVISION A).

Supplementary field investigations of the Subject Area were completed at the following properties outlined in Table 2.

Table 2: Supplementary properties surveyed as part of this assessment

Date Assessed	Property Address
13 March 2025	15 Gibraltar Drive, Razorback
	135 Donalds Range Road, Razorback
7 April 2025	739 Remembrance Driveway, Razorback
	790 Remembrance Driveway, Razorback
10 April 2025	12 Gibraltar Drive, Razorback
	14 Gibraltar Drive, Razorback
	16 Gibraltar Drive, Razorback
	19 Gibraltar Drive, Razorback
29 April 2025	120 Dawsons Road, Menangle

Further to this the assessment included surveying for any non-Aboriginal items that have the potential to be relics under the *Heritage Act 1977 (*Figure 3*)*.

1.3. Planning approvals

The HIA complies with the following statutory obligations:

- Conditions of Project Approval for the BSO.
- The following relevant Heritage Acts, advisory documents and guidelines:
    - *National Parks and Wildlife Act* 1974
    - *Aboriginal Cultural Heritage Consultation Requirements for* Proponents (DECCW 2010).
    - *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010b).
    - *The ethos of the Australia International Council on Monuments and Sites* (ICOMOS) *Burra Charter.*
    - *NSW Heritage Manual* (NSW Heritage, Department of Premier and Cabinet).

Condition 5 of Schedule 3 of the BSO Project Approval requires the preparation and implementation of an Extraction Plan (EP) for first and second workings within each longwall mining domain. Further to this, the BSO Project Approval it also requires the preparation of a Heritage Management Plan (HMP) as a component of the EP for second workings to manage the potential environmental consequences of the proposed second workings on both Aboriginal and non-Aboriginal heritage sites or values. Table 1, Schedule 3 of the BSO Approval identifies the required performance measures that must be met for Aboriginal and non-Aboriginal heritage features.

1.4. Objectives of this assessment

The HIA consists of the following components:

• Review of previous heritage assessments of the Subject Area

• Methodology and results of the supplementary field investigation

• Present descriptions and significance assessment for any Aboriginal objects and Non-Aboriginal heritage items that fall within the current Subject Area

• Identify the likelihood of subsidence impacts for Aboriginal objects and non-Aboriginal heritage items

• Propose management options and mitigation measures for any Aboriginal objects and non-Aboriginal heritage items that may be affected due to mining subsidence and;

• Development of heritage contingency plans.

1.5. Aboriginal community consultation

Consultation for this assessment has been undertaken in line with the consultation process undertaken for Biosis Research (2009) Bulli Seam Operations Aboriginal Cultural Heritage Assessment. On the 1 November 2024 letters were sent to the following agencies to confirm if there were any additional Aboriginal community members that should be included in the current project's consultation process:

- Heritage NSW
- Native Title Services Corporation
- The National Native Title Tribunal
- The Registrar of the Aboriginal Land Rights Act 1983
- Wollondilly Shire Council

A total of 34 Aboriginal community groups and individuals were contacted and informed about the Project as a result of this consultation process on the 14 November 2024 (Appendix B). It should be noted that two groups details are removed from the list below as they did not wish to have their details forwarded to the Local Aboriginal Land Councils or Heritage NSW:

- A1 Indigenous
- Amanda Hickey Cultural Services
- Aragung Aboriginal Cultural Heritage Site Assessments
- Barking Owl Aboriginal Corporation
- Barraby Cultural Services
- B.H. Heritage Consultants
- Butucarbin Aboriginal Corporation
- Cubbitch Barta Native Title Claimants
- Didge Ngunawal Clan
- Darug Land Observations
- Darug Boorooberongal Elders Aboriginal Corporation

- D'harawal Mens Aboriginal Corporation
- Freeman & Marx Pty Ltd
- Galamaay Cultural Consultants
- Garrara Aboriginal Corporation
- Gilay Consultants
- Goodradigbee Cultural & Heritage Aboriginal Corporation
- Ginniderra Aboriginal Corporation
- Guntawang Aboriginal Resources Incorporated
- James Davis- Individual
- Kamilaroi Yankuntjatjara Working Group
- Mura Indigenous Corporation
- Murra Bidgee Mullangari Aboriginal Corporation
- Ngambaa Cultural Connections
- Ngunawal Heritage Aboriginal Corporation
- Tharawal Aboriginal Land Council
- Thoorga Nura
- Waawaar Awaa
- Wori Wooilywa
- Wurrumay Pty Ltd
- Yulay Cultural Services
- Yurrandaali

The South Coast Peoples Native Titles Claimants removed themselves from the consultation process for this assessment as this Project falls outside of their claimant area (Appendix B).

Additional surveys were completed on a roster basis. The following individuals and groups have been engaged to date:

Table 3: Aboriginal community members involved in the additional surveys

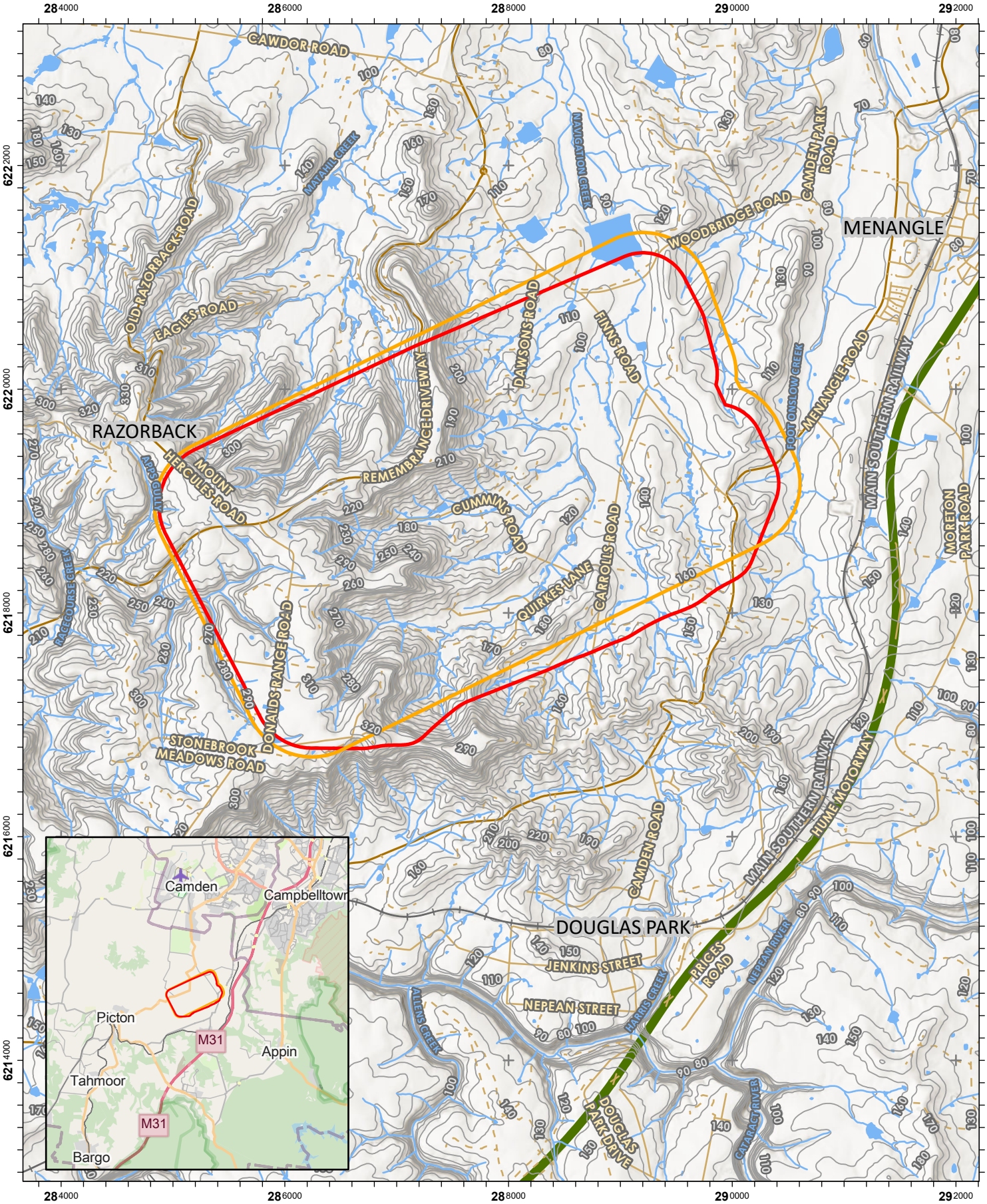
Date Assessed	Property Address	Aboriginal community member present
13 March 2025	15 Gibraltar Drive, Razorback	Paul Cummins- Woronora Plateau Gundangara Elders Corporation Khiana Chalker- Cubbitch Barta Native Title Claimants
	135 Donalds Range Road, Razorback	Paul Cummins- Woronora Plateau Gundangara Elders Corporation Khiana Chalker- Cubbitch Barta Native Title Claimants
7 April 2025	739 Remembrance Driveway, Razorback	Dean Delponte- Ngunnawal Heritage Aboriginal Corporation

Date Assessed	Property Address	Aboriginal community member present
		Khiana Chalker- Cubbitch Barta Native Title Claimants
	790 Remembrance Driveway, Razorback	Dean Delponte- Ngunnawal Heritage Aboriginal Corporation Khiana Chalker- Cubbitch Barta Native Title Claimants
10 April 2025	12 Gibraltar Drive, Razorback	Ryan Johnson- Murra Bidgee Mullangari Aboriginal Corporation
	14 Gibraltar Drive, Razorback	Ryan Johnson- Murra Bidgee Mullangari Aboriginal Corporation
	16 Gibraltar Drive, Razorback	Ryan Johnson- Murra Bidgee Mullangari Aboriginal Corporation
	19 Gibraltar Drive, Razorback	Ryan Johnson- Murra Bidgee Mullangari Aboriginal Corporation
29 April 2025	120 Dawson Road, Menangle	Ralph Hampton-Kamilaroi James Davis- Wodi Wodi Elders Corporation

The Draft report was submitted to the RAPs for review and comment on the 3 July 2025 and the review period ended at 5pm, 31 July 2025. The comments outlined below in Table 4 were received in regard to the draft report (Appendix B).

Table 4:Submissions and responses to the draft HIA

Registered Aboriginal Party	Submission	GM³ and Regal Heritage Response
Guntawang	Guntawang has nothing to offer this report.	Many thanks for your time for the review and feedback.
Kamilaroi Yankuntjatjara Working Group	Thank you for your Heritage Impact assessment for GM³ Proposed Longwalls 712 to 716 Extraction Plan, we agree and support your report.	Many thanks for your time for the review and feedback.
Mundawari Heritage Consultants	Thank you for sharing the draft Heritage Impact Assessment (Rev 03) for Longwalls 712–716. I appreciate the care taken in the assessment and reporting process, and the clarity of the summary of findings. I'd like to raise a key cultural consideration for ongoing attention: While no new Aboriginal sites were identified during the recent fieldwork, the broader cultural landscape still holds meaning. The absence of visible artefacts does not equate to the absence of cultural value. Country carries stories, memory, and responsibility, and areas without formal AHIMS registration may still be culturally significant in ways that require respect and future consideration. I support the recommendation for ongoing Aboriginal community consultation throughout the life of the project. This is essential to ensure that any new information, changes to landform, or unforeseen impacts - especially those arising through remediation or surface cracking are managed with cultural guidance and care. Thank you again for the opportunity to contribute to this assessment.	Many thanks for your time for the review and feedback Dean. Your submission has been included in the finalised report.
Murrabigee Mullangari	I have read the project information and heritage impact assessment for the above project, I endorse the recommendations.	Many thanks for your time for the review and feedback.



Legend

- Railway
- Watercourse
- Contour - 10m
- placepoint
- Motorway
- Major Road
- Minor Road
- Walking Track
- Track
- Waterbody

N

DKGIS

Date: 16/01/2026

0 1 2 Km

Coordinate System: GDA2020 MGA Zone 56

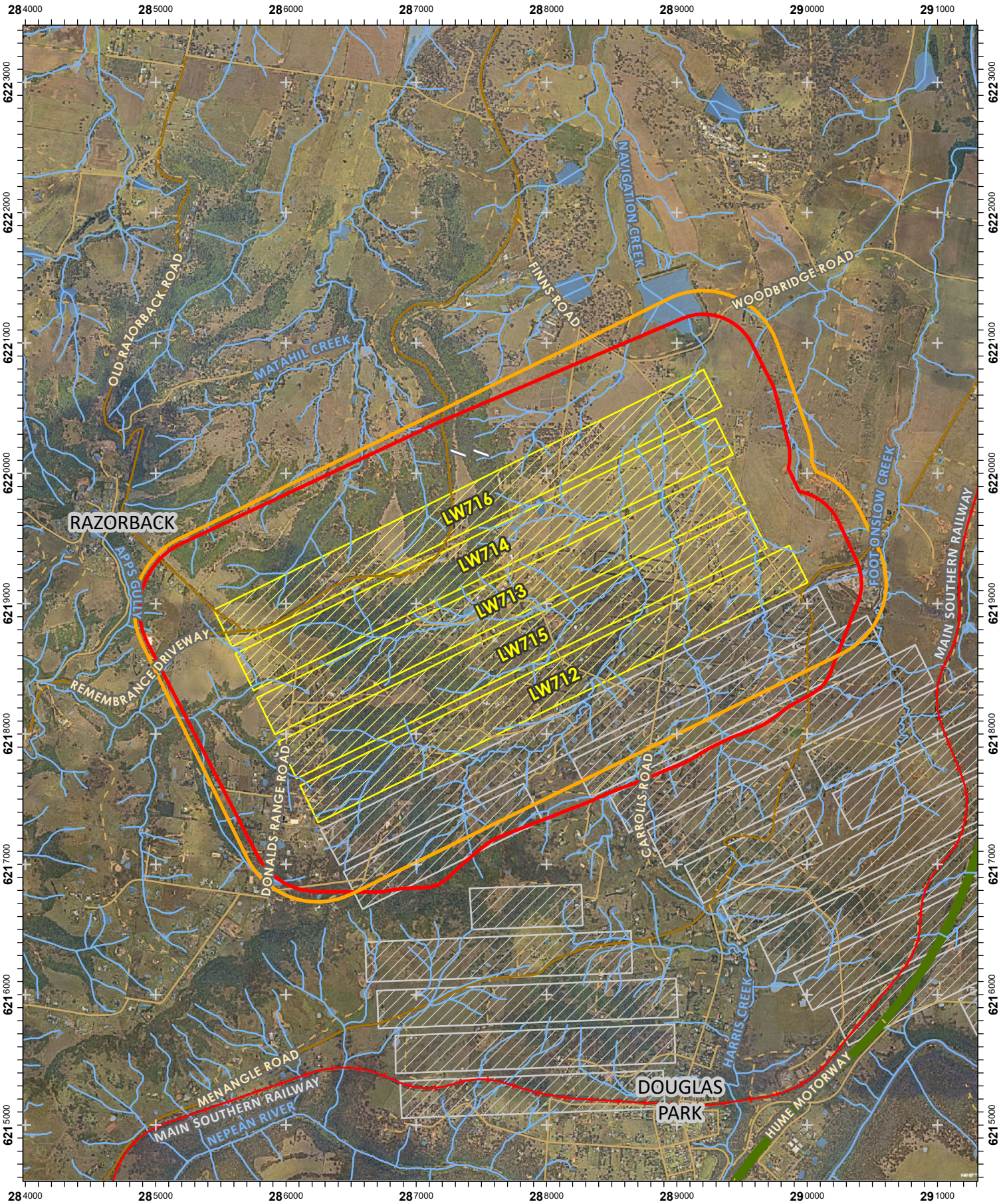
Imagery: © Nearmap

Prepared By: FMC

REGAL HERITAGE

Figure 1 : Location Map

Appin Longwalls 712-716 Heritage Impact Assessment



Legend

- Watercourse
- Motorway
- Major Road
- Minor Road
- Track
- Waterbody
- Railway
- Study Area - 35° Angle of Draw
- Study Area - 600m Boundary

Longwalls

- Existing
- Proposed

N

DKGIS

Date: 16/01/2026

0 0.5 1 Km

Coordinate System: GDA2020 MGA Zone 56

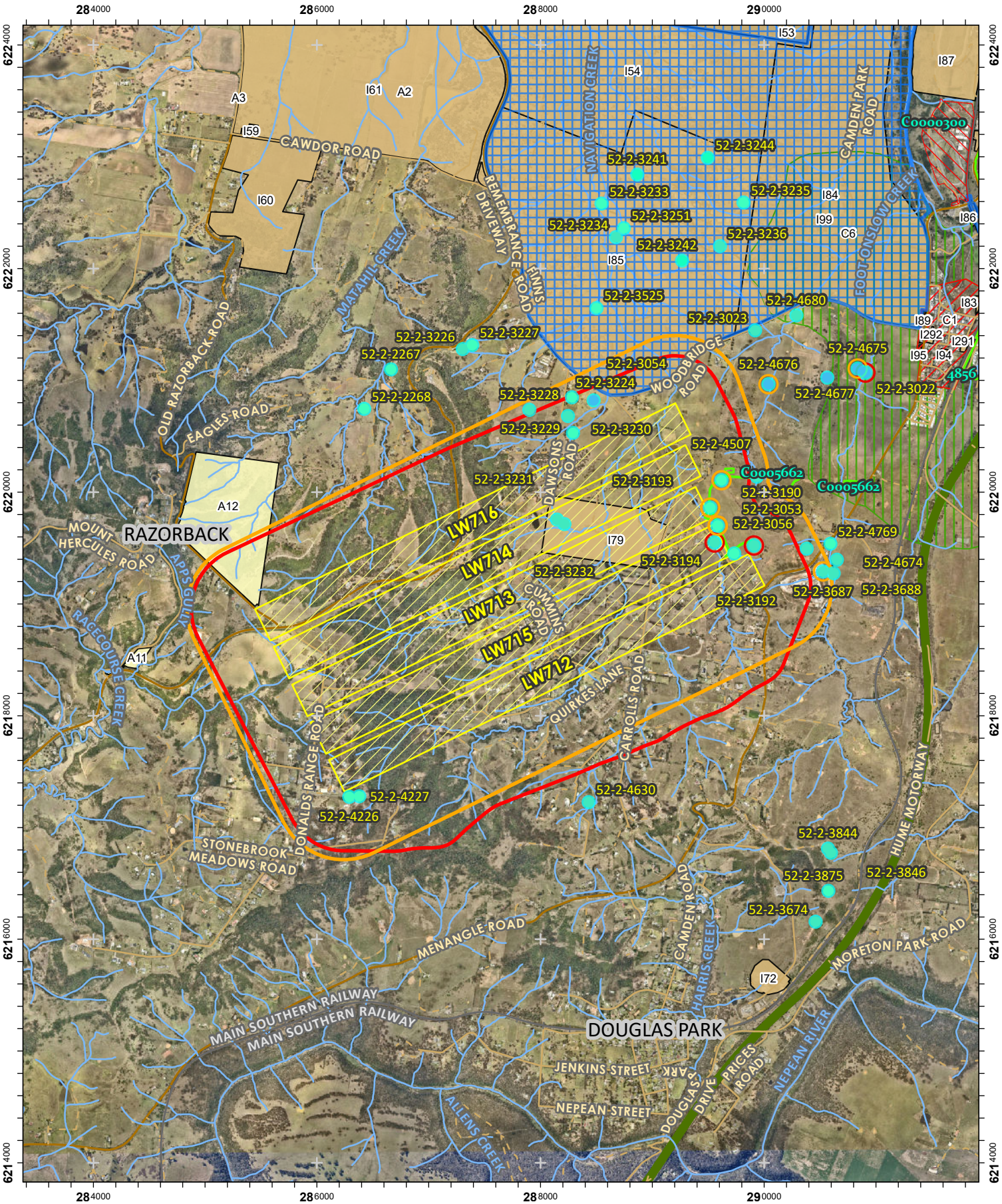
Imagery: © Nearmap

Prepared By: FMC

REGAL HERITAGE

Figure 2: Location of the Activity Area

Appin Longwalls 712-716 Heritage Impact Assessment



Legend

- Watercourse
- railway
- Study Area - 35° Angle of Draw
- Study Area - 600m Boundary
- Longwalls

AHIMS 13/01/2025

- Isolated Find
- Modified Tree
- Open Camp Site
- PAD

AHIP Status

- ACTIVE
- EXPIRED
- State Heritage Register Curtilage
- Conservation Area - General
- Conservation Area - Landscape
- Heritage Item - Archaeological
- Heritage Item - General

N

DKGIS

Date: 16/01/2026

0 1 2 Km

Coordinate System: GDA2020 MGA Zone 56

Imagery: © Nearmap

Prepared By: FMC

REGAL HERITAGE

Figure 3: Location of Heritage Sites within the Activity Area

Appin Longwalls 712-716 Heritage Impact Assessment

2. Previous archaeological work

The below section highlights the previous archaeological assessments that have been undertaken within the Subject Area. Revised searches have been undertaken of the relevant heritage databases.

2.1. Heritage registers

2.1.1. Updated Aboriginal Heritage Information Management System (AHIMS)

An extensive Aboriginal Heritage Information Management System (AHIMS) search was completed on the 9 September 2024 (Client ID# 928013) which covered the Subject Area and surrounds (Long From: -34.1852, 150.6276 - Lat, Long To: -34.1142, 150.7511). This AHIMS search identified 85 Aboriginal cultural heritage sites within the 9 km² search area, and no Aboriginal Places. Nineteen Aboriginal cultural heritage sites that have been identified within the Subject Area based on the 35° angle of draw and/or the Subject Area based on the 600 m boundary. Three of these sites are located above the proposed LW712 to LW716 (AHIMS ID# 52-2-3194, AHIMS ID# 52-2-3231 and AHIMS ID #52-2-3232) and two are located above the approved LW711 (AHIMS ID# 52-2-4226 and AHIMS ID# 52-2-4227, Figure 3, Annex A).

A revised AHIMS search was completed on the 13 January 2026 (Client ID# 1081502) as there had been 12 months since the original search was completed for this assessment. This search was a 7 km² area including the Subject Area (Datum: GDA, Zone: 56, Eastings: 284000.0 - 291000.0, Northings: 6216000.0 - 6223000.0 with a Buffer of 0 meters). The number of Aboriginal sites found within this search were 46 and 0 Aboriginal Places (Figure 3, Annex A).

Breakdowns of the registered sites by site features and site types are provided in Table 5 below.

Table 5: Summary of Aboriginal heritage site types identified in AHIMS Search

Site types	Count of site types	Percentage of Total Sites
Axe Grinding Groove	2	2.35%
Isolated Find	30	35.29%
Modified Tree	7	8.24%
Open Camp Site	26	30.58%
Open Camp Site and PAD	2	2.35%
PAD	7	8.24%
Shelter with Art	5	5.88%%
Shelter with Art and Midden	1	1.18%
Shelter with Deposit	3	3.53%

Site types	Count of site types	Percentage of Total Sites
Shelter with Midden	1	1.18%
Shelter with PAD	1	1.18%
Grand Total	**85**	**100%**

The sites within the Subject Area comprise of stone object sites (Isolated Finds and Open Camp Site). There are a number of sandstone shelter and Axe Grinding Groove sites that fall within the search area; however, these are located along the Nepean River where Hawkesbury sandstone formations are more prevalent (Figure 21).

Note that care should be taken when using AHIMS data to reach a conclusion about Aboriginal cultural heritage site distribution and size. The distribution of Aboriginal cultural heritage sites within a search area does not reflect patterns of past occupation by Aboriginal people but can be often indicative of the survey coverage and conditions within the region. Aboriginal sites are located across all landforms, but their frequency in built up areas is often misrepresented due to the number of archaeological assessments carried out in recent years relating to development and infrastructure projects.

2.1.2. Aboriginal Heritage Impact Permit Search

A search of the NSW Aboriginal Heritage Impact Permit (AHIP) boundaries seed layer was completed on the 21 April 2026 (Data set 26 March 2026). There is one active AHIP within close proximity to the Subject Area (AHIP #C0005662). AHIP #C0005662, while partially within the Subject Area, is noted to relate to the Camden Gas Project (AGL Upstream Investments Pty Ltd) with five Aboriginal objects reported to have been collected in 2020 to 2021 under AHIP #C0005662.

As the AHIP was granted for the collection of the Aboriginal objects it is considered unlikely that the proposed Appin Mine Longwalls 712 to 716 extraction would have any effect on the existing AHIP C0005662.

2.1.3. Updated additional heritage register searches

A search of the following government plans and heritage registers were completed on 2 May 2025:

- Wollondilly Local Environment Plan 2011 (WLEP)
- Wollondilly Developmental Control Plan 2016 (WDCP)
- NSW State Heritage Inventory (SHI)
- State Government Agency Conservation (Section 170) Registers
- Australian Heritage Database

Wollondilly Local Environment Plan 2011 (WLEP)

The following heritage items listed on the WLEP as items of local significance have been identified within the Subject Area:

- 'Dairy No 9 (EMAI Cottage 24)' at 240 Woodbridge Road, Menangle (WLEP # I85), which is partly located within the north-eastern corner of the Subject Area.

- ‘Slab Hut’ at 40–60 Carrolls Road, Menangle (WLEP # I79), located within the eastern section of the Subject Area.
- ‘Mt Hercules Homestead—ruins, well, trees and slab garage’ at 100 Mount Hercules Road, Razorback (WLEP # A12), which is partly located within the north-western corner of the Subject Area.

The following additional statutory heritage items listed on the WLEP are located within 1km of, but not within, the Subject Area:

- ‘Menangle Landscape Conservation Area’ (WLEP # C6), located 250m to the east of the Subject Area.
- ‘Dairy No.4 (EMAI Cottage 29)’ (WLEP # I84), located 250m to the north-east of the Subject Area.
- ‘Menangle Gate Lodge (Former)’ (WLEP # I99), located 250m to the north-east of the Subject Area.

For the sake of conciseness, only the descriptions and Statements of Significance are provided for the statutory heritage items within the Subject Area.

‘Dairy No 9 (EMAI Cottage 24)’ (WLEP # I85)

The curtilage of the locally significant heritage item, ‘Dairy No 9 (EMAI Cottage 24)’ at 240 Woodbridge Road, Menangle (WLEP # I85), is partly located within the north-eastern corner of the Subject Area. Approximately 0.27km^2 of the southern section of the heritage item is located within the Subject Area.

Description

The following description of the heritage item has been extracted from the SHI (Wollondilly Shire Council and Heritage NSW, 2009):

> *A typical late 19th century dairyman's cottage and conforming to the pattern of other cottages established as part of the Macarthur dairy. Key features: steeply pitched hipped roof clad with corrugated iron; skillion verandah on simple timber posts; timber framed construction with weatherboard cladding; simple and symmetrical fenestration; single storey; overall modesty of scale and form with lack of decorative embellishment; utilitarian character.*

Photographs of the heritage item are provided in Figure 4 and Figure 5 below.

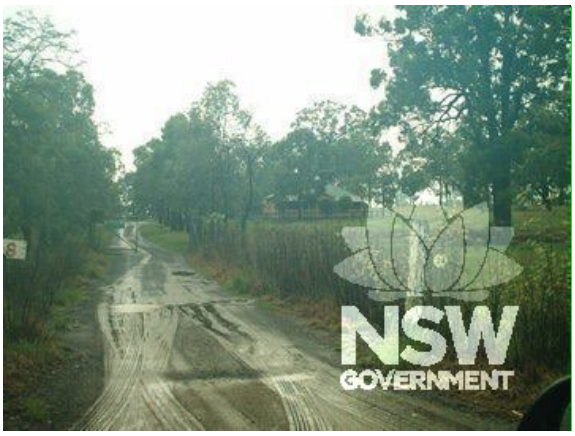


Figure 4: A 2006 photograph of Dairy No. 9 (Source: Andrea Oehm/WSC cited in Heritage NSW, 2009)



Figure 5: The cleared south-eastern section of the heritage item within the Subject Area. View north from Woodbridge Road (Source: Google Street View, 2025).

Statement of Significance

The following Statement of Significance for the heritage item has been extracted from the Heritage Inventory Sheet for the item available on the Wollondilly Council website (Wollondilly Shire Council and Heritage NSW, 2009):

> *EMAI Cottage 24 (Dairy Number 9) has regional significance through its association with the former Macarthur's agricultural estates and Elizabeth Macarthur Institute. It is part of a wider group of cottages scattered between Menangle and Camden established as part of the dairy estate managed by the Macarthur family in the late 19th and early 20th centuries. It is a good example of a typical late 19th century dairyman's cottage and is an important component of the historic cultural landscape of Cawdor and as part of the EMI holdings.*

The item meets the threshold for local historical, associative and aesthetic/technical significance for its association with the Macarthur Family, the former Camden Park Estate and the Elizabeth Macarthur Institute. It also has rarity and representative significance as an example of a 19th century dairying cottage (Wollondilly Shire Council and Heritage NSW, 2009).

The significance assessment does not currently include Aboriginal heritage values. However, as John MacArthur is known to have employed local Aboriginal people on his property (Heritage NSW, 2006), and such huts were used by workers on his farm, additional historical research and consultation with the local Aboriginal groups would be required to identify Aboriginal heritage values.

'Slab Hut' (WLEP # I79)

The entire curtilage of the locally significant heritage item, 'Slab Hut' Menangle at 40 –60 Carrolls Road, Menangle (WLEP # I79), comprising an area of 0.52km^2 is located within the eastern section the Study Area.

Description

The following description of the heritage item has been extracted from the SHI (Wollondilly Shire Council and Heritage NSW, 2006):

> *A typical mid-19th century slab hut, most likely erected as a shepherd's hut as part of the Macarthur operations in the area. Key features: steeply pitched gabled roof; skillion verandah; timber framed construction with vertical sawn slab cladding; symmetrical and minimal fenestration; small timber framed windows; overall simplicity of form and modesty of scale.*

In addition, an updated version of the description has been extracted from the Heritage Inventory Sheet for the item available on the Wollondilly Council website (Wollondilly Shire Council, 2020):

> *The dwelling is primarily constructed with various cladding boards and joists, made from sawn timber. The timber framed construction features vertical sawn slab cladding in a symmetrical arrangement, with minimal fenestration consisting of small timber-framed windows. It features a steeply pitched gabled roof with skillion verandah. Overall, the hut is a typical construction in this style, representing a simplicity of form and modesty of scale. The hut is suited to its current setting, positioned within a large block well back from the street and bounded by a mixed timber beam and post and wire strained fence. The item is in a fair condition.*

Photographs of the mid-19th century slab hut and its immediate surroundings are provided in Figure 6 to Figure 9 below.



Figure 6: A 2006 photograph of the Slab Hut (Source: Andrea Oehm/WSC cited in Heritage NSW, 2006)



Figure 7: A c.2020 photograph of the Slab Hut (Source: Wollondilly Shire Council, 2020)



Figure 8: A c.2020 photograph of the surrounding landscape (Source: Wollondilly Shire Council, 2020)



Figure 9: A c.2020 photograph of nearby buildings (Source: Wollondilly Shire Council, 2020)

Statement of Significance

The following Statement of Significance for the heritage item has been extracted from the SHI (Wollondilly Shire Council and Heritage NSW, 2006):

> *The Slab Hut has local significance as a remnant of the earliest settlement of the Menangle area and is indicative of the crude housing available to the first settlers and workers on the Macarthur estate. It is a locally rare example of the slab hat, a building type that once typified stockmen's and shepherd's huts in the region, but whose ephemeral nature has resulted in the lost of most of them.*

In addition, an updated version of the Statement of Significance has been extracted from the Heritage Inventory Sheet for item available on the Wollondilly Council website (Wollondilly Shire Council, 2020):

> *The Slab Hut is of local significant for its historic, aesthetic, technical, rarity and representative values. It is significant as a remnant of the earliest colonial*

> *settlement in the Menangle area and is illustrative of the simple dwellings first established by workers on the Macarthur Estate. The structure is an example of a mid-twentieth century slab hut, likely erected as a shepherd's hut. It can provide information about the vernacular building techniques and design traditions used locally by early rural workers. Characteristic of this type of structure, the slab hut retains an appealing rural surrounding that contributes to its aesthetic value. The slab hut is a locally rare example of vernacular architecture associated with an early period rural land use. It is an excellent representative example of mid-19th century pastoral dwelling. it is typical of a type of dwelling that was strongly associated with stockmen's and shepherd's huts in the area.*

The item meets the threshold for local historical and aesthetic/technical significance as a mid-19th century slab hut, demonstrating the vernacular building techniques and design traditions used by early workers of the Macarthur estate (Wollondilly Shire Council, 2020).It also has rarity and representative significance as an example of mid-19th-century vernacular architecture and typical pastoral dwellings used by stockmen and shepherds (Wollondilly Shire Council and Heritage NSW, 2009).

The significance assessment does not currently include Aboriginal heritage values. However, as John MacArthur is known to have employed local Aboriginal people on his property (Heritage NSW, 2006), and such huts were used by workers on his farm, additional historical research and consultation with the local Aboriginal groups would be required to identify Aboriginal heritage values.

'Mount Hercules Homestead—garden, trees and slab barns' (WLEP # A12)

The curtilage of the locally significant archaeological item, 'Mt Hercules Homestead—ruins, well, trees and slab garage' at 100 Mount Hercules Road, Razorback (WLEP # I223), is partly located within the north-western corner of the Study Area. Approximately 0.17km^2 of the southern section of the heritage item is located within the Subject Area.

Description

No information is provided in the SHI listing or Wollondilly Shire Council Heritage Study for the 'Mount Hercules Homestead—garden, trees and slab barns' (WLEP # A12).

A description of the item has been extracted from a *Non-Aboriginal Heritage Assessment* for the Bulli Seams Operation (Michael Pearson Heritage Management Consultants, 2009, pp. A-137):

> *The site appears to be a 19th century rural residence with surrounding landmark plantings of palms and trees on a prominent ridge of the Razorback Range. The house has completely collapsed, with brick rubble, roofing iron and other remains on the ground. A partially collapsed dairy is nearby.*

Photographs of the archaeological item are provided below in Figure 10 and Figure 11.



Figure 10: A 2008 photograph of the ruins within the archaeological item (Source: Pearson 2008 in Michael Pearson Heritage Management Consultants Pty Ltd, 2009)



Figure 11: The cleared north-western section of the archaeological item within the Subject Area. View south-east from Dawsons Road (Source: Google Street View, 2014).

Statement of Significance

The following significance assessment *Non-Aboriginal Heritage Assessment* for the Bulli Seams Operation (Michael Pearson Heritage Management Consultants, 2009, pp. A-137):

> *Criterion E: an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history;*
>
> *The site is a relatively undisturbed archaeological site of a 19th century rural residence.*

As such, the archaeological item has research potential and is likely to meet the threshold for local significance for this criterion. The significance assessment does not currently include Aboriginal heritage values.

Wollondilly Development Control Plan 2016 (WDCP)

The WDCP does not provide a list of Aboriginal places, sites or heritage items. However, the WDCP provides controls for managing areas with known or potential Aboriginal archaeological and cultural sensitivity. The WDCP requires an Aboriginal archaeological and cultural assessment prior to development for the following situations (Wollondilly Shire Council, 2016):

> *An indigenous heritage and archaeological report must be prepared for any development application on land which contains a known Aboriginal object or Aboriginal place of heritage significance. The report must be prepared by a suitably qualified archaeologist. The report must be prepared in accordance with the Code of Practice for Archaeological Investigation of Aboriginal objects in NSW. A report may also be required at the discretion of the assessing officer where:*
>
> *1. There is impact or disturbance to the content, or within the immediate vicinity (100 metres) of a known Aboriginal object or Aboriginal place of heritage significance;*

2. There is impact or disturbance to, or within the immediate vicinity (100 metres) of a previously recorded or known Aboriginal object or Aboriginal place of heritage significance and can include a cultural landscape, an existing or former ceremonial ground, a burial ground or cemetery, a story place or mythological site, a former Aboriginal reserve or historic encampment, or an archaeological site of high significance;

3. A proposal (including subdivision) which affects primarily undeveloped land (irrespective of land size) and has the following site features:

♣ river frontage

♣ creek line

♣ sandstone exposures at ground level larger than 5m²

♣ sandstone cliff line or isolated boulder higher than 2m

♣ disturbance to the roots, trunk, branches, of old growth trees, which are native to the Wollondilly Shire and greater than 150 years of age.

4. Ensure that all works cease in the vicinity of any previously unidentified Aboriginal objects or places identified during excavation and construction and that the following be notified

a) The Office of Environment and Heritage NSW (OEH)

b) A qualified archaeologist

c) Aboriginal stakeholders.

5. Ensure that should human skeletal remains be discovered that the following process will be undertaken:

a) The remains will be reported to the police and the state coroner.

b) Wollondilly Shire Council and the land owner will be notified of the find.

c) Aboriginal stakeholders will be notified of the find. d) OEH NSW will be notified.

6. If the skeletal remains are of Aboriginal ancestral origin an appropriate management strategy will be developed in consultation with the Aboriginal stakeholders.

7. The find will be recorded in accordance with the National Parks and Wildlife Act 1974 (NSW) and the NSW NPWS Aboriginal Cultural Heritage Standards and Guidelines Kit.

8. The findings will be incorporated into any proposed Aboriginal Heritage Plan's management regime.

State Heritage Register (SHR)

The following items listed on the State Heritage Register (SHR) have been identified within the Subject Area:

- 'Camden Park Estate and Belgenny Farm' along Elizabeth MacArthur Avenue, Camden (SHR # 01697), an item of State significance located partly within the north-eastern corner of the Subject Area.

'Camden Park Estate and Belgenny Farm' (SHR # 01697)

The gazetted curtilage of the State significant heritage item, 'Camden Park Estate and Belgenny Farm' (SHR # 01697), is partly located within the north-eastern corner of the Subject Area. Approximately 0.27km^2 of the southern section of the heritage item is located within the Subject Area.

Description

'Camden Park Estate and Belgenny Farm' (SHR # 01697) is a working historical farm established in 1805 by John MacArthur (Tanner Kibble Denton Architects, 2014). The Subject Area is located in the Elizabeth MacArthur Agricultural Institute (EMAI) section of the 'Camden Park Estate and Belgenny Farm' (SHR # 01697). The Conservation Plan identifies a series of 21 distinctive landscape zones segmenting the SHR item relating to the topographic features, visual catchments, existing vegetation, agricultural uses, the built environment and ownership (Howard Tanner & Associates, 1989, p. 51). The Subject Area is partly located in Zones 2 (Exposed Hills), 14 (Cummin's Flat) and 15 (West Expanse) (Figure 13).

The following description of the 'Camden Park Estate and Belgenny Farm' (SHR # 01697) has been extracted from the SHI listing for the item (Heritage NSW, 2006). Note that the following description only includes the relevant landscape zones of the Camden Park Estate i.e. the landscapes in which the Subject Area is located.

> *Farm Landscape (area 162ha / c100 acres)*
>
> *Zone 2: Exposed Hills* [Figure 13 and Figure 14]
>
> *Flanking Woodbridge Road to the south of the Estate are steeply rounded grassy hillsides, almost entirely cleared of tree cover, save for one olive tree (Olea europaea cv.) on "One Tree Hill". A few scattered narrow leaved ironbark (Eucalyptus crebra), a prominent feature of exotic plantings associated with Dairy No. 4. and is visible from Menangle. Zone 2 is the only example on site of exposed hills viewed against the skyline and semi-replanting on the lower slopes retains the bare character of the hilltops.*
>
> *…*
>
> *Zone 14: Cummin's Flat* [Figure 15 and Figure 16]
>
> *Hawkey's Dam, a shallow damming of Navigation Creek, enclosed on the east and west by hills and on its perimeter by tree planting to prevent wind evaporation, is a working example of Keyline practice (based on the writings of P.A. Yeomans).*

Perimeter plantings carried out in 1960-61 include she oak (Casuarina glauca), flooded gum (Eucalyptus grandis), spotted gum (Corymbia maculata), grey gum (Eucalyptus moluccana), mugga ironbark (E.sideroxylon var. Rosea), forest red gum (E. tereticonis), Monterey pine (Pinus radiata) and Lombardy poplar (Populus nigra 'Italica').

Cummin's Flat is very open, flat and grassy with glimpses of water to be viewed through the trees and reflections of flooded Gums in the northern part of the dam. Cummin's Flat is susceptible to evaporation and when the water volume is low, the flat is used for grazing.

Zone 15: West Expanse [Figure 17 and Figure 18]

This West Expanse is flanked by the Hume Highway and Finns Road to the west of the Estate and has broad views across the site to the central ridge. Zone 15 is a hilly and pastoral terrain and comprises a fairly sparse canopy cover of narrow leaved ironbark (Eucalyptus crebra), grey gum (E. moluccanna) and open woodland of she oak (Casuarina glauca).

Cameron's Dam with perimeter row planting of river oak (Casuarina cunninghamiana), flooded gum (Eucalyptus grandis), spotted gum (Corymbia maculata), Mugga ironbark (E. sideroxylon 'Rosea'), and silky oak (Grevillea robusta) is also located in this vicinity. The west expanse also contains two groups of dairy buildings and associated plantings located on two dairy farms.

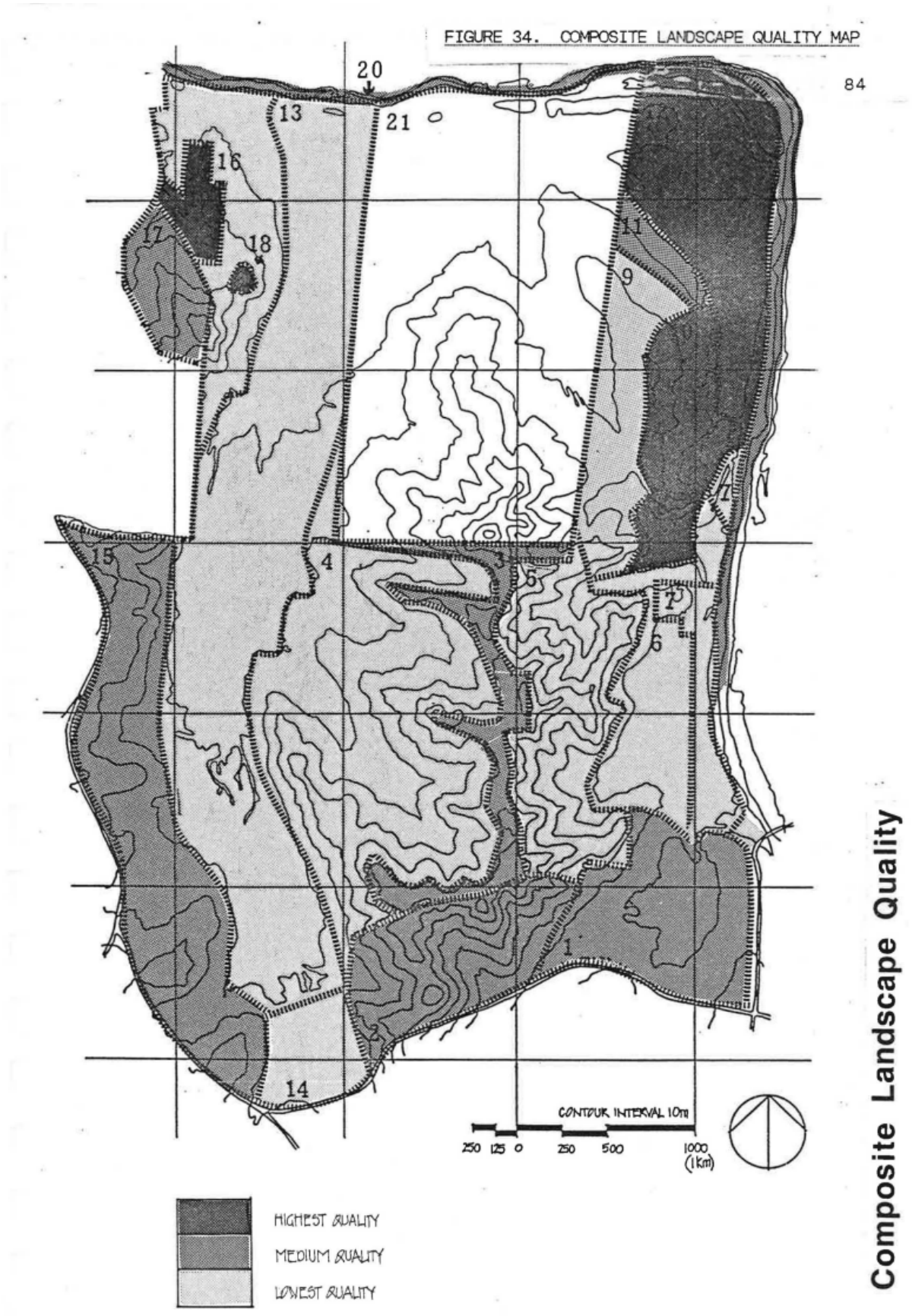


Figure 12: The 21 landscape zones identified in the Camden Park Conservation Plan (Source: Howard Tanner & Associates, 1989, p.84).



Figure 13: The cleared south-western section of Zone 2 (Exposed Hills) within the Subject Area. View north-east from Woodbridge Road (Source: Google Street View, 2025).



Figure 14: The cleared south-western section of Zone 2 (Exposed Hills) within the Subject Area. View north-west from Woodbridge Road (Source: Google Street View, 2025).



Figure 15: The cleared south-western section of Zone 14 (Cummin's Flat) within the Subject Area. View north from Woodbridge Road (Source: Google Street View, 2025).



Figure 16: The cleared south-eastern section of Zone 14 (Cummin's Flat) within the Subject Area. View north from Woodbridge Road, showing the windbreak and dam beyond (Source: Google Street View, 2025).



Figure 17: The cleared and dammed southern section of Zone 15 (West Expanse) within the Subject Area. View north-east from Finns Road (Source: Google Street View, 2025).



Figure 18: The wooded southern section of Zone 15 (West Expanse) within the Subject Area. View east from Finns Road (Source: Google Street View, 2025).

Statement of Significance

The following Statement of Significance for the 'Camden Park Estate and Belgenny Farm' (SHR # 01697) has been extracted from the SHI listing (Heritage NSW, 2006):

> *The Camden Park Estate is of social, historic, scientific and aesthetic significance to NSW and Australia. It shows a high degree of technical and creative excellence being a rare, and still relatively intact, example of a model rural estate of the early 19th century (continuing to serve this function until the 1950s). It is the oldest pastoral sheep stud in Australia.*
>
> *The estate's considerable social and historic significance is also due to its ability to demonstrate the way of life, tastes, customs and functions of a 19th - early 20th century rural establishment. From its establishment the site was a particularly fine example of a colonial rural estate and served as a prototype for other 19th century estates. The intactness of the site's structures and their landscape settings enhances its role as a relatively unique survivor and as a site of archaeological and scientific importance. (LEP/ Heritage Study)*
>
> *The site also has significance through its historical associations with the Macarthur family - from its establishment by John and Elizabeth Macarthur in the early 19th century to the present day Macarthur-Stanham family - this relationship shown in both landscape and structures and being well documented and researched.*
>
> *By the 1830s the estate of 28,000 acres included the greatest and most advanced mixed farm in NSW, at a time when Australian wools had almost ousted continental wools from British usage and the British manufacturers had a vast ascendancy in the world's woollen markets (Camden Park Estate, 1965)*
>
> *Its extensive grounds planted in the tradition of 19th century English landscape parks holds a major botanical collection and its large, exceptional collection of rural buildings is especially important because of both the quality and rarity of the group.*
>
> *The Camden Park orchard site and cottages area contains the remnants of an early commercial and scientific horticultural collection which was established by William Macarthur and made an contribution to commercial horticulture in NSW and other colonies such as South Australia. The cottages are an integral part of the orchard complex which continued to function commercially until for 150 years and are important 19th century elements of the landscape.*
>
> *Camden Park played a vital role in the fledgling Australian wine industry through its importation and distribution of vine cuttings throughout NSW and the Barossa Valley of SA. By 1853 Camden Park listed some 33 grape varieties for sale. (By 1841 William & James were producing more than 5000 gallons and that vintage won Gold Medals in England. In 1844 24,000 vine cuttings were sent from Camden Park to Adelaide, setting South Australia on a path to becoming an internationally acclaimed wine growing district. (Everett, (1) 2004). Camden Park became world-renowned for the quality of its wine and by 1845 was producing*

around 10,000 gallons per annum as a serious vineyard and one of the most highly regarded in the colony and with quite a reputation overseas. (Everett, (2) 2004)).

James & William Macarthur managed the estate with great enterprise, importing expert workers: Australia's first skilled wool-sorter from Silesia, shepherds from Scotland, vignerons from Nassau and dairymen from Dorset. They installed the first irrigation plant in Australia in 1830 and the first sheep wash and wool press. After changes of soil and climate in 1849 dictated sale of their merino stud, wheat was the stable until the mid 1860s. But rust and labour shortage led to a change to mixed farming - sheep and cattle fattening, mixed grains, wine, horses for India until 1857, and Australia's largest plant and tree nursery. The 2000 specimens of plants, shrubs and trees included the country's premier collections of domestic orchids and camellias, both of which William Macarthur was one of the first to introduce into Australia.

Two vineyards were planted in 1830 and 1841 and produced up to 16000 gallons a year including choice vintages, with as much as 30000 gallons in cellar sometimes. In 1832 the estate exported the first Australian brandy, and had 8 vintage and fortified wines varying from Muscat to Riesling at the Paris Exhibition of 1861. Also in the 1830s William Macarthur pioneered processes of drying fruit, "with which the British Isles were unacquainted". In 1857 Camden Park had a variety of all normal species of orchard fruits and nuts, 56 varieties of apple including cider making types, 31 kinds of pear, 23 citrus fruit varieties including Navel oranges, 16 table grapes apart from 32 wine varieties. Apricots, plums, cherries, quinces, figs, chestnuts, almonds and strawberries were also grown on the estate. (Camden Park Estate, 1965, modified Read, S., 2004)

The Camden Park garden and nursery is historically important as part of the original Macarthur family Camden estate. The garden is significant for its demonstration of the early nineteenth century estate garden design, including the following: The use of a hill site to take advantage of the views; the use of plantings to enframe views; and the planting of trees with ornamental form, demonstrating the influence of the early nineteenth century horticultural movement. The area has historical significance as the original Macarthur nursery renowned for the introduction and propagation of exotic plants in early Australia. Significant features include the following: the area of olive and plumbago shrubbery; the brick edged gravel carriage loop; structured vistas from the house entrance and garden entrance; specimen plants of araucarias and camellias reputed to be the oldest in Australia; well blended later additions of herbaceous beds and rose garden; and ruins of the gardener's lodge, potting sheds and hothouses from the original nursery period. (Register of the National Estate, 1978)

Finally the estate is of major landscape and environmental significance as a significant area of open space lining the Nepean River with landmark landscape features including the tree lined river meadows, ridge top Belgenny Farm Group,

the driveways and the relic orchard and plantations site on the flood plain north-east of the mansion.

The item meets the threshold for State historical, associative, aesthetic, social and research significance for its demonstration of 19th century agricultural practices, vernacular farm buildings and farming landscape, as well as its association with the Macarthur Family. It also has rarity and representative significance at the State level as one of the oldest intact examples of a 19th century farm that demonstrates the agricultural, viticultural and horticultural development of the (Heritage NSW, 2006). The significance assessment does not currently include Aboriginal heritage values, although the listing does note that the local Gundungurra people often worked for agriculturalists and pastoralists near their traditional land and that the Macarthur family (Heritage NSW, 2006). Additional historical research and consultation with the local Aboriginal groups would be required to identify Aboriginal heritage values.

As shown in Figure 13 below, the Conservation Plan identifies the relative significance of the 21 different zones within the SHR curtilage (Howard Tanner & Associates, 1989, p. 84). Zones 2 (Exposed Hills) and 15 (West Expanse) to the east and west of the section of the Subject Area within the SHR curtilage, respectively, are identified as having 'medium', or moderate, significance (Howard Tanner & Associates, 1989, p. 84). Zone 14 (Cummin's Flat) within the centre of the section of the Subject Area within the SHR curtilage is identified as having low significance (Howard Tanner & Associates, 1989, p. 84).

No further statutory listed heritage items were identified within the Subject Area, or within 1km of the Subject Area.

Non-Statutory Heritage Items

The following non-statutory item listed on the Register of the National Estate (RNE) was identified within the Subject Area:

- Camden Park, Camden Park Estate Rd, Camden Park, NSW, Australia (Place ID. 3249), located approximately within the northern section of the Subject Area.

The significance assessment does not include Aboriginal heritage values.

No additional heritage constraints were identified during these searches.

2.2. Heritage assessments

A number of Aboriginal heritage studies have been undertaken in the wider area surrounding the Subject Area, predominantly in association with development proposals, but also for academic research and purposes relating to the management of Aboriginal cultural heritage. The major studies which have contributed to our understanding of the region, and those with direct relevance to the Subject Area, are outlined in Table 6 below. Reference is made to the main trends garnered from these investigations which have been used to formulate the predictive model for Aboriginal objects that may be present within the Subject Area.

Table 6: Previous heritage assessments in the local area

Assessment Author and Date	Description of Assessment
Biosis, 2021 An unpublished report to South32 Illawarra Metallurgical Coal (IMC).	**Appin Longwalls 709, 710A, 710B, 711 and 905 Heritage Impact Assessment** Biosis were engaged by South32 Illawarra Metallurgical Coal (IMC) to prepare a Heritage Impact Assessment (HIA) for Appin Mine Areas 7 and 9 (Longwalls 709 to 711 and 905), in order to identify the Aboriginal and non-Aboriginal heritage values within the study area. The HIA was prepared to assess the potential impacts to heritage values resulting from a proposed Extraction Plan in Appin Areas 7 and 9 of the mine. This study area is located within the southern section of the current Subject Area. The Heritage Impact Assessment involved background research, site survey and consultation with Registered Aboriginal Parties (RAPs).The AHIMS search for the project identified two registered AHIMS sites within the study area: DR-AS-01 (AHIMS # 52-2-4226), an artefact scatter comprising a silcrete core and a silcrete flake on a flat landform approximately 213 m from Navigation Creek; and DR-AS-02 (AHIMS # 52-2-4227), a silcrete flake and a silcrete flaked piece on a flat landform approximately 333 m from Navigation Creek. Due to extensive grass coverage, the site survey identified an exposure of less than approximately 20% of the study area, with isolated exposure in areas exposed to erosion, access tracks, mature trees and fence lines. Disturbances in the study included residential development, farming, agricultural practices and the construction of dams. One previously unrecorded Aboriginal archaeological site was located during the field investigation, a silcrete distal flake recorded as Hawkey Road ISO1 (AHIMS # 52-2-4630). No previously recorded or new non-Aboriginal heritage sites were identified during the site survey. The report concludes that the potential heritage impacts to the identified sites caused by subsidence from the proposed mining Extraction Plan would be minimal. This report is of relevance to the current project as it describes the previously recorded Aboriginal archaeological sites within the southern part of the current Subject Area.
Archaeological and Heritage Management Solutions, 2014 An unpublished report to Michael Brown Planning Strategies.	**Aboriginal Cultural Heritage Assessment: Stonequarry Commercial Picton** Archaeological and Heritage Management Solutions were engaged by Michael Brown Planning Strategies to prepare an Aboriginal Cultural Heritage Assessment (ACHA) for the proposed rezoning of Lot 7 DP 1072259 and Lot 4 Section 13 DP 939379, Cliffe Street, Picton, NSW. The study area is located approximately 13km south-west of the current Subject Area. The ACHA involved background research, site survey and consultation with Registered Aboriginal Parties (RAPs). No previously registered AHIMS sites were identified within the study area or within 50m of its boundaries. No previously unregistered sites were identified during the site survey due to the very low ground surface visibility. None of the remnant native trees retained evidence of cultural scarring. However, landforms with sub-surface Aboriginal archaeological sensitivity were identified within the study area, as follows: - Land within 50m of a waterway/drainage line: high archaeological potential.

Assessment Author and Date	Description of Assessment
	- Land within 100m of a waterway/drainage line: moderate archaeological potential. - Land within 200m of a waterway/drainage line: low archaeological potential. Areas outside of these areas were identified as generally having low archaeological potential, while areas disturbed by previous cut and fill activities were identified as nil to low. As such, over half of the study area was identified as having low to high archaeological potential due to its proximity to permanent watercourses, as well the land having only previously experienced land clearing and agricultural/pastoral uses. Only two areas of disturbance caused by residential development resulting in nil potential. The study identified no Aboriginal heritage issues that would require the re-zoning of the study area to not proceed but did recommend further investigation prior to any impacts. The RAPs recommended that further assessment of the subject area be undertaken. This report is of relevance to the current project as provides an example of predictive modelling in the local area.
Biosis Research, 2012 An unpublished report to BHP Billiton.	**Appin Area 9 Longwalls 901 to 904 Heritage Impact Assessment** BHP Billiton Illawarra Coal (BHPBIC) commissioned Biosis Research to prepare a Heritage Impact Assessment (HIA) to inform the Heritage Management Plan (HMP) component of the Appin Area 9, Longwall 901 to 904, Extraction Plan**.** The supplementary field investigation in 2012 identified an additional site that comprised of a sandstone shelter within art, BC1 (52-2-3830). This report is of relevance to the current project as provides an example of predictive modelling in the local area.
Biosis Research, 2009 An unpublished report to BHP Billiton Illawarra Coal.	**Bulli Seam Operations Aboriginal Cultural Heritage Assessment** Biosis Research were engaged by BHP Billiton Illawarra Coal to prepare an Aboriginal Cultural Heritage Assessment (ACHA) at the Bulli Seam. This assessment was developed as part of the Environmental Impact Statement (EIS) and included the current proposed Longwall 712 to 716 development footprint. This assessment was developed in consultation with the Registered Aboriginal Parties that have been consulted with for the current assessment. The assessment identified 32 new heritage sites Aboriginal heritage sites within the Appin Colliery.
Michael Pearson Heritage Management Consultants, 2009 An unpublished report to Illawarra Coal Holding Pty Ltd.	**Bulli Seam Operations: Appendix H Non-Aboriginal Heritage Assessment (Statement of Heritage Impact)** A non-Aboriginal heritage assessment was completed by Michael Pearson Heritage Management Consultants Pty Ltd that identified 49 heritage items of local and state significance. All of the heritage items identified within the current Subject Area were initially identified within this assessment.
Sefton, 1999 An unpublished report to BHP Coal - Illawarra Collieries.	**Archaeological Investigation of Longwall 18-24 Tower Colliery** Caryll Sefton was engaged by BHP Coal - Illawarra Collieries to conduct an Aboriginal archaeological investigation of Longwall 18-24 Tower Colliery in Douglas Park. The proposal involved the extraction of the coal in Longwall 18-

Assessment Author and Date	Description of Assessment
	24 Tower Colliery, an underground mine over an area of 810 hectares, located approximately 5km to the south-east of the current Subject Area. The investigation involved background research, a discussion on previously recorded impacts to Aboriginal sandstone shelters caused by subsidence from underground mining, and a site survey. The background research identified several potential archaeological deposits (PADs) and sandstone shelters with art and/or deposits in the study area. The site survey was aimed at identifying previously recorded and unrecorded sandstone overhangs with art and/or deposits within the study area. The site survey identified nine shelters with art and/or deposits, one scarred tree and ten overhangs with PADs. Several of the shelters exhibited exposed surface artefacts relating to deposits, with artefacts including bone fragments, freshwater mussel fragments, bipolar quartz flakes, bipolar quartz cores, red jasper flakes, dark grey igneous pebbles, flaked silcrete pieces, bipolar quartzite flakes and bipolar chert flakes. Bipolar quartz flakes were the most common. The art mostly comprised indeterminate charcoal drawings, but charcoal kangaroos, fish and human figures were also identified. One indeterminate red ochre drawing was also identified. The sites were identified as having low archaeological significance. The report recommended monitoring of the shelter and overhang sites. This report is of relevance to the current project as it provides examples of previously recorded Aboriginal archaeological sites in the local area.

The following are the key results as gleaned from the review of the above assessments:

- The local region is associated with a rich and enduring history of past Aboriginal land use as expressed in the number and range of Aboriginal cultural heritage sites preserved in the local area including, but not necessarily limited to, camping grounds (open camp sites, isolated finds), resource gathering locations, shelters with art, deposits and PADs and axe grinding grooves.
- There is a strong interconnectivity between Aboriginal cultural heritage sites, features and the natural environment. The natural landscape, including native plants and other resources, form part of a broader Aboriginal cultural landscape and are considered to be of high cultural significance.
    - Shorter distances to permanent water sources, access to fish and aquatic procurement areas and the presence of multiple resource habitats greatly influenced the location of higher density occupation sites e.g. estuaries and freshwater creeks in proximity to the Nepean River.
    - Elevated areas in proximity to the Nepean River appear to have been favourable for continued and/or repeated occupation. This is demonstrated by the abundance of Aboriginal cultural heritage sites/ features recorded in association with the Nepean River and its tributaries to the east of the current Subject Area.

- The identification of surface archaeological material is largely dependent upon patterns of exposure as may be present due to natural and human disturbance in an area.

  - There is moderate to high potential for evidence of Aboriginal use and occupation, such as artefacts, to be preserved in undisturbed contexts below or between areas that have been modified/ disturbed, depending on the depth of historic disturbance, excavation and introduced fills. Such in situ deposits are most likely to occur below depths of 200 mm below the current ground level.
  - There is moderate to high potential for evidence of Aboriginal use and occupation, such as artefacts to be preserved ex situ within disturbed contexts that have been modified/ disturbed by the construction of slabs, footings and services.
- Stone artefacts, if present, may include hammerstones and/or anvils for processing organic materials, backed artefacts, bipolar flaked artefacts, elouera, flakes with use-wear, freehand flaked artefacts, retouched flakes, stone files, and artefacts produced from freehand and bipolar flaking. Silicified wood artefacts may also be present.

3. Scientific values and significance assessment

Within Australia, the Australia ICOMOS Burra Charter, 2013 (Australia ICOMOS 2013; 'the Burra Charter') is the principal document that sets a standard of practice for those who provide advice, make decisions about, or undertake works to places of cultural significance. The Burra Charter defines cultural significance as:

"…aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects. Places may have a range of values for different individuals or groups." (Australia ICOMOS 2013a, p.2)

In accordance with the Burra Charter, Aboriginal cultural heritage sites are commonly assessed under the following categories of significance:

- Social (Cultural) and spiritual value to contemporary Aboriginal people;
- Historical value;
- Scientific/archaeological value;
- Aesthetic value.

These values as defined by the Burra Charter are outlined in Table 7.

Table 7: Different values and their definitions according to the Burra Charter (Australian ICOMOS 2013b)

Value	Definition
Social	Refers to the spiritual, traditional, historical or contemporary associations that a place has for a particular community or cultural group and the social or cultural meanings that it holds for them.

Value	Definition
Historic	Refers to all aspects of history. For example, the history of aesthetics, art and architecture, science, spirituality and society. It therefore often underlies other values. A place may have historic value because it has influenced, or has been influenced by, an historic event, phase, movement or activity, person or group of people. It may be the site of an important event. For any place the significance will be greater where the evidence of the association or event survives at the place, or where the setting is 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 such change or absence of evidence.
Scientific	Refers to the information content of a place and its ability to reveal more about an aspect of the past through examination or investigation of the place, including the use of archaeological techniques. The relative scientific value of a place is likely to depend on the importance of the information or data involved, on its rarity, quality or representativeness, and its potential to contribute further important information about the place itself or a type or class of place or to address important research questions.
Aesthetic	Refers to the sensory and perceptual experience of a place. That is how a person responds to visual and non-visual aspects such as sounds, smells and other factors having a strong impact on human thoughts, feelings and attitudes. Aesthetic qualities may include the concept of beauty and formal aesthetic ideals. Expressions of aesthetics are culturally influenced.

In addition to the Burra Charter significance values, other criteria and guidelines have been formulated by other government agencies and bodies in NSW to assess the significance of heritage places in NSW. Of particular relevance to this assessment are the guidelines prepared by Heritage NSW.

The Guide (OEH 2011: 10) states that the following criteria from the NSW Heritage Office (2001: 9) should be considered:

- Social value: Does the Subject Area have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons?
- Historic value: Is the Subject Area important to the cultural or natural history of the local area and/or region and/or state?
- Scientific 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?
- Aesthetic value: Is the Subject Area important in demonstrating aesthetic characteristics in the local area and/or region and/or state?

OEH (2011: 10) states that when considering the Burra Charter criteria, a grading system must be employed. The following grading system will be used to assess the cultural values of the Subject Area and its constituent features. These are outlined in Table 8.

Table 8: Grading system used to assess values within the Subject Area

Grading	Definition
High	The site or object has value because it contains archaeological and/or contextual features which through further investigation may significantly contribute to our understanding of

Grading	Definition
	the past, both locally and on a regional scale. These features include but are not limited to: Aboriginal ancestral remains; the site's relationship with landscape features or other Aboriginal archaeological sites or areas of identified heritage importance; diagnostic archaeological or landscape features that inform a chronology; and a very large assemblage of stone artefacts associated with other features such as oven remains or shell midden. Such sites will be relatively rare and will be representative of a limited number of similar sites that make up this class; hence they derive high representative and rarity values.
Moderate	The site or object derives value because it contains features, both archaeological and contextual, which through further investigation may contribute to our understanding of the local past. These features include but are not limited to the relationship with landscape features or other Aboriginal archaeological sites or areas of identified heritage importance; diagnostic archaeological or landscape features that inform a chronology; and a relatively large assemblage of stone artefacts. The presence of a diverse artefact and feature assemblage, and connectedness with landscape features and other notable sites provide relatively higher representative and rarity values than sites of low significance.
Low	The site or object contains only a single or limited number of features and has no potential to contribute significantly to our understanding of the past beyond what it contributes through its current recording (i.e. no or low research potential). The site or object is a representative but is an unexceptional example of the most common class of sites or objects in the region. Many more similar examples can be confidently predicted to occur within the Subject Area, and in the region.

The following Scientific (archaeological) significance has been completed using the AHIMS site cards for the sites as none were accessed as part of this assessment.

Table 9: Significance assessments of Aboriginal cultural heritage sites within the Subject Area

Statement of Significance Assessment	Description
AHIMS ID#	52-2-3053
Site Name	WG4 Wandingong (Unavailable)
Site Feature	Open Camp Site
Aesthetic Value	Low- As located within a heavily modified landscape
Historical Value	Moderate- Demonstrates that Aboriginal people utilised the landscape within which the objects are located.
Research Potential	Low
Representativeness	Low- Common site type within the region
Rarity	Low

Statement of Significance Assessment	Description
Scientific (archaeological) Significance	Low- Partially destroyed, via two AHIPs
Cultural Significance	High- All Aboriginal objects are significant to the Aboriginal community regardless of scientific significance as it is a tangible demonstration of the Aboriginal communities connection with Country.
AHIMS ID#	52-2-3190
Site Name	WG1
Site Feature	Isolated Find
Aesthetic Value	Low- As located within a heavily modified landscape
Historical Value	Moderate- Demonstrates that Aboriginal people utilised the landscape within which the objects are located.
Research Potential	Low
Representativeness	Low- Common site type within the region
Rarity	Low
Scientific (archaeological) Significance	Low- has been test excavated via AHIP
Cultural Significance	High- All Aboriginal objects are significant to the Aboriginal community regardless of scientific significance as it is a tangible demonstration of the Aboriginal communities connection with Country.
AHIMS ID#	52-2-3191
Site Name	WG6, Wandinong
Site Feature	Open Camp Site
Aesthetic Value	Low- As located within a heavily modified landscape
Historical Value	Moderate- Demonstrates that Aboriginal people utilised the landscape within which the objects are located.
Research Potential	Low
Representativeness	Low- Common site type within the region
Rarity	Low
Scientific (archaeological) Significance	Low- has been test excavated via AHIP
Cultural Significance	High- All Aboriginal objects are significant to the Aboriginal community regardless of scientific significance as it is a tangible demonstration of the Aboriginal communities connection with Country.
AHIMS ID#	52-2-3192
Site Name	WG5, Wandinong

Statement of Significance Assessment	Description
Site Feature	Open Camp Site
Aesthetic Value	Low- As located within a heavily modified landscape
Historical Value	Moderate- Demonstrates that Aboriginal people utilised the landscape within which the objects are located.
Research Potential	Low
Representativeness	Low- Common site type within the region
Rarity	Low
Scientific (archaeological) Significance	Low- has been test excavated via AHIP
Cultural Significance	High- All Aboriginal objects are significant to the Aboriginal community regardless of scientific significance as it is a tangible demonstration of the Aboriginal communities connection with Country.
AHIMS ID#	52-2-3193
Site Name	Wandinong 6
Site Feature	Open Camp Site
Aesthetic Value	Low- As located within a heavily modified landscape
Historical Value	Moderate- Demonstrates that Aboriginal people utilised the landscape within which the objects are located.
Research Potential	Low
Representativeness	Low- Common site type within the region
Rarity	Low
Scientific (archaeological) Significance	Low- Partially destroyed, via two AHIPs
Cultural Significance	High- All Aboriginal objects are significant to the Aboriginal community regardless of scientific significance as it is a tangible demonstration of the Aboriginal communities connection with Country.
AHIMS ID#	52-2-3194
Site Name	Wandinong 5
Site Feature	Open Camp Site
Aesthetic Value	Low- As located within a heavily modified landscape
Historical Value	Moderate- Demonstrates that Aboriginal people utilised the landscape within which the objects are located.
Research Potential	None- Destroyed via AHIP
Representativeness	None- Destroyed via AHIP

Statement of Significance Assessment	Description
Rarity	None- Destroyed via AHIP
Scientific (archaeological) Significance	None- Destroyed via AHIP
Cultural Significance	High- All Aboriginal objects are significant to the Aboriginal community regardless of scientific significance as it is a tangible demonstration of the Aboriginal communities connection with Country.
AHIMS ID#	52-2-3224
Site Name	EMAI Site 1
Site Feature	Open Camp Site
Aesthetic Value	Low- As located within a heavily modified landscape
Historical Value	Moderate- Demonstrates that Aboriginal people utilised the landscape within which the objects are located.
Research Potential	Low
Representativeness	Low- Common site type within the region
Rarity	Low
Scientific (archaeological) Significance	Low
Cultural Significance	High- All Aboriginal objects are significant to the Aboriginal community regardless of scientific significance as it is a tangible demonstration of the Aboriginal communities connection with Country.
AHIMS ID#	52-2-3228
Site Name	Razorback RB4 IF1
Site Feature	Isolated Find
Aesthetic Value	Low- As located within a heavily modified landscape
Historical Value	Moderate- Demonstrates that Aboriginal people utilised the landscape within which the objects are located.
Research Potential	Low
Representativeness	Low
Rarity	Low
Scientific (archaeological) Significance	Low
Cultural Significance	High- All Aboriginal objects are significant to the Aboriginal community regardless of scientific significance as it is a tangible demonstration of the Aboriginal communities connection with Country.
AHIMS ID#	52-2-3229

Statement of Significance Assessment	Description
Site Name	Razorback RB5 IF1
Site Feature	Isolated Find
Aesthetic Value	Low- As located within a heavily modified landscape
Historical Value	Moderate- Demonstrates that Aboriginal people utilised the landscape within which the objects are located.
Research Potential	Low
Representativeness	Low
Rarity	Low- Common site type within the region
Scientific (archaeological) Significance	Low
Cultural Significance	High- All Aboriginal objects are significant to the Aboriginal community regardless of scientific significance as it is a tangible demonstration of the Aboriginal communities connection with Country.
AHIMS ID#	52-2-3230
Site Name	Razorback RB5 Site 1
Site Feature	Open Camp Site
Aesthetic Value	Low- As located within a heavily modified landscape
Historical Value	Moderate- Demonstrates that Aboriginal people utilised the landscape within which the objects are located.
Research Potential	Low
Representativeness	Low
Rarity	Low- Common site type within the region
Scientific (archaeological) Significance	Low
Cultural Significance	High- All Aboriginal objects are significant to the Aboriginal community regardless of scientific significance as it is a tangible demonstration of the Aboriginal communities connection with Country.
AHIMS ID#	52-2-3687
Site Name	Bulli Site 7
Site Feature	Open Camp Site
Aesthetic Value	Low- As located within a heavily modified landscape
Historical Value	Moderate- Demonstrates that Aboriginal people utilised the landscape within which the objects are located.
Research Potential	Low

Statement of Significance Assessment	Description
Representativeness	Low
Rarity	Low- Common site type in within the region
Scientific (archaeological) Significance	Low- Partially destroyed
Cultural Significance	High- All Aboriginal objects are significant to the Aboriginal community regardless of scientific significance as it is a tangible demonstration of the Aboriginal communities connection with Country.
AHIMS ID#	52-2-4507
Site Name	WG7
Site Feature	Open Camp Site
Aesthetic Value	Low- As located within a heavily modified landscape
Historical Value	Moderate- Demonstrates that Aboriginal people utilised the landscape within which the objects are located.
Research Potential	Low- Partially destroyed via AHIP
Representativeness	Low
Rarity	Low- Common site type within the region
Scientific (archaeological) Significance	Low- Partially destroyed via AHIP
Cultural Significance	High- All Aboriginal objects are significant to the Aboriginal community regardless of scientific significance as it is a tangible demonstration of the Aboriginal communities connection with Country.
AHIMS ID#	52-2-4508
Site Name	WG8
Site Feature	Open Camp Site
Aesthetic Value	Low- As located within a heavily modified landscape
Historical Value	Moderate- Demonstrates that Aboriginal people utilised the landscape within which the objects are located.
Research Potential	None- Destroyed via AHIP
Representativeness	None- Destroyed via AHIP
Rarity	None- Destroyed via AHIP
Scientific (archaeological) Significance	None- Destroyed via AHIP
Cultural Significance	High- All Aboriginal objects are significant to the Aboriginal community regardless of scientific significance as it is a tangible demonstration of the Aboriginal communities connection with Country.

4. Landscape context

Understanding the past and present environmental contexts of a Subject Area is requisite in any Aboriginal archaeological and cultural heritage investigation (DECCW 2010a). The landscape context may provide insight as to areas of land that may have been more intensively used by Aboriginal people in the past due to the presence of resources such as water, stone, plants and animals and other raw materials or landscape features associated with sustenance, shelter, tool manufacture and cultural activities. Furthermore, the landscape provides the context within which the material remains of past Aboriginal occupation may be preserved and detectable due to the movement of soil through geomorphic processes such as erosion or its removal from the landscape through past land use and disturbance (DECCW 2010a: 8). By considering these factors, an ACHA investigation may develop a sampling strategy for identifying any tangible Aboriginal heritage values within the Subject Area. It allows for an understanding of what activities would likely have taken place across the Subject Area in the past and the likelihood that any trace of these would have survived below the surface. The following section provides details of the environmental characteristics of the Subject Area. For the current assessment there was very limited access to the Subject Area granted by the landowners for survey purposes. As a result of this an interrogation of the environmental data had to be undertaken in accordance with Requirement 2 of *the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010; here on referred to as the 'Code of Practice').

4.1. Soil landscapes

The Subject Area comprises of three soil landscapes Blacktown (10%), Theresa Park (50%) and Picton (40%). Table 10 below summarises the details of each of the soil landscapes and their archaeological potential within the Subject Area, Figure 19 identifies sites registered with AHIMS within the Subject Area and local soil landscapes.

Table 10: Soil Landscapes with the Subject Area

Soil Landscape	Landscape Type	Landscape details
Theresea Park	Fluvial	This soil landscape comprises of Tertiary and Quaternary floodplain and terraces of the Nepean River south of Cobbitty Creek. River south of Cobbitty Creek. Gently undulating slopes mostly <5% but range to 10% on high level terraces. Almost completely cleared, low open woodland (dry sclerophyll woodland with grass understorey). This soil landscape occurs within floodplains and near terrace edges and has limited possibility for subsurface Aboriginal objects to remain in situ due to water logging and water movement.

Soil Landscape	Landscape Type	Landscape details
		(9029tp.pdf accessed 27 January 2026)
Picton	Colluvial	The Picton soil landscape has steep to very steep side slopes characterised by mass movement and terracettes on Wianamatta Group and derived colluvial materials, usually having a southerly aspect. Local relief 90–300 m; slope gradients >20%. Extensively cleared open forest. Being a colluvial landscape it has the possibility for mass movement and extreme erosion. Whilst this soil landscape has limited ability to retain subsurface archaeological deposit however would be appropriate for sandstone shelters fit for human habitation and rock platforms suitable for engravings and axe grinding grooves where sandstone geology outcrops (refer Geology mapping presented in Figure 20). (9029pn.pdf accessed 27 January 2026)
Blacktown	Residual	The Blacktown soil landscape is a landscape comprising of gently undulating rises on Wianamatta Group shale. Local relief to 30 m; slopes are usually <5%. Broad rounded crests and ridges with gently inclined slopes. Almost completely cleared eucalypt woodland, open-forest and tall open-forest (wet sclerophyll forest). Rock outcrop is absent within this soil landscape and where not disturbed this landscape would have potential for subsurface archaeological deposit. (9029bt.pdf accessed 27 January 2026)

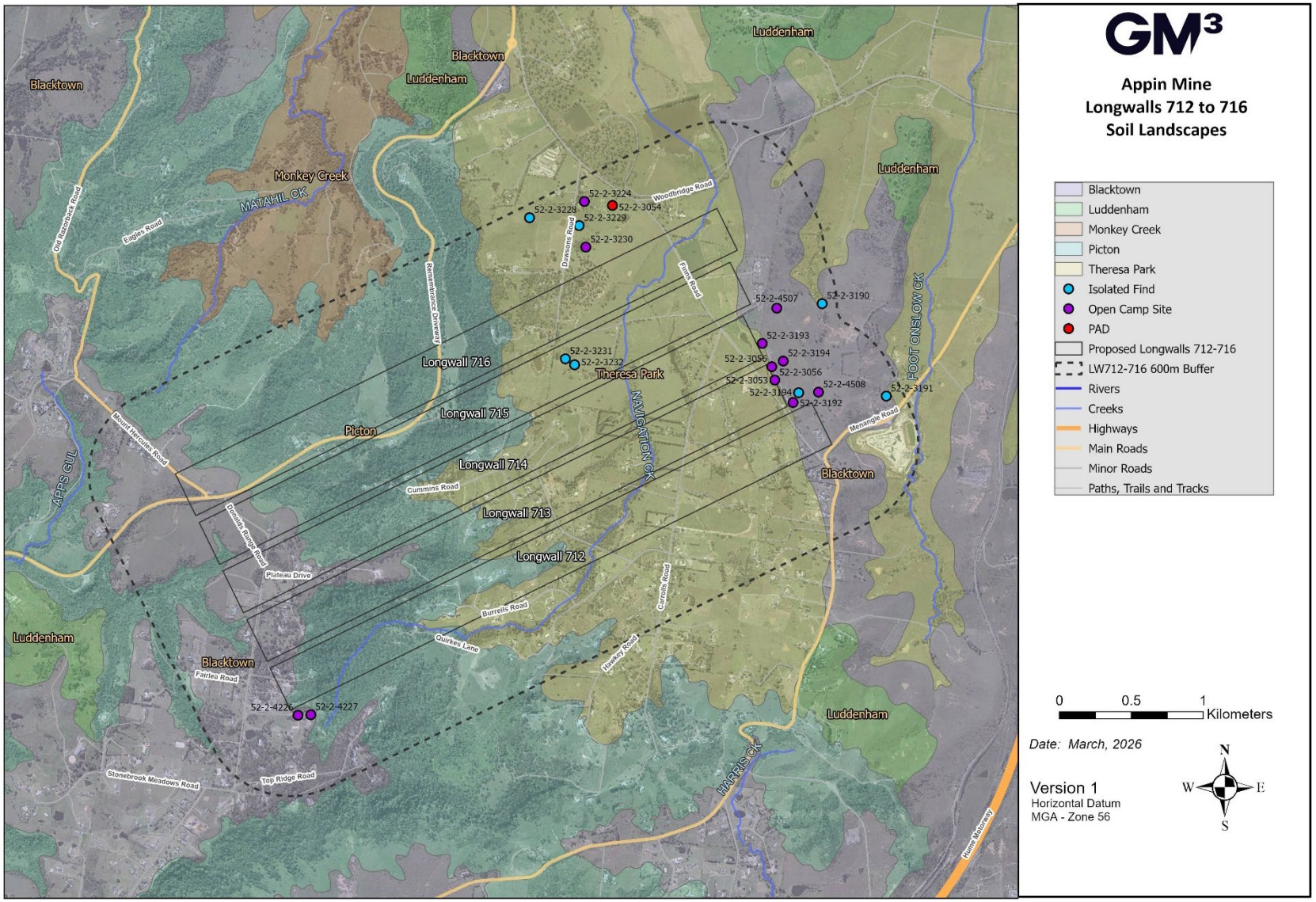


Figure 19: Soil Landscapes Mapping of Subject Area

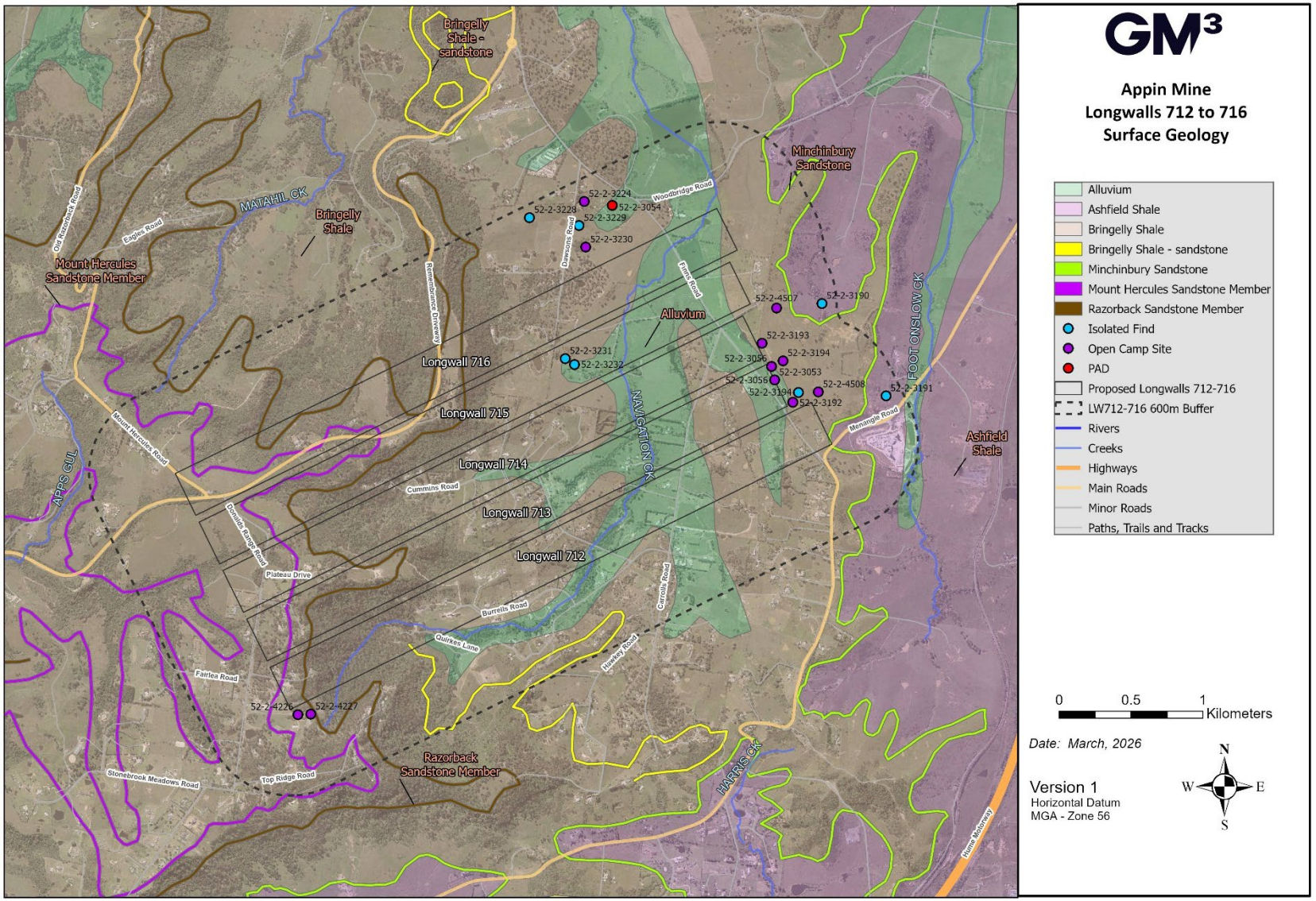


Figure 20: Surface Geology Mapping of Subject Area

4.2. Disturbance and modification

Previous land use modifications that are present within the Subject Area include:

- Subdivision and development of residential properties and associated buildings
- Development relating to the installation of infrastructure such as roads, rail sewage and powerlines.
- The entire Subject Area has been subject to clearance and modification relating to agricultural purposes since colonisation.

Each of the above land uses and activities have impacted the preservation and visibility of the archaeological record within the Subject Area.

5. Predictive model

Based on the predictive model for the region, the current Subject Area is situated outside of both Primary and Secondary resource zones. The Subject Area does however, have water sources that would have been utilised by past Aboriginal groups for camps. The local Aboriginal people would have travelled between different resource zones and there is therefore potential for Aboriginal objects to be present across the landscape. The landscape has not been heavily modified and there is potential for in situ Aboriginal objects to remain. Where archaeological sites have not been subject to disturbance, they have the potential to contribute to understandings of the types of behaviour and activities that may have occurred while moving through the landscape. Table 11 outlines the predictions for different site features that could occur in the Subject Area.

Table 11: Aboriginal site feature predictions for the Subject Area

Site feature	Prediction
Art (pigment and/or engraving)	• Art either pigment or engraving is unlikely in the Subject Area due to there being no suitable rock formations. Refer to Figure 21, where Shelter and Axe Grinding Groove sites identified are restricted exclusively to the Hawkesbury Sandstone geological unit (or immediately adjacent). It is noted that there are no recorded shelters, or sandstone platforms containing Aboriginal cultural heritage occurring within the shale surface geology within the 5km radius to the study area (with exception to two sites within the mapped Bringelly Shale unit, immediately adjacent the Hawkesbury Sandstone unit).
Artefacts	• Stone artefacts are the most likely evidence of Aboriginal land use to survive in the Subject Area, representing material evidence of hunting, camping, tool making and resource gathering. • Stone artefacts may be located on the ground surface or in subsurface contexts in any landform across the Subject Area. • Stone artefacts in open contexts are more likely to be present on level to gently inclined well drained ground (elevated terraces and lower slopes) within 200 m of water sources or along crests and ridgelines. • There is moderate potential for Aboriginal use and occupation in areas within 100 m of low order (first- to second-order tributaries), within 100 m to 200 m of higher

Site feature	Prediction
	order streams (third order and higher) and within 20 m of ridges/crests, if the area is not highly disturbed by land use activities. As such, the northern corner and southeastern section of the Subject Area have moderate archaeological potential, while the centre of the Subject Area has low potential. • Stone artefacts, if present, will most likely have been manufactured from locally accessible silcrete, a raw material that outcrops in the local region, with smaller amounts of chert, quartz, quartzite, silicious materials, basalt petrified wood and tuff, and rarely, mudstone and chalcedony. • Stone artefacts may be heat treated and/or retouched. • The artefacts are most likely to be broken flakes, complete flakes and retouched flakes, with smaller likelihood for cores and blades.
Bone (non-human)	• The Subject Area has low potential to contain non-human bones, but may be located in association with hearths, ovens, shell, and stone artefacts.
Burials	• Burials are rare but can occur within any landform within the region and include both ancient and more recent burials. • Burials are unlikely to occur in the Subject Area as they are more likely to be associated with hollow trees, rock shelters or deep sandy soils in closer proximity to water sources. • Where present, burials may be associated with a range of artefacts including but not limited to stone artefacts, shell and bone. • The Subject Area has low potential to contain human burials based on the results of prior surveys and excavations in the area.
Ceremonial and mythological sites sites	• Ceremonial and mythological sites are often associated with natural landscape features and may not contain any tangible or material evidence. Consultation with the Aboriginal community is often necessary to identify these site types. • The potential for ceremonial sites or bora grounds is considered low due to the topography, recent history of land use and absence of previously reported ceremonial sites. • No mythological sites have been identified by previous heritage assessments in the area.
Culturally modified trees	• Culturally modified trees (scarred or carved trees) are formed through the removal of bark from trees by Aboriginal people, either for domestic or ceremonial purposes. Previously identified cultural modified trees in the local area include Eucalypt trees and can occur near areas of significance, including main water bodies and hunting and fishing grounds, and areas commonly used as camp sites. • Due to the retention of remnant Eucalypt woodland in the northwestern section of the Subject Area, culturally modified trees may be present within the Subject Area.
Grinding grooves	• Grinding grooves are grooves associated with the manufacture and maintenance of some stone tools such as hatchets or for the grinding of resources such as grain or animals. Axe grinding grooves are commonly found in areas where water is abundant and generally flowing over the surface of sandstone with a clay matrix. These sites represent a period of cultural change and may include square sharpening grooves which provide evidence of another shift from stone to metal axes (WBAC). • As no suitable sandstone outcrops with associated running water present (i.e., streams or swamps) have been observed in the Subject Area, it is unlikely that

Site feature	Prediction
	sandstone platforms suitable for this use will be present within the Subject Area. Refer to surface geology mapping presented on Figure 21.
Rock shelters with art, shell, artefacts and/or deposit	• Rock shelters are unlikely to be present within the Subject Area as the surface geology comprises predominately shale and alluvium, refer to surface geology mapping presented on Figure 21.
Shell	• Shell resources (estuarine and marine) are abundant in the local area. Shells utilised by Aboriginal people, either for food, tools or decoration, have the potential to occur in open contexts in the Subject Area. These may be present in the Subject Area in association with Open Camp Sites and would likely include freshwater mussels and *cahbro.*
Stone arrangements	• Stone arrangements are unlikely in the Subject Area due to lack of suitable stone.
Stone quarries	• Stone quarries are unlikely in the Subject Area due to lack of suitable stone outcrops.

In reviewing these predictions post-survey, it has been determined that there is low to moderate potential for artefacts and culturally modified trees within the Subject Area, with low potential for all other site types.

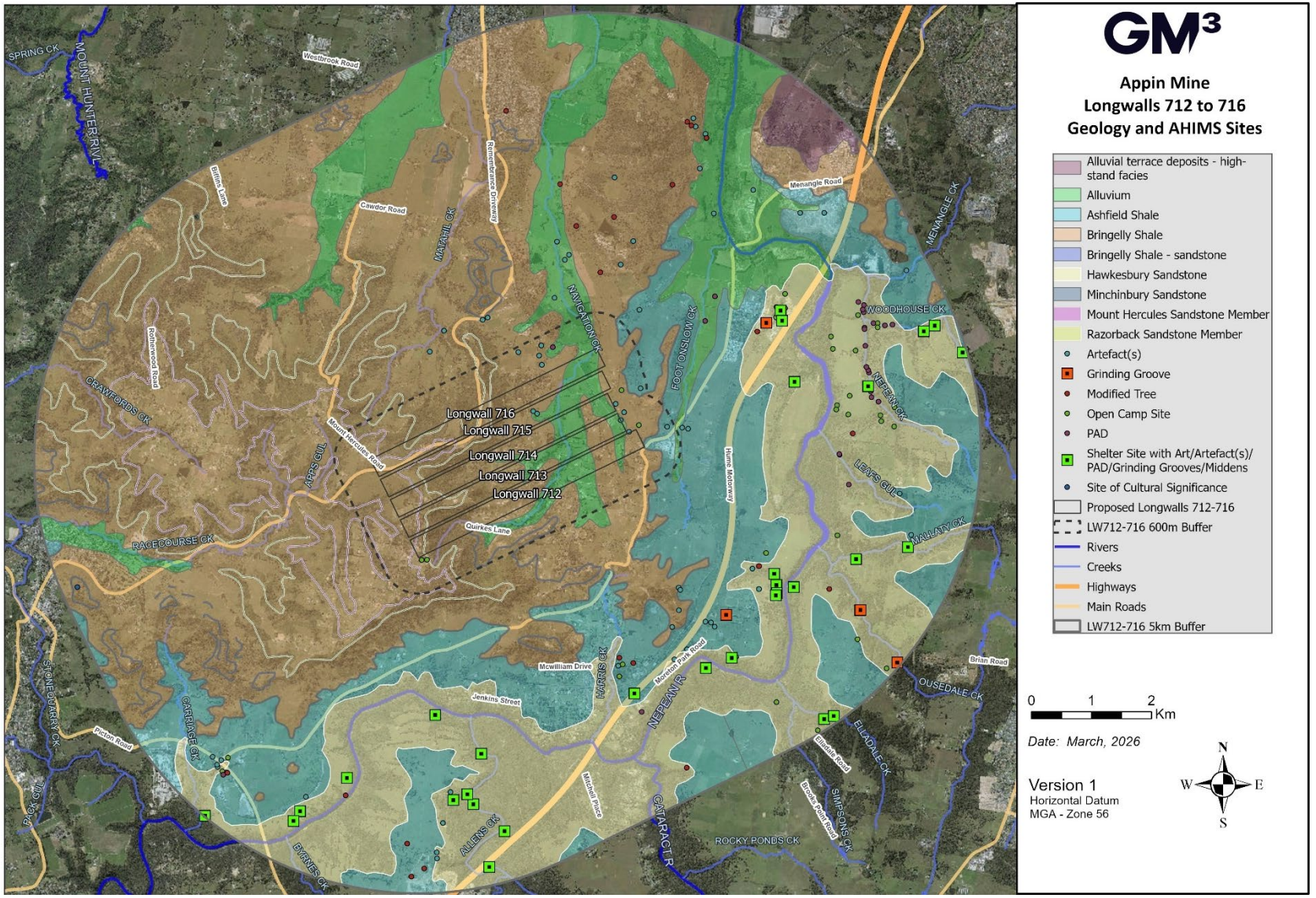


Figure 21: Regional Geology and Aboriginal Heritage Site Types

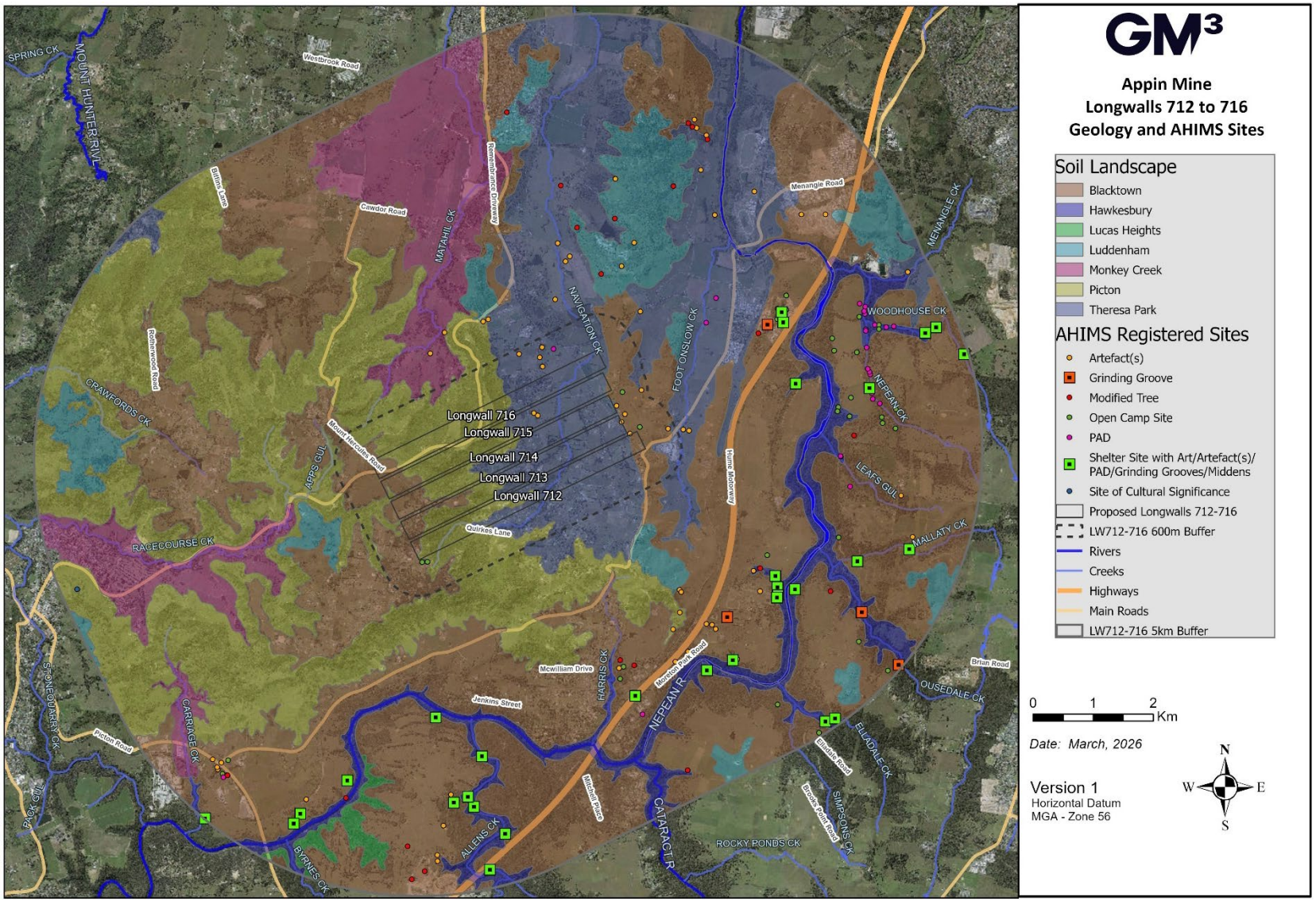
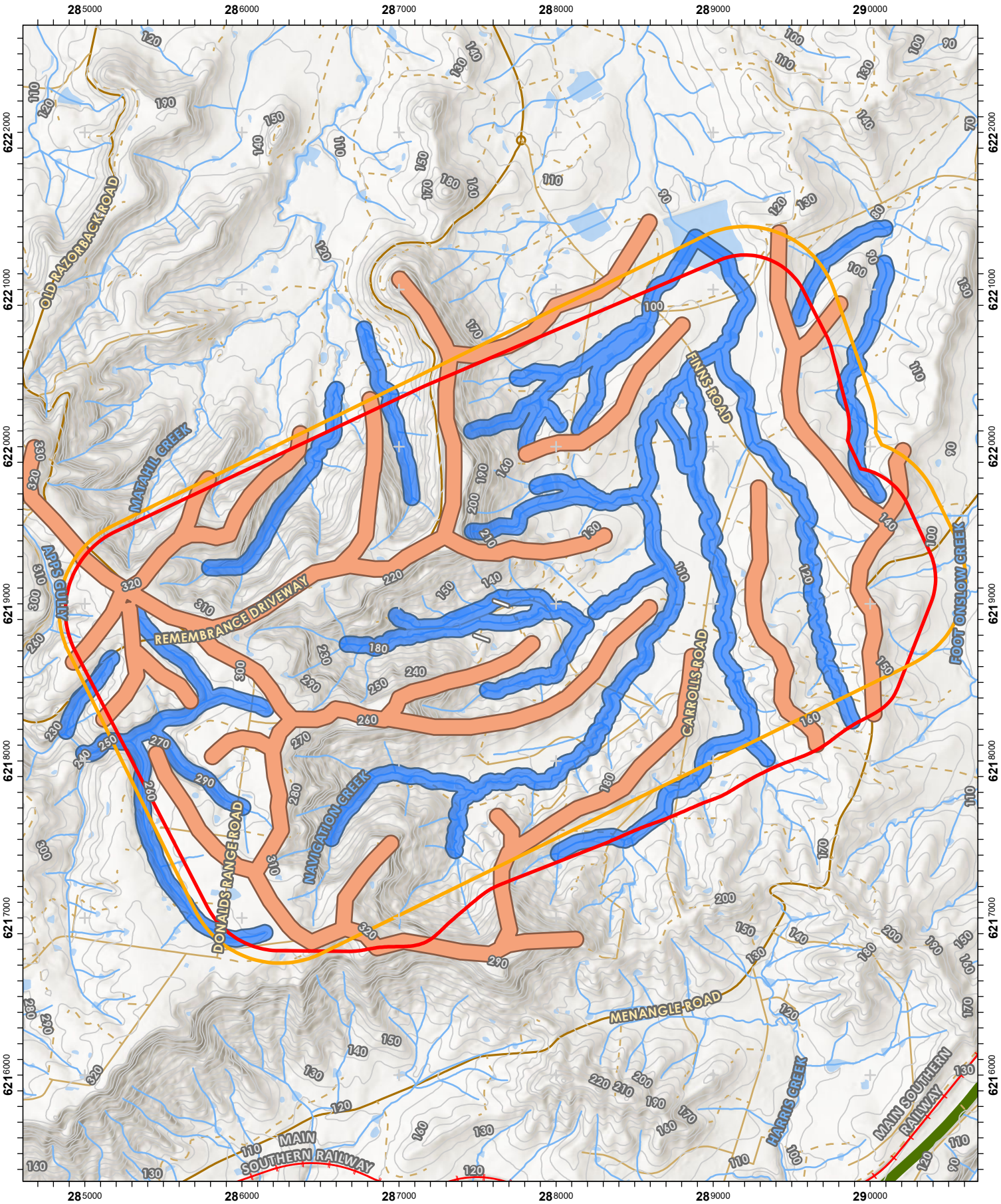


Figure 22: Regional Soil Landscapes and Aboriginal Heritage Site Types



Legend

- Contour - 10m
- Watercourse
- Motorway
- Major Road
- Minor Road
- Track
- Waterbody
- Railway
- Study Area - 35° Angle of Draw
- Study Area - 600m Boundary
- Ridges
- Creeklines

N

DKGIS

Date: 16/01/2026

0 0.5 1 Km

Coordinate System: GDA2020 MGA Zone 56

Imagery: © Nearmap

Prepared By: FMC

REGAL HERITAGE

Figure 20: Archaeological Sensitivity

Appin Longwalls 712-716 Heritage Impact Assessment

6. Supplementary field assessment

Approximately 3.7 ha (4.1%) of the 1662.00 ha of the Subject Area was surveyed as part of the supplementary field assessment. This relatively low survey coverage number is attributed to the limited amount of access that was granted to the Subject Area. Figure 24 summarises land parcels where land access requests were made and details the outcomes of each request. The desktop assessment for this Project focused on ridge and creek lines that have archaeological potential based on the outcomes of previous assessments within the region.

While survey coverage as part of this assessment was limited, the survey was completed in addition to previous surveys within the Subject Area, as displayed in Figure 25. While ridge and creek lines were targeted as having an increased likelihood of Aboriginal cultural heritage site occurrence, sites that were considered to have an increased risk of harm as a result of mining induced subsidence, primarily sandstone shelter and sandstone platform sites, were not predicted to occur within the Subject Area. While access was not granted to numerous land parcels within the ridge lines, it is unlikely that sites which have increased likelihood of harm from mining induced subsidence occur within these parcels, due to the regional geology. There is potential for artefacts and culturally modified trees within these parcels of land, however the type of sites which are predicted to occur within shale and alluvium geological units are not considered likely to be impacted as a result of mining induced subsidence.

Survey conditions were excellent, with cool to hot and sunny conditions. Visibility was generally low (10%) due to vegetation cover, with areas of exposure present due to erosion, sheetwash and occasional localised areas of disturbance. Vegetation cover was relatively thick due to weed growth within the ridgelines of properties used mostly for agricultural purposes on their flats.

As outlined in Section 1.5 the supplementary field assessment was carried out with representatives of the Aboriginal community. The following properties were assessed by Clare Anderson (Principal Heritage Consultant, Regal Heritage) on the 13 March 2025:

- 15 Gibraltar Drive, Razorback NSW
- 135 Donalds Range Road, Razorback NSW

Further to this Renée Regal (Director/ Heritage Consultant, Regal Heritage) assessed the following properties with representatives of the Aboriginal community on the following dates:

7 April 2025

- 739 Remembrance Driveway, Razorback NSW
- 790 Remembrance Driveway, Razorback NSW

10 April 2025

- 12 Gibraltar Drive, Razorback NSW
- 14 Gibraltar Drive, Razorback NSW
- 19 Gibraltar Drive, Razorback NSW

29 April 2025

- 120 Dawson Road, Menangle NSW

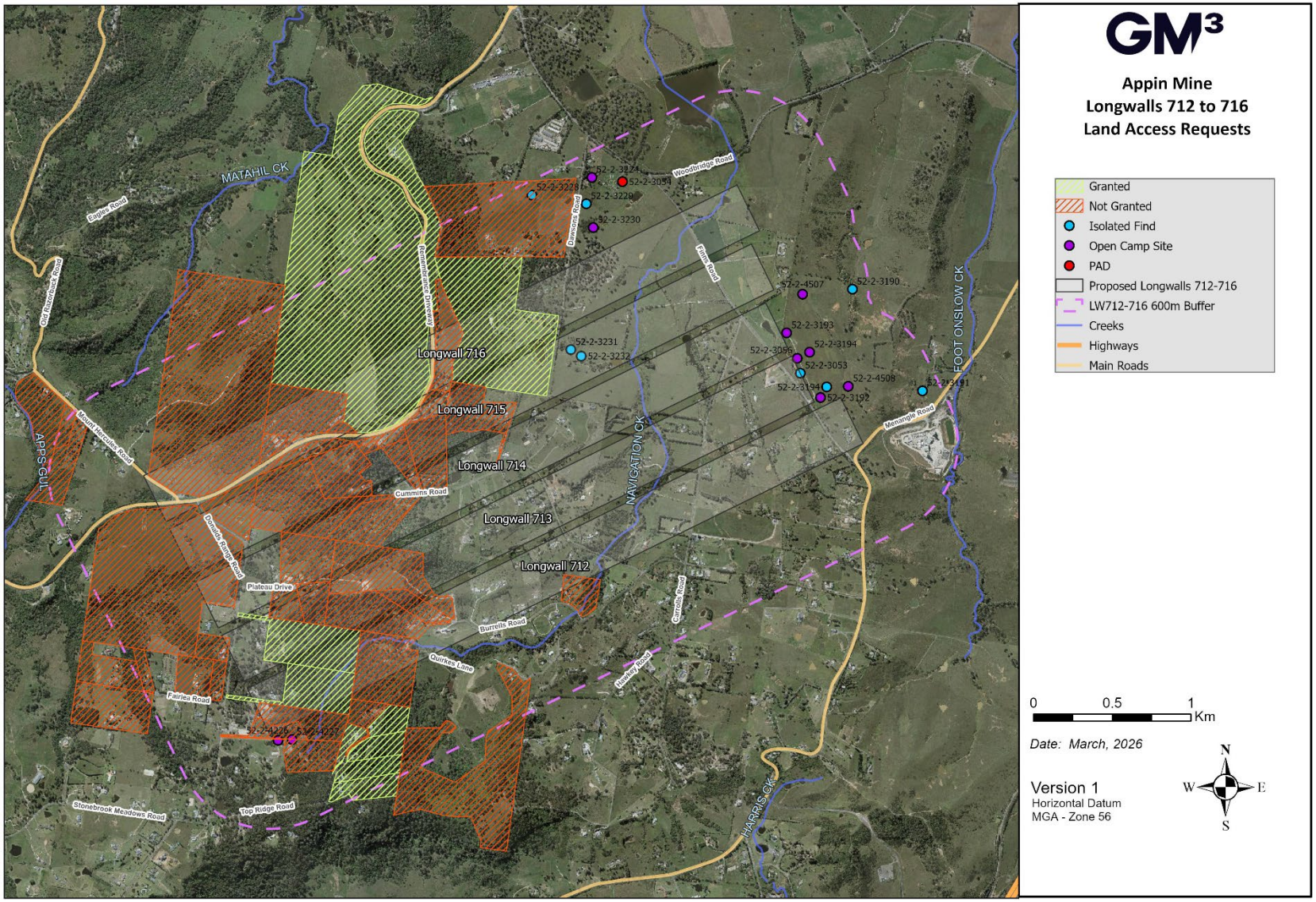


Figure 24: Land Access Request Summary, LW712-716 HIA

6.1. Survey methods

The survey was conducted on foot. Recording during the survey followed the archaeological survey requirements of the Code and industry best practice methodology. Information recorded during the survey included:

• Aboriginal objects or sites present in the Subject Area during the survey

• Survey coverage

• Any resources that may have potentially been exploited by Aboriginal people

• Landform elements, distinguishable areas of land approximately 40m across or with a 20m radius (CSIRO 2009).

• Ground Surface Visibility (GSV) and areas of exposure and;

• Observable past or present disturbances to the landscape from human or animal activities.

Where possible, the identification of natural soil deposits within the Subject Area was undertaken. Photographs and recording techniques were incorporated into the survey including representative photographs of survey units, landform, vegetation coverage, GSV and the recording of soil information for each survey unit where possible (*Plate 1* and *Plate 2*).



Plate 1: Example of the GSV within the Subject Area (15 Gibraltar Drive, Razorback)



Plate 2: Example of slope and lack of sandstone formation within the Subject Area, photograph taken facing west (16 Gibraltar Drive, Razorback NSW).

6.2. Survey constraints and coverage

There are several factors that influence the effectiveness (the likelihood of finding sites) of the archaeological survey. Factors that contributed most to the effectiveness of the survey within the Subject Area was GSV and restricted access to some properties due to land access issues (Figure 24). Table 12 below outlines the survey coverage completed.

Table 12: Survey coverage

Survey unit	Landform	Survey unit area (sq m)	Visibility (%)	Exposure (%)	Effective coverage area (sq m)	Effective coverage %
Total Area surveyed	Ridgeline	1593	10%	5%	684,500	4%

6.3. Results

There were no newly identified Aboriginal objects, or Heritage Items identified during the supplementary survey works.

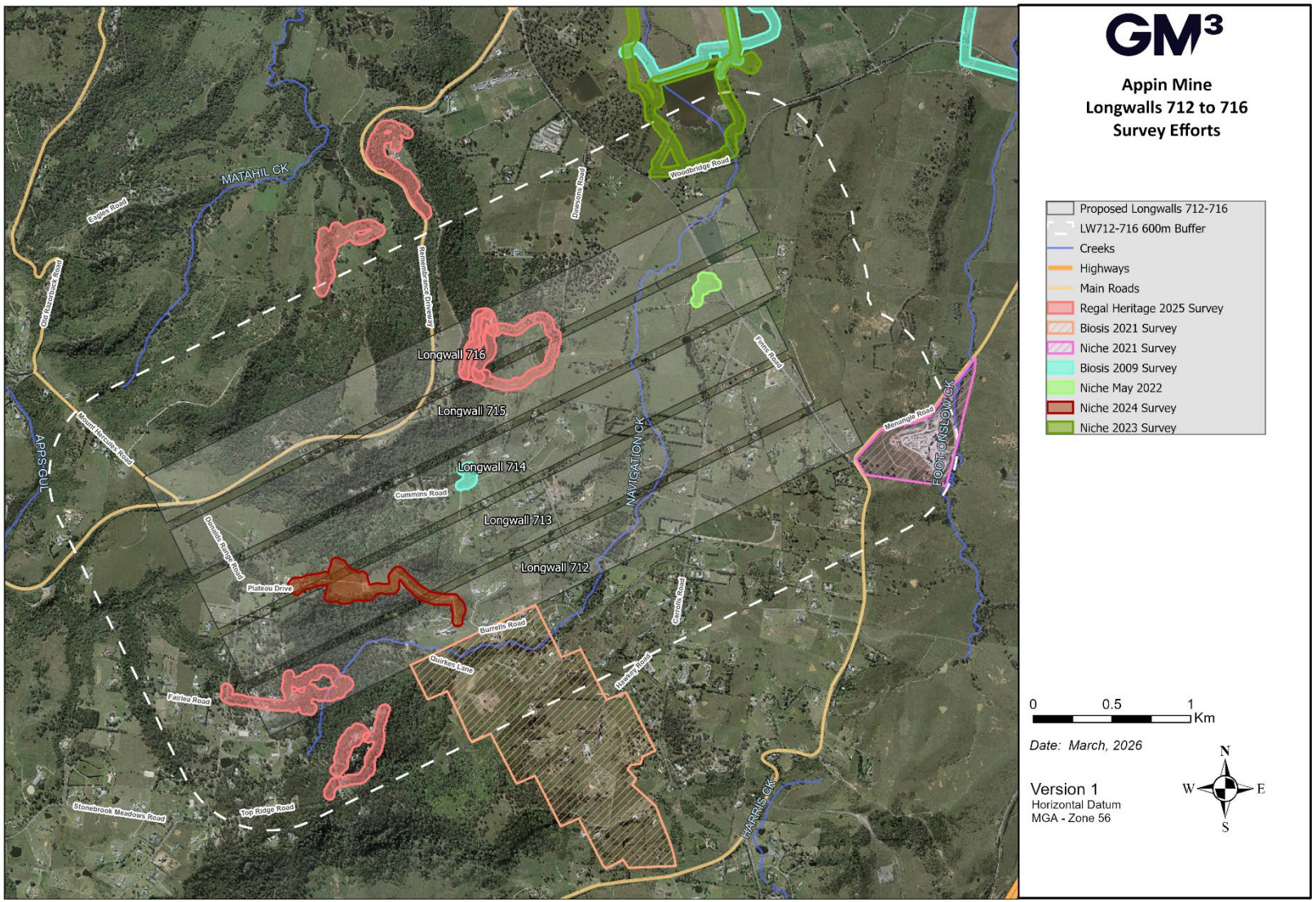


Figure 25: Location of supplementary survey effort and previous survey effort in vicinity to the Subject Area(Source: Regal Heritage, Illawarra Coal Holdings)

7. Revised mine subsidence predictions

The Bulli Seam Operations Aboriginal Cultural Heritage Assessment (Biosis Research 2009) and non-Aboriginal heritage assessments (Michael Pearson Heritage Management Consultants 2009) considered potential impacts to heritage sites using the 2009 Bulli Seam Operations Subsidence Assessment by Mine Subsidence Engineering Consultants (MSEC 2009). An updated subsidence assessment for the Subject Area has been prepared (MSEC 2025). This revised assessment by MSEC has provided subsidence predictions for 19 Aboriginal cultural heritage sites and four LEP and SHR items.

7.1. Potential mine subsidence impacts Aboriginal Heritage

During and following the extraction of coal via longwall mining methods, overlying rock strata are subject to varying degrees of subsidence, tilt and strain (MSEC 2025 Revision A). At the surface, the ground subsides vertically and also moves horizontally towards the centre of the mined goaf area. These movements can cause slumping of soils or poorly consolidated landform elements such as talus slopes and cracking of rigid areas such as sandstone platforms, ledges and cliffs. These ground surface changes can potentially impact on Aboriginal cultural heritage sites.

Subsidence impact predictions on Aboriginal sites located within the study area are detailed in the Subsidence Assessment (MSEC 2025 Revision A). There are 19 Aboriginal cultural heritage sites identified within the Subject Area that comprises of the 35° angle of draw and the 600 m boundary. Three of these sites are located above the proposed Longwalls 712 through to 716 (AHIMS ID#52-2-3194, AHIMS ID# 52-2-3231 and AHIMS ID#52-2-3232. Table 13 below outlines the revised subsidence predictions as presented in MSEC 2025:82).

Table 13: Revised subsidence predictions for the Aboriginal cultural heritage sites within the Subject Area

AHIMS ID #	Maximum predicted total vertical subsidence (mm)	Maximum predicted total tilt (mm/m)	Maximum predicted total hogging curvature (km^{-1})	Maximum predicted total sagging curvature (km^{-1})
52-2-3053	180	1.5	0.02	<0.01
52-2-3054	30	<0.5	<0.01	<0.01
52-2-3056	180	1.5	0.02	<0.01
52-2-3190	<20	<0.5	<0.01	<0.01
52-2-3191	<20	<0.5	<0.01	<0.01
52-2-3192	180	1.5	0.02	<0.01

AHIMS ID #	Maximum predicted total vertical subsidence (mm)	Maximum predicted total tilt (mm/m)	Maximum predicted total hogging curvature (km^{-1})	Maximum predicted total sagging curvature (km^{-1})
52-2-3193	200	2.0	0.02	<0.01
52-2-3194	525	4.5	0.04	0.03
52-2-3224	<20	<0.5	<0.01	<0.01
52-2-3228	<20	<0.5	<0.01	<0.01
52-2-3229	30	<0.5	<0.01	<0.01
52-2-3230	100	<0.5	<0.01	<0.01
52-2-3231	1250	5.0	0.02	0.09
52-2-3232	1300	3.5	0.02	0.11
52-2-3687	<20	<0.5	<0.01	<0.01
52-2-4226	225	2.0	0.02	<0.01
52-2-4227	450	3.5	0.03	<0.01
52-2-4507	60	<0.5	<0.01	<0.01
52-2-4508	50	<0.5	<0.01	<0.01

The Aboriginal cultural heritage sites within the Subject Area comprise of Isolated Finds (n=10), Open Camp Sites (n=8) and one Potential Archaeological Deposit (PAD). MSEC 2025:83 notes that:

Surface cracking will develop above the mining area and adjacent to the mining area. The maximum crack widths on the steep slopes are expected to be typically between 25 mm and 50 mm; however, larger crack widths can develop in isolated locations. The crack widths in relatively flat terrain are expected to be typically less than 25 mm. Minor and isolated fracturing can also occur along the streams at distances up to approximately 400 m outside the mining area.

It is unlikely that the artefacts and deposits themselves would be impacted by surface cracking. It is possible; however, that if remediation of the surface were required after mining, these works could potentially impact the Aboriginal cultural Heritage sites.

7.2. Unidentified Aboriginal heritage

While not all of the Subject Area has been surveyed due to land access restrictions, rock shelter and other sandstone shelter sites susceptible to mine subsidence impacts are likely to be only present within landforms where Hawkesbury Sandstone is present. MSEC (2025) subsidence predictions for Hawkesbury Sandstone cliffs and rock outcrop areas are extremely low and the risk of impact to unidentified Aboriginal heritage in these areas is considered to be negligible. Aboriginal land use is documented in the Subject Area through the previously AHIMS registered sites as highlighted in Section 2 of this assessment.

7.3. Potential mine subsidence impacts LEP and SHR Heritage items

As highlighted in Section 2 of this assessment there are four LEP and SHR Heritage items within the current Subject Area. Table 14 below outlines the location of each of the registered items within the Subject Area.

Table 14: Heritage items identified within the Subject Area

Item Name	Location in relation to the proposed longwalls
Slab Hut	Directly above Longwall 714 to 716
Mt Hercules homestead ruins	Outside the proposed mining area, adjacent to the western end of longwall 716
Dairy No. 9 (EMAI Cottage 24)	Outside the mining area, at a minimum distance of 190 m north of the eastern end of Longwall 716.
Camden Park Estate and Belgenny Farm	Outside the mining area, at a minimum distance of 800 m north- east of longwall 716.

The Slab Hut is located on property reference F 57 and the predictions outlined below in Table 15 are based on the maximum values for all mapped structures on the property. MSEC 2025 Revision A:82 makes the following predictions in relation to subsidence impacts for this item:

It is most likely that the Slab Hut will remain safe and serviceable during and after mining directly beneath it. Cracking and movements may occur in the structure including the lightweight wall cladding. Repairs on the mining-induced damage should consider the heritage aspects of the structure.

Mt Hercules homestead ruins are located just outside the mining area; however the property boundary is adjacent to the northern side of Longwall 716. MSEC 2025 Revision A: 82 notes the following in relation to the homestead and subsidence impacts:

The low-level predicted subsidence effects are unlikely to adversely impact the ruins themselves consisting of brick and rubble, roofing iron and other remains on the ground.

The remaining two sites Dairy No. 9 (EMAI Cottage 24) and Camden Park Estate and Belgenny Farm are located well outside the proposed mining area and have very low-level predicted subsidence effect (MSEC 2025 Revision A: 82)

Table 15: Maximum predicted total vertical subsidence, tilt and curvatures for the Historical heritage Sites

Item Name	Maximum predicted total vertical subsidence (mm)	Maximum predicted total tilt (mm/m)	Maximum predicted total hogging curvature (km^{-1})	Maximum predicted total sagging curvature (km^{-1})
Slab Hut	1300	4.5	0.06	0.12

Item Name	Maximum predicted total vertical subsidence (mm)	Maximum predicted total tilt (mm/m)	Maximum predicted total hogging curvature (km^{-1})	Maximum predicted total sagging curvature (km^{-1})
Mt Hercules homestead ruins	90	1.0	0.01	<0.01
Dairy No. 9 (EMAI Cottage 24)	30	<0.5	<0.01	<0.01
Camden Park Estate and Belgenny Farm	<20	<0.5	<0.01	<0.01

8. Management and mitigation measures

The following management options and mitigation measures for heritage sites that may be impacted due to mining subsidence have been made to inform the Heritage Management Plan.

8.1. Aboriginal objects

Draft Recommendations
Consultation with the Aboriginal community should continue to occur for the life of the Bulli Seam Operations Project.
Nineteen Aboriginal cultural heritage sites have been identified within the Longwall 712 to 716 Subject Area and are considered to have a negligible risk of impact resulting from the extraction of the proposed longwalls. These sites should be included in the Heritage Management Plan for the Project though no further assessment or monitoring is recommended for these sites.
Whilst there was limited access to the Longwall 712 to 716 Subject Area for additional survey it is rock shelters and sandstone platforms that are most susceptible to subsidence impacts. Within the region these Aboriginal cultural heritage site types occur where Hawkesbury Sandstone is present, this sandstone formation is very limited within the Subject Area, so additional Aboriginal Cultural Heritage sites are unlikely to be present within the unsurveyed portions of the Subject Area.

8.2. Non-Aboriginal heritage items

Recommendations
A Statement of Heritage Impact (SoHI) should be completed for all of the heritage items that will be predicted to have potential impacts relating to longwall extraction, including: • Slab Hut and; • Mt Hercules Homestead Ruins This SoHI's recommendations should be included in the Heritage Management Plan for the Project.
The Trigger Action Response Plan (TARPS) outline further details relating to potential impacts to Non-Aboriginal items through longwall extraction.

9. Trigger Action Response Plan (TARP)

During and Post Mining	Trigger	Action	Response
Non-Aboriginal Heritage	***Negligible*** • Cracks or warping of external exterior cladding. • Cracks or movement < 5 mm in width in any external or internal wall claddings, linings, or finish. • Isolated cracked, loose, or drummy floor or wall tiles.	• Inform Subsidence Advisory NSW (SA) of impacts. • Notify relevant specialists. • Monitor the minor effects to observe any further changes. • Implement repairs by filling, patching or painting without the removal or replacement of any external weatherboards, claddings or linings.	• Continue monitoring in consultation with property owners.
	Minor • Continuous cracking or warping of exterior cladding. • Slippage along the damp proof course of 5 to 15 mm anywhere in the total external façade. • Loss of bearing to isolated walls, piers, columns, or other load-bearing elements. • Loss of stability of isolated structural elements.	• Inform SA of impacts. • Notify relevant specialists. • Monitor to observe any further changes. • Implement repairs by removal or replacement of proportions of the building, for example weatherboards, or secure the stability of structural elements.	• Continue monitoring in consultation with property owners.
	Major	• Inform SA of impacts.	• Continue monitoring in consultation with property owners.

During and Post Mining	Trigger	Action	Response
	• Slippage along the damp proof course of 15 mm or greater anywhere in the total external façade. • Loss of stability of several structural elements.	• Notify relevant specialists. • Monitor to observe any further changes. • Implement repairs and replacement.	

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Appendix A AHIMS Searches

This section of the report to be redacted from the Public Exhibition copy of the report.

Appendix B: Aboriginal Community Consultation

(to be removed from Public exhibition)

Aboriginal Community Consultation Log

Please note that correspondence from groups who did not wish to have their details forwarded to Heritage NSW and the other RAP groups have been removed from this table.

Contact organisation	Person	Contacted by	Date	Method
Agency notification				
Native Title Services Corporation	Samantha Keats	Biosis	2/06/2021	Email
Office of the Registrar Aboriginal Land Rights Act 1983	Samantha Keats	Biosis	2/06/2021	Email
Heritage NSW	Samantha Keats	Biosis	2/06/2021	Email
Wollondilly Shire Council	Samantha Keats	Biosis	2/06/2021	Email
National Native Title Tribunal	Samantha Keats	Biosis	2/06/2021	Email
Agency repsonse				
Biosis		National Native Title Tribunal	16/06/2021	Email
Biosis	Laura Melrose	Native Title Services Corporation	9/06/2021	Email
Biosis	Rob Moran	Wollondilly Shire Council	16/06/2021	Email
Biosis	Barry Gunther	Heritage NSW	16/6/2012	Email
Invitation to register/remain registered				
A1 Indigenous Services	Samantha Keats	Biosis	19/06/2021	Email
Amanda Hickey Cultural Services	Samantha Keats	Biosis	19/06/2021	Email
Aragung Aboriginal Cultural Heritage Site Assessments	Samantha Keats	Biosis	19/06/2021	Email
Autny Fran Bodkin	Samantha Keats	Biosis	19/06/2021	Email
Barking Owl Aboriginal Corporation	Samantha Keats	Biosis	19/06/2021	Email
Barraby Cultural Services	Samantha Keats	Biosis	19/06/2021	Email

Contact organisation	Person	Contacted by	Date	Method
B.H. Heritage Consultants	Samantha Keats	Biosis	19/06/2021	Email
B.H. Heritage Consultants	Samantha Keats	Biosis	19/06/2021	Email
Black Cockatoos Aboriginal Corporation	Samantha Keats	Biosis	19/06/2021	Email
Butucarbin Aboriginal Corporation	Samantha Keats	Biosis	19/06/2021	Email
Corroboree Aboriginal Corporation	Samantha Keats	Biosis	19/06/2021	Email
Cubbitch Barta Native Title Claimants	Samantha Keats	Biosis	19/06/2021	Email and post
Darug Boorooberongal Elders Aboriginal Corporation	Samantha Keats	Biosis	19/06/2021	Email
Darug Land Observations	Samantha Keats	Biosis	19/06/2021	Email
D'harawal Mens Aboriginal Corporation	Samantha Keats	Biosis	19/06/2021	Post
Didge Ngunawal Clan	Samantha Keats	Biosis	19/06/2021	Email
Freeman & Marx Pty Ltd	Samantha Keats	Biosis	19/06/2021	Email
Galamaay Cultural Consultants	Samantha Keats	Biosis	19/06/2021	Email
Garrara Aboriginal Corporation	Samantha Keats	Biosis	19/06/2021	Email
Gawaian Bodkin-Andrews	Samantha Keats	Biosis	19/06/2021	Email
Gilay Consultants	Samantha Keats	Biosis	19/06/2021	Email
Ginniderra Aboriginal Corporation	Samantha Keats	Biosis	19/06/2021	Email
Goodradigbee Cultural & Heritage Aboriginal Corporation	Samantha Keats	Biosis	19/06/2021	Email

Contact organisation	Person	Contacted by	Date	Method
Gundungurra Elder	Samantha Keats	Biosis	19/06/2021	Email
Gundungurra Peoples	Samantha Keats	Biosis	19/06/2021	Email
Guntawang Aboriginal Resources Incorporated	Samantha Keats	Biosis	19/06/2021	Email
Gunjeewong Cultural Heritage Corporation	Samantha Keats	Biosis	19/06/2021	Email
Kamilaroi Yankuntjatjara Working Group	Samantha Keats	Biosis	19/06/2021	Email
Koolkuna Elders	Samantha Keats	Biosis	19/06/2021	Post
Mura Indigenous Corporation	Samantha Keats	Biosis	19/06/2021	Email
Murra Bidgee Mullangari Aboriginal Corporation	Samantha Keats	Biosis	19/06/2021	Email
Ngambaa Cultural Connections	Samantha Keats	Biosis	19/06/2021	Email
Ngunawal Heritage Aboriginal Corporation	Samantha Keats	Biosis	19/06/2021	Email
South Coast Peoples	Samantha Keats	Biosis	19/06/2021	Email
South Coast Peoples	Samantha Keats	Biosis	19/06/2021	Email
Tharawal Aboriginal Land Council	Samantha Keats	Biosis	19/06/2021	Email
Thoorga Nura	Samantha Keats	Biosis	19/06/2021	Email
Waawaar Awaa	Samantha Keats	Biosis	19/06/2021	Email
Woka Aboriginal Corporation	Samantha Keats	Biosis	19/06/2021	Email
Wori Wooilywa	Samantha Keats	Biosis	19/06/2021	Email

Contact organisation	Person	Contacted by	Date	Method
Wurrumay Pty Ltd	Samantha Keats	Biosis	19/06/2021	Email
Yulay Cultural Services	Samantha Keats	Biosis	19/06/2021	Email
Yurrandaali	Samantha Keats	Biosis	19/06/2021	Email
Response to register/remain registered				
Biosis	Lilli Carroll	Didge Ngunawal Clan	19/06/2021	Email
Biosis	Kazan Brown	Gundungurra Elder	19/06/2021	Email
Biosis	Carolyn Hickey	A1 Indigenous Services	20/06/2021	Email
Biosis	Marilyn Carroll-Johnson	Corroboree Aboriginal Corporation	20/06/2021	Email
Biosis	Steve Johnson	Woka Aboriginal Corporation	20/06/2021	Email
Biosis	Ryan Johnson	Murra Bidgee Mullangari Aboriginal Corporation	21/06/2021	Email
Biosis	Dean Delponte	Ngunawal Heritage Aboriginal Corporation	21/06/2021	Email
Biosis	Wendy Morgan	Guntawang Aboriginal Resources Incorporated	21/06/2021	Email
Biosis	Clive Freeman	Freeman & Marx Pty Ltd	22/06/2021	Email
Biosis	Lee Field	Barraby Cultural Services	23/06/2021	Email
Biosis	Bo Field	Yurrandaali	23/06/2021	Email
Biosis	Carolyn Slater	Gilay Consultants	26/06/2021	Email
Biosis	Philip Khan	Kamilaroi Yankuntjatjara Working Group	29/06/2021	Email
Biosis	Vicky Slater	Wurrumay Pty Ltd	5/07/2021	Email

Contact organisation	Person	Contacted by	Date	Method
Biosis	Lowanna Gibson	Butucarbin Aboriginal Corporation	6/07/2021	Email
Letter report, HIA, HMPs				
A1 Indigenous Services	Samantha Keats	Biosis	14/07/2021	Email
Amanda Hickey Cultural Services	Samantha Keats	Biosis	14/07/2021	Email
Aragung Aboriginal Cultural Heritage Site Assessments	Samantha Keats	Biosis	14/07/2021	Email
Autny Fran Bodkin	Samantha Keats	Biosis	14/07/2021	Email
Barking Owl Aboriginal Corporation	Samantha Keats	Biosis	14/07/2021	Email
Barraby Cultural Services	Samantha Keats	Biosis	14/07/2021	Email
B.H. Heritage Consultants	Samantha Keats	Biosis	14/07/2021	Email
B.H. Heritage Consultants	Samantha Keats	Biosis	14/07/2021	Email
Black Cockatoos Aboriginal Corporation	Samantha Keats	Biosis	14/07/2021	Email
Butucarbin Aboriginal Corporation	Samantha Keats	Biosis	14/07/2021	Email
Corroboree Aboriginal Corporation	Samantha Keats	Biosis	14/07/2021	Email
Cubbitch Barta Native Title Claimants	Samantha Keats	Biosis	14/07/2021	Email and post
Darug Boorooberongal Elders Aboriginal Corporation	Samantha Keats	Biosis	14/07/2021	Email
Darug Land Observations	Samantha Keats	Biosis	14/07/2021	Email
D'harawal Mens Aboriginal Corporation	Samantha Keats	Biosis	14/07/2021	Post
Didge Ngunawal Clan	Samantha Keats	Biosis	14/07/2021	Email

Contact organisation	Person	Contacted by	Date	Method
Freeman & Marx Pty Ltd	Samantha Keats	Biosis	14/07/2021	Email
Galamaay Cultural Consultants	Samantha Keats	Biosis	14/07/2021	Email
Garrara Aboriginal Corporation	Samantha Keats	Biosis	14/07/2021	Email
Gawaian Bodkin-Andrews	Samantha Keats	Biosis	14/07/2021	Email
Gilay Consultants	Samantha Keats	Biosis	14/07/2021	Email
Ginniderra Aboriginal Corporation	Samantha Keats	Biosis	14/07/2021	Email
Goodradigbee Cultural & Heritage Aboriginal Corporation	Samantha Keats	Biosis	14/07/2021	Email
Gundungurra Elder	Samantha Keats	Biosis	14/07/2021	Email
Gundungurra Peoples	Samantha Keats	Biosis	14/07/2021	Email
Guntawang Aboriginal Resources Incorporated	Samantha Keats	Biosis	14/07/2021	Email
Gunjeewong Cultural Heritage Corporation	Samantha Keats	Biosis	14/07/2021	Email
Kamilaroi Yankuntjatjara Working Group	Samantha Keats	Biosis	14/07/2021	Email
Koolkuna Elders	Samantha Keats	Biosis	14/07/2021	Post
Mura Indigenous Corporation	Samantha Keats	Biosis	14/07/2021	Email
Murra Bidgee Mullangari Aboriginal Corporation	Samantha Keats	Biosis	14/07/2021	Email
Ngambaa Cultural Connections	Samantha Keats	Biosis	14/07/2021	Email
Ngunawal Heritage Aboriginal Corporation	Samantha Keats	Biosis	14/07/2021	Email

Contact organisation	Person	Contacted by	Date	Method
South Coast Peoples	Samantha Keats	Biosis	14/07/2021	Email
South Coast Peoples	Samantha Keats	Biosis	14/07/2021	Email
Tharawal Aboriginal Land Council	Samantha Keats	Biosis	14/07/2021	Email
Thoorga Nura	Samantha Keats	Biosis	14/07/2021	Email
Waawaar Awaa	Samantha Keats	Biosis	14/07/2021	Email
Woka Aboriginal Corporation	Samantha Keats	Biosis	14/07/2021	Email
Wori Wooilywa	Samantha Keats	Biosis	14/07/2021	Email
Wurrumay Pty Ltd	Samantha Keats	Biosis	14/07/2021	Email
Yulay Cultural Services	Samantha Keats	Biosis	14/07/2021	Email
Yurrandaali	Samantha Keats	Biosis	14/07/2021	Email
Letter report, HIA, HMPs response				
Biosis	Wendy Morgan	Guntawang Aboriginal Resources Incorporated	19/07/2021	Email
Biosis	Wendy Morgan	Guntawang Aboriginal Resources Incorporated	19/07/2021	Email
Biosis	John Carriage	Thoorga Nura	30/07/2021	Email
Biosis	Philip Khan	Kamilaroi Yankuntjatjara Working Group	14/07/2021	Email
Agency Notification- Regal Heritage				
Native Title Services Corporation	Renee Regal	Regal Heritage	1/11/2024	Email
Office of the Registrar Aboriginal Land Rights Act 1983	Renee Regal	Regal Heritage	1/11/2024	Email
Heritage NSW	Renee Regal	Regal Heritage	1/11/2024	Email

Contact organisation	Person	Contacted by	Date	Method
Wollondilly Shire Council	Renee Regal	Regal Heritage	1/11/2024	Email
National Native Title Tribunal	Renee Regal	Regal Heritage	1/11/2024	Email
Agency repsonse				
Regal Heritage	Rachel Rewiri	Aboriginal Land Rights	4/11/2025	Email
Regal Heritage	Barry Gunther	Heritage NSW	11/11/2024	Email
Regal Heritage	Zoe Robertson	NTS Corp/ South Coast Peoples Native Title Claimants	4/12/2024	Email
Regal Heritage	Stephen Gardiner	Wollondilly Shire Council	16/12/2024	Email
Invitation to register/remain registered				
A1 Indigenous Services	Renee Regal	Regal Heritage	14/11/2024	Email
Amanda Hickey Cultural Services	Renee Regal	Regal Heritage	14/11/2024	Email
Aragung Aboriginal Cultural Heritage Site Assessments	Renee Regal	Regal Heritage	14/11/2024	Email
Autny Fran Bodkin	Renee Regal	Regal Heritage	14/11/2024	Email
Bariyan Cultural Connections	Renee Regal	Regal Heritage	14/11/2024	Email
Barking Owl Aboriginal Corporation	Renee Regal	Regal Heritage	14/11/2024	Email
Barraby Cultural Services	Renee Regal	Regal Heritage	14/11/2024	Email
B.H. Heritage Consultants	Renee Regal	Regal Heritage	14/11/2024	Email
B.H. Heritage Consultants	Renee Regal	Regal Heritage	14/11/2024	Email
Bidjawong Aboriginal Corporation	Renee Regal	Regal Heritage	14/11/2024	Email
Black Cockatoos Aboriginal Corporation	Renee Regal	Regal Heritage	14/11/2024	Email
Butucarbin Aboriginal Corporation	Renee Regal	Regal Heritage	14/11/2024	Email
Corroboree Aboriginal Corporation	Renee Regal	Regal Heritage	14/11/2024	Email
Cubbitch Barta Native Title Claimants	Renee Regal	Regal Heritage	14/11/2024	Email
Dharramalin	Renee Regal	Regal Heritage	14/11/2024	Email
Darug Aboriginal Resource Centre	Renee Regal	Regal Heritage	14/11/2024	Email
Darug Boorooberongal Elders Aboriginal Corporation	Renee Regal	Regal Heritage	14/11/2024	Email
Darug Land Observations	Renee Regal	Regal Heritage	14/11/2024	Email
Debbie Moon	Renee Regal	Regal Heritage	14/11/2024	Email

Contact organisation	Person	Contacted by	Date	Method
D'harawal Mens Aboriginal Corporation	Renee Regal	Regal Heritage	14/11/2024	Email
Didge Ngunawal Clan	Renee Regal	Regal Heritage	14/11/2024	Email
Freeman & Marx Pty Ltd	Renee Regal	Regal Heritage	14/11/2024	Email
Gadu chts	Renee Regal	Regal Heritage	14/11/2024	Email
Gadhungai Marring	Renee Regal	Regal Heritage	14/11/2024	Email
Galamaay Cultural Consultants	Renee Regal	Regal Heritage	14/11/2024	Email
Gali Heritage Consultants	Renee Regal	Regal Heritage	14/11/2024	Email
Garrara Aboriginal Corporation	Renee Regal	Regal Heritage	14/11/2024	Email
Gawaian Bodkin-Andrews	Renee Regal	Regal Heritage	14/11/2024	Email
Gilay Consultants	Renee Regal	Regal Heritage	14/11/2024	Email
Ginniderra Aboriginal Corporation	Renee Regal	Regal Heritage	14/11/2024	Email
Goodradigbee Cultural & Heritage Aboriginal Corporation	Renee Regal	Regal Heritage	14/11/2024	Email
Gundungurra Elder	Renee Regal	Regal Heritage	14/11/2024	Email
Gundungurra Peoples	Renee Regal	Regal Heritage	14/11/2024	Email
Guntawang Aboriginal Resources Incorporated	Renee Regal	Regal Heritage	14/11/2024	Email
Gunjeewong Cultural Heritage Corporation	Renee Regal	Regal Heritage	14/11/2024	Email
James Davis	Renee Regal	Regal Heritage	14/11/2024	Email
Kamilaroi Yankuntjatjara Working Group	Renee Regal	Regal Heritage	14/11/2024	Email
Koolkuna Elders	Renee Regal	Regal Heritage	14/11/2024	Email
Long Gully Cultural Services	Renee Regal	Regal Heritage	14/11/2024	Email
Matthew Dingle	Renee Regal	Regal Heritage	14/11/2024	Email
Mundawari Heritage Consultants	Renee Regal	Regal Heritage	14/11/2024	Email
Mura Indigenous Corporation	Renee Regal	Regal Heritage	14/11/2024	Email
Murra Bidgee Mullangari Aboriginal Corporation	Renee Regal	Regal Heritage	14/11/2024	Email
Nattai Aboriginal Cultural and Heritage Consultation Services	Renee Regal	Regal Heritage	14/11/2024	Email

Contact organisation	Person	Contacted by	Date	Method
Ngambaa Cultural Connections	Renee Regal	Regal Heritage	14/11/2024	Email
Ngunawal Heritage Aboriginal Corporation	Renee Regal	Regal Heritage	14/11/2024	Email
On Country Living	Renee Regal	Regal Heritage	14/11/2024	Email
RAW Cultural Healing	Renee Regal	Regal Heritage	14/11/2024	Email
South Coast Peoples	Renee Regal	Regal Heritage	14/11/2024	Email
Southern Native	Renee Regal	Regal Heritage	14/11/2024	Email
Teena Riley	Renee Regal	Regal Heritage	14/11/2024	Email
Tharawal Aboriginal Land Council	Renee Regal	Regal Heritage	14/11/2024	Email
Thawun Aboriginal Consultancy	Renee Regal	Regal Heritage	14/11/2024	Email
Thoorga Nura	Renee Regal	Regal Heritage	14/11/2024	Email
Thomas Dahlstrom	Renee Regal	Regal Heritage	14/11/2024	Email
Timothy Stubbs	Renee Regal	Regal Heritage	14/11/2024	Email
Turtle Dreaming	Renee Regal	Regal Heritage	14/11/2024	Email
Waawaar Awaa	Renee Regal	Regal Heritage	14/11/2024	Email
Wallanbah Aboriginal Site Conveyancy	Renee Regal	Regal Heritage	14/11/2024	Email
Wallangang Aboriginal Corporation	Renee Regal	Regal Heritage	14/11/2024	Email
Woka Aboriginal Corporation	Renee Regal	Regal Heritage	14/11/2024	Email
Wori Wooilywa	Renee Regal	Regal Heritage	14/11/2024	Email
Wurrumay Pty Ltd	Renee Regal	Regal Heritage	14/11/2024	Email
Yulay Cultural Services	Renee Regal	Regal Heritage	14/11/2024	Email
Yurrandaali	Renee Regal	Regal Heritage	14/11/2024	Email
Response to register/remain registered				
Regal Heritage	Carolyn Hickey	A1 Indigenous		Previously registered and remained on the list as did not hear back.

Contact organisation	Person	Contacted by	Date	Method
Regal Heritage	Amanda Hickey	Amanda Hickey Cultural Services		Previously registered and remained on the list as did not hear back.
Regal Heritage	Jamie Eastwood	Aragung Aboriginal Cultural Heritage Site Assessments		Previously registered and remained on the list as did not hear back.
Regal Heritage	Jody Kulakowski	Barking Owl Aboriginal Corporation		Previously registered and remained on the list as did not hear back.
Regal Heritage	Lee Field	Barraby Cultural Services		Previously registered and remained on the list as did not hear back.
Regal Heritage	Jennifer Beale	Butucarbin Aboriginal Corporation		Previously registered and remained on the list as did not hear back.
Regal Heritage	Glenda Chalker	Cubbitch Barta Native Title Claimants	16/12/2024	Email
Regal Heritage	Lillie Carroll	Didge Ngunawal Clan	14/12/2024	Email
Regal Heritage	Clive Freeman	Freeman & Marx Pty Ltd		Previously registered and remained on the list as did not hear back.
Regal Heritage	Steven Johnson	Ginniderra Aboriginal Corporation		Previously registered and remained on the list as did not hear back.

Contact organisation	Person	Contacted by	Date	Method
Regal Heritage	Wendy Morgan	Guntawang Aboriginal Resources Incorporated	19/11/2024	Email
Regal Heritage	Phil Khan	Kamilaroi Yankuntjatjara Working Group		Previously registered and remained on the list as did not hear back.
Regal Heritage	Kaarina Slater	Ngambaa Cultural Connections		Previously registered and remained on the list as did not hear back.
Regal Heritage	NTS Corp	South Coast Peoples	4/12/2024	Email-Deregistered
Regal Heritage	Rebecca Jarvis	Tharawal Aboriginal Land Council		Previously registered and remained on the list as did not hear back.
Regal Heritage	Rodney Gunther	Waawaar Awaa		Previously registered and remained on the list as did not hear back.
Regal Heritage	Daniel Chalker	Wori Wooilywa		Previously registered and remained on the list as did not hear back.
Regal Heritage	Vicky Slater	Wurrumay Pty Ltd		Previously registered and remained on the list as did not hear back.
Regal Heritage	Arika Jalomaki	Yulay Cultural Services		Previously registered and remained on the list as did not hear back.

Contact organisation	Person	Contacted by	Date	Method
Regal Heritage	Bo Field	Yurrandaali		Previously registered and remained on the list as did not hear back.
Regal Heritage	Jamie Workman	Darug Land Observations		Previously registered and remained on the list as did not hear back.
Regal Heritage	Elwyn Brown	D'harawal Mens Aboriginal Corporation		Previously registered and remained on the list as did not hear back.
Regal Heritage	Raymond Ingrey	Garrara Aboriginal Corporation		Previously registered and remained on the list as did not hear back.
Regal Heritage	John Carriage	Thoorga Nura		Previously registered and remained on the list as did not hear back.
Regal Heritage	Paul Hand	Darug Boorooberongal Elders Aboriginal Corporation		Previously registered and remained on the list as did not hear back.
Regal Heritage	Ralph Hampton	B.H. Heritage Consultants		Previously registered and remained on the list as did not hear back.
Regal Heritage	Nola Hampton	B.H. Heritage Consultants		Previously registered and remained on

Contact organisation	Person	Contacted by	Date	Method
				the list as did not hear back.
Regal Heritage	Caine Carroll	Goodradigbee Cultural & Heritage Aboriginal Corporation		Previously registered and remained on the list as did not hear back.
Regal Heritage	Phillip Carroll	Mura Indigenous Corporation		Previously registered and remained on the list as did not hear back.
Regal Heritage	Robert Slater	Galamaay Cultural Consultants		Previously registered and remained on the list as did not hear back.
Regal Heritage	Darleen Johnson	Murra Bidgee Mullangari Aboriginal Corporation		Previously registered and remained on the list as did not hear back.
Regal Heritage	James Davis	James Davis		Previously registered and remained on the list as did not hear back.
Regal Heritage	Carol Slater	Gilay Consultants		Previously registered and remained on the list as did not hear back.
Regal Heritage	Dean Delponte	Ngunawal Heritage Aboriginal Corporation	15/12/2024	Email
Draft HIA sent for review				
A1 Indigenous	Renee Regal	Regal Heritage	3/07/2025	Email
Amanda Hickey Cultural Services	Renee Regal	Regal Heritage	3/07/2025	Email

Contact organisation	Person	Contacted by	Date	Method
Aragung Aboriginal Cultural Heritage Site Assessments	Renee Regal	Regal Heritage	3/07/2025	Email
Barking Owl Aboriginal Corporation	Renee Regal	Regal Heritage	3/07/2025	Email
Barraby Cultural Services	Renee Regal	Regal Heritage	3/07/2025	Email
Butucarbin Aboriginal Corporation	Renee Regal	Regal Heritage	3/07/2025	Email
Cubbitch Barta Native Title Claimants	Renee Regal	Regal Heritage	3/07/2025	Email
Didge Ngunawal Clan	Renee Regal	Regal Heritage	3/07/2025	Email
Freeman & Marx Pty Ltd	Renee Regal	Regal Heritage	3/07/2025	Email
Ginniderra Aboriginal Corporation	Renee Regal	Regal Heritage	3/07/2025	Email
Guntawang Aboriginal Resources Incorporated	Renee Regal	Regal Heritage	3/07/2025	Email
Kamilaroi Yankuntjatjara Working Group	Renee Regal	Regal Heritage	3/07/2025	Email
Ngambaa Cultural Connections	Renee Regal	Regal Heritage	3/07/2025	Email
South Coast Peoples	Renee Regal	Regal Heritage	3/07/2025	Email
Tharawal Aboriginal Land Council	Renee Regal	Regal Heritage	3/07/2025	Email
Waawaar Awaa	Renee Regal	Regal Heritage	3/07/2025	Email
Wori Wooilywa	Renee Regal	Regal Heritage	3/07/2025	Email
Wurrumay Pty Ltd	Renee Regal	Regal Heritage	3/07/2025	Email
Yulay Cultural Services	Renee Regal	Regal Heritage	3/07/2025	Email
Yurrandaali	Renee Regal	Regal Heritage	3/07/2025	Email
Darug Land Observations	Renee Regal	Regal Heritage	3/07/2025	Email
D'harawal Mens Aboriginal Corporation	Renee Regal	Regal Heritage	3/07/2025	Email
Garrara Aboriginal Corporation	Renee Regal	Regal Heritage	3/07/2025	Email
Thoorga Nura	Renee Regal	Regal Heritage	3/07/2025	Email
Darug Boorooberongal Elders Aboriginal Corporation	Renee Regal	Regal Heritage	3/07/2025	Email
B.H. Heritage Consultants	Renee Regal	Regal Heritage	3/07/2025	Email
B.H. Heritage Consultants	Renee Regal	Regal Heritage	3/07/2025	Email
Goodradigbee Cultural & Heritage Aboriginal Corporation	Renee Regal	Regal Heritage	3/07/2025	Email
Mura Indigenous Corporation	Renee Regal	Regal Heritage	3/07/2025	Email

Contact organisation	Person	Contacted by	Date	Method
Galamaay Cultural Consultants	Renee Regal	Regal Heritage	3/07/2025	Email
Murra Bidgee Mullangari Aboriginal Corporation	Renee Regal	Regal Heritage	3/07/2025	Email
James Davis	Renee Regal	Regal Heritage	3/07/2025	Email
Gilay Consultants	Renee Regal	Regal Heritage	3/07/2025	Email
Mundawari Heritage Consultants	Renee Regal	Regal Heritage	3/07/2025	Email
HIA response				
Regal Heritage	Dean Delponte	Mundawari Heritage Consultants	12/07/2025	Email
Regal Heritage	Darleen Johnson	Murrabidgee	22/07/2025	Email
Regal Heritage	Phil Khan	Kamilaroi Yankuntjatjara Working Group	29/07/2025	Email
Draft HMP sent for review				
A1 Indigenous	Renee Regal	Regal Heritage	13/01/2025	Email
Amanda Hickey Cultural Services	Renee Regal	Regal Heritage	13/01/2025	Email
Aragung Aboriginal Cultural Heritage Site Assessments	Renee Regal	Regal Heritage	13/01/2025	Email
Barking Owl Aboriginal Corporation	Renee Regal	Regal Heritage	13/01/2025	Email
Barraby Cultural Services	Renee Regal	Regal Heritage	13/01/2025	Email
Butucarbin Aboriginal Corporation	Renee Regal	Regal Heritage	13/01/2025	Email
Cubbitch Barta Native Title Claimants	Renee Regal	Regal Heritage	13/01/2025	Email
Didge Ngunawal Clan	Renee Regal	Regal Heritage	13/01/2025	Email
Freeman & Marx Pty Ltd	Renee Regal	Regal Heritage	13/01/2025	Email
Ginniderra Aboriginal Corporation	Renee Regal	Regal Heritage	13/01/2025	Email
Guntawang Aboriginal Resources Incorporated	Renee Regal	Regal Heritage	13/01/2025	Email
Kamilaroi Yankuntjatjara Working Group	Renee Regal	Regal Heritage	13/01/2025	Email
Ngambaa Cultural Connections	Renee Regal	Regal Heritage	13/01/2025	Email
South Coast Peoples	Renee Regal	Regal Heritage	13/01/2025	Email
Tharawal Aboriginal Land Council	Renee Regal	Regal Heritage	13/01/2025	Email
Waawaar Awaa	Renee Regal	Regal Heritage	13/01/2025	Email
Wori Wooilywa	Renee Regal	Regal Heritage	13/01/2025	Email

Contact organisation	Person	Contacted by	Date	Method
Wurrumay Pty Ltd	Renee Regal	Regal Heritage	13/01/2025	Email
Yulay Cultural Services	Renee Regal	Regal Heritage	13/01/2025	Email
Yurrandaali	Renee Regal	Regal Heritage	13/01/2025	Email
Darug Land Observations	Renee Regal	Regal Heritage	13/01/2025	Email
D'harawal Mens Aboriginal Corporation	Renee Regal	Regal Heritage	13/01/2025	Email
Garrara Aboriginal Corporation	Renee Regal	Regal Heritage	13/01/2025	Email
Thoorga Nura	Renee Regal	Regal Heritage	13/01/2025	Email
Darug Boorooberongal Elders Aboriginal Corporation	Renee Regal	Regal Heritage	13/01/2025	Email
B.H. Heritage Consultants	Renee Regal	Regal Heritage	13/01/2025	Email
B.H. Heritage Consultants	Renee Regal	Regal Heritage	13/01/2025	Email
Goodradigbee Cultural & Heritage Aboriginal Corporation	Renee Regal	Regal Heritage	13/01/2025	Email
Mura Indigenous Corporation	Renee Regal	Regal Heritage	13/01/2025	Email
Galamaay Cultural Consultants	Renee Regal	Regal Heritage	13/01/2025	Email
Murra Bidgee Mullangari Aboriginal Corporation	Renee Regal	Regal Heritage	13/01/2025	Email
James Davis	Renee Regal	Regal Heritage	13/01/2025	Email
Gilay Consultants	Renee Regal	Regal Heritage	13/01/2025	Email
Mundawari Heritage Consultants	Renee Regal	Regal Heritage	13/01/2025	Email
HIA response				
Regal Heritage	Amanda Hickey	Amanda Hickey Cultural Services	13/01/2025	Email
Regal Heritage	John Carriage	Thoorga Nura	13/01/2025	Email
Regal Heritage	Wendy Morgan	Guntawang Aboriginal Resources Incorporated	13/01/2025	Email

Agency Notification Letter

Regal Heritage Pty Ltd
0400 594 580
www.regalheritage.com.au
ABN 47 656 442 698

1 November 2024

Office of the Registrar Aboriginal Land Rights Act 1983
PO Box 5068
Parramatta NSW 2124

Via Email: adminofficer@oralra.nsw.gov.au

To whom it may concern,

Re: Bulli Seam Review of Aboriginal Stakeholders (Project reference number: 1179)

Regal Heritage Pty Ltd (Regal Heritage) has been commissioned by Illawarra Coal Holdings Pty Ltd (ICHPL) trading as GM³ (formerly South32 Illawarra Metallurgical Coal) to undertake a Heritage Impact Assessment (HIA) for Aboriginal and non-Aboriginal heritage at Appin Area 7 Longwalls 712 through to 716 located at Appin, New South Wales (NSW). The Appin Colliery is comprised of a number of mining areas: 5, 7, 8, and 9. These areas, along with the West Cliff mining areas, are collectively known as the Bulli Seam Operation (BSO).

GM³ are seeking approval of an Extraction Plan (EP) for Longwalls 712 to 716 and require Aboriginal and non-Aboriginal assessments to support the application. Ongoing consultation with stakeholders for Aboriginal and non-Aboriginal heritage is a requirement of the project approval and the Appin Mine Heritage Management Plan (2021). In accordance with these requirements the stakeholder list is to be reviewed and revised for each EP in order to ensure that stakeholders remain current, which includes the following:

- Notification to all current stakeholders of the intent to undertake the review.
- Enquiries made to the following services to identify new stakeholders that should be contacted:
  - The Registrar, *Aboriginal Land Rights Act 1983* for an updated list of Aboriginal owners relevant to the Subject Area.
  - The National Native Title Tribunal (NNTT) for a list of registered Native Title Claimants, Native Title Holders and registered Indigenous Land Use Agreements (ILUAs),and;
  - Native Title Services Corporation Limited (NTS Corp).
  - Enquiries made to Heritage NSW, Department of Premier and Cabinet (Heritage NSW) and Councils to identify and update local historical and Aboriginal organisations with interests in the Subject Area.

Any new organisations identified through enquires are to be contacted and given a 14-day period to register their interest in being consulted.

Regal Heritage is assisting GM³ with consultation with the Aboriginal community as part of the EP. Consultation with the Aboriginal community will be undertaken in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010), here on referred to as the 'consultation requirements.'

The purpose of ongoing consultation with stakeholders is to review the current Registered Aboriginal Parties (RAPs) and historical organisations for the BSO in order to identify and remove either unresponsive or inactive parties, include new organisations that have been identified and indicated that they wish to be involved in consultation, and update contact details for all stakeholders on the list. This consultation review will determine

Regal Heritage Pty Ltd
0400 594 580
www.regalheritage.com.au
ABN 47 656 442 698

if the current stakeholders are interested in continuing their registration or if they know of any interested parties that would like to register. In accordance with section 4.1.3 (a) of the consultation requirements, please note that the relevant client contact for this project is:

Ms Linda Zanotto
Principal Mining Approvals
GM³
Phone: 0409 399 560
Email: linda.zanotto@gm-3.com.au

All correspondence regarding provision of names and contact details of Aboriginal and non-Aboriginal stakeholders who may have interest in the BSO project should be provided in writing by 5pm, 14 November 2024 to:

Ms Renée Regal
Regal Heritage Pty Ltd
PO Box W51
West Wollongong NSW 2500
Phone: 0400 594 580
Email: consultation@regalheritage.com.au

Kind regards,



Renée Regal
Director/ Heritage Consultant, Regal Heritage Pty Ltd

On behalf of GM³

Regal Heritage Pty Ltd
0400 594 580
www.regalheritage.com.au
ABN 47 656 442 698

1 November 2024

Heritage NSW
Locked Bag 5020
Parramatta NSW 2124

Via Email: heritagemailbox@environment.nsw.gov.au

To whom it may concern,

Re: Bulli Seam Review of Aboriginal Stakeholders (Project reference number: 1179)

Regal Heritage Pty Ltd (Regal Heritage) has been commissioned by Illawarra Coal Holdings Pty Ltd (ICHPL) trading as GM³ (formerly South32 Illawarra Metallurgical Coal) to undertake a Heritage Impact Assessment (HIA) for Aboriginal and non-Aboriginal heritage at Appin Area 7 Longwalls 712 through to 716 located at Appin, New South Wales (NSW). The Appin Colliery is comprised of a number of mining areas: 5, 7, 8, and 9. These areas, along with the West Cliff mining areas, are collectively known as the Bulli Seam Operation (BSO).

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parties that would like to register. In accordance with section 4.1.3 (a) of the consultation requirements, please note that the relevant client contact for this project is:

Ms Linda Zanotto
Principal Mining Approvals
GM^3
Phone: 0409 399 560
Email: linda.zanotto@gm-3.com.au

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Ms Renée Regal
Regal Heritage Pty Ltd
PO Box W51
West Wollongong NSW 2500
Phone: 0400 594 580
Email: consultation@regalheritage.com.au

Kind regards,



Renée Regal
Director/ Heritage Consultant, Regal Heritage Pty Ltd

On behalf of GM^3

Regal Heritage Pty Ltd
0400 594 580
www.regalheritage.com.au
ABN 47 656 442 698

1 November 2024

National Native Title Tribunal
GPO Box 9973
Sydney NSW 2001

Via Email: GeospatialSearch@NNTT.gov.au

To whom it may concern,

Re: Bulli Seam Review of Aboriginal Stakeholders (Project reference number: 1179)

Regal Heritage Pty Ltd (Regal Heritage) has been commissioned by Illawarra Coal Holdings Pty Ltd (ICHPL) trading as GM³ (formerly South32 Illawarra Metallurgical Coal) to undertake a Heritage Impact Assessment (HIA) for Aboriginal and non-Aboriginal heritage at Appin Area 7 Longwalls 712 through to 716 located at Appin, New South Wales (NSW). The Appin Colliery is comprised of a number of mining areas: 5, 7, 8, and 9. These areas, along with the West Cliff mining areas, are collectively known as the Bulli Seam Operation (BSO).

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0400 594 580
www.regalheritage.com.au
ABN 47 656 442 698

Ms Linda Zanotto
Principal Mining Approvals
GM³
Phone: 0409 399 560
Email: linda.zanotto@gm-3.com.au

All correspondence regarding provision of names and contact details of Aboriginal and non-Aboriginal stakeholders who may have interest in the BSO project should be provided in writing by 5pm, 14 November 2024 to:

Ms Renée Regal
Regal Heritage Pty Ltd
PO Box W51
West Wollongong NSW 2500
Phone: 0400 594 580
Email: consultation@regalheritage.com.au

Kind regards,



Renée Regal
Director/ Heritage Consultant, Regal Heritage Pty Ltd

On behalf of GM³

Regal Heritage Pty Ltd
0400 594 580
www.regalheritage.com.au
ABN 47 656 442 698

1 November 2024

Native Title Services Corporation
PO Box 2105
Strawberry Hills NSW 2012

Via Email: information@ntscorp.com.au

To whom it may concern,

Re: Bulli Seam Review of Aboriginal Stakeholders (Project reference number: 1179)

Regal Heritage Pty Ltd (Regal Heritage) has been commissioned by Illawarra Coal Holdings Pty Ltd (ICHPL) trading as GM³ (formerly South32 Illawarra Metallurgical Coal) to undertake a Heritage Impact Assessment (HIA) for Aboriginal and non-Aboriginal heritage at Appin Area 7 Longwalls 712 through to 716 located at Appin, New South Wales (NSW). The Appin Colliery is comprised of a number of mining areas: 5, 7, 8, and 9. These areas, along with the West Cliff mining areas, are collectively known as the Bulli Seam Operation (BSO).

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  - Native Title Services Corporation Limited (NTS Corp).
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if the current stakeholders are interested in continuing their registration or if they know of any interested parties that would like to register. In accordance with section 4.1.3 (a) of the consultation requirements, please note that the relevant client contact for this project is:

Ms Linda Zanotto
Principal Mining Approvals
GM³
Phone: 0409 399 560
Email: linda.zanotto@gm-3.com.au

All correspondence regarding provision of names and contact details of Aboriginal and non-Aboriginal stakeholders who may have interest in the BSO project should be provided in writing by 5pm, 14 November 2024 to:

Ms Renée Regal
Regal Heritage Pty Ltd
PO Box W51
West Wollongong NSW 2500
Phone: 0400 594 580
Email: consultation@regalheritage.com.au

Kind regards,



Renée Regal
Director/ Heritage Consultant, Regal Heritage Pty Ltd

On behalf of GM³

Regal Heritage Pty Ltd
0400 594 580
www.regalheritage.com.au
ABN 47 656 442 698

14 November 2024

Dear: Potential Stakeholder,

Re: Bulli Seam Review of Aboriginal Stakeholders (Project reference number: 1179)

Regal Heritage Pty Ltd (Regal Heritage) has been commissioned by Illawarra Coal Holdings Pty Ltd (ICHPL) trading as GM³ (formerly South32 Illawarra Metallurgical Coal) to undertake a Heritage Impact Assessment (HIA) for Aboriginal and non-Aboriginal heritage at Appin Area 7 Longwalls 712 through to 716 located at Appin, New South Wales (NSW). The Appin Colliery is comprised of a number of mining areas: 5, 7, 8, and 9. These areas, along with the West Cliff mining areas, are collectively known as the Bulli Seam Operation (BSO).

GM³ are seeking approval of an Extraction Plan (EP) for Longwalls 712 to 716 and require Aboriginal and non-Aboriginal assessments to support the application. Ongoing consultation with stakeholders for Aboriginal and non-Aboriginal heritage is a requirement of the project approval and the Appin Mine Heritage Management Plan (2021). In accordance with these requirements the stakeholder list is to be reviewed and revised for each EP in order to ensure that stakeholders remain current, which includes the following:

- Notification to all current stakeholders of the intent to undertake the review.
- Enquiries made to the following services to identify new stakeholders that should be contacted:
  - The Registrar, *Aboriginal Land Rights Act 1983* for an updated list of Aboriginal owners relevant to the Subject Area.
  - The National Native Title Tribunal (NNTT) for a list of registered Native Title Claimants, Native Title Holders and registered Indigenous Land Use Agreements (ILUAs).
  - Native Title Services Corporation Limited (NTS Corp) and;
  - Enquiries made to Heritage NSW, Department of Premier and Cabinet (Heritage NSW) and Councils to identify and update local historical and Aboriginal organisations with interests in the Subject Area.

Any new organisations identified through enquires are to be contacted and given a 14-day period to register their interest in being consulted.

Regal Heritage is assisting GM³ with consultation with the Aboriginal community as part of the EP. Consultation with the Aboriginal community will be undertaken in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010(, here on referred to as the 'consultation requirements.'

The purpose of ongoing consultation with stakeholders is to review the current Registered Aboriginal Parties (RAPs) and historical organisations for the BSO in order to identify and remove either unresponsive or inactive parties, include new organisations that have been identified and indicated that they wish to be involved in consultation, and update contact details for all stakeholders on the list. This consultation review will determine if the current stakeholders are interested in continuing their registration or if they know of any interested parties that would like to register. In accordance with section 4.1.3 (a) of the consultation requirements, please note that the relevant client contact for this project is:

Ms Linda Zanotto

Regal Heritage Pty Ltd
0400 594 580
www.regalheritage.com.au
ABN 47 656 442 698

Principal Mining Approvals
GM³
Phone: 0409 399 560
Email: linda.zanotto@gm-3.com.au

I am writing to request confirmation that you wish to remain on the list of current stakeholders for the proposed LW 712 to 716 EP consultation process. All correspondence regarding provision of names and contact details of Aboriginal and non-Aboriginal stakeholders who wish to remain as stakeholders in the BSO project should be provided in writing by 5pm, 28 November 2024 to:

Ms Renée Regal
Regal Heritage Pty Ltd
PO Box W51
West Wollongong NSW 2500
Phone: 0400 594 580
Email: consultation@regalheritage.com.au

Kind regards,



Renée Regal
Director/ Heritage Consultant, Regal Heritage Pty Ltd

On behalf of GM³

Regal Heritage Pty Ltd
0400 594 580
www.regalheritage.com.au
ABN 47 656 442 698

1 November 2024

Wollondilly Shire Council
PO Box 21
Picton NSW 2571

Via Email: council@wollondilly.nsw.gov.au

To whom it may concern,

Re: Bulli Seam Review of Aboriginal Stakeholders (Project reference number: 1179)

Regal Heritage Pty Ltd (Regal Heritage) has been commissioned by Illawarra Coal Holdings Pty Ltd (ICHPL) trading as GM³ (formerly South32 Illawarra Metallurgical Coal) to undertake a Heritage Impact Assessment (HIA) for Aboriginal and non-Aboriginal heritage at Appin Area 7 Longwalls 712 through to 716 located at Appin, New South Wales (NSW). The Appin Colliery is comprised of a number of mining areas: 5, 7, 8, and 9. These areas, along with the West Cliff mining areas, are collectively known as the Bulli Seam Operation (BSO).

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Any new organisations identified through enquires are to be contacted and given a 14-day period to register their interest in being consulted.

Regal Heritage is assisting GM³ with consultation with the Aboriginal community as part of the EP. Consultation with the Aboriginal community will be undertaken in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010), here on referred to as the 'consultation requirements.'

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parties that would like to register. In accordance with section 4.1.3 (a) of the consultation requirements, please note that the relevant client contact for this project is:

Ms Linda Zanotto
Principal Mining Approvals
GM^3
Phone: 0409 399 560
Email: linda.zanotto@gm-3.com.au

All correspondence regarding provision of names and contact details of Aboriginal and non-Aboriginal stakeholders who may have interest in the BSO project should be provided in writing by 5pm, 14 November 2024 to:

Ms Renée Regal
Regal Heritage Pty Ltd
PO Box W51
West Wollongong NSW 2500
Phone: 0400 594 580
Email: consultation@regalheritage.com.au

Kind regards,



Renée Regal
Director/ Heritage Consultant, Regal Heritage Pty Ltd

On behalf of GM^3

Agency Response

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

04 November 2024

By email: renee@regalheritage.com.au

Renee Regal
Regal Heritage Pty Ltd
PO Box W51
WEST WOLLONGONG NSW 2500

Dear Renee,

Request - Search for Registered Aboriginal Owners: Bulli Seam Review of Aboriginal Stakeholders (Project reference number: 1179)

We refer to your email dated 01 November 2024 seeking the identification of Aboriginal organisations and people who may have an interest in the proposed Extraction Plan (EP) for Longwalls 712 to 716 located at Appin (Bulli Seam Operation), NSW.

Under Section 170 of the Aboriginal Land Rights Act 1983 the Office of the Registrar is required to maintain the Register of Aboriginal Owners (RAO). A search of the RAO has shown that there are currently no Registered Aboriginal Owners in the project area.

We suggest you contact the Tharawal Local Aboriginal Land Council on (02) 4681 0059 or via email - ceo@tharawal.com.au as they may wish to participate or contribute.

Yours sincerely

Rachel Rewiri
Project Officer
Office of the Registrar, Aboriginal Land Rights Act 1983

Address: Level 1, 6PSQ, PARRAMATTA NSW 2150
Post: P.O Box 787, PARRAMATTA NSW 2124
Phone: 02 8575 1133

From:	Barry Gunther
To:	Consultation
Subject:	Heritage NSW Aboriginal stakeholder list for Bulli Seam Operation (BSO) - Appin Area 7 Longwalls - 712 - 716 Appin.
Date:	Monday, 11 November 2024 12:38:02 PM
Attachments:	image001.png Heritage NSW Aboriginal stakeholder list for Wollondilly LGA.docx 1179 LW 712 716 Agency HNSW FNLREV0120241101.pdf

Hi Renee,

Please find attached the Heritage NSW Aboriginal stakeholder list for Bulli Seam Operation (BSO) - Appin Area 7 Longwalls - 712 - 716 Appin.

regards

Barry Gunther
Aboriginal Senior Assessment Officer
Heritage NSW
Department of Climate Change,
Energy, the Environment and Water
Season's greetings from Heritage NSW.

To prepare for the upcoming festive season and shut down period please note that Heritage NSW will not be accepting new applications for assessment as of 5pm Friday 6th December 2024.

Heritage NSW will be operating with reduced staff from 5pm Friday 20th December 2024 until 9am Monday 6th January 2025.

From: Consultation <consultation@regalheritage.com.au>
Sent: Friday, November 1, 2024 2:33 PM
To: OEH HD Heritage Mailbox <HERITAGEMailbox@environment.nsw.gov.au>
Subject: Stakeholders Request - ACHA - Bulli Seam Operation (BSO) - Appin Area 7 Longwalls - 712 - 716 Appin - Wollondilly Shire LGA
Importance: High

To whom it may concern,

Re: Bulli Seam Review of Aboriginal Stakeholders (Project reference number: 1179)

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(ICHPL) trading as GM^3 (formerly South32 Illawarra Metallurgical Coal) to undertake a Heritage Impact Assessment (HIA) for Aboriginal and non-Aboriginal heritage at Appin Area 7 Longwalls 712 through to 716 located at Appin, New South Wales (NSW). The Appin Colliery is comprised of a number of mining areas: 5, 7, 8, and 9. These areas, along with the West Cliff mining areas, are collectively known as the Bulli Seam Operation (BSO).

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Ms Linda Zanotto
Principal Mining Approvals
GM^3

Phone: 0409 399 560
Email: linda.zanotto@gm-3.com.au

All correspondence regarding provision of names and contact details of Aboriginal and non-Aboriginal stakeholders who may have interest in the BSO project should be provided in writing by 5pm, 14 November 2024 to:

Ms Renée Regal
Regal Heritage Pty Ltd
PO Box W51
West Wollongong NSW 2500
Phone: 0400 594 580
Email: consultation@regalheritage.com.au

Kind regards,

Renée Regal
Director/ Heritage Consultant, Regal Heritage Pty Ltd

On behalf of GM^3



This email is intended for the addressee(s) named and may contain confidential and/or privileged information.
If you are not the intended recipient, please notify the sender and then delete it immediately.
Any views expressed in this email are those of the individual sender except where the sender expressly and with authority states them to be the views of the NSW Office of Environment, Energy and Science.

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL

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LIST OF ABORIGINAL STAKEHOLDERS FOR THE DEPARTMENT OF PLANNING AND ENVIRONMENT (DPE) HELD BY DPE FOR THE PURPOSES OF THE OEH ABORIGINAL CULTURAL HERITAGE CONSULTATION REQUIREMENTS FOR PROPONENTS 2010

The purpose of this letter is to assist you as the proposed applicant in undertaking Aboriginal community consultation in accordance with the relevant legislation and guidelines.

The consultation process involves getting the views of, and information from, Aboriginal people and reporting on these. It is not to be confused with other field assessment processes involved in preparing a proposal and an application. Consultation does not include the employment of Aboriginal people to assist in field assessment and/or site monitoring. Aboriginal people may provide services to proponents through a contractual arrangement however, this is separate from consultation. The proponent is not obliged to employ those Aboriginal people registered for consultation. Consultation as per these requirements will continue irrespective of potential or actual employment opportunities for Aboriginal people.

In accordance with Clause 60 (10) of the National Parks and Wildlife Regulation 2019, where an agreement of the kind listed below specifies or identifies a modified or alternative consultation process for the purposes of Part 6 of the National Parks and Wildlife Act 1974, the applicant is to undertake consultation in accordance with the modified or alternative process. The applicable agreements are:

a) a registered Indigenous Land Use Agreement under the Native Title Act 1993 of the Commonwealth entered into between an Aboriginal community and the State,

b) a lease entered into under Part 4A of the Act,

c) an agreement entered into by the Secretary and a board of management reserved under Part4A of the Act that has the consent of Aboriginal owner board members for the land concerned,

d) an agreement entered into between an Aboriginal community and the Department of Planning, Industry and the Environment.

Where you believe your application is wholly or partially located within an area subject to any of the above agreements, please provide further correspondence (including mapping, if required) detailing the applicable agreement and its relationship to the application area to heritagemailbox@environment.nsw.gov.au. Heritage NSW will respond with further advice.

Where the above does not apply, please proceed with consultation in accordance with the Clause 60 (1-9) of the National Parks and Wildlife Regulation 2019 and Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (the “Consultation Requirements”). A copy of the Consultation Requirements can be found on the OEH website at: http://www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf.

Under the Consultation Requirements, a proponent is required to provide Aboriginal people who may hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places as relevant to the proposed project area, with an opportunity to be involved in consultation. Section 3.3.1 of the Consultation Requirements states that Aboriginal people who can provide this information are, based on Aboriginal lore and custom, the traditional owners or custodians of the land that is the subject o the proposed project.

The Consultation Requirements also state that:

Traditional owners or custodians with appropriate cultural heritage knowledge to inform decision making who seek to register their interest as an Aboriginal party are those people who:

- continue to maintain a deep respect for their ancestral belief system, traditional lore and custom

- recognise their responsibilities and obligations to protect and conserve their culture and heritage and care for their traditional lands or Country
- have the trust of their community, knowledge and understanding of their culture, and permission to speak about it.

This list is provided to proponents in accordance with Clause 60(2)(a)(i) of the National Parks and Wildlife Regulation 2019 and section 4.1.2 of the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.

The stakeholders identified on this list may have an interest in the proposed project area and may hold knowledge relevant to determining the cultural significance of Aboriginal objects and/or places.

How to use this list

- Contact the organisations/individuals who have indicated an interest in the relevant LGA/s and invite them to register an interest in your project.
- Do not reproduce the attached list in publicly available reports and other documents. Your report should only contain the names of the organisations and individuals who you have invited to register an interest in your project and those who have registered as stakeholders for your project.
- Note that the provision of this Aboriginal stakeholder list does not override a proponent's requirement to also advertise in the local newspaper and to seek from other sources the names of any other Aboriginal people who may hold cultural knowledge as required under clause 60 (2) of the National Parks and Wildlife Regulation 2019.
- Please refer to Clause 60 of the National Parks and Wildlife Regulation 2019 and the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 for further information on the requirements of the consultation process.
- If contact details of stakeholders are found to be incorrect or outdated, please contact heritagemailbox@environment.nsw.gov.au.

Last updated September 2024

Our reference: Doc24/900824

The Appin Colliery Bulli Seam Review of Aboriginal Stakeholders

Aboriginal Stakeholders – Wollondilly Shire Local Government Area.

A1 Indigenous Services	Carolyn Hickey	cazadirect@live.com	-	0411 650 057	-	10 Marie Pitt Place, Glenmore Park, NSW, 2745	-
Amanda Hickey Cultural Services	Amanda Hickey	amandahickey@live.com.au	-	0434 480 558	-	57 Gough Steet, Emu Plains, NSW, 2750	-
Aragung Aboriginal Cultural Heritage Site Assessments	Jamie Eastwood	James.eastwood@y7mail.com	(02) 9832 3732	0427 793 334	-	33 Bulolo Drive, Whalan, NSW, 2770	-
B.H. Heritage Consultants	Ralph Hampton ; Nola Hampton	hamptonralph46@gmail.com kinghampton77@gmail.com	-	RH: 0435 785 138 NH: 0401 662 531	-	184 Captain Cook Drive, Willmot, 2770, NSW 95 Mount Ettalong Road, Umina Beach, 2257, NSW	Nola and Ralph would BOTH like to be notified of all projects
Barking Owl Aboriginal Corporation	Mrs Jody Kulakowski (Director)	barkingowlcorp@gmail.com	-	0426 242 015	-	2-65/69 Wehlow St. Mt Druitt	-
Barraby Cultural Services	Lee Field (Manager)	barrabyculturalservices@gmail.com	-	0431 314 892	-	334 Argyle Street, Picton NSW 2571	-
Bidjawong Aboriginal Corporation	James Carroll	jrcarroll888@gmail.com bidjawong@gmail.com	-	0433 224 324	-	22 McKinley Place Cherrybrook NSW 2126	Prefer email contact
Butucarbin Aboriginal Corporation	Jennifer Beale	butuheritage@gmail.com	(02)98 32 7167	-	-	PO Box E18, Emerton, NSW 2770	Preferred contact via email
Clive Freeman	Clive Freeman	clive.freeman@y7mail.com	(02) 4442 1117	0437 721 481	-	6 Dhugan Close Wreck Bay Aboriginal Community JBT 2540	-

Corroboree Aboriginal Corporation	Marilyn Carroll-Johnson	corroboreecorp@outlook.com	(02) 8824 324	0415 911 159	-	PO BOX 344 LITHGOW NSW 2790	-
Cubbitch Barta	Glenda Chalker ; Rebecca Chalker	kgchalker@bigpond.com	-	0427218425	-	55 Nightingale Rd, Pheasants Nest NSW 2574 99 Menangle street, Picton 2571	-
D'harawal Mens Aboriginal Corporation	Elwyn Brown	-	-	0401 920 982	-	187 Riverside Drive, Airds NSW 2560	-
Darug Boorooberongal Elders Aboriginal Corporation	Paul Hand (chairperson)	paulhand1967@gmail.com	-	0456 786 738	-	PO.Box 14 Doonside NSW 2767	-
Darug Land Observations	Jamie Workman; Anna Workman; Anna O'Hara	daruglandobservations@gmail.com	-	0418 494 951 0413 687 279	-	PO Box 173, Ulladulla, NSW 2539 PO Box 2006 Bendelong NSW 2539	-
Dharug Ngurra Aboriginal Corporation	Dirk Schmitt	archaeology@dharugngurra.org.au	(02) 9622 4081	-	-	PO Box 441, Blacktown NSW 2148	-
Didge Ngunawal Clan	Lillie Carroll ; Paul Boyd	didgengunawalclan@yahoo.com.au	-	0426 823 944 ; 0450 616 404	-	33 Carlyle Crescent Cambridge Gardens NSW 2747	-
Galamaay Cultural Consultants (GCC)	Robert Slater	galamaay@hotmail.com	-	0401 871 526	-	121 Roberts Street, Tamworth NSW 2340	-
Garrara Aboriginal Corporation	Raymond Ingrey	raymond@bariyu.org.au	-	-	-	-	-
Gilay Consultants	Carol Slater	cal.slater61@gmail.com	-	0478 583 565	-	6 MacGibbon Parade, Old Erowal Bay NSW 2540	-

Ginninderra Aboriginal Corporation	Steven Johnson; Krystle Carroll	Ginninderra.corp@gmail.com	-	0406 991 221	-	PO BOX 3143 Grose Vale NSW 2754	-
Goodradigbee Cultural & Heritage Aboriginal Corporation	Caine Carroll	goodradigbee1@outlook.com	-	0410 974 236	-	1 Morilla Road, East Kurrajong NSW 2758	-
Guntawang Aboriginal Resources Incorporated	Wendy Morgan	wenlissa01@hotmail.com	(02) 9601 7183	0414 964 657	-	113 Reservoir Road Mt Pritchard NSW 2170	-
James Davis	James Davis	jvdcorp@hotmail.com	-	0423 715 395	-	2 Poplar Ave, Unanderra NSW 2526	-
Kamilaroi Yankuntjatjara Working Group	Phil Khan	philipkhan.acn@live.com.au	-	0434 545 982	-	78 Forbes Street, Emu Plains, NSW 2750	-
Konanggo Aboriginal Cultural Heritage Services	Robert Young	konanggo_consultancy@hotmail.com	-	0450 497 270	-	2/42 Crawford Road, Brighton Le Sands 2216 NSW	-
Mundawari Heritage Consultants	Dean Delponte	mundawari.hc@gmail.com	-	0413 186 133	-	32 Astley Road Catherine Field, NSW 2557	-
Mura Indigenous Corporation (icn:8991)	Phillip Carroll	mura.cultureservices@gmail.com	-	0447512397	-	66 Montague Street Goulburn 2580	-
Murra Bidgee Mullangari Aboriginal Corporation	Darleen Johnson ; Ryan Johnson	murrabidgeemullangari@yahoo.com.au	-	0490 051 102 0475 565 517 0497 983 332	-	PO Box 3035 Rouse Hill NSW 2155	-

Ngambaa Cultural Connections	Kaarina Slater	ngambaa.culturalconnections@gmail.com	-	0448 917 593	-	unit 6 4 Marsden Road St Marys NSW 2760.	-
Tharawal Local Aboriginal Land Council	Robyn Straub (CEO)	ceo@tharawal.com.au reception@tharawal.com.au	(02) 4681 0059	-	-	PO Box 245 Thirlmere NSW 2572	-
Thawun Aboriginal Consultancy	Jason Mitchell	jason.mitchell9@outlook.com Thawunconsultancy@outlook.com	-	0401 517 998	-	35 Bronzewing st Tahmoor NSW 2573	-
Thomas Dahlstrom Offers ACH value by using 3D Laser and Drone technology	Thomas Dahlstrom	gamila_roi@yahoo.com.au	-	0403 529 119 Offers ACH value by using 3D Laser and Drone technology	-	1-122 Glebe Point Road Glebe NSW 2037	-
Thoorga Nura	John Carriage (Chief Executive Officer)	thoorganura@gmail.com	-	0401 641 299	-	50B Hilltop Crescent, Surf Beach, 2536, NSW	-

Timothy Stubbs	Timothy Stubbs	tmsbrick@hotmail.com	-	0450 442 745	-	29 Cathy Street Blaxland 2774 NSW	-
Waawaar Awaa Aboriginal Corporation	Rodney Gunther Barry Gunther	Waawaar.awaa@gmail.com	-	RG: 0410580962 BG: 0451 176 473	-		-
Wori Wooilywa	Daniel Chalker	woriwooilywa@gmail.com	-	0409 006 216	-	261 Mockingbird Rd Pheasants Nest NSW 2574	-
Wurrumay Culture Heritage Consultants	Kerrie Slater; Vicky Slater	wurrumay31@outlook.com	-	0421 077 521	-	89 Pyramid Street, Emu Plains NSW 2750	-
Yulay Cultural Services	Arika Jalomaki (Manager)	yulayculturalservices@gmail.com	-	0481 251 385 0411 048 794	-	28 Poplar Street North St Mary's NSW 2760 15 Rowley Place, Airds NSW 2560	-
Yurrandaali	Bo Field (Manager)	yurrandaali_cs@hotmail.com	-	0403 048 263	-	6 MacGibbon Parade, Old Erowal Bay NSW 2540	-
Bariyan Cultural Connections	Kayelene Slater	bariyan.culturalconnections@gmail.com	-	0412 061 893	-	-	-
Wallanbah Aboriginal Site Conveyancing	Kelvin Boney	kelvingoogieboney@gmail.com	-	0432 143 205	-	-	-
RAW Cultural Healing	Raymond Weatherall	RAW.CulturalHealing@hotmail.com		0411 962 602		8 Rosslyn Dr, Claymore NSW 2559 PO Box N74, Campbelltown North NSW 2560	
Teena Riley	Teena Riley	Teena.riley@outlook.com					

Dharramalin	Gary Dunn	Dharramalin.culture@gmail.com		0432688673		10 kew way airds 2560	
Gali Heritage Consultants	Helen Slater	Helens27@outlook.com		0431 232 560		7 Sutton Place Minto NWS 2566.	
Long Gully Cultural Services	Ethan Trewlynn	Ethan3trewlynn@gmail.com		0401424853		57 Brooker Street Colyton NSW 2760	
Gadu chts	Colin Walker – Chairperson	gaduchts@gmail.com		0401313978			
Nattai Aboriginal Culture & Heritage Consultation Service	Alan Medhurst	ngunduwaa@live.com.au		0452106830			
On Country Living	Shazda Marbuck Brown	oncountryliving@gmail.com		0499405572			
Southern Native	Brendon Carberry	bushedout@gmail.com		0401566451			
Debbie Moon	Debbie Moon	1nurse59@gmail.com		045 7244 712			
Darug Aboriginal Resource Centre	Thelmerie Rudd	darugaboriginalresourcecentre@gmail.com		0427190960			
Wallangang Aboriginal Corporation	Joanne Timbery	jtimbery@hotmail.com		0475 638 548		17 Murrong Place La Perouse 2036	
Gadhungal Marring	Nigel Millgate	admin@gadhungalmarring.com.au		0435616352			
Matthew Dingle	Matthew Dingle	m.s.dingle@hotmail.com		0415 393 052			
Turtle Dreaming	Lynette Hartley	lynnette.hartley@bigpond.com		0410 519 757			

From: NTSCORP Notifications
To: Consultation
Cc: Renee Regal
Subject: RE: #1179 Bulli Seam Review of Aboriginal Stakeholders
Date: Wednesday, 4 December 2024 11:17:24 AM
Attachments: image003.png
image004.jpg
image005.png
image006.png
Longwall 712 - 716 Overview Fig1.pdf

Dear Renee,

Thank you for providing the attached map. On this basis, please discontinue the involvement of the South Coast Applicant as a RAP for the LW 712 to 716 EP consultation process

Kind regards,

Zoe Robertson | Paralegal

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

f 02 9310 4177 | **t** 61 2 9310 3188 |
e zrobertson@ntscorp.com.au | **w** www.ntscorp.com.au
Level 1, 44-70 Rosehill Street, Redfern, NSW 2016 Australia

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From: Consultation <consultation@regalheritage.com.au>
Sent: Friday, 22 November 2024 4:01 PM
To: NTSCORP Notifications <notifications@ntscorp.com.au>
Cc: Renee Regal <renee@regalheritage.com.au>
Subject: RE: #1179 Bulli Seam Review of Aboriginal Stakeholders

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Hi there Zoe,

Please find attached figure as requested.

Kind regards,

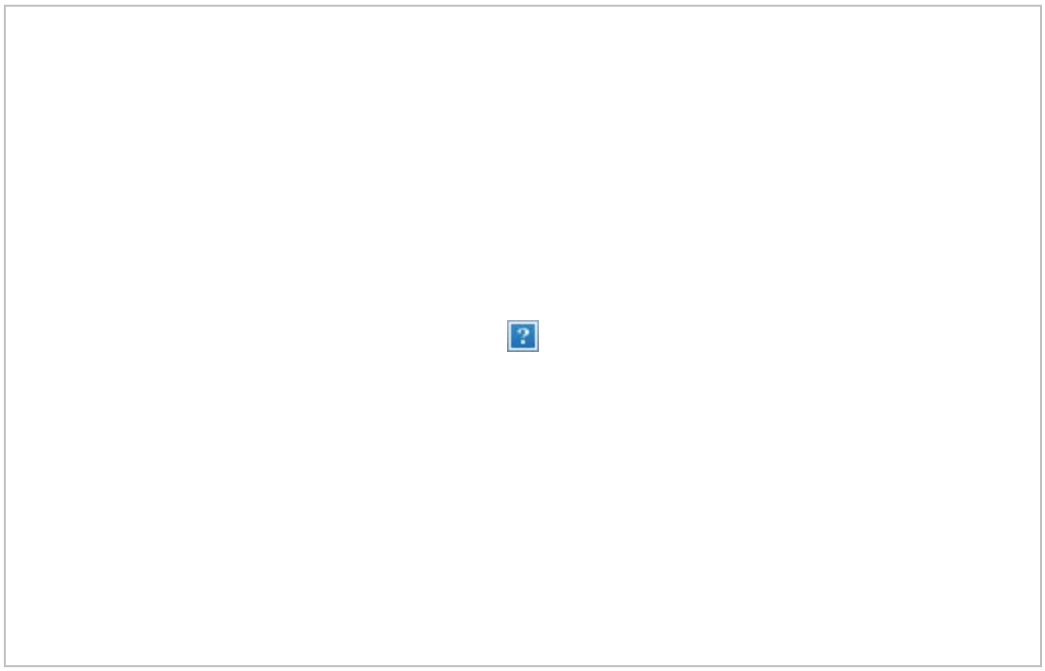
Renée



From: NTSCORP Notifications <notifications@ntscorp.com.au>
Sent: Wednesday, 20 November 2024 5:22 PM
To: Consultation <consultation@regalheritage.com.au>
Cc: Renee Regal <renee@regalheritage.com.au>
Subject: RE: #1179 Bulli Seam Review of Aboriginal Stakeholders

Dear Renee,

Thank you for your email. In order to better determine whether to continue the participation of the South Coast Applicant as a RAP in this project, could you please provide a map of Longwalls 712 to 716? I have found the below map online but it is unclear exactly where the HIA will take place.



Kind regards,

Zoe Robertson | Paralegal



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

f 02 9310 4177 | **t** 61 2 9310 3188 |
e zrobertson@ntscorp.com.au | **w** www.ntscorp.com.au

Level 1, 44-70 Rosehill Street, Redfern, NSW 2016 Australia

Caution: This message is intended only for the addressee. It is confidential and may be legally privileged. If you are not the intended recipient, any disclosure, copying, or distribution is prohibited and may be unlawful. By opening any attachment, you agree that NTSCORP Limited (NTSCORP) will not be liable for any loss resulting from viruses or other defects. Any views in this message are those of the individual sender, except where the sender expressly and with authority, states them to be the views of NTSCORP.
Please consider the environment before printing this email

From: Consultation <consultation@regalheritage.com.au>
Sent: Thursday, 14 November 2024 11:32 AM
To: Renee Regal <renee@regalheritage.com.au>
Subject: #1179 Bulli Seam Review of Aboriginal Stakeholders
Importance: High

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear-Potential Stakeholder,

Re: Bulli Seam Review of Aboriginal Stakeholders (Project reference number: 1179)

Regal Heritage Pty Ltd (Regal Heritage) has been commissioned by Illawarra Coal Holdings Pty Ltd (ICHPL) trading as GM^3 (formerly South32 Illawarra Metallurgical Coal) to undertake a Heritage Impact Assessment (HIA) for Aboriginal and non-Aboriginal heritage at Appin Area 7 Longwalls 712 through to 716 located at Appin, New South Wales (NSW). The Appin Colliery is comprised of a number of mining areas: 5, 7, 8, and 9. These areas, along with the West Cliff mining areas, are collectively known as the Bulli Seam Operation (BSO).

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  - Native Title Services Corporation Limited (NTS Corp) and;
  - Enquiries made to Heritage NSW, Department of Premier and Cabinet (Heritage NSW) and Councils to identify and update local historical and Aboriginal organisations with interests in the Subject Area.

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Regal Heritage is assisting GM^3 with consultation with the Aboriginal community as part of the EP. Consultation with the Aboriginal community will be undertaken in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010(, here on referred to as the 'consultation requirements.'

The purpose of ongoing consultation with stakeholders is to review the current Registered Aboriginal Parties (RAPs) and historical organisations for the BSO in order to identify and remove either unresponsive or inactive parties, include new organisations that have been identified and indicated that they wish to be involved in consultation, and update contact details for all stakeholders on the list. This consultation review will determine if the current stakeholders are interested in continuing their registration or if they know of any interested parties that would like to register. In accordance with section 4.1.3 (a) of the consultation requirements, please note that the relevant client contact for this project is:

Ms Linda Zanotto
Principal Mining Approvals
GM^3
Phone: 0409 399 560
Email: linda.zanotto@gm-3.com.au

I am writing to request confirmation that you wish to remain on the list of current stakeholders for the proposed LW 712 to 716 EP consultation process. All correspondence regarding provision of names and contact details of Aboriginal and non-Aboriginal stakeholders who wish to remain as stakeholders in the BSO project should be provided in writing by 5pm, 28 November 2024 to:

Ms Renée Regal
Regal Heritage Pty Ltd
PO Box W51
West Wollongong NSW 2500
Phone: 0400 594 580
Email: consultation@regalheritage.com.au

Kind regards,

Renée Regal
Director/ Heritage Consultant, Regal Heritage Pty Ltd

On behalf of GM^3

From: Stephen Gardiner
To: Consultation
Cc: Rob Moran; Michelle Sheehan
Subject: RE: #1179 BSO Review of Aboriginal Stakeholders
Date: Monday, 16 December 2024 8:41:22 AM
Attachments: image001.png
Logo_4009f169-7c26-46c0-a0eb-af9e8a50a57c.png
Facebook_be2c6cbc-a6c4-4a27-a840-f1ca5844fecc.png
Twitter_cc9652b8-eb1d-478e-8a50-118920fd5e36.png
image001_161adf4d-272e-4a35-b764-fd6b7aa6f9c3.png

Hi Renee
Apologies for the delay in responding. I have copied in Rob Moran Community Projects and Events Team Leader who can assist in providing details of contact details within Wollondilly Local Government Area.
Wollondilly Council shall continue to be contacted in regards to the matters below.
Regards

Stephen Gardiner
Manager Sustainable Growth

T 0246779624
A P.O. Box 21 Picton, NSW, 2571
E Stephen.Gardiner@wollondilly.nsw.gov.au
W http://www.wollondilly.nsw.gov.au

From: Consultation
Sent: Friday, 1 November 2024 2:34 PM
To: Wollondilly Shire Council
Subject: #1179 BSO Review of Aboriginal Stakeholders
Importance: High

To whom it may concern,

Re: Bulli Seam Review of Aboriginal Stakeholders (Project reference number: 1179)

Regal Heritage Pty Ltd (Regal Heritage) has been commissioned by Illawarra Coal Holdings Pty Ltd (ICHPL) trading as GM^3 (formerly South32 Illawarra Metallurgical Coal) to undertake a Heritage Impact Assessment (HIA) for Aboriginal and non-Aboriginal heritage at Appin Area 7 Longwalls 712 through to 716 located at Appin, New South Wales (NSW). The Appin Colliery is comprised of a number of mining areas: 5, 7, 8, and 9. These areas, along with the West Cliff mining areas, are collectively known as the Bulli Seam Operation (BSO).

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GM^3
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Email: linda.zanotto@gm-3.com.au

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West Wollongong NSW 2500
Phone: 0400 594 580
Email: consultation@regalheritage.com.au

Kind regards,
Renée Regal
Director/ Heritage Consultant, Regal Heritage Pty Ltd
On behalf of GM^3

Aboriginal Community Notification Letter

From:	Consultation
To:	Renee Regal
Bcc:	amandahickey@live.com.au; James.eastwood@y7mail.com; hamptonralph46@gmail.com; kinghampton@77gmail.com; barkingowlcorp@gmail.com; barrabyculturalservices@gmail.com; tomely1947@gmail.com; butuheritage@gmail.com; corroboreecorp@bigpond.com; kgchalker@bigpond.com; paulhand1967@gmail.com; daruglandobservations@gmail.com; archaeology@dharugngurra.org.au; didgengunawalclan@yahoo.com.au; galamaay@hotmail.com; raymond@bariyu.org.au; cal.slater61@gmail.com; Ginninderra.corp@gmail.com; goodradigbee1@outlook.com; kazanbrown@gmail.com; alaskainspace@gmail.com; gunjeewong@yahoo.com.au; Wenlissa01@hotmail.com; philipkhan.acn@live.com.au; konanggo_consultancy@hotmail.com; mundawari.hc@gmail.com; mura.indigenous@bigpond.com; murrabidgeemullangari@yahoo.com.au; ngambaaculturalconnections@hotmail.com; ngunawalhac@gmail.com; schalmers@ntscorp.com.au; ibrinin@ntscorp.com.au; informationofficer@tharawal.com.au; thoorganura@gmail.com; Waawaar.awaa@gmail.com; wokacorp@yahoo.com; woriwooilywa@gmail.com; wurrumay@hotmail.com; yulayculturalservices@gmail.com; yurrandaali_cs@hotmail.com; auntie.fran80@gmail.com; Gawaian.Bodkin-Andrews@uts.edu.au; kinghampton77@gmail.com; bidjawong@gmail.com
Subject:	#1179 Bulli Seam Review of Aboriginal Stakeholders
Date:	Thursday, 14 November 2024 11:31:00 AM
Attachments:	image001.png 1179 LW 712 716 Agency Potential RAP FNLREV0120241101.pdf
Importance:	High

Dear-Potential Stakeholder,

Re: Bulli Seam Review of Aboriginal Stakeholders (Project reference number: 1179)

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Principal Mining Approvals
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Email: linda.zanotto@gm-3.com.au

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Regal Heritage Pty Ltd
PO Box W51
West Wollongong NSW 2500
Phone: 0400 594 580
Email: consultation@regalheritage.com.au

Kind regards,

Renée Regal
Director/ Heritage Consultant, Regal Heritage Pty Ltd

On behalf of GM^3

REGAL HERITAGE

Renée Regal BA (Hons)
Heritage Consultant – Director

0400 594 580
consultation@regalheritage.com.au
www.regalheritage.com.au

PO Box W51, West Wollongong NSW 2500

Regal Heritage Pty Ltd
0400 594 580
www.regalheritage.com.au
ABN 47 656 442 698

14 November 2024

Dear: Potential Stakeholder,

Re: Bulli Seam Review of Aboriginal Stakeholders (Project reference number: 1179)

Regal Heritage Pty Ltd (Regal Heritage) has been commissioned by Illawarra Coal Holdings Pty Ltd (ICHPL) trading as GM³ (formerly South32 Illawarra Metallurgical Coal) to undertake a Heritage Impact Assessment (HIA) for Aboriginal and non-Aboriginal heritage at Appin Area 7 Longwalls 712 through to 716 located at Appin, New South Wales (NSW). The Appin Colliery is comprised of a number of mining areas: 5, 7, 8, and 9. These areas, along with the West Cliff mining areas, are collectively known as the Bulli Seam Operation (BSO).

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Ms Linda Zanotto

Regal Heritage Pty Ltd
0400 594 580
www.regalheritage.com.au
ABN 47 656 442 698

Principal Mining Approvals
GM³
Phone: 0409 399 560
Email: linda.zanotto@gm-3.com.au

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West Wollongong NSW 2500
Phone: 0400 594 580
Email: consultation@regalheritage.com.au

Kind regards,



Renée Regal
Director/ Heritage Consultant, Regal Heritage Pty Ltd

On behalf of GM³

Aboriginal Community Response

From: kgchalker@bigpond.com
To: Consultation
Subject: RE: #1179 Bulli Seam Review of Aboriginal Stakeholders
Date: Saturday, 16 November 2024 9:02:53 AM
Attachments: image001.png

Dear Renee,
Haven't seen you for such a long time.
In response to this email, Cubbitch Barta wishes to remain as a RAP for this project. We have been involved for a very long time.
I understand removing inactive RAP's, but not the part about asking for new ones. You will get more than you bargained for, which is what happened previously when BHP were investigating the Bulli Seam project many years ago now, but I am sure you will remember.
Glenda

From: Consultation <consultation@regalheritage.com.au>
Sent: Thursday, 14 November 2024 11:32 AM
To: Renee Regal <renee@regalheritage.com.au>
Subject: #1179 Bulli Seam Review of Aboriginal Stakeholders
Importance: High

Dear-Potential Stakeholder,

Re: Bulli Seam Review of Aboriginal Stakeholders (Project reference number: 1179)

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Kind regards,

Renée Regal
Director/ Heritage Consultant, Regal Heritage Pty Ltd

On behalf of GM[3]



Renée Regal BA (Hons)
Heritage Consultant – Director
0400 594 580
consultation@regalheritage.com.au
www.regalheritage.com.au
PO Box W51, West Wollongong NSW 2500

From: lilly carroll
To: Consultation
Subject: Re: #1179 Bulli Seam Review of Aboriginal Stakeholders
Date: Thursday, 14 November 2024 2:11:11 PM
Attachments: image001.png

Hi guys

DNC would like to read some interest in the above Project at Bulli

Kind regards
Paul Boyd & Lilly Carroll
Directors DNC
0426823944

Sent from Yahoo Mail for iPhone

On Thursday, November 14, 2024, 11:31 am, Consultation <consultation@regalheritage.com.au> wrote:

Dear-Potential Stakeholder,

Re: Bulli Seam Review of Aboriginal Stakeholders (Project reference number: 1179)

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Director/ Heritage Consultant, Regal Heritage Pty Ltd

On behalf of GM^3

REGAL HERITAGE

Renée Regal BA (Hons)
Heritage Consultant – Director

0400 594 580
consultation@regalheritage.com.au
www.regalheritage.com.au

PO Box W51, West Wollongong NSW 2500

From: Wendy Morgan
To: Consultation
Subject: RE: #1179 Bulli Seam Review of Aboriginal Stakeholders
Date: Tuesday, 19 November 2024 8:35:23 AM
Attachments: image001.png

Hi Renee,

Guntawang Aboriginal Resources Inc would like to remain a member of this stakeholder group for #1179 Bulli Seam Review of Aboriginal Stakeholders.

Kind regards

Wendy Morgan
CEO GARI
0414 964 657

From: Consultation <consultation@regalheritage.com.au>
Sent: Thursday, 14 November 2024 11:32 AM
To: Renee Regal <renee@regalheritage.com.au>
Subject: #1179 Bulli Seam Review of Aboriginal Stakeholders
Importance: High

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    - The National Native Title Tribunal (NNTT) for a list of registered Native Title Claimants, Native Title Holders and registered Indigenous Land Use Agreements (ILUAs).

- Native Title Services Corporation Limited (NTS Corp) and;
- Enquiries made to Heritage NSW, Department of Premier and Cabinet (Heritage NSW) and Councils to identify and update local historical and Aboriginal organisations with interests in the Subject Area.

Any new organisations identified through enquires are to be contacted and given a 14-day period to register their interest in being consulted.

Regal Heritage is assisting GM^3 with consultation with the Aboriginal community as part of the EP. Consultation with the Aboriginal community will be undertaken in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010(, here on referred to as the 'consultation requirements.'

The purpose of ongoing consultation with stakeholders is to review the current Registered Aboriginal Parties (RAPs) and historical organisations for the BSO in order to identify and remove either unresponsive or inactive parties, include new organisations that have been identified and indicated that they wish to be involved in consultation, and update contact details for all stakeholders on the list. This consultation review will determine if the current stakeholders are interested in continuing their registration or if they know of any interested parties that would like to register. In accordance with section 4.1.3 (a) of the consultation requirements, please note that the relevant client contact for this project is:

Ms Linda Zanotto
Principal Mining Approvals
GM^3
Phone: 0409 399 560
Email: linda.zanotto@gm-3.com.au

I am writing to request confirmation that you wish to remain on the list of current stakeholders for the proposed LW 712 to 716 EP consultation process. All correspondence regarding provision of names and contact details of Aboriginal and non-Aboriginal stakeholders who wish to remain as stakeholders in the BSO project should be provided in writing by 5pm, 28 November 2024 to:

Ms Renée Regal
Regal Heritage Pty Ltd
PO Box W51
West Wollongong NSW 2500
Phone: 0400 594 580
Email: consultation@regalheritage.com.au

Kind regards,

Renée Regal

Director/ Heritage Consultant, Regal Heritage Pty Ltd

On behalf of GM[3]

REGAL HERITAGE

Renée Regal BA (Hons)
Heritage Consultant – Director
0400 594 580
consultation@regalheritage.com.au
www.regalheritage.com.au
PO Box W51, West Wollongong NSW 2500

From: Dean Delponte
To: Consultation
Subject: Re: #1179 Bulli Seam Review of Aboriginal Stakeholders
Date: Friday, 15 November 2024 4:40:22 PM
Attachments: image001.png

Hi Renee,

Confirming that we wish to remain on the list of current stakeholders.

Thank you!!

Kind regards

Dean Delponte

0413186133

mundawari.hc@gmail.com

MUNDAWARI Heritage Consultants

IMPORTANT: The contents of this email and any attachments are confidential. They are intended for the named recipient(s) only. If you have received this email by mistake, please notify the sender immediately and do not disclose the contents to anyone or make copies thereof.

On Thu, 14 Nov 2024 at 11:31, Consultation <consultation@regalheritage.com.au> wrote:

> Dear-Potential Stakeholder,
>
> **Re: Bulli Seam Review of Aboriginal Stakeholders (Project reference number: 1179)**
>
> Regal Heritage Pty Ltd (Regal Heritage) has been commissioned by Illawarra Coal Holdings Pty Ltd (ICHPL) trading as GM³ (formerly South32 Illawarra Metallurgical Coal) to undertake a Heritage Impact Assessment (HIA) for Aboriginal and non-Aboriginal heritage at Appin Area 7 Longwalls 712 through to 716 located at Appin, New South Wales (NSW). The Appin Colliery is comprised of a number of mining areas: 5, 7, 8, and 9. These areas, along with the West Cliff mining areas, are collectively known as the Bulli Seam Operation (BSO).
>
> GM³ are seeking approval of an Extraction Plan (EP) for Longwalls 712 to 716 and require Aboriginal and non-Aboriginal assessments to support the application. Ongoing consultation with stakeholders for Aboriginal and non-Aboriginal heritage is a requirement of the project approval and the Appin Mine Heritage Management Plan (2021). In accordance with these requirements the stakeholder list is to be reviewed and revised for each EP in order to ensure that stakeholders remain current, which includes the following:
>
> - Notification to all current stakeholders of the intent to undertake the review.

- Enquiries made to the following services to identify new stakeholders that should be contacted:

    - The Registrar, *Aboriginal Land Rights Act 1983* for an updated list of Aboriginal owners relevant to the Subject Area.
    - The National Native Title Tribunal (NNTT) for a list of registered Native Title Claimants, Native Title Holders and registered Indigenous Land Use Agreements (ILUAs).
    - Native Title Services Corporation Limited (NTS Corp) and;
    - Enquiries made to Heritage NSW, Department of Premier and Cabinet (Heritage NSW) and Councils to identify and update local historical and Aboriginal organisations with interests in the Subject Area.

Any new organisations identified through enquires are to be contacted and given a 14-day period to register their interest in being consulted.

Regal Heritage is assisting GM³ with consultation with the Aboriginal community as part of the EP. Consultation with the Aboriginal community will be undertaken in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010(, here on referred to as the 'consultation requirements.'

The purpose of ongoing consultation with stakeholders is to review the current Registered Aboriginal Parties (RAPs) and historical organisations for the BSO in order to identify and remove either unresponsive or inactive parties, include new organisations that have been identified and indicated that they wish to be involved in consultation, and update contact details for all stakeholders on the list. This consultation review will determine if the current stakeholders are interested in continuing their registration or if they know of any interested parties that would like to register. In accordance with section 4.1.3 (a) of the consultation requirements, please note that the relevant client contact for this project is:

Ms Linda Zanotto

Principal Mining Approvals

GM^3

Phone: 0409 399 560

Email: linda.zanotto@gm-3.com.au

I am writing to request confirmation that you wish to remain on the list of current stakeholders for the proposed LW 712 to 716 EP consultation process. All correspondence regarding provision of names and contact details of Aboriginal and non-Aboriginal stakeholders who wish to remain as stakeholders in the BSO project should be provided in writing by 5pm, 28 November 2024 to:

Ms Renée Regal

Regal Heritage Pty Ltd

PO Box W51

West Wollongong NSW 2500

Phone: 0400 594 580

Email: consultation@regalheritage.com.au

Kind regards,

Renée Regal

Director/ Heritage Consultant, Regal Heritage Pty Ltd

On behalf of GM³



Aboriginal Community Draft HIA Submission

From:	Consultation
To:	Renee Regal
Bcc:	"cazadirect@live.com"; "amandahickey@live.com.au"; "James.eastwood@y7mail.com"; "hamptonralph46@gmail.com"; "kinghampton@77gmail.com"; "barkingowlcorp@gmail.com"; "barrabyculturalservices@gmail.com"; "tomely1947@gmail.com"; "butuheritage@gmail.com"; "Corrroboree Aboriginal Corporation"; "kgchalker@bigpond.com"; "paulhand1967@gmail.com"; "daruglandobservations@gmail.com"; "archaeology@dharugngurra.org.au"; "didgengunawalclan@yahoo.com.au"; "galamaay@hotmail.com"; "raymond@bariyu.org.au"; "cal.slater61@gmail.com"; "Ginninderra.corp@gmail.com"; "goodradigbee1@outlook.com"; "kazanbrown@gmail.com"; "alaskainspace@gmail.com"; "gunjeewong@yahoo.com.au"; "Wendy Morgan"; "philipkhan.acn@live.com.au"; "konanggo_consultancy@hotmail.com"; "mundawari.hc@gmail.com"; "mura.indigenous@bigpond.com"; "murrabidgeemullangari@yahoo.com.au"; "ngambaaculturalconnections@hotmail.com"; "ngunawalhac@gmail.com"; "schalmers@ntscorp.com.au"; "ibrinin@ntscorp.com.au"; "informationofficer@tharawal.com.au"; "thoorganura@gmail.com"; "Waawaar.awaa@gmail.com"; "wokacorp@yahoo.com"; "woriwooilywa@gmail.com"; "wurrumay@hotmail.com"; "yulayculturalservices@gmail.com"; "yurrandaali_cs@hotmail.com"; "auntie.fran80@gmail.com"; "Gawaian.Bodkin-Andrews@uts.edu.au"; "kinghampton77@gmail.com"; "bidjawong@gmail.com"; "Blunden, Bruce"; "McWha, Lachlan"
Subject:	#1179 Longwalls 712 to 716 Extraction Plan Heritage Management Plan for review and comment COB 11 February 2026
Date:	Tuesday, 13 January 2026 12:12:00 PM
Attachments:	LW712-716 EP Appendix F - Heritage Management Plan DRAFT.pdf image001.png
Importance:	High

Dear-Registered Stakeholder,

Re: GM^3 Proposed Longwalls 712 to 716 Extraction Plan – Heritage Management Plan

Many thanks for your group's assistance to date on behalf of Illawarra Coal Holdings Pty Ltd (ICHPL) trading as GM^3 (formerly South32 Illawarra Metallurgical Coal) with the Aboriginal community consultation for the Proposed Appin Mine Longwall 712 to 716 Extraction Plan (EP). The draft Heritage Management Plan (HMP) attached is provided in accordance with the Heritage NSW (formerly the Office of Environment and Heritage) *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW, 2010) for your review and comment. If you have any comments, suggestions or queries regarding the draft Management Plan report, please contact Regal Heritage by **COB 11 February 2026.**

Please note that the draft Heritage Management Plan incorporates both Aboriginal and non-Aboriginal heritage items.

Could you please direct all correspondence to Renée Regal at your soonest convenience.

Ms Renée Regal
Director/ Heritage Consultant
Regal Heritage
PO Box W51
West Wollongong NSW 2500
consultation@regalheritage.com.au

Yours sincerely,

Renée Regal
Heritage Consultant/ Director
From Regal Heritage Pty Ltd
on behalf of ICHPL trading as GM^3
0400 594 580

REGAL HERITAGE

Renée Regal BA (Hons)
Heritage Consultant – Director

0400 594 580
consultation@regalheritage.com.au
www.regalheritage.com.au

PO Box W51, West Wollongong NSW 2500

Aboriginal Community Responses to Draft HIA

From:	Amanda Hickey
To:	Consultation
Subject:	Re: #1179 Longwalls 712 to 716 Extraction Plan Heritage Management Plan for review and comment COB 11 February 2026
Date:	Tuesday, 13 January 2026 1:05:32 PM
Attachments:	image001.png

Hi Renee,

Thanks for your email.

I have read through the draft management plan & AHCS (Amanda Hickey Cultural Services) fully supports the findings that impacts on Aboriginal objects will be negligible under the current plan.

Have a great day,

Amanda Hickey

From: Consultation <consultation@regalheritage.com.au>
Date: Tuesday, 13 January 2026 at 12:14
To: Renee Regal <renee@regalheritage.com.au>
Subject: #1179 Longwalls 712 to 716 Extraction Plan Heritage Management Plan for review and comment COB 11 February 2026

Dear-Registered Stakeholder,
Re: GM^3 Proposed Longwalls 712 to 716 Extraction Plan – Heritage Management Plan
Many thanks for your group's assistance to date on behalf of Illawarra Coal Holdings Pty Ltd (ICHPL) trading as GM^3 (formerly South32 Illawarra Metallurgical Coal) with the Aboriginal community consultation for the Proposed Appin Mine Longwall 712 to 716 Extraction Plan (EP). The draft Heritage Management Plan (HMP) attached is provided in accordance with the Heritage NSW (formerly the Office of Environment and Heritage) *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW, 2010) for your review and comment. If you have any comments, suggestions or queries regarding the draft Management Plan report, please contact Regal Heritage by **COB 11 February 2026.**

Please note that the draft Heritage Management Plan incorporates both Aboriginal and non-Aboriginal heritage items.

Could you please direct all correspondence to Renée Regal at your soonest convenience.
Ms Renée Regal
Director/ Heritage Consultant
Regal Heritage
PO Box W51
West Wollongong NSW 2500
consultation@regalheritage.com.au

Yours sincerely,

Renée Regal
Heritage Consultant/ Director
From Regal Heritage Pty Ltd
on behalf of ICHPL trading as GM[3]
0400 594 580



From:	Wendy Morgan
To:	Consultation
Subject:	Re: #1179 Longwalls 712 to 716 Extraction Plan Heritage Management Plan for review and comment COB 11 February 2026
Date:	Tuesday, 13 January 2026 4:35:36 PM
Attachments:	image001.png Outlook-bunxukag.png

Hi Renee,

Guntawang supports the Heritage Management Plan, however can we ask that if there are any ancestral remains found in this area that the remains be repatriated in a cultural context after all the construction is completed.

We look forward to working with you.

Kind regards,

Wendy Morgan

CEO GARI

0414 964 657

Guntawang Aboriginal Resources Incorporated

113 Reservoir Road Mt Pritchard NSW 2170

Incorporation No: INC1500129

From: Consultation <consultation@regalheritage.com.au>
Sent: Tuesday, January 13, 2026 12:13 PM
To: Renee Regal <renee@regalheritage.com.au>
Subject: #1179 Longwalls 712 to 716 Extraction Plan Heritage Management Plan for review and comment COB 11 February 2026

Dear-Registered Stakeholder,

Re: GM^3 Proposed Longwalls 712 to 716 Extraction Plan – Heritage Management Plan

Many thanks for your group's assistance to date on behalf of Illawarra Coal Holdings Pty Ltd (ICHPL) trading as GM^3 (formerly South32 Illawarra Metallurgical Coal) with the Aboriginal community consultation for the Proposed Appin Mine Longwall 712 to 716 Extraction Plan (EP). The draft Heritage Management Plan (HMP) attached is provided in accordance with the Heritage NSW (formerly the Office of Environment and Heritage) *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW, 2010) for your review and comment. If you have any comments, suggestions or queries regarding the draft Management Plan report, please contact Regal Heritage by **COB 11 February 2026.**

Please note that the draft Heritage Management Plan incorporates both Aboriginal and non-Aboriginal heritage items.

Could you please direct all correspondence to Renée Regal at your soonest convenience.

Ms Renée Regal
Director/ Heritage Consultant
Regal Heritage
PO Box W51
West Wollongong NSW 2500
consultation@regalheritage.com.au

Yours sincerely,

Renée Regal
Heritage Consultant/ Director
From Regal Heritage Pty Ltd
on behalf of ICHPL trading as GM^3
0400 594 580



From:	Thoorga Thoorga
To:	Consultation
Cc:	Renee Regal
Subject:	Re: #1179 Longwalls 712 to 716 Extraction Plan Heritage Management Plan for review and comment COB 11 February 2026
Date:	Tuesday, 13 January 2026 1:24:19 PM
Attachments:	image001.png

Good afternoon Renee,

I have no additional comments at this stage.

John

On Tue, 13 Jan 2026 at 12:13 pm, Consultation <consultation@regalheritage.com.au> wrote:

> Dear-Registered Stakeholder,
>
> **Re: GM³ Proposed Longwalls 712 to 716 Extraction Plan – Heritage Management Plan**
>
> Many thanks for your group's assistance to date on behalf of Illawarra Coal Holdings Pty Ltd (ICHPL) trading as GM³ (formerly South32 Illawarra Metallurgical Coal) with the Aboriginal community consultation for the Proposed Appin Mine Longwall 712 to 716 Extraction Plan (EP).
>
> The draft Heritage Management Plan (HMP) attached is provided in accordance with the Heritage NSW (formerly the Office of Environment and Heritage) *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW, 2010) for your review and comment. If you have any comments, suggestions or queries regarding the draft Management Plan report, please contact Regal Heritage by **COB 11 February 2026.**
>
> Please note that the draft Heritage Management Plan incorporates both Aboriginal and non-Aboriginal heritage items.
>
> Could you please direct all correspondence to Renée Regal at your soonest convenience.
>
> Ms Renée Regal
>
> Director/ Heritage Consultant
>
> Regal Heritage
>
> PO Box W51
>
> West Wollongong NSW 2500
>
> consultation@regalheritage.com.au

Yours sincerely,

Renée Regal

Heritage Consultant/ Director

From Regal Heritage Pty Ltd

on behalf of ICHPL trading as GM³

0400 594 580

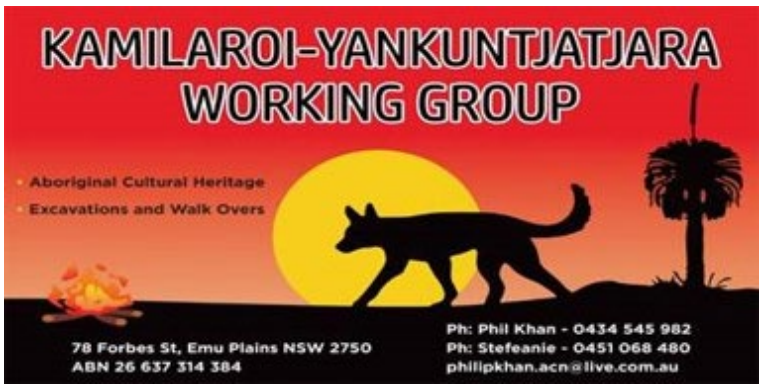


From:	Phil Khan
To:	Consultation
Subject:	Re: GM³ Proposed Longwalls 712 to 716 Extraction Plan – Heritage Impact Assessment (Project Number 1179)
Date:	Tuesday, 29 July 2025 12:40:33 PM
Attachments:	image001.png Outlook-2n5cineo

Hi Renee,

Thank you for your Heritage Impact assessment for GM³ Proposed Longwalls 712 to 716 Extraction Plan, we agree and support your report.

Kinds Regards
Phil Khan – Director
P 0451068480
Email: philipkhan.acn@live.com.au
ABN 26 637 314 384



From: Consultation <consultation@regalheritage.com.au>
Sent: Thursday, 3 July 2025 12:14 PM
To: Renee Regal <renee@regalheritage.com.au>
Subject: GM³ Proposed Longwalls 712 to 716 Extraction Plan – Heritage Impact Assessment (Project Number 1179)

Dear-Registered Stakeholder,

Re: GM³ Proposed Longwalls 712 to 716 Extraction Plan – Heritage Impact Assessment (Reference Project Number 1179)

Many thanks for your group's assistance to date on behalf of Illawarra Coal Holdings Pty Ltd (ICHPL) trading as GM³ (formerly South32 Illawarra Metallurgical Coal) with the Aboriginal community consultation for the Proposed Appin Mine Longwall 712 to 716 Extraction Plan (EP).

The draft Heritage Impact Assessment (HIA) attached is provided in accordance with the Heritage NSW (formerly the Office of Environment and Heritage) Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW, 2010) for your review and comment. If you have any comments, suggestions or queries regarding the report, please contact Regal Heritage by COB 31

July 2025, noting that any feedback received at any time will be accepted and considered, up to the finalisation of the report.

Could you please direct all correspondence to Renée Regal at your soonest convenience.

Ms Renée Regal
Director/ Heritage Consultant
Regal Heritage
PO Box W51
West Wollongong NSW 2500
consultation@regalheritage.com.au

Yours sincerely,

Renée Regal
Heritage Consultant/ Director
From Regal Heritage Pty Ltd
on behalf of ICHPL trading as GM^3
0400 594 580



From:	Mundawari Heritage Consultants
To:	Consultation
Subject:	Re: GM³ Proposed Longwalls 712 to 716 Extraction Plan – Heritage Impact Assessment (Project Number 1179)
Date:	Saturday, 12 July 2025 2:33:11 PM
Attachments:	image001.png

Hi Renée,

Thank you for sharing the draft Heritage Impact Assessment (Rev 03) for Longwalls 712–716.

I appreciate the care taken in the assessment and reporting process, and the clarity of the summary of findings.

I'd like to raise a key cultural consideration for ongoing attention:

While no new Aboriginal sites were identified during the recent fieldwork, the broader cultural landscape still holds meaning. The absence of visible artefacts does not equate to the absence of cultural value. Country carries stories, memory, and responsibility, and areas without formal AHIMS registration may still be culturally significant in ways that require respect and future consideration.

I support the recommendation for ongoing Aboriginal community consultation throughout the life of the project. This is essential to ensure that any new information, changes to landform, or unforeseen impacts - especially those arising through remediation or surface cracking are managed with cultural guidance and care.

Thank you again for the opportunity to contribute to this assessment.

Kind regards,

Dean Delponte

I acknowledge the Traditional Custodians of the land on which this project is situated, and I pay my respects to Elders past and present. I recognise their enduring connection to land, waters, culture, and community.

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On Thu, 3 Jul 2025 at 12:15, Consultation <consultation@regalheritage.com.au> wrote:

> Dear-Registered Stakeholder,
>
> **Re: GM³ Proposed Longwalls 712 to 716 Extraction Plan – Heritage Impact Assessment (Reference Project Number 1179)**
>
> Many thanks for your group's assistance to date on behalf of Illawarra Coal Holdings Pty Ltd (ICHPL) trading as GM³ (formerly South32 Illawarra Metallurgical Coal) with the

Aboriginal community consultation for the Proposed Appin Mine Longwall 712 to 716 Extraction Plan (EP).

The draft Heritage Impact Assessment (HIA) attached is provided in accordance with the Heritage NSW (formerly the Office of Environment and Heritage) Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW, 2010) for your review and comment. If you have any comments, suggestions or queries regarding the report, please contact Regal Heritage by COB 31 July 2025, noting that any feedback received at any time will be accepted and considered, up to the finalisation of the report.

Could you please direct all correspondence to Renée Regal at your soonest convenience.

Ms Renée Regal

Director/ Heritage Consultant

Regal Heritage

PO Box W51

West Wollongong NSW 2500

consultation@regalheritage.com.au

Yours sincerely,

Renée Regal

Heritage Consultant/ Director

From Regal Heritage Pty Ltd

on behalf of ICHPL trading as GM³

0400 594 580

REGAL HERITAGE

Renée Regal BA (Hons)
Heritage Consultant – Director
0400 594 580
consultation@regalheritage.com.au
www.regalheritage.com.au
PO Box W51, West Wollongong NSW 2500

From:	Darleen Johnson
To:	Consultation
Subject:	Re: GM³ Proposed Longwalls 712 to 716 Extraction Plan – Heritage Impact Assessment (Project Number 1179)
Date:	Tuesday, 22 July 2025 10:19:37 PM
Attachments:	image001.png

Hi Renee
I have read the project information and heritage impact assessment for the above project, I endorse the recommendations.
Kind regards
Darleen
0490051102

On Thursday 3 July 2025 at 12:15:11 pm AEST, Consultation <consultation@regalheritage.com.au> wrote:

Dear-Registered Stakeholder,

Re: GM³ Proposed Longwalls 712 to 716 Extraction Plan – Heritage Impact Assessment (Reference Project Number 1179)

Many thanks for your group's assistance to date on behalf of Illawarra Coal Holdings Pty Ltd (ICHPL) trading as GM³ (formerly South32 Illawarra Metallurgical Coal) with the Aboriginal community consultation for the Proposed Appin Mine Longwall 712 to 716 Extraction Plan (EP).

The draft Heritage Impact Assessment (HIA) attached is provided in accordance with the Heritage NSW (formerly the Office of Environment and Heritage) Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW, 2010) for your review and comment. If you have any comments, suggestions or queries regarding the report, please contact Regal Heritage by COB 31 July 2025, noting that any feedback received at any time will be accepted and considered, up to the finalisation of the report.

Could you please direct all correspondence to Renée Regal at your soonest convenience.

Ms Renée Regal

Director/ Heritage Consultant

Regal Heritage

PO Box W51

West Wollongong NSW 2500

consultation@regalheritage.com.au

Yours sincerely,

Renée Regal

Heritage Consultant/ Director

From Regal Heritage Pty Ltd

on behalf of ICHPL trading as GM³

0400 594 580



Appendix C: *Appin Area 7 Longwalls 712 to 716 Statement of Heritage Impact* (Archive Heritage 2025)

STATEMENT OF HERITAGE IMPACT

Appin Colliery, Area 7 Longwalls 712 – 716



Final report

Prepared by Archive Heritage for GM[3]

September 2025

REPORT DETAILS

Date	Version	Comments	Prepared by	Prepared for	LGA
September 2025	Draft	Proponent review	Archive Heritage Pty Ltd	GM³	Wollondilly
9 September 2025	Final	For issue	Archive Heritage Pty Ltd	GM³	Wollondilly

This report has been prepared by Archive Heritage in accordance with the brief provided by GM³ with reference to existing conditions and statutory controls and utilising research materials available at the time of preparation. All findings, conclusions or recommendations contained in this report are based on this aforementioned information. Research materials utilised in this report are acknowledged and referenced. This report is for the use of GM³ who may, at its discretion, use the report to inform regulators and the public.

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Archive Heritage
Minnamurra NSW

Title Image: Sketch map of proposed line to Illawarra by Thomas Mitchell c. 1830. Source: SLNSW Call no: M Ser 4 000/1 A 295-2/Map 2

EXECUTIVE SUMMARY

Archive Heritage has been commissioned by GM³ (the proponent) to prepare a Statement of Heritage Impact (SoHI) for heritage items that may be impacted by the proposed Appin Colliery Longwalls 712, 714, 715 and 716 (the subject area).

Appin Colliery comprises Mining Areas; 5, 7, 8, and 9. These Areas, along with the West Cliff mining Areas, are collectively known as the Bulli Seam Operations (BSO). Appin Mine is owned and operated by Endeavour Coal Pty Ltd, a subsidiary of Illawarra Coal Holdings Pty Ltd (ICHPL), which is a wholly owned subsidiary of Gear M Illawarra Met Coal Pty Ltd.

Appin Mine is operated by GM³ under approval MP08_0150. Archive Heritage understands that GM³ are seeking approval of an Extraction Plan (EP) for Longwalls 712 to 716 in accordance with the Condition 5 of Schedule 3) of MP08_0150. This conditions requires assessment of potential impacts to listed heritage items to support the application. This document meets this requirement.

The subject area is predominantly located within the suburb of Menangle in the Wollondilly Local Government Area (LGA), Parish of Camden, County of Camden, with part of the subject area located within the suburb or Razorback. The subject area for this SoHI is defined as the surface area that could be potentially affected by subsidence as a result of the extraction of coal from Longwalls 712, 713, 714,715 and 716. It contains one locally significant heritage item 'Slab hut' (WLEP# I79) and overlaps with parts of the curtilages of two other locally significant heritage items 'Mt Hercules Homestead—ruins, well, trees and slab garage' (WLEP# A12) and 'Dairy No 9 (EMAI Cottage 24)' (WLEP# I85). Part of the curtilage of State significant Camden Park Estate and Belgenny Farm' (SHR # 01697) also overlaps with the subject area.

This SoHI assesses whether the fabric or significance of these heritage items would be impacted as a result of subsidence associated with Longwalls 712 to 716.

CONCLUSIONS

This SoHI has determined that:

- *Slab Hut* may be subject to a **negligible to low** impact as a result of the proposed works
- *Mt Hercules homestead* may be subject to a **negligible to low** impact as a result of the proposed works
- *Dairy No. 9 (EMAI Cottage 24)* may be subject to **nil to very low** impact as a result of the proposed works. This determination applies to the items curtilage only, with built fabric of the listing predicted to be subject to **nil impact** as a result of the proposed works.
- *Camden Park Estate and Belgenny Farm* may be subject to **nil to very low** impact as a result of the proposed works. This determination applies to the items curtilage only, with built fabric of the listing predicted to be subject to **nil impact** as a result of the proposed works.

LIMITATIONS

The conclusion of this assessment is caveated by the following limitations:

- Access to *Slab hut* has not been possible as part of this assessment and the exact nature and significance of the heritage item has not been established.
- No Historical Archaeological Assessment (HAA) exists for *Mt Hercules homestead* limiting archaeological understanding of this item.

RECOMMENDATIONS

In consideration of the above conclusions, the following recommendations are made:

RECOMMENDATION 1

The proposed extraction should be undertaken in accordance with the CoC for MP08_0150 and the requirements of the overarching Appin Mine Heritage Management Plan (HMP)[1] and the HMP for Longwall 712 to 716 Extraction Plan . This should include requirements and policies for:

- Subsidence monitoring and reporting of heritage items that may be impacted by the proposed works (*Slab Hut* and *Mt Hercules Homestead*)
- Performance measures and indicators
- Contingency response plans
- Complaints and compliance monitoring
- Defined roles and responsibilities
- Stop work and unexpected finds procedures

RECOMMENDATION 2

It is recommended that archival recordings are prepared for both '*Slab hut'* and '*Mt Hercules homestead – ruin, well and slab garage*' in accordance with Section 7.6 – 'Subsidence Monitoring Requirements' of the Appin Mine HMP.

RECOMMENDATION 3

Information obtained in the process of Recommendation 2 should be used to update this SoHI with regard to the nature and significance of heritage item 'Slab hut', when access to that property becomes available.

[1]GM[3], 2025, Appin Mine Area 7, Longwalls 712 to 716 Heritage Management Plan

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1 INTRODUCTION

1.1 PURPOSE OF THIS REPORT

Archive Heritage has been commissioned by GM³ (the proponent) to prepare a Statement of Heritage Impact (SoHI) for Non-Aboriginal heritage items identified as part of a Heritage Impact Assessment[2] that may be impacted by proposed Appin Colliery Longwalls 712, 714, 715 and 716 (the subject area).

Appin Mine is owned and operated by Endeavour Coal Pty Ltd, a subsidiary of Illawarra Coal Holdings Pty Ltd (ICHPL), which is a wholly owned subsidiary of Gear M Illawarra Met Coal Pty Ltd. Appin Mine, Cordeaux Colliery and Dendrobium Mine (and associated facilities) are collectively operated by GM³.

GM³ is preparing an Extraction Plan (EP) Application for Longwalls 712 to 716 (LW712 to LW716) in the Bulli Seam (the 'proposed activity' or 'the project'). This SoHI report provides information to support the EP Application which will be submitted to the Department of Planning, Housing and Infrastructure (DPHI).

The subject area contains two locally significant heritage items with built and archaeological heritage fabric. 'Slab Hut' (WLEP #I79) (hereafter referred to as *Slab hut*) and 'Mt Hercules homestead ruins, well, trees and slab garage' (WLEP #A12) (hereafter referred to as *Mt Hercules homestead*). The subject area also includes part of the curtilages of two further heritage items, locally listed 'Dairy No. 9 (EMAI Cottage 24) (hereafter referred to as *Dairy No. 9*) and the SHR listed State significant 'Camden Park Estate and Belgenny Farm' (hereafter referred to as *Camden Park Estate*).

This SoHI assesses whether the proposed activity is likely to pose direct or indirect impacts to the significance of these and other nearby heritage items.

This assessment also establishes recommendations for future requirements with regard to these heritage items, in accordance with Conditions of Consent (CoC)for the BSO project Approval, the Heritage Management Plan for the project and relevant statutory controls. requirements that would ensure any impacts resulting from longwall extraction activities would be captured and understood.

1.2 SITE DESCRIPTION

Appin Mine is in the Southern Coalfield of New South Wales. The study area is located within the suburbs of Menangle and Razorback in the Wollondilly Local Government Area (LGA), Parish of Camden, County of Camden (Figure 1). The subject area for this SoHI is defined as the surface area that could be potentially affected by subsidence and is inclusive of peripheral areas where additional subsidence effects may occur as a result of the extraction of coal from Longwalls 712, 713, 714,715 and 716. These longwalls are located within close proximity to the townships of Douglas Park and Menangle and extend south-west into the foothills of the Razorback Range and semi-rural locality of Razorback, NSW. Navigation Creek passes through the subject area from south-west to north-east over a distance of 6 kilometres (km).

[2] Regal Heritage, 2025, Regal Heritage 2025, Appin Area 7 Longwalls 712 to 716, Heritage Impact Assessment prepared for GM³.

The subject area (Figure 2) has been defined, as a minimum, as the surface area enclosed by the: 35° angle of draw line from the extents of LW712 to LW716, and the predicted additional 20 mm subsidence contour due to the mining of these longwalls[3] (see also Figure 16).

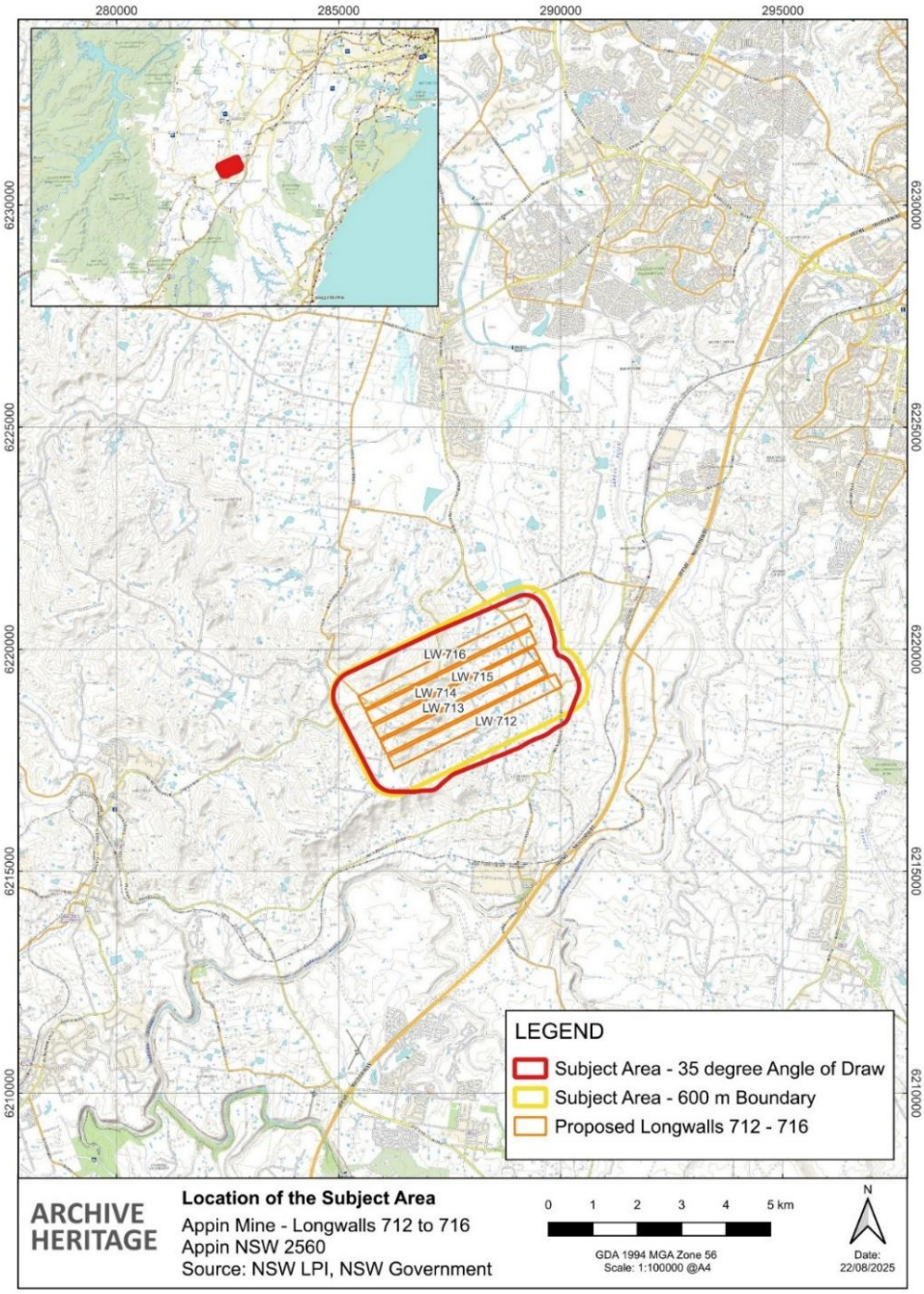


Figure 1. Location of the subject area (Source: Archive Heritage)

[3] MSEC 2025, Illawarra Coal Holdings: Appin – Longwalls 712 to 716 Subsidence Predictions and Impact Assessments for the Natural and Built Features due to the Mining of the Proposed Longwalls 712 to 716 at Appin Mine, prepared for GM3.

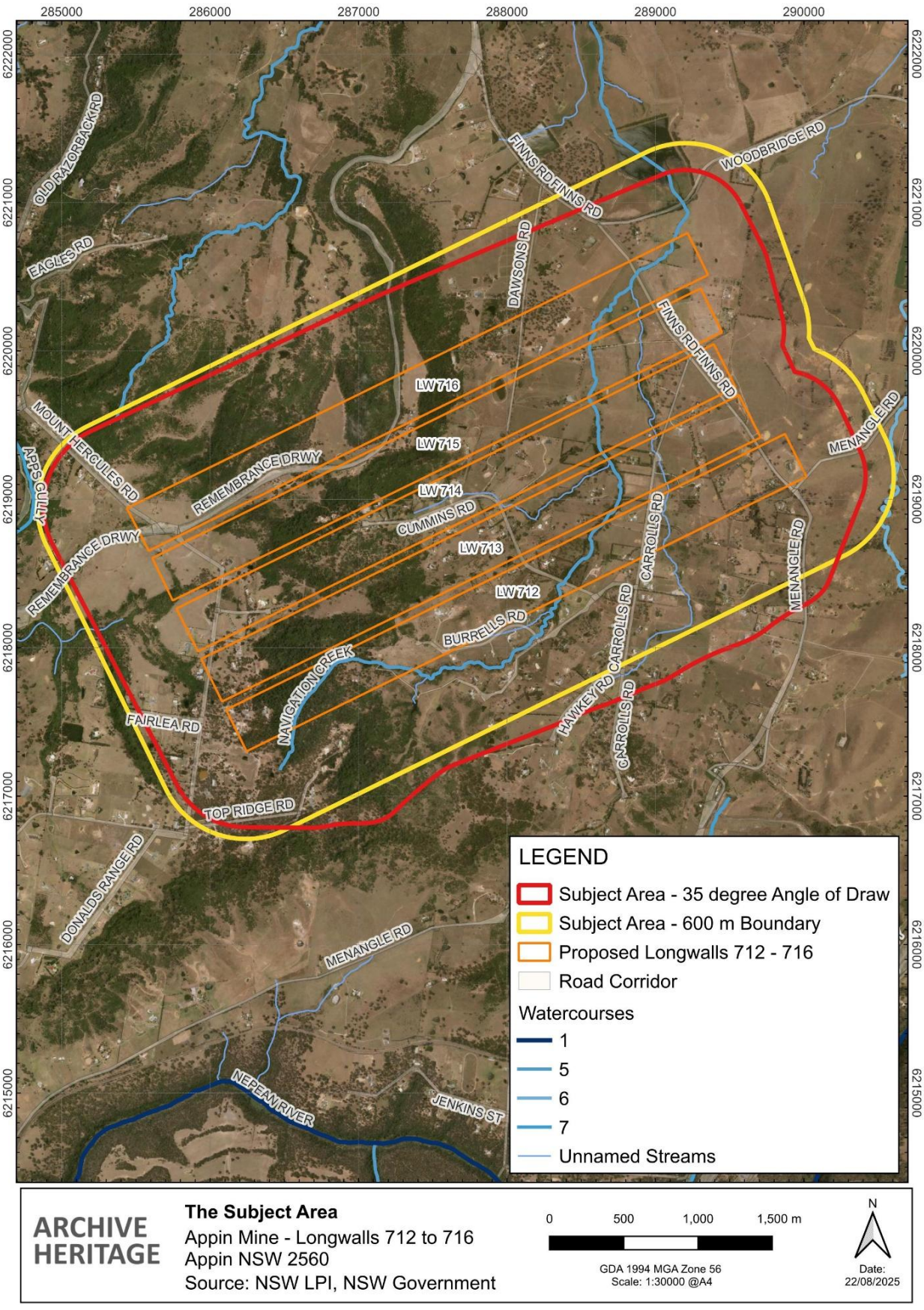


Figure 2. The subject area (Source: Archive Heritage)

1.3 METHODOLOGY AND ASSESSMENT GUIDELINES

This SoHI considers the subject area, its environs and the proposed activity as informed by documentation prepared for the proponent regarding the proposed EP.[4] Heritage management approaches adopted and recommended by this SoHI reflect those of the overarching BSO Heritage Management Plan developed for Appin Mine.[5]

This assessment has been prepared in accordance with the following heritage management guidelines:

- Department of Planning and Environment NSW, 2023, *Guidelines for preparing a statement of heritage impact*
- Department of Planning and Environment NSW, 2023, *Assessing Heritage Significance: A NSW Heritage Manual Update*
- Australia ICOMOS, 2013, *Australia ICOMOS Charter for Places of Cultural Significance and The Burra Charter*
- Government Architect NSW, 2017, *Better Placed: An integrated design policy for the built environment of New South Wales*

1.4 AUTHORSHIP

This report has been prepared by James McGuinness, Principal Archaeologist and Heritage Consultant at Archive Heritage Pty Ltd.

1.5 HISTORICAL HERITAGE ASSESSMENT METHODOLOGY

Historical heritage assessment within this SoHI includes:

- a search of heritage databases to determine the subject area's association with any heritage listed items (Section 2)
- historical overview (Section 3)
- a review of heritage item listing details (Section 4)
- a site inspection (Section 0)
- a significance assessment (Section 6)
- an outline of the proposed works (Section 7), and
- an impact assessment and heritage impact statement (Section 8)

1.6 ASSESSMENT LIMITATIONS AND CONSTRAINTS

This report has been prepared using historical data and documentation available for the subject area including historical records and heritage assessments. While this report considers historical development of the subject area and surrounds it does not include assessment of historical archaeological resources that may be impacted by the development. This report does not include assessment of Aboriginal cultural heritage in accordance with the requirements of the *National Parks and Wildlife Act 1974*.

[4] MSEC 2025, Illawarra Coal Holdings:: Appin – Longwalls; Regal Heritage 2025, Appin Area 7 Longwalls.
[5] South32 2024, Appin Mine Heritage Management Plan.

2 STATUTORY CONTEXT

A search of the following government plans and heritage registers were completed on 2 May 2025 to ensure any heritage items that may be impacted by the proposed activity are considered:

- Wollondilly Local Environment Plan 2011 (WWLEP)
- Wollondilly Developmental Control Plan 2016 (WDCP)
- NSW State Heritage Inventory (SHI)
- State Government Agency Conservation (Section 170) Registers
- Australian Heritage Database

The contexts and statutory status of these registers and databases are outlined below

2.1 HERITAGE STATUTORY CONTEXT

European heritage items and known or potential archaeological resources are afforded statutory protection in NSW under the following Legislative Acts:

- Heritage Act 1977 (NSW) (Heritage Act)
- Environmental Planning and Assessment Act 1979 (NSW) (EP&A Act).

Whereas Aboriginal cultural heritage in NSW is administered by the following principles pieces of legislation:

- National Parks and Wildlife Act 1974 (NSW) (NPW Act); and
- Environmental Planning and Assessment Act 1979 (NSW) (EP&A Act)

Local government planning policies and development controls administer regional protection of environmental heritage. For the subject area these include the Wollondilly Council Local Environmental Plan (WLEP) 2011 and the Wollondilly Development Control Plan (WDCP) 2016. The following sections outline the relevant State legislation and local government provisions that apply to the proposed activity.

2.2 HISTORICAL HERITAGE STATUTORY CONTROLS

2.2.1 HERITAGE ACT (NSW) 1977

Environmental heritage in NSW is protected by the Heritage Act 1977 (The Heritage Act). Under Section 4 of the Act environmental heritage is broadly defined as a 'place, building, work, relic, moveable object or precinct' of State or local heritage significance.

The Heritage Act is administered by the NSW Heritage Council, under delegation by Heritage NSW, a division of the Department of Climate Change, Energy, the Environment and Water (DCCEEW). The Heritage Act governs the conservation and regulation of impacts to items of local and State heritage significance, with 'State Heritage Significance' defined as being of 'significance to the state in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item'.

The Heritage Act is designed to protect both identified heritage items and unidentified heritage resources, such as potential archaeological resources of State or local significance ('relics'). Different parts of the Heritage Act provide appropriate mechanisms through which items and places of heritage significance may be protected and managed in accordance with Heritage Council guidelines.

2.2.2 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT (NSW) 1979

The NSW Department of Planning, Housing and Infrastructure (DPHI) administers the EPA Act, the statutory framework for environmental assessment and planning approval in NSW. It provides for environmental planning instruments which establish planning controls to administer development, environmental protections and land use. The EPA Act ensures that potential Aboriginal and historical built and archaeological heritage resources are adequately assessed and considered as part of the development process.

2.2.3 BULLI SEAM OPERATIONS PROJECT APPROVAL

Illawarra Coal Holdings Proprietary Limited (ICHPL), now a subsidiary of GM³, received Project Approval 08_01501 (the project Approval) from the Planning Assessment Commission of NSW under delegation of the Minister for Planning and Infrastructure on 22 December 2011 for current and proposed mining of the Bulli Seam Operations (BSO) to December 2041.

Condition 5 of Schedule 3 of the BSO Project Approval identifies the required performance measures that must be met for Aboriginal and non-Aboriginal heritage features (Section 8.5.1). Condition 5 requires the preparation and implementation of an Extraction Plan (EP) for first and second workings within each longwall mining domain. Further to this, the BSO Project Approval also requires the preparation of a Heritage Management Plan (HMP) and Condition 24 of Schedule 4 identifies the program/procedures informing the preparation of the HMP for the project and management of cultural heritage. This SoHI is prepared in response to Schedule 3 Condition 5 (k), that requires a Heritage Management Plan be prepared which includes:

> *…additional investigations (such as surveys and current register searches) for Aboriginal heritage items (including previously known sites) and historic heritage items, sufficient to identify the significance (including "special significance") of all sites which may be impacted by subsidence and to identify any actions required to ensure that the performance measures in Table 1 are met,*

2.3 STATUTORY HERITAGE LISTINGS

The following heritage registers define heritage listings within the Wollondilly municipality, including those that occur within the subject area and could be directly impacted by the proposed activity.

As the proposed activity does not entail works that pose indirect impacts, such as those associated with changes to the built environment, items within the visual catchment of the subject area that could be indirectly impacted by such change do not require assessment.

2.3.1 STATE HERITAGE REGISTER

The State Heritage Register (SHR) was established under Section 22 of the Heritage Act in 1977 and forms a register of places, objects, and archaeological sites of NSW that is administered by Heritage NSW. The SHR includes a diverse range of over 1,500 items of State Heritage significance held in private and public ownership. No SHR items are listed within the immediate vicinity of the subject area.

There is one heritage item within the subject area that is on the SHR, 'Camden Park Estate and Belgenny Farm' (SHR # 01697). This State significant item has a large curtilage and includes multiple former farms and homesteads and associated agricultural landscapes, including 'Dairy No 9 (EMAI Cottage 24)' which is also partly located within the north-eastern corner of the subject area.

2.3.2 SECTION 170 HERITAGE AND CONSERVATION REGISTERS

Section 170 of the Heritage Act requires that culturally significant items or places managed or owned by Government agencies are listed on the departmental Heritage and Conservation Register. Information on these registers has been prepared in accordance with Heritage Division guidelines. Statutory obligations for archaeological sites that are listed on a Section 170 Register include notification to the Heritage Council in addition to relics provision obligations.

There are no items within the subject area that are entered on a State Government Section 170 Register.

2.3.3 WOLLONDILLY DEVELOPMENT CONTROL PLAN 2016

The WDCP (2016) provides development controls to satisfy the requirements of the Environmental Planning and Assessment Act 1979 and Planning Policies of the WLEP 2011, including those with regard to heritage conservation and management. The WDCP applies to all land within the Wollondilly LGA and incorporates provisions for works to heritage items, development in the vicinity of heritage items, and within designated Heritage Conservation Areas as defined by the WDCP.
Part 5 of the WDCP sets of heritage conservation Objectives for the municipality. The objectives of heritage conservation are:

> *(a) To establish good design principles to guide development to and around heritage items,*
> *(b) To ensure development is sympathetic to the overall heritage values and characteristics of the area,*
> *(c) To identify local heritage character and heritage elements of the built environment, and*
> *(d) To ensure the retention and management of heritage values identified for each conservation area and specific precinct.*[6]

Under Section 5.2 (Colonial Heritage – General Controls) Development associated with heritage items cumulative impact must be considered to ensure that the characteristic features of the conservation area (or heritage item) that give harmony and cohesiveness to streetscapes and individual buildings are not eroded.

2.3.4 WOLLONDILLY LOCAL ENVIRONMENTAL PLAN 2011

The WLEP provides local environmental planning provisions for land within the Wollondilly Municipality. Part 5.10 of the WLEP outlines key heritage conservation objectives, including:

(a) to conserve the environmental heritage of Wollondilly,

(b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,

(c) to conserve archaeological sites,

(d) to conserve Aboriginal objects and Aboriginal places of heritage significance.

Schedule 5 of the WLEP outlines a total of 292 listed heritage items, five heritage conservation areas (HCA), one Landscape Conservation Area (LCA), 14 Archaeological Sites and 1 Aboriginal Place of

[6] WSC, 2016, Development Control Plan, Volume 1 – General, Part 5: Colonial Heritage (General)

heritage significance. Of the listed items, 19 are of State significance and 273 are of local heritage significance. These include the examples within the subject area, which contains three locally significant heritage items:

- **'Slab Hut' at 40–60 Carrolls Road, Menangle (WLEP# I79) is located within the eastern section of the subject area at 40 –60 Carrolls Road, Menangle .**
- **'Mt Hercules Homestead—ruins, well, trees and slab garage' at 100 Mount Hercules Road, Razorback (WLEP# A12), which is partly located within the north-western corner of the subject area. This item also represents one of the 14 Archaeological Sites of local significance on Schedule 5.**
- **'Dairy No 9 (EMAI Cottage 24)' at 240 Woodbridge Road, Menangle (WLEP# I85), which is partly located within the north-eastern corner of the subject area.**

2.3.5 THE AUSTRALIAN HERITAGE DATABASE

The Australian Heritage Database contains information about more than 20,000 natural, historic and Indigenous places of significance to the nation and managed by DCCEEW. The database forms an overview of registered listings at various levels, as well as providing a record of listings that reflect the former Non-statutory Register of the National Estate. The Australian Heritage Database forms an important supplementary source of items that further inform the heritage context of a given locality.

There are no items within the subject area that are registered on the Australian Heritage Database.

2.4 SUMMARY OF STATUTORY HERITAGE LISTINGS

Heritage registry searches for this assessment have identified that:

- The subject area contains one State Heritage Register listed item – *Camden Park Estate and Belgenny Farm'*(SHR # 01697).
- The subject area contains three locally significant heritage items – '*Slab Hut'* at 40–60 Carrolls Road, Menangle (WLEP # I79), and '*Mt Hercules Homestead—ruins, well, trees and slab garage*' at 100 Mount Hercules Road, Razorback (WLEP# A12), and '*Dairy No 9* (EMAI Cottage 24)' at 240 Woodbridge Road, Menangle (WLEP # I85), which is partly located within the north-eastern corner of the subject area.
- Heritage listed items outside but within the visual catchment of the subject area would not be subject to impacts as a result of the proposed activity.

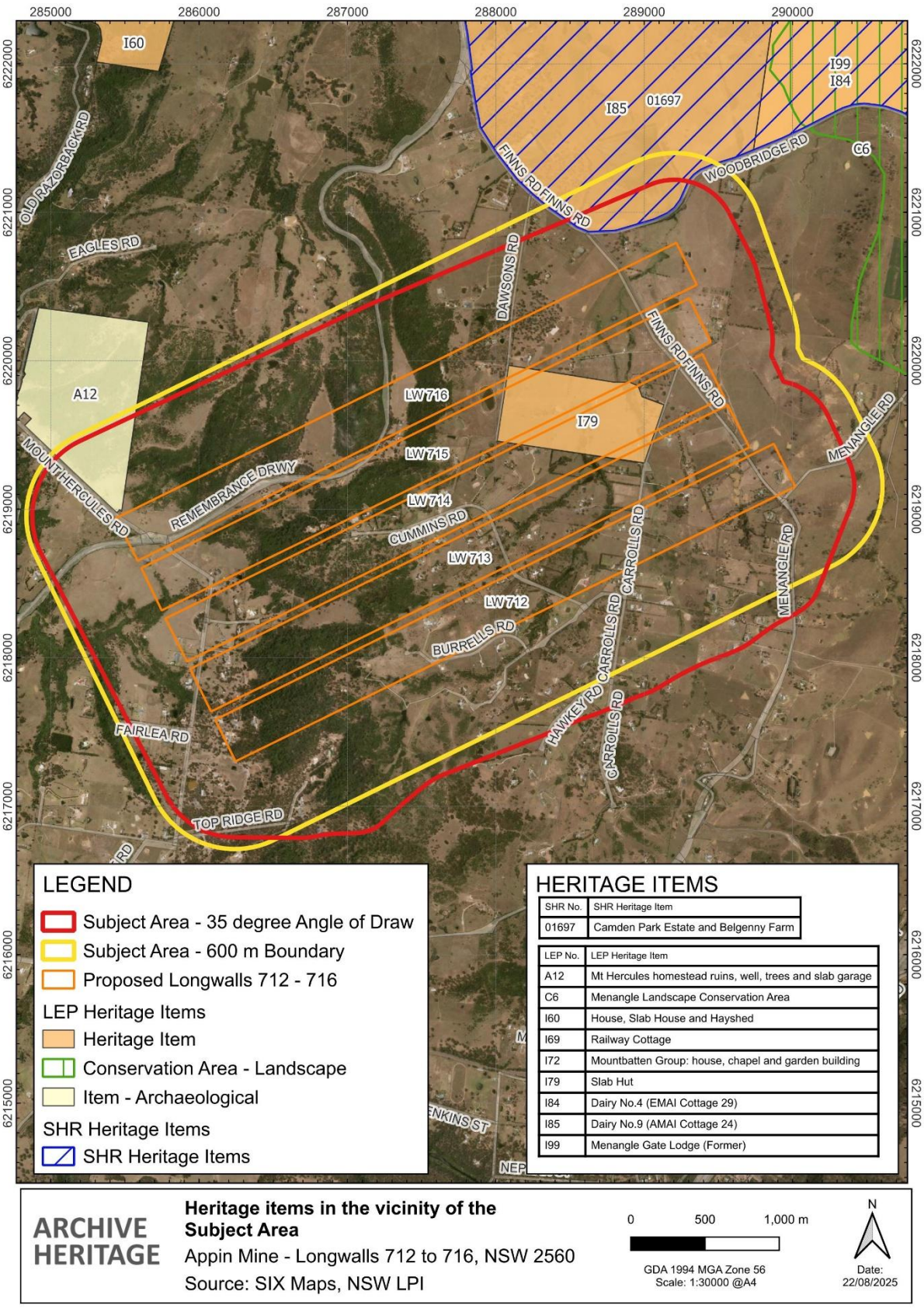


Figure 3. Subject area and WLEP listed Heritage items (Source: Archive Heritage)

3 HISTORICAL CONTEXT

NSW heritage assessment procedures require an understanding of a site or item based on its historical record and physical setting in order to inform significance. The following section outlines the historical development of the Macarthur region post European invasion.

3.1 EARLY EUROPEAN EXPLORATION AND ROADS

The subject area is located at the fluid confluence of the traditional lands of the Gandangara and Dharawal people.

European incursions within the region surrounding the subject area commenced as early as 1790, when Captain Watkin Tench, William Dawes and George Worgan set out from Prospect to explore and record lands and potential resources to the south. Two subsequent expeditions were led by Governor Hunter in 1795 and 1796 to inspect the grasslands of the southern Cumberland Plain after cattle had wandered into the region. Hunter found the area centred on what would become Camden, Menangle, Appin and the Razorback Range so suited to grazing that it was mapped and reserved for the purpose, becoming part of what was known as 'Cowpastures'. In 1802 military engineer and explorer Francis Barrallier travelled through the Cowpastures and reported on lands and resources in the vicinity of 'Manhangle' swamp.[7] By 1805 Surveyor James Meehan had been instructed to form the Cowpastures Road (Camden Valley Way) to the ford across the Nepean at today's Camden.

In August 1814 Hamilton Hume and his younger brother John became the first Europeans to cross the Razorback Range from Appin to Stonequarry (later Picton). In June 1821 Surveyor William Harper identified a route from near Camden, over the Razorback Range to Paddys River. Surveyor G. B. White marked an improved route via Cawdor in 1830 and by 1835 the convict-built road had been completed over the Razorback Range linking Stonequarry (Picton) and Camden. Parts of this route through the range currently forms a locally significant heritage listing (WLEP # A11) recognising remnant areas of convict-cut sandstone, macadam road surfacing, mile markers and stone culverts and retaining. A major variation re-aligned the Port Phillip Road (called the Hume Hwy since 1928) early in the twentieth century and the Great South Rd lapsed into the minor Cawdor Rd.

3.2 THE MACARTHURS AND CAMDEN PARK FARM

The region was soon a focus of agricultural investment at a time when successive droughts were severely impacting colonial resources and expansion beyond Sydney. Early landholdings were initially occupied by stockmen and convict labourers while forest was cleared and livestock were acquired. The first small dwelling within the region, referred to as 'Cowpastures House', was built as accommodation for government stockmen soon after 1800. Construction of government roads soon encouraged more permanent settlement along the Nepean and the Cowpastures region. Absentee landholders established estates that were some of the most extensive agricultural farms in colonial NSW at that time.

The Macarthurs' vast Camden acquisitions eventually totalled 28,350 acres, reflect the direct involvement of Colonial Secretary Lord Camden, with whom John Macarthur was working to develop a wool supply to the burgeoning British milling industry.[8] Part of the present subject area falls within the

[7] Wrigley J. 2001. A history of Camden, New South Wales, in: Camden History - https://www.camdenhistory.org.au/chhistoryofcamden.html, accessed 12 January 2025.
[8] Ibid.

larger of his two initial grants of 2,250 and 2,750 acres granted in 1805 (Figure 4). Macarthur was on the property with his valuable merino sheep the same year, erecting what Governor Macquarie would later describe as a 'small and miserable hut', the site of which has been identified through archaeological excavation.[9]

From these humble origins a vast pastoral enterprise was soon formed, the scale of which required a considerable labour force, initially achieved through assigned convict labour. Following the construction of Camden Park and John Macarthurs death during the 1830s his sons James, William and Edward Macarthur shipped workers out from Great Britain. In doing so they fostered one of the earliest, largest and most successful assisted migrant schemes in the colony – a system of land tenure that would become ubiquitous through the middle part of the 19th century. In total the Macarthurs would introduce 41 families to the Camden district between 1837-1839 most of whom were skilled farmers and labourers who came from the Isle of Wight and Dorset/Wiltshire border region. These families would work on the estate for up to 5 years in a variety of positions attached to 'Camden Park' 'Belgenny Farm' or an outlying small farm or stockmen's huts (Figure 5). The *Slab hut* heritage item within the subject area is likely to remain from the latter form of land tenure, prior to the subdivision of the estate. Having served their indentured period these migrant workers were then able to remain employed, take up their own farming leases or purchase land.

Various farms within the estate grew prize winning wheat,[10] however as with other regions, including the nearby Illawarra, broadscale cropping of wheat was viewed as risky due to the threat of weather and rust (*Puccinnia* infestations). Sheep were also successful, however cattle remained a primary production and mixed cropping, orcharding and increasingly, dairying proved a successful combination, particularly following construction of the railway. In 1899 a co-operative dairy was established with the participation of 21 tenant farmers. The estate was reorganized into a family company; 956 acres around the house were reserved as "Camden Park" the remaining 20,4436 acres became the Camden Park Estate Ltd. So successful was Camden Farm that the entire estate, operated as a series of hamlet farms from the central administration points of 'Belgenny Farm' and 'Camden Park', was admired as a model agricultural development.

Worker cottages were constructed on and for the estate between the1870's and 1920's and the Camden Estate Central Creamery was built in 1910. The Macarthurs patronised development in Menangle and were directly responsible for many of the fine buildings in the village, which assisted its growth and character.[11]

Despite the introduction of a number of modern innovations, notably the dairy rotolactor system in 1952, this model farm retained much of its 19th century aesthetic and rural character, including the majority of early buildings. Increasingly, the estate became recognised for its unique heritage value as one off the earliest, most intact and historically impactful farming estates in Australia. Today the reduced property, which once extended of much of the Macarthur region, is preserved as a heritage item of significance to the State of NSW, while also supporting a working rural property of 1,000 acres and the Elizabeth Macarthur Agricultural Institute (EMAI) one of Australia's leading research institutes for

[9] Edward Higginbotham & Associates, 2006, Historical and archaeological assessment of the site of the "small miserable hut", near Belgenny Farm, Elizabeth Macarthur Avenue, Camden, N.S.W. / Prepared for Belgenny Farm Trust
Edward Higginbotham & Associates, 2011, Report on the archaeological investigation (Season 3, 2010) of the site of the "small miserable hut", near Belgenny Farm, Elizabeth Macarthur Avenue, Camden, N.S.W. / Prepared for Belgenny Farm Trust.
[10] Camden News, 'Camden News with Record of Dates', 2 March 1939
[11] WDCP, 2016, Vol. 1, p.28

agriculture and related industries. The EMAI portion of Camden Park Estate includes the separate local heritage listing 'Dairy No. 9' (WLEP# I85).

3.3 EARLY SETTLEMENT OF STONEQUARRY AND RAZORBACK

Lands west of Appin in what would become the Parish of Picton were opened to settlement from 1822. The first grants in this area were to Governor Brisbane's erstwhile astronomer Christian Carl Ludwig Rumker and Major Henry Colden Antill (Figure 6).

Rumker established his 'Stargard' property, named for his German hometown, on a grant of 1,000 acres at Stonequarry Creek (Picton) in July 1822. Rumker appears to have been an eccentric of the highest order, who lived a minimalist existence in his slab cabin, wearing rags and sleeping on a blanket draped over three planks of wood. Rumker laboured on his farm by day with his small group of assigned men and took astronomical observations through his telescope by night, including from Observatory Hill at Razorback which bears this name in his honour. He observed the 'great comet' from this location in 1825 – a year in which it was noted he had yet to acquire any domestic furniture. Nonetheless, from 1823 he was able to sell wheat to the Colonial Government and by 1834 Stargard was described as a thriving farm of 'two thousand and two hundred acres of land with a capital cottage, barn, stables, stockyards and all requisite buildings. One hundred acres cleared and stumped into paddocks.'[12]

Antill was the district's most influential pioneer and the Antill family the most prolific landholders. Henry Antill established the 2000-acre property between Racecourse Creek and Razorback which he named 'Jarvisfield' after Jane Jarvis, the wife of his friend Governor Macquarie. His eventual Jarvisfield home still stands today as the Antill Park Country Golf Course clubhouse. He and his sons acquired numerous other landholdings around the Razorback Range. Other early grants were made to the Fieldhouse brothers, William Coull, John Boardman and Thomas Dawson. John Tickner and Charles Arnold, former Camden farm migrant workers, initially leased farmland from the Macarthurs in the eastern foothills of Razorback before acquiring their own grants adjacent to and within the subject area.

3.4 THE ARNOLD FAMILY AND MT HERCULES HOMESTEAD

In 1836 James and William Macarthur sponsored 15 families to sail from the Isle of Wight to be free farmers at Camden. [13] One migrant, Samuel Arnold, completed two years engagement at Camden Park, before leaving and leasing land adjacent to that of John Tickner at Razorback that had formerly been set aside as a reserve for a church and school that were never realised. In 1841 Samuel Arnold also leased a block of land at the corner of the Argyle and Hill Streets in the village of Camden and established a wheelwright business. He and his family lived in the cottage attached to the workshop and he serviced the area making and repairing coaches and bullock wagons. Sons George and John Arnold were born at this property.[14]

Samuel then purchased a block of land opposite his workshop where he built the first Plough and Harrow Inn in 1851, leasing it to a Thomas Brennan and subsequently William Risley.[15] This hotel was of a Georgian cottage design, with a second storey added in 1885. Samuel later sold or bequeathed this property to his son Charles who owned it until 1920. Samuel retained his grazing land on Razorback and around the same time as the addition to the Inn, purchased two portions of the land totalling 249

[12] *The Australian*, 'Advertising', 6 June 1834, p.1
[13] *Camden News*, 'Camden News with Record of Dates', 2 March 1939, p.7.
[14] *Camden News*, 'Death of Mr. G. F. Arnold', 30 April 1942, p.1.
[15] Willis, I. 2023, The Plough and Harrow Hotel: an early colonial Camden inn, Camden history notes.

acres. The Arnold's soon built a high-ceilinged, rectangular timber residence with two brick chimneys and hipped roof clad in iron sheeting (Figure 7). Two short timber wings encircling an open courtyard toward the road frontage, one of which had a third chimney and rendered brick cistern and may have been the kitchen. A timber deck wrapped around three sides under a steeply pitched verandah awning. The homestead included an adjacent separate hut with fireplace described as a worker's hut[16] a rendered brick cistern and detached outhouse. A separate dairy complex of timber buildings stood several hundred metres downslope closer to the road network of the Macarthur Estate.

By the turn of the century the farm was being run by Charles' brother John and was described in an article in *Camden News:*

> *John C. Arnold, of Razorback, is making many great and very important improvements to his extensive milking yards, bales, creamery and other appurten-ances, these together with another improve-ment to his dairy farm in the shape of an extensive dam, recently perfectly constructed by Mr. F. J. Doust, will make the farm one of the best in the Camden Electorate. Mr. Arnold has for many years been noted for the excellence of his breed of cattle. It is the intention of Mr. Arnold to still further improve the breed and devote more of his time and attention to dairying pursuits than to orchard work. Mr. Arnold and his many capable sons are now in the thick of improve-ments to buildings, fencing etc., and their work will vastly improve the value of the estate. A portion of the extensive orchard is to be turned into a large grazing paddock, and when it is considered that Mr. Arnold in past years was one of the chief winners of fruit at the Picton and Camden shows; especially apples, it clearly demon- strates that he values the importance of going thoroughly into dairying having really first-class cattle with first-class appurtenances. It may be mentioned that in Mr. Arnold's orchard he has upwards of 80 different varieties of apples.*[17]

The house was described as a 'pretty residence on the summit of the hill' and the work of the farm carried out exclusively by the family, The name of 'Mt Hercules' is a recent association linked to Mt Hercules Rd and the extant homestead of that name further to the west. The house remained occupied until the latter 20th century. By the 1980s dairying was in decline with most smallholders were selling out to the larger dairying companies. The deregulation of the industry in the 1990s all but put an end to dairying in the district. The Arnold homestead was photographed at around this time in a derelict condition. In the years afterward it was destroyed by fire. Descendants of the Arnold family continue to occupy the land and adjacent areas.[18]

[16] Greg Hill, landowner, 2025, Pers. comm
[17] *Camden News*, 1897, 'Razorback', 18 March, p. 1.
[18] Greg Hill, landowner, 2025, Pers. comm

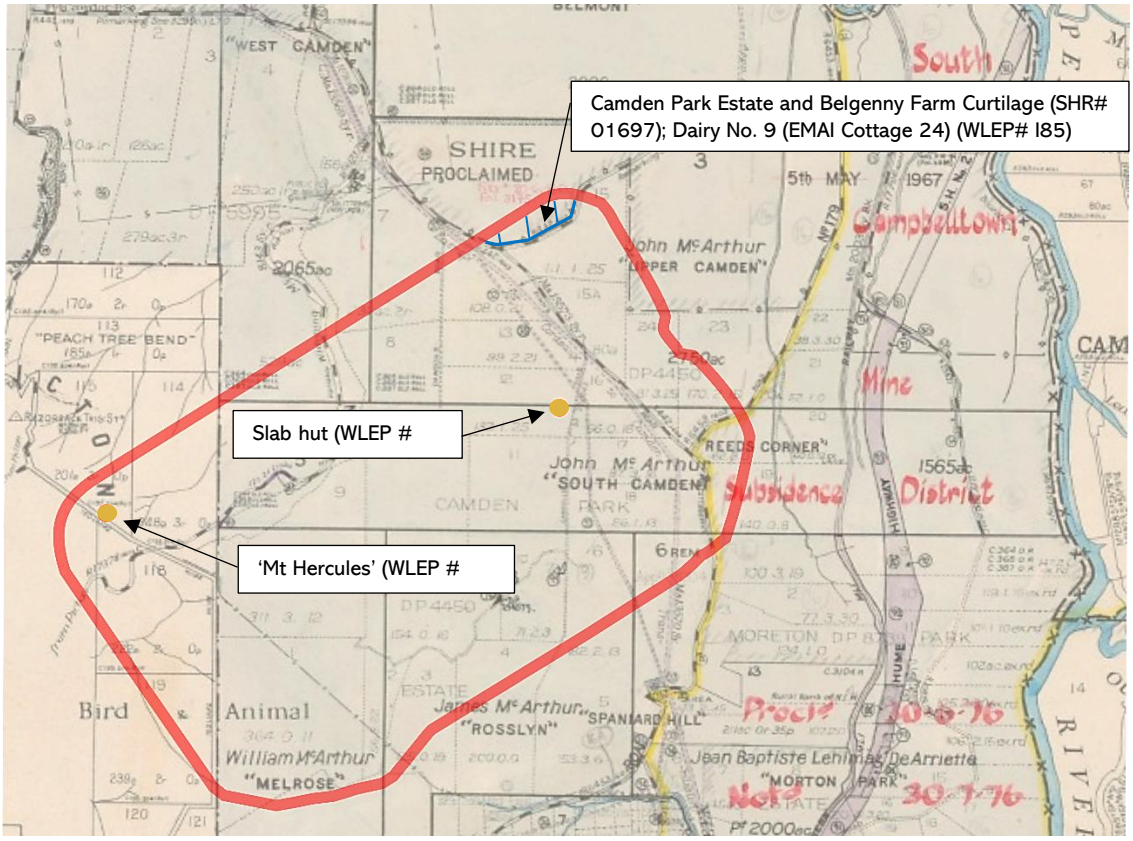


Figure 4. Camden Parish map showing the subject area in relation to the Macarthur grants and heritage items (Source: HLRV)



Figure 5. Tenant family hut on Camden farm c.1860 (Source: EH&A 2010)

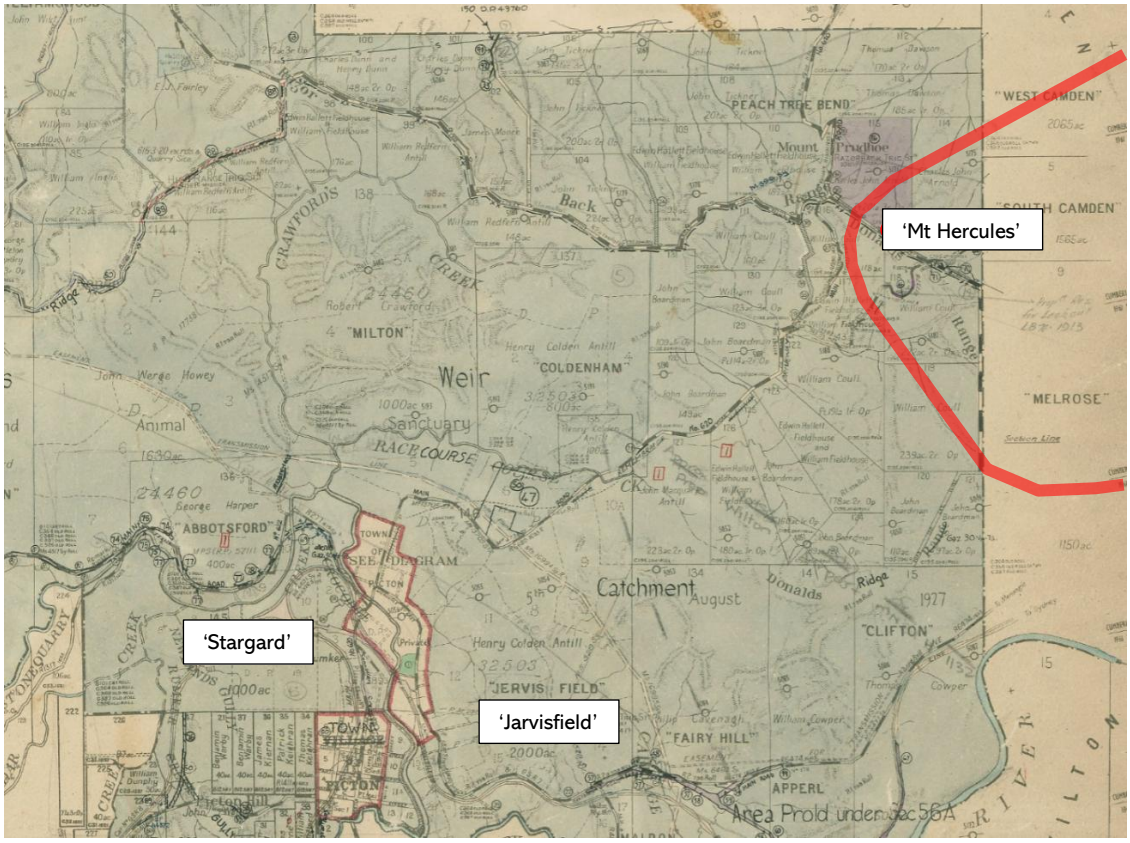


Figure 6. Detail of a map of the Parish of Picton showing key homesteads (Source: HLRV)



Figure 7. View of the Arnold homestead c.1990 (Source: Wollondilly Heritage Survey 1991:243)

3.5 DEVELOPMENT OF THE SOUTHERN COALFIELD OF NSW

The following historical outline of the development of the modern, Southern Coalfield of NSW is reproduced here after Sinclair Knight Merz for the Department of the Environment in 2014:

> *Mechanised longwall mining using hydraulic supports imported from the UK commenced on the New South Wales (NSW) Southern Coalfields in the 1960s. The chief driver for the new technology was the need for very large coal pillars at depths below the then current 100 to 300 m operating depths using the existing bord and pillar techniques. Initial trials at South Bulli Colliery between 1965 and 1972 were unsuccessful, since the available British chocks were unable to cope with the very heavy roof loadings imposed by hundreds of metres of stiff sandstone overburden.*
>
> *In the meantime, the 'Wongawilli' system of mining was introduced, allowing nearly full panel extraction of around 80 per cent in plan area, to be carried out using conventional continuous miners. Since the continuous miners were already in use for roadway driveage and panel development, this proved to be a very economical method, which dominated Southern Coalfield production up to the mid-1980s. The first mine designed for longwall operations was BHP's Appin Colliery, which opened in 1962, but commenced longwall mining in 1969. The subsidence consequences of total extraction were recognised by BHP, which appointed WA (Bill) Kapp as the first subsidence engineer in Australia. One of his early assignments was to monitor the impacts of subsidence on two historic stone churches in the town of Appin (Kapp 1982).*
>
> *The NSW Department of Mines appointed its own subsidence engineer in 1979. This was in response to the findings of the Reynolds Inquiry (Appendix B) into Mining Under Stored Waters. The first really successful Australian longwall mine was Kembla Coal and Coke's Westcliff Colliery, which commenced operations in 1982. This made use of heavy duty Dowty face supports, which set the pattern for all subsequent longwall mines in NSW. Kembla Coal and Coke's Westcliff Colliery was followed by Tahmoor in 1987 on the Southern Coalfield, and by John Darling in 1982 and West Wallsend in 1989 on the Newcastle Coalfield.*
>
> *The most important development on the Southern Coalfield in the years following the Reynolds Inquiry (Appendix B) was the successful introduction of mechanised longwall mining at Westcliff Colliery in the early 1980s. Productivity gains were so impressive that this method almost completely replaced bord and pillar methods, including Wongawilli panel extraction, over the succeeding 20 years. In the process, collieries fell from about 20 to just eight, which are mostly large longwall operations with outputs in the range 1 to 3 Mt per annum* (Department of Mineral Resources 2000; DTI 2010).[19]

[19] Sinclair Knight Merz Pty Ltd, 2014, Subsidence from coal mining activities, Background review prepared for the Commonwealth Department of the Environment on the advice of the Interim Independent Expert Scientific Committee on Coal Seam Gas and Coal Mining, p 50.

4 LISTED HERITAGE ITEMS

A summary of the listed heritage items is provided below and discussed in detail in the following sections.

The following heritage item listed on the SHR as an item of State significance have been identified within the subject area:

- 'Camden Park Estate and Belgenny Farm'(SHR # 01697) at Elizabeth Macarthur Avenue Camden South which is partly located within the north-eastern corner of the subject area.

The following heritage items listed on the WLEP as items of local significance have been identified within the subject area:

- 'Dairy No 9 (EMAI Cottage 24)' at 240 Woodbridge Road, Menangle (WLEP # I85), which is partly located within the north-eastern corner of the subject area.
- 'Slab Hut' at 40–60 Carrolls Road, Menangle (WLEP # I79), located within the eastern section of the subject area.
- 'Mt Hercules Homestead—ruins, well, trees and slab garage' at 100 Mount Hercules Road, Razorback (WLEP # A12), located in the south-western part of the subject area

4.1 'Camden Park Estate and Belgenny Farm'(SHR # 01697)

The curtilage of the State significant heritage item, C*amden Park Estate* is partly located within the north-eastern corner of the subject area with approximately 0.27km2 of the south-western section of the heritage item curtilage located within the subject area.

An abridged description of the heritage item[20], which is divided into 21 Landscape Zones as identified in the CMP for the item[21] is provided below and illustrated in Figure 8, Zones that partly overlap with the current subject area include Menangle Paddock, Exposed Hills, Cummin's Flat and West Expanse.

Description of the heritage item

Farm Landscape (area 162ha / c100 acres);

The whole land surface of the site should be considered as an ongoing and interrelated agriculture property rather than a site of individual structures or concentrated areas of heritage interest. Therefore the property has been segmented into 21 distinctive landscape zones of internally consistent character. It is important to note that these zones are not subdivisions but a way of segmenting a large area with regard to topographic and natural features, visual catchments, existing vegetation and agricultural uses, the built environment and ownership.

Zone 1: Menangle Paddock

Menangle Paddock is open and expansive in character. It is a group of cleared, arable fields, gently sloping around Foot-Onslow Creek. Significant structures on this sight include a Sulman-designed gatehouse on Woodbridge Road, a row of cottages, a post office, the Department of

[20] SHI, Camden Park Estate and Belgenny Farm https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=5051536, accessed 27 August 2025
[21] Howard Tanner and Associates, 1989, Conservation Management Plan: Camden Park Estate conservation plan

Agriculture buildings and associated plantings along Menangle Road. This architectural edge marries the zone visually to Menangle Village.

Zone 2: Exposed Hills

Flanking Woodbridge Road to the south of the Estate are steeply rounded grassy hillsides, almost entirely cleared of tree cover, save for one olive tree (Olea europaea cv.) on "One Tree Hill". A few scattered narrow leaved ironbark (Eucalyptus crebra), a prominent feature of exotic plantings associated with Dairy No. 4. and is visible from Menangle. Zone 2 is the only example on site of exposed hills viewed against the skyline and semi-replanting on the lower slopes retains the bare character of the hilltops.

Zone 3: Ridgetop

Due to Ridgetop's height, its strong north-south axis and the steepness of the adjacent slopes, Ridgetop forms the dominant geomorphological and visual backbone of the site. The extensive views to the east and west across the property to neighbouring countryside, Menangle village and to the ridges in the middle and far distance gives an understanding of the site's regional landscape context.

Zone 4: Top Paddock

Top Paddock comprises of steep slopes and minor ridgelines to the west of the main ridge. The two valleys are nearly bare of vegetation. The three ridges have been only partly cleared and retain a fairly generous cover of Eucalyptus crebra on the upper slopes. The character of this zone has changed since the completion of the Agricultural Research Station, however this site is visually contained within the landscape and is not too apparent beyond this catchment.

Zone 5: East Slopes

Overlooking the Nepean Plain and river to the east, these vegetated pastoral East Slopes are very steep. Visual quality of this area is lessened by overhead transmission lines and the Department of Agriculture security fencing.

Zone 6: Nepean Plain

Zone 6 is fairly flat land and has been completely cleared of tree cover and the only significant feature is the slight depression towards Menangle Pond. The adjacent mining operations and associated clearing are highly visible.

Zone 7: Mining Lands

As a result from Menangle Sand and Soil mining operations, the original land profile has been lowered and the riverbanks have been destabilised. Zone 7 was almost completely cleared of indigenous vegetation until rehabilitation, however weed growth has appeared and the natural river character has been lost.

Zone 8: Barragal

In the northern portion of the Nepean Plain, Barragal Lagoon is overlooked from the north by a steep hill accommodating a sandstone monument that marks the camping place where Governor Macquarie and his wife stayed in 1810. From the hilltop, superior views include the lagoon and swale in the foreground. In the middle distance are views of the Nepean Plain and river and Menangle village beyond. On the lagoon fringe grows blue box (Eucalyptus bauerana) while

forest red gum (E. tereticornis) woodland and grassy understorey dominates the upper slopes. Waterfowl frequent the lagoon and other species of birds vary with fluctuating water levels.

Zone 9: Sawyers Paddock

Sawyers Paddock has an open character and is visually contained although distant ridges to the east are visible. Sawyers Paddock is pastoral land on a minor ridgeline crossed by overhead transmission lines. It is partly vegetated with grey box (Eucalyptus moluccana).

Zone 10: Hamlet Basin

Hamlet Basin has a levee depression formation that runs parallel with the existing river course. Zone 10 comprises of several lagoons and ponds, a deep natural swale along the southern orchard boundary. Its enclosed atmosphere is created by the low ridge to the west, and the riverbank and orchard planting to the east which it overlooks. Located in Zone 10 are six workers' cottages that are associated with the orchard.

Zone 11: Indigenous Reserve

Indigenous Reserve is referred to as "Sawyer's Wildlife Conservation Area" and has been enclosed to allow for the regeneration of indigenous vegetation. This controlled zone has seen the re-emergence of a dense understorey of herbs, shrubs and tree seedlings which is uncharacteristic of the rest of the Estate. The dominant indigenous vegetation is rough barked apple (Angophora subvelutina), cabbage gum (Eucalyptus amplifolia), and ribbon gum (E.viminalis).

Zone 12: Orchard

Zone 12 is presently used in part for grazing and fodder crops and is enclosed by riverbank vegetation to the north and east, and by the Indigenous Reserve to the west. These expansive flat fields form a portion of the river terrace and remnant fruit trees are found closer to the riverbank.

Vegetation is significant in this area due to the exotic plantings carried out by William Macarthur. Extensive remnants of these plantings survive today and some specimens being at least 140 years old. Of particular significance was a small Gravenstein apple tree (Malus sylvestris 'Gravenstein') that was planted c.1837 and was believed to be one of the oldest apple trees still in existence in the country. This tree has since died and attempts to graft onto the roots have failed (2007, pers. comm., S. Read). In the recent past the southern extent of the Orchard was used as a citrus grove. The Orchard also includes structures such as the old piggeries and sheds.

Zone 13: Navigation Creek Valley

This is a broad, fairly flat, alluvial and flood-prone valley extending approximately north-south the length of the Estate, exhibiting erosion near the creek head to the south. In its northern extent it is open and pastoral in character, and largely bare of vegetation except for some she oaks (Casurarina glauca) along the creek. To the south, vegetation is diverse with Angophora hybrids and Pimelea spp.

Zone 14: Cummin's Flat

Hawkey's Dam, a shallow damming of Navigation Creek, enclosed on the east and west by hills and on its perimeter by tree planting to prevent wind evaporation, is a working example of Keyline practice (based on the writings of P.A. Yeomans). Perimeter plantings carried out in 1960-61 include she oak (Casuarina glauca), flooded gum (Eucalyptus grandis), spotted gum (Corymbia maculata), grey gum (Eucalyptus moluccana), mugga ironbark (E.sideroxylon var.

Rosea), forest red gum (E. tereticonis), Monterey pine (Pinus radiata) and Lombardy poplar (Populus nigra 'Italica').

Cummin's Flat is very open, flat and grassy with glimpses of water to be viewed through the trees and reflections of flooded Gums in the northern part of the dam. Cummin's Flat is susceptible to evaporation and when the water volume is low, the flat is used for grazing.

Zone 15: West Expanse

This West Expanse is flanked by the Hume Highway and Finns Road to the west of the Estate and has broad views across the site to the central ridge. Zone 15 is a hilly and pastoral terrain and comprises a fairly sparse canopy cover of narrow leaved ironbark (Eucalyptus crebra), grey gum (E. moluccanna) and open woodland of she oak (Casuarina glauca).

Cameron's Dam with perimeter row planting of river oak (Casuarina cunninghamiana), flooded gum (Eucalyptus grandis), spotted gum (Corymbia maculata), Mugga ironbark (E. sideroxylon 'Rosea'), and silky oak (Grevillea robusta) is also located in this vicinity. The west expanse also contains two groups of dairy buildings and associated plantings located on two dairy farms.

Zone 16: Camden Paddock

Camden Paddock is characterised by a gentle undulating landscape. Open in character, Camden Paddock's north-west boundary forms the edge between the Estate and suburbia. A pastoral landscape associated with Belgenny, the Macarthur cemetery, the calf pens and the dairy, it is almost entirely clear of vegetation.

Zone 17: Quarry Paddock

Formerly a basalt quarry, Quarry Paddock has its surface strewn with stone chips. Characterised by a steep hill, the hilltop has expansive views across the site and beyond, and overlooks the cemetery with which it has a strong visual connection.

Zone 18: Family Cemetery

Located on top of a knoll, the cemetery is significant burial ground for generations of Macarthur descendants, and the focus of dense exotic plantings. Enclosed and restful, its location above the flood-prone valley offers extensive views to the east of the Macarthur-Onslow Estate, and to the north-west over Belgenny, forming an important component of the landscape. William Macarthur established these cemetery gardens in 1834 and designed them to have two distinct compartments. The cemetery gardens were developed in the style of the English Landscape School.

Zone 19: Belgenny Farm

Belgenny Farm was the headquarters for what is now Camden Park Estate and sited on a minor ridgeline on its main access road. Belgenny has a strong visual connection with the Macarthur family cemetery and broad views over the pastoral landscape of the estate to the east. The Belgenny group comprises an important collection of tenant cottages and timber farm buildings. This community is an exemplar of early Australian construction in timber. This zone includes the adjacent Dairy No. 2, timber calf pens and remnant exotic plantings.

Zone 19 is where Belgenny Farm started and many early 19th century buildings have survived intact due to a conservation program designed by Howard Tanner and Associates Pty Ltd during the 1980s.

Timber is the main building material used for construction. The buildings are stabilised and well conserved with little replacement to original structures. Originally a small (called 'miserable') hut was constructed on the ridge at Belgenny Farm and was occupied by the Macarthurs between 1801 and 1817. A small stone monument marks its site, not far from the present Belgenny Cottage.

Belgenny Cottage (c1918, later additions)

This cottage was built in several stages, the earliest dating c. 1819 (HCoNSW, 1988, 6 says 1820). The original structure is located in the middle section of the current day cottage and was occupied by John Macarthur in his declining years, when until his death in 1834 (in front of the fire) and was occupied by the family until 1835. The original section is the oldest surviving part and is made from brick nog, a very early form of construction. Original roof shingles remain beneath the iron. The cottage would originally have had packed earth floors, raised floorboards were a later addition. To accommodate the inward-opening doors, the raised floor had to have the 'cut out' seen today. After John's death the cottage served as a manager's residence and later as an office (until the early 1970s),

Other structures within Belgenny Farm: include the stables c. 1826, originally built as two buildings, the northern and southern ends were joined in 1826 to form one continuous building (HCoNSW, 1988, 6-7); the creamery (originally built as a coach house c. 1820s then operated as a creamery between 1900 and 1928); the slaughterhouse; the carpenters' workshop building from the 1840s; the blacksmith's shop c.1930s; piggery, from the second major phase of building on the farm; smoke house (octagonal, originally a separate building, now connected to the creamery), from the second major phase of building on the farm;

A number of important remnant historic plantings remain on the Belgenny Estate.

Zone 20: River

Zone 20 is significant as it enabled early farm development in the region. This zone consists of the river and accompanying vegetation which has become despoiled on the banks through sand and soil mining. This has resulted in the banks becoming destabilised, causing weed infestation and a reduction in water quality. The spread of weed species has resulted in a loss of the river's role as a visual site boundary and wildlife corridor. Where the vegetation cover remains intact, a discrete corridor atmosphere is provided.

Zone 21: Macarthur-Stanham Holding

Camden Park house is a 2-storey Palladian structure with single-storey pavilions to either side. It is built of stuccoed sandstock brick, with window and door architraves and other detailing of locally cut stone, including Marulan mudstone. The roof is of slate, while service wings had the first documented use of corrugated iron in the colony. The house has a colonnaded verandah and sandstone portico.

The service wings stretch to the side, rather than the rear as is conventional with colonial houses, and have a central courtyard beneath which are large cisterns. Large cellars stretch the entire length and width of the main block of the house, and were partly used for storing the estates considerable wine production. The extensive vineyards were later destroyed after a phloxera outbreak. There is a large brick stable and, on a hill directly facing the front of the house, the family mausoleum where John and Elizabeth Macarthur and most of their children are buried. Members of the family in the direct line are still buried here.

The gardens surrounding Camden Park are the largest and most intact Australian colonial garden in existence. They are largely the creation of Sir William Macarthur, who was a keen horticulturalist and operated a sizeable commercial nursery from the estate. The gardens and landscape are a combination of the colonial picturesque - which in the Cowpastures area had a decidely 'arcadian' quality - and the gardenesque. Vistas from the house stretch out to nearby Mt Annan, Mt Gilead, the church spire at Camden, and the family cemetery.

It is likely that Camden Park is the oldest post-1788 property still owned and occupied by descendants of its original family.[22]

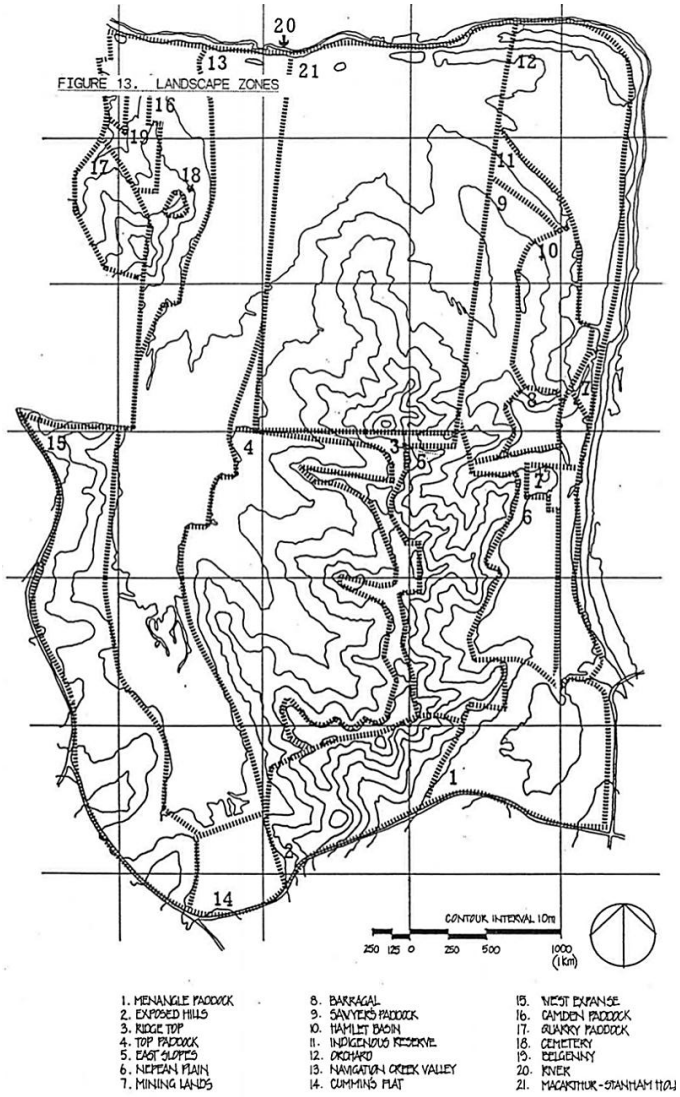


Figure 8. SHR item 01697 Landscape Zoning with the overlapping portion of the subject area in red (Source: Howard Tanner & Associates 1989:50)

[22] SHI, Camden Park Estate and Belgenny Farm https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=5051536, accessed 27 August 2025

4.2 DAIRY NO. 9 (EMAI COTTAGE 24) (WLEP# I85)

The curtilage of the locally significant heritage item, *Dairy No 9* is partly located within the north-eastern corner of the subject area with approximately 0.27km2 overlapping with the heritage item curtilage. This curtilage is identical to that of the south-western corner of *Camden Park Estate*. The cottage and dairy (Figure 9 and Figure 10) are themselves located 600m north of the subject area. It is noted that current historical assessments for Camden Park farm do not identify the date of construction of the cottage, although the SHI listing (below) identifies it as a late 19th century building (the associated Dairy No. 4 was present in 1929 and Dairies 5 and 6 were constructed in 1930).

Description of the heritage item

> *A typical late 19th century dairyman's cottage and conforming to the pattern of other cottages established as part of the Macarthur dairy. Key features: steeply pitched hipped roof clad with corrugated iron; skillion verandah on simple timber posts; timber framed construction with weatherboard cladding; simple and symmetrical fenestration; single storey; overall modesty of scale and form with lack of decorative embellishment; utilitarian character.*[23]



Figure 9. View of the cottage at Diary No. 9 (Source: SHI Inventory Sheet)

[23] SHI, Camden Park Estate and Belgenny Farm https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=5051536, accessed 27 August 2025



Figure 10. View of the dairy No. 9 complex (Source: SHI Inventory Sheet)

4.3 'Slab Hut' (WLEP # I79)

The curtilage of the locally significant heritage item *Slab Hut* at 40–60 Carrolls Road, Menangle is located within the eastern section of the subject area.

Description of the heritage item

> *A typical mid-19th century slab hut, most likely erected as a shepherd's hut as part of the Macarthur operations in the area. Key features: steeply pitched gabled roof; skillion verandah; timber framed construction with vertical sawn slab cladding; symmetrical and minimal fenestration; small timber framed windows; overall simplicity of form and modesty of scale.*

In addition, an updated version of the description has been extracted from the Heritage Inventory Sheet for the item available on the Wollondilly Council website:

> *The dwelling is primarily constructed with various cladding boards and joists, made from sawn timber. The timber framed construction features vertical sawn slab cladding in a symmetrical arrangement, with minimal fenestration consisting of small timber-framed windows. It features a steeply pitched gabled roof with skillion verandah. Overall, the hut is a typical construction in this style, representing a simplicity of form and modesty of scale. The hut is suited to its current setting, positioned within a large block well back from the street and bounded by a mixed timber beam and post and wire strained fence. The item is in a fair condition.*[24]

4.4 MT HERCULES HOMESTEAD—RUINS, WELL, TREES AND SLAB GARAGE' (WLEP # A12)

The curtilage of the locally significant heritage item and archaeological site *Mt Hercules Homestead* is located within the south-western section of the subject area. Following the site inspection, it is apparent

[24] Wollondilly Shire Council, 2020

that the title of the listing misrepresents the site, as the 'well' is an underground brick cistern and the 'slab garage' has never been used for vehicle storage and is likely to have been a worker's hut or originally a detached kitchen. The SHI listing for the item does not include a description, however the following information has been extracted from the Heritage Study prepared by Wollondilly Council in 2023.[25]

Description

> *The original 1992 listing includes an intact homestead structure, but between 1994 and 1998 the homestead was demolished and most of the demolished building materials were removed from site. Sometime later, some of the historical tree plantings that ringed the property were also removed. The extent, nature and associated archaeological potential of the ruins and the potential for associated features, structures or deposits around the ruin has never been assessed.*[26]

An earlier description was provided in 2009 for a Non-Aboriginal Heritage Assessment for the Bulli Seams Operations[27]:

> *The site appears to be a 19th century rural residence with surrounding landmark plantings of palms and trees on a prominent ridge of the Razorback Range. The house has completely collapsed, with brick rubble, roofing iron and other remains on the ground. A partially collapsed dairy is nearby.*



Figure 11. View (thought to be facing south-east) of the derelict Mt Hercules homestead c.1990 (Source: Wollondilly Heritage Survey 1991:243)

[25] City Plan Heritage, 2023, Wollondilly Shire-Wide Final Heritage Study Report, prepared for Wollondilly LGA
[26] City Plan, 2023, Wollondilly, p.25
[27] Michael Pearson Heritage Management Consultants, 2009. Bulli Seam Operations: Appendix H Non-Aboriginal Heritage Assessment (Statement of Heritage Impact), A-137



Figure 12. View north toward the former 'Mt Hercules' homestead (Source: Wollondilly Heritage Survey 1991:243)

5 PHYSICAL DESCRIPTION

A site inspection was conducted on 20 August 2025 by James McGuinness to assess the physical properties of heritage items that fall within the subject area and may be subject to direct impacts to the heritage item that may occur as a result of subsidence.

5.1 CAMDEN PARK ESTATE AND BELGENNY FARM (SHR# 01697)

Approximately 0.27km^2 of the south-western corner of the curtilage of *Camden Park Estate* is located within the subject area. The curtilage boundary follows the line of Woodbridge Road and Finns Road, to include the total area of significance identified for the item. Elements within the item are also recognised as locally significant sub-curtilages, including *Dairy No. 9* (Figure 3).

The area of the *Camden Park Estate* curtilage that falls within the subject area comprises open pastoral land and a dammed section of Navigation Creek. No built elements fall within the subject area. As such the item was recorded from vantage points on Woodbridge and Finns Roads (Plate 1 and Plate 2)



Plate 1. View north into Camden Park Estate from the corner of Woodbridge Road and Finns Road over the floodplain of Navigation Creek (Source: Archive Heritage).



Plate 2. View west across the floodplain of Navigation Creek from the eastern extremity of the subject area on Woodbridge Road. Razorback Range in the distance (Source: Archive Heritage)

5.2 DAIRY NO 9 (EMAI COTTAGE 24) (WLEP # I85)

The cottage and dairy complex that forms this listing is located well outside the proposed mining area and 600m north of the subject are boundary (Plate 3). As a result, the property was not visited during the site inspection.

However as indicated above, the south-eastern curtilage boundary of this item, which is identical to that of *Camden Park Estate*, falls within the subject area (Figure 3). The curtilage is within 250m of Longwall 716. The area of curtilage that falls within the subject area comprises open pastoral land, dams and the valley floor of Navigation Creek. As such, the item was recorded from vantage points on Woodbridge and Finns Roads (Plate 1 and Plate 2)



Plate 3. View north-east into the curtilage of Dairy No. 9 (WLEP# I85) from the northern boundary of the subject area. The dairy building complex is sited 600m further to the north (Source: Archive Heritage)

5.3 'SLAB HUT' (WLEP# I79)

Permission to access this item at 40-60 Carrolls Road, Menangle could not be obtained from the landowner as part of this assessment. As a result, the site could not be inspected and the condition and details of the item have not been recorded. A photograph of the item taken in 2020 is shown below (Plate 4)



Plate 4. Slab hut (WLEP# I74) as seen from a distance in 2020 (Source: Wollondilly Shire Council, 2020

5.4 MT HERCULES HOMESTEAD—RUINS, WELL, TREES AND SLAB GARAGE (WLEP# A12).

This heritage item within Lot 222 DP828453 was accessed at 100 Mount Hercules Road, Razorback with the kind permission of the landowner. The item is situated just off Mt Hercules road to the north on a level area of the prominent east-west trending ridgeline of this part of Razorback. Exceptional views are offered to the west, north and east (Plate 5). As the listing title suggests, the site contains multiple elements of built and archaeological heritage fabric. Built elements include timber stumps of the former subfloor (Plate 6 and Plate 7), three separate chimney bases built in well-fired, pressed brick bonded with a soft, quicklime mortar (Plate 8 and Plate 9), areas of sandstone paving (Plate 10), a rendered brick cistern (Plate 11 and Plate 12) and a separate building described as a worker's hut[28] (Plate 13).

The stumps remain as solid, well-preserved roundwood timber, several courses of the chimney bases remain intact and the cistern is preserved in excellent condition, with only minor cracking of the external render.

The worker's hut, which may also have been an early external kitchen, still stands. All framing remains intact and the chimney, built of comparable brick and mortar to those in the main house, is almost completely intact. Nails and fixings appear to be a mix of machine-made round nails and cut fixings more typical of the mid-nineteenth century (Plate 14). The weatherboard cladding has almost entirely been removed and the exposed floor is strewn with debris, however brick surfacing under a thin concrete screed is visible. The structure is still protected by its iron roof. Iron sheeting also remains strewn across the site from the former main house,

[28] Greg Hill (landowner), Pers. comm 2025

Evident archaeological elements include the location of a former outhouse just inside and west of the main gate (as described by the landowner), intact external brick and sandstone surfacing, and a raised rectilinear, earthen building pad that defines the outline of a substantially larger structure than that indicated by surviving surface elements (Plate 15),

Trees present include a mature, unidentified palm, a relatively young Jacaranda (*mimosifolia*) and several invasive African Olives (Plate 16). Scattered mature box Eucalypts are increasingly common downslope to the north.

Open pasture extends east-west along the ridgeline that supported the house and into Lot 114 DP751287 (outside the heritage item curtilage). To the east this ridgeline links the homestead site with a complex of small timber dairy sheds 300m to the east, close to the junction of Mt Hercules Road and Remembrance Drive. These sheds are in a dilapidated, remnant condition (Plate 17 and Plate 18)



Plate 5. View north-east from the former Arnold house site (Source: Archive Heritage)



Plate 6. View east across the archaeological site showing timber stumps, chimney base and cistern at right (Source: Archive Heritage)



Plate 7. View south-west showing timber stumps and chimney base (scale is 2m) (Source: Archive Heritage)



Plate 8. Remnant northern chimney base (scale is 2m) (Source: Archive Heritage)



Plate 9. Detail of early pressed bricks and soft mortar (Source: Archive Heritage)



Plate 10. View west across corner of house footprint showing row of sandstone foundations/surfacing



Plate 11. View north toward cistern (Source: Archive Heritage)



Plate 12. View south-east showing cistern and worker's cottage ruin (Source: Archive Heritage)



Plate 13. View west showing worker's cottage ruin (Source: Archive Heritage)



Plate 14. Detail of square-cut iron nail or spike fixing in worker's cottage frame (Source: Archive Heritage)



Plate 15. View south-west showing raised building pad/footprint as indicated by the red line (Source: Archive Heritage)



Plate 16. View south showing vegetation within the heritage listing area (Source: Archive Heritage)



Plate 17. View south-east toward former dairy sheds (Source: Archive Heritage)



Plate 18. View north-west toward former dairy sheds (Source: Archive Heritage)

6 HERITAGE SIGNIFICANCE ASSESSMENT

This section outlines the heritage significance of the listed heritage items in order to inform potential heritage impacts that may result as a result of the proposed development.

6.1 ASSESSMENT METHODOLOGY

Assessment of significance of cultural heritage; the tangible and intangible historical values that are present within the built environment and cultural landscape, is informed by information gathered during the research phase of the project and undertaken against the NSW heritage assessment framework.

The assessment of heritage significance in NSW is underpinned by the Burra Charter (Australia ICOMOS, 2013); and further expanded upon in *Assessing Heritage Significance: A NSW Heritage Manual Update, 2023* – prepared by the NSW Office of Environment and Heritage. The heritage manual lists seven criteria to identify and assess heritage values that apply when considering if an item is of local, or State significance or significant on a National level. Unless visible, the assessment of archaeological relics is based on predictions of likelihood informed by background research and site conditions.

The criteria against which heritage significance has been assessed within the NSW Government State Heritage Inventory (SHI) are outlined below in Table 1.

The significance assessment needs to identify the range of values present across the subject area and assess their importance. The assessment process determines a succinct statement of heritage significance for the item or place under assessment. The result then guides the type of management that is necessary to acknowledge and retain significance while adapting to change.

Table 1. NSW Guidelines for Assessing Heritage Significance

Criterion	Definition
a) Historical	An item is important in the course or pattern of NSW's (or the local area's) cultural or natural history (Historical Significance).
b) Associative	An item has strong or special association with the life or works of a person, or group of persons of importance in NSW's (or the local area's) cultural or natural history (Associative Significance).
c) Aesthetic	An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area) (Aesthetic Significance).
d) Social	An item has a strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural, or spiritual reasons (Social Significance).
e) Research	An item has the potential to yield information that will contribute to an understanding of NSW's (or the local area's) cultural or natural history (Research Significance).
f) Representative	An item is important in demonstrating the principal characteristics of a class of NSW's (or the local area's) cultural or natural places or environments (Representativeness).
g) Rare	An item possesses uncommon, rare, or endangered aspects of NSW's (or the local area's) cultural or natural history (Rarity).

6.2 Gradings of Significance

Gradings of significance are applied on a site (built or archaeological) that is complex or comprised of separate components or elements that might have variable contributory significance within the overall listing.

Heritage NSW gradings of significance are reproduced in *Table* 2. Unless they are visible in the ground, the assessment of relics is hypothetical as their existence as intact and substantial sites is a prediction based on background research and site conditions.

Table 2. NSW guideline for assessing Gradings of Significance.

Grading	Definition	Status
Exceptional	Rare or outstanding element directly contributing to an item's local or state significance.	Fulfils criteria for local or State listing.
High	High degree of original fabric. Demonstrates a key element of the item's significance. Alterations to not detract from significance.	Fulfils criteria for local or State listing.
Moderate	Altered or modified elements. Elements with little heritage value, but which contribute to the overall significance of the item.	Fulfils criteria for local or State listing.
Little	Alterations detract from significance.	Does not fulfil criteria for local or State listing.
Intrusive	Difficult to interpret.	Does not fulfil criteria for local or State listing.
Exceptional	Rare or outstanding element directly contributing to an item's local or state significance.	Fulfils criteria for local or State listing.

6.1 HERITAGE SIGNIFICANCE OF THE SUBJECT AREA

Existing assessment against the Criteria and statements of significance for the heritage items are provided below in Table 3 with their sources. Assessment against the Criteria for WLEP item A12 has not been previously undertaken and is therefore provided by this document,

Table 3. Significance of heritage items within the subject area.[29]

Heritage Item	Significance	
'Camden Park Estate and Belgenny Farm' (SHR # 01697)	Statement of Significance	*The Camden Park Estate is of social, historic, scientific and aesthetic significance to NSW and Australia. It shows a high degree of technical and creative excellence being a rare, and still relatively intact, example of a model rural estate of the early 19th century (continuing to serve this function until the 1950s). It is the oldest pastoral sheep stud in Australia.* *The estate's considerable social and historic significance is also due to its ability to demonstrate the way of life, tastes, customs and functions of a 19th - early 20th century rural establishment. From its establishment the site was a particularly fine example of a colonial rural estate and served as a prototype for other 19th century estates. The intactness of the site's structures and their landscape settings enhances its role as a relatively unique survivor and as a site of archaeological and scientific importance. (LEP/ Heritage Study)* *The site also has significance through its historical associations with the Macarthur family - from its establishment by John and Elizabeth Macarthur in the early 19th century to the present-day Macarthur-Stanham family - this relationship shown in both landscape and structures and being well documented and researched.* *By the 1830s the estate of 28,000 acres included the greatest and most advanced mixed farm in NSW, at a time when Australian wools had almost ousted continental wools from British usage and the British manufacturers had a vast ascendancy in the world's woollen markets (Camden Park Estate, 1965)* *Its extensive grounds planted in the tradition of 19th century English landscape parks holds a major botanical collection and its large, exceptional collection of rural buildings is especially important because of both the quality and rarity of the group.* *The Camden Park orchard site and cottages area contains the remnants of an early commercial and scientific horticultural collection which was established by William Macarthur and made a contribution to commercial horticulture in NSW and other colonies such as South Australia. The cottages are an integral part of the orchard complex which continued to function commercially until for 150 years and are important 19th century elements of the landscape.* *Camden Park played a vital role in the fledgling Australian wine industry through its importation and distribution of vine cuttings throughout NSW and the Barossa Valley of SA. By 1853 Camden Park listed some 33 grape varieties for sale. (By 1841 William & James were producing more than 5000 gallons and that vintage won Gold Medals in England. In 1844 24,000 vine cuttings were sent from Camden Park to Adelaide, setting South Australia on a path to becoming an internationally acclaimed wine growing district. (Everett, (1) 2004). Camden Park became world-renowned for the*

[29] State Heritage Inventory

Heritage Item	Significance	
		quality of its wine and by 1845 was producing around 10,000 gallons per annum as a serious vineyard and one of the most highly regarded in the colony and with quite a reputation overseas. (Everett, (2) 2004)). *James & William Macarthur managed the estate with great enterprise, importing expert workers: Australia's first skilled wool-sorter from Silesia, shepherds from Scotland, vignerons from Nassau and dairymen from Dorset. They installed the first irrigation plant in Australia in 1830 and the first sheep wash and wool press. After changes of soil and climate in 1849 dictated sale of their merino stud, wheat was the stable until the mid-1860s. But rust and labour shortage led to a change to mixed farming - sheep and cattle fattening, mixed grains, wine, horses for India until 1857, and Australia's largest plant and tree nursery. The 2000 specimens of plants, shrubs and trees included the country's premier collections of domestic orchids and camellias, both of which William Macarthur was one of the first to introduce into Australia.* *Two vineyards were planted in 1830 and 1841 and produced up to 16000 gallons a year including choice vintages, with as much as 30000 gallons in cellar sometimes. In 1832 the estate exported the first Australian brandy, and had 8 vintage and fortified wines varying from Muscat to Riesling at the Paris Exhibition of 1861. Also in the 1830s William Macarthur pioneered processes of drying fruit, "with which the British Isles were unacquainted". In 1857 Camden Park had a variety of all normal species of orchard fruits and nuts, 56 varieties of apple including cider making types, 31 kinds of pear, 23 citrus fruit varieties including Navel oranges, 16 table grapes apart from 32 wine varieties. Apricots, plums, cherries, quinces, figs, chestnuts, almonds and strawberries were also grown on the estate. (Camden Park Estate, 1965, modified Read, S., 2004)* *The Camden Park garden and nursery is historically important as part of the original Macarthur family Camden estate. The garden is significant for its demonstration of the early nineteenth century estate garden design, including the following: The use of a hill site to take advantage of the views; the use of plantings to enframe views; and the planting of trees with ornamental form, demonstrating the influence of the early nineteenth century horticultural movement. The area has historical significance as the original Macarthur nursery renowned for the introduction and propagation of exotic plants in early Australia. Significant features include the following: the area of olive and plumbago shrubbery; the brick edged gravel carriage loop; structured vistas from the house entrance and garden entrance; specimen plants of araucarias and camellias reputed to be the oldest in Australia; well blended later additions of herbaceous beds and rose garden; and ruins of the gardener's lodge, potting sheds and hothouses from the original nursery period. (Register of the National Estate, 1978)* *Finally the estate is of major landscape and environmental significance as a significant area of open space lining the Nepean River with landmark landscape features including the tree lined river meadows, ridge top Belgenny Farm Group, the driveways and the relic orchard and plantations site on the flood plain north-east of the mansion.* *Rare - historic and aesthetic values* *Representative - historic, aesthetic and scientific values*

Heritage Item	Significance	
		Associative values - historic and aesthetic *Camden Park House is of historic and aesthetic significance as one of the finest of the nation's early 19th century country homesteads. More particularly it is an outstanding exemplar of Australia's Colonial Regency style of architecture, this significance being enhanced by the quality of the design and craftsmanship and the degree to which it has retained important original fabric and features. The building is generally regarded as one of architect John Verge's finest achievements. The house's historic significance is also due in large measure to its role as the home of the Macarthur family from the days of John and Elizabeth, through a direct line of descendents to the present. (Source, State Heritage Inventory Public Presentation report, modified Stuart Read, 09/2004).* *Belgenny Farm and Camden Park Estate has historical, aesthetic, social and technical/research significance at local, state and national levels as the oldest, intact, rural landscape and group of farm buildings in Australia, with close associations with the Macarthur family. Belgenny Farm and Camden Park Estate was instrumental and influential in the development of this country's agricultural, pastoral, horticultural and viticultural industries.* *It is both representative of the evolution of many rural industrial technologies and a rare example of a remnant colonial farm within the Cumberland Plain where many of its scenic qualities have survived intact. Belgenny Farm and Camden Park Estate has important associations with key figures in the history of New South Wales, particularly John and Elizabeth Macarthur, their sons James and William, and Mrs Elizabeth Macarthur-Onslow.* *As an unusually intact record of farm building construction techniques and rural technological change, Belgenny Farm and Camden Park Estate has enormous educational and interpretive potential for current and future generations of Australians.* *Aesthetically, Camden Park Estate is in a setting of bucolic charm, symbolic plantings and important vistas with the added significance of the Macarthur family cemetery with its monuments and Belgenny Farm's timber vernacular buildings. The entire estate is considered to be an ongoing agricultural property of social significance.*
	Criterion a) Historical Significance	*Camden Park & Belgenny Farm Estate is historically significant at a State level because it shows evidence of significant human activity in the agricultural industries. Camden Park & Belgenny Farm Estate shows continuity of agricultural activity over the bulk of European history of New South Wales.*
	Criterion b) Associative Significance	*Camden Park & Belgenny Farm Estate is at the same time rare because it provides evidence of a defunct way of life and agricultural practices, as well as being a scarce example of its type and showing unusually accurate evidence of significant human activities. The existing fabric of the Estate, including the hamlets, cottages and other existing farm structures and agricultural landscape demonstrate a philosophy of rural development and colonisation derived from European theory. Camden Park & Belgenny Farm Estate and the surrounding Estate demonstrate overlays of the continual pattern of human use and occupation associated with the evolution of rural life in NSW.*

Heritage Item	Significance	
	Criterion c) Aesthetic Significance	*Camden Park & Belgenny Farm Estate is aesthetically significant, which includes visual links between Belgenny, the cemetery, the mansion, the riverine and ridgetop vegetation as well as external elements such as St. Johns at Camden and the village of Menangle represent a major piece of intellectually determined landscape design. Camden Park & Belgenny Farm Estate has strong visual and sensory appeal arising from its landscape setting, the quality of its vernacular agricultural buildings and the continuing presence of farm animals. The buildings are aesthetically distinctive and have landmark qualities. The farm buildings demonstrate distinctive attributes in their form and composition as well as demonstrating technical excellence and innovation for their period. The Macarthur family cemetery is prominently sited with strong visual links to other important points within the Camden Park Estate. The graveyard has emotive qualities arising from its garden setting and historic atmosphere.*
	Criterion d) Social Significance	*Camden Park & Belgenny Farm Estate is socially significant at a State level because it is held in high esteem by significant groups within the contemporary community of New South Wales. Together with the Macarthur family cemetery and adjoining lands, the area has special cultural, social, spiritual, aesthetic and educational values and associations which set it apart from other sites.*
	Criterion e) Research Significance Criterion f) Rarity	*Camden Park & Belgenny Farm Estate and surrounds satisfies all the guidelines for technical and research significance since it has yielded and has the potential to yield substantial historical, cultural, technical and archaeological information about the history of agriculture in NSW and the lives and occupations of the people who worked there. As such, it is an important reference site and shows evidence of past technologies at a representative and rare level. The property has a useful research and educational role in helping us to understand our agricultural heritage.* *Camden Park & Belgenny Farm Estate is rare because of its scarcity value and the accuracy of the evidence it displays. Belgenny Farm is the oldest surviving complex of farm buildings in Australia due to its combination of age, size, complexity, evidence of evolving technologies and uses set it apart from other places. The estate is a rare example of Australian participation in international horticultural and botanical exchange in the 19th century.*
	Criterion g) Representativeness	*Camden Park & Belgenny Farm Estate is representative as an optimal example of colonial life in New South Wales in the first half of the 19th century. It also represents agricultural, viticultural and horticultural evolution and the dominant part which the Macarthur family played in the development of the colony and its infant primary industries. The estate is representative of Government patronage in return for favours, the pioneering spirit and continual family relationships and evolution.*
	Integrity/Intactness	*The surrounding landscape, scenic views and remnant plantings are considerably intact and play a primary role in maintaining the integrity of the estate and adjoining landscapes Camden Park & Belgenny Farm Estate in particular has retained its integrity and intactness due to best practice conservation techniques.*

Heritage Item	Significance	
Dairy No. 9 (EMAI Cottage 24) (WLEP# I85)	Statement of Significance	*EMAI Cottage 24 (Dairy Number 9) has regional significance through its association with the former Macarthur's agricultural estates and Elizabeth Macarthur Institute. It is part of a wider group of cottages scattered between Menangle and Camden established as part of the dairy estate managed by the Macarthur family in the late 19th and early 20th centuries. It is a good example of a typical late 19th century dairyman's cottage and is an important component of the historic cultural landscape of Cawdor and as part of the EMI holdings.*
	Criterion a) Historical Significance	*EMI Cottage 24 has regional significance through its association with the Macarthur Family, the former Camden Park Estate and the Elizabeth Macarthur Institute. It is typical of dairyman's cottage erected in the late 19th century all over the Macarthur estates and is an important component of the historic cultural landscape of Cawdor.*
	Criterion b) Associative Significance	*EMI Cottage 24 has regional significance through its association with the Macarthur family and their role in the agricultural, pastoral and economic development of the region.*
	Criterion c) Aesthetic Significance	*EMI Cottage 24 has local significance as a good example of a late 19th century dairyman's cottage. It is typical of the cottages erected on the Macarthur estate after their shift from wheat to dairying and is an important component of the historic cultural landscape of Cawdor.*
	Criterion d) Social Significance Criterion e) Research Significance	*N/A* *N/A*
	Criterion f) Rarity	*This item is assessed as rare regionally*
	Criterion g) Representativeness	*EMI Cottage 24 is a good representative example of the late 19th century dairy cottages erected on the Macarthur estate.*
'Slab Hut' (WLEP # I79)	Statement of Significance	*The Slab Hut has local significance as a remnant of the earliest settlement of the Menangle area and is indicative of the crude housing available to the first settlers and workers on the Macarthur estate. It is a locally rare example of the slab hat, a building type that once typified stockmen's and shepherd's huts in the region, but whose ephemeral nature has resulted in the lost of most of them.*
	Criterion a) Historical Significance	*The slab hut has historical significance as a likely remnant of the former Camden tenant farm system*

Heritage Item	Significance	
	Criterion b) Associative Significance	*Cannot be assessed until further investigation is completed*
	Criterion c) Aesthetic Significance	*Cannot be assessed until further investigation is completed*
	Criterion d) Social Significance	*Cannot be assessed until further investigation is completed*
	Criterion e) Research Significance Criterion f) Rarity	*Cannot be assessed until further investigation is completed* *Cannot be assessed until further investigation is completed*
	Criterion g) Representativeness	*Cannot be assessed until further investigation is completed*
Mt Hercules Homestead—Ruins, Well, Trees and Slab Garage' (WLEP # A12)	Statement of Significance[30]	*Locally of scientific significance as an undisturbed archaeological site of a19th century rural residence.*
	Criterion a) Historical Significance	*The item fulfils this Criterion for its importance in the settlement history of Camden and Razorback*
	Criterion b) Associative Significance	*The item fulfils this Criterion for its importance in the settlement history of Camden and Razorback*

[30] Michael Pearson, 2009. Bulli, p.19

Heritage Item	Significance	
	Criterion c) Aesthetic Significance	*As the site represents an archaeological resource, it is unknown whether the resource meets this Criterion*
	Criterion d) Social Significance	*As the site represents an archaeological resource, it is unknown whether the resource meets this Criterion*
	Criterion e) Research Significance	*The item fulfils this Criterion for its archaeological potential*
	Criterion f) Rarity	*The item meets this Criterion as intact archaeological sites of the 19th century rural landscape such as this, where the location is known, are uncommon*
	Criterion g) Representativeness	*As the site represents an archaeological resource, it is unknown whether the resource is representative of dairy homesteads of the 19th-20th centuries*

6.1 ASSESSMENT OF CONTRIBUTORY SIGNIFICANCE OF BUILT ELEMENTS

As noted above, the curtilage of items *Camden Park Estate* and *Dairy No. 9* that fall within the subject area do not contain built elements. The curtilages of these items nonetheless define their cultural landscapes and are of high contributory significance.

Heritage item *Slab hut* could not be accessed as part of this assessment and as a result cannot be assessed in terms of its contributory elements. At a minimum, the slab hut itself and its curtilage are known to contribute to local significance.

6.1.1 'MT HERCULES HOMESTEAD – RUINS, WELL, TREES AND SLAB GARAGE'

Mt Hercules Homestead comprises various elements that are not well captured by its current SHI/WLEP heritage listing. These have been considered below against NSW significance grading guidelines and are summarised in Table 4.

House ruins

The house ruins comprising remnant chimney bases, subfloor posts, brick and sandstone surfacing remnants are of high contributive significance toward the heritage item and form a key element of historical and aesthetic value and archaeological potential.

Underground cistern

The rendered brick cistern is of high contributive significance toward the heritage item and forms a key element of historical and aesthetic value.

Worker's hut

The worker's hut is of high contributive significance toward the heritage item and forms a key element of historical and aesthetic value.

Curtilage

The curtilage is that of Lot 222 DP828453, provides a good setting of the former homestead's rural landscape and is of high contributory significance.

Archaeological resources

Archaeological resources are evident within the heritage item and it is listed as an Archaeological Site on Schedule 5 of the WLEP 2011. Relics are likely to form an element of high contributory significance.

Trees

A number of trees that were originally recognised as contributory elements have been removed from the site. A mature palm tree that remains is of moderate contributory significance.

Dairy sheds

The dairy sheds are at a considerable remove from the main homestead site and fall outside the recognised (listed) heritage item curtilage. They are nonetheless of moderate contributory significance to the item as a connection to the dairying past of the property.

Table 4. Analysis of contributory elements of heritage items as per NSW guidelines.

Heritage Item	Built/landscape elements in existing LEP/ SHI listing within Subject area	Identified as a contributory element in current LEP/ SHI listing? (Y/N)	Confirmed by SoHI	Significance level in current LEP/ SHI listing	Built/landscape heritage elements identified by this SoHI	Significance level as determined by this SoHI	Status of element
Camden Park Estate and Belgenny Farm	No built elements identified	NA	NA	NA	None	NA	NA
	Curtilage	Yes – contributes toward listing in terms of historical value, 'Setting' and landscape	Yes	State significance		High contributory significance	Fulfils Criteria for State listing
Dairy No. 9 (EMAI Cottage 24)	No built elements identified	NA	NA	NA	None	NA	NA
	Curtilage	Yes – contributes toward listing in terms of 'Setting' and landscape	Yes	Local significance		Moderate contributory significance	Fulfils Criteria for local listing
'Slab hut'	Slab hut	Yes	No	Local significance	Slab hut	High contributory significance	Fulfils Criteria for local listing
	Curtilage	Yes – contributes toward listing in terms of 'Setting' and landscape	Yes	Local significance			
'Mt Hercules homestead – ruins, well and slab garage'	Homestead ruins	Yes	Yes	Contributes to local significance	Dairy ruins that lie outside current curtilage	Moderate contributory significance	Informs existing heritage item but does not fulfil Criteria for extension of curtilage or local listing in its own right
	Brick cistern	Yes – identified as a well	Yes	Contributes to local significance			
	Worker's hut	Yes – identified as a slab-built garage	Yes	Contributes to local significance			
	Archaeological relics	Yes	Yes	Contributes to local significance			
	Trees	Yes	Yes	Contributes to local significance			
	Curtilage	Yes	Yes	Contributes to local significance			

6.1.1 SUMMARY STATEMENT OF SIGNIFICANCE

Heritage items within the subject area demonstrate significance, most notably historical significance with regard to the settlement history of the Macarthur region, and associative significance in association with the history of Camden farm and the Macarthur family. The precise nature of significance is not well understood for heritage items *Slab hut* and *Mt Hercules Homestead-ruin, well and slab garage* due to a lack of information on the former and the archaeological nature of the latter. Both items, as well as the curtilage of *Dairy No. 9* have been recognised as locally significant by Wollondilly Council and the curtilage of *Camden Park Estate* has been recognised as State significant.

7 THE PROPOSED ACTIVITY

7.1 THE PROPOSED ACTIVITY

Illawarra Coal Holdings Pty Limited (ICHPL), a wholly owned subsidiary of Gear M Illawarra Met Coal Pty Ltd (GM3), operates Appin Mine (Figure 13), which is in the Southern Coalfield of New South Wales. Appin Colliery comprises Mining Areas; 5, 7, 8, and 9. These Areas, along with the West Cliff mining Areas, are collectively known as the Bulli Seam Operations (BSO). ICHPL is preparing an Extraction Plan (EP) Application for Longwalls 712 – 716 (LW712 – LW716), a northern extension to existing approved Longwalls in Area 7 of the Bulli Seam.

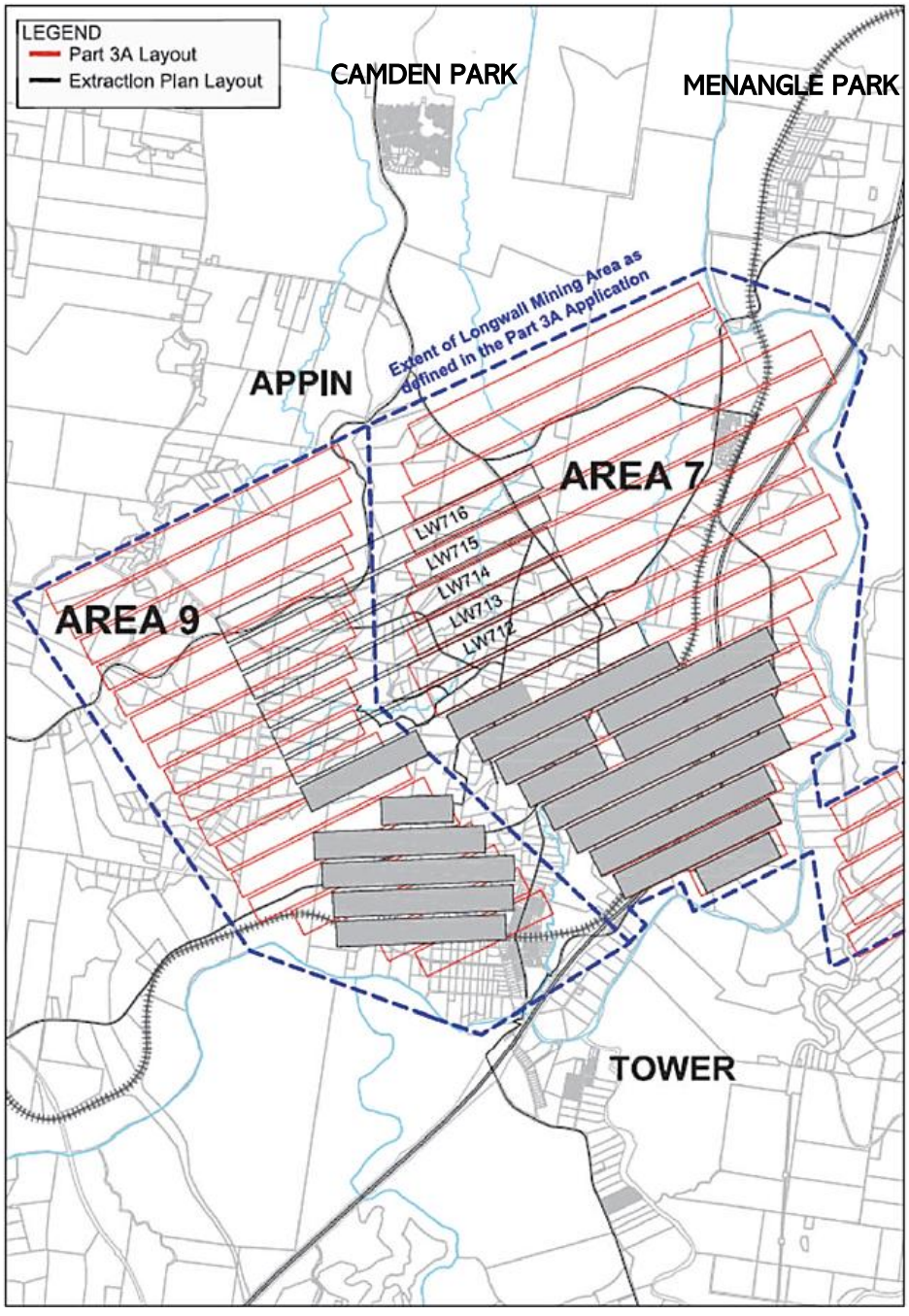


Figure 13. Overview of proposed LW712 – LW716 within Appin Mine Area 7 (Source: MSEC 2025:2)

7.2 OVERVIEW OF PREDICTING SUBSIDENCE

A Subsidence Predictions and Impact Assessments report[31] has been prepared to support the EP Application that outlines the geophysical context and predictive modelling for subsidence associated with proposed Longwalls 712-716.

7.2.1 KEY DEFINITIONS

A summary of terms relevant to the assessment of impacts is provided below in Table 5.

Table 5. Summary of key subsidence terms and definitions and implications for impacts[32]

Term	Definition	Likelihood of Impacting Built and Environmental Features
Angle of draw	The angle between the edge of an underground working and the point on the surface where mining-induced subsidence is no longer measurable	Likelihood of impact generally declines with distance along the angle of draw
Conventional subsidence	The manner in which the surface responds to subsidence effects when the topography is flat, the coal seam is level and the geology is uniform and free of structural disturbances. Can be explained as the expected caving mechanisms associated with overlying strata spanning (and slumping) over the extracted Longwall voids	Not likely, particularly with distance from Longwalls, where Longwalls are more than 400m below the surface and where factors influencing differential subsidence are absent or minimal
Differential subsidence	Variable 'non-conventional' subsidence between two points. Includes tilt, curvature, shearing and strain of surface profiles	May impact upon built structures and landforms (such as stream flow) over or near Longwalls. Occurs where topographic variation is marked, underlying lithology is variable and/or the mined coal seam dips steeply or is of a variable thickness. Severe impacts (Category R5[33]) have previously occurred as a result of substantial non-conventional movements and in plateau areas away from incised valleys, the locations of which cannot be predicted before mining
Shear distortions	The horizontal displacements that are measured across monitoring lines and these can be described by various parameters including; horizontal tilt, horizontal curvature, mid-ordinate deviation, angular distortion and shear index	May impact upon structures and landforms (such as dams or stream flow) over or near Longwalls. Occurs where topographic variation is marked, underlying lithology is variable and/or the mined coal seam dips steeply or is of a variable thickness
Tilt	The change in the slope of the ground as a result of differential subsidence, and is calculated as the change in subsidence between two points divided by the horizontal distance between those points. Tilt is, therefore, the first derivative of the subsidence profile. Tilt is usually expressed in units of millimetres per metre (mm/m). A tilt of 1 mm/m is equivalent to a change in grade of 0.1 % or 1 in 1000	Tilt is an ineffective parameter for assessing potential impacts to structures as ground tilts have been relatively benign and a low number of claims have been made solely in relation to tilt. Tilt has however influenced a small proportion of water retention and flow mechanisms in dams and streambeds

[31] MSEC, 2025, Appin – Longwalls
[32] After MSEC 2025, Appin – Longwalls; Sinclair Knight Merz Pty Ltd, 2014, Subsidence.

Term	Definition	Likelihood of Impacting Built and Environmental Features
Curvature	The change in tilt between two adjacent sections of the tilt profile divided by the average horizontal length of those sections. Curvature is usually expressed as the inverse of the Radius of Curvature with the units of 1/kilometres (km-1), but the value of curvature can be inverted, if required, to obtain the radius of curvature, which is usually expressed in kilometres (km). Curvature can be either hogging (i.e. convex) or sagging (i.e. concave)	It has been found from past longwall mining experience that the majority of mining-induced impacts on house structures are a result of curvature (and strains), particularly regarding masonry structures. The frequency of impacts increases with increasing observed conventional curvatures. Non-conventional curvature cannot be predicted prior to mining but has comparable effects
Radius of curvature	The radius of curvature describes the severity of surface bending (curvature), defined by the radius of the circular arc that best approximates the subsided ground surface at a point.	A smaller radius of curvature (e.g. 1km) indicates a more significant bend and therefore greater damage potential for structures on the surface
Strain	Strain is the rate of change of horizontal movement - The change in the horizontal distance between two points divided by the original horizontal distance between the points, i.e. strain is the relative differential displacement of the ground along or across a subsidence monitoring line. Strain can be expressed as a decimal, a percentage or in parts per notation. Tensile Strains are measured where the distance between two points or survey pegs increases and Compressive Strains where the distance between two points decreases. Whilst mining-induced strains are measured along monitoring lines, ground shearing can occur both vertically, and horizontally across the directions of the monitoring lines	There is a clear link between ground strain and impacts to building structures, particularly compressive strain. Ground strain has proven difficult to accurately predict at a given point in the past. However, observed frequency of high strains increased with increasing observed curvature
Far-field movements	The measured horizontal movements at pegs that are located beyond the longwall panel edges and over solid unmined coal areas. Far-field horizontal movements tend to be bodily movements towards the extracted goaf area and are accompanied by very low levels of strain	Unlikely to result in impacts on natural features or built environments, except for very large structures which can be very sensitive to differential horizontal movements

7.2.2 SURFACE EFFECTS OF MINING SUBSIDENCE

Subsidence of the ground refers to both vertical and horizontal movement resulting from extraction of coal panels. Where longwalls are regular in shape, the extracted coal seams are relatively uniform in thickness, the geological conditions are consistent and surface topography is relatively flat, conventional subsidence profiles are typically smooth in shape and can be explained by the expected caving mechanisms associated with overlying strata spanning (and slumping) over the extracted void (goaf).[34]

Vertical subsidence does not usually directly affect the stability or serviceability of built structures.[35] The potential for impacts on structures increases where greater variability exists across the terrain and coal seam. This can result in differential subsidence effects, which include tilt, curvature, shearing and strain of surface profiles. Surface strain can result in incremental expanded (tensile) and contracted (compressive) horizontal distortion between two points that can exert lateral pressure on built

[34] MSEC, 2025, Appin – Longwalls, p.28
[35] MSEC, 2025, Appin – Longwalls, p.89

structures.[36] Cracks may appear in unreinforced rigid structures at tensile strains around 0.5mm per metre (tensile strain predictions for the subject area are discussed below in Section 0).

MSEC provide the following general observations on subsidence and the subject area:

> *As a general rule, the smoothness of the profile is governed by the depth of cover and lithology of the overburden, particularly the near-surface strata layers. Where the depth of cover is greater than 400m, such as within the Study Area, the observed subsidence profiles along monitoring lines are generally smooth. Where the depth of cover is less than 100 metres, the observed subsidence profiles along monitoring lines are generally irregular. Irregular subsidence movements are occasionally observed at the deeper depths of cover along an otherwise smooth subsidence profile. The cause of these irregular subsidence movements can be associated with:*
>
> - *sudden or abrupt changes in geological conditions*
> - *steep topography; and*
> - *valley-related mechanisms.*[37]

7.2.3 SUBSIDENCE CONTEXT OF THE SUBJECT AREA

The depths of cover to the Bulli Seam above LW712 to LW716 vary between 555m and 800m (Figure 14). The minimum depth of cover occurs along a tributary to Navigation Creek above the tailgate of LW712. The maximum depth of cover occurs along the Razorback Range above the western end of LW716 within the general area of the Mt Hercules Homestead heritage item (Figure 14 and Figure 15).

Topographic change within the subject area is most pronounced through the western third in proximity to Razorback Range (Figure 15). All four heritage Items (inclusive of curtilages) are found within 250m of the proposed active mining area (LW712 – LW716 (Table 6)), and heritage items are generally found within relatively level areas, such as that of the "Slab hut' (Figure 15). The broad curtilage of 'Camden Park Estate and Belgenny Farm' and 'Dairy No. 9' includes relief of up to 30m over 300m – a moderate gradient of 1:10. The 'Mt Hercules homestead' item is sited on a level to gently sloping elongated ridge but is within 180m of steep gradients of between 1:3 and 1:1.

Overall predicted subsidence depths resulting from MSEC's Subsidence Impact Assessment are illustrated in relation to the heritage items in Figure 16.

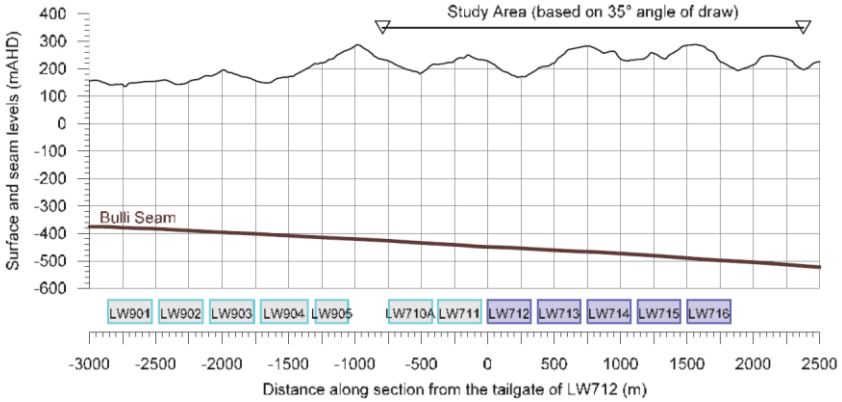


Figure 14. Section through proposed longwalls in relation to surface and seam levels (Source: MSEC, 2025:4)

[36] MSEC, 2025, Appin – Longwalls, p.100
[37] MSEC, 2025, Appin – Longwalls, p.15

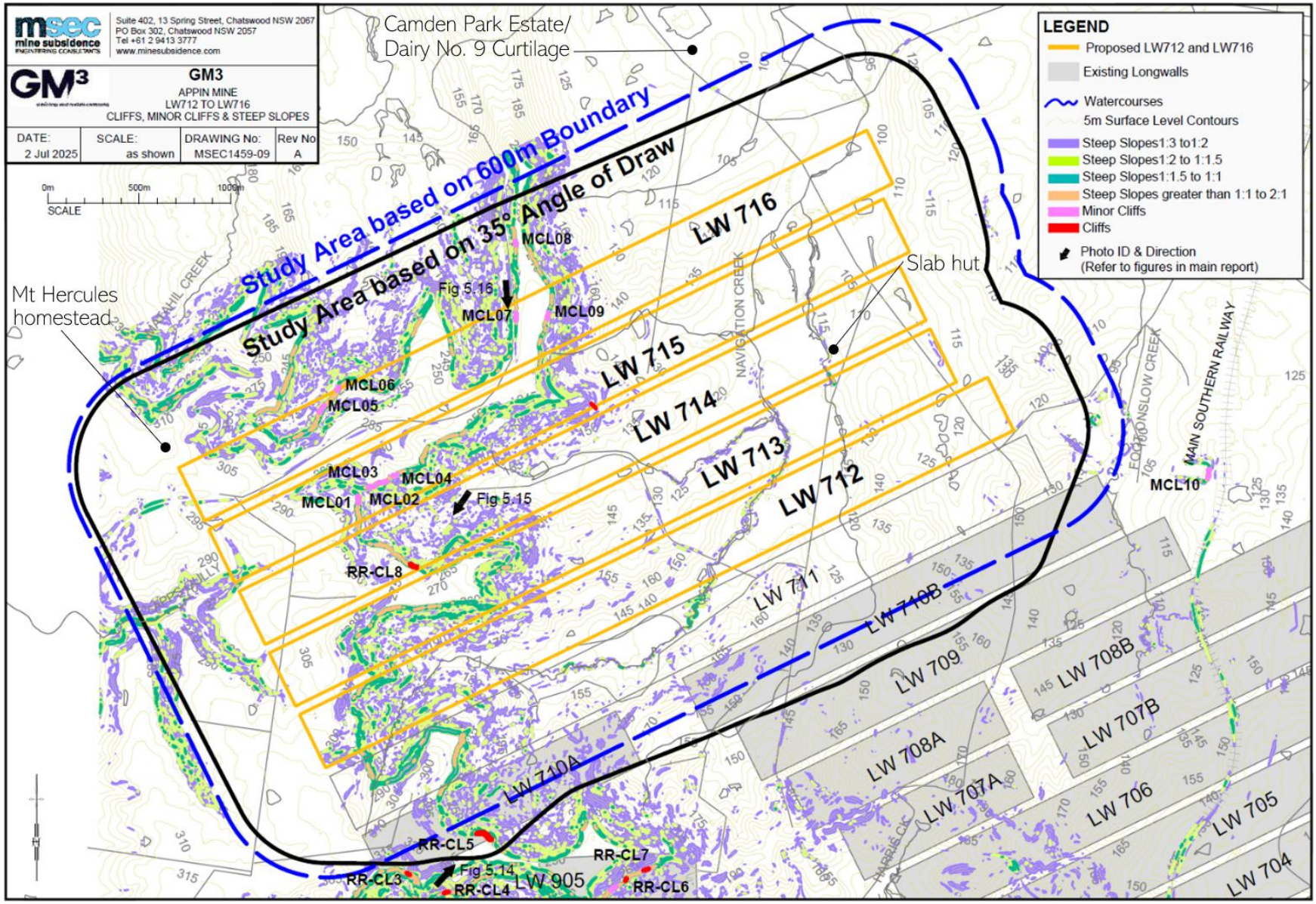


Figure 15. Plan of the subject area showing terrain in relation to the heritage items (Source: MSEC 2025, App. E)

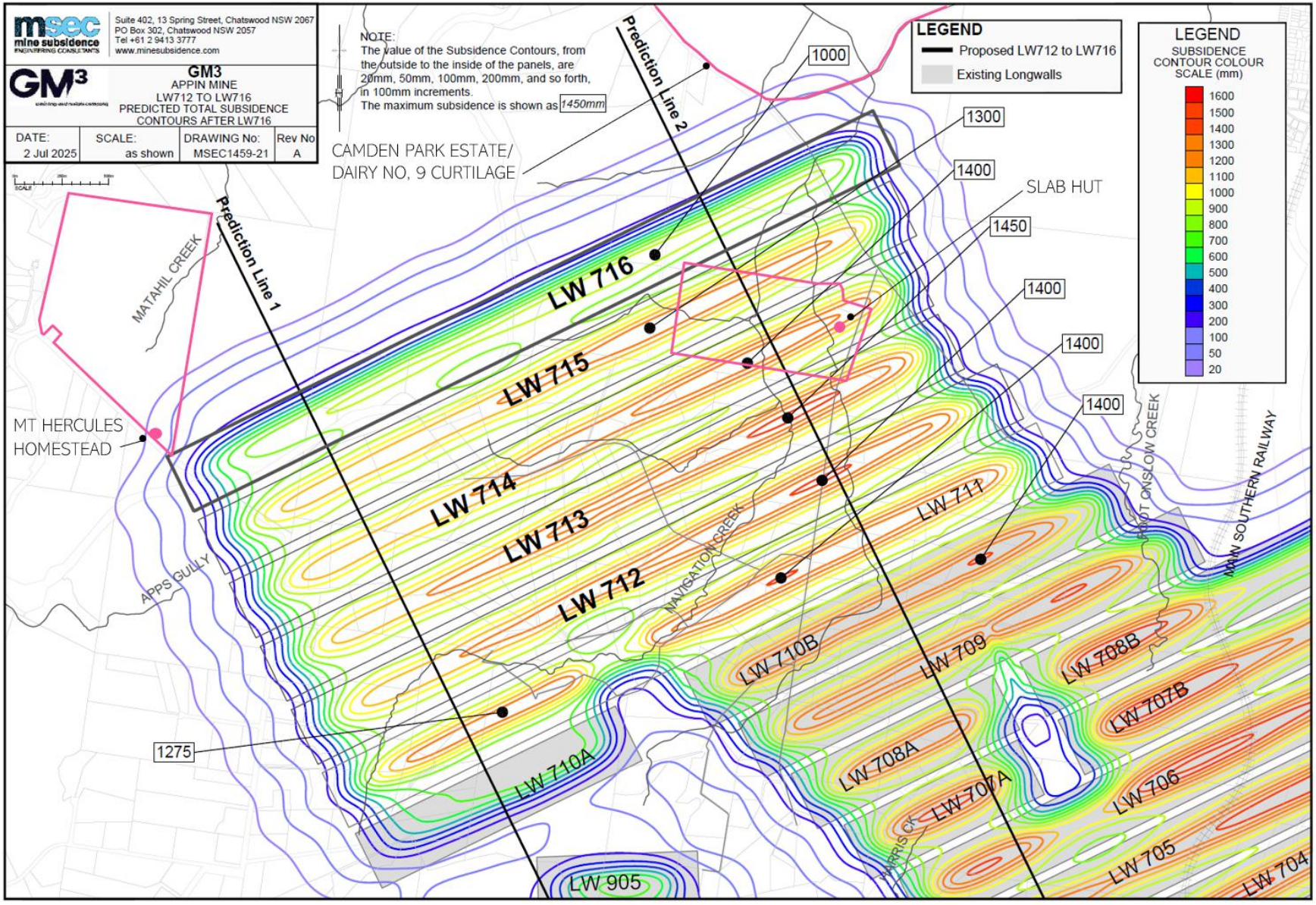


Figure 16. Contour map of total predicted subsidence for LW712 to 716. Heritage items indicated in pink (Source: MSEC 2025)

Table 6. Heritage items relative to proposed longwalls 712 – 716[38]

Item	Position Relevant to Longwalls
Slab hut	Curtilage lies directly above LW713 to LW716. The slab hut itself lies directly above the eastern end of LW714
Mt Hercules Homestead – ruins, well and slab garage	Outside the mining area, curtilage is within 50m of LW716 (west). The built heritage fabric of the item is within 150m of LW716
Dairy No. 9 (EMAI Cottage 24)	Outside the mining area, curtilage is within 250m of LW716 (east), built elements are 800m north of LW716
Camden Park Estate and Belgenny Farm	Outside the mining area, curtilage is within 250m of the northeastern corner of Longwall 716, built elements are 800m north of LW716

7.3 SUBSIDENCE PREDICTIONS FOR THE SUBJECT AREA

Predicted subsidence effects for the existing, approved and proposed longwalls in Appin Areas 7 and 9 have been obtained[39] using the Incremental Profile Method (IPM), an empirical predictive dataset developed by MSEC based on observed historical mining subsidence records. The IPM has been calibrated for local conditions using available ground movement monitoring data from Appin Mine and other nearby collieries.[40]

The maximum predicted strains across the subject area (excluding valley-related effects) are 1.0 mm/m tensile and 1.6 mm/m compressive based on 95% confidence levels. The maximum predicted total conventional subsidence effects across the subject area are:

- 1450 mm vertical subsidence
- 6.5 mm/m tilt (i.e. 0.65 % or 1 in 154)
- 0.07 km-1 hogging curvature (i.e. minimum radius of curvature of 14 km), and
- 0.14 km-1 sagging curvature (i.e. minimum radius of curvature of 7 km).

These maximum predicted ranges of curvatures and strains are similar to those previously experienced at Appin Mine and other nearby collieries in the Southern Coalfield[41] and hold differing implications for impacts to the built environment, including heritage items. For example, extensive past assessment and prediction of mining subsidence indicates that the incidence of impacts on rural structures such as sheds and barns is very low, and the vast majority of these structures remain in safe and serviceable condition after longwall mining due to their lightweight construction, as opposed to houses which are typically more rigid. As stated in Section 7.2.2, conventional horizontal movements rarely impact on natural and built features, rather impacts occur as the result of differential horizontal movements.[42] However, predicted potential impacts for houses within the subject area have allowed for some form of identifiable structural impact to up to 53% of houses directly above the mining area and up to 17% of houses outside the mining area. An overview of the predicted impact ranges for houses within the subject area is provided below in Table 7.

[38] MSEC, 2025, Appin – Longwalls, p.80
[39] MSEC, 2025, Appin – Longwalls
[40] MSEC, 2025, Appin – Longwalls, p.14
[41] MSEC, 2025, Appin – Longwalls, p.8
[42] MSEC 2025, Appin – Longwalls, p.28

Table 7. Summary of predicted house impact levels and classifications cited in the MSEC report[43]

Location	No Claim or R0	R1 or R2	R3 or R4	R5
Houses directly above the mining area (172 total)	47% - 59%	26% - 32%	12% - 16%	3% - 5%
Houses outside the mining area (45 total)	83% – 94%	5% - 11%	1% - 5%	0% - 1%
R0 = Minor adjustment required; R1 = very minor repair required; R2 = minor repair required; R3 = substantial repair required; R4 = extensive repair required; R5 = rebuild required				

7.4 SUBSIDENCE PREDICTIONS FOR THE HERITAGE ITEMS

Slab hut

The *Slab hut* heritage item lies directly over LW714 and has predicted impact measurements comparable to those of the maximum predicted strains for the subject area as a whole (quoted above), as well as comparable predicted risk categories as for houses (Table 9), despite sharing structural characteristics most closely related to the lightweight and resilient 'rural structures' category assessed by MSEC.[44] This demonstrates the higher risk of impact as a result of potential dilapidation issues associated with heritage fabric. Overall, MSEC concluded that it is most likely that the slab hut would remain safe and serviceable during and after mining directly beneath it, however **cracking and movements may occur in the structure including the light-weight wall cladding.** (Table 9).[45]

Mt Hercules homestead – ruins, well and slab garage

The MSEC assessment concluded that the site of the *Mt Hercules homestead* item would be subject to less than 0.5mm/m conventional tensile and compressive strain. a degree of movement assessed as unlikely to adversely impact the item. Hogging and sagging curvatures were also assessed as negligible at 0,01km-¹, representing minimum radii of 100km and greater than 100km respectively[46].

Dairy No. 9 (EMAI Cottage 24)

No structures occur within the part of this item that overlaps with the subject area and overlapping parts of the curtilage are predicted to be subject to negligible subsidence.

Camden Park Estate and Belgenny Farm

No structures occur within the part of this item that overlaps with the subject area and overlapping parts of the curtilage are predicted to be subject to negligible subsidence.

7.4.1 SUMMARY OF SUBSIDENCE PREDICTIONS OF HERITAGE ITEMS

Table 8 provides a summary of overall subsidence predictions for the heritage items and Table 9 provides a summary of items assessed using the impact severity categories defined for houses in Table 7. Only the *Slab Hut* site was assessed by MSEC using the risk categorisation method, as outlined in Table 9.

[43] MSEC 2025, Appin – Longwalls, p.92, p.105
[44] After MSEC 2025, Appin – Longwalls, p.ii, p.68
[45] MSEC 2025, Appin – Longwalls, p.81
[46] Ibid.

Table 8. Maximum predicted subsidence and strains for the four heritage items[47]

Item Name	Maximum predicted total vertical subsidence (mm)	Maximum predicted total tilt (mm/m)	Maximum predicted total hogging curvature (km^{-1})	Maximum predicted total sagging curvature (km^{-1})
Slab Hut	1300	4.5	0.06	0.12
Mt Hercules homestead ruins	90	1.0	0.01	<0.01
Dairy No. 9 (EMAI Cottage 24)	30	<0.5	<0.01	<0.01
Camden Park Estate and Belgenny Farm	<20	<0.5	<0.01	<0.01

Table 9. Maximum predicted subsidence and strains for the four heritage items[48]

Location	No Claim or R0	R1 or R2	R3 or R4	R5
Slab Hut	47%	32%	15%	5%
Mt Hercules homestead – ruins, well and slab garage	Not applied to this item	Not applied to this item	Not applied to this item	Not applied to this item
Dairy No. 9 (EMAI Cottage 24)	N/A – no built structures within curtilage/ subject area	N/A – no built structures within curtilage/ subject area	N/A – no built structures within curtilage/ subject area	N/A – no built structures within curtilage/ subject area
Camden Park Estate and Belgenny Farm	N/A – no built structures within curtilage/ subject area	N/A – no built structures within curtilage/ subject area	N/A – no built structures within curtilage/ subject area	N/A – no built structures within curtilage/ subject area

[47] MSEC, 2025, Appin – Longwalls, p.81
[48] MSEC, 2025, Appin – Longwalls, p.81

8 IMPACT ASSESSMENT

This section of the SoHI assesses the potential for the proposed activity to impact the heritage items as informed by the historical context, the field inspection, the significance assessment and the MSEC subsidence predictions report.[49]

Potential impacts are assessed through:

- Assessment against the DPE NSW 2023 SoHI guidelines questions
- Assessment of any impacts against statutory provisions and Controls of the WLEP 2011 and the WDCP 2016
- Assessment of any predicted impacts against Approval Condition 5 for the BSO
- Assessment against the requirements of the Appin Mine Heritage Management Plan

8.1 IMPACT ASSESSMENT METHODOLOGY

8.1.1 DEFINITIONS OF IMPACT

This SoHI has determined the following gradings of impact, based on MSEC definitions and impact assessment.

Table 10. Impact definitions

Risk Categorisations as defined by MSEC	Grading of Impact
R0 = Minor adjustment required	Nil to Negligible
R1 = very minor repair required	Negligible to Low
R2 = minor repair required	Low to Moderate
R3 = substantial repair required	Moderate to High
R4 = extensive repair required	High to Very High
R5 = rebuild required	Very High

8.2 ASSESSMENT OF MSEC DATAASSESSMENT OF MSEC DATA

The MSEC risk categorisation predictions of subsidence for heritage items (Table 9) has been utilised, where possible, to develop definitions of heritage impact as defined in Table 10. In consideration of the MSEC predictions, the following conclusions have been determined:

- Slab Hut has been predicted to have a **negligible to low** impact as a result of the proposed works
- Mt Hercules homestead has not been assessed by MSEC
- Dairy No. 9 (EMAI Cottage 24) has not been assessed by MSEC
- Camden Park Estate and Belgenny Farm has not been assessed by MSEC

[49] MSEC, 2025, Appin - Longwalls

8.3 STATEMENT OF HERITAGE IMPACT QUESTIONS

The Heritage NSW *Guidelines for preparing a Statement of Heritage Impact* outline considerations for specific types of work that may be under assessment [50]. These considerations provide appropriate questions that can be applied to the proposed works/project. Considerations and questions relevant to the proposed activity are addressed below in Table 11.

Table 11. Relevant Heritage NSW statement of heritage impact questions[51]

Consideration	Question	Response
Statement of Significance	**Is the significance of the heritage items well documented and understood?**	Yes, statements of significance exist for all four heritage items that clearly demonstrate their local significance, and in the case of *Camden Park Estate* – State significance.
	Have all criteria of the heritage item's significance been considered?	Until access can be obtained to the *Slab hut* heritage item this item cannot be assessed in detail against the NSW heritage Criteria. The same applies to archaeological heritage Item *Mt Hercules homestead* as detailed assessment against the Criteria could only be conducted if archaeological excavation were to be carried out. All other heritage items have been assessed against the Criteria (Table 3)
The Proposed Activity	**Is the location of the proposed activity area clearly identified?**	Yes, the location and predicted extent of subsidence is clearly defined
	Is there enough information available about the proposed activity to determine how they may impact the heritage item and its significance?	Detailed predictions of subsidence and associated impacts to the heritage items have been obtained that adequately account for likely impact levels as a result of mining subsidence. Conventional subsidence impacts are not predicted to alter the settings within heritage item curtilages. Impacts are predicted to be minimal for the lightweight 'Slab hut' structure and similar structures at the *Mt Hercules homestead* site. Predicted levels of subsidence strain for *Mt Hercules homestead* (1mm/m lateral movement) indicate that the rigid brick cistern and chimney bases at this site are also unlikely to be impacted to any degree that would impact the existing significance of the heritage item. However, due to the predictive nature of subsidence assessment and the potential for differential subsidence, the exact impacts that would occur cannot be stated.
	Will the proposed activity be the best conservation solution for the heritage item?	Yes, conservation of the items would effectively be enhanced as a result of the proposed activity through the detailed assessment that would likely occur as a result of required actions (this assessment, baseline survey and recording, archival recording, archaeological assessment). These measures are in keeping with Wollondilly Council's desired

[50] Heritage NSW 2023, p.8
[51] DPE, 2023, Guidelines, p.7

Consideration	Question	Response
		outcomes for the items[52] and the conservation ethos of the Burra Charter, The proposed activity has been predicted to pose minimal to no impacts upon the fabric of the heritage items and is not predicted to visibly impact the settings/curtilages of the items.
	Will the activity promote the ongoing use and upkeep of the item?	Yes, the proposed activity would promote the upkeep of the items through required detailed assessment,
	Does the proposed activity include removal of unsympathetic alterations and additions? How does this benefit or impact the heritage item and its significance?	Removal of unsympathetic alterations and additions are not proposed or required.
	Does the proposed activity affect the setting of the heritage item, including views and vistas to and from the heritage item and/or a cultural landscape in which it is sited? Can the impacts be avoided and/or mitigated?	The proposed activity is not predicted to visibly impact the settings/curtilages of the items. Views and vistas to and from the item, landscape values and visual relationships with neighbouring heritage items would effectively remain unchanged.
	Is the proposed activity part of a broader scope of works?	Yes, the proposed activity is part of ongoing works as part of Appin Mine Area 7 and the Bulli Seam Operations. However no further works are proposed within the current subject area
	Are the proposed works to a heritage item that is also significant for its Aboriginal cultural heritage values? If so, have experts in Aboriginal cultural heritage been consulted?	Yes, the SHR item *Camden Park Estate* is significant for Aboriginal cultural heritage values and experts in Aboriginal cultural heritage been consulted as part of the Heritage Management Plan[53] and a Heritage Impact Assessment[54] for the project.
	If the proposed activity is to a local heritage item, are the requirements of the development control plans or any local design guidelines that may apply to the site considered?	Yes, requirements of the WDCP (2016) and WLEP (2011) have been considered below and in Section 8.4.

[52] City Plan, 2023, Wollondilly Heritage Study, p.244
[53] GM³, 2025 (in prep.) Appin Mine Area 7, Longwalls 712 to 716 Heritage Management Plan
[54] Regal Heritage 2025, Appin Area 7 Heritage Impact Assessment.

Consideration	Question	Response
Considerations for specific types of work **<u>New Landscape Works and Features</u> (as relevant to potential landform impacts)**	**How has the impact on the heritage significance of the existing landscape been minimised?**	The proposed activity would result in some level of subsidence. While this poses direct change to surface elevation within the heritage curtilages, these changes not expected to result in evident changes to surface topography and are not likely to impact upon the setting and contributory landscape of the heritage items and associated significance
Matters for consideration: **- Setting, views & vistas** **- Archaeology**	**Will any known or potential archaeological relics be affected by the landscape works? How will this be mitigated? Has advice been sought from a suitably qualified archaeologist?**	A suitably qualified archaeologist has prepared this SoHI assessment and considered potential impacts to the archaeological site Mt Hercules homestead. As a result of this assessment, the known and potential archaeological resources of this item are assessed as likely to experience negligible to low impacts (some degree of movement of their soil matrices) as a result of conventional and possibly differential subsidence. As the item is already recognised for its archaeological potential, a Historical Archaeological Assessment (HAA) is not recommended as a result of this SoHI. However, should subsidence monitoring for the proposed activity trigger TARP responses, an HAA may be required as part of mitigation.
	Does the proposed activity impact views to, from and within adjacent heritage items?	The proposed activity would result in some level of subsidence. While this poses direct change to surface elevation within the heritage curtilages, these changes not expected to result in evident changes to surface topography and are not likely to impact upon the setting and contributory landscape of the heritage items and associated significance

8.4 ASSESSMENT AGAINST THE WLEP AND WDCP

The WLEP provides local environmental planning provisions for land within the Wollondilly Municipality. Part 5.10 of the WLEP outlines key heritage conservation objectives, including:

(a) to conserve the environmental heritage of Wollondilly,

(b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,

(c) to conserve archaeological sites,

(d) to conserve Aboriginal objects and Aboriginal places of heritage significance.

The WDCP (2016) provides development controls to satisfy the requirements of the EP&A Act and planning policies of the WLEP 2010, including those with regard to heritage conservation and management. The WDCP applies to all land within the subject area.

The proposed activity is assessed against all relevant Objectives and Controls of the WDCP below in Table 12.

Table 12. Objectives and Controls of the WDCP (2016) relevant to the proposed activity.[55]

Objective/Control DCP Vol. 1 Part 5:1 – Colonial Heritage	Response
5.2 – General Controls: • **View corridors - must be retained to and from significant features within the Conservation Area (or heritage item)** • **Cumulative impact - must be considered to ensure that the characteristic features of the conservation area (or heritage item) that give harmony and cohesiveness to streetscapes and individual buildings are not eroded.**	View corridors would not be affected by the proposed activity The proposed activity would not remove or erode characteristic features of the heritage items in ways that would affect their significance or considered cumulative impact. The detailed recording undertaken for the project and ongoing monitoring of heritage items within the subject area (as outlined in detail in Section 9) would allow for greater conservation outcomes for the items.

8.5 RELEVANT APPROVAL CONDITIONS

8.5.1 PROJECT APPROVAL 08_0150

Condition 5 of Schedule 3 of the BSO Project Approval (08_0150) identifies the required performance measures that must be met for Aboriginal and non-Aboriginal heritage features (Table 13). As part of the preparation of an EP, Condition 5 requires that potential environmental consequences of the proposed second workings on both Aboriginal and non-Aboriginal heritage sites or values are managed.

Condition 24 of Schedule 4 identifies the program/procedures informing the preparation of a HMP for the project and management of heritage. The proposed activity is assessed against Parts of Schedule 3 Condition 5 and Schedule 4 Condition 24 that are relevant to assessment of the heritage items in Table 13 below.

Table 13. Response against relevant Conditions of Consent (MP08_01501)

Approval 08_0150 Requirement	Response
Schedule 3: Part 5 - Extraction Plans **The Proponent shall prepare and implement an Extraction Plan for first and second workings within each longwall mining domain to the satisfaction of the Planning Secretary. Each extraction plan must:** **include a Heritage Management Plan, which has been prepared in consultation with Heritage NSW and relevant stakeholders for both Aboriginal and historic heritage, to manage the potential environmental consequences of the proposed second workings on both Aboriginal and non-Aboriginal heritage items, and which:** **• includes additional investigations (such as surveys and current register searches) for Aboriginal heritage items (including previously known sites) and historic heritage items, sufficient to identify the significance (including "special significance") of all sites which may be impacted by subsidence and to identify any actions required to ensure that the performance measures in Table 1 are met.**	This SoHI provides additional investigation into historic heritage items and identifies all sites which may be impacted by subsidence, including significance of the items and gradings of significance for their elements where relevant/possible. Additional actions recommended to ensure the performance measures (Table 14) are met are provided in the recommendations of this SoHI

[55] WSC, 2016, WDCP, Vol. 1, Part 5:1, p.22

Approval 08_0150 Requirement	Response
Schedule 4: Part 24 – Heritage Management Plan **The Proponent shall prepare and implement a Heritage Management Plan for the project to the satisfaction of the Secretary. This plan must:** **(a) be prepared in consultation with OEH, the Aboriginal community, Council, any local historical organisations and relevant landowners;** **(d) include the following program/procedures for managing other heritage on site:** **• preparing conservation management plans and/or photographic and archival recording of potentially affected heritage items;** **• protection and monitoring of heritage items outside the site;** **• baseline dilapidation surveys of all heritage items potentially affected by subsidence and/or blasting;** **• monitoring, notifying and managing the effects of subsidence and/or blasting on potentially affected heritage items; and** **• additional archaeological excavation and/or recording of any significant heritage items requiring demolition.**	This SoHI provides recommendations for additional investigation into historic heritage items in accordance with HMP Conditions of Consent (d)

Schedule 3 Condition 5(k) requires that additional investigations into historic heritage items sufficiently identify the significance (including "special significance") of items that may be impacted by subsidence and to identify any actions required to ensure that the performance measures in Table 1 of Schedule 3 are met. These performance measures are assessed below in Table 14, with detailed discussion of identified mitigation actions outlined further in Section 9.

Table 14. Assessment of the project against BSO Approval Performance Measures[56]

Historic Heritage Items	Performance Measure	Response	Actions identified to fulfill performance measures (addressed further in Section 9)
National or State significant heritage Items specified in Schedule 3, Table 1: Historic heritage			
St James Church (Menangle) **St Mary's Tower (Douglas Park)**	**Negligible loss of heritage value.** **Negligible impact on structural integrity or external fabric.**	Not subject to any impact as a result of the proposed activity	None
Broughtons Pass Weir	**Negligible loss of heritage value.**	Not subject to any impact as a result of the proposed activity	None

[56] DPHI, 2024, Bulli Seam Operations Project, Project Approval, Application Number: 08_0150, Schedule 3

Historic Heritage Items	Performance Measure	Response	Actions identified to fulfill performance measures (addressed further in Section 9)
Other buildings or structures of State or National heritage significance	**Negligible loss of heritage value.**	'Camden Park Estate and Belgenny Farm' has been assessed to be subject to negligible loss of heritage value as a result of the proposed activity (slight subsidence effects on landform within the SHR curtilage) of the proposed activity (slight subsidence effects on landform with in SHR curtilage)	None
Other buildings or structures of identified heritage significance (identified in this SoHI) as per Schedule 3, Table 1			
Slab hut	**Negligible loss of heritage value**	The curtilage of the heritage item is directly over LW714 and would be subject to subsidence effects. It has been predicted that cracking and movements may occur in the structure including the light-weight wall cladding that may require repair. A 20% likelihood has been predicted that impacts may exceed these levels, however it 'is most likely that Slab Hut would remain safe and serviceable during and after mining directly beneath it'[57]	Archival recording to be conducted for the heritage item, should access become available The heritage item should be incorporated into the Property Subsidence Management Plan for the project or a PSMP be prepared specifically for the item.
Mt Hercules Homestead – ruins, well and slab garage	**Negligible loss of heritage value**	The known and potential archaeological resources of this item are likely to be affected by some degree of movement of their soil matrices as a result of conventional and possibly differential subsidence. However, these effects have been predicted to be of a minimal nature (Table 8) and archaeological resources are unlikely to be affected to any degree that would impact the potential heritage value and significance of these resources under NSW heritage Criteria	Archival recording to be conducted for the heritage item, The heritage item should be incorporated into the Property Subsidence Management Plan for the project or a PSMP be prepared specifically for the item.
Dairy No. 9 (EMAI Cottage 24)	**Negligible loss of heritage value**	*Dairy No. 9* has been assessed to be subject to negligible loss of heritage value as a result of the proposed activity (slight subsidence effects on landform within the curtilage)	None

[57] MSEC, 2025, Appin – Longwalls, p.81

8.6 RELEVANT PROJECT MANAGEMENT PLANS

8.6.1 APPIN MINE HERITAGE MANAGEMENT PLAN (2024)

The Appin Mine HMP[158] sets out requirements for HMPs, CMPs and additional heritage actions required to be prepared for future Extraction Plans and surface works management plans as required by the Project Approval. Under Section 7.6 – Subsidence Monitoring Requirements[59], the following requirements are made:

Baseline Recording of Heritage Sites

Detailed baseline recording of heritage sites will be undertaken prior to the extraction of any proposed longwalls. The purpose of the detailed baseline recording is to:

- *mitigate the risk of potential impact through more detailed archival recording; and*
- *provide a set of baseline records for the monitoring program.*

For Non-Aboriginal sites the following requirements are made:

The preparation of a detailed baseline dilapidation recording for Non-Aboriginal heritage items should be a component of a Property Subsidence Management Plan (PSMP). The baseline recording requires the following:

- *site Identification of individual components or features of the heritage item, including an assessment of features that may be more robust and hence can tolerate greater subsidence effects (e.g. sturdy exterior walls), and components or features that are at higher risk of damage due to their state of repair or construction (e.g. existing deteriorated render);*
- *the types of damage to the heritage fabric that can be repaired without loss of heritage values (e.g. cracks in internal painted masonry walls); and*
- *consideration of the risk of damage to individual components or features of the heritage item with the predicted subsidence effects, and whether stabilisation methods are available to readily reduce the risk of subsidence damage to that component or feature.[60]*

8.6.2 LONGWALLS 712 TO 716 HERITAGE MANAGEMENT PLAN (2025)

A Heritage Management Plan has been prepared for the proposed activity that outlines proposed monitoring and management of known and newly identified Aboriginal and historical heritage features within the Longwall 712 to 716 Study Area.[61]

Management

The HMP includes performance measures[62] that reflect those of the project Approval outlined in Table 14, ensuring compliant management of heritage items during the duration of the project.

[58] South32, 2024, Appin Mine heritage Management Plan.

[60] South32, 2024, Appin HMP, p.
[61] Gm³ 2025, Appin Mine Area 7 Longwalls 712 to 716 Heritage Management Plan.
[62] Gm³, 2025, HMP, p.21

Monitoring

The HMP also outlines historic heritage monitoring requirements including, where necessary, Property Subsidence Management Plans (PSMPs) for heritage items that may be impacted by the proposed activity, such as 'Slab hut' and 'Mt Hercules homestead – ruin, well and slab garage'.

Monitoring results would be reviewed monthly in the ICHPL Subsidence Management Committee. However, if the findings of monitoring are deemed to warrant an immediate response, the Principal Approvals will initiate the requirements of the Trigger Action Response Plan (TARP) Management and Mitigation Strategies[63] for applicable heritage sites. The TARP is outlined below in Table 15.

Monitoring results will be made publicly available in accordance with BSO Approval Conditions 8 & 11, Schedule 6 and will also be included in the Annual Reporting Condition 4, Schedule 6. In the event that the Performance Measures detailed in Section 5 of the HMP are considered to have been exceeded, or are likely to be exceeded, ICHPL will implement a Contingency Plan to manage any unpredicted impacts and their consequences as outlined in the HMP.

Table 15. Non-Aboriginal heritage site TARP as per the HMP for the project.[64]

During and Post Mining	Trigger	Action	Response
Non-Aboriginal Heritage	Negligible • Cracks or warping of external exterior cladding. • Cracks or movement < 5 mm in width in any external or internal wall claddings, linings, or finish. • Isolated cracked, loose, or drummy floor or wall tiles.	• Inform Subsidence Advisory NSW (SA) of impacts. • Notify relevant specialists. • Monitor the minor effects to observe any further changes. Implement repairs by filling, patching or painting without the removal or replacement of any external weatherboards, claddings or linings.	Continue monitoring in consultation with property owners.
	Minor • Continuous cracking or warping of exterior cladding. • Slippage along the damp proof course of 5 to 15 mm anywhere in the total external façade. • Loss of bearing to isolated walls, piers, columns, or other load-bearing elements. • Loss of stability of isolated structural elements.	• Inform SA of impacts. • Notify relevant specialists. • Monitor to observe any further changes. Implement repairs by removal or replacement of proportions of the building, for example weatherboards, or secure the stability of structural elements.	Continue monitoring in consultation with property owners.

[63] Regal Heritage, 2025, Regal Heritage 2025, Appin Area 7 Longwalls.
[64] Gm³, 2025, HMP, p.26.

During and Post Mining	Trigger	Action	Response
	Major • Slippage along the damp proof course of 15 mm or greater anywhere in the total external façade. • Loss of stability of several structural elements.	• Inform SA of impacts. • Notify relevant specialists. • Monitor to observe any further changes. Implement repairs and replacement.	Continue monitoring in consultation with property owners.

8.7 STATEMENT OF HERITAGE IMPACT

In consideration of the above assessment of heritage impact, the following conclusions have been determined:

- *Slab Hut* has been predicted to be subject to a **negligible to low** impact as a result of the proposed works
- *Mt Hercules homestead* has been predicated to be subject to a **negligible to low** impact as a result of the proposed works
- *Dairy No. 9 (EMAI Cottage 24)* has been predicted to have **nil to very low** impact as a result of the proposed works. This determination applies to the items curtilage only, with built fabric of the listing predicted to be subject to **nil impact** as a result of the proposed works.
- *Camden Park Estate and Belgenny Farm* has been predicted to have **nil to very low** impact as a result of the proposed works. This determination applies to the items curtilage only, with built fabric of the listing predicted to be subject to **nil impact** as a result of the proposed works.

9 MITIGATION

Proposed mitigation measures have been developed for the two heritage items determined to have potential to be impacted by subsidence (i.e. *Slab hut* and *Mt Hercules homestead*).

The measures reflect performance measures required by consent authorities and cultural heritage management strategies developed for Appin Mine outlined in Section 8. These mitigation measures are outlined below.

Table 16. Appropriate mitigation measures for the management of heritage items

Mitigation Measure	Purpose
Archival recording	Archival recording should be carried out for the 'Slab hut' (WLEP# I79) and 'Mt Hercules homestead – ruin, well and slab garage' (WLEP# A12) heritage items. The archival recording should meet all requirements of the Appin Mine HMP with regard to a 'dilapidation recording' and include approaches such as lidar scanning or photogrammetric recording of structures sensitive to subsidence to create a physical record and complement monitoring survey data and a Property Subsidence Management Plan (PSMP) for the location.
Property Subsidence Management Plan (PSMP)	PSMPs should be prepared for the locations of the 'Slab hut' (WLEP# I79) and 'Mt Hercules homestead – ruin, well and slab garage' (WLEP# A12) to provide a framework for subsidence monitoring effects on the heritage items as a result of subsidence.

10 CONCLUSIONS AND RECOMMENDATIONS

10.1 CONCLUSIONS

This SoHI has determined that:

- *Slab Hut* may be subject to a **negligible to low** impact as a result of the proposed works
- *Mt Hercules homestead* may be subject to a **negligible to low** impact as a result of the proposed works
- *Dairy No. 9 (EMAI Cottage 24)* may be subject to **nil to very low** impact as a result of the proposed works. This determination applies to the items curtilage only, with built fabric of the listing predicted to be subject to **nil impact** as a result of the proposed works.
- *Camden Park Estate and Belgenny Farm* may be subject to **nil to very low** impact as a result of the proposed works. This determination applies to the items curtilage only, with built fabric of the listing predicted to be subject to **nil impact** as a result of the proposed works.

10.2 RECOMMENDATIONS

In consideration of the above conclusions, the following recommendations are made:

RECOMMENDATION 1

The proposed extraction should be undertaken in accordance with the CoC for MP08_0150 and the requirements of the overarching Appin Mine Heritage Management Plan (HMP)[65] and the HMP for Longwalls 712 to 716 (currently in preparation). This should include requirements and policies for:

- Subsidence monitoring and reporting of heritage items that may be impacted by the proposed works (*Slab Hut* and *Mt Hercules Homestead*)
- Performance measures and indicators
- Contingency response plans
- Complaints and compliance monitoring
- Defined roles and responsibilities
- Stop work and unexpected finds procedures

RECOMMENDATION 2

It is recommended that archival recordings are prepared for both *Slab hut* and *Mt Hercules homestead* in accordance with Section 7.6 – 'Subsidence Monitoring Requirements' of the Appin Mine HMP.

RECOMMENDATION 3

Information obtained in the process of Recommendation 2 should be used to update this SoHI with regard to the nature and significance of heritage item 'Slab hut', when access to that property becomes available.

[65] GM³, 2025 (in prep), Appin Mine HMP

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