

Network 2 Balgownie

Balgownie Mountain Bike Network

STATEMENT OF HERITAGE IMPACT



Prepared by Niche Environment and Heritage Pty. Ltd.

For National Parks and Wildlife Service South Coast Branch

Date: April 2023

Network 2, Balgownie

Mountain Bike Network

STATEMENT OF HERITAGE IMPACT REPORT

Date: April 2023

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Prepared By

Niche Environment and Heritage Pty. Ltd. NPWS South Coast Branch

NSW Head Office – Sydney

3/93 George Street

Parramatta, NSW 2150

T: 61 2 9630 5658

E: info@niche-eh.com

W: <http://www.niche-eh.com>

Prepared For

84 Crown Street, Wollongong 2500

T: (02) 4221 6905 M: 0499 358 009

E: vanessa.phillips@environment.nsw.gov.au

W: www.environment.nsw.gov.au

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Part A: Background

1 Executive Summary

1.1 Project Overview

Niche Environment and Heritage Pty Ltd (Niche) was engaged by National Parks and Wildlife Service (NPWS) of Office of Environment and Heritage (OEH) in 2022 to prepare this Statement of Heritage Impact (SoHI) for the Balgownie Mountain Bike Network. This SoHI accompanies a Review of Environmental Factors (REF) under Part 5 of the EP&A Act 1979. The project is designed to create a mountain bike network (the Network) for use by the general public within land holdings administered by NPWS and Crown Land managed by Wollongong City Council (WCC) at Tarrawanna, in the Illawarra region of NSW.

1.2 Heritage Significance

The Illawarra Escarpment State Conservation Area is significant for its landmark qualities, which have placed it at the centre of development of the region. Throughout the history of the Illawarra, the Escarpment has played a major role in the successive development activities of European settlers, including Cedar getting, mining, and guiding access routes and old roads through the region.

The Illawarra Escarpment provides many opportunities for archaeological investigation and research in locales of significance, particularly concentrated around old mining locations, and provides evidence of historical technical achievements in the region. The Escarpment allows for the preservation and display of ecological and biological diversity and resources and allows for a unique natural landscape to exist within the Illawarra. Evidence and structures related to the Corrimal Colliery heritage item are not restricted to this item's curtilage, but are located within the surrounding Subject Area, which once formed part of the larger mining infrastructure footprint. The Subject Area provides insight into past mining practices, particularly those related to the period 1850-1950. Also evidenced are innovative technological solutions, and the early development of mining technology and practises in the Illawarra region. The Subject Area is socially significance due to the long association of the local community and mine workers with the Corrimal Colliery over the life of this mine.

The Subject Area is highly disturbed by services, former development and recent unsanctioned trail development and other uses. Due to a lack of integrity, the Subject Area is not considered significant across the majority of its landscape, but rather retains significance in those small pockets which are related to former mining structures. It holds value rather as it provides a space for community access and engagement with many of these aspects of significance of the IESCA.

1.3 Summary of Key Heritage Impacts and Conclusions

This report has assessed the historic period heritage value and significance of the Subject Area, which incorporates a section of the IESCA. The assessment has identified that this area is primarily significant due to its Natural, Mining and recreational Landscape qualities, and has identified that it holds significance under the historical, aesthetic, social, research potential and rarity significance assessment criteria.

The proposed works are likely to cause no or little impacts on the heritage items except for the identified features relating to the former mining works; ‘old’ incline, ‘Old Train Line’ and other identified features where direct adverse impacts are likely but minor in degree. This includes some archaeological deposits. Several constraints and opportunities have been identified in order to mitigate impacts from the proposed works. It is considered that the works, with reference to archaeological and heritage impacts, qualify as minor works, and will have little to minor impacts to heritage value. The proposed works must be undertaken under either exception S.139(4) b) or e), depending on whether archaeological monitoring of works is necessary. The proposed works would otherwise require a permit under S.140 of the Heritage Act 1977, if these exceptions were not to be used. Instruction on the use of these exceptions is provided in Appendix 1.

1.4 Recommendations

Based on the above conclusions, the following recommendations have been developed:

Recommendation	Description
S.139(4) b): Unexpected Finds Procedure:	The works must be carried out, where they can avoid direct impacts to identified features and relics, under Exception S.139(4) b) which stipulates an unexpected finds procedure and protocol for record keeping during construction (See Appendix 1 for further details on S.139(4) Exceptions).
S.139(4) e): Archaeological Monitoring of Track Construction:	Where the works cannot avoid identified features or relics (such as at the location of Feature 2, see Figure 6), the proposed works must be carried out at these locations under the direction of a suitably qualified historic-period archaeologist, in accordance with Exception S.139(4) e). This exception outlines appropriate methodology for archaeological monitoring including record keeping (See Appendix 1 for further details on S.139(4) Exceptions).
Design Flexibility – Avoidance of Harm:	The track design should be modified where possible, and within the assessed corridor, in order to avoid historic-period features and archaeological deposits.
Preparation of Photographic Archival Recording (PAR):	In the circumstance where avoidance of heritage or archaeology is not possible, and archaeological monitoring is necessary, a PAR should be undertaken of the feature or location to be impacted.
Preparation of a Heritage Management Schedule for the BMB Network	Preparation of a Heritage Management Schedule within a Mountain Bike Operation and Management Plan
Creation of an Interpretation Strategy for the BMB Network	NPWS should undertake to develop and implement an interpretation strategy and plan for the BMB Network, which incorporates all natural/ecological, Aboriginal Cultural and Historic-period heritage value for the benefit of the general public who will be interacting with this space.

2 Introduction

2.1 Project Background

Niche Environment and Heritage Pty Ltd (Niche) was engaged by National Parks and Wildlife Service (NPWS) of Office of Environment and Heritage (OEH) in 2022 to prepare this Statement of Heritage Impact (SoHI) for the Balgownie Mountain Bike Network Project. This SoHI accompanies a Review of Environmental Factors (REF) under Part 5 of the EP&A Act 1979. The project is designed to create a mountain bike trail network (the Network) for use by the general public within land holdings administered by NPWS and Crown Lands managed by Wollongong City Council (WCC) at Tarrawanna, in the Illawarra region of NSW.

2.2 This Report

The purpose of this report is to determine the potential impacts from the proposed works on the cultural values and significance of the Subject Area and any identified heritage items. The work will assess the concept design of the Network in terms of those values of cultural significance expressed in the document *Assessing Heritage Significance (Heritage Office (former), 2001)*, determine the extent and nature of possible impacts and recommend, if required, strategies and protocols that will mitigate these impacts.

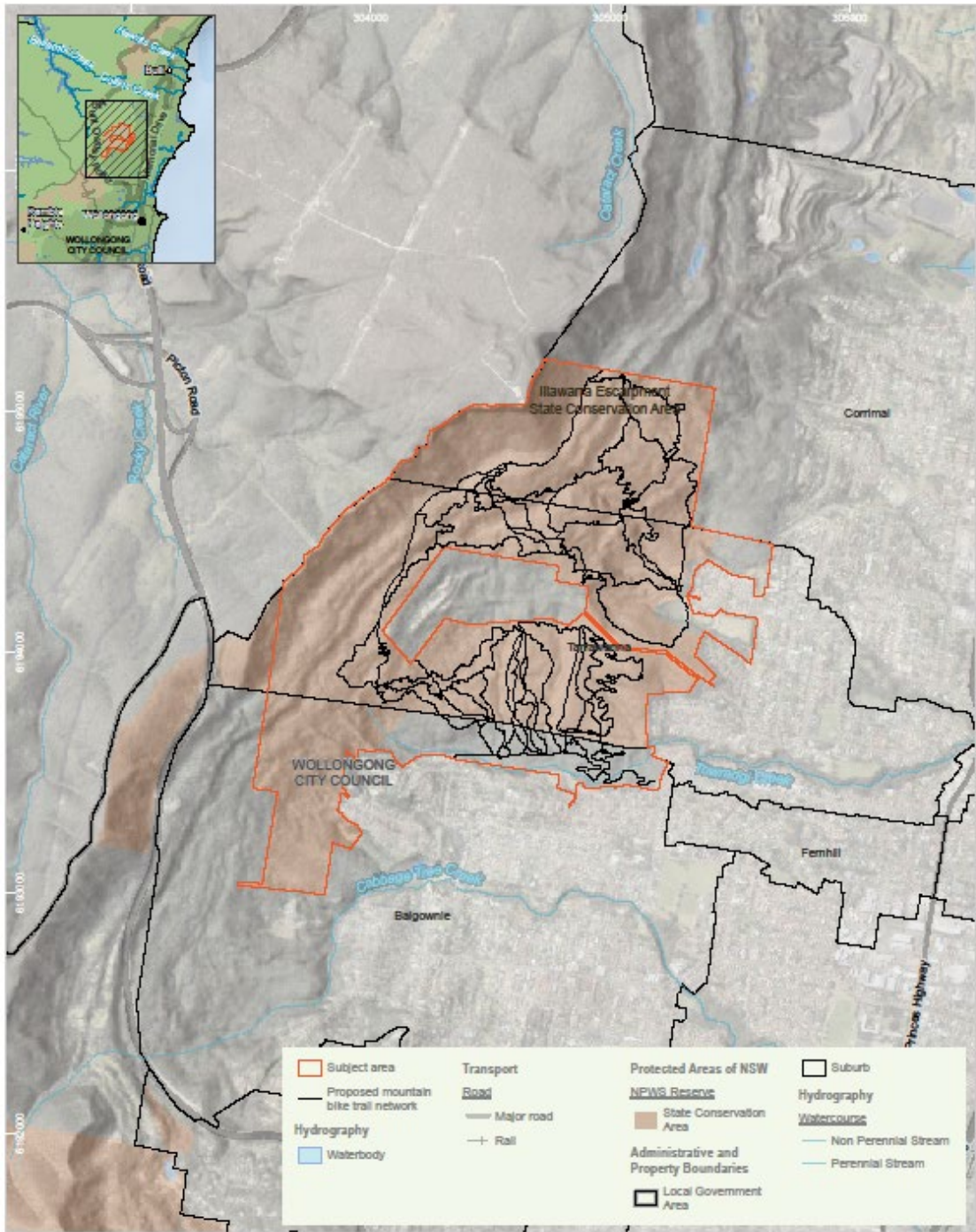
This report is structured into four parts:

- **Part A Background:** which contains the Executive Summary and Introduction,
- **Part B History and Physical Analysis:** which contains the historical context and site inspection information,
- **Part C Heritage Significance:** which contains the assessment of heritage significance and statement of cultural significance,
- **Part D Heritage Impact:** which contains the heritage impact assessment, conclusions and recommended measures and actions.

2.3 Site Identification

The land selected for the Network is predominantly owned and administered by NPWS and is hereby referred to as the Subject Area (see Figure 1). Within the centre of the subject area is privately held land which was the former Corrimal Colliery pit top location. This private land parcel and its access road does not form part of the Subject Area. Some land owned by Crown Lands and managed by WCC borders the southern and eastern edges of the Subject Area.

The Balgownie Mountain Bike Network has been designed on behalf of NPWS by Synergy Tracks Pty Ltd, an independent consultancy which has significant previous experience with designing and constructing walking and mountain bike tracks for recreation. The tracks at Balgownie are designed to vary in difficulty and are arranged to best make use of the terrain, existing unofficial community-made tracks, to minimise erosion and ecological impact, and to respond to feedback regarding locations of heritage value. All the tracks were numbered for the purpose of identification in this report and the REF (See Figure 2).



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WGS 1984 Web Mercator

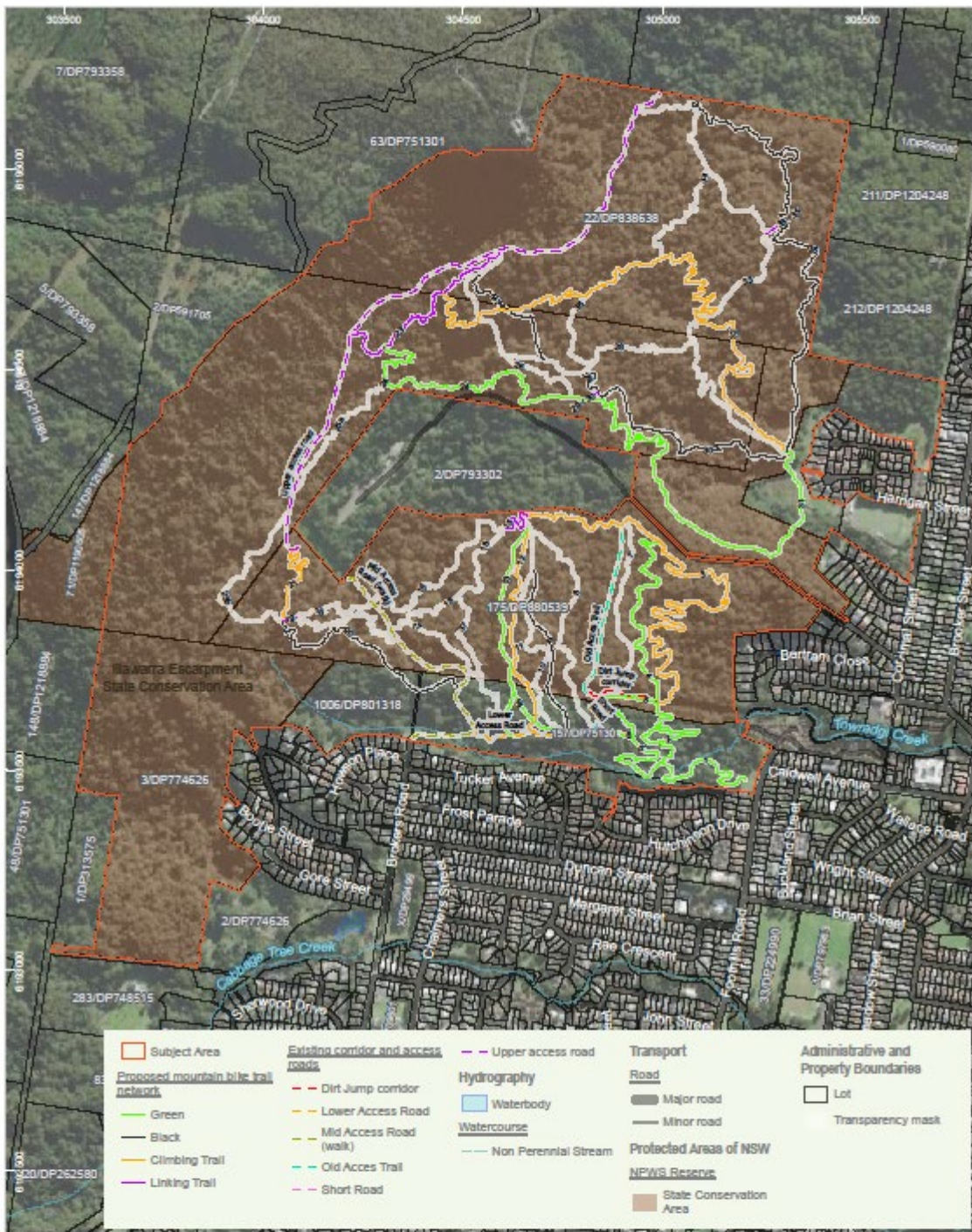
Niche PM: Stella Quast
Niche Proj. #: 7262
Client: NPWS

Location map
Balgownie Mountain Bike Trail Network
Statement of Heritage Impact (SoHI)

Figure 1

publicNSW_imagery: © Department of Customer Service 2020 Terrain: Multi-Directional Hillshade: Airbus, USGS, NSA, NGA, OGIW, NCEAS, NLS, OS, JMA, Geodatasystems, GGA, GSI and the GIS User Community/World_Cover_Base: NWA, GeoscienceAustralia, Esri, DeLorme, NaturalMapWorld Hillshade: Esri, Geoscience Australia, NGA, NGA, USGS | Watercourses, Waterbodies, Road and Rail alignments, Protected areas of NSW © Spatial Services 2021 | Niche uses GDA2020 as standard for all project-related data. In order to ensure that data from numerous sources and coordinate systems is aligned, on-the-fly transformation to WGS1984 Web Mercator Auxiliary Sphere is used in the map above. For ease of reference, the grid tick marks and labels shown around the border of the map are presented in GDA2020, using the relevant MGA zone.

Figure 1: Location Map (Source: NPWS, NSW Spatial Services, ESRI and Niche)



Niche PM: Stella Quast
Niche Proj. #: 7262
Client: NPWS

Proposed works
Balgownie Mountain Bike Trail Network
Statement of Heritage Impact (SoHI)

Figure 2

World Imagery: Microsoft; Multi-Directional Hillshade: Atlas.USGS,NGA,NSA,OGIAR,NCEAS,NLS,OS,NMA,Geostatsystems,GSA,GSI and the GIS User Community | Watercourses, Waterbodies, Road and Rail alignments, Protected areas of NSW © Spatial Services 2021. | Niche uses GDA2020 as standard for all project-related data. In order to ensure that data from numerous sources and coordinate systems is aligned, on-the-fly transformation to WGS 1984 Web Mercator Auxiliary Sphere is used in the map above. For ease of reference, the grid tick marks and labels shown around the border of the map are presented in GDA2020, using the relevant MGA zone.

Figure 2: Location of Proposed Works (Source: NPWS, NSW Spatial Services, ESRI and Niche)

2.4 Statutory Context

This section provides a summary of relevant legislation and associated planning instruments designed to protect and conserve significant heritage items and their values.

Commonwealth and National Legislation

Environment Protection and Biodiversity Conservation Act 1999

The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) is the Australian Government's central piece of environmental legislation. It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities, and heritage places. Under the EPBC Act, protected heritage items of significance are listed on the National Heritage List (NHL) or the Commonwealth Heritage List (CHL). The NHL provides protection to places of cultural significance to the nation of Australia, while the CHL comprises natural, Aboriginal, and historic heritage places owned and controlled by the Commonwealth.

NSW State Legislation

Heritage Act 1977

The Heritage Act 1977 (the Act) affords statutory protection to those items identified as having heritage significance and which form part of the NSW heritage record. The Act defines a heritage item as "a place, building, work, relic, moveable object or precinct". Items that are assessed as having State heritage significance are listed on the NSW State Heritage Register (SHR). Proposals to alter, damage, move or destroy heritage items listed on the SHR (or protected by an Interim Heritage Order [IHO]), require an approval under s60 of the Heritage Act 1977.

State Heritage and Conservation Registers (S.170)

Under s.170 of the Heritage Act 1977, NSW government agencies are required to maintain a register of heritage assets under their control or ownership. Each government agency is responsible for ensuring that the items entered on its register under s.170 are maintained with due diligence in accordance with State Owned Heritage Management Principles. Items listed on s.170 Heritage and Conservation Registers are listed on the State Heritage Inventory (SHI), and some are also listed on the SHR.

Environmental Planning and Assessment Act 1979

The Environmental Planning and Assessment Act 1979 (EP&A Act) establishes the framework for cultural heritage values to be formally assessed in the land use planning process in NSW. The EP&A Act also requires local governments to prepare planning instruments, such as Local Environmental Plans (LEPs) to provide guidance on the level of environmental assessment required.

Wollongong Local Environmental Plan 2009 (2010 EPI 76)

Heritage items within the Wollongong City LGA are listed in Schedule 5 of the Wollongong LEP 2009. The Wollongong Development Control Plan (DCP) 2009 gives guidance and outlines controls in place to regulate development within the Wollongong City LGA. These items are subject to the planning controls and provisions set out in Clause 5.10 (Heritage Conservation) of that LEP.

National Parks and Wildlife Act 1974

NSW National Parks and Wildlife Service are governed by the National Parks and Wildlife Act 1974 (NPW Act), which sets the regulations and operating guidelines for operational and regulatory aspects managed by the NPWS. The NPW Act also provides for State Conservation Areas which are managed by the NSW NPWS, in conjunction with the National Parks and Wildlife Regulation, the Biodiversity and Conservation Act 2016, and the EP&A Act. The Illawarra Escarpment State Conservation Area, located within the Subject Area, is one of the State Conservation Areas which has management outcomes which are informed by this legislation.

The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (2013)

This SoHI has been prepared in accordance with the principles and methodology contained in *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (2013)*. The Burra Charter outlines a series of best practice principles and measures for heritage investigation and conservation. The Charter is supported by a series of Practice Notes that provide practical advice in the application of the Burra Charter. The Charter was first adopted in 1979 and has been subject to numerous updates with the most recent iteration adopted in October 2013. The policies and legislative guidelines developed by the Heritage Council of NSW are guided by the Burra Charter.

2.5 Heritage Listings

Error! Reference source not found. The following table identifies those heritage places, sites or relics that are identified in statutory registers or schedules and are inside of or within 200m of the Subject Area (See also Figure 3):

Table 1: Heritage items within 200m of the Subject Area

Item listing #	Item Name	Listing instrument	Level of Significance	Relationship to the Subject Area
#6480	Illawarra Escarpment Landscape Area	Wollongong Local Environmental Plan 2009/ State Conservation Area	Local	Subject Area is within a part of this conservation area. This report will examine potential impacts to this item.
#61046	Corrimal Colliery*	Wollongong Local Environmental Plan 2009	Local	The Subject Area totally surrounds this curtilage and its access road. Some evidence related to this item extent out of the curtilage into the Subject Area. This report will examine potential impacts to this item.
N/A	Corrimal Colliery - Head frame No 1	SEPP: Illawarra REP No.1	Local	This feature is located outside of the Subject Area – 2km to the northwest, although the location is not given in the listing document. It marks the location of the Corrimal Colliery No.1 Vent Shaft site. Will not be affected by the project.
N/A	Corrimal Colliery - No 1 shaft surface structures	SEPP: Illawarra REP No.1	Local	This feature group is located outside of the Subject Area – 2km to the northwest, although the location is not given in the listing document. It marks the location of the Corrimal Colliery No.1 Vent Shaft site. Will not be affected by the project.
N/A	Corrimal incline features: (including the Line of old incline, Line of later incline, Haulage braking system).	SEPP: Illawarra REP No.1	Local	These features are associated with the Corrimal Colliery Pit Top Local heritage item but are located across the Subject Area. This report will examine potential impacts to this item group.
#5986	House "The Ridge"	Wollongong Local Environmental Plan 2009	Local	Located outside of the Subject Area at 7-9 Hawthorn Street, outside of visual range. Will not be affected by the project.

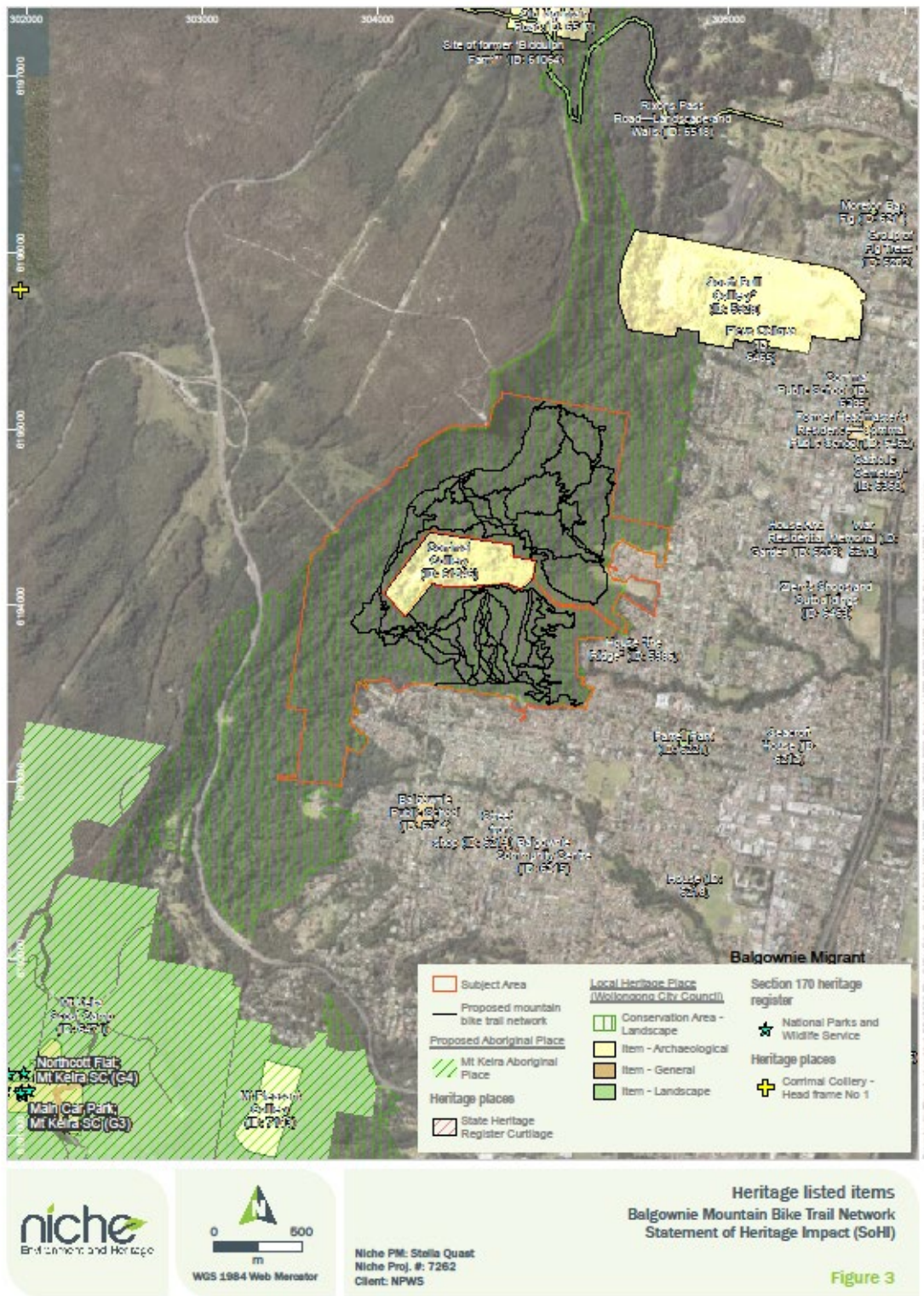


Figure 3: Heritage Items within the Subject Area (Source: NPWS, Heritage NSW, WCC, NSW Spatial Services, ESRI and Niche)

2.6 NSW National Parks' Key Heritage Stories

In 2016, NPWS commissioned a thematic study to investigate, define and describe the stories that only National Parks are able to tell, or key NSW stories that are best communicated through the heritage items located within reserve lands. The study was to enable NPWS to:

- understand the key stories for NSW that are best told through the National Park estate.
- understand what heritage items and complexes best demonstrate these key stories and the values that illustrate the stories.
- underpin decisions to categorise and prioritise resource allocations for the historic heritage assets managed by NPWS; and
- provide a basis for the assessment and nomination of any new places to either the State Heritage Register (SHR) or NPWS Heritage and Conservation Register (S170 Register).

NSW National Parks' Key Heritage Stories was endorsed by NPWS Executive in December 2016.

Six key stories were identified focusing on the stories and themes strongly represented in NSW National Parks through its built heritage assets:

1. Creating and Experiencing National Park,
2. Aboriginal Country, Shared History,
3. Arriving and settling,
4. Pastoral Lives,
5. Defending and Protecting NSW, and
6. Making a Living from Nature.

The Subject Area is related to the following Key Heritage Stories:

1. Creating and Experiencing National Parks,
2. Aboriginal Country, Shared History,
3. Arriving and settling.

2.7 Project Methodology & Key Resources

This SoHI has been prepared in accordance with the principles and methodology contained in The Burra Charter: *The Australia ICOMOS Charter for Places of Cultural Significance (2013)* and in accordance with the best practice standards set out by the Heritage NSW. The relevant best practice guidelines include:

- *Statement of Heritage Impact (Heritage Council of NSW, 2002)*
- *NSW Heritage Manual*
- *Assessing Heritage Significance (Heritage Office (former), 2001)*
- *Assessing Significance for Historical Archaeological Sites and 'Relics' (Heritage Council of NSW, 2009)*

Literature Review and Database Searches

A review of relevant literature and databases was undertaken to determine the potential for historical heritage items to occur within the Subject Area. The literature and databases that were reviewed included:

- *Heritage Branch Heritage Inventory (State Heritage Register, State Heritage Inventory)*
- *Wollongong Local Environmental Plan 2009 heritage schedules*

- *Wollongong Development Control Plan 2009 heritage schedules*
- *Commonwealth heritage registers (Australian Heritage Database, Commonwealth Heritage List, and former Register of the National Estate)*
- *Background research, including previous historical heritage studies and reports.*

The results of the desktop review were collated to identify known heritage items and areas with potential for heritage items. These items and areas informed the field survey.

Site Inspection

The site inspection was conducted for the purpose of identifying physical evidence that could indicate archaeological resources, structures or other works that may not have been identified in other sources within or adjacent to the project area. The site inspection was conducted by Samuel Ward (Heritage Consultant, Niche) on 7th to 11th November 2022.

2.8 Project Limitations

This project was intended to assess the area within 10m each side of the tracks put forward as part of the works design (see Figure 2), with the Subject Area delineating the furthest possible extend within which the tracks could be designed. This report was undertaken using existing historical information and secondary sources with no extra primary historical research undertaken for this project. This report does not evaluate Aboriginal Cultural Heritage within the Subject Area.

2.9 Authorship & Acknowledgements

This SoHI has been written by Samuel Ward (Historical Heritage Consultant, Niche), with document review and quality control provided by Jo Nelson (Associate Heritage Consultant, Niche). Technical assistance was provided by Neil Berry (GIS Consultant, Niche). Unless otherwise attributed, images used in this report are produced by Niche.

2.10 Terminology & Abbreviations

Burra Charter	<i>The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance 1999.</i>
Conservation	Means all the processes of looking after a place so as to retain its cultural significance (<i>Burra Charter Article 1.1</i>). Conservation can include 'maintenance', 'preservation' and 'restoration' works.
Maintenance	Means the continuous protective care of the fabric and setting of a place and is to be distinguished from 'repair'. Repair involves 'restoration' or 'reconstruction' (<i>Burra Charter Article 1.5</i>).
NSW Heritage Division	The NSW government department <i>within</i> the Office of Environment and Heritage responsible for administration and protection of items listed under the <i>NSW Heritage Act 1977</i> .
Restoration	Means returning the existing fabric of a place to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material (<i>Burra Charter Article 1.7</i>).
Reconstruction	Means returning a place to a known earlier state and is distinguished from 'restoration' by the introduction of new material into the fabric (<i>Burra Charter Article 1.8</i>).
Preservation	Means maintaining the fabric of a place in its existing state and retarding deterioration (<i>Burra Charter Article 1.6</i>).
State Heritage Register (SHR)	A register of places that are considered to be of 'state' significance and protected under the <i>NSW Heritage Act 1977</i> .
S170 Register	Section 170 Heritage and Conservation Register, a heritage register of items owned and managed by a government agency, as required by the <i>NSW Heritage Act 1977</i>

Part B: History and Physical Analysis

3 Historical Background

This section discusses the history of the immediate area surrounding the Subject Area and provides an overview of the historical context of this site. The purpose of this context is to shape the understanding of heritage values connected with the site, and to provide a baseline for examining the archaeological potential of the Subject Area.

3.1 Pre-1788 Aboriginal Historical Context

The landscape of the Illawarra was the country of the Wodi Wodi people of the Dharawal Nation who resided in the country from Botany Bay and Campbelltown in the north through the Nepean, Wollondilly, Georges, and Cataract water catchments, west to Moss Vale and south to the Shoalhaven River and Jervis Bay (NPWS 2005:6).

Historic accounts of Lake Illawarra and its hinterland, which specifically reference the Aboriginal inhabitants are scarce. Early ethnography accounts (e.g., research compiled by Sullivan 1992 and Organ 1990) suggest that at the time of European occupation, a highly mobile, dispersed Aboriginal population occupied the region. Based on the varied environmental zones along the south coast it is unlikely that consistent, large-scale movement from east to west was prevalent. Navin Officer (2000:35) note that a common theme within the ethno-historic data of the region describes the movement of people from the coast to the plateau lands, for season, ceremonial commitments, or the receipt of Government rations. It is likely that a formalised network of pathways and mountain pathways connecting east to west across the Illawarra escarpment and ranges existed (Biosis 2007:27).

3.2 Post-1788 Regional Historical Context of the Illawarra

Changes Caused by British Colonisation

The arrival of the First Fleet in Sydney Cove in 1788 was followed the next year by a smallpox epidemic, which spread to the neighbouring regions and, although the exact effects are not known, killed over half the Aboriginal population of the areas effected (Organ 1990: 5).

Access to traditional and everyday resources (such as water) and clearing the land of trees would have had a major impact on the ways in which Aboriginal people would have been living, and also caused significant social disruption between Aboriginal groups, and pressure between Aboriginal people and the ever-increasing European population. This period was a time of drought, and the competition for resources between the Europeans and the Dharawal, who were adapting to the massive changes that were so quickly upon them, led to several years of conflict. Organ (1990) documents the various skirmishes, killings and reprisals between Europeans and the Dharawal during the 1814 – 1815 period in the Cowpastures, Camden and Appin districts. Eventually this sporadic bloodshed would lead to larger scale conflict, with Governor Macquarie implementing a sustained punitive action against the Aboriginal population in the district. This resulted in the Appin Massacre on the 17th of April 1816, in which Aboriginal people were shot and driven over the steep cliffs (probably near Broughton's Pass) to their death during a surprise attack by a detachment of the 46th Regiment, in the middle of the night.

Colonial exploration

Exploration of the Illawarra by colonial authorities and settlers was attempted over an extended timeframe, prior to the discovery of natural resources and easy access down the Illawarra escarpment. Before formal settlement of the region some Europeans had left Sydney and made their way to the Illawarra. The British explorer Flinders' journal refers to the presence of white people, presumably escaped convicts, living with Aboriginal people and growing potatoes somewhere near Lake Illawarra (McDonald, 1976 & 1979; Organ, 1991).

The earliest documented accounts of European exploration in the Illawarra are James Cook's 1770 entries describing his observations as the Endeavour sailed northwards up the coast (McDonald 1966). On April 28, 1770, an attempt was made to land a yawl in the vicinity of modern-day Port Kembla. George Bass and Matthew Flinders were the next Europeans to visit the Illawarra during their journey south from Port Jackson in the Tom Thumb II in 1796.

Initial land settlement and pastoral land use

The primary industry during the early days of European settlement in the Illawarra was pastoralism, with horned cattle being the main stock. Farming then diversified in the 1830s and 1840s with wheat, maize and potatoes all cultivated of which wheat was the most successful crop until rust attacked the crops and broke the industry (*Australian Town and Country Journal* 6 September 1879; 32). The land division within the Subject Area can be seen on Figure 4, which shows limited land grants were made in this location, with most of the area covered by the mining lease land.

A shift to dairying then took place in the 1840s with milk, butter and cheese all being produced by the late nineteenth century. In the 1870s it was reported that almost all efforts were then devoted to dairying with crops such as maize and sorghum only grown to feed the herds (*Australian Town and Country Journal* 6 September 1879; 32).

Resource extraction

By 1812, the natural red cedar in the escarpment region were exploited as a resource by timber-getters. The cedar supply was quickly exhausted (NSW NPWS 2018).

From 1849, mines spread along the escarpment from Clifton to Wongawilli. Coal became a dominant component of the Illawarra's economy, and it remains so. Coal drove the region's development beyond farming and led to a rapid increase in the local population, with shanty villages appearing on the escarpment and coastal strip to accommodate miners (NSW NPWS 2018).

While the number of mines reduced over time, the size of extractive efforts increased, and mining remains one of the major industries which continues to shape the Illawarra.






1898 Woonona Parish Map
Balgownie Mountain Bike Trail Network
Statement of Heritage Impact (SoHI)
 Niche PM: Stella Quast
 Niche Proj. #: 7262
 Client: NPWS
Figure 4

publicNSW_imagery: © Department of Customer Service 2020/Format: Multi-Directional Hillshade: Airbus,USGS,NGA,NASA,CGIAR,ICEAS,NLS,OS,NMA,Geodatastynisean,GSA,GSI and the GIS User Community | Watercourses, Waterbodies, Road and Rail alignments, Protected areas of NSW © Spatial Services 2021. | Niche uses GDA2020 as standard for all project-related data. In order to ensure that data from numerous sources and coordinate systems is aligned, on-the-fly transformation to WGS1984 Web Mercator Auxiliary Sphere is used in the map above. For ease of reference, the grid box marks and labels shown around the border of the map are presented in GDA2020, using the relevant IGA zone.

Figure 4: 1898 Woonona Parish Map (Source: NPWS, Heritage NSW, NSW Spatial Services, ESRI and Niche)

Infrastructure development

Construction for the (old) Scarborough to Wollongong section of the Illawarra line virtually started at Wollongong Station site as equipment, material and rolling stock was transported by sea from Sydney, landed at Port Wollongong and transferred by the colliery railways to the station yard. The single-track line opened on 21st June 1887 with an extension to Bombo opened on 9th November 1887 and finally on 3rd October 1888 the connection to the northern Sydney section was made. Rail transport in the Wollongong region was heavily utilised for coal industries, especially with the development of the Port of Wollongong, and Port Kembla's export and steelworks infrastructure and industrial development. The development of major port facilities saw the removal of use of individual jetties adjacent to each mine site, and mine tramways which then moved coal to the rail line, rather to coal loading jetties on the coast.

As the 20th Century progressed, the extraction of coal on the top of the escarpment, consolidation of mines and the changing needs of industry prompted a shift to other methods of transfer of coal down the escarpment. Conveyor systems, trucks and dedicated loading facilities worked to concentrate transfer of coal and material to a small number of higher-capacity sites, with rail infrastructure still utilised heavily for transfer to ports. Extractive industries in the Illawarra at the time of writing still use a combination of trucks, conveyor systems and rail transfer to accomplish the movement of extracted coal to ports.

Urban development and governance

In 1815 Joseph Wild was appointed constable for the Five Islands district, which was followed by increasing presence of colonial authorities, who managed disputes between cedar getters and land holders, and undertook a program of dispossession of country from local Aboriginal peoples. This phase of military colonial governance in the Illawarra had shifted by the 1840s, with settled areas managed by newly instituted civil authorities, and the removal of troops to other frontiers (Niche 2019).

As European land grants proliferated during the nineteenth century, there were increased pressures on the resources that the Aboriginal population relied on. Access to traditional food gathering areas was increasingly limited. The Illawarra Aboriginal community were forced to retreat to the smaller creeks feeding into Lake Illawarra and Tom Thumb Lagoon, or into the steeper land along the Illawarra escarpment (Kass 2010: 15).

The town of Wollongong was laid out in 1834, with the Illawarra District Council formed in 1843. In 1859, two municipal councils were formed: Municipality of Wollongong which was proclaimed on 22 February, and Central Illawarra Municipality which was formed on 19 August 1859 (this took in the area from Unanderra to Macquarie Rivulet). North Illawarra Municipality was formed on 26 October 1868 and included the area from Fairy Creek to Bellambi. In 1947 The City of Greater Wollongong was formed by the amalgamation of the City of Wollongong, the Shires of Bulli and Central Illawarra and the Municipality of North Illawarra, under the Local Government Act, 1919 in the NSW Government Gazette 104 of 12 September 1947.

As the 20th century progressed, the coastal lifestyle of the Illawarra became another reason for Australians to choose to live in this region, and urban settlement increased over this period. The gentrification of former mining-orientated suburbs and sites also intensified this process, with

many areas formerly dedicated to mining and other industries now urbanised and utilised as residential settlement, rather than industrial districts. The shift in focus to creation of parks and wildlife reserves, recreation spaces, the environmental movement and sustainable living practises has coincided with this trend, with re-use of former industrial land and infrastructure a major theme in current development projects within the region.

3.3 Historical development of the Subject Area

The following is a summary and outline of historical phases of development which have been identified for the Subject Area. These phases mark the major milestones of development within the Subject Area and help to clarify the progression of historical development of this landscape.

Phase 1: Aboriginal landscapes and management

Dharawal speakers historical and presently live in the region around the Subject Area, and this place was no different, being part of the lands used by Aboriginal Peoples in the Illawarra. Historic accounts of Lake Illawarra and its hinterland, which specifically reference the Aboriginal inhabitants are scarce. Early ethnography accounts (e.g., research compiled by Sullivan 1992 and Organ 1990) suggest that at the time of European occupation, a highly mobile, dispersed Aboriginal population occupied the region. Dharawal people use the land which constitutes the Subject Area for thousands of years prior to European arrival and likely have used it throughout the period of British colonisation.

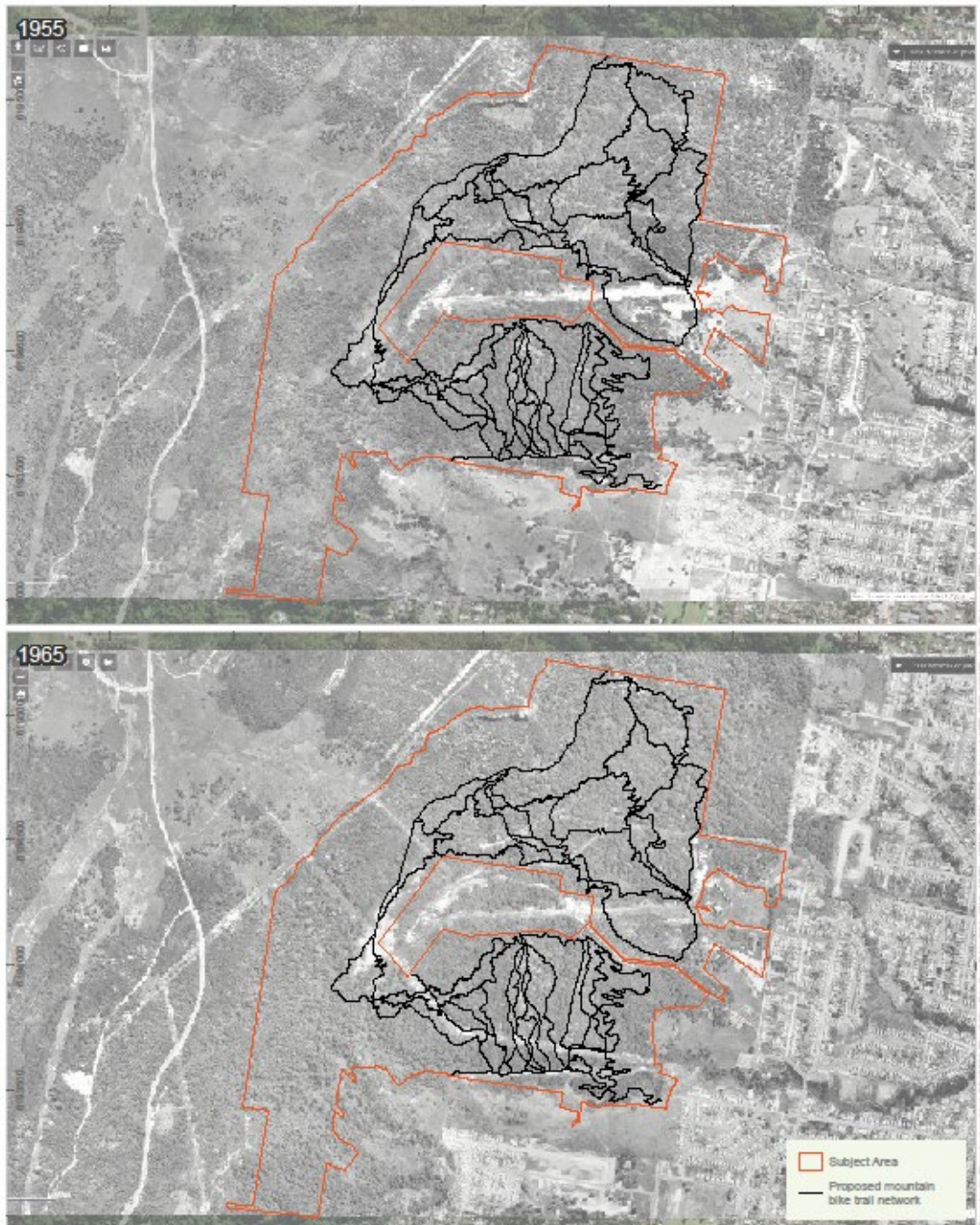
Phase 2: Timber extraction and initial settlement

The Subject Area has three land original land grants in the north, while the majority was not subject to land grants, as these areas eventually became used for mining in phase 3. The three land grants were given to Francis McGranan, Daniel Griffin and Robert Owen according to the 1898 Woonona Parish Map (see Figure 4). This map indicates that land was distributed to the east of the Subject Area prior to 1898. The southern section of the Subject Area was originally associated with the Balgownie Estate but remained relatively undeveloped during the early settlement phase.

The 1802 proclamation by the Governor of NSW that no cedar could be felled without his permission indicates that the practise of large-scale felling of timber for Cedar logging had been identified as an issue needing regulation, including in the Subject Area and surrounds. Cedar was hauled to then transported from Lake Illawarra in small craft to the rest of the NSW and beyond as early as 1810 approximately 15 years before any substantial settlements had been constructed in the Illawarra region. By the 1840s so many cedar trees had been cut down, the owners of the lands that these trees stood often decided to cut all the timber down to make farmlands. The cedar getting industry ceased to be of importance in the Illawarra by about 1850.

Phase 3: Coal mining

Corrimal Colliery is located within the Subject Area and was in operation from 1870 to 1986. The colliery initially comprised a trial mine investigating a 7-foot seam that was established below Broker's Nose (SMH 10/09/1870, p. 11). In 1870, an acquisition of land comprising approximately 500 acres of the Balgownie Estate was reported. By May 1885, the Broker's Nose Colliery Co. Ltd. had commenced operations and arrangements were underway to connect the new mine to the Illawarra railway line. Development of operations continued over the life of the mine, which can be seen in historical aerial imagery (see Figure 5a-5b).



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 Niche Prog. #: 7262
 Client: NPWS

Historical aerial photographs (1955-1965)
 Balgownie Mountain Bike Trail Network
 Statement of Heritage Impact (SoHI)

Figure 5a

World Imagery: Maxar/Trimble; Multi-Directional Hillshade: Airbus, USGS, NOAA, NASA, OGIAR, NCEAS, NLS, OS, NMA, Geostatsystems, GSA, GGI and the GIS User Community | Watercourses, Waterbodies, Road and Rail alignments, Protected areas of NSW © Spatial Services 2021.

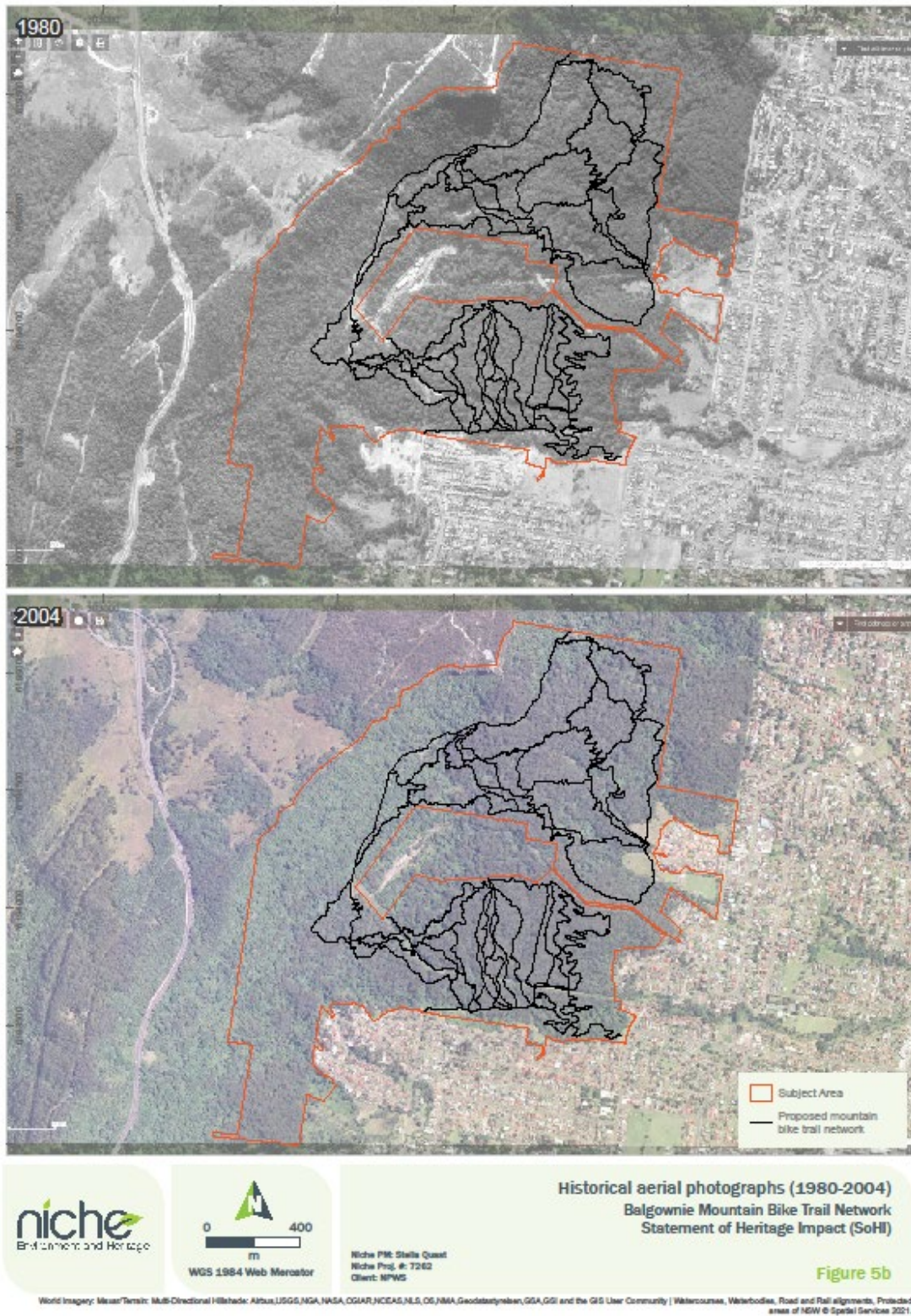


Figure 5a-Figure 5b: Historical Aerials in the Subject Area (Source: NPWS, Heritage NSW, NSW Spatial Services, ESRI and Niche)

The historical imagery shows several routes which were used to move run-of-mine coal from the Corrimal Colliery Pit Top to the Illawarra railway line using tramways and several iterations of an 'endless' incline system across the Subject Area.

Iterations of transport Infrastructure across the Subject Area

The original method of bulk removal of run-of-mine coal from the Mine Portal (located at a raised level on the escarpment) to the Illawarra rail line (located on the coastal flat) was through the use of an incline system. This method employed a dual track routed up a slope, with carts moving on each track. These were joined by a single wire routed over winching machinery at the top of the incline, so that one group of carts would ascend while the other, connected to the same wire, descended. Gravity provided the motive force, such that laden carts effectively pulled the lighter carts up the slope – these were typically unladen but could be used to transport men and material up the slope (see [Plate 1](#) and [Plate 2](#)).



Plate 1: Corrimal Colliery Incline, March 1890, photographed by Henry Pringle. Broker's Nose can be seen to the left at the top of the Escarpment (source: University of Wollongong Archives).

The 'old' incline for Corrimal Colliery was located to the north of the pit top nearer to Broker's Nose, within the Subject Area. A tramway ran along the ridgeline from the pit top to the top end of the incline, which can be seen on aerial imagery previous to the 1950s (see [PLATE](#)). The southern end of the incline terminated at a loading facility, which transferred coal onto a branch line of the Illawarra Railway (See [Plate 3](#) and [Plate 4](#)).



Plate 2: 1948-51 historical aerial imagery showing the 'old' incline route with the top (west) and lower (east) ends indicated. This incline was located to the northeast of the pit top, note the powerline easement located south of this system (source: WCC public imagery; Department of Customer Service 2020).

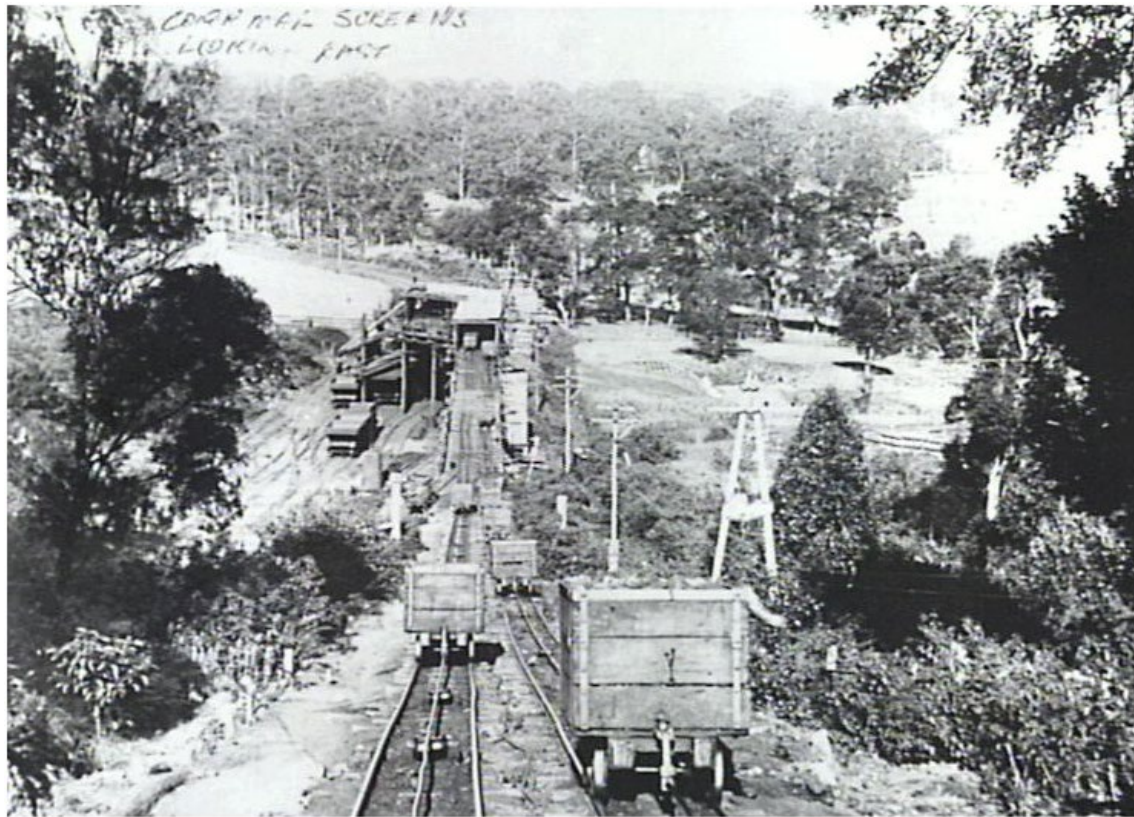


Plate 3: Corrimal 'old' 2'-0" incline in operation, looking towards the lower terminus and rail branch line (source: website-Illawarra Coal).



Plate 4a-b: Detail from the 1948 imagery showing the top (west, left image) and lower (east, right image) ends of the 'old' incline system (source: WCC and Department of Customer Service).

Watering facilities and locomotives moved coal along the tramway adjoining the pit top and the incline, as can be seen in Plate 5. By the mid- 1950s, however, a new larger incline had been installed between the pit top and road infrastructure, which eliminated the need for the old system of incline and tramway (see Plate 6 for location).

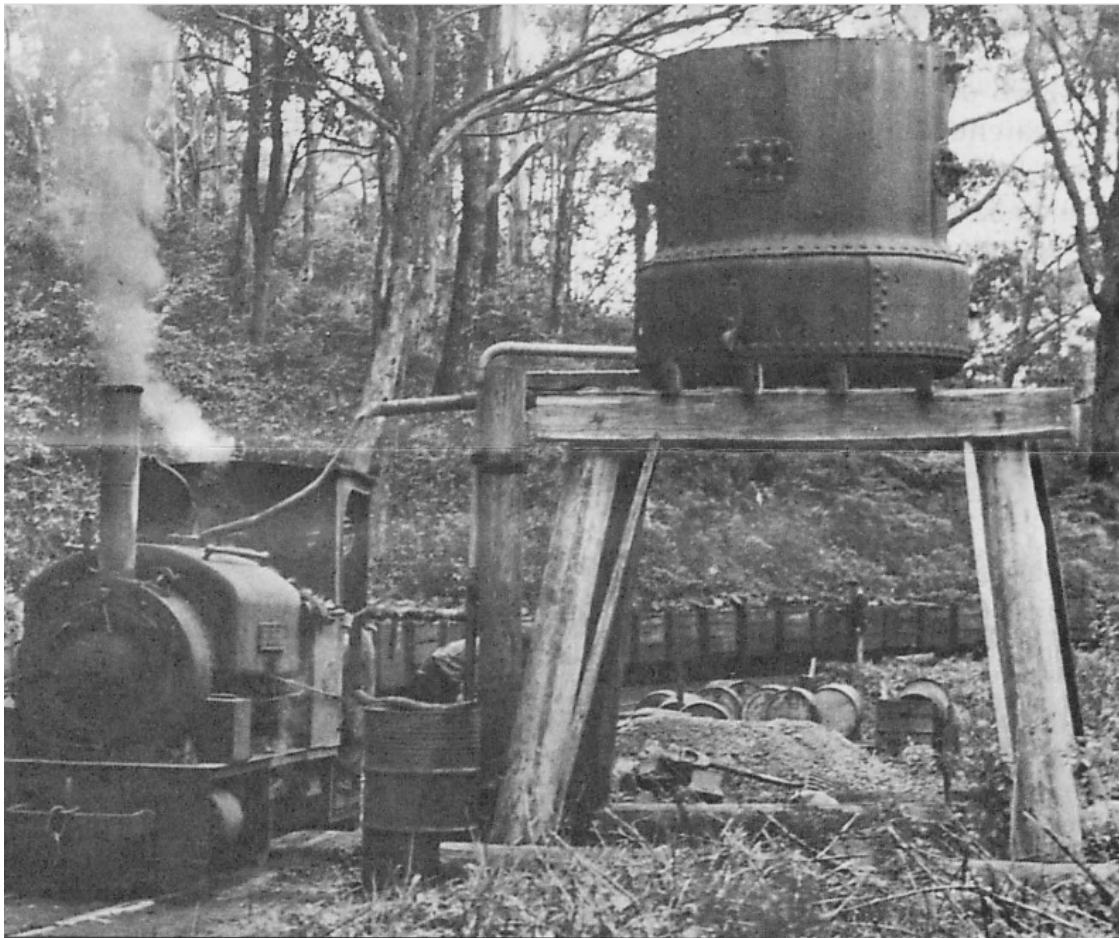


Plate 5: "Burra" Locomotive and coal wagons on the tramway between the top of the 'old' incline and the pit top, with this location at the incline end, 1951 (source: Illawarra Coal)



Plate 6: 1955 historical aerial imagery showing the alignment of the new incline associated with the pit top site. The route of the old tramway can be seen heading northeast towards the old incline (source: WCC and Department of Customer Service 2020).

With the sinking of Corrimal shaft No.3 in 1970/71 (this shaft was later associated with Cordeaux Colliery), the run-of-mine coal was extracted via this shaft at the top of the escarpment along Picton Road and hauled by truck to receiving facilities.

The Pit Top Area/Corrimal Colliery Heritage Item

The mine's portal, originally closer to brokers nose, was located from 1889 within the current curtilage of the Corrimal Colliery heritage item. While this site was upgraded, the mine portals and adits here remained active throughout the life of the mine, with use of this access decreasing after the sinking of Corrimal No.3 shaft (see above). [Plate 7](#) and [Plate 8](#) show views of the pit top area, and the various storehouses, brickworks and transport infrastructure located here. This area is encircled by the Subject Area, although it is strictly not included within the area assessed for impacts by this report.

*CORRIMAL
COAL MINE SURFACE*

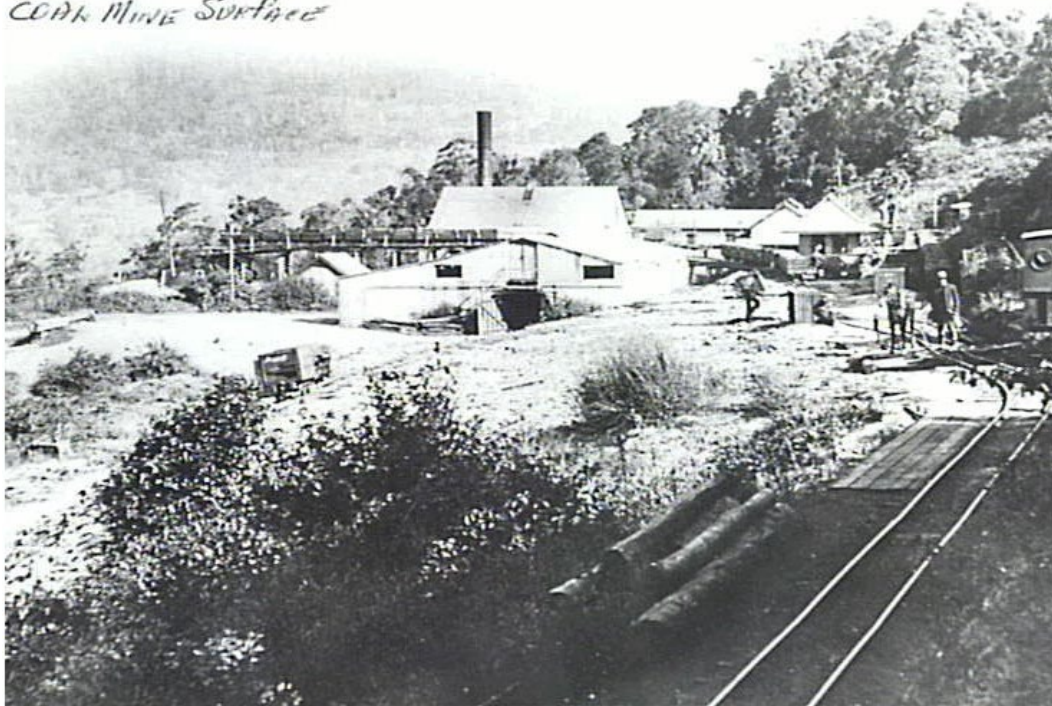


Plate 7: Corrimal Colliery pit top c1950s (source: website-Illawarra Coal).



Plate 8: Corrimal Colliery pit top – Daylight Portal and adit (source: website-Illawarra Coal)

Phase 4: Environmental management and conservation

The Illawarra Escarpment Conservation Area (IECA) is an extensive native bushland area measuring approximately 3900 hectares and spans over 3 LGAs at the eastern extremity of the Illawarra Range. It includes the edge of the Woronora Plateau and the associated upper foothill slopes and possesses attributes which include the natural rock exposures, forests, and pasture lands as well as threatened and protected species. The adjacent coastal plain emphasises the vertical scale of the escarpment and acts as a dramatic background (HMS NSW, Item C058)

The conservation area was listed in 2013 for its natural landscape and cultural heritage values. The Subject Area within this conservation area, which in this case was created from the former mining lands of Corrimal Colliery. The creation of the IECA reflects a trend towards environmental awareness in the culture at large, and the Subject Area has been allowed to regenerate and vegetation growth reclaimed many of the areas previously cleared for mining during this phase.

Phase 5: Recreational use and unsanctioned mountain biking

Currently, the Subject Area is used as an exercise and recreational area with many using it for unsanctioned mountain biking. The current mountain biking tracks have been made by enthusiasts which the proposed works aims to use most of with only a few additional trials. The tracks are currently unsanctioned as Wollongong City Council (WCC) and NPWS currently possess the land and have not given permission for these tracks to be made. There are current impacts to cultural heritage value and ecological damage which have resulted from the existing unsanctioned tracks, which this project aims to address.

3.4 Conclusions

The historical development phases of the Subject Area are best summarised as follows (see Table 2):

Table 2: Historical Phases of the Subject Area

Historical Phase	Description of phase
Phase 1: Aboriginal landscapes and management.	Dharawal speakers historical and presently live in the country from Botany Bay and Campbelltown in the north through the Nepean, Wollondilly, Georges, and Cataract water catchments, west to Moss Vale and south to the Shoalhaven River and Jervis Bay. This First Nations Country includes the Subject Area
Phase 2: Timber extraction and initial settlement – Prior to 1802 – 1850. Height of activity 1840s.	In the Illawarra, the cedar forests were generally small stretches along the mountain slopes or along almost every stream. The Subject Area was no different, within the Illawarra Escarpment Conservation Area timber getting was widely practised, with the original forest largely cleared.
Phase 3: Coal Mining at Corrimal Colliery. 1870 – 1986.	The Corrimal Colliery operated from 1870 to 1986 and utilised much of the Subject Area’s landscape. While production and extraction areas moved eventually to the top of the escarpment near to Cataract Dam, the mine portal and pit top encircled within the Subject Area
Phase 4: Environmental Management and Conservation. 2013 – present.	The Illawarra Escarpment Conservation Area is an extensive native bushland area measuring approximately 3900 hectares and spans over 3 LGAs at the eastern extremity of the Illawarra Range. The heritage values encompass scenic, ecological, historic and indigenous cultural, social (including tourist and recreational), visual, and natural history.
Phase 5: Recreational use and unsanctioned mountain biking Unknown date, likely 21 st century.	Currently, used as an exercise and recreational area with many using it for unsanctioned mountain biking. The current mountain biking tracks have been made by enthusiasts which the proposed works aims to use most of with only a few additional trials.

4 Descriptions: Physical Analysis and Site Inspection

4.1 Site & Setting

Physical Description of Subject Area

The Subject Area is mostly within a large and undeveloped native bushland, which encircles the former Corrimal Colliery pit top (excluded from the Subject Area). Several access roads (now fire tracks) and powerline easements cross the Subject Area, along with a perennial first-order stream to the south of the Subject Area (Towradgi Creek). The landscape is steep in many parts, with much elevation rise across the Subject Area, leading from the flat coastal area to the east to the cliff line of the escarpment at the western side. Brokers Nose trig point and lookout is located to the north and above the level of the Subject Area. Due to the nature of the environment, ground coverage is very high, and visibility is very low. The native vegetation is very dense in some places. Some areas of the Subject Area had natural bush rock present on the ground surface however, mostly, the surface was covered in soils and leaf debris. Several items related to mining activities were discovered across some sections of the Subject Area.

Methodology for the Site Inspection

The site inspection was carried out over the course of a week in November 2022 and January 2022 by Niche personnel Samuel Ward (Historical Heritage Consultant - Niche), Rebecca Chalker (Heritage Consultant - Niche), Chelsea Freeman (Heritage Consultant – Niche), Carly Todhunter (Heritage Consultant – Niche) and Olivier Rochecouste (Heritage Consultant - Niche), as well as representatives of the Local Aboriginal Land Council as part of the Aboriginal heritage component. The Subject Area was covered in a systematic survey which was focussed on an impact corridor which was a 10m buffer on either side of the proposed tracks. This area of potential or disturbance were closely inspected and any potential items of areas of historical heritage value were recorded.

Identified Features related to Historic Heritage Items or Value within the Subject Area

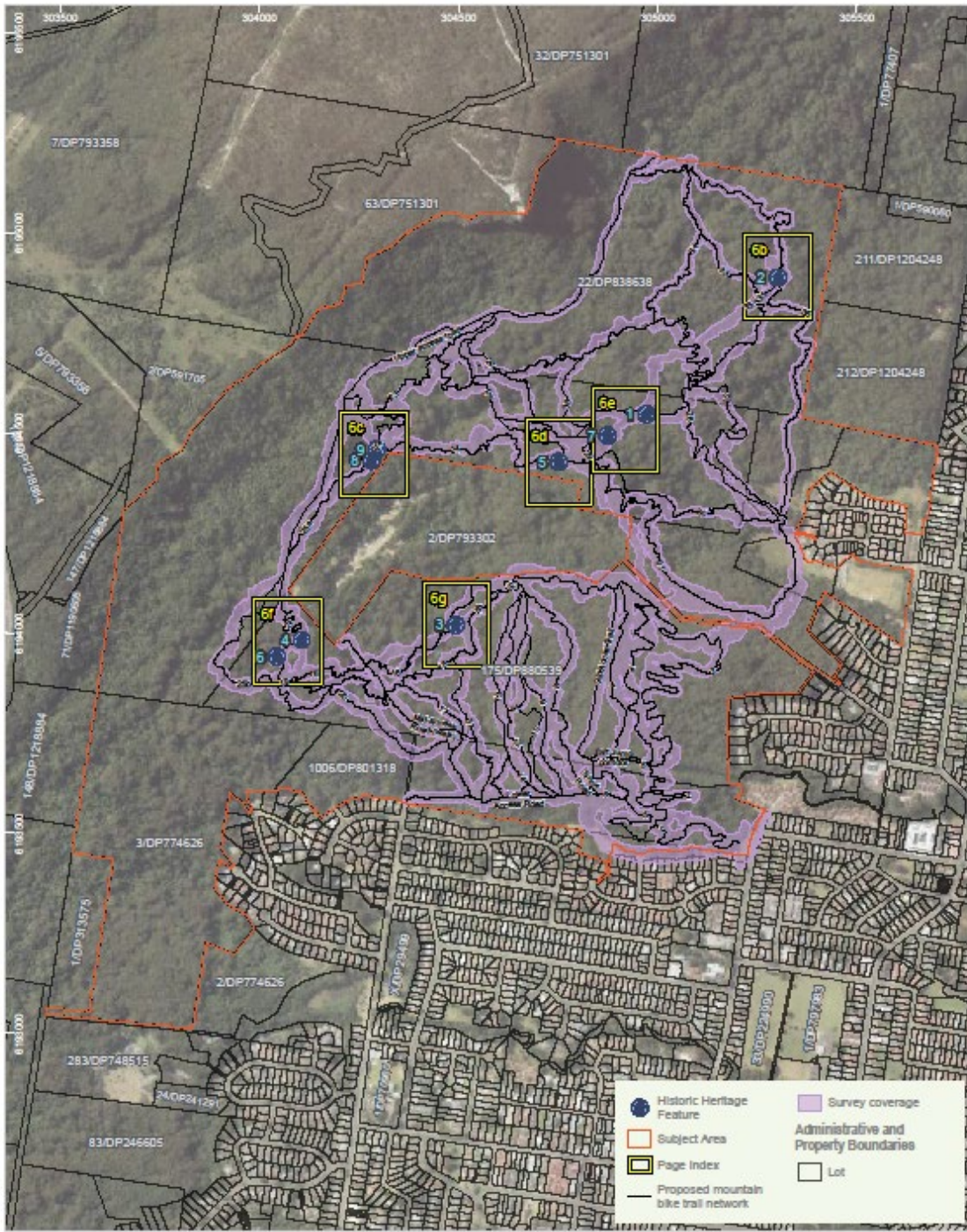
During the site inspection, some additional historical heritage features were discovered many of which were debris or demolished elements. The sites with enough integrity to be associated with heritage values were recorded (see Table 3 and



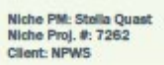
Figure 6 for location and description of these features).

The features outlined in Table 3 provide an overview of the distribution of historic heritage value identified during the site inspection. The features found were mostly in areas of former occupation by mining machinery and rail/infrastructure, particularly along the 'Old Train Line' trail. This alignment linked the 'old incline' site in the northeast portion of the Subject Area with the Corrimal pit top, located within the heritage curtilage in the centre (but not included within) the Subject Area. Where features related to the early mining practises of Phase 3, these features are considered of value in assessing the significance of the Subject Area.

Table 3: Identified features within the Subject Area

Historic Feature Number	Description of feature	Relationship to historical phase and discussion
Feature 1	Collection of former mining carts associated with the tramway.	Related to Phase 3: Mining, provides evidence of early mining practices from the 19 th and early 20 th Centuries.
Feature 2	Machinery, structures and other items associated with the top site of the 'old' endless incline.	Related to Phase 3: Mining, provides evidence of early mining practices from the 19 th and early 20 th Centuries.
Feature 3	Collapsed lean-to structure and evidence of recent re-use as a campsite.	Unclear, related to either Phase 4: NPWS management, or Phase 5. Little diagnostic potential.
Feature 4	Waste materials related to mining pit top, dump location 1. Evidence of metal machinery which has been overgrown with vegetation.	Related to Phase 3: Mining, provides evidence of mining practices from the mid-20 th Century. Location indicates this feature is related to the pit top rather than the tramways.
Feature 5	Collection of former mining carts associated with the tramway.	Related to Phase 3: Mining, provides evidence of early mining practices from the 19 th and early 20 th Centuries.
Feature 6	Waste materials related to mining pit top, dump location 1. Evidence of galvanised metal, conveyor tracks and other materials.	Related to Phase 3: Mining, provides evidence of mining practices from the mid-20 th Century. Location indicates this feature is related to the pit top rather than the tramways.
Feature 7	Former Mining equipment, related to the tramway/material transfer – mechanical scoop wheel possibly associated with coal loading machinery.	Related to Phase 3: Mining, provides evidence of early mining practices from the 19 th and early 20 th Centuries.
Feature 8	Metal pipe – used as culvert	Unclear, related to either Phase 3: Mining or Phase 4, NPWS management. Little diagnostic potential.
Feature 9	Power stanchion – mining-type power lines	Related to Phase 3: Mining, provides evidence of mining practices from the mid-20 th Century.
Trail: "Old Train Line"	Route of former mining tramway between 'old' incline and the Corrimal Pit Top. Shows evidence of train rails, carts, footings and other features along this route's length.	Related to Phase 3: Mining, provides evidence of early mining practices from the 19 th and early 20 th Centuries.

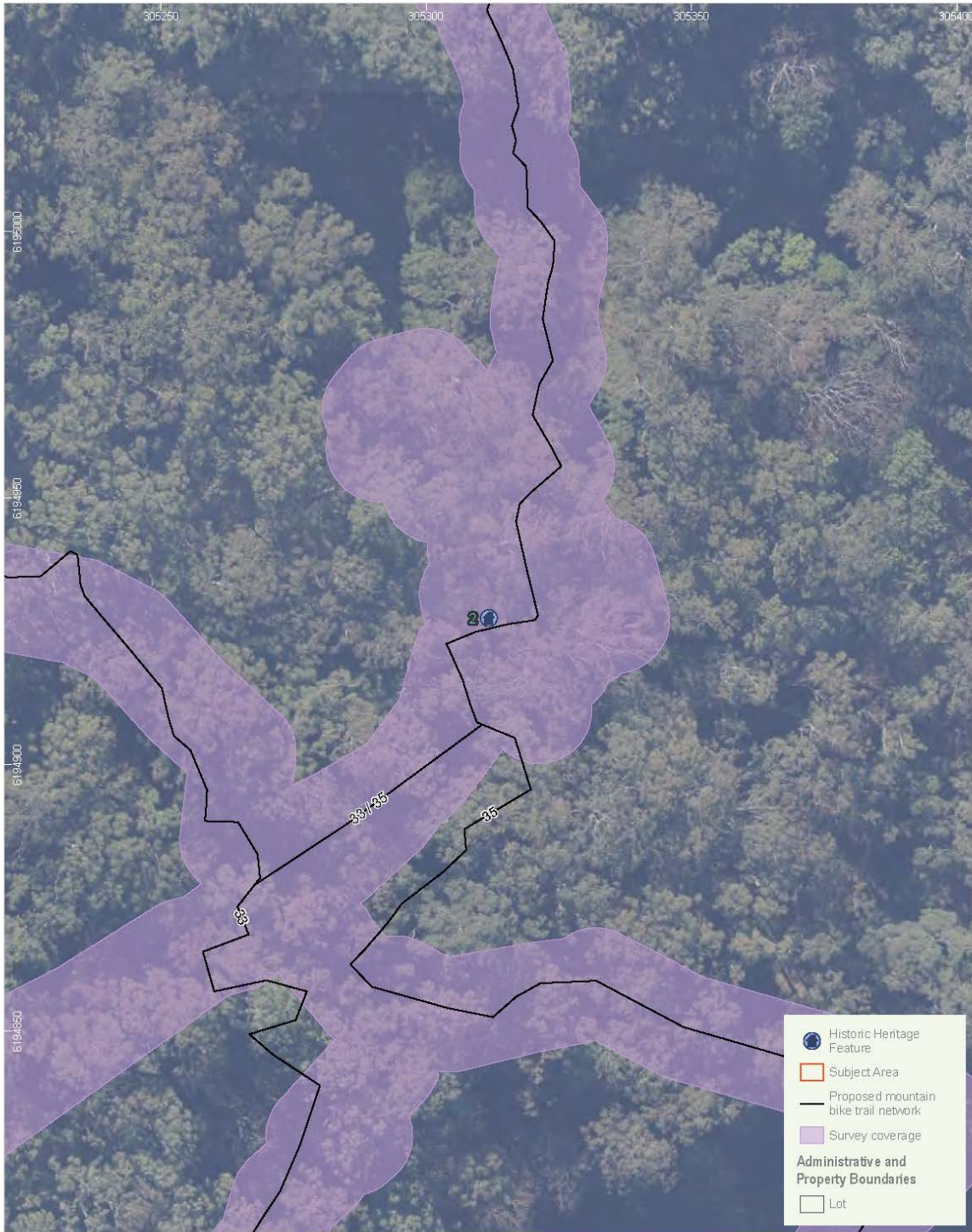


Survey results
Belgownie Mountain Bike Trail Network
Statement of Heritage Impact (SoHI)
Figure 6a

publicNSW_imagery: © Department of Customer Service 2020/Terrate: Multi-Directional Hillshade: Airbus,USGS,NGA,NASA,CGIAR,NCEAS,NLS,OGJNMK,Geodatasys,swis,ESA,GGI and the GIS User Community | Watercourses, Waterbodies, Road and Rail alignments, Protected areas of NSW © Spatial Services 2021. | Niche uses GDA2020 as standard for all project-related data. In order to ensure that data from numerous sources and coordinate systems is aligned, on-the-fly transformation to WGS1984 Web Mercator Auxiliary Sphere is used in the map above. For ease of reference, the grid tick marks and labels shown around the border of the map are presented in GDA2020, using the relevant MGA zone.

Figure 6: Survey Results Map (Source: NPWS, Heritage NSW, NSW Spatial Services, ESRI and Niche)



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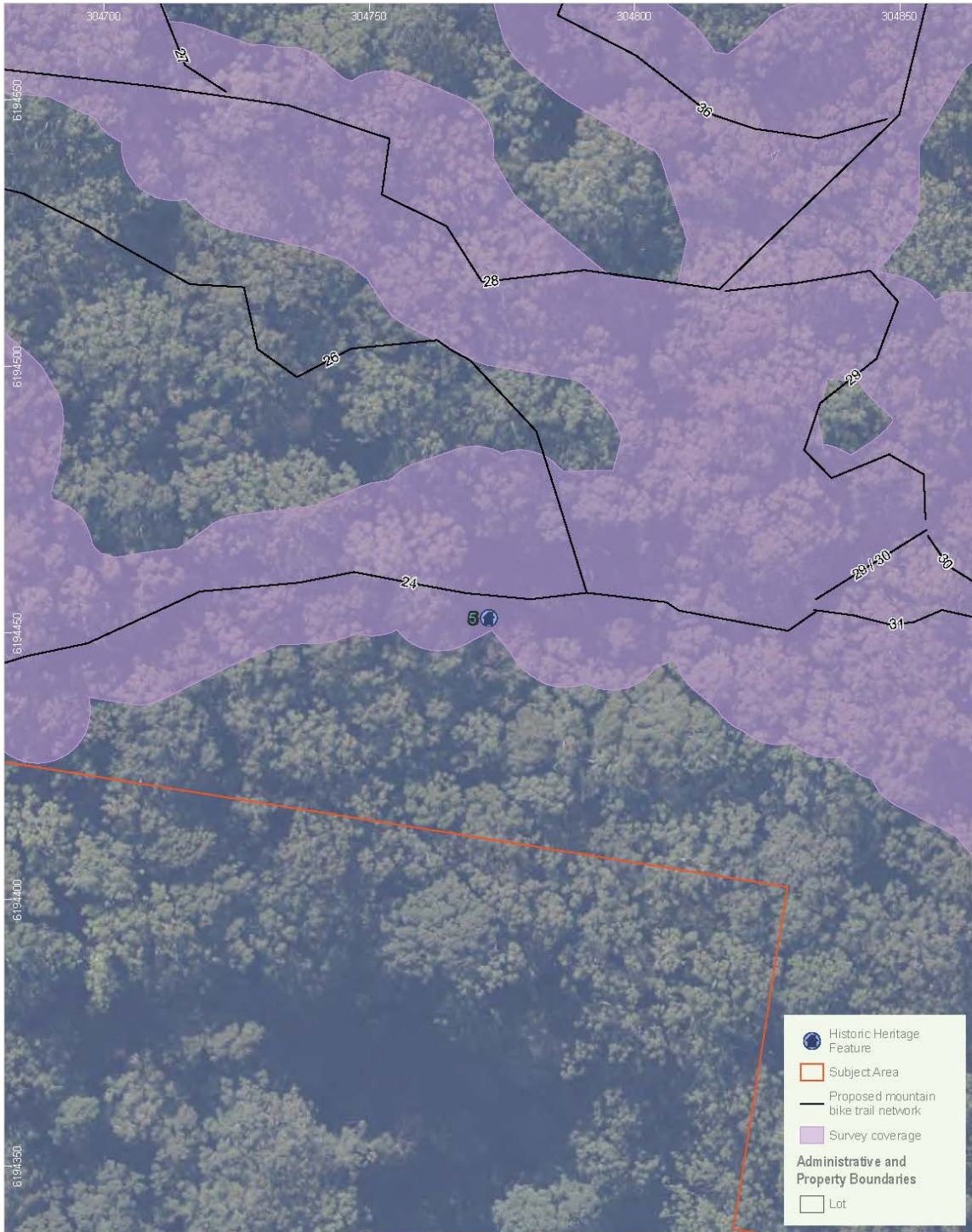


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 Client: NPWS

Survey results
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Figure 6b

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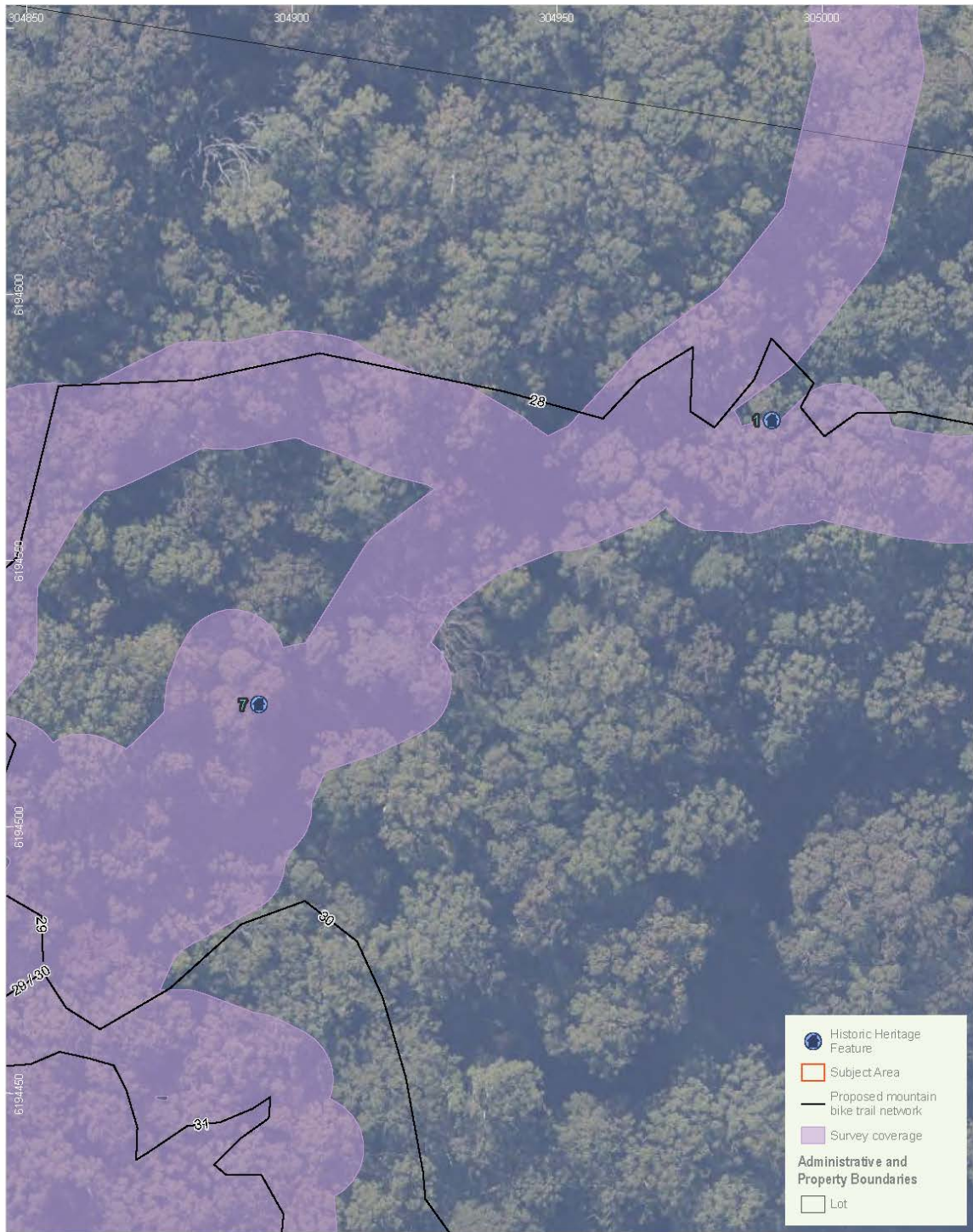


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Survey results
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Statement of Heritage Impact (SoHI)

Figure 6d

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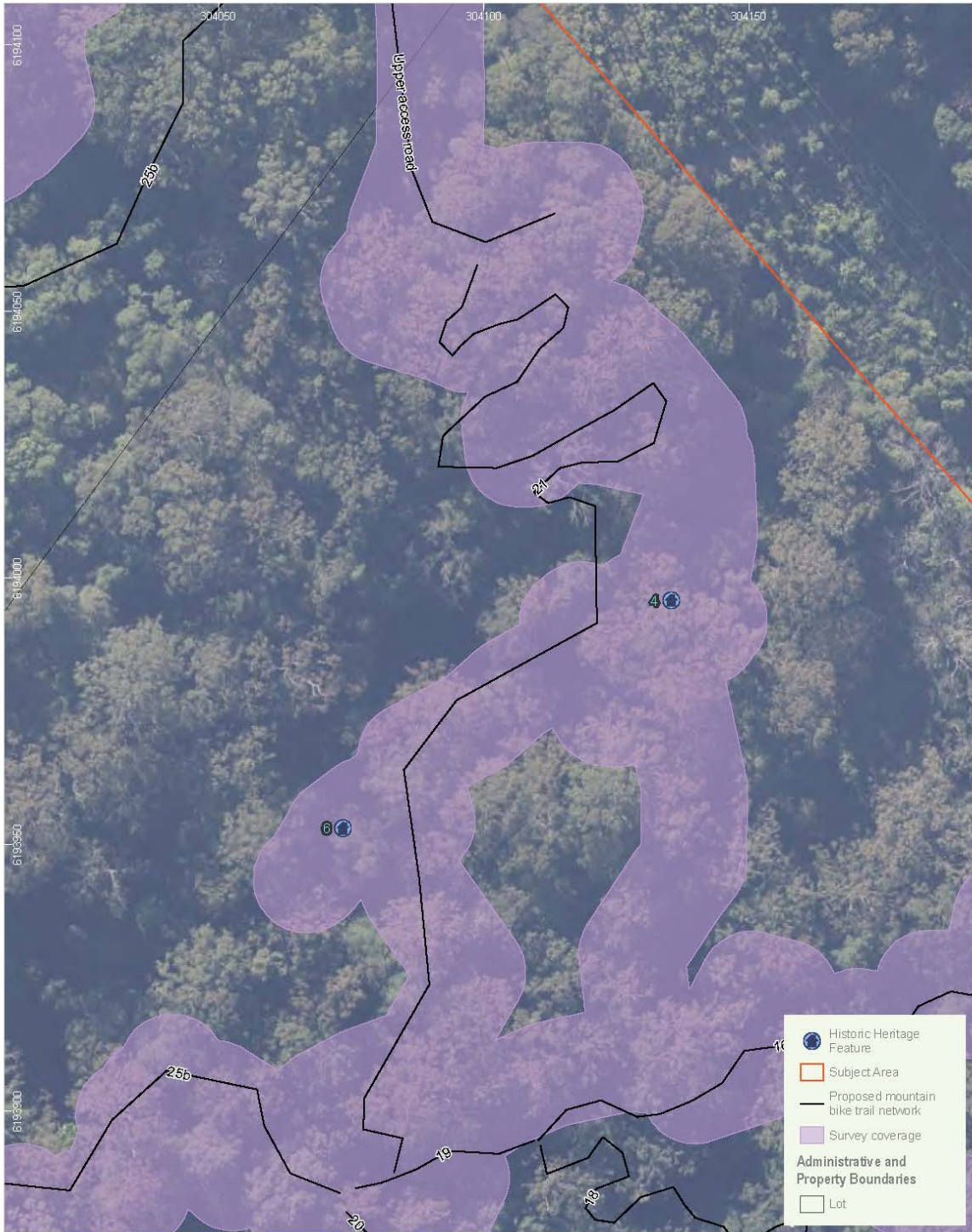


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Survey results
Balgownie Mountain Bike Trail Network
Statement of Heritage Impact (SoHI)

Figure 6e

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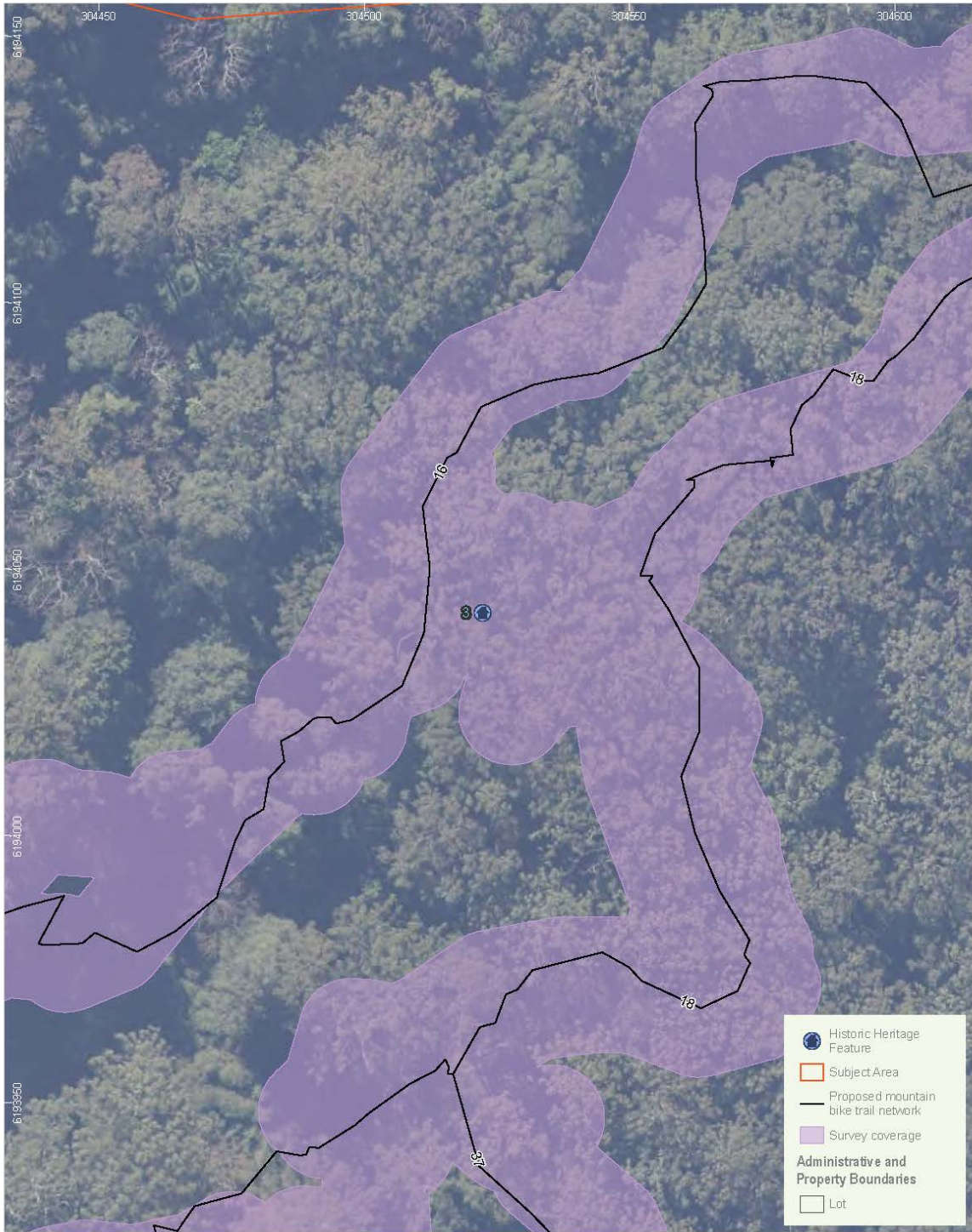


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Survey results
Balgownie Mountain Bike Trail Network
Statement of Heritage Impact (SoHI)

Figure 6f

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Client: NPWS

Survey results
Balgownie Mountain Bike Trail Network
Statement of Heritage Impact (SoHI)

Figure 6g

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4.2 Site Images

The following images depict the identified features which are described in this section and were recorded during the Site Inspection.



Plate 9: View of Feature 1: Collection of former mining carts associated with the tramway.



Plate 10: View of Feature 2: braking wheel winching equipment associated with the 'old' incline tramway.



Plate 11: View of Feature 3: collapsed lean-to structure, with evidence of recent re-use as a shelter.



Plate 12: View of Feature 4: waste materials related to mining pit top, dump location 1. Evidence of metal machinery which has been overgrown with vegetation.



Plate 13 View of Feature 5: Collection of former mining carts associated with the tramway.



Plate 14: View of Feature 6: Waste materials related to mining pit top, dump location 1. Evidence of galvanised metal, conveyor tracks and other materials.



Plate 15: View of Feature 7: Former Mining equipment, related to the tramway/ coal transfer.



Plate 16: View of Feature 8 steel pipe used for culvert.



Plate 17: View of Feature 9: mining power line stanchion.



Plate 18: View of tramway tracks along the 'Old Train Line' alignment.

4.3 Archaeological Potential

The land uses of the Subject Area, such as previous timber getting and mining, and more recently for recreational use, suggests a moderate to high level of disturbance across the Subject Area. The recent disturbance will be limited to the areas, including their surrounds, where mountain bikers visit both presently and in the recent past. The process of making these unofficial tracks involves users modifying or digging out the chosen tracks, resulting in continuing ground surface disturbance and possibly light modification to surface landform features.

Historical disturbance is evident in the remains of the observed archaeological resources within the Subject Area. The continual use and upkeep and maintenance of the resources as well as their subsequent abandonment can result in the loss of information and reduced archaeological integrity. The remaining archaeological resources have been assessed as having moderate significance.

This assessment has found that there is a low chance of historical archaeological resources across the majority of the Subject Area. The areas that have been identified as having archaeological resources are those feature areas identified during the site inspection which relate to the early period of mining: particularly the 'Old Train Track', the site of the 'old' incline and other mining-related features.

Part C: Heritage Significance

5 Assessment of Heritage Significance

5.1 Assessment Methodology

The assessment of cultural heritage significance uses the Heritage Council of NSW Guidelines for Assessing Cultural Heritage Significance.

The NSW Heritage Manual guideline, 'Assessing Heritage Significance' (NSW Heritage Office 2001), provides the following significance assessment and Statement of Significance framework. These guidelines incorporate the seven aspects of cultural heritage value identified in the Australia ICOMOS Charter for Places of Cultural Significance, *The Burra Charter*, 2013 into a framework currently accepted by the NSW Heritage Council.

Criteria for Assessment of Cultural Heritage Significance

The SHR criteria are outlined in *Assessing Heritage Significance* (Heritage Office 2000) and are summarised in the below table. Using this list of criteria, a place can be assessed to be of local, state or no heritage significance.

Table 4: NSW Assessment Heritage Significance Criteria

Criteria	Value	Description
Criterion A)	Historical Significance	An item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area).
Criterion B)	Associative significance	An item has strong or special association with the life or works of a person or group of persons, of important in NSW's cultural or natural history (or the cultural or natural history of the local area).
Criterion C)	Aesthetic significance	An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).
Criterion D)	Social significance	An item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.
Criterion E)	Research potential	An item has the potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area)
Criterion F)	Rarity	An item possesses uncommon, rare or endangered aspects of the area's cultural or natural history (or the cultural or natural history of the local area).
Criterion G)	Representativeness	An item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places, or cultural or natural environments. (Or a class of

Criteria	Value	Description
		the local area's cultural or natural places, or cultural or natural environments.)

Grading of significance

A five-tier system detailing levels of significance is outlined in *Assessing Heritage Significance* (Heritage Office 2000). The grading system is used to identify the overall significance of items or sites being assessed. The levels of significance and their justification to be applied to items is listed in Table 5 below.

Table 5 Grading of significance.

Grading	Justification	Status
Exceptional	Rare or outstanding element directly contributing to an item's local or State listing.	Fulfils criteria for local and/or State significance.
High	High degree of original fabric. Demonstrates a key element of the item's significance. Alterations do not detract from significance.	Fulfils criteria for local and/or State significance.
Moderate	Altered or modified elements. Elements with little heritage value, but which contribute to the overall significance of the item.	Fulfils criteria for local and/or State significance.
Little	Alterations detract from significance. Difficult to interpret.	Does not fulfil criteria for local or State listing.
Damaging	Damaging to the item's heritage significance.	Does not fulfil criteria for local or State listing.

5.2 Contributory Significance: Existing Heritage Items

Illawarra Escarpment State Conservation Area (IESCA)

The Statement of Significance from the Illawarra Escarpment State Conservation Area Plan of Management (IESCA PoM 2018) lists the following statement of significance:

The key values of Illawarra Escarpment State Conservation Area are summarised below.

Biological values

- *The Park has high biodiversity, with:*
 - *22 vegetation communities, which represents 40% of the terrestrial vegetation communities identified in the Illawarra.*
 - *four endangered ecological communities, and several communities that are rare or poorly conserved or restricted to the Illawarra.*
 - *nine threatened plant species, of which six are listed under the EPBC Act and four are restricted to the Illawarra.*
 - *21 threatened native animals.*
- *The Illawarra escarpment contains the most extensive area of rainforest in the Sydney Basin Bioregion (NPWS 2002a) and is one of only six concentrations of*

rainforest in New South Wales (Floyd 1990). The Park conserves a third of the escarpment's rainforest within the Wollongong Local Government Area and most of the region's rainforest types.

- *The Park spans an ecological transition zone near Mount Keira and Mount Kembla. The zone contains the northern or southern distributional limits of many coastal plants, communities and wildlife species (NPWS 2002a).*
- *Much of the park is high-quality core habitat for threatened animals.*
- *The Park:*
 - *is part of a chain of conservation reserves that form the Illawarra Moist Forest Corridor, extending from Royal National Park in the north to the Shoalhaven River in the south*
 - *is part of an east–west corridor of catchments and NPWS reserves that extends from the Illawarra coast west to the Blue Mountains*
 - *provides refuge for species that might be affected by environmental disturbance (Development, fire, climate change) in adjacent areas.*

Landscape values

- *The Park landscape is a unique visual feature of great scenic and economic importance to the Illawarra, providing a spectacular backdrop that enhances the amenity of the urban areas.*
- *It is listed as a 'Scenic Landscape of State-wide Significance' on the Register of the National Trust of Australia (NSW).*

Cultural heritage values

- *The Park contains:*
 - *landscape features of spiritual significance to the Aboriginal community, and which feature in legends and teaching stories?*
 - *places and objects of Aboriginal cultural importance, including traditional travelling routes, rock engravings and artefacts*
 - *continuing cultural connections for the local Aboriginal community.*
- *The Park is crossed by historic roads and tracks used by early European settlers, some of which were convict constructed.*
- *It contains important coalmining sites, buildings and relics. The Mount Kembla Mine was the site of Australia's worst industrial disaster, when 96 men and boys were killed in 1902. The mine was also important in the development of coalmining in New South Wales and the catalyst for the development of Port Kembla. The managers' houses of the Port Kembla No. 2 Mine are a rare example of a house and garden cultural landscape designed by Edna Walling. The pit-pony stables at both mines may be the only standing pit-pony stables in New South Wales and possibly Australia (OEH 2012a).*
- *The Park contains the ruins of several early farms and dwellings.*
- *It has several walking tracks, lookouts and a scout camp that date from the early 20th century.*
- *Several sites are listed on state and local heritage inventories.*

Recreational, research and educational values

- *The Park provides a significant recreational resource for the local community, with easy access from adjacent urban areas, allowing a sense of solitude and remoteness close to the facilities afforded by the city of Wollongong.*

- *It provides walking opportunities for visitors of all abilities via a comprehensive and integrated network of tracks, which in turn are integrated with facilities outside the park.*
- *The Park is adjacent to well-developed main roads and public transport corridors that link Sydney, the Illawarra and the South Coast and Southern Tablelands, and which provide ready access from these regions for nature-based and cultural heritage tourism.*
- *The wide range of natural and cultural attributes, and close proximity to educational institutions, including the University of Wollongong, offer unique opportunities for education and research.*

Water quality values

- *Some parts of the park along the western boundary are within the upper catchment of the Metropolitan Special Area. Runoff from these areas drains, via upland swamps and pristine drainage lines, to water storages that supply essential drinking water for Wollongong and Sydney.*

The Wollongong City Council, which also lists the IESCA as a local on Schedule 5 of the Wollongong LEP 2009, outlines the heritage significance in the Wollongong Development Control Plan (Wollongong DCP 2009). This statement of significance is as follows:

Illawarra Escarpment Landscape Heritage Conservation Area

20.11.1 What is the area's significance?

1. *The Illawarra Escarpment is a major contributor to the distinctive character of each locality in the Wollongong LGA.*
2. *The whole of the Illawarra Escarpment is shown on the Australian Heritage Database (i.e., maintained by the Commonwealth Department of Environment and Water Resources) as an "indicative place" on the Register of the National Estate. The indicative listing was made by staff of the Australian Heritage Council, drawing on information provided by others, including the National Trust of NSW and the NSW National Parks & Wildlife Service. The assessment of significance for the nomination was based upon the fact of ". the combined effect of a narrow coastal plain, rugged escarpment and rich forest and pastureland give a most unusual landscape of considerable grandeur which exceeds any other coastal plain and mountain landscape on the New South Wales coast."*

What are the significant characteristics of the area?

1. *The Illawarra Escarpment Landscape Area is significant for the following reasons:*
 - a) *The Illawarra Escarpment is a major landform and landmark along the Illawarra Region, the use and exploitation of which (together with the coastal plain) was the genesis of rural (mainly dairying) and urban development of the Illawarra, especially as a major coalfield and steel-making centre in Australia.*
 - b) *The Illawarra Escarpment contains a range of relatively intact ecological communities including a number of endangered ecological communities and large remnant trees such as a giant Fig tree at Thirroul and a large Red Cedar above the Kemira mine portal.*

c) *The escarpment is critical for the conservation of regional biodiversity, being some of the most important in southern New South Wales for their flora and fauna, associated with tall moist forest, including rainforest.*

d) *The escarpment area has a high scenic quality given the combined effect of a narrow coastal plain, rugged escarpment edge, rich forest and contrasting pasture lands. The Illawarra Escarpment is also widely considered to have a high scenic environmental quality in comparison to other coastal plain and escarpment landscape areas along the New South Wales coast.*

e) *The Illawarra Escarpment is significant for its historical evidence and associations will all the processes of development and change that have occurred since European settlement, including old roads, mine structures and dwellings, abandoned house sites, pit pony paddocks and trace evidence of timber getting and other agricultural activities.*

f) *The Illawarra Escarpment contains a range of individual heritage items and traces of early settlement, remains of old / disused settlement and old access roads, including slab houses, Bulli Pass (an off-cuts of Westamacott's Pass), Throsby's track and aboriginal dreaming track at Bulli, mining sites and structures, Kembla Grange & Mount Kembla tank trap route, retaining wall / embankment for the old cliff-face short-cut road just north of Rixon's Pass etc. The majority of these items are of regional significance (some of which have also been recommended for formal nomination on the State Heritage Register).*

2. *Examples of significant natural items of environmental heritage within the escarpment include:*

g) *A stand of Illawarra Subtropical Rainforest, west of South Avondale Road.*

h) *Remnant Fig tree plantings in the grounds of the former "Benares" homestead.*

i) *Remnant Bunya Pine plantings to the east of Paynes Road.*

j) *Remnant Hoop Pine plantings to the east of upper Paynes Road.*

k) *A large Red Cedar tree atop of the portal to the closed Kemira Mine.*

l) *A remnant bushland and riparian corridor on the eastern foot-slopes of Mt Keira; and*

m) *Plantings of Coral trees around collieries as well as along the edges of paddocks of early farmers in the region.*

3. *Examples of significant man made historic (European) items include:*

a) *Windy Gully hamlet.*

b) *1930's depression dam and campsite, on the mid slopes at Thirroul, adjacent to a tributary of Flanagan's Creek.*

c) *Nunan's farm "Seaview", one of the highest properties on the escarpment at West Dapto (Huntley).*

d) *Marshall Mount homestead and outbuildings.*

e) *Hillside Farm slab and weatherboard house at Dombarton and Figtree Farm slab hut at Reddalls Road, Kembla Grange.*

f) *Linbrook Farm, Avondale; Old Miner's cottages at Mount Keira.*

- h) Bankbook Hill, Wongawilli – evidence of one of the last remaining squatting settlements, including remains of house sites, planted vegetation and one occupied dwelling.
- i) Bulgo shack community.
- j) Carrick’s sawmill on the flat above Morrison Road, Coledale.
- k) Mount Kembla and Bulli mines, particularly given their long operation, direct links social with local communities (past and present) as well as their cultural heritage significance due to mining disasters and strikes.
- l) Bullock track west of Harry Graham Drive, Kembla Heights and at Stanwell Park (off Wodi Wodi trail) and a steep track at Bulgo leading to the shack community.
- m) Throsby’s track and Aboriginal dreaming track.
- n) Walking tracks at Austinmer to Bulli lookout and Sublime Point.
- o) Bulli Pass (and cut-offs of Westmacott’s Pass).
- p) Retaining wall / embankment of old cliff-face short cut road, just north of Rixon’s Pass.
- q) Abandoned electricity stanchions; and
- r) Tank traps between Kembla Grange to Broker’s Nose.

Corrimal Colliery

The Corrimal Colliery Pit Top is a listed item on the Wollongong LEP 2009. The following Statement of Significance is presented on the listing sheet for this item:

(Coal Mine Study): The Corrimal Colliery is of historical significance because it shows evidence of the key historical theme of mining from the 1890s to 1950s in the evolution of land use and character in the Illawarra region. The site is significant to the development of coal mining in the Illawarra for its association with the Southern Coal Company (SCC), who owned the mine between 1888 and 1902.

The Colliery is significant for its No. 1 shaft, sunk in 1908; its long association with the NSW iron and steel industry; its later role as a supplier of power for the local area; and for its relationship with the development of the adjacent mining village. Corrimal colliery is of social significance for its long association with the local community and for its meaning for those people, predominantly through its role as the primary employer in the area. The site is of technical and research significance as the first Colliery to use a fully automatic Bulk Hoist Coal Winder (the No. 3 shaft winder).

SHR Criteria a)

Historical Significance

Important in the course of NSW state and local Illawarra history because:

- *Evidence of key historical theme of mining from 1890s to 1950s in the evolution of land use and character in the Illawarra region*
- *Long association with the iron and steel industry in NSW through ownership and as a major supplier of coke to the Corrimal Coke Ovens and the Port Kembla steelworks (onwards – a major employer and dominant industry in the Illawarra. – state significance)*
- *As a supplier of power to the local municipal council as waste heat was recovered from the ovens to generate the electric power needs of the coke ovens and the mine. They later supplied power to the local municipal council for distribution within the council area.*
- *Evidence of relationship with the development of the village and as one of the last mining villages to be established in the Illawarra.*

- *For association with the Southern Coal Co and with the coke works and No. 1 Shaft*

SHR Criteria d)

Social Significance

Local - The mine is significant for its long association with the residents (and former residents) of the village and for its meaning with those people.

Significant to Wollongong and general Illawarra area for length of association through family and community and for the strong community spirit and attachment to the area. The associations relate predominately to the site's long history as one of the primary employers and investment generators in the area. Coal mining is an industry which is traditionally associated with the labour movement and workplace safety issues and initiatives.

SHR Criteria e)

Research Significance

The No 3 Shaft Winder installation was the first application ever in the Illawarra area of a fully automatic Bulk Hoist Coal Winder.

Summary of Contributory Significance for the Subject Area

The existing statements of significance for the Illawarra Escarpment SCA and the Corrimal Colliery outline the contributory sources of significance which result from the presence of this item within the Subject Area. These contributory significance themes are discussed below. Note that assessment of the Aboriginal Cultural Heritage qualities of the Subject Area is beyond the scope of this report – this is assessed in the ACHA report for this project (Niche 2023a).

Mining Landscape

The Subject Area surrounds the former Corrimal Colliery location and curtilage associated with this heritage item, and also contains evidence of former mining infrastructure, transport routes and assorted artefacts related to mining activity. The mining landscape is integral to the development and urbanisation of the Illawarra, and along with the Cedar-getting which predated it represents the largest modification of the natural landscape in and around the Subject Area. The Corrimal Colliery heritage item is not included within the Subject Area, which affects the degree to which the Subject Area can reflect this theme of significance in its physical setting and character. The Subject Area can provide some insight into past mining practises and technological achievements associated with mining in the Illawarra.

Natural Landscape

The Illawarra Escarpment SCA contributes natural heritage value to the Subject Area. Natural heritage value is related to but separate from the ecological value of a given landscape. The Illawarra Escarpment SCA is known for its aesthetic landscape value, biodiversity, conservation and habitat values. This SCA is described as a 'Scenic Landscape of State-wide Significance' (National Trust of Australia (NSW)). The Subject Area has been, historically, extensively cleared over the course of the European settlement of the Illawarra, with much of the vegetation currently covering the Subject Area a mix of Non-native and Native vegetation communities of various types, including some threatened ecological communities. The native vegetation types observed within the Subject Area include: Illawarra Lowland Subtropical Rainforest, Illawarra Escarpment Warm Temperate Rainforest, South Coast Warm Temperate-Subtropical Rainforest, Illawarra Escarpment Bangalay, Blue Gum Wet Forest and Illawarra North-Pittwater Bangalay Moist Forest. Out of these communities, the following threatened flora species were

considered to have a moderate to high likelihood to be within the Subject Area: *Cynanchum elegans* (White-flowered Wax Plant), *Rhodamnia rubescens* (Scrub Turpentine) and *Senna acclinis* (Rainforest Cassia), none of which were identified during the ecological site inspections (Niche 2023b).

The natural heritage value of the Subject Area is informed by this information regarding biodiversity and habitat value which was analysed as part of the Ecological Assessment (Niche 2023b). However, the Subject Area also gains heritage value from the scenic and aesthetic value of this natural environment, which acts as a backdrop and landmark for the surrounding region. This quality is provided at a general and broad level, referring to the overall appearance of the SCA and Subject Area's vegetation and Natural Landscape, rather than any specific section or species within this landscape. This value is necessarily interpreted and understood as it is received by the various communities and cultures who inhabit the Illawarra region, but also shapes and informs the cultural development within this landscape as well. This intangible quality is separate from, but informs, the related intrinsic ecological and biodiversity value which has been assessed within the Subject Area.

The Recreational and Educational Landscape

The Illawarra Escarpment SCA is also listed for its recreational and educational potential. The Subject Area has the potential to provide value to the local community who can use it for recreation, and for the local and broader community who can gain insights into past practices through the educational potential present in the historical and cultural information encoded in this landscape. The use of this SCA for sustainable recreational purposes is a key way that the local community may continue to learn from, and continue to engage with, the landscape of the Subject Area. An important consideration for any form of heritage is how it can be accessed and interpreted by the community it is of value to. The Subject Area provides a valuable opportunity for local community engagement in conservation of the natural landscape and for exploration of local heritage, in a manner which could be relevant to the broader Illawarra region.

5.3 Assessment of Cultural Significance of the Subject Area

Below is the assessment of the Subject Area using the guidelines *Assessing Significance for Historical Archaeological Sites and 'Relics'* (Heritage NSW 2009) and *Assessing Heritage Significance* (Heritage NSW 2001):

Heritage NSW Criteria	Assessment
<p>Criterion (a) an item is important in the course, or pattern, of NSW's cultural or natural history (or the local area)</p>	<p>The Subject Area, through its association with the Corrimal Colliery, and the physical evidence of significant mining activity in several places within the Subject Area provides insight into past mining practises, including early mining of the Illawarra. The Subject Area is within the IESCA, which has significant landscape and natural qualities, and is associated with the growth of environmentalism in the Illawarra region.</p> <p>The Subject Area fulfills this significance criterion a) at a Local level.</p>
<p>Criterion (b) an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the local area)</p>	<p>The Subject Area is not associated with particular historic figure and is not representative of particular individuals.</p> <p>The Subject Area does not fulfill this significance criterion b)</p>
<p>Criterion (c) an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area)</p>	<p>The Subject Area provides insight into several innovative mining technologies, such as the 'endless' incline system, and provides evidence of early development in mining practices, especially around infrastructure development.</p> <p>The Subject Area fulfills this significance criterion c) at a Local level.</p>
<p>Criterion (d) an item has strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons (or the local area)</p>	<p>The Subject Area, which provides evidence of the activities of Corrimal Colliery, is significant for its long association with the residents (and former residents) of the Corrimal village and the mining workers for its meaning and connection with those people. The associations to the local social fabric relate predominately to the site's long history as one of the primary employers and investment generators in the area.</p> <p>The Subject Area fulfills this significance criterion d) at a Local level.</p>
<p>Criterion (e) an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the local area)</p>	<p>The Subject Area has the potential to provide valuable information into early mining practices associated with the Corrimal Colliery. The remaining mining structures within the Subject Area can provide valuable insight into early mechanisation practises in the Illawarra coalfields and is associated with moderate archaeological potential at these areas.</p> <p>The Subject Area fulfills this significance criterion e) at a Local level.</p>
<p>Criterion (f) an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the local area)</p>	<p>The Subject Area provides a rare insight into the development of mining in the Illawarra, and forms part of a diminishing resource of relics providing evidence of 19th Century mining infrastructure.</p> <p>The Subject Area fulfills this significance criterion f) at a Local level.</p>
<p>Criterion (g) an item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places or cultural or natural environments (or the local area)</p>	<p>The Subject Area has been heavily modified by successive phases of occupation and demolition processes which have diminished the representative value of the remaining mining structures and items. Natural processes and erosion have further reduced the integrity of the Subject Area.</p> <p>The Subject Area does not fulfill this significance criterion g)</p>

5.4 Summary Statement of Heritage Significance

The Subject Area, which forms part of the Illawarra Escarpment State Conservation Area (IESCA), is significant for its landmark qualities, which have placed the IESCA at the centre of development of the region. Throughout the history of the Illawarra, the Escarpment has played a major role in the successive development activities of European settlers, including cedar getting, mining, and guiding access routes and old roads through the region.

The Illawarra Escapement, and the Subject Area, provides many opportunities for archaeological investigation and research in locales of significance, particularly concentrated around old mining locations, and provides evidence of historical technical achievements in the region. The Escarpment allows for the preservation and display of ecological and biological diversity and resources and allows for a unique natural landscape to exist within the Illawarra. The Subject Area provides a space for the local community to use for recreation and enjoyment, and an opportunity to learn from the natural landscape.

Evidence and structures related to the Corrimal Colliery heritage item are not restricted to this item's curtilage, but are located within the surrounding Subject Area, which once formed part of the larger mining infrastructure footprint. The Subject Area provides insight into past mining practices, particularly those related to the period 1850-1950. Also evidenced are innovative technological solutions, and the early development of mining technology and practises in the Illawarra region. The Subject Area is socially significance due to the long association of the local community and mine workers with the Corrimal Colliery over the long life of this mine.

The Subject Area is highly disturbed by services, former development and recent unsanctioned trail development and other uses. Due to a lack of integrity, the Subject Area is not considered significant across the majority of its landscape, but rather retains significance in those small pockets which are related to former mining structures. It holds value rather as it provides a space for community access and engagement with many of these aspects of significance of the IESCA.

Heritage Curtilages

All heritage curtilages in and around the Subject Area have been identified on Figure 3.

Part D: Heritage Impact

6 Proposed Works

6.1 Description of Proposed Works

The proposed Balgownie Mountain Bike Network (BMB Network) is located along the Illawarra Escarpment, to the west of the Wollongong suburbs of Corrimal and Tarrawanna, and north of Balgownie. The proposed mountain bike network is approximately 26.94 km in total length. The majority of trails are located on NPWS land within the Illawarra Escarpment SCA, managed by NPWS. The trail network also traverses several road reserves owned by Crown Lands.

The Balgownie Mountain Bike Network proposal

The proposed BMB Network is 26.94 km in total length, including 10.30 km of new trails. A number of existing unsanctioned trails (13.28 km in total length) are proposed to be incorporated into the trail network to minimise environmental impacts from creating new trails. A further 3.36 km of existing access trail would be incorporated into the trail network.

The existing trails that have been incorporated into the network require modification to meet the International Mountain Bike Association (IMBA) trail standards as set out in the Australian mountain bike trail guidelines (MTBA 2019), with the aim of creating a sustainable trail network. The proposed upgrades would result in improved drainage and erosion control, safety, and reduced edge impacts to the natural landscape. The success of the proposed trail network would allow existing unsanctioned trails within the proposal area, which do not form part of the proposed network, to be closed and rehabilitated by NPWS.

The proposed trail network is designed to enable a large variety of riding options and routes, with the possibility of creating unique loops that suit an individual rider's ability and/or preference. The trail network includes a range of trail categories (Figure 2) to provide for differing rider abilities.

Multiple network entry points would provide suitable access to the trail network and would enable riders to easily access the ride start point of their choice. Climbing trails enable riders to return to the top of the network without using public roads.

The trail network has been designed to incorporate natural features as trail features. Where available and permitted by NPWS, in situ rock material would be used to construct trail features. The design features presented in [Table 6](#) outline the approach and design features which have been incorporated into the principles underlying the design and construction plan for the proposed works:

Table 6: Design Features of the Proposed Works

Design Features	Detail
Fully featured trail network	The trail network is designed to attract riders away from the unsanctioned and unsustainable trails along the Illawarra Escarpment. The trail network is designed to be fully featured to discourage the creation of new unsanctioned trails. The inclusion of advanced trails is particularly important to achieve this.
Interconnected network	The proposed trail network is designed to disperse riders through the network, spreading (rather than concentrating) and thereby reducing the severity of impacts in particular areas.

Design Features	Detail
Linear design	The linear nature of the trails means impact can be minimised and limited in its extent. The trails have been designed to incorporate natural features where possible. The IMBA standards used to design the trail also require a relatively small corridor.
Utilisation of existing trails	Incorporation of existing unsanctioned trails into the network, where suitable, would minimise the requirement for clearing and other environmental disturbances. These trails can be upgraded to meet sustainability and environmental requirements.
Sustainable trail grades	The trails have been designed at a sustainable grade to control rider and surface water runoff speed. Trail grade reversals would be used as drainage features; grade reversals are highly effective and low maintenance features.
Utilisation of Bridges	Used to cross drainage lines. Can be scaled as required. The proposed bridges are minimal in design.
Utilisation of Rock armouring	Used to mitigate erosion. Can be installed as bed-level crossings for small ephemeral drainage lines instead of raised bridges.
Rock-armoured culvert drains	Used to drain water from the trail surface and provide scour protection from drainage.
Waste management	All construction waste produced at the worksite including material offcuts, food scraps, packaging and other debris will be removed daily; or relocated daily to designated lift areas, stored in double layered Heli-bags and secured for scheduled removal.
Active maintenance	An active maintenance program would be conducted in order to keep trails clear. Inspections would identify drainage problems causing muddiness or erosion. Such a maintenance program serves to keep riders on the trails and limit environmental impacts within the assessed corridor.
User involvement in maintenance	Mountain bikers can be included in the process of ongoing care and maintenance of the trail network. This helps generate ownership, responsibility and connection with both the land and the trails themselves.
Signage and education material	Signage throughout the network would provide information about the values of the surrounding environment and encourage users to not leave the trails.

Detail for the BMB Network Proposed Works:

The Impact Corridor (extent of proposed works within the Subject Area)

The area within the Subject Area where works activities are proposed (the impact corridor) consists of the trail network footprint and the temporary material laydown areas footprint (helicopter material laydown areas – see Figure 2). The design corridor for each trail is 20m wide (10m either side of the trail centreline), with the actual impact corridor (constructed width) of each trail ranging from 1.5m to 2.5m wide depending on trail type. The final impact corridor width when trails have been constructed reduces to 0.9m (one-way) across the network. The material laydown areas require a cleared footprint of 5 x 5m, which is required for the duration of the construction phase only.

Construction methodology

The following tasks comprise the proposed works:

- **Final design and layout** – The final trail design (impact corridors) would be physically marked out and optimised in conjunction with NPWS staff. This process is to ensure that within the 20m impact corridor the 1.5/2.5m construction width and trail is aligned to minimise ecological and heritage disturbance, in accordance with this assessment and the Ecology, ACHA and REF reports for this project (Niche 2023a and Niche 2023b).
- **Vegetation Clearance** – Hand clearing of the marked trail impact corridor of vegetation with brush cutters and chainsaws.
 - In areas that are free of weeds, cleared vegetation would be stockpiled off-trail within material laydown areas for use as brush matting to remediate access areas and degraded unsanctioned trails on completion. Where weeds are present, cleared vegetation will be bagged and removed from the site to be disposed of at a licensed facility.
 - All trail impact corridors (new and existing) would be cleared to a height of 2.4 m. The trail corridors would also be checked for overhanging branches and hollows. An arborist would be consulted about any trees of concern. Overhanging vines that encroach on the trail corridor would be tied back (rather than trimmed).
 - Fallen trees would be cut back between 0.5 m and 1 m from the trail alignment.
 - Any cut timber would be stockpiled for re-use in trail construction or habitat creation within the project area.
 - Where required, rocks within the trail alignment would be relocated for use as technical trail features and filters (TTF) (see Bennett Murada Architects 2021 at Attachment E for detailed descriptions). The relocation of in situ rock will be subject to further habitat assessment and approval by NPWS.
 - Organic material would be relocated for use in berms and other trail structures to encourage regrowth.
- **Use of Construction and Natural Materials** – A variety of materials will be used across the BMB Network, with a mix of natural and constructed materials used.
 - Rock – existing rock will be re-used from within the impact corridor where available and permissible. Where permission for use of locally found rock is in place, otherwise approved local sandstone will be imported where required.
 - Structural Steel – Hot-dip galvanised steel elements will be brought into key locations where required.
 - Fibre-reinforced Plastic – when use of this material is undertaken, site cutting of this material will be undertaken with a vacuum-equipped circular saw to minimise spread of dust.
 - Fall protection mesh – Safety netting will be introduced at the location of flyovers and bridges.
 - Timber Structures and decking – All timber structures will be made from FSC compliant, H4 treated pine which will be brought into the Subject Area.
 - Powder-coated Aluminium Signage Panels – These signs will be created to the NPWS specification, and located at trail heads and ends.

- **Construction of the Trails** – Construction of the trails will require excavation at several points across the network, for erosion management, construction of trail features, fortifying of the trail itself, and rehabilitation of existing excavated trail features and disturbances.
 - This excavation would be undertaken at critical surface water movement points. Machinery and techniques used for the excavation would depend on the trail category and terrain.
 - Machine excavation techniques will start from the beginning of the trail and the critical surface water movement points will be marked. The excavator will be a zero-swing type, allowing for machinery excavation works to be confined within the marked trail impact corridor. Hand excavation will be undertaken at critical surface water movement points.
 - Soil and rocks will be removed and relocated to significant points to build the base trail between trail features.
 - Once the alignment and trail structure are completed, the trail surface will be compacted using hand tools or a plate compactor.
 - Any construction on existing fire/access trails would be contained within the existing cleared area.
- **Final Construction Phase Tasks**
 - Stockpiled organic material would be reinstated around the trail alignment.
 - Signage would be installed across the network, as per a management plan to be developed by NPWS.
 - Evaluation of the network by riders would be undertaken, with modification to trail geometry made as necessary in order to optimise the trails to the desired difficulty level and to meet standards and NPWS criteria.
- **Post Construction Phase Tasks**
 - In conjunction with NPWS an active maintenance program would be conducted in order to keep trails clear. Inspections would identify drainage problems causing muddiness or erosion. Such a maintenance program serves to keep riders on the trails and limit environmental impacts within the assessed corridor. The regime for this maintenance program will be incorporated into the NPWS asset management system and implemented for the life of the project. Maintenance efforts will be concentrated in the initial stages of the trails' use and following rainfall events.
 - There are a number of existing unsanctioned trails within the proposal area that will not be incorporated into the trail network. These unsanctioned trails will be progressively rehabilitated by NPWS.

7 Heritage Impact Assessment

7.1 Heritage Status of the Subject Area

There are several listed heritage items which have been identified as being within or near to the Subject Area and are listed on [Table 1](#). The local heritage items outside of the Subject Area will be unaffected by the proximity to works, which will mainly consist of track upgrades and are unlikely to cross over into these items.

The IESCA heritage item, however, (listed on the Wollongong LEP 2009, and the NPWS S.170 heritage asset register), will be affected by the proposed works, and it is this heritage item (along with other identified features of heritage value – see [Table 3](#)) which will primarily be assessed for heritage impacts in this section.

Existing Planning Documents, including Park Plans of Management

Existing planning documents are available for the IESCA which is impacted by the proposed works.

There are two relevant planning documents which govern the management of the IESCA: the Wollongong DCP 2009 and the IESCA Parks Plan of Management 2018. Relevant sections of these documents are presented below.

Wollongong DCP 2009

The DCP provides the following development controls related to the Illawarra Escarpment Conservation Area Item:

Conservation Incentives

1. *Heritage conservation incentives in relation to the use of heritage items are outlined in clause*

5.10(10) of Wollongong Local Environmental Plan (WLEP) 2009.

2. *Council also provides the following financial incentives:*

a) The waiving of Development Application and Construction Certificate fees for properties listed in Schedule 5 of WLEP 2009, where the proposed works do not involve the demolition of a heritage item, or the removal of any heritage listed trees and are determined by Council to promote sympathetic heritage development in accordance with this DCP. The standard Development Application fees are required to be paid upon lodgement of the application and will be refunded should the application be approved. If the Development Application is approved then subsequent Construction Certificate Application fees relating to the approved development will then be waived, where the application is lodged with Council. Council will also accept the lodgement of a Bank Guarantee upon lodgement of a Development Application for the full amount of the required application fees, which will be released should the application be approved.

b) The opportunity for grant funding for works undertaken to maintain or conserve a heritage item. The maximum funding of any heritage development for any single year will be 50% of the cost of works. Grants are usually advertised in June each year.

Heritage Interpretation

- 1. Where a development proposes a major change to an item such as adaptive re-use, a new addition, or alteration, or a subdivision of a historic lot or area, some level of onsite or other interpretation may be appropriate to ensure that the change proposed can be easily interpreted in the future. Applicants should give consideration to the incorporation of interpretive measures into proposed development.*
- 2. Council may also consider interpretation requirements as an appropriate condition of consent for certain developments where the interpretation of the heritage value of the site is considered important or appropriate.*
- 3. A heritage interpretation plan may be appropriate in ensuring that interpretation is implemented in a manner that allows for the proper interpretation of the heritage site.*

Photographic Archival Recording

- 1. Where proposed development will have an impact on the heritage significance of a place a photographic recording should be completed in accordance with the NSW Department of Planning - Heritage Branch guideline titled 'Photographic Recording of Heritage Items Using Film or Digital Capture'. This document is available to download free from the Heritage Branch website at www.heritage.nsw.gov.au. The purpose of an archival recording is to document the pre-development condition of the heritage place to ensure that its condition is documented for future reference.*
- 2. Council may require archival photographic recording as a condition of development consent where a proposed development is deemed to have a significant impact on a property. This is likely to be the case where the development involves:*
 - a) Demolition or part demolition of a heritage item.*
 - b) Where alterations or additions are proposed.*
 - c) Where new development will have an impact on the historical setting or curtilage of the heritage item.*
 - d) Where a landscape heritage item is to be significantly impacted by a proposed development.*
 - e) Where an archaeological site is to be disturbed as part of a development.*
 - f) Any other case of heritage impact where Council feels photographic recording is of benefit.*

The IESCA Plan of Management (Parks) announces the following statement regarding the local planning responsibilities of Wollongong City Council (WCC) and NPWS:

The primary environmental planning instrument for the Wollongong Local Government Area is the Wollongong Local Environmental Plan 2009 (NSW Government 2009). Council consent is

not required, however, for developments within the park, with NPWS the approving authority for all activities within lands reserved under the NPW Act.

Illawarra Escarpment State Conservation Area Parks Plan of Management

The IESCA Parks Plan of Management has incorporated WCC's management directives into the current planning documents, and outlines management directives for activities within the SCA. Many of these stipulations refer to specific sites which will not be impacted by the proposed works, such as the remaining Port Kembla Mine infrastructure, and the scout camp locations. However, they are included in these quotes for completeness, and to show what is considered to be significant sites of heritage value within the IESCA.

Issues

Post-1770 heritage

- Historic places are threatened by physical deterioration, vandalism, remoteness, landform instability and vegetation growth.*
- Most places have not been formally recorded, and information held in the local community about their past use needs to be captured.*
- Several of the historic places are listed on state or local heritage inventories (see Appendix 5) and the Mount Kembla Mine, Port Kembla No. 2 Mine complex and World War II tank trap are being considered for nomination on the State Heritage Register.*
- The large number of historic features makes it vital to assess their significance and determine priorities for funding any conservation work needed. It is unlikely, however, that active conservation of those structures that are in ruins would be warranted.*
- A conservation management plan has been prepared for the Mount Kembla Mine (Otto Cserhalmi & Partners 2009). The plan recommends control of runoff, stabilisation of key structures, repair, and maintenance of the pit-pony stables, weed control, removal of damaging trees, maintenance of clearings around significant structures, interpretation, and provision of walking access as far as the stables. Small moveable heritage items (such as lamps, boots etc.) have been salvaged from the site but need to be appropriately stored or displayed. Skips remaining on the site are in danger of being buried in a gully and should be relocated and conserved if possible.*
- A conservation analysis has been prepared for the Port Kembla No. 2 Mine and associated Edna Walling precinct detailing its history and significance (OEH 2012a). The conservation analysis recognises the significance of the mine and Edna Walling precinct and recommends their listing on the State Heritage Register. Three of the houses are leased as private residences and ongoing residential occupation or other use is important for their security, protection and maintenance. The fourth house is on a geologically unstable slope. It is dilapidated, and it is unlikely to be economical to repair it.*

- *Re-use of the suitable buildings in the park would be desirable if an appropriate use can be found consistent with future conservation management plans. The NPW Act provides for the adaptive re-use of buildings or structures, as long as their use and management are consistent with the Act and with the retention of the item's cultural significance.*
- *Asbestos has been exposed in the roof of the Port Kembla No. 2 mine washroom and the walls of the buildings have been damaged. Consideration will have to be given to whether the cost of restoring the buildings for re-use can be justified.*
- *Modification or demolition and removal of some historic structures may be needed for safety and environmental reasons. However, this would be undertaken only after comprehensive risk and heritage assessments have been completed and full recording of the site undertaken.*
- *Sections of the community have a strong interest in the historic heritage within the park as it represents both living and ancestral connections to locations and events. In particular, the Mount Kembla community and descendants of mining families have strong connections to the Mount Kembla Mine site. There is potential for community involvement in maintaining some historic features.*
- *Historic heritage items in the Mount Keira Scout Camp and Girl Guide Camp are managed by the camp managers in accordance with their licences and the strategies of this plan of management. A conservation analysis (OEH 2013b) has been prepared for the Scout camp to identify and record the cultural features of the site and to assess the cultural significance of the site. The report identified that Mount Keira Scout Camp is significant as an early New South Wales Scout camp forming part of the worldwide Scouting movement and for its association with important figures, including landscape designer Paul Sorenson. The report also found the Scout camp is significant aesthetically for its location high on the escarpment, for the considered layout of the camp and for the high-quality of the design of the initial buildings. This report informed a draft conservation management plan for the Scout camp (OEH 2018b).*

Desired outcomes

- *The cultural heritage values of the park are protected and managed in a strategic, comprehensive and integrated way.*
- *Community connections with heritage places are acknowledged and respected and the community is involved in their management where appropriate.*
- *Visitors and other stakeholders understand and appreciate the cultural heritage values of the park and their responsibilities in helping to protect them.*

Management response

4.4.1 Actively engage with Aboriginal community organisations and individuals in identifying, protecting, monitoring and managing Aboriginal cultural heritage and when planning developments that could affect Aboriginal heritage.

4.4.2 Undertake an archaeological survey and cultural assessment before undertaking any work with the potential to affect Aboriginal sites or values.

4.4.3 In consultation with the Aboriginal community, investigate opportunities to survey and record Aboriginal sites in the park and conduct surveys as resources permit.

4.4.4 As a means of recognising the traditional connections of Aboriginal people to the area, give Aboriginal names to the park's visitor sites and tracks where an appropriate name can be found, in consultation with the Aboriginal community.

4.4.5 Support the naming, or dual naming, of landscape features with Aboriginal names, in conjunction with Aboriginal communities and the NSW Geographical Names Board.

4.4.6 Do not publicise the location of Aboriginal sites or other cultural information without the agreement of the Aboriginal community.

4.4.7 Implement the conservation management plan for the Mount Kembla Mine, including maintaining the pit-pony stables. Consider feasible options for adaptive re-use of the stables for education or another appropriate purpose. Manage the rest of the site as a ruin but address stability and encroaching vegetation.

4.4.8 Finalise and implement a conservation management plan for the Mount Keira Scout Camp.

4.4.9 Determine an appropriate management strategy for moveable heritage salvaged from the Mount Kembla Mine site. Investigate options for recovery and possible interpretation of the skips that remain on the site.

4.4.10 Prepare and implement a conservation management plan for the Port Kembla No. 2 Mine site, including the Edna Walling precinct.

4.4.11 Record and demolish the dilapidated Edna Walling house if it is not economically feasible to stabilise the slope and repair the house. Keep retaining walls and other durable features where possible, as a record of the house and site.

4.4.12 Continue to lease the remaining Edna Walling houses and gardens for residential accommodation, or consider adaptive re-use for tourist accommodation, education or other appropriate purposes, subject to the conservation management plan.

4.4.13 Investigate the practicality and options for adaptive re-use of mine buildings at the Port Kembla No. 2 Mine for tourist accommodation, education or other appropriate purposes, subject to further geotechnical assessment and the conservation management plan.

4.4.14 Aim to maintain the stability and visibility of the World War II tank trap. Assess its conservation needs and implement any necessary actions.

4.4.15 Consider the Mount Kembla Mine, Port Kembla No. 2 precinct, including the Edna Walling house, and the World War II tank trap for nomination on the State Heritage Register.

4.4.16 Prepare heritage action statements for the stonework on historic roads to determine how they should be protected and managed.

4.4.17 Undertake archaeological assessments of the Tom Thumb and Southern mines to determine their significance. Prepare heritage action statements if needed.

4.4.18 Progressively assess the significance of other heritage sites, landscapes, places and objects in the park.

4.4.19 Develop heritage action statements for any other historic heritage that may warrant active management.

4.4.20 Remove vegetation growing in and around Nunans Cottage.

4.4.21 Involve the community and other stakeholders in identifying and managing historic heritage. In particular, explore the possibility of partnerships for maintenance or restoration of the Edna Walling gardens.

These management controls in the IESCA Parks PoM and the Wollongong DCP 2009 stipulate the desired development outcomes with which any new development should be aligned within the Parks boundary. The Proposed Work does not conflict with these controls and will enhance the general appreciation and access to the park by the general public. It is considered that an interpretation strategy for the BMB Network would assist the public appreciation of the heritage values of the IESCA.

As the Subject Area is part of a local conservation area (and a S.170 heritage listing), a permit for excavation works within this curtilage would generally be required, in order to comply with Section 139(1) of the Heritage Act 1977. Should the proposed works be considered minor works or should the potential impacts of the proposed works be considered to be low, some exceptions to the permit requirement may be valid, as per S.139(4) of the Heritage Act 1977. The applicable exceptions, if any, will be outlined as mitigation measures at the end of this section of this report.

7.2 Heritage Impact Assessment of the Subject Area

There are several aspects which must be considered when assessing potential impacts to the significance of the Subject Area. This section outlines the various components of impacts which need to be considered and provides an assessment of impacts to heritage value from the proposed works as a result.

Direct Impacts to Heritage Items

The Proposed Works intend to undertake construction of bike tracks, clearance of vegetation and some limited excavation in order to level track, produce track features (including berms and jumps) and rock-armour sections for water run-off management (see section 6 for a detailed breakdown). This work will be undertaken within the heritage curtilage of the IESCA/Illawarra Escarpment Local Conservation Area heritage listing. The Corrimal Colliery Heritage Items is not within the Subject Area and will not be impacted by the proposed works. The IESCA

qualities which contribute significance are assessed below for projected impacts to the heritage value of this item.

Impacts to the Natural Heritage Landscape of the IESCA within the Subject Area

The ecological assessment report undertaken by Niche for this project (Niche 2023b) has assessed the projects impact on biodiversity and the ecological value of the Subject Area. Impacts to natural heritage value of the Subject Area and this section of the IESCA are related to this assessment but understands that the value of this area is not only in the specific vegetation which will be affected, but the totality of impacts to this natural landscape. The Proposed works are unlikely to diminish the natural landscape of the Subject Area, as the proposed works will avoid impacts to biologically diverse flora and fauna where possible, and it is assessed that approximately 3.5 hectares of native understory vegetation out of the whole project will be removed, with the canopy layer and mature trees not impacted. In addition, the design of the works will utilise existing disturbance areas (existing trails) where possible, further limiting the impact of the proposed works. The proposed works design allows for the rehabilitation of non-utilised existing trails, and for the restriction of future unsanctioned trails which are being constantly developed within this section of the IESCA.

The natural heritage landscape of the Subject Area is unlikely to be negatively impacted by the proposed works design, even though there will be projected impacts to individual vegetation groupings. The natural landscape of the Subject Area (and this portion of the IESCA) will continue to represent the vegetated, impactful backdrop which the Illawarra Escarpment represents to the local community. The ecological and biodiversity of this section will likely improve as the management of this part of the IESCA becomes more sustainable and community focussed.

Impacts to the Mining Landscape Value of the IESCA within the Subject Area

The IESCA is listed for the potential to reveal information and evidence of past mining practises of the Illawarra. While direct impacts will be limited by the use of existing bike tracks, especially within proximity to the identified features presented on Figure 6, some permanent loss of fabric and potential archaeological deposits is possible, should avoidance be impossible. This loss of fabric is not likely to negatively impact the heritage value represented by this fabric, due to the present disturbance and lack of integrity of these deposits and structures. The structures can be easily avoided by the proposed bike trails. There is likely to be minor adverse impacts to some of the identified features, and little to no impact to the mining landscape of this section of the IESCA as a whole.

Impacts to the Recreational and Educational Value of the IESCA within the Subject Area

The IESCA is currently used by the local community as a space for recreation, with numerous walkers, riders and runners using existing mining access roads and the unsanctioned mountain bike trails and cleared areas for exercise and recreation. There is little current use of this section of the IESCA for educational purposes, and there are some illegal uses of the Subject Area which introduces an element of risks to personal safety in some locations. The proposed works are likely to produce a positive impact to this aspect of the IESCA contributory significance, with

enhancements to use for recreation from separating foot exercise from bike riders, and vastly improving the existing bike trails' recreational potential.

Indirect impacts to Heritage Items within the Subject Area

The proposed works are likely to increase use of the Subject Area, and increased exposure for identified features as a result. Most of the increased human activity will be temporary riders throughout the day along the proposed trails only. The tracks have been designed to discourage creation of new trails by members of the public (e.g., inclusion of an adequate volume of advanced trails). The design of the tracks will also avoid impacts to heritage items and features where possible, and where not the increased access to the natural landscape and recreation from the Subject Area will offset an increase in use of the Subject Area. There is likely to be minor indirect impacts from the increased use of the Subject Area.

Views to and from the IESCA will be unlikely to be affected by the proposed works. The canopy trees within the Subject Area are not to be impacted, with proposed tracks not visible from outside the Subject Area. Additionally, the current cleared areas (cleared by unsanctioned mountain bike trail builders) and areas affected by mining activity are more likely to be rehabilitated should the proposed works go ahead. There is also a large amount of erosion caused by water run-off across the Subject Area. One of the outcomes of the proposed works will be to increase the positive water management across the Subject Area, which will help prevent large landslides and erosion which is currently prevalent across the Subject Area. There will be little to no impacts to views to and from the Subject Area/IESCA.

Cumulative impacts of previous development and the proposed works within the Subject Area

The Subject Area has been impacted by a system of unsanctioned trails which have been constructed by unapproved trail builders who constructed a changing and expanding network of mountain bike trails. The proposed works seeks to prevent additional unsanctioned trails, rehabilitate and re-vegetate some of these unsanctioned trails and create a sustainable and properly designed mountain bike network of tracks using the corridors already impacted by some of these existing trails where possible. The proposed network would cover 26.94 km in total length, with 13.28 km of this network's trails comprised of existing trails.

While the impact assessment of the proposed works assesses impacts which could occur from this proposal, given the reality of the historical development of the Subject Area, and alternate approach is to consider the impacts which would occur should there have been no unsanctioned trails within the Subject Area/IESCA. The currently proposed works are an entirely appropriate use of the IESCA and are aligned with the values and management opportunities which have been outlined in Section 5. The creation of a sustainable network for the recreational use of the Subject Area is a proposal which respects the need for proper use and appreciation of the IESCA by the general public, where this use does not degrade other environmental considerations. The proposed works not only are likely to produce a net positive impact when the cumulative impacts to the Subject Area and IESCA values are considered but is an appropriate use and management opportunity which is aligned with the IESCA management plans developed by NPWS.

Heritage Impact Assessment Process Questions

The Heritage Council guidelines for preparing Statements of Heritage Impacts pose a range of questions for consideration which must be answered when assessing impacts to the heritage values of a heritage item. The following Consideration of Assessment Questions applies to the identified heritage items and potential archaeological deposits within the Subject Area, particularly to the IESCA and the identified features of heritage value.

Action	Yes/No/ N/A	Comment
Demolition/removal of a structure or fabric		
Have alternative solutions been considered?	Yes	Alternate routes have been considered, and the current route is considered to have the least impact on a range of environmental considerations. The reduction of unsanctioned tracks is considered to be a net gain.
Can selected examples of significant features/elements/materials/forms be retained?	Yes	The proposed works are maintenance and creation of new track facilities, which will allow for adaptive re-use of former materials and track elements. The section of trails at points identified as of heritage value will be designed to minimise impacts to significant views and the natural landscape.
Additions and alterations		
Will the additions and alterations visually dominate the historic setting?	No	The new track is located within already disturbed areas, and areas of unsanctioned tracks – creation of new tracks and adjustment of existing tracks will serve to reinvigorate this section of the landscape. The tracks within the IESCA heritage item will provide minimal disturbance to significant views or significant uses for this park.
How is the impact of the additions and alterations on the heritage significance of the item to be minimised?	N/A	Works should not expand the existing footprint of track to a degree where possible, in addition opportunities should be sought to provide additional interpretation and avoidance of relics and structures associated with former mining.
Is the additions and alterations sited on or affect any known or potentially significant archaeological deposits? If so,	No	The additions are located in areas of high disturbance and are unlikely to disturb any archaeological deposits for the majority of the

Action	Yes/No/ N/A	Comment
		Subject Area. Where works are to be conducted near to areas related to former mining structures or relics effort must be made to minimise additional direct impacts, and if this is not possible archaeological monitoring may be required. An unexpected finds protocol is to be implemented as a mitigative measure against this possibility.
Are the additions and alterations sympathetic to the heritage item? In what way (e.g., style, form, proportions, design)?	Yes	The track is essential for the appreciation of and access to this item by the general public. The track will aid in the appreciation and use of the Balgownie reserve and enable the tracks across this landscape to be more sustainable. The trail network will allow for appreciation of the historic heritage value of the Subject Area with an interpretation plan integrated into the project.
How does the new development affect views to, and from, the heritage item? What has been done to minimise negative effects?	No	Views to and from the item will remain unaffected by the proposed works. The tracks are concealed from observation by the surrounding vegetation, and views from the item are enhanced by the viewing opportunities which will be provided by the trail vantage points. Structures should be designed with the preservation of existing views as a priority.
Will the public, and users of the item, still be able to view/access and appreciate its significance?	Yes	The significance of the IESCA will be enhanced by the renewed access for the general public, which will allow for more opportunities to appreciate the significance of this item. The Public appreciation and use of Bald Hill will be enhanced by the integration of walking tracks into this place, and the removal of illegal dumping waste.
New landscape works and features (including carparks and fences)		
Will existing significant landscape features be impacted? How has the impact of the new work on the heritage	Yes	There will be some limited impacts to vegetation and existing relics and fabric associated with the former

Action	Yes/No/ N/A	Comment
		mining infrastructure. Overall, it is considered that the proposed works will have a positive impact for users of the tracks and the appreciation of the IESCA.

Proposed Mitigation Measures

In order to manage impacts to heritage value which may result from the proposed works, the following constraints and opportunities have been identified:

- Unexpected Finds Procedure:** The works must be carried out, where they can avoid direct impacts to identified features and relics, under Exception S.139(4) b) which stipulates an unexpected finds procedure and protocol for record keeping during construction (See Appendix 1 for further details on S.139(4) Exceptions). *This constraint will mitigate the potential for unexpected archaeology and heritage fabric to be disturbed by the proposed works and will provide a record of change which will assist the preparation of management strategies. Works may be undertaken under this S.139(4) exception in lieu of obtaining a S.140 excavation permit, as long as the guidelines and conditions outlined in Appendix 1 are followed.*
- Archaeological Monitoring of Track Construction:** Where the works cannot avoid identified features or relics (such as at the location of Feature 2, see Figure 6), the proposed works must be carried out at these locations under the direction of a suitably qualified historic-period archaeologist, in accordance with Exception S.139(4) e) which outlines appropriate methodology for archaeological monitoring including record keeping (See Appendix 1 for further details on S.139(4) Exceptions). *This constraint will allow for the careful disturbance of potential relics in these areas with minimum impact to potential archaeological deposits. As the disturbance is likely to be minor in nature, works which fall into this circumstance may be undertaken under this S.139(4) exception in lieu of obtaining a S.140 excavation permit, as long as the guidelines and conditions outlined in Appendix 1 are followed.*
- Design Flexibility – Avoidance of Harm:** The track design should be modified where possible, and within the assessed corridor, in order to avoid historic-period features and archaeological deposits. *This opportunity will severely reduce the degree of potential impact from the proposed works, as the actual disturbance from the proposed tracks is not a wide corridor. This approach was applied during the site inspection process, and where possible the track location avoids known and identified heritage features.*
- Preparation of Photographic Archival Recording (PAR):** In the circumstance where avoidance of heritage or archaeology is not possible, and archaeological monitoring is necessary, a PAR should be undertaken of the feature or location to be impacted. *This opportunity will capture some information prior to modification, which could preserve data and site information for future research.*
- Preparation of a Heritage Management Schedule for the BMB Network:** As the testing phase of the construction works commences, NPWS must update the IESCA plan of management to include maintenance and management outcomes and requirements for the BMB Network. *This opportunity will ensure that management of these trails from a heritage perspective is properly understood and integrated into NPWS management strategies and policy.*

- **Creation of an Interpretation Strategy for the BMB Network:** NPWS should undertake to develop and implement an interpretation strategy and plan for the BMB Network, which incorporates all natural/ecological, Aboriginal Cultural and Historic-period heritage value for the benefit of the general public who will be interacting with this space. *This opportunity will further ensure the information encoded in the landscape is available to the public for understanding and enhance the educational heritage value of this section of the IESCA.*

Conclusion: Summary of Impact Assessment

a) The following aspects of the proposal respect or enhance the heritage significance of the item or conservation area for the following reasons:

The proposed works will largely respect the heritage significance of the Subject Area as although the proposed works are extensive the impacts are mostly low to nil.

b) The following aspects of the proposal could detrimentally impact on heritage significance. The reasons are explained as well as the measures to be taken to minimise impacts:

The proposed works may negatively impact the significance of the features relating to the former mining works; 'old' incline, 'Old Train Line' and other identified features as the works go directly through these areas. Measures should be taken to avoid these sites completely. If avoidance is not possible, archaeological monitoring to minimise harm during works is necessary, and Photographic Archival Recording and an interpretation plan which incorporates these sites is recommended.

7.3 Heritage Impact Statement

On the basis of this assessment and as determined by the NSW Heritage Office Criteria (NSW Heritage Office 2001), the proposed works will likely have no or little impacts on the heritage items except for the identified features relating to the former mining works; 'old' incline, 'Old Train Line' and other identified features where direct adverse impacts are likely but minor in degree.

Archaeological deposits may be present within these sites and are likely to be only moderately disturbed due to the current use and history of the Subject Area. Mitigation measures should be taken to ensure the significance of these sites are protected (as per the above).

8 Conclusions

This report has assessed the historic period heritage value and significance of the Subject Area, which incorporates a section of the IESCA. The assessment has identified that this area is primarily significant due to its Natural, Mining and recreational Landscape qualities, and has identified that it holds significance under the historical, aesthetic, social, research potential and rarity significance assessment criteria.

The proposed works are likely to cause no or little impacts on the heritage items except for the identified features relating to the former mining works; 'old' incline, 'Old Train Line' and other identified features where direct adverse impacts are likely but minor in degree. This includes some archaeological deposits. Several constraints and opportunities have been identified in order to mitigate impacts from the proposed works. It is considered that the works, with reference to archaeological and heritage impacts, qualify as minor works, and will have little to minor impacts to heritage value.

The proposed works must be undertaken under either exception S.139(4) b) or e), depending on whether archaeological monitoring of works is necessary. The proposed works would otherwise require a permit under S.140 of the Heritage Act 1977, if these exceptions were not to be used. Instruction on the use of these exceptions is provided in Appendix 1.

9 Recommendations

Based on the above conclusions, the following recommendations have been developed:

Recommendation	Description
S.139(4) b): Unexpected Finds Procedure:	The works must be carried out, where they can avoid direct impacts to identified features and relics, under Exception S.139(4) b) which stipulates an unexpected finds procedure and protocol for record keeping during construction (See Appendix 1 for further details on S.139(4) Exceptions).
S.139(4) e): Archaeological Monitoring of Track Construction:	Where the works cannot avoid identified features or relics (such as at the location of Feature 2, see Figure 6), the proposed works must be carried out at these locations under the direction of a suitably qualified historic-period archaeologist, in accordance with Exception S.139(4) e). This exception outlines appropriate methodology for archaeological monitoring including record keeping (See Appendix 1 for further details on S.139(4) Exceptions).
Design Flexibility – Avoidance of Harm:	The track design should be modified where possible, and within the assessed corridor, in order to avoid historic-period features and archaeological deposits.
Preparation of Photographic Archival Recording (PAR):	In the circumstance where avoidance of heritage or archaeology is not possible, and archaeological monitoring is necessary, a PAR should be undertaken of the feature or location to be impacted.
Preparation of a Heritage Management Schedule for the BMB Network	As the testing phase of the construction works commences, NPWS must update the IESCA plan of management to include maintenance and management outcomes and requirements for the BMB Network.
Creation of an Interpretation Strategy for the BMB Network	NPWS should undertake to develop and implement an interpretation strategy and plan for the BMB Network, which incorporates all natural/ecological, Aboriginal Cultural and Historic-period heritage value for the benefit of the general public who will be interacting with this space.

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11 Appendix 1: Use of S.139(4) exceptions

Procedure for use of S.139(4) exceptions.

The following section provides an overview of the requirements outlined by Heritage NSW for the use of S.139(4) exceptions. For the Proposed Works, where avoidance of impacts to identified heritage features and relics are possible the exception b) is to be used, if avoidance is not possible then archaeological monitoring as per exception e) is to be used. Both of these exceptions have associated Heritage NSW guidelines which explain methodology and conditions, and these must guidelines be followed. These applicable exceptions to local excavation permit requirements (as per S.139(4)) are copied below:

Heritage Act 1977; S.139(4), Exceptions b) and e) state:

The following disturbance or excavation of land does not require an excavation permit under subsections 139(1) or (2) of the Heritage Act 1977 provided that it falls within one or more of the exceptions described at clauses 2(a) to (f) below, and is undertaken in compliance with the General Conditions prescribed at clause 3 further below:

(b) Any disturbance or excavation of land that constitutes minor works involving limited impact to relics of local heritage significance, in accordance with the guideline 'Relics of local heritage significance: a guide for minor works with limited impact' published by Heritage NSW.

(e) Any disturbance or excavation of land for archaeological monitoring of relics of local heritage significance completed in accordance with the guideline 'Relics of local heritage significance: a guide for archaeological monitoring' published by Heritage NSW.

General Conditions (for Standard Exceptions under S.139(4) of the Heritage Act 1977)

General conditions must be adhered to in order to be able to utilise the above exceptions.

(a) These general conditions apply to each of the exceptions to subsections 139(1) or (2) of the Heritage Act 1977 prescribed above.

(b) The exceptions are self-assessed. It is the responsibility of a proponent to ensure that the proposed activities/ works fall within these exceptions.

(c) These exceptions do not apply to relics of State heritage significance or to a relic that is subject to an interim heritage order or a listing on the State Heritage Register.

(d) These exceptions do not apply to Aboriginal objects under the National Parks and Wildlife Act 1974.

(e) If any Aboriginal objects are discovered, excavation or disturbance is to cease and notification in accordance with section 89A of the National Parks and Wildlife Act 1974 is required. Depending

on the nature of the discovery, additional assessment and approval under the National Parks and Wildlife Act 1974 may be required prior to works continuing in the affected area(s).

(f) Proponents must keep records of any activities/ works for auditing and compliance purposes by the Heritage Council. Where advice of a suitably qualified and experienced professional has been sought, a record of that advice must be kept. Records must be kept in a current readable electronic file or hard copy for a reasonable time.

(g) Anything done under these exceptions must be carried out by people with knowledge, skills and experience appropriate to the work. Some exceptions require suitably qualified and experienced professional advice/ work as set out in the guidelines 'Relics of local heritage significance: a guide for archaeological test excavation' published by Heritage NSW and 'Relics of local heritage significance: a guide for archaeological monitoring' published by Heritage NSW.

(g) (sic) A person who is aware or believes that he or she has discovered or located a relic, in any circumstances (including where works are carried out in reliance on an exception under section 139(4)), must notify the Heritage Council in accordance with section 146 of the Heritage Act 1977. Depending on the nature of the discovery, additional assessment and approval under the Heritage Act 1977 may be required prior to the recommencement of excavation in the affected area(s).

(h) Authorised persons under the Heritage Act 1977 may carry out inspections for compliance.

(i) Activities/ works that do not fit strictly within the exceptions described above require approval, by way of an application under section 140 of the Heritage Act 1977.

(j) It is an offence to do any of the things listed in section 139(1) or (2) of the Heritage Act 1977 without a valid exception or approval. NSW Government Gazette 18 February 2022

(k) The exceptions under the Heritage Act 1977 are not authorisations, approvals or exemptions for the activities/ works under any other legislation local government or NSW Government requirements (including, but not limited to, the Environmental Planning and Assessment Act 1979 and the National Parks and Wildlife Act 1974).

The necessary NSW Guidelines can be found at the following Links: *Relics of local heritage significance: a guide for minor works with limited impact* (DPIE 2022): <https://www.environment.nsw.gov.au/research-and-publications/publications-search/relics-of-local-heritage-significance-a-guide-for-minor-works-with-limited-impact> and *Relics of local heritage significance: A guide to archaeological monitoring*. (DPIE 2022): <https://www.environment.nsw.gov.au/research-and-publications/publications-search/relics-of-local-heritage-significance-a-guide-for-archaeological-monitoring>

These guidelines must be used and followed for the proposed works when using these two exceptions, and NPWS heritage division should be consulted when undertaking record keeping as per these exceptions' conditions.