

NRE No. 1 Colliery, Russell Vale: Conservation Management Plan

FINAL

Prepared for Gujarat NRE Coking Coal Limited

27 February 2013

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Biosis project no.: 15606

File name: 15606.CMP.FIN1.20130201

Citation: Biosis (2013). NRE No. 1 Colliery, Russell Vale: Conservation Management Plan. Report for Gujarat NRE Coking Coal Limited. Authors: IG Vines & A Ford, Biosis Pty Ltd, Wollongong. Project no. 15606

LGA: Wollongong

Cover: Work shops, South Bulli Mine ca. 1906. National Library nla.pic-an13595532-32 LOC Album 918.

Document control

Version	Internal reviewer	Date issued	Issued by
Draft 01	Pamela Kottaras	27/09/2012	ASF
Final 01	Asher Ford	01/02/2013	ASF
Final 01	Asher Ford	27/02/2013	ASF

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Acknowledgements

Biosis gratefully acknowledges the contributions of the following people and organisations (listed alphabetically) in preparing this report:

Gujarat NRE

- Kamlesh Prajapati
- Don Jephcott

Biosis

- Ashleigh Pritchard and James Shepherd for mapping

Abbreviations

AHC	Australian Heritage Commission
AHIMS	Aboriginal Heritage Information Management System
AMG	Australian Map Grid
Gujarat NRE	Gujarat NRE Coking Coal Limited

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Summary

This Conservation Management Plan (CMP) was commissioned by Gujarat NRE Coking Coal Limited (Gujarat NRE) in order to meet the requirements of the statement of commitments in the NRE No. 1 Colliery Preliminary Works conditional Project Approval granted in October 2011. The Project Approval was granted under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act 1974). The CMP has been developed in line with the requirements of the NSW *Heritage Act 1977*, *National Parks & Wildlife Act 1974* (NP&W Act 1974), and EP&A Act 1974 and is based on a review and update of the previous heritage studies undertaken for the site.

The NRE No. 1 Colliery (the study site) is a working coal mine located in Russell Vale NSW and was previously known as the South Bulli Colliery. The study site is generally located on private land adjacent to the Illawarra Escarpment State Conservation Area, which is administered by the National Parks and Wildlife Service (see Figure 1). Previous heritage studies undertaken for the study site include a CMP undertaken by Godden Mackay Logan Heritage Consultants (GML) in 2004, the *Strategic Management Plan for Historic Coal Mining Sites of the Illawarra* (SMP) undertaken by O.H.M. Consultants (OHM) in 2006 and a Historic Heritage Assessment (HHA) undertaken by Environmental Resources Management Australia (ERM) in 2011. As a working colliery for over a century and a half, the study site has a variety of infrastructure that is spread out over a wide area.

In November 1995, the Heritage Council of NSW adopted the policy “Altering Heritage Assets”. The policy recognises that development proposals should consider the overall significance of an item, and its value to the community. The NSW Heritage Office *Heritage Manual* (1996) identifies a minimum documentation required of activities or works with minor impact would be a Statement of Heritage Impact and works documentation, while major works to a state listed place require a Conservation Management Plan. The legislative framework protecting the study site entails that the impact to the heritage significance from the development be considered prior to development. This is to ensure that any development proposal does not adversely impact the heritage significance of the item.

Recommendations have been made in Section 6 for the management of the various portals, buildings, structures and other features according to the level of significance of each place as listed above. A summary of conservation requirements for each site element is provided below in Table 1.

Table 1: Summary of site elements and their conservation requirements

Precinct	Element	Significance	Applicable Conservation Policies (marked with X if applicable)									Statement of Heritage Impact Required (Y = Yes, N = No, U = Unacceptable action, C = acceptable for conservation purposes only, N/A = Non applicable)			
			Policy 3	Policy 4	Policy 5	Policy 6	Policy 7	Policy 8	Policy 9	Policy 10	Policy 11	Demolition or Removal	Alteration of fabric	New Buildings	Adaptive Reuse
1. Power House Precinct	Remnant Power House Features	Moderate	X	X		X		X	X		X	U	C	Y	-
2. Administration Precinct	Administration Building	Little	X					X			X	N	N	N	N
	Pathways and Landscape Elements	Little	X					X			X	N	N	N	-
	Car park	Intrusive	X					X			X	N	N	N	-
3. Old Portal Precinct	Lower Bench Workshops	Little						X			X	N	N	N	N
	Upper bench Workshops	Moderate	X	X		X		X	X	X	X	U	C	Y	Y
	Workshop Offices	Moderate	X	X		X		X	X	X	X	U	C	Y	Y
	Brick Retaining Wall	High	X	X		X		X	X	X	X	U	C	Y	Y
	1887 Portal Area	Exceptional	X	X	X	X		X	X	X	X	U	C	Y	Y
4. Main Portal Precinct	The Main Portal	Little	X		X			X			X	N	N	N	N
	The New Bathhouse	Little	X					X			X	N	N	N	N
	Crib Room and First Aid Station	High	X	X		X		X	X	X	X	U	C	Y	Y
	Storeroom	High	X	X		X		X	X	X	X	U	C	Y	Y
5. Extraction Portal Precinct	The Extraction Portal	Little	X		X			X			X	N	N	N	N
	Main Downhill Conveyor	Little	X					X			X	N	N	N	-

Precinct	Element	Significance	Applicable Conservation Policies (marked with X if applicable)									Statement of Heritage Impact Required (Y = Yes, N = No, U = Unacceptable action, C = acceptable for conservation purposes only, N/A = Non applicable)			
			Policy 3	Policy 4	Policy 5	Policy 6	Policy 7	Policy 8	Policy 9	Policy 10	Policy 11	Demolition or Removal	Alteration of fabric	New Buildings	Adaptive Reuse
	Closed Adits	Moderate	X			X		X			X	U	C	Y	Y
6. Gibson’s Portal Precinct	Gibson’s Portal	High	X	X	X	X		X	X	X	X	U	C	Y	Y
	Sandstone Retaining Wall	Moderate	X	X		X		X	X	X	X	U	C	Y	Y
	Fan House	Little	X					X			X	N	N	N	N/A
	Gibson’s Sublease Portal and Associated Area	Little	X					X			X	N	N	N	N/A
	Electrical Sub-Station	Little	X					X			X	N	N	N	N/A
	Electrical Switchroom	Little	X					X			X	N	N	N	N/A
7. The Washery Precinct*	The Preparation Plant	Moderate						X			X	N*	N*	N*	N*
	Conveyor Systems	None						X			X	N	N	N	N/A
	Storage Silos	None						X			X	N	N	N	N/A
	Truck Loader	Little						X			X	N	N	N	N/A
8. Coal Stockpiles and Reject Material	Coal Stockpiles	Little									X	N	N	N	N/A
	Reject Material Emplacements	Little									X	N	N	N	N/A
	Settling Dams	Little									X	N	N	N	N/A
9. Rail Tracks, Signal Box and Associated Elements	Rail Tracks and System - Upper Bench	High	X	X		X		X	X	X	X	U	C	Y	Y

Precinct	Element	Significance	Applicable Conservation Policies (marked with X if applicable)									Statement of Heritage Impact Required (Y = Yes, N = No, U = Unacceptable action, C = acceptable for conservation purposes only, N/A = Non applicable)			
			Policy 3	Policy 4	Policy 5	Policy 6	Policy 7	Policy 8	Policy 9	Policy 10	Policy 11	Demolition or Removal	Alteration of fabric	New Buildings	Adaptive Reuse
	Rail Tracks and System – Other Areas	Moderate	X	X		X		X	X	X	X	U	C	Y	Y
	Signal Box	High	X	X		X		X	X	X	X	U	C	Y	Y
10. Moveable Heritage Items	Coal Wagon	High	X	X		X	X	X	X		X	U	C	Y	N/A
	Coal Cutter	Moderate	X	X		X	X	X	X		X	U	C	Y	N/A
11. Views and Vistas	Original Haulage Line Vistas	High	X			X		X	X		X	U	C	Y	N/A
	Remnant Incline Haulage Alignments	High	X			X		X	X		X	U	C	Y	N/A
*Conditional consent for the removal of this item has been approved under DA D2004/32.															

1 Introduction

1.1 Project Background

This Conservation Management Plan (CMP) was commissioned by Gujarat NRE Coking Coal Limited (Gujarat NRE) in order to meet the requirements of the statement of commitments in the NRE No. 1 Colliery Preliminary Works conditional Project Approval granted in October 2011. The Project Approval was granted under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act 1974). The CMP has been developed in line with the requirements of the NSW *Heritage Act 1977* (NH Act 1997), *National Parks & Wildlife Act 1974* (NP&W Act 1974) and EP&A Act 1974 and is based on a review and update of the previous heritage studies undertaken for the site.

The NRE No. 1 Colliery (the study site) is a working coal mine located in Russell Vale NSW and was previously known as the South Bulli Colliery. The study site is generally located on private land adjacent to the Illawarra Escarpment State Conservation Area, which is administered by the National Parks and Wildlife Service (see Figure 1). Previous heritage studies undertaken for the study site include a CMP undertaken by Godden Mackay Logan Heritage Consultants (GML) in 2004, the *Strategic Management Plan for Historic Coal Mining Sites of the Illawarra* (SMP) undertaken by O.H.M. Consultants (OHM) in 2006 and a Historic Heritage Assessment (HHA) undertaken by Environmental Resources Management Australia (ERM) in 2011. As a working colliery for over a century and a half, the study site has a variety of infrastructure that is spread out over a wide area.

The general aim of this report is to update the information gathered in the 2005 CMP, 2006 SMP and 2011 HHA. This information will then be used to develop a conservation policy for the study site in compliance with the Project Approval requirements.

The specific aims are to:

- identify the cultural significance of the place;
- conduct a literature review and database search for the study area;
- undertake field inspection to update and identify recorded and potential cultural heritage places;
- provide a brief assessment of the cultural heritage values of the study area;
- undertake an assessment of significance of Aboriginal and historic sites and features existing or potentially occurring in the study area; and,
- create policies to guide continued operation of the site while recognising its significance.

1.2 Study Area

NRE No. 1 Colliery is located at Russell Vale, within the Wollongong Local Government Area (Figure 1). The site extends from Princess Highway to the east up the base of the Escarpment to the west. As a working colliery for over a century and a half, the study site has infrastructure that is spread out over a wide area. The 2004 GML assessment and 2011 HHA broke up the study site into Precincts and features (ERM 2011a: 25), that have been used in this CMP as shown in Figure 2.

1.3 CMP Methodology

This CMP has been prepared in accordance with the Australia ICOMOS *Burra Charter* 1999, James Semple Kerr's *The Conservation Plan* (2000) and Guidelines provided by the NSW Heritage Office Model Brief (1996) and suggested table of contents for a CMP, and the flow chart have been employed as the basis for the structure of the CMP.

The Australia ICOMOS Charter for the Conservation of Places of Cultural Significance (Burra Charter 1999), provides a framework for which heritage management in Australia is considered. The overarching guidelines are:

- *Places of cultural significance should be conserved;*
- *The aim of conservation is to retain the cultural significance of a place;*
- *Conservation is an integral part of good management of places of cultural significance; and,*
- *Places of cultural significance should be safeguarded and not put at risk or left in a vulnerable state.*

Good management of sites with heritage significance requires an understanding of how to best apply the Burra Charter principles to a site. An operational site with its own set of particular needs can be complex if not managed practically, as is the case with the current site.

1.4 Planning Framework

Gujarat NRE will conduct the Project consistent with the Part 3A Project Approval conditions, granted in October 2011, and any other legislation that is applicable to the approval under the EP&A Act. Condition 2 of the Project Approval specifies that the NRE No. 1 Colliery Preliminary Works Project must be carried out in general accordance with the Environmental Assessment, Statement of Commitments and Conditions of the Project Approval. As part of the Statement of Commitments for non-Aboriginal heritage, Gujarat NRE committed to the preparation of a CMP for the project.

Other relevant legislation, planning instruments and guidelines that will inform the CMP include:

- *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act);*
- *Aboriginal and Torres Strait Islander Heritage Protection Amendment Act 1987;*
- *Heritage Act 1977 (amended 1998);*
- *ICOMOS Australia Burra Charter 1999 (the Burra Charter); and,*
- *National Parks & Wildlife Act 1974 (NPW Act) (as amended 2010).*

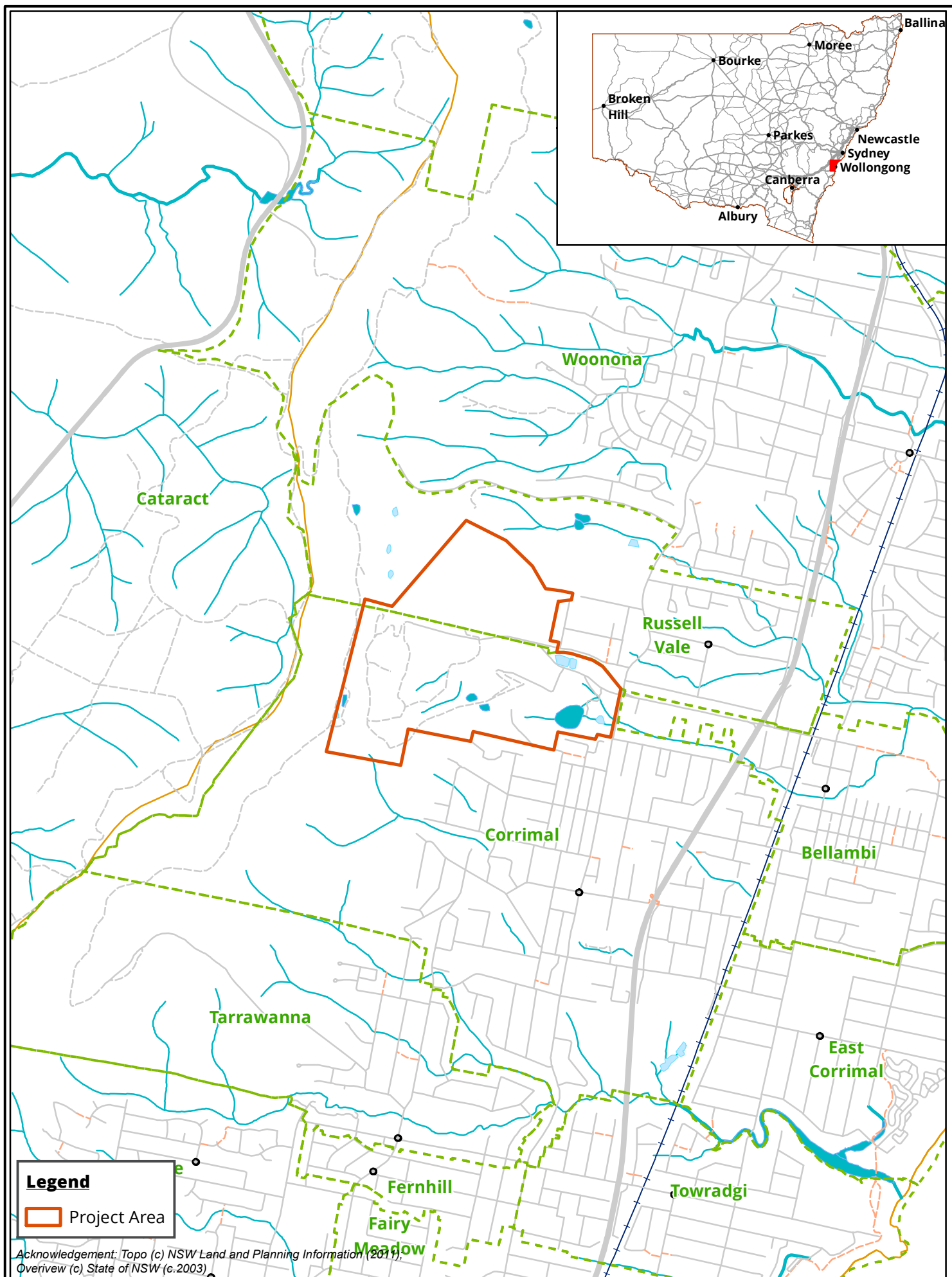
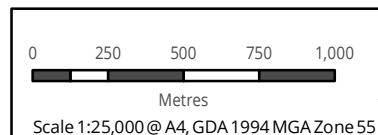


Figure 1: Location of the Project Area



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Legend

- Project Area
- Precincts

Figure 2: Precinct Plan of the Project Area

0 50 100 150 200 250
Metres

Scale: 1:5,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56



Ballarat, Brisbane, Canberra, Melbourne,
Sydney, Wangaratta & Wollongong

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1.5 Definitions

The terms fabric, conservation, maintenance, preservation restoration reconstruction adaptation compatible use and cultural significance used in the CMP are as defined in the Burra Charter.

Place means site, area, land, landscape, building or other work, group of buildings or other works, and may include components, contents, spaces and views.

Cultural significance means **aesthetic, historic, scientific, social** or **spiritual value** for past, present or future generations. Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects.

Fabric means all the physical material of the place including fixtures, contents and objects.

Conservation means all the processes of looking after a place so as to retain its cultural significance (as listed below).

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.

Condition (not a Burra Charter definition) means the state of a place or component of a place —the extent to which it is well maintained and is physical sound.

Integrity (not a Burra Charter definition) means the degree to which a place or component of a place retains the form and completeness of its physical fabric, historical associations, use or social attachments that give the place its cultural significance.

Preservation means maintaining the fabric of a place in its existing state and retarding deterioration.

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.

Reconstruction means returning a place to a known earlier state and is distinguished from restoration by the introduction of new material into the fabric.

Adaptation means modifying a place to suit the existing use or a proposed use. [Article 7.2 states regarding use that: a place will have a compatible use]

Compatible use means a use which respects the cultural significance of a place. Such a use involves no, or minimal, impact on cultural significance.

Interpretation means all the ways of presenting the cultural significance of a place.

1.6 Limitations of the Report

This conservation Management Plan relates specifically to the future development and operation of the NRE No. 1 Colliery. The report focuses, therefore, on the impact of the current and proposed operations on the overall heritage setting and does not relate to detailed management of the remainder of the larger property or other heritage elements at the property except where they relate to the current proposal.

The context for the current study is described in Section 1. This report does not cover an extensive review of environmental and archaeological background for the study area. The assessment is based on previous historical research work on the South Bulli Colliery by GML in 2005 and ERM in 2011, as well as the various heritage surveys undertaken for Wollongong City Council in preparing its schedule of heritage items associated with coal mining in the Illawarra District under the Wollongong Local Environment Plan 1990.

The historical and descriptive sections are based on the best available information accessed during the preparation of this document, but as interpretations change with new information, these may be subject to change.

1.7 Authorship

The CMP has been prepared by Gary Vines, industrial archaeologist and Asher Ford, archaeologist. Review of the policy section of the report was undertaken by Pamela Kottaras, Cultural Heritage Team Leader. Mapping has been prepared by Ashleigh Pritchard and James Shepard, GIS officers.

2 Documentary Evidence

2.1 Environment

The Illawarra escarpment rises steeply from the narrow coastal plain behind Wollongong and the coastal towns to the north where the escarpment progressively comes closer to the coast until it drops straight into the sea at Coalcliff. Beyond the escarpment a plateau dips gradually to the northwest and the escarpment is progressively lower to the north. The study site consists of predominantly steep sandstone slopes and bands of claystone and coal seams. The escarpment foothill slopes are subject to sheet erosion, land slips, rock falls and major land slides. As a consequence it is unlikely that archaeological deposits on escarpment slopes have remained undisturbed.

2.2 Aboriginal History

It is generally accepted that people have inhabited the Australian landmass for at least 40,000 years. Dates of the earliest occupation of the continent by Aboriginal people are subject to continued revision as more research is undertaken. The timing for the human occupation of the Sydney Basin is still uncertain. The earliest undisputed radiocarbon date from the region comes from a rock shelter site on the western side of the Nepean known as Shaws Creek K2 which has been dated to 14,700 years before present (BP) (Attenbrow 2002). This site is over 50 km north from the study area along the Nepean River. To the south, along the coast just north of Shell Harbour, the site of Bass Point has been dated at 17,101 +/- 750 BP (Flood 1999).

Our knowledge of the social organisation of Aboriginal people prior to European contact is, to a large extent, reliant on documents written by European people. Such documents are affected by the inherent bias of these authors. They can, however, be used in conjunction with archaeological information in order to gain a picture of Aboriginal life in the region.

The study area is recognised as being within the traditional lands of the Wodi Wodi tribal group, which extended from around Stanwell Park to the Shoalhaven River, and inland to Picton, Moss Vale and Marulan. The Wodi Wodi spoke the Dharawal language, however Dharawal (Tharwal) was not a word they had heard of or used themselves (Tindale 1974, Navin Officer 2000: 20). Many of the town and place names of the Illawarra are derived from the Dharawal language.

For many years the name "Bulli" was used for all the country from Wollongong north to Coal Cliff. The original Aboriginal name for the area was Bulla or Bulla Bulla, meaning "two mountains" (Mt Kembla & Mt Keira). Other meanings of Bulli have been given as "white grubs" and "place where the Christmas Bush grows". Mt Kembla gets its name from the Aboriginal word for "abundant game" or possibly from "Djembla", meaning wallaby.

Traditional Aboriginal social organisation consisted of clans and bands. It was through clans that associations with lands and sites were dictated. Marriage was between clans, and groups that included individuals who had married into the group are referred to as bands. In day to day life bands ranged over economic areas that included lands of more than a single clan. Attenbrow (2002) sums up the situation succinctly by saying 'whilst the relationship of clan to country was principally religious in character, that of band to range was economic.'

The Illawarra escarpment has significance to local Aboriginal people as it was used for ceremonial practices and gathering food and medicine. For example, the Dharawal knew Mt Keira as a gateway to the hereafter (Hagan & Wells 1997: 9.11). Aborigines travelled between areas on the coast and the escarpment and plateau

and there are a number of places in the Illawarra Escarpment State Conservation Area where rock engravings, cave art and other archaeological evidence has been found. However, very few sites are found on the steep cliffs and slopes of the escarpment.

The arrival of European colonists in early 1788 wrought swift and catastrophic change to the Aboriginal people of the Illawarra region. Europeans began appearing in the area before the end of the eighteenth century, and by the first couple of decades of the nineteenth century forestry had begun in the region. The land was broken up for pastoral and dairy enterprises throughout that century. Conflict, disease and dispossession took a terrible toll on the Wodi Wodi and Tharwal peoples.

In 1820 approximately 3000 Aboriginal people were living in the Illawarra, but by 1899 their numbers had declined to only 33 people of non-mixed descent. Today many Wodi Wodi and Tharwal people continue to live in the Illawarra.

2.2.1 Regional Context and Predictive Models

The Illawarra region has been subject to a number of archaeological studies. Although numerous individual sites have been recorded this has not always translated into information on past behaviour patterns (Navin Officer 2000). Some information has been compiled relating to changes in artefact types and distribution patterns of sites within the landscape. The oldest recorded date in the immediate area was recorded at Mill Creek 11 at approximately 1520±70 BP (Before Present) (Navin Officer 2000).

From analysis of previous studies certain generalisations about site distribution can be proposed. The sandstone landforms of the Woronora Plateau and parts of the Illawarra Escarpment contain rock shelter sites, where suitable shelter formations exist. Such shelters may include deposits or areas of potential deposit and/or art on the shelter walls. Flat areas of fine-grained sandstone adjacent to reliable water sources have potential for axe grinding grooves to occur. Flat areas of smooth sandstone rock platforms have the potential for rock engravings, although these may only be located where erosion processes have not removed traces of modification.

On the Illawarra Escarpment foothill ridges and streams, Aboriginal sites are most commonly located on major ridgelines where access routes were located. Waterway corridors such as rivers and creek lines are also likely to contain sites. The proximity of the site to the pass at the head of Gallahers Creek "Summit Tank Pass", and the local character of the topography with a series of relatively gently rising ridges, suggest this is a potential route for prehistoric access between the plateau and coast (Navin Officer 2000).

Recent submissions to the Commonwealth Department of Environment and Heritage by the Northern Illawarra Aboriginal Corporation (NIAC) raised several issues regarding Aboriginal cultural heritage associations in the Illawarra Escarpment area. These included the presence of rock art sites and shelters along the escarpment as well as indigenous traditions associated specifically with the Illawarra Escarpment (Campbell 2005).

Also noted, were places identified as being of particular importance to the Aboriginal Community such as Mt Keira, described as 'women's business' and that Mount Kembla has been similarly described and denotes 'men's business' (draft Illawarra Escarpment Strategic Management Plan). In other submissions NIAC claimed that corroborees were held near the Excelsior Coal Mine at Thirroul, and the traditional Aboriginal track went through the Bulli Pass. NIAC also claimed that a traditional Fire Man extracted coal from the Bulli coal seam for night fishing (Campbell 2005).

2.2.2 Previous Aboriginal Archaeological Work

ERM undertook an archaeological survey for Aboriginal heritage at the study site in 2010. No Aboriginal sites or areas of potential archaeological deposit were identified and the report concluded that the study site had

been extensively modified and that there was a low likelihood that Aboriginal cultural material was present (ERM 2011b: A11).

2.2.3 Previously Recorded Aboriginal Sites

A search was conducted of the Office of Environment and Heritage's (OEH) Aboriginal Heritage Information Management System (AHIMS) with a 2.5km search radius of the study site on the 5th January 2011 (Figure 3). Two sites are located west of the study site, 52-3-024 and 52-2-1147, both artefact scatters classified as open camp sites.

2.2.4 Predictive framework for Aboriginal Cultural Heritage

A model has been developed to broadly predict the type and character of Aboriginal cultural heritage sites likely to exist or have existed throughout the study site and where they are likely to be located.

This model is based on:

- Site distribution in relation to landscape descriptions within the study site;
- Consideration of site type, raw material types and site densities likely to be present within the study site;
- Findings of the ethnohistorical research on the potential for material traces to be present within the study site;
- Potential Aboriginal use of natural resources present or once present within the study site; and,
- Consideration of the temporal and spatial relationships of sites within the study site and surrounding region.

The predictive model indicates the site types most likely to be encountered during the investigations across the study site (see Table 2). The definition of each site type is described firstly, followed by the predicted likelihood of this site type occurring within the Study Area.

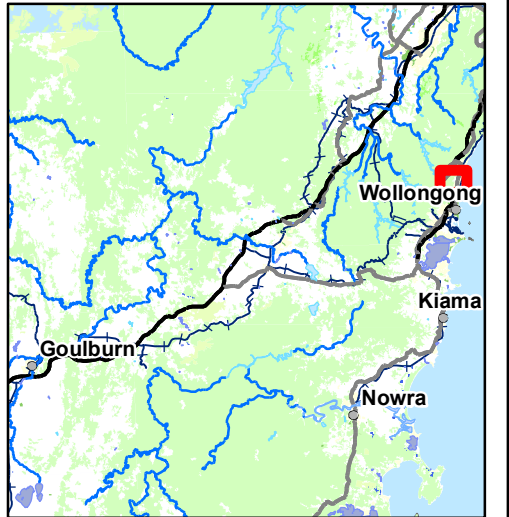
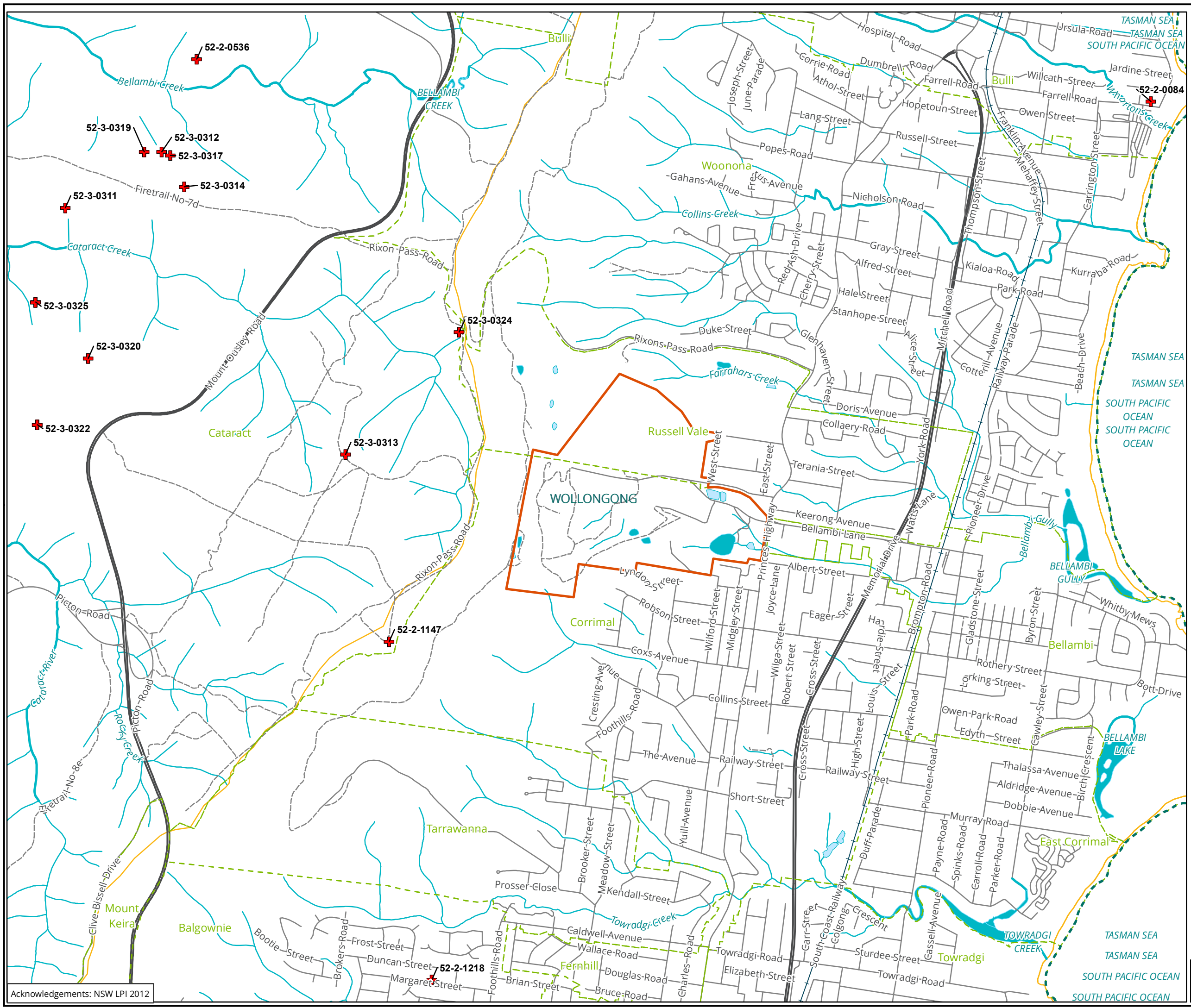
Table 2: Aboriginal Site Prediction Model

Site Type	Site Description	Potential
Flaked Stone Artefact Scatters and Isolated Artefacts	Artefact scatter sites can range from high-density concentrations of flaked stone and ground stone artefacts to sparse, low-density 'background' scatters and isolated finds.	Low: Stone artefact sites have been previously recorded in the region across a wide range of landforms including slopes, ridgelines and crests. However they are unlikely to be identified due to extensive landscape modification associated with past mining practices..
Potential Archaeological Deposits (PADs)	Sub-surface deposits of cultural material.	Low: PADs have been previously recorded in the region across a wide range of landforms including alluvial flats, slopes, ridgelines and crests and they have the potential to be present in undisturbed landforms. However they are unlikely to be identified due to extensive landscape modification associated with past mining practices..

Site Type	Site Description	Potential
Scarred Trees	Trees with cultural modifications	Low: Appropriate tree species are known to occur within the study site. However, the study site has been extensively clear and as such, there is low potential for identifying scarred trees where these remnant tree species have survived.

2.2.5 Results


Few Aboriginal sites have been found on the steep cliffs and talus slopes of Illawarra escarpment. While this area may have been traversed, the steep and unstable slopes would not have been conducive to establishing campsites. The mine site has been benched into the middle and lower slopes of the escarpment, so that all of the occupied area is either cut or fill. In addition, the disturbance has caused landslips up and down the slope, which would have removed any archaeological remains, as well as the naturally unstable soils of the area.



- Legend**
- ✚ AHIMS
 - Study Area

Figure 3: AHIMS Search Results

0 200 400 600 800 1,000
Metres
Scale: 1:20,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56


Biosis Pty Ltd
Ballarat, Brisbane, Canberra, Melbourne,
Sydney, Wangaratta & Wollongong

Matter: 15606
Date: 01 February 2013,
Checked by: ASF, Drawn by: jshepherd
Location: P:\15600s\15606\Mapping\15606_F3_AHIMS

2.3 European History

The Illawarra region was explored by Europeans from the 1770s onwards and first attracted settlers in the early 1800s. Cedar getters were the first to open up the district as early as 1805. When the easily accessible timber had been exhausted by 1820, cattle grazing took over and the coastal plain was extensively settled and cleared for pastoral estates and farms. Agricultural activities in turn gave way to coalmining, which is still the dominant industry in Russell Vale. A summary of the European history at the study site is provided in Table 3.

2.3.1 Exploration & Settlement

One of the first pioneers to cut a track down the mountain slope to the Illawarra Plain vicinity was Dr Charles Throsby in 1815. He was travelling with a party of two European and two Aboriginal people, and was investigating whether the land at the foot of the escarpment was rich in grass and water as he had been told by the Aborigines. Throsby subsequently drove cattle into the Illawarra near Wollongong harbour and favourable pasture conditions were reported in the Sydney Gazette in 1815 and 1816 (Bayley 2002: 2).

Determined efforts led to gradual improvements in negotiating the steep descent. The original Throsby track was used from 1815-1844. Eventually, in 1867, the Bulli Pass road was constructed as a formed and graded road. Wheeled vehicles began using the road in 1863. Prior to that date, carriages had to take the road built by Deputy Surveyor General Perry in 1852, which led from Mt Keira through Broughton's Pass to Appin. Perry reported at the time that the road down the mountain at Bulli was both difficult and dangerous. The new road down Bulli Pass was shorter and safer than Rixon's Pass (located a few kilometres to the south near the study site), and provided Illawarra residents with a greatly improved method of travelling by horse-drawn coach via Appin to Campbelltown to meet the Sydney train. The Pass was not bitumen surfaced until 1926 (Bayley 2002).

The Russell Vale area was initially part of a large land grant promised to Miss Harriett Overington in 1827, the grant being 1920 acres in size. This grant passed to James Spearing on his marriage to Miss Overington to become part of the larger Spearing estate. The Spearings left the Illawarra sometime in the 1830s and the deeds were issued to Robert and Charles Campbell in 1841 (Wollongong City Council 2012). Pastoral holdings were largely cleared in the 1830s and trend of selling larger estates into smaller farm lots started in the 1840s (Bayley 2002: 6). The study site however remained intact as a larger estate rather than being broken into smaller farm lots and was occupied in 1856 by the MacCabe family.

Francis Peter MacCabe had arrived in NSW in 1841 to take up a post as a surveyor, a position which he held until 1856 (MacCabe 1992: 78). Francis undertook extensive surveys of the Murrumbidgee, Murray and Darling Rivers between 1848 and 1852 and was later involved in surveying Gladstone and other parts of Queensland. Due to a labour shortage during the gold rush, survey expeditions were temporarily put on hold and Francis was posted to Wollongong in January 1853. Francis met Jane Osborne, daughter of Henry Osborne, relatively quickly and in March 1853 formally asked Henry's permission to court his daughter which was granted after some discussion about their different religions (MacCabe Family Papers).

Francis undertook a survey expedition to Queensland but took leave to marry Jane on 28 November 1855 and then left the survey office in 1856 to move to Russell Vale. The estate house and collection of outbuildings was known locally as "Russell Vale House", although there is some uncertainty whether the house was built by Francis or was already on the property. Aileen MacCabe, granddaughter of Francis, states that the Russell Vale House was possibly built before it was occupied by the MacCables (MacCabe 1966). Photos held by the Illawarra Historical Society indicate that it was most likely heavily modified by Francis with the main building being constructed of sandstone. Francis was known to have installed a stained glass window portraying the MacCabe Coat of Arms, which is now on display in the Illawarra Museum.

Francis and Jane (Plate 1) would raise a family of 14 children on the property and be directly involved in the early coal industry at Russell Vale. Francis took up a position as Manager of the Osborne-Wallsend Colliery, controlled by Henry Osborne, and it is likely that the Russell Vale Estate was bought by the MacCables on the basis of its future potential for coal mining. Despite his activities in coalmining, Francis did make extensive improvements to the estate in order to operate it as a dairy with an onsite creamery (Illawarra Mercury 1895).



Plate 1: Francis Peter MacCabe and Jane MacCabe (ca 1860-1870) Wollongong City Library P07/P07752 and P07/P07753

Henry Grant Lloyd painted the Russell Vale Estate in 1897, looking at the property from the north with Princes Highway and the Russell Vale house clearly visible (Plate 2). The Russell Vale House is visible in a 1955 aerial (Plate 3) and earlier photograph taken from one of the upper benches (Plate 4) and located directly east of the future Washery area.



Plate 2: H.G. Lloyd *Russell Vale near Bellambi* 1879 Allport Library and Museum of Fine Arts AUTAS001124062654.

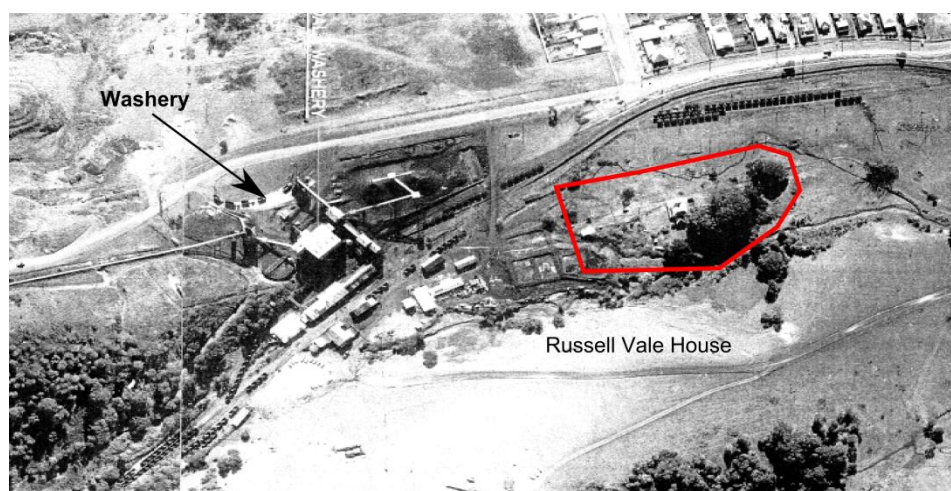


Plate 3: 1955 Aerial of Project Area showing Russell Vale House (Aerial courtesy of Gujarat NRE)

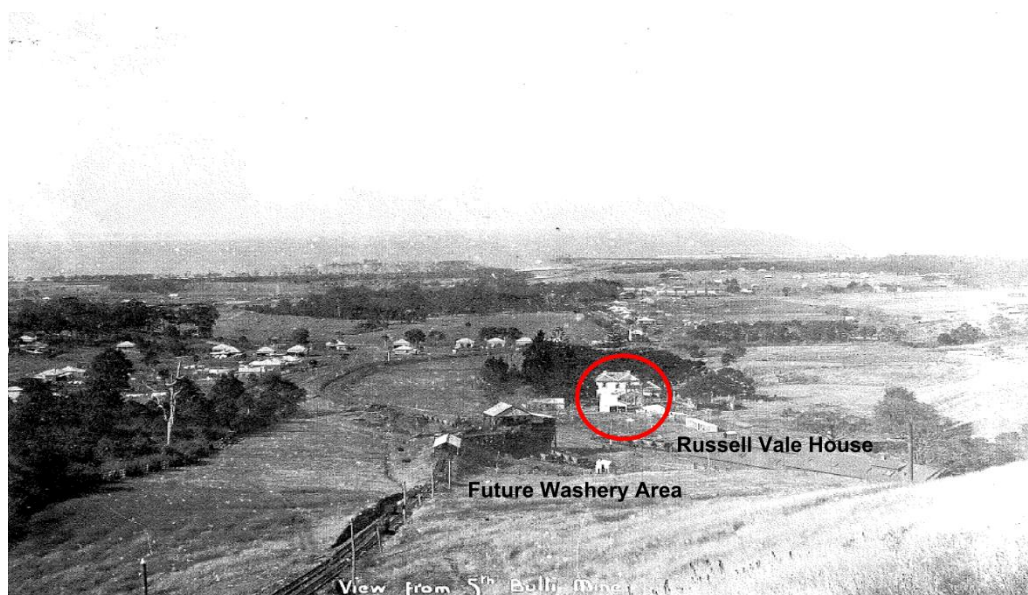


Plate 4: Photograph of Project Area showing Russell Vale House and future Washery area (Photo courtesy of Illawarra Historical Society).

2.3.2 Coal Mining in the Illawarra

Coal was first identified in the area by the shipwrecked crew of the Sydney Cove at Coalcliff in 1797 (Bayley 2002: 1). While an inspection of Illawarra coal measures was undertaken, coal mining in the area was originally passed over for discoveries at Newcastle. The combination of difficulties in access to south coast seams and the early monopoly on coal mining held by the Australian Agricultural Company until 1848, hindered the development of a coal industry in the area. In 1849, oil-bearing shale from the slopes of Mount Kembla was tested by the Reverend W.B. Clarke, who reported the following:

Under the escarpment at the head of the Cordeaux River, and a little to the west of it and below Mount Kembla in the beds intersected by America Creek, a series of shales exist with coal, a portion of which are found to produce oil (Sellers 1976).

Subsequently, the first kerosene shale mine in Australia was sited on a small plateau beside the American Creek. This is the present day site of the Nebo Colliery, but at the time the land was owned by Mr. John Graham. Larger mines began to open in 1857 particularly around the Bulli-Woonona area. The first railway in the district was constructed in 1861 by the Bulli Coal Company as a horse tramway of standard gauge

between the incline of Bulli Colliery and a jetty on Bulli Point. In May 1867 it operated its first steam locomotive, the first in the Illawarra district. By the First World War there were ten or more collieries being worked on the Illawarra escarpment, mostly to supply the Sydney market, although some coal was utilised in the production of coke.

2.3.3 Early Coalmining at South Bulli

Coalmining in the Bellambi area was first initiated by Thomas Hale in the late 1850s on land leased from Henry Osborne south of the study site. A rough bush track was built between the mine and a jetty built at Bellambi Point, with coal being transported by horses. The Taylor and Walker Company opened a mine north of Hales in 1858 but ceased mining after only a year as they hit a fault at 300 feet (Bayley 2002: 7-9). Hales mine closed in 1963 at a loss due to the drops in the price of coal and ongoing difficulties with loading coal at the Bellambi Jetty in open water.

The Taylor and Walker Company opened the Russel Vale Colliery in 1862, which was located above the Russell Vale Estate (Baley 2002: 9) but is not visible in Lloyds 1879 painting. Taylor and Walker were forced to close in 1864 after difficulties were encountered with extraction and a depression in coal prices (GML 2004: 11-12). Francis MacCabe retired as manager of the Osborne-Wallsend Colliery in 1883, with his eldest son Henry Osborne MacCabe taking up this position (MacCade 1992: 78).

Attempts were made by the MacCables to open a Russell Vale mine in 1884 but ultimately floundered. In 1887 the mine was bought by a syndicate associated with Thomas Saywell forming the South Bulli Mining Company. A series of surface works were undertaken which included the construction of the 1887 portal entrance, the erection of a large boiler house and steam engine, sawmill and a new jetty at Bellambi Point. The South Bulli Mining Company was sold to Ebeneza Vickery in 1890 who continued to expand operations. This included the introduction of endless rope haulage in the mine and possibly the introduction of locomotives to haul coal from the pit top to the jetty (Bayley 2002: 10). A small gas explosion occurred in 1891, but no other major incidents occurred (ibid: 18). While transport continued to be improved between the pit top and jetties, horse transport within the mine would continue well into the 20th Century.

Francis MacCabe died in 1897 and the Russell Vale estate was purchased by the mine after his death. Jane MacCabe and the majority of the family then moved to Sydney. Henry MacCabe remained in the Illawarra and was a major figure in local politics and mining until his death in 1902 leading a rescue party during the Bulli Mine Disaster (MacCabe 1992: 78). After the MacCabe's left the Russell Vale house, Fred Hart, remained as an ostler and the house and outbuildings served as a convalescence area for pit ponies (Osborne 1992).

2.3.4 Bellambi Coal Company

The Bellambi Coal Company purchased the South Bulli Colliery in 1901, combining the South Bulli and Bellambi mining operations (Bayley 2002: 10). Operations continued to expand with the introduction of the companies own shipping line which was operating four coastal colliers by 1908, including the custom built S.S. Bellambi (Plate 5 and Plate 6). The jetty was again expanded, new workshops and screens were added and a standard-gauge skip haulage-incline was constructed up to Gibson's Portal which had its own endless rope system (GML 2004: 12, see Plate 7 and Plate 8). Over 1000 men were employed on the mine and transport system and the mine had reached an output of 2,200 tonnes per day in 1909 (Bayley 2002: 10, GML 2004: 12, Plate 9).

The Russel Vale estate was also broken up in two large land sales in 1904, many of which were bought by miners and their families (Russell Vale Local History Group 1994). A power station for the mine was built in 1913 above Gibson's Portal which also supplied the Bulli Township until 1957 (GML 2004: 12). Electrical lighting was installed underground and the mine was operating both day and night (Bayley 2002: 10). The demand for coke increased at the beginning of the 20th Century, and coking ovens were installed along the

coastal mines to meet this demand. One oven was located on the South Bulli tramline below the study site (Bayley 2002: 19). Coastal coke ovens would produce the majority of coke in the region until 1927 when production was directed to the newly built Port Kembla steelworks which had superior coking facilities. The Coal Miners Federation was established in 1908 and began to organise a series of strikes in mines along the coast as part of efforts to improve miners pay and work conditions (Bayley 2002: 20).

German shipping lines were major buyers of the South Bulli Mine coal and business depressed during World War One with the mine briefly closing between 1916 and 1917 (GML 2004: 13). The mine reopened in 1917 and the first underground transport system for miners in New South Wales was installed (Austen and Bulta 1991: 2). Increased public and political awareness of coal mining conditions saw a number of reform movements emerge during the 1920s to increase mine safety and improved working conditions of miners. A rescue station was established in 1927 beside the Princes Highway near its crossing of the South Bulli coal tramline. The rescue station included equipment for the recovery of miners trapped underground and specialised resuscitation equipment (Bayley 2002: 20).

NSW Member for Parliament W. Davies pushed for the installation of improved washing facilities in the coastal collieries in the early 1920s after being impressed with hot and cold shower facilities he viewed at coal mines in Broken Hill (Bayley 2002: 20). Bathhouses were subsequently installed to much satisfaction of the coal mining workforce, the bathhouse at the South Bulli Colliery being constructed in 1928 next to the upper workshops and 1887 portal. As the coalmine continued to expand considerations were made for adequate ventilation and an application was submitted in 1923 to construct a ventilation shaft in the catchment. Approval was received and the shaft was constructed in 1929 meeting the underground workings at a depth of 323m (GML 2004: 13).

Fred Hart retired in 1924 and from 1924 till 1962 the Russell Vale house was occupied by the Pears family with William Pears taking over as ostler. On Williams death in 1962, the Pears family moved out from the house which was then briefly occupied by another mines employee until the demolition of the house in 1966 (Osborne 1992).



Plate 5: S.S. Bellambi loading coal at Bellambi Point ca. 1906. National Library nla.pic-an13595532-20 PIC P694/1-47 LOC Album 918

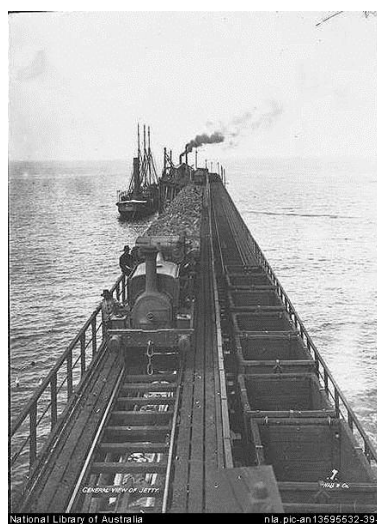


Plate 6: General view of Bellambi Point Jetty ca. 1906. National Library nla.pic-an13595532-39 PIC P694/1-47 LOC Album 918



Plate 7: New screens, workshops, etc., South Bulli ca. 1906. National Library nla.pic-an13595532-17 PIC P694/1-47 LOC Album 918



Plate 8: Gibson's Portal 1915. Wollongong City Library P02/P02407 Broadhurst Photos



Plate 9: South Bulli Colliery pit ponies and miners ca. 1906. National Library nla.pic-an13595532-1 PIC P694/1-47 LOC Album 918

2.3.5 Mechanisation

Mechanisation of the South Bulli Colliery began in 1935 with the introduction of an arcwall cutter, with a second cutter being introduced a year later (Austen and Butta 1991: 3, Plate 10). The arcwall cutters were CA12 type cutters mounted on tracks and replaced hand mining on the face (GML 2004: 13). Improvements to the ventilation and underground transport system continued in the early 1940s Two D type scrapper loaders were introduced in 1947 and four Maver and Coulson loading Machines were installed in 1949, greatly increasing productivity (Austen and Butta 1991: 3). The scrapper loaders were replaced in 1954 by a track mounted L600 loading machine, 20U mechanised cutter and two electric battery locomotives of Jeffery manufacture (Austen and Butta 1991: 3).

During the early 1950s Port Kembla Declining increasingly became the port of choice for moving coal and Bellambi Point Jetty and its associated crushing plant was closed between 1952 and 1953 (GML 2004: 14). The skip incline system from the pit top to coast was replaced with a conveyor belt system. A second L600 loading machine was added in 1956 and a Lee-Norse Continuous miner, the first in Australia, in 1959 (GML 2004 14, Plate 11). As the demand for coking coal increased, particularly from Japan, the operations and layout of the colliery were reassessed and a large scale rebuilding program pursued in the early 1960s.

In late 1960 a Joy continuous miner and roof bolting machine with four Jeffery shuttle cars were introduced and followed by an additional continuous miner, roof bolting machine and two shuttle cars in 1962 (Austen and Butta 1991: 3). Surface works were undertaken between late 1960 and 1962 and included the addition of a new coal preparation plant (washery), coal handling facilities, stockpile and recovery facilities below the escarpment. Underground, new storage, transportation and ventilation facilities and systems were put in place. Coal was transported from underground storage bins via a conveyer belt to the surface storage and

handling facilities (GML 2004: 14). In 1962 the first shipment of coking coal was made to Japan under contract.

New office building and lower work sheds were officially opened in 1965 by Sir George Harvie-Watt in 1965 (Australian Coal Association 1965: 22). During the mid to late 1960s longwall mining in Australia was pioneered at the South Bulli Colliery. Specialist equipment was commissioned in 1965 consisting of Gillick chocks, Mecro face conveyor and Anderson Berghs coal shearer (Austen and Butta 1991: 4). A second longwall unit was installed in 1970, but it was not until a new Japanese system from Taiheyo Engineering Incorporated was introduced in 1975 that the process had significant outcomes (Austen and Butta 1991, Plate 12).

As operations continued to expand in the early 1960s, the mine expanded the coal stockpiling areas south of the Washery. The Russell Vale house and its associated buildings were demolished in 1966 (Illawarra Mercury 1966). The Russell Vale house had gained a reputation as being haunted, with oral tradition suggesting that the ghost was Russell MacCabe, a son of Francis MacCabe who died on the property (Illawarra Historical Society). Relics from the house, including the stained glass window showing the MacCabe Coat of Arms were given to the Illawarra Historical Society and are now held in the Illawarra Museum.



Plate 10: Short-wall Coal Cutter 2011. Biosis.

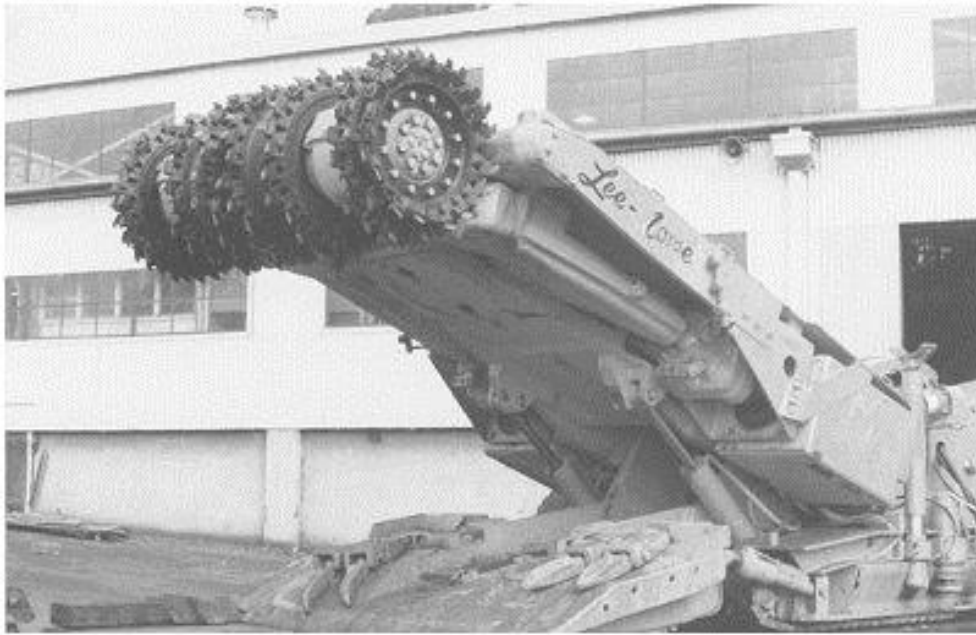


Plate 11: Lee Norse Continuous Miner in the Illawarra ca. Unknown. Illawarra Coal.



Plate 12: Japanese Taiheyo Engineering Incorporated Super Dynamic SD System 1975. Wollongong City Library P19/P19253.

2.3.6 Austen and Butta Limited

Austen and Butta Ltd purchased the Bellambi Coal Company Pty Ltd in 1985 and took over operations at the South Bulli Colliery (Austen and Butta 1991: 5). On the 24th July 1991 a gas explosion occurred at the W12 panel, killing three miners (Harvey and Singh 1998: 653-654). Austen and Butta Ltd were purchased by the Shell Company, who took over operations at the South Bulli Colliery (GML 2004: 15).

2.3.7 Shell

Shell operated the South Bulli Colliery from 1992 to 2004 although the workforce was reduced dramatically and production was limited (GML 2004: 15).

2.3.8 Gujarat NRE

Gujarat NRE purchased the South Bulli Colliery from Shell in 2004. In 2008 Gujarat NRE announced a series of proposals to upgrade the existing facilities and approvals for the NRE No. 1 Colliery Preliminary Works were granted in October 2011.

2.4 Summary of Documentary Evidence

The surviving components of the South Bulli Colliery reflect the changes in coal mining and social conditions for workers over nearly a hundred years. As such not all functions, historic themes or activities are represented from all periods. The site reflects the combination of some surviving features from earlier activities, either modified and adapted or obsolete and abandoned, as well as items from later periods which have replaced evidence of earlier forms. There are also items which were new to the site, not being represented in earlier forms. Therefore the following table has been prepared to understand the layering of history in relation to the surviving fabric, and to summarise the relevance of each component in demonstrating one or more aspect of the site's history.

Table 3: Timeline of European Activities at the Study Site.

Owners	Period	Development
Harriett (nee Overington) and James Spearing	1827 to 1830s	First land grant and agricultural land use.
Robert and Charles Campbell	1841 to ?	Agricultural land use.
Francis Peter MacCabe	1856 to 1897	Agricultural land use in combination with mining during his period of ownership.
Taylor and Walker Company	1858-1859	First attempt at mining near study site.
	1862-1864	Second mining attempt by Taylor and Walker.
MacCabe	1884-1887	L MacCabe buys mine but proposal to reopen the mine fails.
South Bulli Mining Company	1887	Mine is bought by syndicate associated with Thomas Saywell. New Works include surface works include the construction of the 1887 portal entrance, the erection of a large boiler house and steam engine, sawmill and a new jetty at Bellambi Point
	1890	Ebeneza Vickery buys mine
	1891	Small gas explosion occurs and one miner dies as a result.
	1897	Francis Peter MacCabe dies and the Russell Vale Estate is purchased by the company.

Owners	Period	Development
Bellambi Coal Company	1901	The Bellambi Coal Company purchases the South Bulli Colliery in 1901, combining operations with the Bellambi Colliery. The Bellambi Point jetty is expanded and a standard-gauge skip haulage-incline is constructed up to Gibson's Portal which has a endless rope haulage system installed.
	1904	Russell Vale Estate is broken up in two large land sales.
	1908	The Bellambi Coal Company shipping line is operating 4 coastal colliers. Coal Miners Federation is formed.
	1909	Mine output reaches 2,200 tonnes a day. First major coal miners strike in the Illawarra.
	1913	Power station built above Gibson's Portal. Lighting underground is electric and the mine is operating day and night.
	1916-1917	Mine closure as German business is lost during World War One.
	1917	Mine is reopened and first underground miner transport system in NSW is installed.
	1923	First application for catchment ventilation shaft.
	1927	Rescue station installed on the junction of Princes Highway and the South Bulli Coal Tramline
	1928	Bathhouse installed.
	1929	First catchment ventilation shaft installed.
	1935	Introduction of arcwall cutter.
	1936	Introduction of second arc-wall cutter.
	1940	Aeroto Fan installed at No. 1 Shaft.
	1943	Underground Transport System extended
	1947	Installation of two scraper loaders
	1949	Installation of four Maver and Coulson loading machines
	1952-1953	Bellambi Point Jetty gradually shut down, including crushing plant.
	1954	Scraper loaders replaced with a track mounted L600 loading machine.
	1955	Skip incline system replaced with conveyer belt system.
	1956	Introduction of second L600 loading machine.
	1959	Introduction of Lee-Norse continuous miner.

Owners	Period	Development
Bellambi Coal Company	1960-1962	Major upgrades including installation of the Main Haulage System, introduction of another Lee-Norse continuous miner, Joy roof bolting machine and two Jeffrey shuttle-cars. Other underground upgrades included the installation of storage bins new transport systems and a conveyer system linking the storage pins to the surface coal handling facilities. Surface upgrades included a new coal preparation plant (washery), new coal handling and stockpile areas and, upgrades to the ventilation systems.
	1962	Export contract signed with Japan to supply 410,000 tonnes of coking coal over two years.
	1965	Installation of longwall mining equipment, pioneering longwall mining in Australia. New surface workshop and office building officially opened.
	1966	Russell Vale House demolished.
	1970	Second longwall mining unit installed.
	1975	Japanese Taiheyo Engineering Incorporated Super Dynamic SD System longwall mining unit installed.
	1976	Additional ventilation shaft sunk outside of the study site.
Austen and Butta Ltd	1985	Austen and Butta Ltd purchase the Bellambi Coal Company.
	1991	Gas explosion kills three workers.
Shell	1992	Shell purchases Austen and Butta Ltd.
Gujarat NRE	2004	Gujarat NRE purchases the South Bulli Colliery and renames it NRE No. 1
	2008	Gujarat NRE announces a series of upgrades to NRE No. 1.
	2011	NRE No. 1 Colliery Preliminary Works conditional Project Approval granted in October 2011

3 Physical Evidence

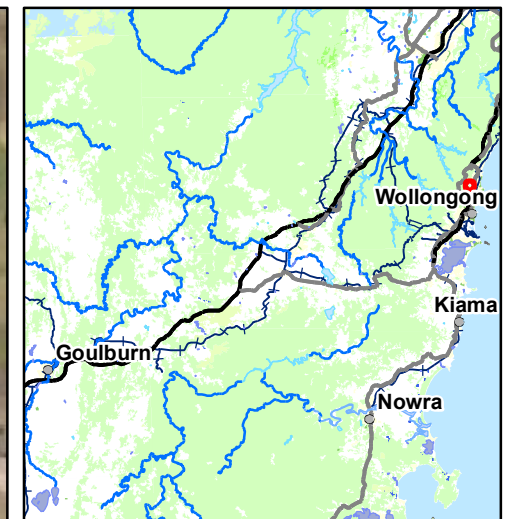
3.1 Description of the Colliery

The site of the South Bulli Colliery comprises buildings, structures and landscape features relating to mining operations from the mid nineteenth to late twentieth centuries. These can be said to be comprised of a series of historical 'layers' representing the cumulative changes of many stages of construction, demolition and reconstruction.

The physical elements of the site are described in the GML 2004 CMP and briefly reviewed in the ERM 2011 HHA. GML grouped the elements into seven Precincts and three features or aspects of the site as follows:

- The Power House Precinct;
- The Administration Precinct;
- The Old Portal Precinct;
- The Main Portal Precinct;
- The Extraction Portal Precinct;
- Gibson's Portal Precinct;
- The Washery Precinct;
- Rail Tracks, Signal Box and Associated Elements;
- Moveable Heritage; and,
- Landscapes and Vistas.

The locations of the mine areas are shown in Figure 2 and the detailed layout of the features is shown in Figure 4. A description of the precincts and their associated site elements is provided following. These descriptions have been updated based on the results of the 2011 site visits by Biosis particularly in regards to changes in condition or removal of specific elements.



Legend

Study Area

Figure 4: Site Elements Detail

0 25 50 75 100 125

Metres

Scale: 1:2,500 @ A3

Coordinate System: GDA 1994 MGA Zone 56



Ballarat, Brisbane, Canberra, Melbourne,
Sydney, Wangaratta & Wollongong

Matter: 15606
Date: 01 February 2013,
Checked by: ASF, Drawn by: jshepherd
Location: P:\15600s\15606\Mapping\15606_F4_Detail

3.1.1 Power House Precinct

Elements

The following elements in the Power House Precinct were identified in the GML 2004 report:

- Ventilation fan unit and flue;
- Square concrete vents;
- Small and large iron pipes;
- Terraced landform;
- Brick structure to the northeast of the fan unit with associated pipes; and,
- Two water tanks.

Description

The Power House Precinct is located on a terrace situated above the Administration Precinct (**Error! Reference source not found.**). While the power house has been removed, GML identified a former ventilation fan and associated housing connecting to a brick flue covering the shaft to the underground workings (GML 2004: 32). A 2 m to 3 m high brick retaining wall was noted as running the length of the terrace as well as the remains of various concrete and metal footings, flues and brick building material remains. Two circular brick water reservoirs were noted as south as the access road (GML 2004: 41).

Condition

While GML identified a number of structural and archaeological features (GML 2004: 32-33), ERM noted little change apart from the installation of channels for stormwater management in 2009 (ERM 2011a: 20). Elements were further obscured by vegetation regrowth in the late 2011 inspection. Reference by GML or ERM was not made to the brick-lined tunnel (for water supply) which extends easterly towards mine portals. The power house components of the site appears likely to be related to an upper bench area shown in early photographs (upper sections of **Error! Reference source not found.**).

Plate 13: South Bulli Mine ca. 1900 (photo from NRE No 1)

3.1.2 Administration Precinct

Elements

The following elements in the Administration Precinct were identified by GML:

- Administration building;
- Pathways and landscape elements; and,
- Car parks.

Description

The administration building is a two story brick building providing office space and scientific facilities to the colliery and was officially opened in 1965 (Australian Coal Association 1965: 22). The lower car park has been terraced using coal wash, while the upper car park is part of the administration building bench. Concrete pathways direct foot traffic across the site and some landscaping has been undertaken for the front lawns.

Condition

The administration building was not in use during the GML 2004 assessment but since ownership has changed to Gujarat NRE it has subsequently been reopened. The building is currently used as the administrative centre for the mine and the condition of the precinct remains largely unchanged from the GML 2004 assessment.

3.1.3 Old Portal Precinct

Elements

GML identified the following elements in the Old Portal Precinct:

- Lower Bench Workshops, including:
 - Diesel shelter;
 - Main workshop;
 - Sheltered workshop and hay shed;
 - Storage area and sand bins; and,
 - Belt repairs shed.
- Upper Bench Workshops including:
 - Carpenters and locomotive workshops;
 - Workshop offices;
 - Diesel workshop and diesel fuel tanks; and,
 - Remnants of demolished buildings.
- 1887 Portal including:
 - Pair of brick lined adits; and,
 - Brick retaining wall.

Lower Bench Workshops

Description

The lower bench workshops are located south of the administration building and are generally of 1960s and later construction. The main workshop and diesel shelter run north to south and are large steel framed rectangular sheds with gable roofs (**Error! Reference source not found.**). The sheltered workshop and hay shed are located further southeast of the main workshop and consist of steel framed corrugated iron/ profile steel sheeted sheds (GML 2004: 44). The belt repairs shed, a corrugated tin shed, is located south of the Main Workshop. The lower bench workshops provide the major industrial scale buildings on the site and are of relevance as evidence of on-going mining, and by providing a visual context for the more significant elements in other areas of the study site.



Plate 14: Main Workshop (left) and Diesel Shelter (right) looking south. 2011 Biosis

Condition

The lower bench workshops are actively in use and are in good condition.

Upper Bench Workshops

Description

The upper bench workshops consists of the carpenter and locomotive workshops, with the workshop offices contained to the rear of these workshops on an elevated bench reflecting the joint functions of the building (**Error! Reference source not found.**). The workshops consist of steel-framed corrugated iron clad sheds with three gable roofs. The sheds are all interconnected with no interior partitioning (**Error! Reference source not found.**). The workshops appear to have been adapted to several functions, and retain track work related to both the underground workings, and probably from use of the buildings as rail vehicle maintenance facilities.

The workshop offices are brick and timber structures with sash windows and a veranda/walkway. The workshops also contain the adits associated with the 1887 Portal and brick retaining wall. Directly south of the works are the remnants of demolished buildings and further to the south are located the diesel workshop and diesel fuel tanks (GML 2004: 44). A concrete stairway leads to the remnants of demolished buildings, primarily consisting of footings, however the area is heavily overgrown. The diesel workshop and diesel fuel tanks are corrugated iron sheds located on separate terraces. While GML's assessment is that the workshops 'have no identifiable heritage significance', their structural form, location and evident age strongly suggest a relatively early date. The riveted metal trusses and combination of timber and steel framework would put the building to 1920s to 40s, and therefore probably the oldest major buildings on the site. As such they demonstrate the critical mid 20th century period when the mine was at its peak and having the greatest social and economic impact.



Plate 15: Upper Bench Workshops 2011 Biosis



Plate 16: Upper Bench Workshops interior 2011 Biosis

Condition

The upper bench workshops are no longer operational and the workshops are used primarily for storage. Vegetation has been pruned back since the 2004 GML assessment, however large areas remain overgrown. As recorded by GML the roof of the workshop offices has collapsed and timber structures have degraded. Brick, steel and concrete structures remain in fair condition. The upper bench workshops remain in fair to poor condition as assessed by GML in 2004.

1887 Portal

Description

Now located inside the Carpenters and Locomotive workshops, the 1887 Portal is one of a pair of semi-circular arched brick lined adit entrances (**Error! Reference source not found.**). The second portal to the outh (left) of the 1887 Portal is shown in the earliest photographs (Plate 18), but was much shorter in length than the 1887 Portal. Now bricked over, this portal is referred to as the “Old Man’s Hole” as it was used by older miners to mine coal to sell on the local market. Before pensions were introduced, this allowed older miners to support themselves once they were no longer able to work on the main face (personal communication Don Jeffcott, former Gujarat NRE Employee). A brick retaining wall curves east and then south from the 1887 Portal and “Old Man’s Hole”, which is also visible in early photographs of the 1887 Portal (Plate 18 and Plate 19). There is an additional adit located behind the workshops and north of the office buildings, it has been bricked off with concrete blocks. To control water drainage issues with the 1887 Portal, three concrete block walls and drainage channels have been installed (**Error! Reference source not found.**).



Plate 17: 1887 Portal 2011 Biosis

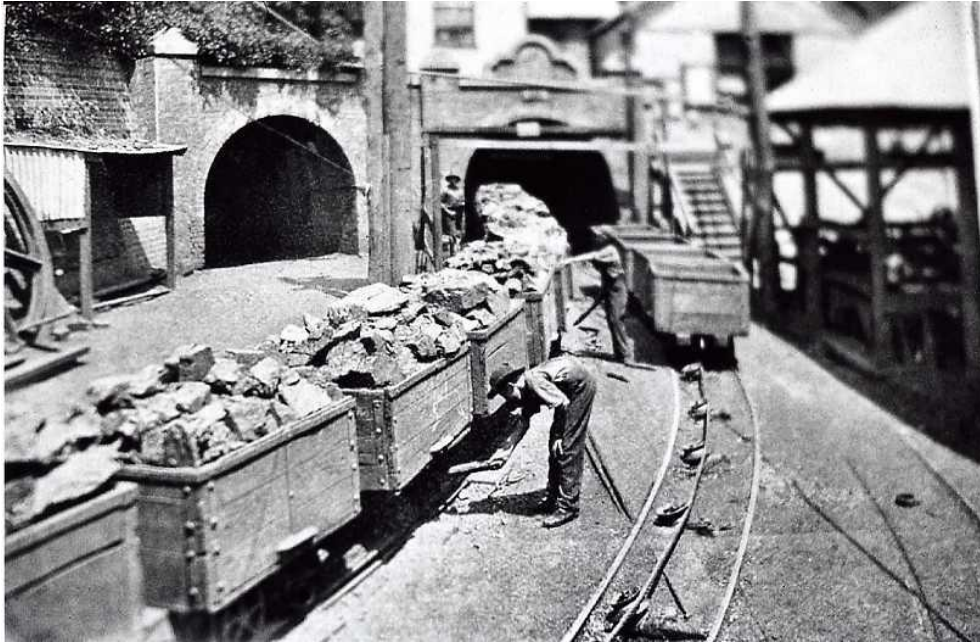


Plate 18: 1887 Portal, with second portal to left and workshops behind.ca. 1904.
Wollongong City Library BRN: 339706



Plate 19: Brick retaining wall, 1887 Portal 2011 Biosis

Condition

The 2004 GML assessment recorded the 1887 Portal and other adits as in intact and fair condition although some dilapidation was noted (GML 2004: 49). The retaining wall was recorded as being in poor condition with cracking and bulging of the brickwork (GML 2004: 50). The current assessment did not observe any further deterioration of the precinct.

3.1.4 The Main Portal Precinct

Elements

GML identified the following elements in the Main Portal Precinct:

- The Main Portal;
- New Bathhouse; and,
- Crib and First Aid Rooms and Storeroom.

Description

The Main Portal Precinct consists of the Main Portal, new bathhouse, crib, first aid rooms and storeroom, which are clustered on the lower bench (Plate 20). The Main Portal appears to date from the mid 20th century and with the adjacent new bathhouse, crib room, etc. helps interpret the dramatic expansion of mining on the site in the second part of the 20th century. The location of the building directly over the portal entrance is highly unusual, and reflects the particular difficulties of utilising all available space for construction on the steep Illawarra escarpment site, which is a special characteristic of the Wollongong region mines. The style of the crib room/lamp room is also indicative of mid 20th century construction, and so like the upper bench workshops, the buildings demonstrate a critical period in the mine's history.



Plate 20: Left to right – main portal, new bathroom above, crib room, first aid station (former Lamp room) store room. 2011 Biosis.

Condition

Some maintenance work has been carried out to buildings within the Main Portal Precinct since the 2004 GML assessment, including repainting, the installation of bollards, new signage and the addition of demountable buildings. The Main Portal Precinct is in active use and is in fair condition.

3.1.5 Extraction Portal Precinct

Elements

GML identified the following elements in the Extraction Portal Precinct:

- The Extraction Portal;
- Main Downhill Conveyor(decline conveyor); and,

- Closed Adits.

Description

The group of structures within the Extraction Portal Precinct relate to the 1960s mechanised mining operations and include the Extraction Portal, decline conveyor and closed adits. The Extraction Portal is a steel and corrugated iron structure located approximately 1 km south of the Main Portal. The decline conveyor runs from the Extraction Portal to the coal storage bins in the Washery Precinct (Plate 21). The 2004 GML assessment identified two closed adits within the Precinct, but an unknown number of “lost” adits are also present.



Plate 21: Looking up along the decline conveyor from Coal Storage Bin 1. 2011 Biosis.

Condition

The Extraction Portal Precinct is currently in use and although some operational maintenance has been undertaken the fabric recorded by GML in 2004 remains largely intact and is in fair condition.

3.1.6 Gibson’s Portal Precinct

Elements

The following elements were located in the Gibson’s Portal Precinct during the 2004 GML assessment:

- Gibson’s Portal(s);
- Sandstone Retaining wall;
- Fan House (now removed);
- Gibson’s Sublease Portal and associated area;
- Electrical substation; and,
- Electrical switchroom.

Description

This group of structures are primarily of value for the remaining twin portals (Gibson's Portal is either one or both portal) which like the 1887 portal has only been identified in previous studies in the singular. Since the 2004 GML assessment the fan house has been demolished and one adit opened with new grating installed over the entrance. Vegetation in the Precinct has also been cleared to allow operations to take place (**Error! eference source not found.**). The portals and sandstone retaining wall remain largely intact to their original condition although their height of the portal entrances have been reduced due to either the build up or placement of fill at their base (compare **Error! Reference source not found.** with **Error! Reference source not found.** from 1915).

The concrete block fan house (now removed) and the substation/switchyard is of minimal significance. A small electrical switchroom probably from mid 20th century contributes to the more consistent built character of the upper bench (Plate 23).

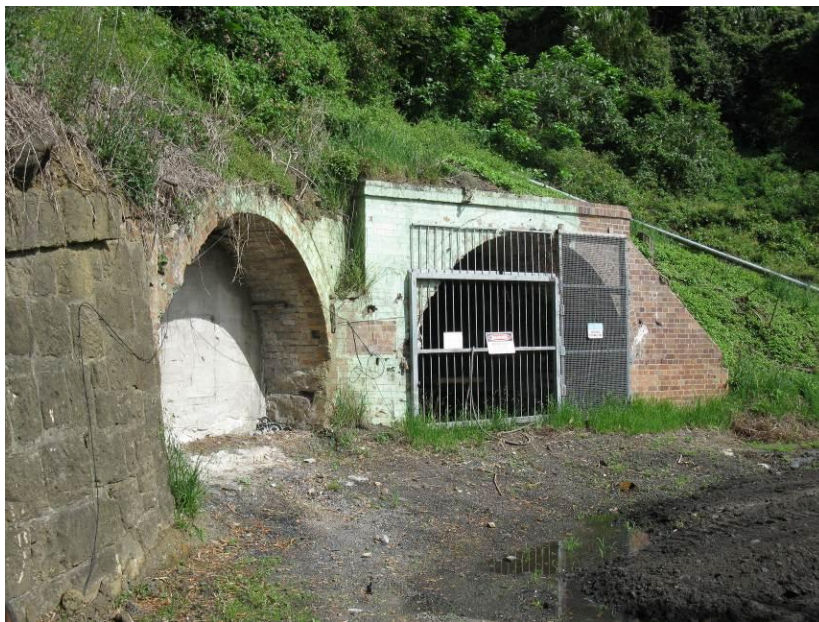


Plate 22: Gibson's Portal 2011 Biosis.



Plate 23: Electric switch room with switchyard to left rear. 2011 Biosis.**Condition**

While some elements from the Gibson's Portal Precinct have been removed, these were intrusive and the significant elements remain in good condition.

3.1.7 Washery Precinct**Elements**

The following elements were located in the Washery Precinct during the 2004 GML assessment:

- The Preparation Plant;
- Conveyor system (now upgraded);
- Storage silos (now replaced);
- Truck loader; and,
- Former mines office (lower area) demolished.

Description

The Old Washery was constructed in the 1960s and included a large steel framed corrugated iron clad Preparation Plant, conveyer system (part of the decline conveyer), concrete coal storage bins and a truck loader. The remnant structures from the 1960s (Plate 24 and Plate 25) are among the only elements which convey the major processing activities on the site during that period. Most of the 1960s have been demolished and the remainder of any standing fabric will be demolished in due course under existing planning approvals and permits as part of upgrades to existing operations. It is understood that archival recording and analysis of these structures have been undertaken by Paul Reinberger as a permit condition.

An inspection of the Washery area was undertaken by Biosis in August 2012 to confirm the presence or absence of any remains of the Russell Vale House. Using 1955 aerials to locate the position of the house site, the area was inspected for the remains of footings, foundations or potential archaeological deposits. However the area in which the Russell Vale House had been located had been stripped back to subsoils. No foundations or footings could be identified and there is a low potential for archaeological to remain.



Plate 24: Remnants of coal gantries, 2011 Biosis.**Plate 25: Remnants of the Washery and coal gantries, 2011 Biosis.**

Condition

While the Washery Precinct elements that remain are in fair condition, they are scheduled to be removed.

3.1.8 Coal Stockpiles and Reject Material

Elements

The following elements form the Coal Stockpiles and Reject Material:

- Coal stockpiles;
- Reject materials emplacement;
- Settling dams; and,
- Other dams.

Description

Landfill areas, comprising of reject material, are located north and east of the Administration Precinct and are in active use. Coal stockpiles are located around the coal storage bins located in the Washery Precinct and to storage areas directly south of this location (Plate 26). Settling and other dams are located across the site.

Condition

Stockpile and landfill areas generally consist of active landscaping works and do not have readily identifiable fabric elements. Dams also consist mainly of landscaping works, although some brick, concrete and metal pipe fabric does exist. Dams within the site are still in use and in fair condition.



Plate 26: Coal stockpile area south of the coal storage bins. 2011 Biosis.

3.1.9 Rail Tracks, Signal Box and associated elements

Elements

The following elements form the site rail system:

- Rail tracks and system; and,
- Signal box.

Description

The signal box has been restored since the 2004 GML assessment, when it would be recorded as being subject to vandalism. The roof and upper parts of the walls and the external stairs have been reconstructed, and some internal fittings also remade (Plate 27). The gate wheel and points levers (and presumably at least some of the linkages) are intact, as is the brick lower storey. While some rail track does remain, the majority has been removed by 2004 (by GML 2004).

Condition

Most rail track has been removed and the visible remains are in poor condition. The signal box remains intact and is in good condition.



Plate 27: Restored signal box, 2011 Biosis.

3.1.10 Moveable Heritage Items

Elements

Two moveable heritage elements are located in a grassed area near the restored signal box and include:

- Coal wagon; and,
- Coal cutter.

Description

GML recorded that historical mining equipment was put in an open air display in conjunction with the restoration of the signal box in 1988. The display included a steel framed timber-sided hopper wagon (a coal wagon type commonly used in the 20th Century) and a short wall coal cutter (**Error! Reference source not found.** and Plate 28).

Condition

These items of portable heritage are placed near the mine entrance for display purposes. While the coal cutter looks reasonably intact it is subject to severe corrosion. The coal wagon has deteriorated substantially since first photographed and is at risk of losing all its timber and is suffering metal corrosion. It would appear that the wagon was originally one of three retained and/or displayed to reflect the evolution of coal wagons at the mine.



Plate 28: Coal wagon. 2011 Biosis.

3.1.11 Landscapes and vistas

The 2004 GML assessment discussed two significant vistas associated with the study site:

- Remnant Incline Haulage Alignments; and,
- Original Haulage Line Vistas.

Description

The original Incline Haulage Alignment ran from Gibson's Portal to the bottom of the escarpment and this route has been incorporated as part of the current main access road. GML assessed this view as being important in the interpretation of rail tracks and coal distribution; however the majority of infrastructure associated with the rail tracks has subsequently been removed. Views east from the Main Portal and Old Portal benches incorporate vistas of the Colliery operations set across artificial terraces as well as the Russell Vale and Bellambi suburbs and coastline.

Condition

While operational upgrades have altered the vistas of the Incline Haulage Alignment and from the benches, these views can still be appreciated and provide important context to understanding the relationship between site elements and past and present transport routes associated with coal movement.

3.2 Related Historical Items

There are two historical items recorded in relation to the South Bulli Colliery phase of the study site, the South Bulli Colliery – Bellambi Creek Dam (Illawarra REP No.1: Database number 19165) and the South Bulli – Concrete Base (Illawarra REP No.1: Database number 19166). The Bellambi Creek Dam was constructed by the mine for a reliable water supply, probably in the early 20th Century, and reconstructed c1930. The Bellambi Creek Dam is located outside of the study site. The South Bulli – Concrete Base cannot be relocated and has probably been removed or buried in the last 10-20 years.

4 Cultural Significance

4.1 Basis of Assessment

An assessment of significance encompasses a range of heritage criteria and values. The heritage values of a site or place are broadly defined in the Burra Charter as the 'aesthetic, historic, scientific or social values for past, present or future generations' (Marquis-Kyle & Walker 1992, Australia ICOMOS 1999). This means a place can have different levels of heritage value and significance to different groups of people.

Cultural heritage is managed as a two-tiered system in NSW: items on the State Heritage Register and relics are managed through the *Heritage Act 1977*. All other items of identified heritage significance are managed through the *Environmental Protection and Assessment Act 1979* (EP&A Act) through local planning instruments. The Heritage Branch (in lieu of the Heritage Council) of the Office of Environment and Heritage administers the *Heritage Act*; local councils approve changes in accordance with their respective planning instruments.

Heritage assessment criteria in NSW are based on the significance values outlined in the Australia ICOMOS (International Council on Monuments and Sites) *Burra Charter*¹ and built upon by the NSW Heritage Council criteria A - E, which add the values of "rare" and "representative" to the discussion as criteria F and G. This approach to heritage has been adopted by cultural heritage managers and government agencies as the set of guidelines for best practice heritage management in Australia. The criteria and guidelines are presented in (Section 4.1.2).

This assessment is intended to enable decisions on the future management of the place to be based on an understanding of its significance. It is important that the future decisions do not jeopardise the cultural significance of the place.

A Statement of Significance has been developed for the site as a whole, and for the individual buildings assessed as being significant, which contribute to the group.

4.1.1 Conservation Principles

The Burra Charter

Article 26.1 of the Burra Charter states that:

"Work on a place should be preceded by studies to understand of the place which should include analysis of physical, documentary and other evidence, drawing on appropriate knowledge, skills and disciplines."

Once the place has been studied, the cultural significance can be assessed.

Article 1.2 of the Burra Charter defines cultural significance as the "aesthetic, historic, scientific social or spiritual value for past, present or future generations."

4.1.2 Methodology for Assessing Significance

The evaluation criteria for the assessment of cultural significance were developed by the NSW Heritage Council in association with amendments to the *Heritage Act 1977*. The State Heritage Register (SHR) criteria

¹ *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (1999)*, Australia ICOMOS Incorporated 2000.

were gazetted following amendments to the Heritage Act and have been in force since April 1999. Assessments in this Conservation Management Plan were made using these criteria.

Criteria are outlined in the publication Assessing Heritage Significance – Heritage Office 2000. Under each criterion a place is assessed to be of STATE or LOCAL or NO heritage significance.

HISTORIC	<p>Criterion (a): An item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area).</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 cultural or natural history of the local area).</p>
AESTHETIC	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).
SOCIAL	Criterion (d): An item has strong or special association with a particular community or cultural group in NSW (or the local area).for social, cultural or spiritual reasons.
SCIENTIFIC	Criterion (e): 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).
RARE	Criterion (f): 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).
REPRESENTATIVE	Criterion (g): An item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places, or cultural or natural environments. (or a class of the local area's cultural or natural places, or cultural or natural environments.)

4.1.3 Grading of Significance

A five-tier system has been adopted to clarify the significance of elements within the site and is based upon the grading listed in "Assessing Heritage Significance" (NSW Heritage Office 2001, Table 4). In this context, an element is a specific heritage item that contributes to the overall heritage significance of the site. The recommended treatment for each level of significance is explained in the General Conservation Policies (**Error! Reference source not found.**). The term interpretation or interpretability is used in the sense of the ability to explain the meaning of the place/item, so as the significance of the place understood.

Table 4: Grading of Significance

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

NSW HO Grading	Justification	Status
INTRUSIVE	Damaging to the item's heritage significance.	Does not fulfil criteria for local or State listing.

Table 5: Implications of Assessment

Grading	Numerical Scale	Implication
EXCEPTIONAL	5	Elements to be conserved in terms of the <i>Burra Charter</i> .
HIGH	4	Elements to be conserved in terms of the <i>Burra Charter</i> , but conservation is to be balanced by an assessment of the practical consequences for the continued conservation and use of the item.
MODERATE	3	Acceptable options include retention, recycling and replacement by new construction in a way that has minimal adverse effect on, and enhances the significance of <i>Exceptional</i> and <i>High</i> elements.
LITTLE	2	Acceptable options include removal, modification replacement by new construction in order that the significance of related <i>Exceptional</i> , <i>High</i> or <i>Moderate</i> elements are enhanced.
INTRUSIVE	1	The preferred option is for the removal of the element or its modification in such a way so that its adverse impact is eliminated

4.2 Significance Assessment

4.2.1 Results of Significance Assessment of Site Elements/Precincts

Significance grading for each element or Precinct is presented in **Error! Reference source not found.** and an overall statement of significance is provided in Section 4.2.4. The significance assessment has used the GML 2004 significance assessment as a baseline with some modifications to represent changes to the study site since 2004.

Table 6: Schedule of Element Significance for the Site

Site Element/Feature	Applicable NSW Heritage Assessment Criteria	Significance Assessment	GML 2004 Significance Grading	Revised Significance Grading
Power House Precinct				
Remnant Power House Features	a) Historic	<i>As the Power House and the elements that made up the Power House Precinct are not intact, however their form and function cannot be demonstrated or interpreted through its existing elements, spatial configuration or material remains. In its current state, the Power House Precinct only makes a minor contribution to the history and significance of the site. (GML 2004: 87).</i>	Moderate	Moderate
Administration Precinct				
Administration Building	None	<i>In the light of its limited function and relatively recent history, the building cannot be considered to be important to the site's history. It has a low heritage value, as it contributes in a minor way to the significance of the site as a whole. (GML 2004: 88).</i>	Little	None
Pathways and Landscape Elements	None	<i>The Pathways and Landscape Elements in the vicinity of the Administration Building represent distinctly non-mining elements that indicate initiatives to lessen the industrial appearance of this particular area of the South Bulli Colliery. The Pathways and Landscape Elements do not possess or embody heritage significance in their own right. (GML 2004: 88).</i>	Little	None
Car park	None	<i>The Car park located to the immediate east of the Administration Building is an open-spaced vehicular parking area that has no heritage value. (GML 2003: 88)</i>	Intrusive	Intrusive

Site Element/Feature	Applicable NSW Heritage Assessment Criteria	Significance Assessment	GML 2004 Significance Grading	Revised Significance Grading
Old Portal Precinct				
Lower Bench Workshops	None	<i>The workshops located on the Lower Bench contribute to some understanding of the site's recent operational context but, as grouped or individual elements, have low to no identifiable heritage significance. (GML 2004: 88)</i>	Little	None
Upper bench Workshops	Historic	<i>Individually, the sheds have low heritage value but they are illustrative of the continual expansion and development of the colliery as a whole. (GML 2004: 89)</i>	Moderate	Moderate
Workshop Offices	Historic	<i>These offices are relics of daily administration activities that occurred in association with the workshops (Upper Bench), Their historic value relates to their contextual relationship to the workshop and evidence of on-going operations and development at the Colliery. (GML 2004: 89).</i>	Moderate	Moderate
Brick Retaining Wall	Historic	<i>The curved Brick retaining Wall adjacent to the 1887 Portals is important for its association with the adits and stabilisation of the surrounding earth to prevent land-slippage onto the rails tracks and workshop area. The retaining wall has also been used to support roofing attachments for the Carpenters Shops. While the wall may have no strong significance in its own right, it forms, with the rail track and the Portals, an easily recognisable and interpreted ensemble that clearly illustrates the physical process necessary to gain access to the coal deposits and to transport the output to market. (GML 2004: 90)</i>	High	High

Site Element/Feature	Applicable NSW Heritage Assessment Criteria	Significance Assessment	GML 2004 Significance Grading	Revised Significance Grading
1887 Portal	<ul style="list-style-type: none"> a) Historic c) Aesthetic e) Scientific f) Rarity 	<p>The 1887 [Portal and associated] Adits are extant and identifiable key elements of the early mine workings. They are part of the earliest mining episodes on the site and, in association with the rail track immediately to their east, clearly illustrate the relationship between the underground workings and the early rail system that transported coal to the jetty. They are an integral part of the site's history. Their formal design is aesthetically imposing and evidences a level of long-term investment and pride in the establishment of mining activities. The Adits demonstrate the construction of the entrances to underground workings.</p> <p>They are in good external condition, although they may require some stabilisation, and are rare examples of the industrial culture of the nineteenth century which frequently expressed the virtues of investment and stability with decorative industrial elements. (GML 2004: 89-90)</p>	Exceptional	Exceptional
Main Portal Precinct				
The Main Portal	None	<p><i>The Main Portal is a relic of the expansion of mining during the 1960s and provides a functioning example of a mine entrance. It is representative example of specific phase of mining operation and demonstrates the regular renewal of mining operations characteristic of the Illawarra coal industry. It is of only minor contributory significance. (GML 2004: 90).</i></p>	Little	Little
The New Bathhouse	None	<p><i>The bathroom over the Main Portal replaced an earlier bathroom facility that was located nearby. It contributes to the significance of the site as a whole as a representative example of improved worker amenities but, as it is not the original facility at South Bulli, it has minor historical importance. It is representative of a typical and necessary amenity facility found at all mining sites after the early twentieth century. (GML 2004: 91)</i></p>	Little	Little

Site Element/Feature	Applicable NSW Heritage Assessment Criteria	Significance Assessment	GML 2004 Significance Grading	Revised Significance Grading
Crib Room and First Aid Station	a) Historic c) Aesthetic	<p><i>The Crib Room and First Aid Station (formerly the Lamp Room, for replenishment, service and storage of portable lamps used by miners underground) is a relic of early mining operations at South Bulli. Whilst the associated equipment has been removed and no lamps are located within the building, it nevertheless represents an evocative relic of mining practices. The Crib Room and First Aid Station is one of the few surviving buildings at the Colliery that date to the early phases of mining operation and it has value in providing visual evidence of the long periods of operations at the site.</i></p> <p><i>The heritage significance of the building is in its association with replaced lighting technology, its location immediately adjacent to the Main Portal, with which it forms an interpretable ensemble, and its ability for its form to reflect the era in which it was constructed. (GML 2004: 91)</i></p>	High	High
Storeroom	a) Historic c) Aesthetic	<p><i>The heritage significance of the building is in its close physical association with the Crib Room and First Aid Station, its location immediately adjacent to the Main Portal, with which it forms an interpretable ensemble, and its ability for its form to reflect the era in which it was constructed. (GML 2004: 91).</i></p>	High	High
The Extraction Portal Precinct				
The Extraction Portal	None	<p><i>The Extraction Portal is representative of the phase of mining commenced during the 1960s and provides a functioning example of a mine entrance. The Extraction Portal has some heritage significance as a representative example of a specific phase of mining operation and as an indicator of how Adit locations and configuration changed over time. (GML 2004: 92)</i></p>	Little	Little

Site Element/Feature	Applicable NSW Heritage Assessment Criteria	Significance Assessment	GML 2004 Significance Grading	Revised Significance Grading
Main Downhill Conveyor	None	<i>The Main Downhill Conveyor, including the screening plant, is associated with the Extraction Portal but is only significant as a representative example of specific phase of mining operations and as a representative collection of propriety mining equipment. (GML 2004: 92).</i>	Little	Little
Closed Adits	a) Historic	<i>The remnant landforms indicating the location of closed adits are evidence of the intensity and extent of mining activity in this vicinity. The existing signage associated with these adits is important to the interpretation of the history of its use and are historical relics which authenticate and reference documentary records. They are significant for their existing and potential contribution to knowledge concerning the site as a whole. (GML 2004: 92)</i>	Moderate	Moderate
Gibson's Portal Precinct				
Gibson's Portal	a) Historic e) Scientific	<i>Gibson's Portal is a relic of early-twentieth century mining operations and illustrates in the early development of independent pits which eventually amalgamated both underground and in their pit-top processing works. The close association of Gibson's Portal with the Main and 1887 Portals at South Bulli illustrates the growth and change inherent in long-term mining and its history of use demonstrates the expansion of underground ventilation requirements as both safety standards were raised and the extent of underground working increased. (GML 2004: 93).</i>	High	High
Sandstone Retaining Wall	None	<i>While the wall may have no strong significance in its own right, it forms, with the portal, an easily recognisable ensemble that illustrates the physical processes necessary to gain access to the coal deposits and to transport the output to market. (GML 2004: 93)</i>	Moderate	Moderate

Site Element/Feature	Applicable NSW Heritage Assessment Criteria	Significance Assessment	GML 2004 Significance Grading	Revised Significance Grading
Fan House	None	<i>The Fan House is a relic of one of the recent phases of operations at South Bulli Colliery. It demonstrates, in proximity to other pit-top relics, the requirement for mechanical ventilation of the underground workings but is a distinctly mundane building, whose form bears little relation to its use, leaving it difficult to interpret in the absence of the ventilation equipment. Its location in front of the Portal is intrusive and it has been an empty shell for longer than it has actually housed any fan equipment. (GML 2004: 93)</i> The fan was removed in 2011. Prior to removal, archival recording of this element was undertaken by Biosis	Little	None
Gibson's Sublease Portal and Associated Area	None	<i>This Portal represents the most recent phase of mining at the South Bulli mine and is a current extraction portal for a sub-lessee. It demonstrates the on-going nature of mining underground and illustrates an aspect of the administration of mining leases. Insofar as it is less than five years old, it has minimal heritage significance. (GML 2004: 93).</i>	Little	Little
Electrical Sub-Station	None	<i>The Electrical Substation is located north of the Administration Block and contains the transformers and switchgear to distribute electrical power to the South Bulli Mine. This complex of equipment relates to the post 1960's phase in power supply at the mine. It is largely comprised of standard electrical components by common manufacturers and has low heritage significance. (GML 2004: 94).</i>	Little	None
Electrical Switchroom	None	<i>The Electrical Switchroom is located adjacent to the northwestern corner of the Administration Building near the Electrical Substation. The Electrical Switchroom relates to the post-1960s phase in power supply to the mine and is technically inseparable from the Substation. It is largely comprised of standard electrical components by common manufacturers and has low heritage significance. (GML 2004: 94).</i>	Little	None

Site Element/Feature	Applicable NSW Heritage Assessment Criteria	Significance Assessment	GML 2004 Significance Grading	Revised Significance Grading
The Washery Precinct				
The Preparation Plant	None	<p><i>A Heritage Impact Statement was prepared by Godden Mackay Logan for the demolition of the Preparation Plant in 2004. It concluded that the Preparation Plant was significant for its representation of a late-twentieth century coal production process but that its demolition was required for safety reasons. (GML 2004: 94).</i></p> <p>The majority of the Preparation Plant has been removed with the remainder also scheduled for removal. Archival recording of the element has been undertaken by Paul Reinberger.</p>	Moderate	None
Conveyor Systems	None	<p><i>The Conveyor Systems are associated with the late-twentieth century phase of mining operations at South Bulli Mine. They are comprised of standard components by common manufacturers and are representative of common proprietary mining and industrial equipment. The Conveyor system is only of minor contributory significance. (GML 2004: 94).</i></p> <p>The majority of the Conveyor System has been removed. Archival recording of the Conveyor System associated with the Storage Silos was being undertaken by Biosis in 2011</p>	Little	None
Storage Silos	None	<p><i>The Storage Silos are a relic of the process of coal transportation in the late-twentieth century phase of mining operations at South Bulli Mine. They are of unremarkable reinforced concrete construction and their fittings are comprised of standard components by common manufacturers. They are representative of common proprietary mining and industrial equipment. The Storage Silos are only of minor contributory significance. (GML 2004: 95).</i></p> <p>The Storage Silos were removed in 2011 and archival recording was undertaken by Biosis.</p>	Little	None

Site Element/Feature	Applicable NSW Heritage Assessment Criteria	Significance Assessment	GML 2004 Significance Grading	Revised Significance Grading
Truck Loader	None	<i>The Truck Loader is associated with the Preparation Plant complex and is a relic of the process of coal transportation in the late-twentieth century phase of mining operations at South Bulli Mine. They are of unremarkable reinforced concrete construction and their fittings are comprised of standard components by common manufacturers. They are representative of common proprietary mining and industrial equipment. The Truck Loader is only of minor contributory significance. (GML 2004: 95).</i>	Little	Little
Coal Stockpiles and Reject Material				
Coal Stockpiles	None	<i>They demonstrate the process of coal delivery through the processing plant at South Bulli but are otherwise conceptual spaces of land upon which emplacements are temporarily made. They are only of minor contributory significance. (GML 2004: 95)</i>	Little	Little
Reject Material Emplacements	None	<i>The stockpiles of reject material are located in two primary areas of the Colliery, on the northern terrace adjacent to the golf course and against the escarpment below the Main Portal Precinct. They represent landfill emplacements which are an opportunistic utilisation of unusable product of the mine. They demonstrate the associated problems of coal mining but are otherwise conceptual space of land upon which emplacements are temporarily and/or permanently made. They are only of minor contributory significance. (GML 2004: 95).</i>	Little	Little

Site Element/Feature	Applicable NSW Heritage Assessment Criteria	Significance Assessment	GML 2004 Significance Grading	Revised Significance Grading
Settling Dams	None	<i>The Settling Dams, both the larger dam on the southern side of the entrance roadway and the smaller one on the northern side, are repositories for coal-wash waste water and stormwater runoff from across the site, allowing coal particles in suspension to settle out and, ultimately, be recovered for marketing. The dams, while serving to illustrate one aspect of the process of the coal preparation, are a utilitarian element of minor heritage value, as they are significant for their use rather than their particular form, which is common to most similar water retention structures. They make a minor contribution to the significance of the site as a whole. (GML 2004: 96).</i>	Little	Little
Other Dams	None	These items, which included the Bellambi Creek Dam and other agricultural dams are no longer associated with Colliery and are outside of the study site.	Little	N/A

Site Element/Feature	Applicable NSW Heritage Assessment Criteria	Significance Assessment	GML 2004 Significance Grading	Revised Significance Grading
Rail Tracks, Signal Box and Associated Elements				
Rail Tracks and System	a) Historic c) Aesthetic	<p><i>The rail track system, with its associated points and switches and supporting elements (while modified) is a relic of the coal transport system that was an aspect of the Colliery for most of its operating life. They are remnants of a transport system that moved coal from the mine underground to the Portals on the escarpment, through the various processing stages, then through the township to the loading jetty at Bellambi Point.</i></p> <p><i>The rail system influenced the spatial and working arrangements of the site throughout the major part of its history, with buildings and other services located to service its requirements or to avoid interference in its operations. It utilised, for the most part, two separate interconnected systems, that operating to bring coal to the surface and that operating from the mine to the jetty.</i></p> <p><i>The rail system however, is now fragmentary, with the only relatively intact sections of track surviving immediately outside the 1887 Portal at the Upper Bench. Owing to the incomplete nature of the track system and associated infrastructure, the system does not demonstrate the technical configuration and details of the rail system. Those remaining areas of relatively intact track on the Upper Bench, however, remain as significant features that illustrate the coal transport system associated with the mining activities from 1887 onwards to the 1970s when rail was replaced by road transport. (GML 2004: 96-97)</i></p>	Moderate/High	Rail Tracks and System - Upper Bench - High Rail Tracks and Systems - other areas - Moderate

Site Element/Feature	Applicable NSW Heritage Assessment Criteria	Significance Assessment	GML 2004 Significance Grading	Revised Significance Grading
Signal Box	a) Historic c) Aesthetic	<p><i>The Signal Box is the most evocative remnant of the rail transport system at the South Bulli Colliery. It is positioned adjacent to the Pacific Highway at the entrance to the site and it once controlled the level crossing of the Colliery railway line across the Pacific Highway. The Signal Box retains its basic lever frame and it remains an interesting technical feature of rail operations at the site.</i></p> <p><i>The Signal Box is significant as one of the very few surviving features in the district of the once-numerous Colliery railways and tramways that crossed the Pacific Highway on their way between mine and jetty. It is also an important element of the South Bulli Colliery, providing evidence of the original transportation system to Bellambi Jetty. (GML 2004: 97).</i></p>	High	High
Moveable Heritage Items				
Coal Wagon	a) Historic	<p><i>The timber Coal Wagon is significant as an example of the wagons utilised by the South Bulli Colliery for approximately eighty years and is representative of the wagons used throughout the Illawarra district for coal transportation. Although numerous examples of similar coal wagons exist in various situations, this wagon displays signage which identifies it as a South Bulli Colliery wagon (its actual provenance is unknown) and this provides a strong association with its location. (GML 2004: 97).</i></p>	High	High
Coal Cutter	a) Historic	<p><i>The Coal Cutter Head is a remnant item of underground coal mining machinery which is believed to have been utilised at South Bulli. Although relatively complete, it is detached from the assemblage of machines with which it would normally operate and missing power and transport mechanisms. It is an interesting example of coal machinery which is relevant to South Bulli. (GML 2004: 98)</i></p>	Moderate	Moderate

Site Element/Feature	Applicable NSW Heritage Assessment Criteria	Significance Assessment	GML 2004 Significance Grading	Revised Significance Grading
Landscape and Vista				
Original Haulage Line Vistas	a) Historic c) Aesthetic	<i>The converse aspect of the sight from the haulage lines in the vegetation of the escarpment are the vistas from the mine Portals and terraces down the alignment of the inclines and across the coastal flats to the ocean in the east. The vista extends towards Bellambi Point, where the loading jetty for the Colliery was located and access to this view is an important visual link between the Colliery and the townships of Russell Vale and Bellambi. While the haulage systems no longer exist, the view lines from the Old and Gibson's Portals are important vistas for the interpretation and understanding of the site. (GML 2004: 99).</i>	High	High

Site Element/Feature	Applicable NSW Heritage Assessment Criteria	Significance Assessment	GML 2004 Significance Grading	Revised Significance Grading
Remnant Incline Haulage Alignments	d) Historic c) Aesthetic	<p><i>The original haulage line from the Old Portal is now only visible at the Lower level, where the roadway between the Washery Office building and the associated stores sheds follows the alignment of the original tramway line. A second, isolated remnant occurs between the Pacific Highway and the western extent of Broker Street, which itself is curved to reflect the original curve of the tramway line in the vicinity.</i></p> <p><i>The Gibson's Portal haulage line is replicated by the present main roadway up the escarpment. The line of roadway forms a clear landscape delineator between the now northern and southern areas of the site and, notwithstanding the absence of surviving haulage equipment, is a strong visual entity and landscape element in its own right.</i></p> <p><i>The Incline Haulage Alignments are also the only tangible remaining aspect of the haulage system, and embody both the historical and technical aspects of the coal haulage systems that were so important in the history, growth and success of the South Bulli mine. The incline haulage alignments are evocative of the process of transportation of coal from the mine mouth to the market and important indicators of the operations of the mine, where extraction from underground was a mere preliminary stage. In their conversion to lines of conveyors and vehicular roads, the operational associations of the alignments have been maintained through the technical evolution of transport technologies and the alignments are representative of most of the phases of mining that has occurred at South Bulli. (GML 2004: 98).</i></p>	High	High

4.2.2 Comparative assessment

A comparative analysis is undertaken with similar heritage sites and/or places in order to help establish and validate the significance and values of a heritage item or feature. The comparative assessment considers the study site against other coal mining associated heritage in the Wollongong LGA area the SHR. In addition the comparative assessment considers information provided for listed and unlisted coal mining heritage sites in the *Illawarra in the Strategic Management Plan for Historic Coal Mining Sites of the Illawarra* (O.H.M Consultants 2006).

Excluding the heritage items in the study site itself, a number of coal mining associated heritage items are on the LEPs within the Wollongong LGA and include:

- Bulli Colliery - Shaft 1 excluding fan from Nebo;
- Coke Ovens, Coalcliff Colliery
- Corrimal No. 1 headframe
- Kembla Heights Conservation Area
- Metropolitan Colliery
- Metropolitan Colliery - Shaft 2 fan evase
- Mine Air Shaft
- Mount Kembla Mine Portal
- Pit Pony Stables (Port Kembla No.2 Colliery)
- Remains of smelting works (former Dapto smelter)
- Shaft 2 (Old Bulli Colliery)
- Site of Mount Kembla Mine Workings
- Site of Pioneer Kerosene Works
- Slow's cottage (Mount Kembla)

These items encompass not only coal mines but also industries associated with coal production and the coal production chain. Items such as the Kembla Heights Conservation Area and Slow's cottage also demonstrate the domestic life and structures associated with the coal mining community. Of the listed items, the heritage items and groups associated with the Metropolitan Colliery (1886 – still operating), Bulli Colliery (1861-1988), Corrimal Colliery (1870 – 1986) and Mount Kembla Colliery (1883-1970) are most comparable to the study site. The condition of these mine sites is highly variable and only the Metropolitan Colliery has a collection of heritage elements that demonstrates the evolution of coal mining process and working conditions from the late 19th Century onwards. In comparison to Bulli Colliery, Corrimal Colliery and Mount Kembla Colliery, the remaining fabric at the study site demonstrating the entire mining process better and is in equal or better condition.

There are three heritage items listed on the SHR that are associated with coal mining the:

- Richmond Main Colliery;
- Lithgow Valley Colliery & Pottery Site; and,
- The Glenrock early coalmining sites.

Of these three sites only the Richmond Main Colliery and the Glenrock early coalmining sites are comparable to the study site. The Lithgow Valley Colliery & Pottery Site is a ceramic industry site with coal mine associations, rather than being directly related to coal mining.

The Glenrock early coalmining sites includes site complexes for the Burwood Colliery Remains, Coastal Railway, North Flaggy Collieries, Murdering Gully Collieries and Merewether Escarpment Collieries which demonstrate coal mining features and technology from the 19th to 20th Centuries. Coalmining in this area is representative of industrial coalmining initiated with the end of the coal monopoly held by the Australian Agricultural Company in 1847. Although coal mining infrastructure was tentatively constructed before this date in connection with a copper smelter, momentum for industrial coalmining began at the site in 1854 with the formation of the Newcastle Coal and Copper Company (Griffin 2003). Coal mining in the Glenrock early coalmining sites area continued under various mining companies up to 1986 when it became a reserve (NIHA 2012).

The remaining coalmining fabric at the Glenrock early coalmining site is generally in poor condition and consists predominantly of building and infrastructure foundations (Griffin 2003: 4-27 to 4-31). In regards to coalmining heritage values the Glenrock site was assessed as meeting the SHR criteria for Criteria a) historical, Criteria a) historical association, Criteria c) aesthetic, Criteria e) research potential, Criteria f) rarity and Criteria g) representativeness and was assessed as hold State and local significance (Griffin 2003: 6-30).

The Richmond Main Colliery was constructed between 1908 and 1913 and operated until 1967. The surviving fabric of the site includes a wide range of structures associated with the colliery that are in good or restored condition, although industrial equipment has been removed. Civic and Civic assessed the Richmond Main Colliery as met the SHR criteria for Criteria a) historical, Criteria c) aesthetic, Criteria d) social and Criteria e) research potential. Civic and Civic assessed that *"The cultural significance of the former Richmond Main Colliery in its surviving condition relies more on the complex as an expression of a particular era of region, industrial and social history than on the integrity of the remaining empty structures."* (Civic & Civic 1983: 104).

The City of Wollongong commissioned a thematic heritage assessment for coal mining in the Illawarra by O.H.M. Consultants in 2006. The assessment considered eleven colliery sites across the Illawarra, with the assessment for the study site relying on the GML 2004 assessment. Discussions with the consultant on the report (David McBeath of OHM Consultants) and the Manager of Strategic Planning at the City of Wollongong (Peter Crystal) indicate an outcome of this study is the preparation of a new Local Environment Plan component covering the coal mines across the length of the Illawarra escarpment. This addresses the conservation management of historic mine sites based on their relative significance in the local and regional context. It is in this context that the South Bulli Colliery site might meet the local significance threshold.

When compared with similar examples in the Illawarra and Newcastle, the surviving fabric of the study site is favourable or superior to other regional and state examples. The SHR listed sites, Richmond Main Colliery and Glenrock early coalmining sites encapsulate definitive coal mining periods in the 19th and 20th Century that are no longer operating, while the study site is comparable to other Illawarra coalmining sites that continue to operate and exhibit ongoing technological changes. The study site is of high historic significance on a social and aesthetic level in comparison to other surviving examples of coalmining operations in NSW and the local region. Coalmining has been a major industry in NSW and the number of surviving mine sites from similar timelines indicates that the study site is not rare at a State or local level.

4.2.3 Assessment of Significance

NSW Heritage Assessment Criteria

The study site has been previously assessed using the NSW Heritage Council criteria (listed in Section 4.1.2) by GML in 2004. Despite some removal of fabric from the site, the major elements contributing to the heritage values of the site have been unaltered. However additional historical research has been undertaken since the 2004 assessment and the 2004 GML statement of significance has been altered as appropriate below.

Criteria A (Historic Significance)

The Russell Vale Colliery site as a whole is important in the course of the Illawarra's and the state's history because it is one of the earliest established, the South Bulli Colliery, and longest running coal mining operations in Australia. Its curtilage, extant structures, industrial features and machinery, landform modifications and internal spatial pattern are physical representations of its expansion, contraction and modification over time.

The site contains some of the oldest structural remains of coal mining activity in the state including the 1887 Portals, rail track alignments and Lamp Room (now Crib Room and First-Aid Station). It also contains features and structures that demonstrate the cumulative and sequential update of colliery operations over a period of more than 100 years in response to technical changes, market and workforce demands and the increasing need for efficiency in a competitive market. These include the introduction of items such as the arc-wall cutter in 1935, scraper loaders in 1947 and longwall mining in 1965.

The site is also important because, during its operating life, it introduced the first mechanised underground transport system installed for employees in New South Wales (1917) and it pioneered Longwall extraction mining in the New South Wales coal fields (1965). The colliery holds the Australian record for underground coal extraction (between 1887 and 1990 the mine produced 2,949,903 tonnes of coal) and this reflects both its extended operating history and its history of investment in technical innovation.

The site as a whole is important in the course of the Illawarra's history because it was important in providing the employment and investment that catalysed population growth and established the pattern of settlement of Russell Vale town ship and the north Wollongong area. Along with other mines, employment generators like South Bulli Colliery played a key part in the economic health of the locality and many families were for many generations solely dependent on the work made available through mining.

Russell Vale Colliery as a whole satisfies this criterion at local and State levels.

Criteria B (Historic Association Significance)

The Russell Vale Colliery had a peripheral association with a number of identities notable on the Illawarra coast, the Russell Vale community and, to a lesser extent, New South Wales as a whole. Some of the earliest identities associated with the site during the South Bulli Colliery period are Henry Osborne, Francis Peter MacCabe and Henry Osborne MacCabe, who were all leading figures in the Illawarra coal industry and local and state politics in the 1800s. The suburb of Russell Vale takes its name from the Russell Vale House and wider estate, well known locally as the seat of Francis Peter MacCabe.

Thomas Saywell, a merchant and developer, was prominent in forming the South Bulli Mining Company in 1887 with W Wilson as manager. Saywell was notable in his role for expanding the South Bulli mine and constructing Bellambi jetty.

W Wilson, a manager at the South Bulli Colliery, was notable as the owner and developer of Bellambi Hotel in 1889, on the corner of Bellambi Lane and Brompton Road. It was considered luxurious at the time for a working town and comprised 21 rooms including twelve bedrooms. Wilson also refitted a carriage that could

be attached to the South Bulli colliery trains to transport his hotel guests to Bellambi Beach via the company jetty.

Another owner was Ebenezer Vickery, a prominent New South Wales merchant and capitalist, whose ownership was, typically for the industry, remote from the actual operations at the colliery.

The Russell Vale Colliery satisfies this criterion a local level, particularly in regards to the MacCabe family and the association of the site as the historical seat of this family in Russell Vale.

Criteria C (Aesthetic Significance)

Henry Grant Lloyd painted the study site in 1897, capturing the dramatic backdrop of the Illawarra Escarpment and agricultural landscape of Russell Vale at this time. The landscape vista presented in Lloyd's painting has subsequently been altered dramatically by coalmining and suburban build up around the site, in particular the hill slopes below the escarpment have been altered by coal and refuse stockpiles.

The dramatic backdrop of the Illawarra Escarpment, the landform benches, stockpiles and dams and remnant coal mining structures and machinery create the impression that Russell Vale Colliery is a vigorous and active industrial site.

In this regard, the site as a whole demonstrates aesthetic qualities of significance to the local area. Its location and form continue to be defined to fit into the site's location and landform. The mine site as a whole is a striking and unusual landscape that has become a characteristic and, to a degree, identifying feature of the area.

Russell Vale Colliery as a whole satisfies this criterion at a local level.

Criterion D (Social Significance)

The Russell Vale Colliery site has strong cultural associations with the local community and, to a lesser degree, the broader (previous and current) coal mining community of the Russell Vale, Wollongong and general Illawarra area. The associations relate predominantly to the site's long history as one of the primary employment and investment generators in the area and because coal mining is an industry which is traditionally associated with labour movement and workplace safety issues and initiatives.

The resolution of these issues brings the workforce into closer association with the workplace than would occur in other industries, especially as many deal with life and death safety concerns.

The Russell Vale Colliery was not removed from mining tragedies that plagued other mines in the area, including the nearby Bulli Mine. In 1891, one mine worker was killed following a build-up of gas that resulted in a small explosion. In July 1991, a further three workers were killed when a gas explosion occurred following the restarting of coal cutting after a pause in work while roof supports were installed. Following this, a Coronial Inquest, conducted in July, 1992, resulted in recommendations that all mines prone to outburst develop management plans to prevent such situations from occurring.

The Union movement on the Illawarra Coast had its earliest beginnings from the 1870s with various smaller groups setting up, but, in 1886, the National Miners Union was founded and included the miners from the Lithgow and Hunter region. Union membership and activism was an important aspect of working life for the workers at South Bulli and, in 1909, they were involved in a major strike on the Illawarra fields that included picketing by miners and their families. This demonstrates the close ties between communities in the area, the mine workers and their families and associated social groups such as the Women's Auxiliary, was important in this role.

The Russell Vale Colliery as a whole satisfies this criterion at the local level.

Criterion E (Research Significance)

The Russell Vale Colliery site has only limited potential to yield information that would contribute to a further understanding of the local area's coal mining cultural history, however, it is likely that information would only complement and expand information that is generally known. Some investigation of individual structures and technology may provide more information about how the site functioned and what processes and changes occurred over time but most of this information is available in existing documents.

The site itself is not likely to reveal any social, technical or other information that would substantially expand or alter its existing history and significance. While an archaeological assessment has not been carried out, the long history of coal stockpile movement and removal, benching, infrastructure construction and dam building suggest that the archaeological resource is also unlikely to be sufficiently intact to provide information that would contribute in a meaningful way to the current history and cultural value of the site.

Russell Vale Colliery as a whole does not satisfy this criterion.

Criterion F (Rarity)

The Russell Vale Colliery is one of the longest continuously-running coal mines in New South Wales and holds Australia records for total extraction from an underground mine.

While it possess some very rare individual elements (such as the 1887 Portals and the incline haulage alignment), coal mining and remnant coal mining sites are not rare or uncommon in New South Wales and the site as a whole cannot be considered rare.

Its function and use as a coal mine is an important aspect of the whole site's historical significance. However, coal mining is not an endangered aspect of the local area or New South Wales' cultural or industrial history.

The Russell Vale Colliery satisfies this criterion in regards to the time of its *continuous* use as a coal mine and as the underground mine with the largest total output.

Criterion G (Representativeness)

While the Russell Vale Colliery possesses some unique locational and landscape attributes and some rare individual elements, it is one of many collieries in the region exploiting the coal seam of the Illawarra Escarpment. It has a long history of extraction that has utilised various techniques and technologies, some of which are still apparent at the site. Consequently, in that regard, it demonstrates change and adaptation over time, which is a characteristic of most colliery (and most industrial) sites.

This change and adaptation, however, means that the site is not an exemplar representative of a particular era or episode in coal mining history and technology, nor is its current remnant state necessarily representative of many coal mines as a class of New South Wales cultural places. This is principally due to the unique and site specific nature of change and adaptation over time at collieries in general – none could really represent others as a 'class' of places.

The Russell Vale Colliery as a whole does not satisfy this criterion.

4.2.4 Statement of Significance

The Russell Vale Colliery site is an important place in the Illawarra's and the state's history because it is one of the earliest established and longest-running coal mining operations in Australia and because it retains structures, machinery, landform and spatial configurations that illustrate and embody its history.

The site is also important because, during its operating life, it introduced the first underground transport system installed for employees in New South Wales (1917) and it pioneered longwall mining in the New South

Wales coal fields (1965). The colliery holds the Australian record for underground coal extraction and this reflects both its long period of operations and its history of investment in technical innovation.

The site as a whole is important in the course of the Illawarra's history because it was important in providing the employment and investment that catalysed population growth and established the pattern of settlement of Russell Vale Township and the north Wollongong area.

The site has cultural associations with the local community and the broader coal mining community because of its long history, historically-pivotal social and economic role in the area and because it was, at various times, a centre for labour movement and workplace reform activity.

The above assessment indicates that the Russell Vale Colliery as a whole is of State significance on historical grounds and of local significance on historic association, social, aesthetic, and historical grounds. Overall this indicates that the as a whole is of State level significance.

4.3 Curtilage

The extent of the elements and precincts of significance are mapped in Figures 5 to 11 following. In general a curtilage is drawn around each element with at least a 5 metres buffer, although in most cases these have been combined where buildings are in close proximity to form Precinct curtilages. The curtilages defined in the 2004 GML CMP has been amended to incorporate elements which should be considered integral for stabilisation or interpretation of an ensemble of items – for example the bath house over the main portal is an intrinsic part of the development of the Main Portal Precinct in the mid 20th century. Similarly the upper bench workshops which cover the 1887 and adjacent portal and are likely the oldest buildings on the site should be incorporated in curtilage in their entirety.

4.3.1 Power House Precinct Curtilage

The Power House Precinct curtilage is shown in Figure 5 and includes all the remaining footings and features remaining from the power house and its associated elements.

4.3.2 Old Portal Precinct Curtilage

The Old Portal Precinct curtilage is shown in Figure 6 and has been expanded from the 2004 GML curtilage to include the Upper Bench Workshop in its entirety. This curtilage includes the 1887 Portals, Brick Retaining Wall, Workshop Offices and associated Rail Infrastructure.

4.3.3 Main Portal Precinct Curtilage

The Main Portal Precinct curtilage is shown in Figure 7 and has been expanded from the 2004 GML curtilage to include the New Bathhouse. Other elements included in the curtilage include the Main Portal, Crib Room and First Aid Station and the Storeroom.

4.3.4 Extraction Portal Precinct Curtilage

The Extraction Portal Precinct curtilage is shown in Figure 8 and has been expanded from three separate curtilages shown in the GML 2004 CMP to one overall curtilage. The Decline Conveyor has been excluded from the curtilage as it has little contributing significance.

4.3.5 Gibson's Portal Precinct Curtilage

The Gibson's Portal Precinct curtilage is shown in Figure 9 and is not substantially changed from the 2004 GML curtilage, however the fan house has subsequently been removed.

4.3.6 Signal Box Curtilage



The Signal Box curtilage is shown in Figure 10 and is not substantially changed from the 2004 GML curtilage.

4.3.7 Views and Vistas

View lines are generally not critical, apart from that along the Remnant Incline Haulage Alignment, which has been identified in Figure 11.



Legend

-  Curtilages
-  Study Site

**Figure 5: Power House
Precinct Curtilage**

0 5 10 15 20 25
Metres

Scale: 1:500 @ A3
Coordinate System: GDA 1994 MGA Zone 56



Ballarat, Brisbane, Canberra, Melbourne,
Sydney, Wangaratta & Wollongong

Matter: 15606
Date: 01 February 2013,
Checked by: ASF, Drawn by: jshepherd
Location: P:\15600s\15606\Mapping\
15606 ES-11 curtilage



Legend



-  Curtilages
-  Study Site

Figure 6: Old Portal Precinct Curtilage

0 5 10 15 20 25
Metres

Scale: 1:500 @ A3
Coordinate System: GDA 1994 MGA Zone 56



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Sydney, Wangaratta & Wollongong

Matter: 15606
Date: 01 February 2013,
Checked by: ASF, Drawn by: jshepherd
Location: P:\15600s\15606\Mapping\
15606_F5-11_curtilage



Legend



-  Curtilages
-  Study Site

Figure 7: Main Portal Precinct Curtilage

0 5 10 15 20 25
Metres

Scale: 1:500 @ A3
Coordinate System: GDA 1994 MGA Zone 56





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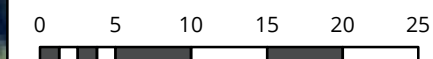
Matter: 15606
Date: 01 February 2013,
Checked by: ASF, Drawn by: jshepherd
Location: P:\15600s\15606\Mapping\
15606 FS-11 curtilage



Legend

-  Curtilages
-  Study Site

**Figure 8: Extraction Portal
Precinct Curtilage**



Metres
Scale: 1:500 @ A3
Coordinate System: GDA 1994 MGA Zone 56



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Matter: 15606
Date: 01 February 2013,
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15606_F5-11_curtilage



Legend



-  Curtilages
-  Study Site

Figure 9: Gibson's Portal Curtilage

0 5 10 15 20 25
Metres

Scale: 1:500 @ A3
Coordinate System: GDA 1994 MGA Zone 56



Ballarat, Brisbane, Canberra, Melbourne,
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Matter: 15606
Date: 01 February 2013,
Checked by: ASF, Drawn by: jshepherd
Location: P:\15600s\15606\Mapping\
15606_F5-11_curtilage



Legend



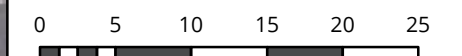
-  Curtilages
-  Study Site

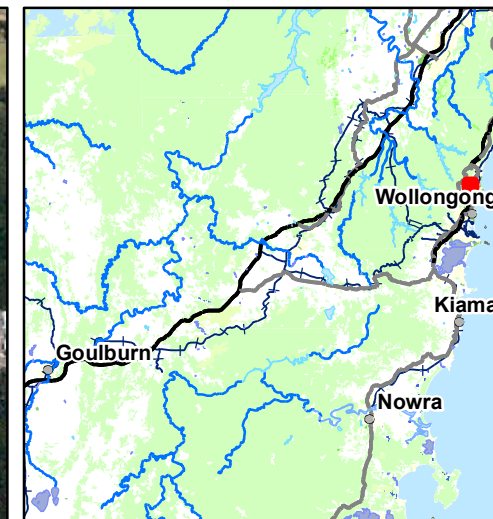
Figure 10: Signal Box Curtilage



Metres
Scale: 1:500 @ A3
Coordinate System: GDA 1994 MGA Zone 56

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Matter: 15606
Date: 01 February 2013,
Checked by: ASF, Drawn by: jshepherd
Location: P:\15600s\15606\Mapping\15606_F5-11_curtilage



Legend

- Study Site
- Vistas
- Curtilages

Figure 11: Landscape and Vistas

0 50 100 150 200 250
Metres

Scale: 1:5,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56



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Sydney, Wangaratta & Wollongong

Matter: 15606
Date: 01 February 2013,
Checked by: ASF, Drawn by: jshepherd
Location: P:\15600s\15606\Mapping\15606_F11_Vistas

5 Constraints and Opportunities

This Conservation Management Plan (CMP) has been prepared to guide planned future changes by the Gujarat NRE that may affect the South Bulli Colliery buildings. The listing of the site on the Wollongong City Council's Local Environmental Plan (2009; 2010) as an item of Local heritage significance, including the associated LEP provisions, are likely to require specialist heritage consultant input for future changes on the site.

5.1 Statutory Obligations

5.1.1 Heritage Act 1977

The SHR, managed by the Heritage Branch, (OEH), contains items that are of State Significance to New South Wales. Items that appear on the SHR have undergone a rigorous assessment process and are protected by the *Heritage Act 1977*. Changes made to State Heritage Register listed items can only be made with approval from the Heritage Council; demolition is not permitted except in certain circumstances. No items in the study site are currently listed on the SHR.

Relics, that is, historical archaeological sites of local or State significance are also protected by the *Heritage Act 1977*. Disturbance to relics is not permitted except with an approved excavation permit or exception notification from the Heritage Council.

5.1.2 National Parks and Wildlife Act 1974

Aboriginal sites are protected under the *National Parks and Wildlife Act 1974*; which states:

A person who, without first obtaining the consent of the Director-General, knowingly destroys, defaces or damages, or knowingly causes or permits the destruction or defacement of or damage to, an Aboriginal object or Aboriginal place is guilty of an offence against this Act.

The potential for Aboriginal archaeological relics in the mine areas is extremely low. The only potential for Aboriginal sites is in the areas above and below the mine site where mine excavation and benching have neither excavated natural ground nor buried under fill. Natural land slippage and erosion may have disturbed any Aboriginal archaeological material in these areas in any case due to the extreme steepness and instability of the slopes. Recommendations are therefore made for confining works to areas with no Aboriginal archaeological potential.

5.1.3 Local Planning Context

There are a number of duplicate entries for site elements reflecting dual listings on the Wollongong LEP 1990 and the Wollongong Regional Environmental Plan 1986 (see **Error! Reference source not found.**). These separate elements were combined as one item as part of the 2006 assessment of coal mining sites by O.H.M Consultants that then informed the Wollongong LEP 2009. The Wollongong LEP 2009 consolidated the separate elements as the South Bulli Colliery listed on Environmental Heritage schedule as Item 5928.

Table 7: Listed Heritage Sites in the Study Site

Item name	Illawarra REP No.1 (1986)	Wollongong LEP 1990	Wollongong LEP 2009	Significance Rating
South Bulli Colliery (whole site)	2700806	2700806	5928	State
Power House Precinct	19135	2700060		Moderate
Administration Precinct				
Administration building				Little
Pathways and Landscape				Little
Car park				Intrusive
Old Portal Precinct				
Workshops lower bench				Little
Workshops upper bench				Moderate
Workshops offices	19164			Moderate
1887 Portal	19169	2700091		Exceptional
Brick Retaining Wall				High
Main Portal Precinct				
The main portal				Little
New bathroom				Little
Crib room & first Aid Station				High
Store room				High
Extraction Portal Precinct				
Extraction portal				Little
Main downhill conveyor (decline conveyor)				Little
Closed Adits				Moderate
Gibson's Portal Precinct				
Gibson's Portal(s)	19168	2700090		High
Sandstone Retaining wall				Moderate
Fan House				Little
Gibson's Sublease and associated area				Little
Electrical substation				Little
Electrical switchroom				Little
Washery Precinct				

Item name	Illawarra REP No.1 (1986)	Wollongong LEP 1990	Wollongong LEP 2009	Significance Rating
Old Washery 1960 (mostly demolished and permits for completion of demolition)	19167	2700089		
The Preparation Plant				Moderate
Conveyor system				Little
Storage silos				Little
Truck loader				Little
Former mines office (lower area) demolished	19164	1990		
Coal stockpiles and reject material				
Coal stockpiles				Little
Reject materials emplacement				Little
Settling dams				Little
Other dams				Little
Rail Tracks and associated elements				
Rail Tracks and System				High/Moderate
Signal Box	5001162			High
Moveable heritage items				
Coal Wagon				High
Coal Cutter				Moderate
Landscapes and vistas				
Remnant Incline Haulage Alignments				High
Original Haulage vista				High
Other Heritage Items				
Concrete Base for ball mill – mapped inaccurately and cannot be relocated	19166	2700088		

5.2 Current Uses

The study site is currently in use as an active mine site, including the extraction, stockpiling and transportation of coal, landfill of reject material and ongoing maintenance of existing infrastructure.

5.3 Proposed works

Proposed works for the Stage 2 upgrade of surface facilities at the NRE No. 1 Colliery Russell Vale Site include the following:

- The addition of two 140 000t coal stockpiling areas (SP2 and SP3), east of the current stockpiling area below the coal storage bins (SP1);
- The construction of an overhead conveyor and tripper arrangement to deliver coal to the new stockpiles;
- The construction of a reclaim conveyor connecting SP2 and SP1;
- The construction of a retaining wall to contain the exposed toe of SP2 and SP3;
- The construction of a new access road to SP 2 and SP3;
- Renewal of the existing reclaim tunnel and reclaim belt under SP1;
- The construction of a new truck loading facility;
- The installation of a new truck washing facility;
- Sealing of truck access roads and parks;
- The construction of a 3m high bund wall north of the main access road to control, visual, noise and dust issues;
- Construction of a new Bellambi Gully Creek Channel;
- Construction of a new decline conveyor crossing; and
- Improvements to escarpment drainage and creek stabilisation.

5.4 Expected Impacts of Mine Operations

5.4.1 Aboriginal site impacts

The area of proposed works has no potential for the survival of Aboriginal archaeological material, due to the impact of former mining activities and the effect of the excavation of the portals, and considerable rock falls and land slips in the vicinity.

Therefore, there are **no further requirements** for managing Aboriginal archaeological sites as long as any proposed works are confined to the existing areas of the mine benches, works areas and access tracks.

5.4.2 Historic Site Impacts

The proposed works do not have direct impacts on any of the heritage curtilages described in Section 4.3. While the construction of additional infrastructure will alter vistas from the upper and lower benches it will impeded the overall view that makes these vistas significant. The construction of the 3 m bund wall will alter the view of the Remnant Incline Haulage Alignment but will not alter the alignment.

The proposed works will significantly remove and alter sections within the current Washery Precinct, although approvals have already been received for the removal of this infrastructure and archival recording has been undertaken. As the mine is currently continuing to operate, and there appears no immediate imperative to undertake demolition work on an extensive scale, there is an opportunity to conserve and manage exceptional and high significance heritage elements and formulate practical conservation policies for their future retention.

5.4.3 Managing change

Where changes to the study site have the potential to impact on heritage items, a SoHI should be prepared. Using this CMP as a guiding document, SoHIs should be prepared in accordance with Heritage Council guidelines for SoHI (Appendix 1) and should only be as detailed as required by the proposed work. Acceptable change should be based on Table 8.

6 Conservation Policy

6.1 Introduction

6.1.1 Objective

The objective of the policies in this plan are to achieve the conservation of the cultural heritage significance of the South Bulli Colliery and associated structures consistent with the ongoing operation of the place as a working mine. The statements of significance set out in Section 4.2.4 have been used as a principal basis for future management planning and work.

6.1.2 Basis of Approach

That South Bulli Colliery, Russell Vale, New South Wales is regarded as being primarily significant for historical associations with development of the Illawarra coal industry and surrounding Russell Vale and north Wollongong areas from 1887 to c.1960. The study site is also strongly associated with the introduction of new mining technologies, such as longwall mining in 1965, and the surviving fabric of the site demonstrates technical change and innovation over more than 100 years of coal mining operations.

The challenge for heritage conservation at this site is to incorporate sound conservation policy with the requirements of ongoing mining operations. The underlying philosophy in the management of cultural heritage is based on the ICOMOS Burra Charter, which is to do as much as necessary and as little as possible. The approach to the development of the conservation policy is to retain and conserve the site elements of exceptional and high significance and develop policies to guide the ongoing use and development of the mine in order to retain its relationship with its historical operations.

6.1.3 Statutory Compliance

Historical relics and features within the study site are protected by the *Heritage Act 1977* and the Wollongong LEP 2009. A statement of heritage impact (SoHI) should be prepared elements of the site that are of moderate to exceptional significance, if an action is likely to impact the fabric or setting of the element. The document can use the history in this CMP and address the policies to ensure that change is managed to ensure that significance of the site is not compromised. The detail in the statement of heritage impact should be guided by the significance of the element and the level of change proposed. Proposals to introduce change should be made with the guidance of a qualified heritage practitioner to reduce delays in obtaining approvals.

Aboriginal objects and places within the study site are protected by the *National Parks and Wildlife Act 1974*. There are no recorded Aboriginal sites, objects or places within the study site, however if Aboriginal sites, objects or places are subsequently identified, then further investigation will be required. Contingency plans detailing the actions required if Aboriginal sites, objects or places are encountered in the study site are contained in the *NRE No.1 Colliery: Heritage Management Plan* (Biosis 2012).

6.2 Statement of Conservation Policy

The following policies are recommended for the conservation and future development.

The implications of each policy for individual site elements (individual buildings, features, relics, moveable heritage items, important views and vistas) that contribute to the overall significance of the place are shown in **Table 8**.

6.2.1 Management Policies

Policy 1 – Adoption of this Conservation Management Plan

Gujarat NRE should adopt the CMP for the NRE No. 1 Colliery site as the document guiding appropriate change to the significance of the site. The CMP sets out a strategy for managing the place to best maintain its cultural significance whilst ensuring high operational standards.

The management of the property, its future development, and ongoing maintenance, must be undertaken in a manner which permits the Conservation Policy to be implemented. It is important that the Conservation Policy is retained by the owners and/or tenants of the property and understood by all those connected with the use, future development and maintenance of the property. This includes the property owners and management, as well as any consultants and contractors involved with work on the site.

Policy 2 – Review of Policy

That the Conservation Plan should be reviewed on a regular basis, preferably at least once every ten years, or when new material which has the potential to supplant a present policy, is discovered. A reviewed CMP would also be required if operations on the site ceased and the use changed. This will ensure that new material or analysis can be properly assessed and if necessary incorporated into revisions of the CMP.

6.2.2 General Policies

Policy 3 – Retention of Key Heritage Elements

Elements of exceptional, high and moderate significance must be managed in accordance with their level of significance. That is:

- Elements/items of exceptional or high significance should be retained, maintained and preferably utilised; some change is acceptable and should be guided by a SoHI; and,
- Elements/items of moderate significance should be retained, maintained and utilised. Changes to these items is acceptable as long as those changes are guided by a SoHI and do not detract from the significance.

In addition, key elements/items of significance should not be demolished or removed and maintenance actions should be undertaken to stabilise their condition. Such works need only involve ensuring the buildings remain structurally sound and have adequate external integrity to prevent ingress of rain. These are the buildings which most closely relate to the significant historical periods of the mine's operation, and provide the best opportunities for future interpretation if public access is ever to be provided to the mine site.

Elements of little, intrusive or no significance need only be retained and conserved where required. However, if demolition or removal is required, then consideration should be given to the impact of this action on the potential future use and conservation of the exceptional, high and moderate significance site elements. Demolition or removal of elements of little, intrusive or no significance do not require heritage documentation; however the date of removal should be recorded in the CMP.

Development consent has been received for the removal of elements in the Washery Precinct and removal of these elements should proceed in accordance with the conditions of the consent.

Policy 4 – Maintenance of Existing Fabric

All work to the identified significant elements and within the curtilage of significant elements on the property, whether subject to planning permit conditions or not, will be required to be undertaken in accordance with

the provisions of the Burra Charter. Any action which has the potential to alter fabric of exceptional, high or moderate elements will require the preparation of a SoHI.

In general, maintenance schedules should ensure that the physical appearance of the building elements should principally reflect the appearance around the time of operation during its period of greatest social and economic impact c 1930 - 1960. Features from c. 1880, particularly the 1887 Portal, should be retained and protected as they reflect rare examples of industrial and investment culture from the late 19th Century.

Policy 5 – Sealing Mine Portals

One aspect of the rehabilitation of redundant mines that can come into conflict with heritage values is the sealing of adits, shafts and portals, and in particular sealing them in such a way that no evidence of the structure remains. This approach has been used on Illawarra escarpment particularly on some mines where they are within or adjacent to the Escarpment Conservation Areas. It is understood that this is a preferred approach of NSW National Parks.

DPI guidelines for the backfilling and sealing of adits and drifts (established under Section 92 – Section 97 inclusive of the Coal Mine Health and Safety Act 2002) suggest that as part of making safe and sealing disused mine entrances, earth may be mounded over the portal to remove any visible evidence of the structures. These guidelines are intended to ensure safety at disused mine sites. However, the guideline for burying the portal under earth, as opposed to sealing the portal internally, would appear to be optional rather than obligatory. It states: “Where possibly, the adit bulkhead and surrounds should be completely covered by mounding earth over the area”. The guideline also states that: “any man-made structures or fittings in the adit, which can be safely removed, should be removed”. The guidelines would therefore appear to be sufficiently flexible to allow the retention of historic surface features where this is consistent with the safe sealing of the adit.

Wollongong Council (and various heritage bodies - see Pearson & McGowan 2000, Mining Heritage Manual) recognises the important contribution coal mining has made to the history of the region, and that each mining site has a story to tell. The *Strategic Management Plan for Historic Coal Mining Sites of the Illawarra*, also confirms local heritage policy is to retain evidence of historic coal mining activity in the Illawarra region (OHM Consultants/McBeath 2006).

Therefore all existing portals in the vicinity of the Upper Bench should be treated so that there is minimal disturbance to the surface structures and immediate surrounding area as far as practical considering health and safety regulations. The retention of surface features will ensure that the heritage significance of the sites, as evidence of early coal mining and prospecting, will be retained.

In line with proposed procedures for sealing portals (Sheldon 2005: 9), the recording and surveying of the site should be carried out on completion of the works, a plaque placed in a clearly visible location at each portal, indicating the colliery name, adit name and date of sealing. The plaque should also include the historical date of operation. Copies of documentation, including this report, should be provided to the Local Studies Section of the Wollongong City Library.

Policy 6 – Interpretation & Access to Information

Items of moveable heritage, photographs, plans and historical information should be displayed in a location accessible to visitors to the place. Interpretative material should also be displayed with, within were applicable, elements of exceptional, high or moderate significance to demonstrate their former use and appearance. Copies of historical documentation for the place should be retained on site for future reference and lodged with the Local Studies Library at Wollongong City Council.

Policy 7 – Moveable Heritage Items

Potential and identified moveable cultural heritage are intrinsic to the cultural heritage of the South Bulli colliery site. Such items range from the mechanical coal cutter displayed at the lower car park entrance, to hand tools and plans found in some redundant buildings.

Historically significant moveable heritage items including objects, photographs, plans and documents, should be retained on site where possible and an inventory of the items should be prepared and maintained. In the event that they are no longer required by the mine company, historically significant moveable heritage items should be offered to a suitable archive or museum (for example the Local Studies section of the Wollongong City Library).

The coal wagon and coal cutter should be relocated to a dry covered or preferably weatherproof location to arrest decay, and options for further conservation, such as treatment of rust and dry rot should be investigated. Failing this, offering the items to an organisation such as local historical society or museum, that might be able to carry out the conservation works would be an alternative.

Policy 8 – Recording Heritage Items

Where an item or element is to be altered or removed, a record of the physical condition should be prepared prior to any works commencing. This record should entail existing conditions architectural drawings, photographs and an inventory of components, finishes, fittings, moveable items and other details. It is likely that recording of the modification or removal of significant fabric will be a part of the DA conditions of consent.

6.2.3 Policies for Managing Change

Policy 9 – New Works or Buildings

The undertaking of new works or buildings should not dominate or compromise significant aspects of elements of exceptional, high and moderate significance. To achieve this:

- New structures must be designed to be respectful in scale, form and detail to the existing early to mid century buildings where they are in visual proximity;
- New structures or works must not obscure important vistas or views from elements of exceptional, high and moderate significance;
- That only limited physical intervention to the fabric of the significant elements of exceptional, high and moderate significance be permitted and if possible, be reversible;;
- Openings connecting existing building and new structures should be limited in size and number. Existing openings should be utilised when possible; and
- If fabric of elements of exceptional, high and moderate significance will be altered or impacted than a SoHI must be prepared.

Policy 10 – Adaptive Reuse

Opportunities for compatible reuse of buildings must be investigated in the event of buildings becoming redundant, or mining cease on the site. In determining potential for adaptive reuse of buildings identified with exceptional, high or moderate significance, the following constraints should be observed:

- External envelope should be maintained;
- New openings should be limited to unobtrusive locations;

- Existing wall and roof cladding and finishes should be retained and conserved;
- Internal spaces and dividing walls of buildings identified with exceptional significance should be retained where possible, if spaces require enlarging or subdividing, such work should be reversible and identifiable;
- Internal spaces and dividing walls of buildings identified with high or moderate significance can be modified in accordance with operational requirements and a SoHI; and
- If fabric of elements of exceptional, high and moderate significance will be altered or impacted then a SoHI must be prepared.

Policy 11 – Archaeology

Discovery of Unanticipated Aboriginal Cultural Material

The following contingency plan describes the actions that must be taken in instances where Aboriginal cultural material is discovered or unearthed:

- **Discovery:** Should unanticipated Aboriginal cultural material be identified during any works, works must cease in the vicinity of the find.
- **Notification:** OEH must be notified of the find.
- **Management:** In consultation with OEH, registered Aboriginal parties and a qualified archaeologist, an impact assessment should be undertaken and management strategy developed to manage the identified Aboriginal cultural material. A subsidence monitoring program may be required for Aboriginal sites, using a methodology consistent with that outlined in Section 6.
- **Recording:** The find will be recorded in accordance with the requirements of the National Parks and Wildlife Act 1974 and OEH guidelines.

Discovery of Unanticipated Historical Relics

The following contingency plan describes the actions that must be taken in instances where historical cultural material is discovered or unearthed:

- **Discovery:** Should unanticipated historical material be identified during any works, works must cease in the vicinity of the find.
- **Notification:** OEH must be notified of the find.
- **Management:** In consultation with OEH and a qualified archaeologist, an impact assessment should be undertaken and management strategy developed to manage the identified historical cultural material. A subsidence monitoring program may be required for historical sites.
- **Recording:** The find will be recorded in accordance with the requirements of Heritage Branch and OEH guidelines.

Discovery of Unanticipated Human Remains

The following contingency plan describes the actions that will be taken in instances where human remains or suspected human remains are discovered. Any such discovery in the study area will follow these steps.

- **Discovery:** If suspected human remains are discovered all activity in the vicinity of the human remains must stop (to ensure minimal damage is caused to the remains), and the remains must be left in place and protected from harm or damage.

- Notification: Once suspected human skeletal remains have been found, the Coroners Office and the NSW Police must be notified immediately. Following this, the find must be reported to OEH and it is recommended that it is also reported to the Illawarra Local Aboriginal Land Council.
- Management:
 - If the human remains are of Aboriginal ancestral origin an appropriate management strategy will be developed in consultation with a heritage specialist, registered Aboriginal parties and OEH.
 - If the human remains are identified as historical relics then an appropriate management strategy will be developed in accordance with a heritage specialist and NSW Heritage Council.
 - If the exhumation of human remains is subsequently required, these works may require a permit under the *Public Health Act 1991* and advice should be sought from an appropriate heritage specialist.
- Recording: The find will be recorded in accordance with the requirements of the National Parks and Wildlife Act 1974 and OEH guidelines as applicable and registered on AHIMS (if applicable).
- Recommencement of works: Works are to recommence only after all previous steps have been taken, an adequate management strategy is in place and authorisation has been received from DoPI.

Table 8: Summary of site elements and their conservation requirements

Precinct	Element	Significance	Applicable Conservation Policies (marked with X if applicable)									Statement of Heritage Impact Required (Y = Yes, N = No, U = Unacceptable action, C = acceptable for conservation purposes only, N/A = Non applicable)			
			Policy 3	Policy 4	Policy 5	Policy 6	Policy 7	Policy 8	Policy 9	Policy 10	Policy 11	Demolition or Removal	Alteration of fabric	New Buildings	Adaptive Reuse
1. Power House Precinct	Remnant Power House Features	Moderate	X	X		X		X	X		X	U	C	Y	-
2. Administration Precinct	Administration Building	Little	X					X			X	N	N	N	N
	Pathways and Landscape Elements	Little	X					X			X	N	N	N	-
	Car park	Intrusive	X					X			X	N	N	N	-
3. Old Portal Precinct	Lower Bench Workshops	Little						X			X	N	N	N	N
	Upper bench Workshops	Moderate	X	X		X		X	X	X	X	U	C	Y	Y
	Workshop Offices	Moderate	X	X		X		X	X	X	X	U	C	Y	Y
	Brick Retaining Wall	High	X	X		X		X	X	X	X	U	C	Y	Y
	1887 Portal Area	Exceptional	X	X	X	X		X	X	X	X	U	C	Y	Y
4. Main Portal Precinct	The Main Portal	Little	X		X			X			X	N	N	N	N
	The New Bathhouse	Little	X					X			X	N	N	N	N
	Crib Room and First Aid Station	High	X	X		X		X	X	X	X	U	C	Y	Y
	Storeroom	High	X	X		X		X	X	X	X	U	C	Y	Y
5. Extraction Portal Precinct	The Extraction Portal	Little	X		X			X			X	N	N	N	N
	Main Downhill Conveyor	Little	X					X			X	N	N	N	-

Precinct	Element	Significance	Applicable Conservation Policies (marked with X if applicable)									Statement of Heritage Impact Required (Y = Yes, N = No, U = Unacceptable action, C = acceptable for conservation purposes only, N/A = Non applicable)			
			Policy 3	Policy 4	Policy 5	Policy 6	Policy 7	Policy 8	Policy 9	Policy 10	Policy 11	Demolition or Removal	Alteration of fabric	New Buildings	Adaptive Reuse
	Closed Adits	Moderate	X			X		X			X	U	C	Y	Y
6. Gibson’s Portal Precinct	Gibson’s Portal	High	X	X	X	X		X	X	X	X	U	C	Y	Y
	Sandstone Retaining Wall	Moderate	X	X		X		X	X	X	X	U	C	Y	Y
	Fan House	Little	X					X			X	N	N	N	N/A
	Gibson’s Sublease Portal and Associated Area	Little	X					X			X	N	N	N	N/A
	Electrical Sub-Station	Little	X					X			X	N	N	N	N/A
	Electrical Switchroom	Little	X					X			X	N	N	N	N/A
7. The Washery Precinct*	The Preparation Plant	Moderate						X			X	N*	N*	N*	N*
	Conveyor Systems	None						X			X	N	N	N	N/A
	Storage Silos	None						X			X	N	N	N	N/A
	Truck Loader	Little						X			X	N	N	N	N/A
8. Coal Stockpiles and Reject Material	Coal Stockpiles	Little									X	N	N	N	N/A
	Reject Material Emplacements	Little									X	N	N	N	N/A
	Settling Dams	Little									X	N	N	N	N/A
9. Rail Tracks, Signal Box and Associated Elements	Rail Tracks and System - Upper Bench	High	X	X		X		X	X	X	X	U	C	Y	Y

Precinct	Element	Significance	Applicable Conservation Policies (marked with X if applicable)									Statement of Heritage Impact Required (Y = Yes, N = No, U = Unacceptable action, C = acceptable for conservation purposes only, N/A = Non applicable)			
			Policy 3	Policy 4	Policy 5	Policy 6	Policy 7	Policy 8	Policy 9	Policy 10	Policy 11	Demolition or Removal	Alteration of fabric	New Buildings	Adaptive Reuse
	Rail Tracks and System – Other Areas	Moderate	X	X		X		X	X	X	X	U	C	Y	Y
	Signal Box	High	X	X		X		X	X	X	X	U	C	Y	Y
10. Moveable Heritage Items	Coal Wagon	High	X	X		X	X	X	X		X	U	C	Y	N/A
	Coal Cutter	Moderate	X	X		X	X	X	X		X	U	C	Y	N/A
11. Views and Vistas	Original Haulage Line Vistas	High	X			X		X	X		X	U	C	Y	N/A
	Remnant Incline Haulage Alignments	High	X			X		X	X		X	U	C	Y	N/A
*Conditional consent for the removal of this item has been approved under DA D2004/32.															

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APPENDIX 1: How to prepare a statement of heritage impact



Statements of Heritage Impact

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INTRODUCTION

This guideline has been prepared to assist people who wish to carry out work that could impact on a heritage item⁽¹⁾. They will also assist councils who must consider whether to approve such development.

A statement of heritage impact (SOHI) is meant to convey what the impact or impacts of a proposal would be. When considered along with a policy or plan for conservation and management, an informed decision can be made whether to allow the development to proceed. This guideline explains what comprises a SOHI, when it is needed, and the level of detail to be provided.

The guideline supports the Heritage Council's view that a SOHI become a regular part of the approval process.⁽²⁾ A SOHI might form part of a statement of environmental effects, a review of environmental factors or an environmental impact statement.

(1) Heritage items can be buildings, structures, places, relics or other works of historical, aesthetic, social, technical/research or natural heritage significance. 'Places' include conservation areas, sites, precincts, gardens, landscapes and areas of archaeological potential.

(2) See *Altering Heritage Assets* in the NSW Heritage Manual.



STATEMENTS OF HERITAGE IMPACT

WHAT IS A STATEMENT OF HERITAGE IMPACT?

A SOHI, together with supporting information, addresses:

- why the item is of heritage significance
- what impact the proposed works will have on that significance
- what measures are proposed to mitigate negative impacts
- why more sympathetic solutions are not viable.

WHEN IS A STATEMENT OF HERITAGE IMPACT NEEDED?

The Heritage Council requests that every development proposal it is required to consider be accompanied by a SOHI. Similarly, local councils and other development approval bodies are encouraged to require such a statement. This requirement could be viewed as a logical extension to a statement of environmental effects, which most councils commonly require.

WHAT INFORMATION IS REQUIRED TO PREPARE A STATEMENT OF HERITAGE IMPACT?

Proposals need to be supported by information that will assist the council to make an informed decision. Where the work involved is minor, or involves an item of local significance, the SOHI can be based simply on a statement of significance or a conservation policy. However, for a complex proposal that affects an item of State significance, a more detailed conservation management plan would be required to support the application. The publications *Heritage Approvals* and *Conservation Management Documents* in the NSW Heritage Manual, explain what these various documents are and how to prepare them.

Table 1 on pages 5 to 8, shows when a conservation management plan is needed for particular types of development, or when a conservation policy would suffice.

WHAT NEEDS TO BE EXPLAINED BY THE STATEMENT?

A SOHI needs to explain how the heritage value of an item is to be conserved, or preferably enhanced, by the proposed development. This could involve stabilisation and repair work, restoration, reconstruction or redevelopment for a new use.

The Heritage Council does not advocate the reproduction of heritage forms and finishes; rather, it supports quality new design that is sympathetic in form and finish and is respectful of its context.

The steps to be taken should be noted and in doing this, it is helpful to refer to the seven criteria used to define heritage significance (criteria can be downloaded from the Heritage Office website) in order to explain how the item's heritage value is to be retained.

Where the effect of proposed work is likely to be detrimental to the heritage significance of the item or area, a SOHI needs to argue why such action is the only viable solution and explain why alternatives are not. The works that will have a negative impact should be listed, with statements made under each point as to why the impact/s cannot be avoided, and what steps have been taken to minimise their effect/s. It might also be useful to consider these in relation to the criteria of heritage significance.

Table 1 outlines some of the questions that need to be answered in a SOHI for various types of development proposals.

HOW IS THE INFORMATION TO BE PRESENTED?

The SOHI should be concise. Pertinent reports such as the statement of heritage significance, analysis of significance and, where they exist, conservation policies, conservation management plans, physical condition reports and any other specialist consultant reports, are simply referred to in the statement, then attached.

Statement of Heritage Impact

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A Model

Statement of heritage impact for:

[Name of heritage item, item within a conservation area or site in the vicinity of a heritage item.]

This statement forms part of the statement of environmental effects for:

[A brief description of proposal.]

Date:

Reference:

[Reference number/s for the heritage item and/or conservation area (name the area), taken from LEP or REP schedule, or heritage study inventory.]

Address and property description:

[of heritage item, item within a conservation area or site in the vicinity of a heritage item.]

Prepared by:

[Name, address, phone and fax of author.]

For:

[Name of client or owner, where manager or owner



STATEMENTS OF HERITAGE IMPACT

is not the author.]

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

[List in point form. List also, any other completed or proposed future works, such as the implementation of maintenance plans, interpretation strategies or archival recording.]

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:

[List the ways in which the item or area is significant and the way/s they could be affected; why the work is necessary for the ongoing viability; and, the steps taken to minimise negative impacts. (Consider addressing significance under each of the seven criteria used to define heritage significance)]

The following sympathetic solutions have been considered and discounted for the following reasons:

[List alternatives (especially those identified in a conservation management plan or other study) and clearly argue why these cannot be implemented.]

Attachments:

[List. For example, statement of heritage significance, study, State Heritage Inventory form, conservation policy or conservation management plan, building condition report, engineer's report and/or archaeologist's report.]

References:

[List. For example, heritage studies, conservation management plans, archaeological zoning plans, or environmental impact statements.]

Table 1

Some Questions to be Answered in a Statement of Heritage Impact and Supporting Information Required

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The following are some of the questions that need to be answered in a statement of heritage impact. They offer guidance as to whether a conservation management plan, conservation policy or a statement of heritage significance would be necessary.

The following abbreviations are used in the table:
SOS statement of heritage significance
CP conservation policy
CMP conservation management plan.

Depending on the degree of impact and the complexity of the proposal, in some circumstances the local council or Heritage Council may require a conservation management plan to be prepared for an item of local significance. (This would usually only be required for work that affects an item of State significance.)



STATEMENTS OF HERITAGE IMPACT

TABLE 1

Proposed Change to Heritage Item	Some Questions to be Answered in a Statement of Heritage Impact	Minimum Supporting Information Required
Demolition of a building or structure	<ul style="list-style-type: none"> • Have all options for retention and adaptive re-use been explored? • Can all of the significant elements of the heritage item be kept and any new development be located elsewhere on the site? • Is demolition essential at this time or can it be postponed in case future circumstances make its retention and conservation more feasible? • Has the advice of a heritage consultant been sought? Have the consultant's recommendations been implemented? If not, why not? 	Local: SOS State: CMP
Minor partial demolition (including internal elements)	<ul style="list-style-type: none"> • Is the demolition essential for the heritage item to function? • Are important features of the item affected by the demolition (e.g. fireplaces in buildings)? • Is the resolution to partially demolish sympathetic to the heritage significance of the item? • If the partial demolition is a result of the condition of the fabric, is it certain that the fabric cannot be repaired? 	Local: SOS State: CP
Major partial demolition (including internal elements)	<ul style="list-style-type: none"> • Is the demolition essential for the heritage item to function? • Are particular features of the item affected by the demolition (e.g. fireplaces in buildings)? • Is the detailing of the partial demolition sympathetic to the heritage significance of the item (e.g. creating large square openings in internal walls rather than removing the wall altogether)? • If the partial demolition is a result of the condition of the fabric, is it certain that the fabric cannot be repaired? 	Local: SOS State: CMP
Change of use	<ul style="list-style-type: none"> • Has the advice of a heritage consultant or structural engineer been sought? Has the consultant's advice been implemented? If not, why not? • Does the existing use contribute to the significance of the heritage item? • Why does the use need to be changed? • What changes to the fabric are required as a result of the change of use? • What changes to the site are required as a result of the change of use? 	Local: SOS State: CMP



STATEMENTS OF HERITAGE IMPACT

Proposed Change to Heritage Item	Some Questions to be Answered in a Statement of Heritage Impact	Minimum Supporting Information Required
Minor additions (see also minor partial demolition)	<ul style="list-style-type: none"> How is the impact of the addition on the heritage significance of the item to be minimised? Can the additional area be located within an existing structure? If no, why not? Will the additions visually dominate the heritage item? Is the addition sited on any known, or potentially significant archaeological deposits? If so, have alternative positions for the additions been considered? Are the additions sympathetic to the heritage item? In what way (e.g. form, proportions, design)? 	Local: SOS State: CP
Major additions (see also major partial demolition)	<ul style="list-style-type: none"> How is the impact of the addition on the heritage significance of the item to be minimised? Can the additional area be located within an existing structure? If not, why not? Will the additions tend to visually dominate the heritage item? Are the additions sited on any known, or potentially significant archaeological deposits? If so, have alternative positions for the additions been considered? Are the additions sympathetic to the heritage item? In what way (e.g. form, proportions, design)? 	Local: SOS State: CMP
New development adjacent to a heritage item (including additional buildings and dual occupancies) <i>Note: Most planning instruments (such as local and regional environmental plans) require the approval authority to take into account the impact of new development on adjacent heritage items or conservation areas.</i>	<ul style="list-style-type: none"> How is the impact of the new development on the heritage significance of the item or area to be minimised? Why is the new development required to be adjacent to a heritage item? How does the curtilage allowed around the heritage item contribute to the retention of its heritage significance? How does the new development affect views to, and from, the heritage item? What has been done to minimise negative effects? Is the development sited on any known, or potentially significant archaeological deposits? If so, have alternative sites been considered? Why were they rejected? Is the new development sympathetic to the heritage item? In what way (e.g. form, siting, proportions, design)? Will the additions visually dominate the heritage item? How has this been minimised? Will the public, and users of the item, still be able to view and appreciate its significance? 	Local: CP State: CMP



STATEMENTS OF HERITAGE IMPACT

Proposed Change to Heritage Item	Some Questions to be Answered in a Statement of Heritage Impact	Minimum Supporting Information Required
Subdivision <i>Note: Impacts on heritage values related to new subdivision can often be minimised through development control plans (DCPs). Refer to the Best Practice Guideline on preparing DCPs published by the Department of Planning.</i>	<ul style="list-style-type: none"> How is the proposed curtilage allowed around the heritage item appropriate? Could future development that results from this subdivision compromise the significance of the heritage item? How has this been minimised? Could future development that results from this subdivision affect views to, and from, the heritage item? How are negative impacts to be minimised? 	Local: SOS State: CMP
Repainting using new colour schemes	<ul style="list-style-type: none"> Have previous (including original) colour schemes been investigated? Are previous schemes being reinstated? Will the repainting effect the conservation of the fabric of the heritage item? 	Local: SOS State: CP
Re-roofing/re-cladding	<ul style="list-style-type: none"> Have previous (including original) roofing/cladding materials been investigated (through archival and physical research)? Is a previous material being reinstated? Will the re-cladding effect the conservation of the fabric of the heritage item? Are all details in keeping with the heritage significance of the item (e.g. guttering, cladding profiles)? Has the advice of a heritage consultant or skilled tradesperson (e.g. slate roofer) been sought? 	Local: SOS State: CP
New services (e.g. air conditioning, plumbing)	<ul style="list-style-type: none"> How has the impact of the new services on the heritage significance of the item been minimised? Are any of the existing services of heritage significance? In what way? Are they affected by the new work? Has the advice of a conservation consultant (e.g. architect) been sought? Has the consultant's advice been implemented? Are any known or potential archaeological deposits (underground and under floor) affected by the proposed new services? 	Local: SOS State: CP (CMP for a major services upgrade)
Fire upgrading <i>Note: Where agreement cannot be reached between the local council and your consultants on suitable fire-upgrading you may seek the advice of the Fire, Access & Services Panel, a subcommittee of the Heritage Council of NSW. Contact the Heritage Office for further information on (02) 9391 2115.</i>	<ul style="list-style-type: none"> How has the impact of the upgrading on the heritage significance of the item been minimised? Are any of the existing services of heritage significance? In what way? Are they affected by the new work? Has the advice of a conservation consultant (e.g. architect) been sought? Has their advice been implemented? 	Local: SOS State: CP

Continued

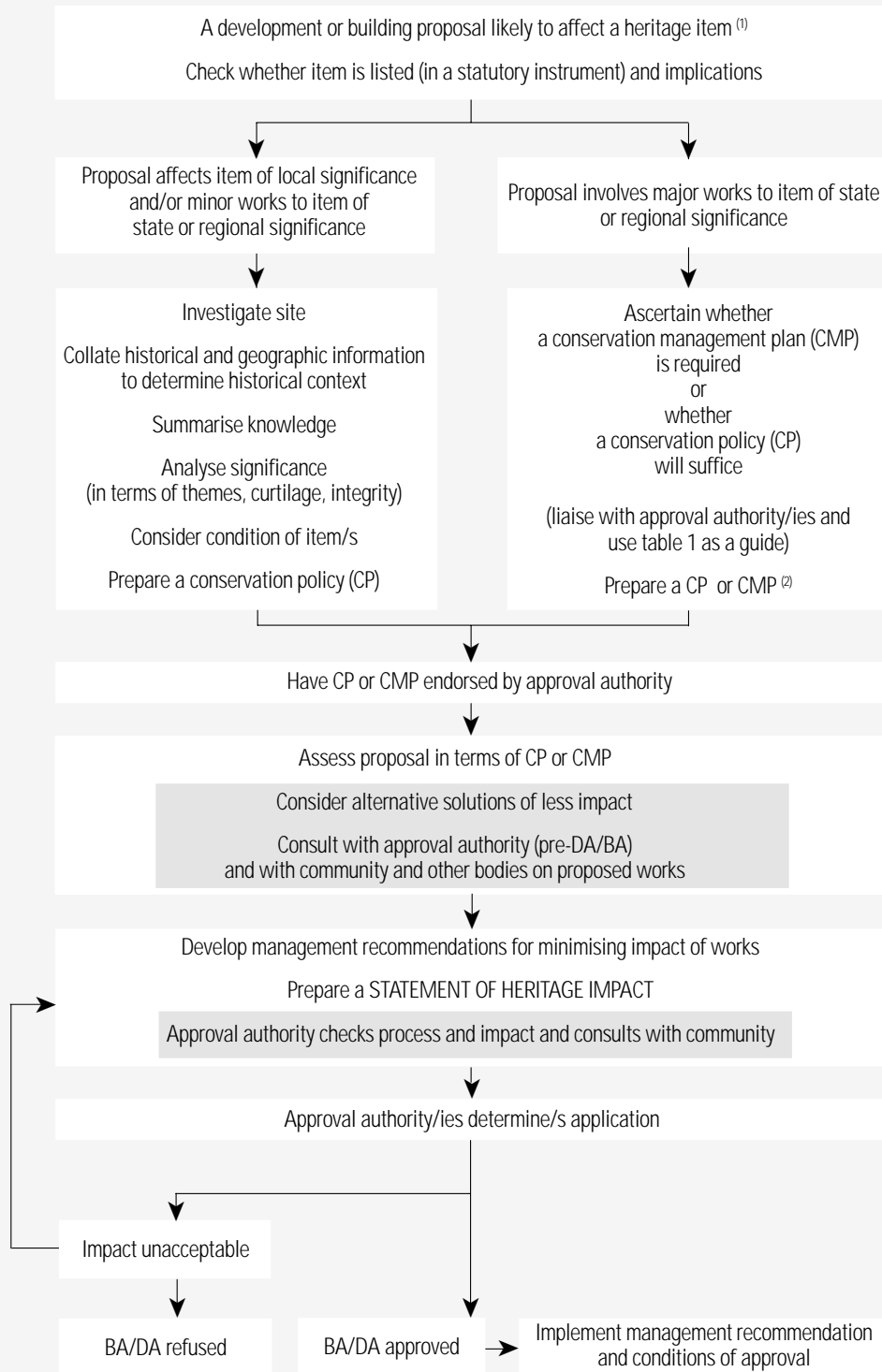


STATEMENTS OF HERITAGE IMPACT

Proposed Change to Heritage Item	Some Questions to be Answered in a Statement of Heritage Impact	Minimum Supporting Information Required
Fire upgrading (continued)	<ul style="list-style-type: none"> Are any known or potential archaeological deposits (underground or under floor) affected by the proposed new services? Has the advice of a fire consultant been sought to look for options that would have less impact on the heritage item? Will this advice be implemented? How? 	
New landscape works and features (including carpark and fences)	<ul style="list-style-type: none"> How has the impact of the new work on the heritage significance of the existing landscape been minimised? Has evidence (archival and physical) of previous landscape work been investigated? Are previous works being reinstated? Has the advice of a consultant skilled in the conservation of heritage landscapes been sought? If so, have their recommendations been implemented? Are any known or potential archaeological deposits affected by the landscape works? If so, what alternatives have been considered? How does the work impact on views to, and from, adjacent heritage items? 	Local: SOS State: CMP (CP will suffice for minor works)
Tree removal or replacement <i>Note: Always check the tree preservation provisions of your local council when proposing removal of trees</i>	<ul style="list-style-type: none"> Does the tree contribute to the heritage significance of the item or landscape? Why is the tree being removed? Has the advice of a tree surgeon or horticultural specialist been obtained? Is the tree being replaced? Why? With the same or a different species? 	Local: SOS State: CP
New signage <i>Note: Check whether the local council has a signage policy or design guidelines</i>	<ul style="list-style-type: none"> How has the impact of the new signage on the heritage significance of the item been minimised? Have alternative signage forms been considered (e.g. free standing or shingle signs). Why were they rejected? Is the signage in accordance with section 6, 'Areas of Heritage Significance', in <i>Outdoor Advertising: An Urban Design-Based Approach</i>?⁽¹⁾ How? Will the signage visually dominate the heritage item/ heritage conservation area or heritage streetscape? Can the sign be remotely illuminated rather than internally illuminated? 	Local: SOS State: CP

(1) A joint publication by the Department of Planning (NSW) & Department of Planning and Housing (Victoria). Published by Department of Planning (NSW), Sydney, 1991.

DEVELOPMENT AND BUILDING APPROVAL FLOW CHART



Note: Indicates public participation.

(1) Items may be cultural landscapes, places, conservation areas, buildings, structures, relics or other work of heritage significance. They may be positioned on or adjacent to the development site

(2) See Conservation Management Documents in the NSW Heritage Manual for information on preparing policies and plans