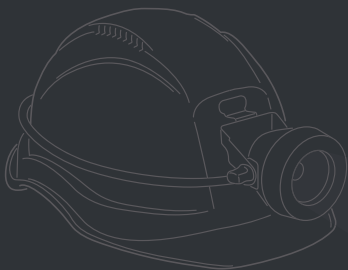


Wallarrah 2 Coal Project

Environmental Impact Statement

April 2013

Appendix T Historic Heritage Assessment





WSF-HS1: Axe marks in a tree stump.

HISTORIC HERITAGE ASSESSMENT

**Wallerah 2 Coal Project
December 2012**

**Report Prepared by
OzArk Environmental & Heritage Management Pty Ltd
for Hansen Bailey Environmental Consultants
on behalf of
Wallerah Areas Coal Joint Venture**



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EXECUTIVE SUMMARY

The Wyong Areas Coal Joint Venture seeks a Development Consent under Division 4.1 in Part 4 of the *Environmental Planning and Assessment Act 1979* for the Wallarah 2 Coal Project. This historical heritage assessment supports 'The Wallarah 2 Coal Project Environmental Impact Statement' prepared by Hansen Bailey Environmental Consultants to support the application.

This historical heritage assessment has been prepared in accordance with the Director-General's Environmental Assessment Requirements for the Wallarah 2 Coal Project issued 12 January 2012 in accordance with the requirements in Part 2 in Schedule 2 to the *Environmental Planning & Assessment Regulation 2000*.

OzArk Environmental & Heritage Management P/L has conducted two heritage studies in relation to the Wallarah 2 Coal Project. The 2006 study investigated four areas: Tooheys Road Site; Buttonderry Site; Western Ventilation Shaft and other Wyong Areas Coal Joint Venture owned land at Hue Hue Road. The 2010 study investigated two areas within the Subsidence Impact Limit: Wyong State Forest/Jilliby State Conservation Area and Honeysuckle Park.

During survey in the Wyong State Forest, items were recorded of potential historical heritage interest (WSF-HS1: a complex of items related to the timber industry) although all components of WSF-HS1 were assessed as having a low and local heritage significance.

There are two items listed in the Wyong Local Environmental Plan that are within the Subsidence Impact Limit and could be affected by mine subsidence. In the Wyong Local Environmental Plan these items have local heritage significance.

- Brick and Iron Silo (item 1): Study to be undertaken to assess potential impacts with input from structural engineer, subsidence engineer and a heritage consultant and incorporated into a Subsidence Management Plan. Management strategies should be developed to ensure that heritage significance is not adversely affected and to establish remediation measures. Normal building maintenance techniques to repair cracking. To be reviewed by a heritage consultant.
- House 'Bangalow' (item 3): Study to be undertaken to assess potential impacts with input from structural engineer, subsidence engineer and a heritage consultant and incorporated into a Subsidence Management Plan. Management strategies should be developed to ensure that heritage significance is not adversely affected and to establish remediation measures. Minor to substantial remediation measures, including re-levelling of some wet areas. To be reviewed by a heritage consultant.

Further, nine items (G, J, K, M, N, O, Q, R, S, see **Table 3**) identified as having potential local heritage significance in a previous survey conducted by ERM (2001d) are within the Subsidence Impact Limit, or are at potential risk from increased flood levels. These sites were

assessed by OzArk in 2012 and the following recommendations are made to be implemented as part of the Subsidence Management Plan (SMP):

- Item M is assessed to have local heritage significance. It should be managed under a precautionary program that maintains or enhances the item's heritage significance. This would involve a heritage consultant inspecting and commenting on any remedial work to these items that may be recommended in the SMP.
- Items O and Q have no particular heritage constraints, but archival recording of the items is recommended prior to the commencement of mining in the area.
- Item N has no particular heritage constraints although the item should be the subject of further community consultation to determine any historical connections to this item prior to the commencement of mining in the area.
- Item K was not accessible for assessment in 2012 and is assessed as having possible heritage values. This item requires further assessment for recommendations to be made concerning its heritage management.

Items G, J, R and S have been assessed as having no heritage significance and no recommendations have been made for these items.

CONTENTS

Executive Summary	1
Contents	3
Figures	5
Tables	5
Plates	6
1 Introduction	7
1.1 Proposed works	7
1.2 The Project Boundary	8
2 The Heritage Assessment	15
2.1 Purpose and Objectives of the Archaeological Investigation	15
2.2 Date of Heritage Assessment	15
2.3 OzArk Involvement.....	15
2.4 Desktop Database Searches Conducted	16
2.5 Project Constraints.....	16
2.5.1 Disturbance Area	16
2.5.2 Other WACJV Owned Land	17
2.5.3 Subsidence Impact Limit.....	17
3 Historic Heritage Assessment: Background	19
3.1 Introduction	19
3.2 Historic Settlement in the Region	19
3.2.1 Primary Industries	19
3.2.2 Parish Map Searches.....	20
3.2.3 Trove Searches	21
3.3 Local Context.....	24
3.4 Survey Methodology	27
3.4.1 Disturbance Area	27
3.4.2 Other WACJV Owned Land	28
3.4.3 Subsidence Impact Limit.....	28

4	Results.....	31
4.1	Historic Sites Recorded	31
4.1.1	Disturbance Area	31
4.1.2	Other WACJV Owned Land	32
4.1.3	Subsidence Impact Limit.....	32
4.2	Discussion	35
4.3	Assessment of Historic Heritage Significance	35
4.3.1	Assessment of significance—general principles.....	35
4.3.2	Assessment of significance of historic items	37
4.3.3	Disturbance Area	37
4.3.4	Subsidence Impact Limit.....	38
4.4	Likely Impacts to Historic Heritage from The Project	40
4.4.1	Disturbance Area	41
4.4.2	Other WACJV owned land	41
4.4.3	Subsidence Impact Limit.....	41
5	Management and Mitigation: Historic Heritage	45
5.1	Management and Mitigation of Recorded Historic Sites	45
5.2	Heritage Management Plan	45
5.3	Disturbance Area	45
5.4	Other WACJV owned land	45
5.5	Subsidence Impact Limit.....	45
5.5.1	Items on Wyong LEP	45
5.5.2	Other historic items	46
5.5.3	Wyong State Forest/Jilliby SCA	47
5.5.4	Honeysuckle Park.....	47
5.6	Relevant Legislation.....	47
5.6.1	Introduction.....	47
5.6.2	State Legislation	47
5.6.3	Commonwealth Legislation	49

5.6.4	Applicability to the Project Boundary	49
6	Recommendations	50
7	References	51
	Plates	53

FIGURES

Figure 1: Regional Locality.....	10
Figure 2: Conceptual Project layout.	11
Figure 3: Conceptual Project layout: Tooheys Road Site.	12
Figure 4: Conceptual Project layout: Buttonderry Site	13
Figure 5: Conceptual Project layout: Western Ventilation Shaft and the Subsidence Impact Limit.	14
Figure 6: Location of historic heritage items within and in proximity to the Project Boundary....	30
Figure 7: Location of historic items within the Wyong State Forest/Jilliby SCA area.	33
Figure 8: Potential impact of subsidence and flooding on historic items.	44

TABLES

Table 1: Previous assessment of Project Boundary by OzArk.	9
Table 2: Desktop-database search results.	16
Table 3: Previously identified heritage items within or in close proximity to the Project Boundary.	25
Table 4: Predicted impacts within the Subsidence Impact Limit on historic heritage sites.	42
Table 5: Recommendations for possible remedial work to listed historic items.....	46
Table 6: Recommendations for possible remedial work to other historic items.....	46
Table 7: Items with no heritage values: recommendations for further recording or research work	47

PLATES

Plate 1: Tooheys Road Site.....	54
Plate 2: Buttonderry Site.	54
Plate 3: Brothers Road near the Western Ventilation Shaft area.	55
Plate 4: Other WACJV Owned Land at Hue Hue Road (DP719762)..	55
Plate 5: Subsidence Impact Limit: Jilliby SCA	56
Plate 6: Subsidence Impact Limit: Wyong State Forest/Jilliby SCA	56
Plate 7: Subsidence Impact Limit: Honeysuckle Park alluvial floodplain property.	57
Plate 8: View northeast of the farm ruin (26/NI; Tooheys Road Site).....	57
Plate 9: View west of the farm ruin (26/NI; Tooheys Road Site).	58
Plate 10: WSF-HS1: Road cutting for the forestry road.	58
Plate 11: WSF-HS1: Axe marks in a tree stump.....	59
Plate 12: WSF-HS1: Different phases of culverts beneath the forestry road along Little Jilliby Jilliby Creek.	59
Plate 13: Brick and iron silo that is registered on the Wyong LEP.	60
Plate 14: View from the road of Item G.	61
Plate 15: This view of Item J was taken from Little Jilliby Road.....	61
Plate 16: This was the best available aspect of Item K.....	62
Plate 17: View north along the bridge (Item M) over Little Jilliby Road.	62
Plate 18: Steel girders have somewhat compromised the aesthetic value of Item M.	63
Plate 19: Planking, sandbagging, and a silt fence have been instated to combat erosion at this end of Item M	63
Plate 20: The Bunya Pine (Item N).....	64
Plate 21: Keegan's silo (Item O).....	65
Plate 22: The silo (Item Q).	65
Plate 23: This barn or cottage (Item R)	66
Plate 24: Cottage (Item S).....	66

1 INTRODUCTION

1.1 PROPOSED WORKS

The Wyong Areas Coal Joint Venture (WACJV) seeks a Development Consent under Division 4.1 in Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for the Wallarah 2 Coal Project (the Project). This historic heritage assessment supports 'The Wallarah 2 Coal Project Environmental Impact Statement' (Walarah 2 EIS) prepared by Hansen Bailey Environmental Consultants to support the application.

This historic heritage assessment has been prepared in accordance with the Director-General's Environmental Assessment Requirements (DGRs) for the Project issued 12 January 2012 in accordance with the requirements in Part 2 in Schedule 2 to the *Environmental Planning & Assessment Regulation 2000* (EP&A Regs).

Development Consent is sought to mine coal within the Extraction Area for a duration of 28 years. Since the projected life of mining within the Extraction Area is in the order of 42 years, a further planning approval would be required for continuation of mining after year 28. The majority of this resource lies beneath the Wyong State Forest and surrounding ranges (including the Jilliby State Conservation Area (SCA)) while a proportion, to be extracted first, lies beneath a section of the Dooralong Valley and the Hue Hue area (**Figure 1**).

Key features of the Project include (**Figure 2**):

- The construction and operation of an underground mining operation extracting up to 5.0 Mtpa of export quality thermal coal by longwall methods at a depth of between 350m and 690m below the surface within the underground Extraction Area;
- Mining and related activities will occur 24 hours a day 7 days a week for a Project period of 28 years;
- Tooheys Road Site surface facilities on company owned and third party land (subject to a Mining Lease) between the Motorway Link Road and the F3 Freeway which will include (at least) a rail loop and spur, stockpiles, water and gas management facilities, workshop and offices;
- Buttonderry Site Surface Facilities on company owned land at Hue Hue Road between Sparks Road and the Wyong Shire Council's (WSC) Buttonderry Waste Management Facility. This facility will include (at least) the main personnel access to the mine, main ventilation facilities, offices and employee amenities;
- An inclined tunnel (or "drift") constructed from the coal seam beneath the Buttonderry Site to the surface at the Tooheys Road Site;
- The ability to receive, stockpile and rail coal from other sources at the Tooheys Road Site within the approval limits sought. This capability could result in a reduction in overall road haulage of coal between the Central Coast and the Newcastle region;

- Construction and use of various mining related infrastructure including water management structures, water treatment plant (reverse osmosis or similar), generator, second air intake ventilation shaft, boreholes, communications, water discharge point, powerlines, and easements to facilitate connection to the WSC (after July 2013, the Central Coast Water Corporation) water and sewerage connections in future;
- Capture of methane for treatment initially involving flaring as practicable for greenhouse emission management and ultimately for beneficial use of methane such as electricity generation at the Tooheys Road Site;
- Transport of coal by rail to either the Newcastle port for export or to domestic power stations;
- A workforce of approximately 300 full-time company employees (plus an additional 30 full time contractors); and
- Rehabilitation and closure of the site at cessation of mining operations.

The land which is the subject of this assessment comprises the area within the Project Boundary on **Figure 2**.

1.2 THE PROJECT BOUNDARY

The Project Boundary is located to the north-west of Wyong on the Central Coast of NSW (**Figure 1**). In the east the Project Boundary comprises Jilliby Jilliby Creek and surrounding properties that occupy the floodplains and adjacent rises of Jilliby Jilliby Creek and its tributaries. In the west the Project Boundary is occupied by the Wyong State Forest/Jilliby SCA and is comprised of wooded hills that rise abruptly, albeit to a low relative altitude, from the floodplains of Jilliby Jilliby Creek.

OzArk Environmental and Heritage Management Pty Ltd (OzArk) assessed seven separate areas (**Table 1; Figures 2–5**) forming a representative sample of the Project Boundary. For the purposes of consistency, the original Study Area names and their equivalences in this report have been given in **Table 1**. **Plates 1–7** give an impression of the terrain and vegetation coverage at many of the main assessment areas within the Project Boundary including:

Plate 1: Tooheys Road Site;

Plate 2: Buttonderry Site;

Plate 3: Western Ventilation Shaft;

Plate 4: Other WACJV owned land (Hue Hue Road ecological offset investigation area);

Plates 5–6: Jilliby SCA (formerly the Wyong State Forest); and

Plate 7: Honeysuckle Park.

Table 1: Previous assessment of Project Boundary by OzArk.

Area name in this report	Former OzArk Survey Reports	Area name in previous reports	Current Project Impact
Infrastructure Boundary			
Tooheys Road Site	OzArk 2009: Indigenous and non-Indigenous Heritage Assessment: Surface Facilities – Wallarah 2 Coal Project, Wyong NSW.	Tooheys Road Study Area	Direct
Buttonderry Site	OzArk 2009	Buttonderry Study Area	Direct
Western Ventilation Shaft	OzArk 2009	Western Shaft Study Area	Direct
Subsidence Impact Limit			
Wyong State Forest/Jiliby SCA	OzArk 2010: Indigenous and Historic Heritage Assessment. Subsidence zone for the Wallarah 2 Coal Project.	Wyong State Forest Survey Study Area	Indirect
Honeysuckle Park	OzArk 2010	Honeysuckle Park Survey Study Area	Indirect
Other WACJV owned land			
Other WACJV owned land	OzArk 2009	Hue Hue Road Ecological Offset Investigation Area	No impact

Figure 1: Regional Locality.

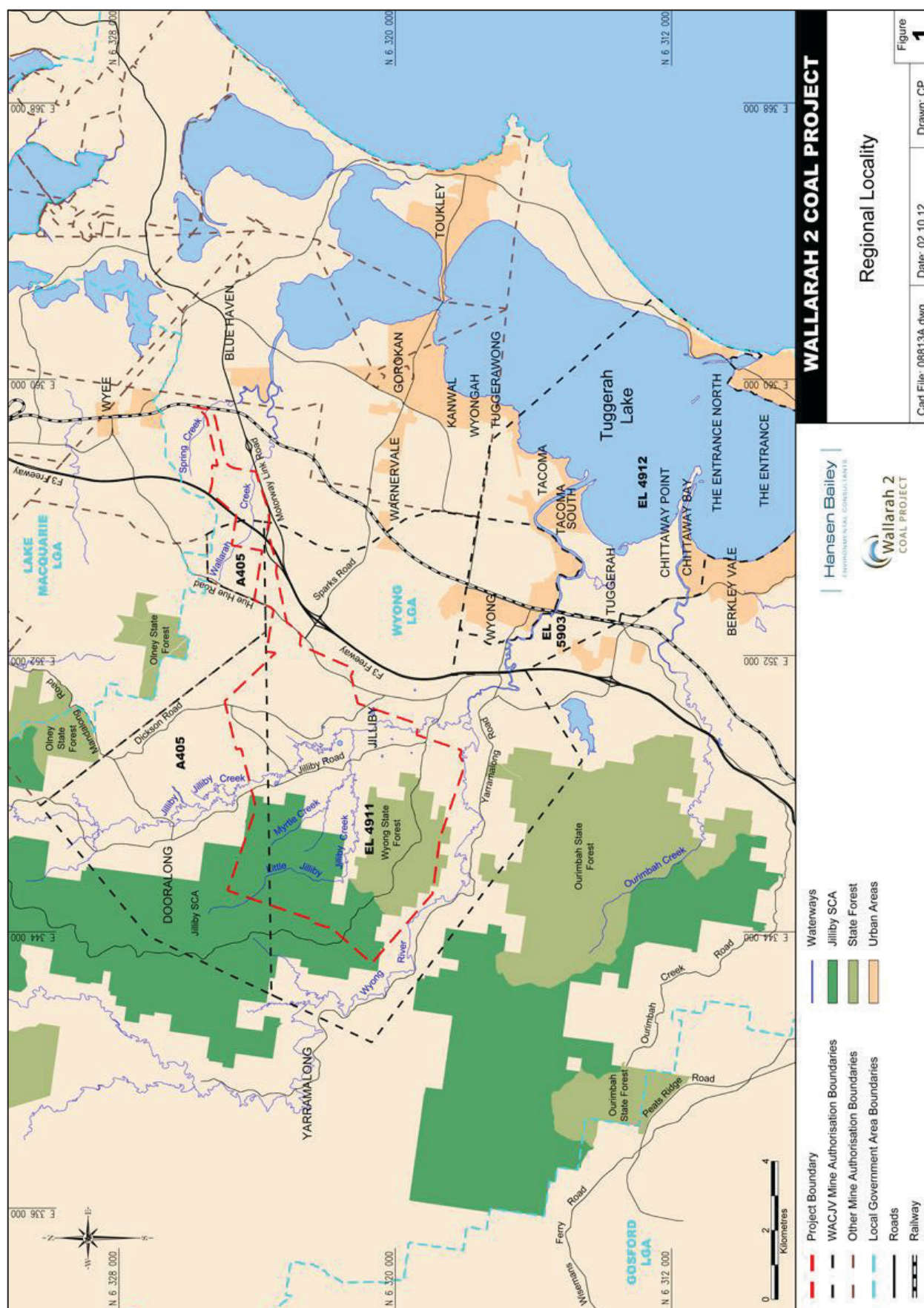


Figure 2: Conceptual Project layout.

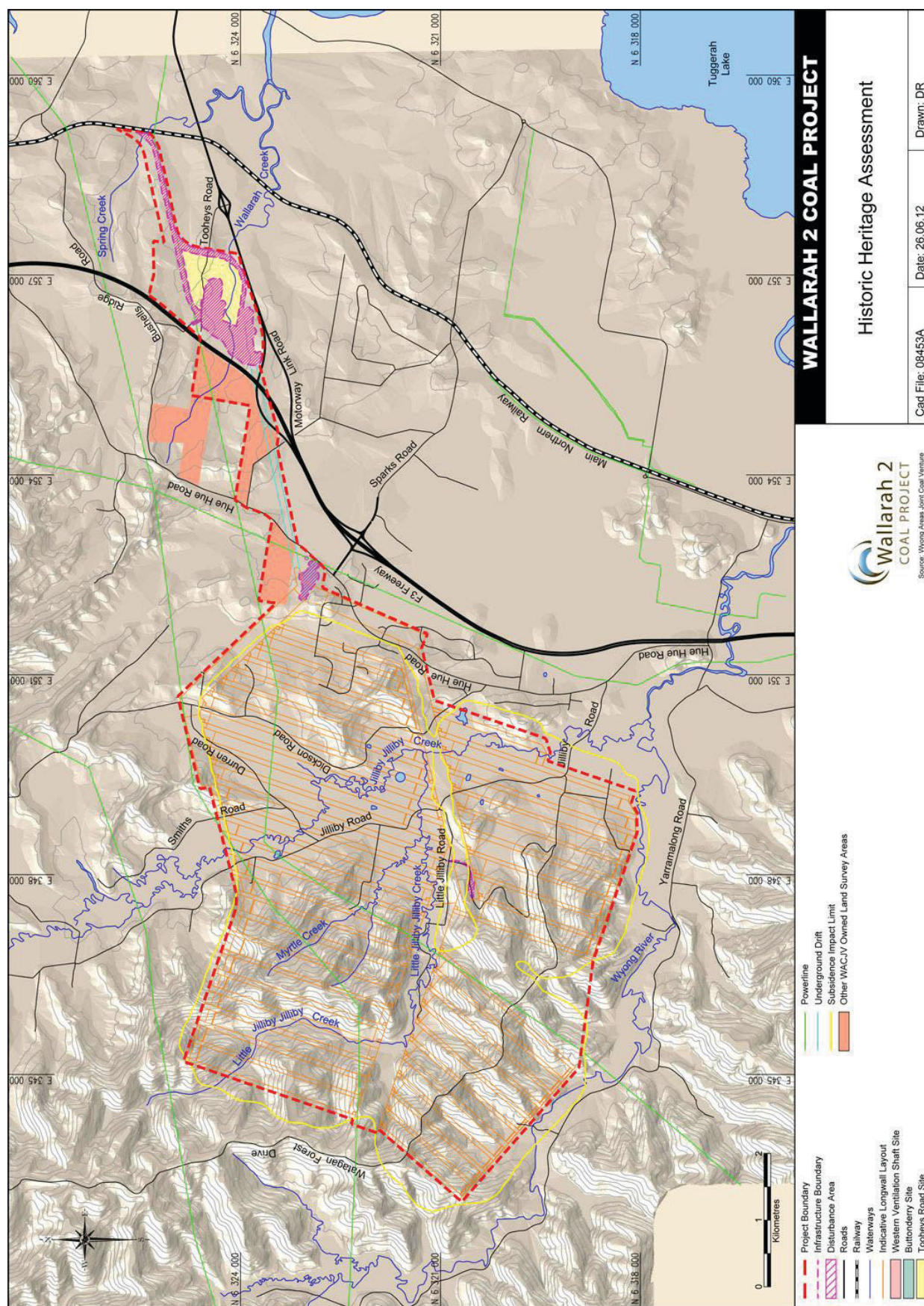
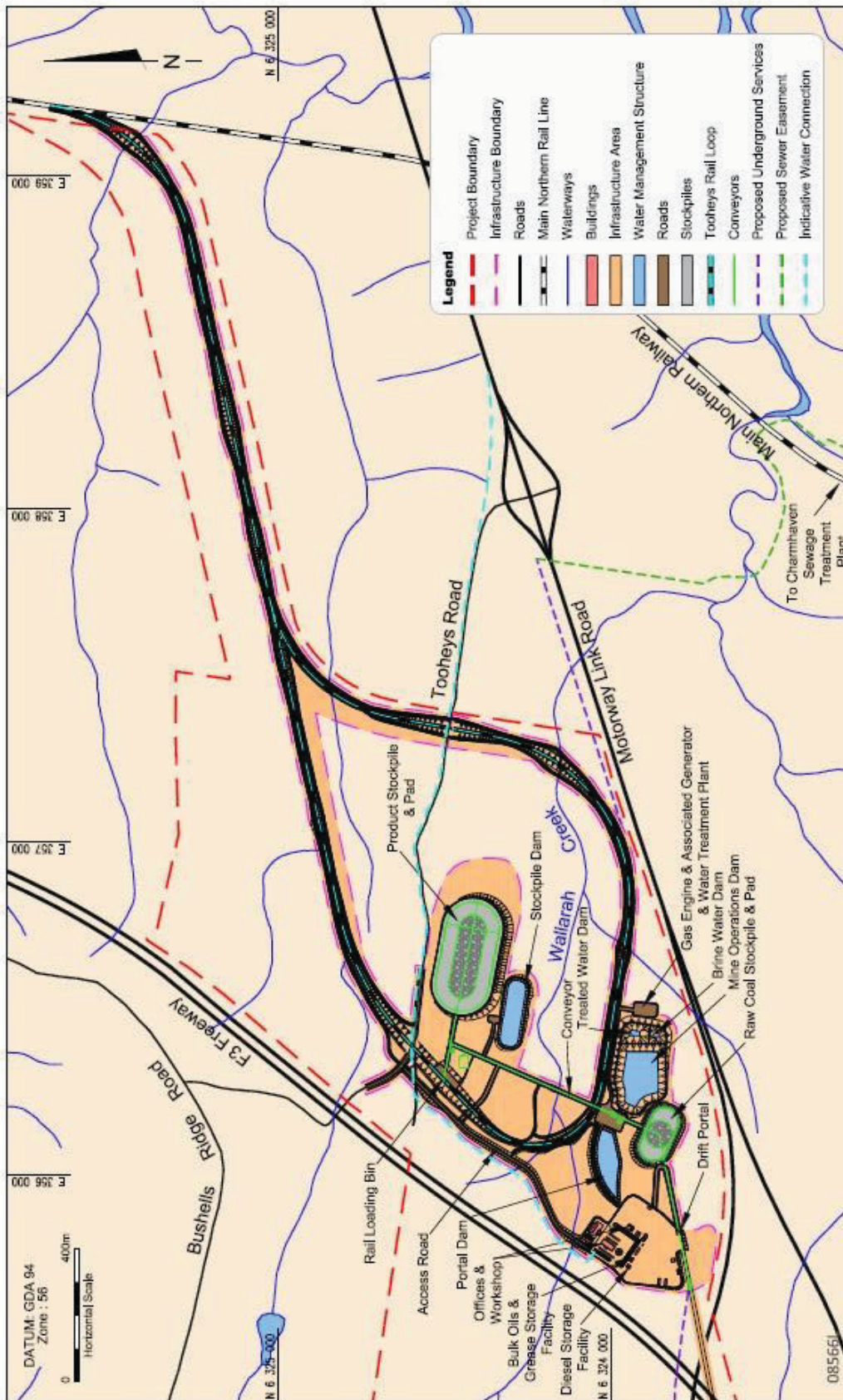


Figure 3: Conceptual Project layout: Tooheys Road Site.



WALLARAH 2 COAL PROJECT
Conceptual Layout Tooheys Road Site

Figure 4: Conceptual Project layout: Buttonderry Site

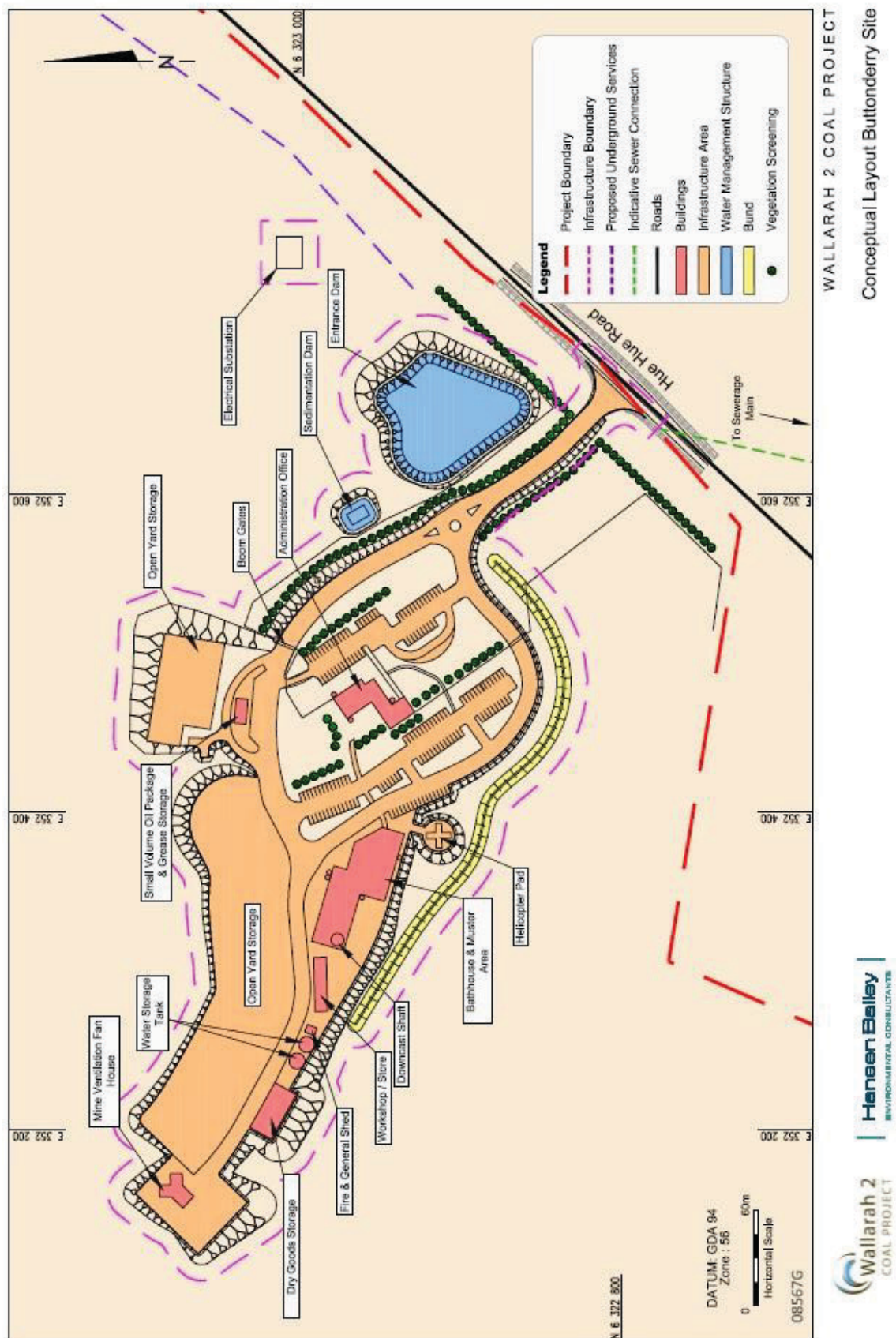
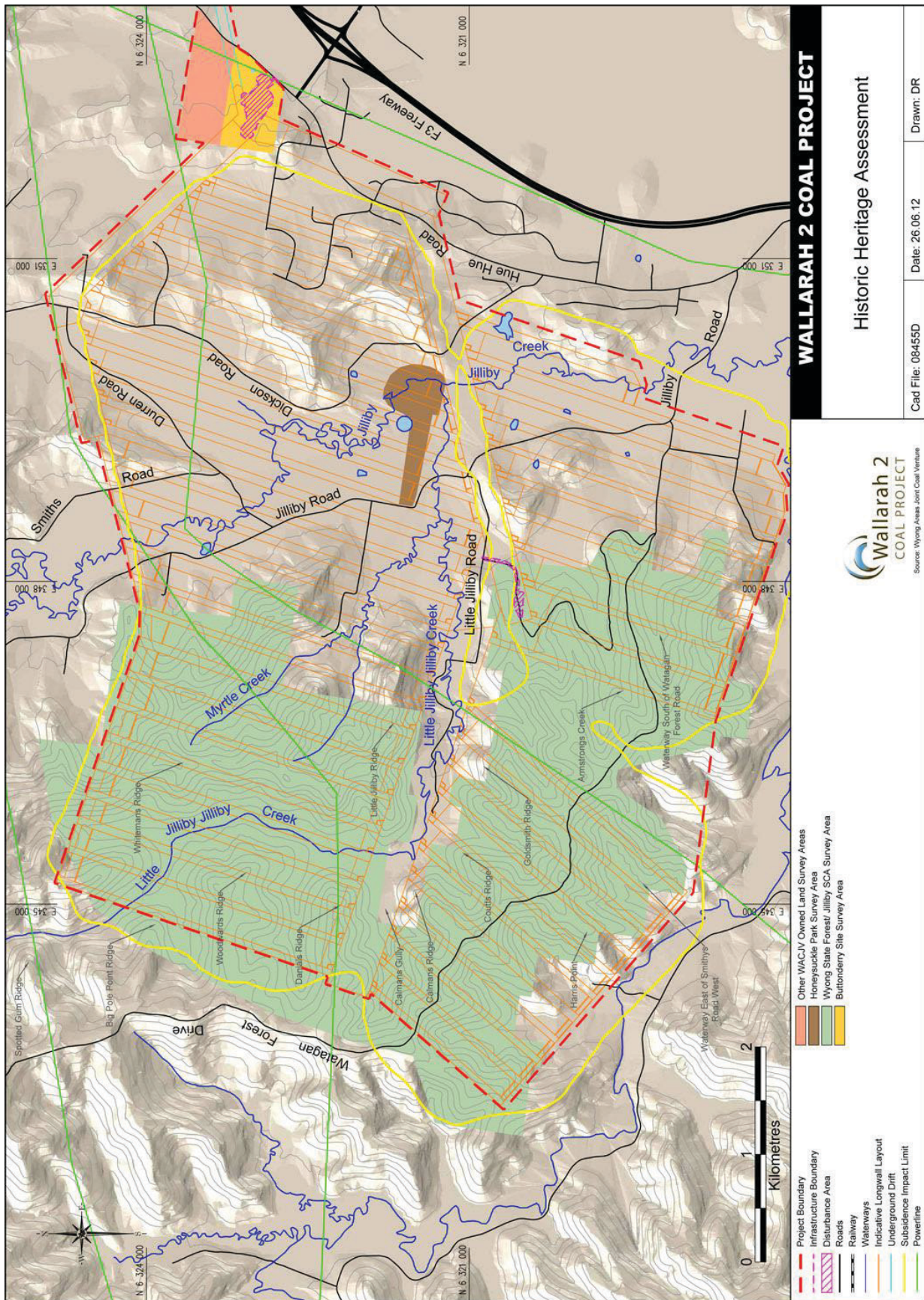


Figure 5: Conceptual Project layout: Western Ventilation Shaft and the Subsidence Impact Limit.

2 THE HERITAGE ASSESSMENT

2.1 PURPOSE AND OBJECTIVES OF THE ARCHAEOLOGICAL INVESTIGATION

The purpose of the current study is to identify and assess items of historical heritage within the Project Boundary in order to identify potential impacts from the Project and provide management recommendations as required.

The objectives of this assessment were to:

Objective One: Record previously unidentified historical heritage features.

Objective Two: Assess the heritage significance of and potential impacts to historical heritage items within the Project Boundary.

Objective Three: Recommend management and mitigation measures in the light of Objective Two.

2.2 DATE OF HERITAGE ASSESSMENT

OzArk conducted the historical heritage surveys over the following dates:

- 13 October 2006.
- 14 to 16 November 2006.
- 25 to 29 January 2010.
- 27 November 2012

2.3 OZARK INVOLVEMENT

OzArk has conducted field assessments in relation to the Project. They are as follows:

- In 2006, Dr Jodie Benton and Mr Ben Churcher of OzArk conducted field assessment of the Tooheys Road Site, Buttonderry Site, Western Ventilation Shaft, as well as Other WACJV owned land (Hue Hue Road ecological offset investigation area). Mr Phil Cameron accompanied the survey team.
- In 2010, Mr Ben Churcher and Ms Pauline Hams of OzArk undertook targeted heritage surveys of two areas within the Subsidence Impact Limit (Wyang State Forest/Jilliby SCA and Honeysuckle Park) to test the veracity of the desktop predictive model and to better inform management options for the Subsidence Impact Limit (**Figures 2 and 5**) (OzArk 2010).
- In 2012, Nick Harrop of OzArk assessed a collection of items of potential historic heritage significance (G, J, K, M, N, O, Q, R and S) within the Subsidence Impact Limit in the Jilliby area (**Figure 6**).

OzArk personnel involved in the field mobilisations have consisted of:

- Dr Jodie Benton (Principal Archaeologist, BA [Hons] and PhD University of Sydney).
- Mr Ben Churcher (Senior Archaeologist, (BA [Hons] Dip.Ed.)
- Ms Pauline Hams (Assistant Archaeologist, BA).
- Mr Phil Cameron (Ecologist, Bsc, Ass. Dip. App. Sci).
- Mr Nick Harrop (Senior Archaeologist, BA [Hons])

This heritage assessment was written by Mr Kim Tuovinen (Archaeologist, BA [Hons] University of Sydney; Grad Dip [Arch] Flinders University), Dr Benton, Mr Churcher, and Mr Harrop.

2.4 DESKTOP DATABASE SEARCHES CONDUCTED

A desktop search was conducted on the following databases to identify any potential items of heritage significance. The sources and results of this search are summarised in **Table 2**.

Table 2: Desktop-database search results.

Name of database searched	Date of search	Type of search	Comment
Australian Heritage Database (AHD). http://www.environment.gov.au/heritage/ahdb/	28 March 2012	Wyong Local Government Area (Wyong LGA).	One place on the search is located near Wyong (Alison Homestead). It is not located within or adjacent to the Project Boundary.
NSW Heritage Office State Heritage Register (SHR) and State Heritage Inventory (SHI). http://www.heritage.nsw.gov.au/	28 March 2012	Wyong LGA.	Four places within the Wyong LGA are registered on the SHR. 104 places within the Wyong LGA are listed on the SHI.
Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) Protected Matters (EPBC Act) Database. http://www.environment.gov.au/arcgis-framework/apps/pmst/pmst-region.jsf	28 March 2012	Wyong LGA.	No World Heritage Properties or National Heritage Places are listed within the Wyong LGA.
Wyong Local Environment Plan (Wyong LEP) http://www.austlii.edu.au/au/legis/nsw/consol_reg/wlep1991305/sch1.html	28 March 2012	Wyong LEP (1991).	97 items are listed within the Wyong LEP. 48 items are listed at locales in closer proximity to the Project Boundary.
S170 Roads & Maritime Services (RMS) Heritage and Conservation Register. http://www.rta.nsw.gov.au/cgi-bin/index.cgi?fuseaction=heritage.show&id=hunter	28 March 2012	Hunter Region	The closest item on the RMS Heritage and Conservation Register is the Wallarah Creek Bridge: located at Charmhaven and outside the Project Boundary.

2.5 PROJECT CONSTRAINTS

2.5.1 Disturbance Area

OzArk's 2006 survey was limited to those areas that would be subject to the proposed surface disturbance within the Project Boundary. The areas surveyed at the Tooheys Road Site and the

Buttonderry Site were clearly marked in the field by surveyor's pegs. Based on this information the heritage surveyors were able to be certain that they were surveying the correct locations.

Other areas beyond the Disturbance Area were not surveyed although the heritage survey did include a buffer around each impact area to ensure that possible heritage items located just outside the impact corridors were assessed.

Due to the small size of the Western Ventilation Shaft and the guided nature of the inspection, the area was not required to be pegged. The area is densely vegetated and not all areas were able to be directly assessed, however, these areas were on steep slopes where historic heritage would be unlikely.

2.5.2 Other WACJV Owned Land

Areas not proposed to be disturbed were assessed in less detail than those within the Infrastructure Boundary. The aim of surveying this area was to build up an understanding of the likely heritage values of the areas not proposed to be disturbed, however, still within WACJV land to assist WACJV in determining the best opportunities for heritage conservation. The survey for this area focused on waterways and ridge tops where items of historic heritage are likely to be located.

2.5.3 Subsidence Impact Limit

The 2010 field assessments were limited to the Subsidence Impact Limit (where access was available in each of the Wyong State Forest/Jilliby SCA and Honeysuckle Park areas). The determinations of potential impacts to the natural and built environment are based upon results from the subsidence assessment (MSEC 2012), Flood Impact Assessment (Herman & Associates 2012) and groundwater assessments (Mackie Environmental Research 2012) included as appendices to the Wallarah 2 EIS. OzArk has used the results of these studies to extrapolate the potential impacts to items of historic heritage.

2.5.3.1 Wyong State Forest/Jilliby SCA

In 2010 the often densely vegetated hills and gullies of the Wyong State Forest/Jilliby SCA were assessed primarily with the aim of locating vestiges of the timber industry that has existed in the area for many years. During the course of the assessment a number of the major creek lines and ridgelines were traversed within the Wyong State Forest/Jilliby SCA.

2.5.3.2 Honeysuckle Park

The OzArk survey team accessed public areas but access to private property was not available. As the majority of the cleared valley floor landforms and low hillslopes were on private property,

detailed physical assessment of the majority of these areas was not possible. One valley floor property owned by WACJV (Honeysuckle Park) was, however, able to be assessed. This property is considered to be relatively representative of the valley floor landform unit, comprising additionally a portion of creek bank.

2.5.3.3 *Items G, J, K, M, N, O, Q, R and S*

All nine items assessed in the 2012 survey were done so from public vantage points only. These access conditions were the same for the original ERM survey that first identified the sites. Although restricted access hampered the reassessment, the assessment criteria has changed since the ERM survey in 2000 and there is a wider range of examples of similar heritage items against which these nine items can be reassessed.

3 HISTORIC HERITAGE ASSESSMENT: BACKGROUND

3.1 INTRODUCTION

Various historical heritage surveys were carried out by ERM up to 2001. OzArk has reviewed, and supplemented the previous studies by undertaking the following:

- Completion of searches of all the relevant registers of Historic heritage data – namely the Wyong LEP, the NSW State Heritage Office register and inventory and the Australian Heritage Database (which now incorporates the Register of the National Estate) in order to determine whether there have been any new listings within the Project Boundary (**Table 2**).
- Application of the Project mine plan and subsidence impacts to the mapped items of heritage value to determine the nature and degree of likely impact.
- Review of existing data and application of the Project in order to provide an assessment of potential impacts and formulate management recommendations and mitigation measures.

3.2 HISTORIC SETTLEMENT IN THE REGION

3.2.1 Primary Industries

The Wyong Local Government Area (LGA) was settled in the early 1820s, though timber getters worked and lived here from the 1790s, when large grants over 1000 acres were given in the Dooralong Valley and in Wyong township. In the 1840s land grants were given in the Ourimbah, Wyong and Jilliby areas in 1000 acre parcels. The poorer land of Warnervale and Gorokan was not 'taken up' until the 1870s.

Timber Industry

The timber industry had been critical to the Wyong Valley's economy from the 1800s. During the 1820s, timber getters came into the Valley to fell cedar, forest oak and rarer rainforest trees. This practice occurred in both the Dooralong (from the 1820s) and Yarramalong (from the 1830s) valleys, with timber often being cut and shipped to Sydney. This was not without difficulty, however, as was noted in 1857 at a public meeting in Gosford that decried the condition of the road between Gosford and Wyong and moved to request funds for the repair of the district's roads (*The Sydney Morning Herald*, 29 May 1857: 5). By the 1880s, there were three timber mills operating in the Yarramalong Valley producing rims for wagon wheels, fruit cases and house timber (ERM 2001b: 2.14).

The timber industry also opened up the valleys and attracted farmers and settlers who cleared the river flats in the 1850s. These were mainly subsistence farmers growing fruit and vegetables

and grazing stock. By the 1860s there was an influx of settlers along the Wyong River, its tributaries and Jilliby Jilliby Creek, attracted by settlement incentives offered under the Robertson Land Acts. By the 1880s many of the river flats of the valleys had been cleared and were now under cultivation. With the opening of the Sydney – Newcastle railway in 1889, Wyong's population increased and a quicker link to Sydney was created, encouraging agriculture and fishing (supplying the Sydney markets) and the development of Wyong as a railway town and tourist destination. After 1889, new timber mills were built in Wyong and in the valleys, thus opening the timber industry and local vegetable and dairy producers to overseas markets. The height of the timber industry was in the early 1900s when exports boomed, however by the late 1920s, much of the local timber had been felled and the area exhausted (ERM 2001b: 2.14).

Farming

Farming is also an important industry in the Wyong region. By the late 1880s many citrus orchards were planted in Wyong and the valleys. The industry peaked in 1970s.

Dairy farming, which was already established by 1854 (*Empire*, 23 September 1854: 12), was also a major industry in 1930s, again peaking 40 years later when there were roughly 100 operational dairies in the area. However, dairy farming declined during the 1980s, and by 1995/6 no dairy farms were operational in the Wyong Valley. Poultry farming remained a smaller industry, which peaked in the 1960s. Fishing was significant from the earliest days.

Residential development increased with opening of the Sydney Freeway in 1987. An influx of hobby farmers and rural residential development has centred on the Yarramalong Valley (Wyong Valleys Planning Report, 1998). Traditional large acreage agriculture has given way in the last twenty years to smaller hobby farms, rural weekend retreats, market gardens, orchards, nurseries, horse studs and turf farms (ERM 2001b: 2.14).

Turf farming, which occurs mostly in the Yarramalong and Dooralong Valleys in the wider floodplains, is the primary agricultural output of the area. Orchards were usually located on the footslopes where the soil is relatively rich and deep and outside the flood zone, confining this to the lower half of the valleys. Stud and beef cattle are common in the valleys along the floodplain and low slopes.

3.2.2 Parish Map Searches

Historical land divisions within the Project Boundary are well documented via parish maps, available electronically via the Land and Property Management Authority (LPMA 2012) and Department of Lands (DoL 2012). These maps—which in their earliest online form date to 1921—indicate that the bulk of the Subsidence Impact Limit has historically been designated

variously as a State Forest or National Forest. Bordering the forested area have been small holdings, largely privately owned. The majority of these small holdings are concentrated on Wyong River, Jilliby Jilliby Creek and Little Jilliby Jilliby Creek. Their locations and boundaries remained consistent between 1921 and 1971.

The only significant mapped additions to the Subsidence Impact Limit during the documented period are the planned electricity transmission line easements that transect the National Forest (1950 and 1971 editions).

Eastwards of the Subsidence Impact Limit were a number of larger runs, namely Charles Farrell's 'Wyong' (1921 to 1971 editions) and William Cape Snr's—by 1921, sub-divided—'Freeland' (1921 edition) or 'Treeland' (1950 and 1971 editions).

3.2.3 Trove Searches

The National Library of Australia's online *Trove* service¹ provides access to online newspaper archives dating from 1803 to 1954 (NLA 2012). A search of the website for the term 'Wyong' (search date: 27 March 2012) returned a total of 34,008 references². An additional search for 'Jilliby' returned a total of 1,058 references, the majority of which were property advertisements. A relevant level of analysis was undertaken of a selection of references to the locale that together identify a number of the key themes in the early settlement of the district.

The name 'Wyong' appears in the newspaper record as early as 1827.

A correspondent to '*The Australian*', reports on a journey to Wollombi and Cumnaroy. Set in the context of a description of country that could be opened up via the employment of 'iron-gangs', the Wyong range is noted as a landmark within 'wild untrodden country':

On a razor-back ridge, averaging eight hundred feet above the level of the nearest waters, with no trees to interrupt the view, the horizon is terminated on all sides by very distant hills – you see yourself in this large space of wild untrodden country, a weak and solitary being, far from the busy hum of men, and in helplessness inferior to the beasts. Before you is the Wollombi range, on the left the Bulga, to the right the Wyong and Broken-back Mountains towards the coast, while the traveller pushes on over rocks and stones, now looking at the sun, to see how the time goes,

¹ NLA 2012, *Trove*, website accessed 27 March 2012, <<http://trove.nla.gov.au/>>. All references to *The Australasian Chronicle*, *The Australian*, *The Maitland Mercury & Hunter River General Advertiser*, *The Sydney Gazette and New South Wales Advertiser*, *The Sydney Monitor and Commercial Advertiser*, and *The Sydney Morning Herald* are accessible via *Trove*.

² It should be noted that a proportion of these are likely to be erroneous references based on un-corrected digitised transcriptions of the word 'wrong', which occasionally appeared in the search as 'Wyong'. Nevertheless, the author noted that this error was rare and that, in a sample of 360 records examined, the vast majority correctly referenced the locality name Wyong.

and now for his lost track, and for some hours remains the centre of a solitude more striking and complete than even on the road to Bathurst.

The Australian, 7 September 1827: 2.

Wyong reappears in the newspaper record two years later via a brief notice in *The Sydney Gazette and New South Wales Advertiser* to the effect that Noble William, an 18 year old convict (No. 29.1636) from Newcastle-upon-Tyne, had absconded from Mr William Cape of Wyong (*The Sydney Gazette and New South Wales Advertiser*, 17 November 1829: 4). Mr William appears to have remained at large until at least 8 December 1829, when his absence was still being reported with no indication of his apprehension (*The Sydney Gazette and New South Wales Advertiser*, 8 December 1829: 4). It is noteworthy that reference to the property 'Freeland' / 'Treeland' still appears with the name of William Cape Snr on all parish maps between 1921 and 1971.

Further south of the current Project Boundary, a certain Frederick Augustus Hely (Superintendent of Convicts) was, in 1831, granted two runs (2,260 acres and 1,132 acres, respectively) bounded to the north by Wyong Creek (*The Sydney Gazette and New South Wales Advertiser*, 26 May 1831: 2). These grants were not without controversy. A series of correspondences from Messrs William and Richard Cape to the Editor of *The Australian* dating between 4 November 1831 and 28 April 1832 outline their claims against Mr Hely, including the Capes' prior rights to portions of the granted lands, Hely's ineligibility for land grants on account of his contemporaneous government service as Superintendent of Convicts, disputes over trespassing stock and stolen property, and an accusation of fraudulent correspondence. William Cape's correspondence with the newspaper appears to cease on 28 April 1832 and the newspaper does not record the results of these disputes.

Following 1838, Wyong's appearances in the colony's newspapers are increasingly dominated by advertisements for land and by 1852 we see an advertisement for a 20 acre holding (£2 per acre) along Jilliby Creek (*The Sydney Morning Herald*, 14 February 1852: 3); it is likely that at least some of the small holdings noted above in **Section 3.2.2** have their origins at this time. The brief notes under the heading 'Grants of Land' in *The Sydney Gazette and New South Wales Advertiser* (9 July 1839: 4; 28 September 1839: 4) remind the reader of the controversies of the early part of the decade with publication of William Cape's land grants of 1,000 acres at 'Freeland', Wyong and subsequently 640 acres at Wyong Hill. Also documented in the 28 September 1839 edition is the grant to one Charles Farrell of 1,280 acres at Yungungo, near Wyong.

More obscurely, the *Australasian Chronicle* of 18 August 1840 carried an advertisement informing Philip West and Charles Kennedy—formerly assigned servants at Wyong—that, upon

application to Mr Smith, a baker in 'Hunter-street', they would 'hear of something by which they may be benefitted' (*Australasian Chronicle*, 18 August 1840: 3). The advertisement ran for a number of days, after which no more is heard of Messrs West, Kennedy or Smith.

A brief flurry of bushranging activity occurred towards the end of 1840, with the (apparently quite civil) Brisbane-Water Gang operating throughout the local districts and calling at Mr I.K. Wilson's property at Wyong on 15 December (*The Australian*, 22 December 1840: 2). Following the theft of horses and other property from Wilson's, the gang also stopped and robbed a man named Mitchel and his companion. Pursued by an armed party and called upon to surrender, the bushrangers returned fire, killing a certain Constable Murphy and wounding another party member. Subsequently captured, the gang appears to have briefly disrupted the 'mild Eden-like summer' that the local community had been enjoying (*The Sydney Monitor and Commercial Advertiser*, 29 December 1840: 2). The ultimate capture of the bushrangers was not enough to satisfy one resident, however, who wrote to *The Sydney Monitor and Commercial Advertiser* to question the 'military skill' of the police party who had apparently allowed the bushrangers to escape on the 14th of December from close quarters with three of their own horses (22 January 1841: 2).

Reports of gold in the vicinity of Wyong Creek (*The Maitland Mercury & Hunter River General Advertiser*, 13 August 1851: 2) were treated prudently by the news media. This caution was shown to be justified following the visit of Mr Hargraves to the area who confirmed that Wyong Creek was not auriferous (*The Sydney Morning Herald*, 12 February 1852: 3).

References to Wyong during subsequent years continue to relate primarily to property sales, although with the increased population came more frequent news of mishaps and calamities. In 1856, *The Maitland Mercury & Hunter River General Advertiser* carried the sad account of the death of a certain Mr Nunn who, despite the efforts of his companion Mr Tomkins to assist him across the river, was swept away by a flooded Wyong Creek. Mr Nunn's body was not recovered (*The Maitland Mercury & Hunter River General Advertiser*, 20 November 1856: 2). Later, in 1859, the same paper reported on the death by fire of a five year old child at a newly purchased farm (29 October 1859: 6).

By the 1860s, politics had encompassed Wyong, with partisan divisions apparent between the Brisbane Water and Maitland areas. We read in 1864 of the debate that took place between the sitting member for Wollombi, Mr Joseph Eckford, and his opponent, Mr Lyall Scott, during a meeting for the nomination of candidates for the representation of the electorate. Debate centred on Mr Eckford's record in relation to the erection of the Wyong Bridge, his handling of a corruption case at Brisbane Water, the State-Aid Abolition Bill, and the Government's approach to education in the colony, specifically 'the University'. Following a show of hands (in favour of

Mr Eckford) and a call (by Mr Scott) for a poll to occur the following Tuesday, three cheers were given for the Returning Officer and the proceedings ended (*The Maitland Mercury & Hunter River General Advertiser*, 13 December 1864: 2). The subsequent poll resulted in a victory for Mr Eckford (Eckford: 338 votes, Scott: 292 votes), however it is interesting to note that Wyong voted in favour of Mr Scott (Eckford: 14 votes, Scott: 30 votes). Interestingly the clearly partisan correspondent ends the report of the poll by expressing a hope for a division of the electorate 'as the Brisbane Water people think they have not been fairly represented', and concludes that, following his failed prediction of the termination of Mr Eckford's parliamentary career, 'I am born to disappointment' (*The Maitland Mercury & Hunter River General Advertiser*, 20 December 1864: 2).

3.3 LOCAL CONTEXT

A search of the NSW Heritage Office's State Heritage Register (SHR) and State Heritage Inventory (SHI) revealed a total of 108 registered heritage sites within the Wyong LGA. Four are listed on the SHR and are thus regarded as holding state significance whilst 108 are listed on the SHI as holding local significance.

Review of the Wyong LEP (which includes all listings SHI listings) shows that 48 items of historic heritage significance within the district. 12 of these are within proximity to the Project Boundary and two are within the Subsidence Impact Limit: a brick and iron silo (**Plate 13; Table 3; item 1**) and a domestic residence 'Bangalow' (**Table 3; item 3**). These items have been ascribed regional heritage significance in the LEP, however, as the *NSW Heritage Act 1977* (Heritage Act) defines heritage significance in terms of local and state significance only, these items will be described here as having local heritage values.

In 2000, a historical heritage survey was conducted by ERM (2001d) that assessed a large area of land that included the Subsidence Impact Limit and the Tooheys Road Site. During this survey, 23 features were identified as having potential heritage significance. The ERM 2001d report assigns no specific heritage value to these items as they were unvisited by the ERM survey (as the items are located on private property) and it appears that the attribution was only made by distant views.

Those items, recorded as part of the ERM assessment as having potential historic heritage significance that are situated within or in close proximity to the current Project Boundary (n = 19), are listed in **Table 3; items A–S** and shown in **Figure 5**. Of the 23 features identified by ERM, 10 are located within the Project Boundary and nine are located within the Subsidence

Impact Limit³. These nine items were revisited by OzArk in 2012. The results of this are detailed in **Section 4.1.3.3**.

A further historical heritage survey was carried out by ERM in conjunction with an Aboriginal heritage survey conducted in 2000 (ERM 2001c), resulting in the identification of four features of potential historic interest at the Tooheys Road Site:

- 24/NI Possible old fence line along Wallarah Creek (south of Tooheys Road and west of the Freeway within survey unit A).
- 25/NI Rig and furrow with associated old dam (north of Tooheys Road and south of the transmission line within survey unit B).
- 26/NI Possible foundations of old property with drainage gully, introduced plants and possible foundation stones (south of Tooheys Road within survey unit C).
- 27/NI Two old dams possibly in association with 26/NI (on the south side and adjacent to Tooheys Road within survey unit C).

The ERM surveyors concluded that no features of high significance were identified during the survey of the Tooheys Road Study Area (ERM 2001c). However, the authors noted that the features that were identified had the potential to indicate further archaeological remains that were not immediately evident during the survey. These items were reassessed by OzArk and were assessed to hold no heritage values (see **Section 4.1.1.1**) and they are not included in **Table 3**.

Table 3: Previously identified heritage items within or in close proximity to the Project Boundary.

Heritage Site	Easting (GDA)	Northing (GDA)	Description	Within Project Boundary?	Within Subsidence Impact Limit?	Previously assessed Significance
Items of heritage significance (NSW State Heritage Register)						
1	335640.968	1318947.846	Brick & Iron Silo	Yes	Yes	Local (Wyong LEP)
2	337012	1318483	Jilliby Cemetery	No	No	Local (Wyong LEP)
3	330570.664	1319785.725	Dwelling "Bangalow"	Yes	Yes	Local (Wyong LEP)
4	333242.132	1317836.355	Dwelling "Gracemere"	No	No	Local (Wyong LEP)
5	331131.506	1318418.118	Wyong Creek Community Hall	No	No	Local (Wyong LEP)
6	329045.369	1319452.583	Dwelling (Former "Ebenezer Cottage")	No	No	Local (Wyong LEP)
7	327934	1322150	Dwelling "Hillview"	No	No	Local (Wyong LEP)
8	331212	1317683	Dwelling "Marabilla"	No	No	Local (Wyong LEP)
9	330885.929	1318448.083	Silos and Farm Shed	No	No	Local (Wyong LEP)

³ Location 'Q' is located outside of the Project Boundary but inside of the Subsidence Impact Limit. Location 'G' is located on the boundary of the Subsidence Impact Limit and is included here. Location 'P' Identified by ERM as holding potential heritage value, OzArk has since ground-truthed this feature and concluded that the fence is of recent construction and holds no heritage value. It has been excluded from **Table 3**.

Heritage Site	Easting (GDA)	Northing (GDA)	Description	Within Project Boundary?	Within Subsidence Impact Limit?	Previously assessed Significance
10	332470.541	1317739.795	Wyong Creek Public School	No	No	Local (Wyong LEP)
11	335454.649	1320763.04	Jilliby Public School	Yes	No	Local (Wyong LEP)
12	333532	1317383	Road Bridge, Kidman's Lane	No	No	Local (Wyong LEP)
Items of potential heritage significance (ERM 2001d)						
A	332753.494	1317431.858	Dwelling	No	No	Potential heritage value
B	332211.108	1317671.623	Dwelling	No	No	Potential heritage value
C	331712	1317483	Dwelling	No	No	Potential heritage value
D	331512	1317583	Bridge (Yarramalong Road)	No	No	Potential heritage value
E	330455.601	1319083.215	Dwelling	No	No	Potential heritage value
F	330455.601	1319083.215	Dairy and Cattle run	No	No	Potential heritage value
G	335505.333	1320666.699	Dwelling	Yes	Yes	Potential heritage value
H	334281.431	1324372.311	Dwelling	No	No	Potential heritage value
I	334858.559	1320710.106	Dwelling	Yes	No	Potential heritage value
J	334609.417	1320706.43	Dwelling	Yes	Yes	Potential heritage value
K	334384.018	1320952.587	Dwelling	Yes	Yes	Potential heritage value
L	333773.148	1320747.314	Dwelling	Yes	No	Potential heritage value
M	333632	1321083	Little Jilliby Road Bridge	Yes	Yes	Potential heritage value
N	333212	1321083	Bunya Pine	Yes	Yes	Potential heritage value
O	335312	1323183	Keegan's Silo	Yes	Yes	Potential heritage value
Q	336912	1320483	Silos	No	Yes	Potential heritage value
R	335912	1323733	Dwelling	Yes	Yes	Potential heritage value
S	334708.69	1323661.089	Dwelling	Yes	Yes	Potential heritage value

Two items, listed on the Wyong LEP and within the Subsidence Impact Limit, are assessed as having local heritage values: (1) Brick & Iron Silo and (3) Dwelling: 'Bangalow'. The statement of heritage significance (as noted in the Wyong LEP) for each item follows:

(1) Brick & Iron Silo (**Table 3; item 1; Figure 6**): Historically this building is a regionally significant indicator of the successful agriculture of the Wyong Valley in the late 19th Century. Aesthetically it is of local significance as an intact quality - designed and built rare example of

local tradesmanship. Scientifically the building also has local significance for its capacity to provide information about grain processing, transportation routes and the geographic distribution of farms of the period.

(3) Dwelling “Bangalow” (**Table 3; item 3; Figure 6**): Historically the building is locally significant because it is representative of the pioneering families of the region establishing in the region's farming birthplace. Socially it has local significance to the descendants of the pioneering Boyd family, while scientifically, it like its neighbouring contemporaries, has local significance for their potential to contribute to an understanding of the lifestyle of successful farmers in this pioneering area of the region around the turn of the century. This dwelling is representative of type at a local level.

Of the 18 items assessed by ERM 2001d as having ‘potential heritage significance’, nine items are located within the Subsidence Impact Limit (**Table 3: items A–S; Figure 6**). Subsequent assessment of these nine items (see **Section 3.4.3.3**) determined that seven held no heritage value (**Table 3; items G, J, N, O, Q, R & S**), one held local heritage value (item M) and one, due to access issues, remains as having ‘potential heritage significance’ (item K; see **Section 4.3.4.3**).

In the main, these items are rural dwellings and their associated outbuildings. None were seen at the time of ERM's 2001d assessment as holding definite heritage significance and ERM 2001d states that further research was required to fully inform an assessment of heritage significance.

3.4 SURVEY METHODOLOGY

To date, OzArk has conducted three field surveys in relation to the Project. As these surveys traversed a variety of landforms and Project impacts, the assessment methodologies were tailored to the specific conditions present in each Project area. This section sets out the methodologies adopted in the various Project areas.

3.4.1 Disturbance Area

Tooheys Road Site, Buttonderry Site, Western Ventilation Shaft: The Disturbance Areas were traversed using pedestrian transects by three or more surveyors. The surveyors assessed all regions within the direct impact areas, as well as a buffer surrounding the impact footprint.

3.4.2 Other WACJV Owned Land

Other WACJV Owned Land at Hue Hue Road was traversed using pedestrian and vehicle transects by a survey team. The surveyors assessed all regions within the area where the proximity to water and/or suitable landform appeared to suggest that heritage items might be retained. Thus in this area, the surveyor's interpretation of the area's landforms was the primary determiner of which land was surveyed.

3.4.3 Subsidence Impact Limit

3.4.3.1 *Wyang State Forest/Jilliby State Conservation Area (SCA)*

The historical heritage survey was conducted concurrently with the Aboriginal heritage assessment. While the survey methodology was devised to identify areas along the easement that had potential to contain Aboriginal heritage items, this survey methodology was augmented in the field to investigate areas with potential Historic heritage items.

As the survey team did not have access to private property, only land within the Wyong State Forest/Jilliby SCA was assessed (along with Honeysuckle Park; see **Section 3.4.3.2**). The Wyong State Forest/Jilliby SCA comprises a large portion of the Subsidence Impact Limit and primarily comprises of hills, ridges and steep-sided valleys.

The terrain, vegetation and poorly maintained fire trails of the Wyong State Forest/Jilliby SCA posed significant mobility problems and sampling was focussed on landforms, such as major creek and ridge lines, that demonstrated elevated heritage potential.

3.4.3.2 *Honeysuckle Park*

As the property Honeysuckle Park is owned by WACJV and consists of cleared paddocks, there were no access issues to constrain full pedestrian survey of the property. The methodology for this area was therefore to assess as much of the property as conditions (in particular ground surface visibility) and time allowed.

3.4.3.3 *Items G, J, K, M, N, O, Q, R and S*

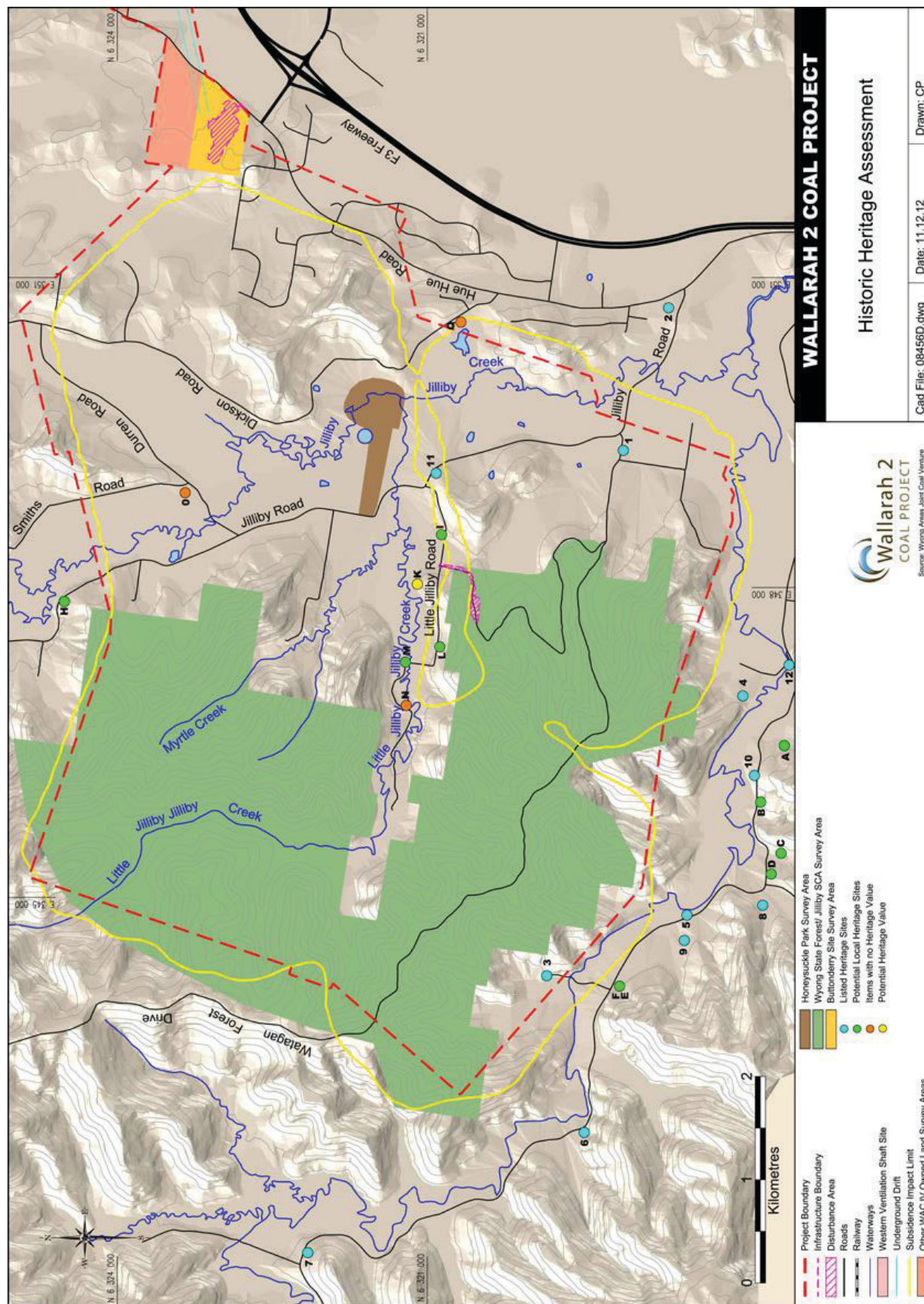
Several of these items were on private property and no access was available. Items G, J, K, O, Q, R, and S were assessed from the roadside. This was sufficient to gain a basic view of the overall structures and make an informed assessment, with the exception of K which is too distant to assess. Some outbuildings were partially obstructed by the main dwelling, and the likelihood of sub-surface remains was not ascertainable due to the access issue. However, this restriction was not considered to be relevant to the overall assessment of each item.

Item R is almost entirely obscured by overgrowth, but since it is judged that the potential heritage significance of this item is largely linked to its physical integrity, the very factors that obscure the structure are those that negate its heritage value and so no more detailed information is required.

Items M and N were accessible from the roadside allowing close-up inspection and detailed photography.

Notes were taken for all items and photography was used where previous images were insufficient. Photography was generally kept to a minimum though due to community sensitivities.

Figure 6: Location of historic heritage items within and in proximity to the Project Boundary. For identification of the numerals and letters refer to Table 3.



4 RESULTS

4.1 HISTORIC SITES RECORDED

Overall, few previously unrecorded items of historical heritage were documented during the current studies. On the basis of the cumulative reports of prior studies (as outlined in **Section 3.3**) and the results of this assessment, it is apparent that the historical heritage resource within the Project Boundary is relatively sparse.

4.1.1 Disturbance Area

4.1.1.1 *Tooheys Road Site*

No previously unrecorded historical heritage items were recorded within the Tooheys Road Site. Items noted by ERM from within the current Tooheys Road Site were revisited and assessed (**Section 3.3**).

These locations were re-visited during the OzArk 2006 survey and resulted in the following observations:

- 24/NI This fence line is outside the current Project Boundary and was not visited.
- 25/NI There had been recent earthworks in this area and it was hard to discern the rig and farrow noted by ERM.
- 26/NI This feature was revisited. During the time of the site visit the present property manager informed that the site was once a large chicken shed with runs once belonging to the McCloud family. Very little remains above ground today and what is remaining suggests that it was an insubstantial building when first constructed. The site is very unlikely to be over 50 years old (**Plates 8 and 9**).
- 27/NI ERM gives little information on why these dams were noted and the present survey could find nothing remarkable about them today. The dams are difficult to date and are probably less than 50 years old.

As a result of these items being reassessed, they have been excluded from further assessment as they are not considered to be of heritage significance or potential heritage significance. No mitigation or management strategies have been recommended for these items. No further discussion is required.

4.1.1.2 *Buttonderry Site*

No items of historical heritage were recorded within the Disturbance Areas of the Buttonderry Site. Generally, across the site, stumps of cut down trees are evidence of prior logging, although visual inspection of the stumps indicates the use of a chainsaw rather than a cross-saw.

Close to Hue Hue Road, in the direct impact area, there is cleared land that appears to have been pasture improved and grazed for dairy cattle over a considerable period. The remnants of cattle yards are still present in the low-lying portion of the area, although outside the Disturbance Area.

Items at the Buttonderry Site are not considered to be of heritage significance or potential heritage significance. No mitigation or management strategies have been recommended for these items. No further discussion is required.

4.1.1.3 Western Ventilation Shaft

No items or places of historical heritage significance were recorded in this area as a result of the survey of the area in 2006.

4.1.2 Other WACJV Owned Land

No items or places of historical heritage significance were recorded in this area as a result of the survey of the area in 2006.

4.1.3 Subsidence Impact Limit

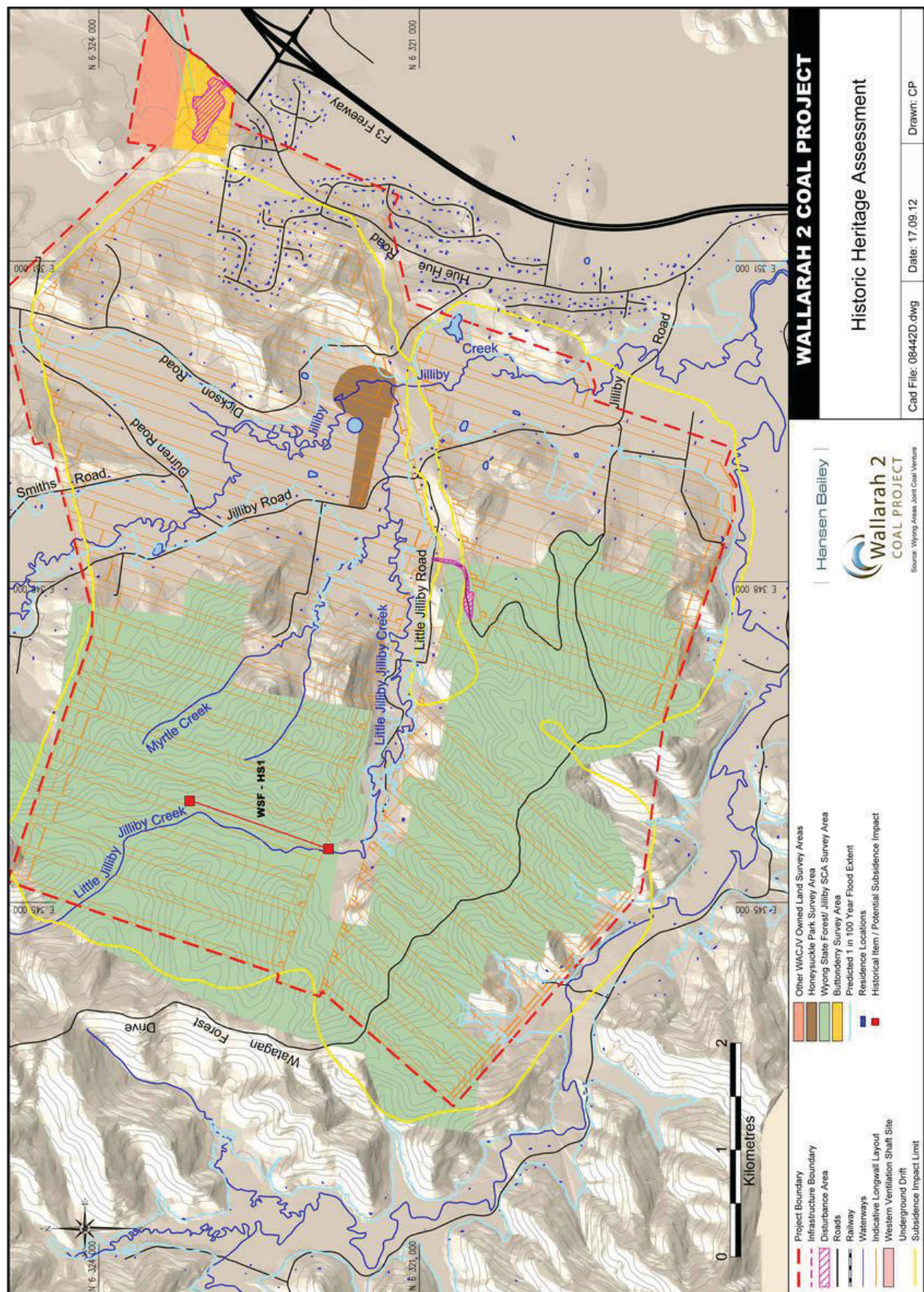
4.1.3.1 Wyong State Forest/Jilliby SCA

Wyong State Forest Historic Site 1 (WSF-HS1) was recorded on the eastern bank along the lower reaches of Little Jilliby Creek. WSF-HS1 consists of a disused forestry road, along with infrastructure such as culverts, loading areas and road cuttings (**Figure 8**). This road is marked on the Dooralong 9131-1S 1:25000 topographic map as a minor track running roughly north–south paralleling Little Jilliby Creek to the east. This track becomes discernible in the north at GDA Zone 56: 345950E; 6323150N and runs to GDA Zone 56: 345500E; 6321850N where it joins larger forestry roads.

The road is washed-out in places but is still a discernible feature in the landscape, particularly due to the frequent road cuts which have been made in the hill slope. The road is used by recreational walkers at present and is in a fragile state in places with trees growing through the earthen road and wash-outs destroying evidence of the engineering efforts.

Historic features, spread along about 1–2km: include road cuttings (**Plate 10**) axe-marks in trees used to hold supports for timber-getters in a less-mechanised days (**Plate 11**) and evidence of repairs and upgrades being made to the road in the form of different styles of culverts (**Plate 12**).

Figure 7: Location of historic items within the Wyong State Forest/Jilliby SCA area.



4.1.3.2 **Honeysuckle Park**

No items of historical heritage significance were located within this area.

4.1.3.3 **Items G, J, K, M, N, O, Q, R and S**

These items were initially assessed as having potential heritage significance (see **Section 3.3**) and were revisited by OzArk in November 2012. The following notes were made for each site:

- **Item G (early-mid twentieth-century dwelling):** This house exhibits moderate signs of weathering and general disrepair but appears to still be in use. It uses similar construction techniques and materials to some of the school buildings on the adjacent property. The setting is relatively unaltered from the time of construction. Brick piers supporting the house and the roof both appear to have been replaced later in the twentieth century. A garage to the southwest of the house is of similar construction type.
- **Item J (mid twentieth-century dwelling):** This house is particularly well maintained and is in a relatively unchanged setting. The roof has been replaced since construction and a modern-style tank and shed have been added to the immediate surrounds.
- **Item K (dwelling):** This house is roughly 200m from the road and a good aspect was not available. It appears to be of similar age to the other dwellings in the area (early-mid twentieth century). A large shed complex is just to the west of the dwelling and appears to represent a sequence of development, although the structure types are relatively uniform being corrugated iron shelters over a timber frame. A cottage to the east of the house appeared to be built from painted blue concrete.
- **Item M (c. 1894 bridge):** The bridge on Little Jilliby Road has undergone substantial repairs over time with remaining original elements deteriorating. Structural enhancements include replacement planks forming the surface of the bridge (about half); iron girders added to support bridge and take the strain off existing piling; sand bags and silt fence added to retain ground at southern end of bridge; and the removal of some original supporting piling, either previous to these reinforcements or as part of them, as evidenced by the remaining stumps. The original setting of the bridge is intact.
- **Item N (Bunya Pine):** Based on the age of the tree and the historical framework, this was probably planted toward the turn of the nineteenth-twentieth centuries, possibly to commemorate a fallen WW1 soldier⁴. It is not strongly or particularly associated with a larger cultural landscape but is generally within a setting reflective of the time of its planting.
- **Item O (Keegan's Silo):** This item is a pair of corrugated concrete silos joined by a common timber and corrugated iron shelter. It probably dates to the mid twentieth-century based on associated concrete veneer shed. The silos are part of larger shed complex, one of which has a concrete veneer, popular in the 1950s and 60s. As with many of the other items, the silos are within a setting largely unaltered since construction. A dwelling to the west on the same property is probably of similar age to the silo.

⁴ *Pers comm*: Phil Cameron, Ecologist, OzArk EHM.

- **Item Q (silo):** This single concrete silo is in the same style of O, also with a shed with concrete veneer nearby. There is a new shed and tank in same complex, but otherwise original setting.
- **Item R (early-mid twentieth century dwelling):** This item is a severely overgrown building, almost impossible to assess other than current level of impact. It has also generally suffered a high level of deterioration due to neglect. It is at least partially constructed of fibro with a corrugated iron roof. The building is consistent in terms of age with the immediate surrounds of the building.
- **Item S (early-mid twentieth century dwelling):** This reasonably well maintained fibro/weatherboard dwelling is flanked by modern buildings. One of these is a house on another property and the other a shed on the same property. A new tank has been added also.

4.2 DISCUSSION

The low incidence of historical items within the Project Boundary is unsurprising given the nature of the surveyed lands. The historical items that had been previously registered were largely in locations on the river plains and in townships (**Figure 5**), rather than in areas such as Wyong State Forest/Jilliby SCA. In addition, as a result of Honeysuckle Park being a working property and, because of its size, a subdivision of a larger property, it too was predicted to hold no historical items. The remains of the forestry road beside Little Jilliby Creek (WSF-HS1) can be expected given the long tradition of logging in the area.

4.3 ASSESSMENT OF HISTORIC HERITAGE SIGNIFICANCE

4.3.1 Assessment of significance—general principles

Significance assessment of historic sites is conducted in accordance with Heritage Act requirements and is guided by the Heritage Council of NSW manual *Assessing Heritage Significance* (Heritage Council of NSW 2001).

The significance assessment process is a three-stage process:

- Step 1: Investigate significance;
- Step 2: Assess significance; and
- Step 3: Manage significance.

Significance assessments are carried out on the basis that decisions about the future of heritage items must be informed by an understanding of these items' heritage values. Four categories of heritage value are recognised in the Australia ICOMOS *Burra Charter* (Australia ICOMOS 1999):

- Historic significance;

- Aesthetic significance;
- Scientific significance; and
- Social significance.

Under the Heritage Council of NSW guidelines (2001), these values have been adjusted to conform to seven criteria for assessment:

- **Criterion (a):** An item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area);
- **Criterion (b):** An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area);
- **Criterion (c):** An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area);
- **Criterion (d):** An item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons;
- **Criterion (e):** An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area);
- **Criterion (f):** An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area);
- **Criterion (g):** An item is important in demonstrating the principal characteristics of a class of NSW's
 - cultural or natural places; or
 - cultural or natural environments.

Items are categorised as having a local or state level of significance. The level of significance is assessed in accordance with the geographical extent of the item's value. An item of state significance is one that is important to the people of NSW whilst an item of local significance is one that is principally important to the people of a specific LGA.

The material evidence present within and adjacent to the Project Boundary illustrates the following historical themes:

- **Australian Theme 3: Developing local, regional and national economies / NSW Themes: Agriculture, Forestry, Pastoralism, Transport.** The local area's economic basis in primary industries is evidenced in structures such as the brick and iron silo (Table 3; item 1; Plate 13), the concrete silos and associated shed complexes (Table 3; items O and Q, Plates 21-22), forestry tracks and axe marks in trees (WSF-HS1).

- **Australian Theme 4: Building settlements, towns and cities / NSW Theme: Accommodation.** The majority of registered historical items within and surrounding the Project Boundary consist of dwellings. On the basis of the newspaper advertisements for land in the nineteenth century, the Wyong area appears to have experienced its first property boom during the 1850s; the majority of registered dwellings, however, appear to date from the turn of the twentieth century and therefore testify to a period of residential consolidation. As indicated by parish maps, property boundaries within the Project Boundary remained relatively stable throughout the twentieth century. Many of the registered dwellings are therefore likely to be associated with original property boundaries (**Table 3; items A–S**). The bridge over little Jilliby Road should also be considered part of this theme of growth.
- **Australian Theme 6: Educating / NSW Theme: Education.** Two schools are situated in close proximity to the Project Boundary: Wyong Creek Public School and Jilliby Public School. Of these, both are included on the SHI and are registered at a local government level (**Table 3; items 10, 11**).
- **Australian Theme 8: Developing Australia's cultural life / NSW Theme: Religion.** One cemetery (Jilliby Cemetery) is located a short distance outside the Project Boundary. Whilst a number of churches are registered within the Wyong LGA as holding heritage significance (including one that is listed on the SHR), none are situated within or in close proximity to the Project Boundary (**Table 3; item 2**).
- **Australian Theme 9: Marking the phases of life / NSW Theme: Birth and Death.** One cemetery (Jilliby Cemetery) is located near the Project Boundary (**Table 3; item 2**).

4.3.2 Assessment of significance of historic items

Significance assessments have already been applied to the items of historic heritage significance currently registered on the Wyong LEP (**Table 3; items 1–12**). No further significance assessment of these items is considered necessary and the significance values applied in the Wyong LEP (local) will be accepted here.

4.3.3 Disturbance Area

4.3.3.1 Tooheys Road Site

24/NI; 25/NI; 26/NI; 27/NI. (ERM 2001c)

The following summary statement is based on an assessment against the significance criteria of the Heritage Council of NSW, as outlined in **Section 4.3.1**.

The items re-examined during the present survey (**Section 4.1.1.1**) are considered to low heritage values. There are no known associations with significant people or groups of people, only to the development of the local area through farming. The items do not have any particular aesthetic, technical or scientific characteristics that make them important to New South Wales or the local area. The items are unlikely to yield any further information about the cultural or

historical development of New South Wales that is not already known. The items, however, may hold some value for the local community, representing an aspect of the historical development of the area for settlement through farming.

In conclusion, items 24/NI; 25/NI; 26/NI and 27/NI are afforded low heritage significance.

4.3.3.2 Buttonderry Site

No items of historical heritage were recorded within the Disturbance Area of the Buttonderry Site.

4.3.3.3 Western Ventilation Shaft

No items of historical heritage were recorded within the Disturbance Area of the Western Ventilation Shaft.

4.3.3.4 Other WACJV Owned Land at Hue Hue Road

No items of historical heritage were recorded within the Other WACJV Owned Land at Hue Hue Road.

4.3.4 Subsidence Impact Limit

4.3.4.1 Wyong State Forest/Jilliby SCA

The historic items recorded during the current survey (WSF-HS1) do not satisfy any of the criteria as set out in **Section 4.3.1**. Items of this type are very relatively common across NSW due to the widespread incidence of logging. Further, the items lack a structural integrity that would qualify them for a heritage registration.

As is often the case, they do, as a collection, have a local significance that could be of interest to locals and visitors to the site: if the features could be properly delineated and explained.

In conclusion, WSF-HS1 is assessed as holding low historic significance.

4.3.4.2 Honeysuckle Park

No items of historical heritage were recorded at Honeysuckle Park.

4.3.4.3 Items G, J, K, M, N, O, Q, R & S

The items of potential historic heritage significance recorded by ERM in 2001d (**Table 3; items A–S**) were not recorded in the heritage studies that led to the generation of the Wyong LEP heritage list. It is noted that none of these properties were included in the 2009 Wyong Shire Heritage Study Review by David Scobie Architects (following initial assessment in 1994 by Rod Howard Heritage Conservation Pty Ltd).

The majority of these items are privately owned dwellings or parts thereof (sheds / silos) while only two (bridges) are public utilities (**Table 3**).

The 2012 OzArk reassessment did not visit the private properties as access was not available. While some properties were opportunistically assessed from public land, not all properties were able to be viewed or closely inspected.

The OzArk reassessment of these items of potential heritage value has refined their individual significance and have associated recommendations.

Dwellings G, J, R, and S (**Table 3; Plates 14-15, 23-24**) are considered here to have very little heritage significance. There are buildings of similar age and broad construction type in the region that are listed on the Wyong LEP as being increasingly rare examples that are representative of various classes of construction (see Wyong Shire Council's Heritage Inventory; Items 3, 5, 14, 20)⁵. However, these are generally more elaborate structures, have a community use, or have a value linked to the development of a specific area such as Long Jetty or Dooralong.

Items G, J, R, and S certainly display representativeness of early-mid twentieth century settlement of the area but are not rare. Their significance must be considered collectively and no individual dwelling has particular significance.

Item K (**Table 3; Plate 16**) could not be properly assessed due to its distance from a publically accessible location. This dwelling *appeared* to be more spacious and substantial than the other dwellings assessed here, and more in line with those dwellings listed on the LEP in the region. The complex of sheds associated with the dwelling were clearly of a similar age to the dwelling or possibly older. They appeared to be in a deteriorating condition but are potentially representative of the agricultural development of the area.

Item M, the bridge over Little Jilliby Road (**Table 3; Plates 17-19**), satisfies several heritage significance criteria at a local level. The steel reinforcements have substantially detracted from the aesthetic significance of the item and many of the timbers forming the bridge's surface have been replaced. Additionally, some of the original timber piling has been removed, probably as part of the reinforcements. However, the majority of the original elements of the bridge remain intact and it very much retains the overall form of the structure built at the end of the nineteenth century. The bridge should be listed as having local significance under the following criteria under the Heritage Council of NSW's guidelines:

a) Historic Significance - (evolution): Built in 1894 (Australian Town and Country Journal NSW, Saturday 21 July 1894, p. 14), the bridge represents a form of

⁵ <http://www.wyong.nsw.gov.au/environment/heritage/>

infrastructure that was important to the residential and industrial growth of the area in the late nineteenth century.

e) Technical/Research Significance - (archaeological, educational, research): The bridge is a common construction type in itself but represents a class of items that collectively have the ability to inform of the development of infrastructure through regional areas of NSW at this time.

f) Rarity: Although this bridge is common on a state level, most bridges locally have been upgraded so that all original elements have been removed.

The Bunya Pine (**Table 3; Plate 20**) demonstrates the continued occupation and reshaping of the area by European settlement. It *potentially* has some significance for a family *if* it represents a fallen WWI soldier. However, no reference to a fallen soldier also a resident of the area could be found in a preliminary search of the Australian War Memorial and Australian Cemeteries websites. The item's main potential value lies in its part in the collective value of a wider cultural landscape. However, although the pine does not contrast with the cultural landscape, it does not form an integral part of it.

The silos forming items O and Q (**Table 3; Plates 21-22**) do not satisfy the criteria for local heritage significance, although they have some heritage values nonetheless. Although not of the same age or rarity as the brick silo on Jilliby Road (**Table 3; item 1**), they represent a phase within the broader sequence of development of agriculture in the area as represented by the brick silo and other agricultural buildings listed on the LEP. The silos collectively somewhat satisfy Criterion E (technical/research potential) of the heritage guidelines in that they have the ability to inform us of grain processing, transportation routes, and the overall distribution of agricultural operations in the region throughout time. In this way, items O and Q have a collective but not individual significance along with other silos in the region. It should be noted that the concrete veneer and other sheds associated with the silos should be considered to have a similar heritage value to the silos, even though they have not been previously assessed as such.

4.4 LIKELY IMPACTS TO HISTORIC HERITAGE FROM THE PROJECT

Figure 8 displays the scale of subsidence impacts to items of registered and potential historic heritage value.

Table 3 provides data on whether listed items are within the Project Boundary and/or the Subsidence Impact Limit and **Table 4** describes the degree of likely subsidence, tilt and curvature impacts (MSEC 2012) of the items within the Subsidence Impact Limit.

4.4.1 Disturbance Area

4.4.1.1 Tooheys Road Site

No items of historical heritage significance have been assessed to be located within the Tooheys Road Site. The proposed works will not impact any known item of heritage significance.

4.4.1.2 Buttonderry Site

No items of historical heritage significance have been recorded within the Buttonderry Site. The proposed works will not impact any known item of heritage significance.

4.4.1.3 Western Ventilation Shaft

No items of historical heritage significance have been recorded within the Western Ventilation Shaft. The proposed works will not impact any known item of heritage significance.

4.4.2 Other WACJV owned land

No items of historical heritage significance have been recorded within the Hue Hue Road potential ecological off-set area. The proposed works will not impact any known item of heritage significance.

4.4.3 Subsidence Impact Limit

4.4.3.1 Items on the Wyong Shire LEP

Of the heritage items listed on the Wyong LEP (**Table 3**), two properties are within the Subsidence Impact Limit. These sites comprise one silo (**Table 3; item 1**) and one dwelling (**Table 3; item 3**; also shown in **Figure 8** and **Table 4**).

The silo (item 1) will be impacted by the new extent of the 1:100 year flood zone possibly registering an additional 0.4m depth of inundation beyond current inundation levels. It will also be affected by subsidence up to a maximum predicted 0.5m. Bangalow (item 3), a domestic dwelling, will be impacted by subsidence related impacts in the latter years of the Project (**Figure 8**).

4.4.3.2 Wyong State Forest/Jilliby SCA

The historic items recorded during the 2010 survey (WSF-HS1) are scattered along an earth-built roadway over an area of almost 2km. While the area will be subject to subsidence from the mining activity, it is assessed that there is only a low risk that the overall fabric of the complex would be impacted. The road itself is already in a bad state of repair with large washouts frequently along its path while the other historic items noted are small and unlikely to be

impacted by mining-induced earth movement. As noted in **Section 4.3.4.1**, WSF-HS1 has been assessed as having low heritage significance.

4.4.3.3 Honeysuckle Park

No items of historical heritage significance were recorded at Honeysuckle Park. The proposed works will not impact any known item of heritage significance.

Table 4: Predicted impacts within the Subsidence Impact Limit on historic heritage sites (MSEC 2012).

Heritage Site	Description	Predicted Impacts
Items of listed local heritage significance		
1	Brick & Iron Silo	Maximum predicted tilt: 7.5mm/m (0.8%). Change in grade of 1 in 135. Unlikely that stability would be affected adversely. Maximum predicted curvatures: 0.09km ⁻¹ hogging, 0.04km ⁻¹ sagging. Minimum radii of curvature of 11km and 25km. Potential impact: cracking in masonry walls (probably in corners around openings, possibly limited to mortar).
3	Dwelling "Bangalow"	Maximum predicted tilt: 8mm/m (0.8%). Change in grade of 1 in 125. Tilts of 7mm/m can result in minor serviceability impacts on houses whilst 8mm/m could result in more significant impacts. Maximum predicted curvatures: 0.08km ⁻¹ hogging, 0.01km ⁻¹ sagging. Minimum radii of curvature of 13km and 100km. Approximately 95% probability of nil or minor impacts. Approximately 5% chance of substantial impacts.
Items of local heritage significance previously identified by ERM 2001d		
M	Little Jilliby Road Bridge	Maximum predicted conventional subsidence: 75mm. Maximum predicted conventional tilt: 0.8mm/m. Maximum predicted conventional hogging curvature: <0.01km ⁻¹ . Maximum predicted conventional sagging curvature: <0.01km ⁻¹ .
Items of potential heritage significance previously identified by ERM 2001d		
K	Dwelling	Maximum predicted tilts: Range – 0.2mm/m (0.1%) to 11mm/m (1.1%). Changes in grade: <1 in 5,000 to 1 in 90. Tilts less than 7mm/m: minor serviceability impacts (e.g. door swings, roof gutter & wet area drainage issues). Tilts greater than 7mm/m: more substantial serviceability impacts. Maximum predicted curvatures: Range - <0.01km ⁻¹ to 0.17km ⁻¹ hogging curvature, <0.01km ⁻¹ to 0.04km ⁻¹ sagging curvature. Approximately 92% to 99% probability of nil or minor impacts. Approximately 1% to 8% chance of substantial impacts.
Items of no heritage value previously identified by ERM 2001d		
G, J, R, S	Dwellings	Maximum predicted tilts: Range – 0.2mm/m (0.1%) to 11mm/m (1.1%). Changes in grade: <1 in 5,000 to 1 in 90. Tilts less than 7mm/m: minor serviceability impacts (e.g. door swings, roof gutter & wet area drainage issues). Tilts greater than 7mm/m: more substantial serviceability impacts. Maximum predicted curvatures: Range - <0.01km ⁻¹ to 0.17km ⁻¹ hogging curvature, <0.01km ⁻¹ to 0.04km ⁻¹ sagging curvature. Approximately 92% to 99% probability of nil or minor impacts. Approximately 1% to 8% chance of substantial impacts.

Heritage Site	Description	Predicted Impacts
O, Q	Silos	Maximum predicted tilt: 8.5mm/m (0.9%). Change in grade of 1 in 115. Unlikely that stability would be affected adversely. Maximum predicted curvatures: 0.13km ⁻¹ hogging, 0.15km ⁻¹ sagging. Minimum radii of curvature of 8km and 9km. Expected to tolerate curvatures without adverse impacts.
N	Bunya Pine	Maximum predicted conventional subsidence: 75mm. Maximum predicted conventional tilt: 0.8mm/m.

As items G, J, R and S have no heritage values and no specific heritage recommendations, they will be omitted from further discussion and figures.

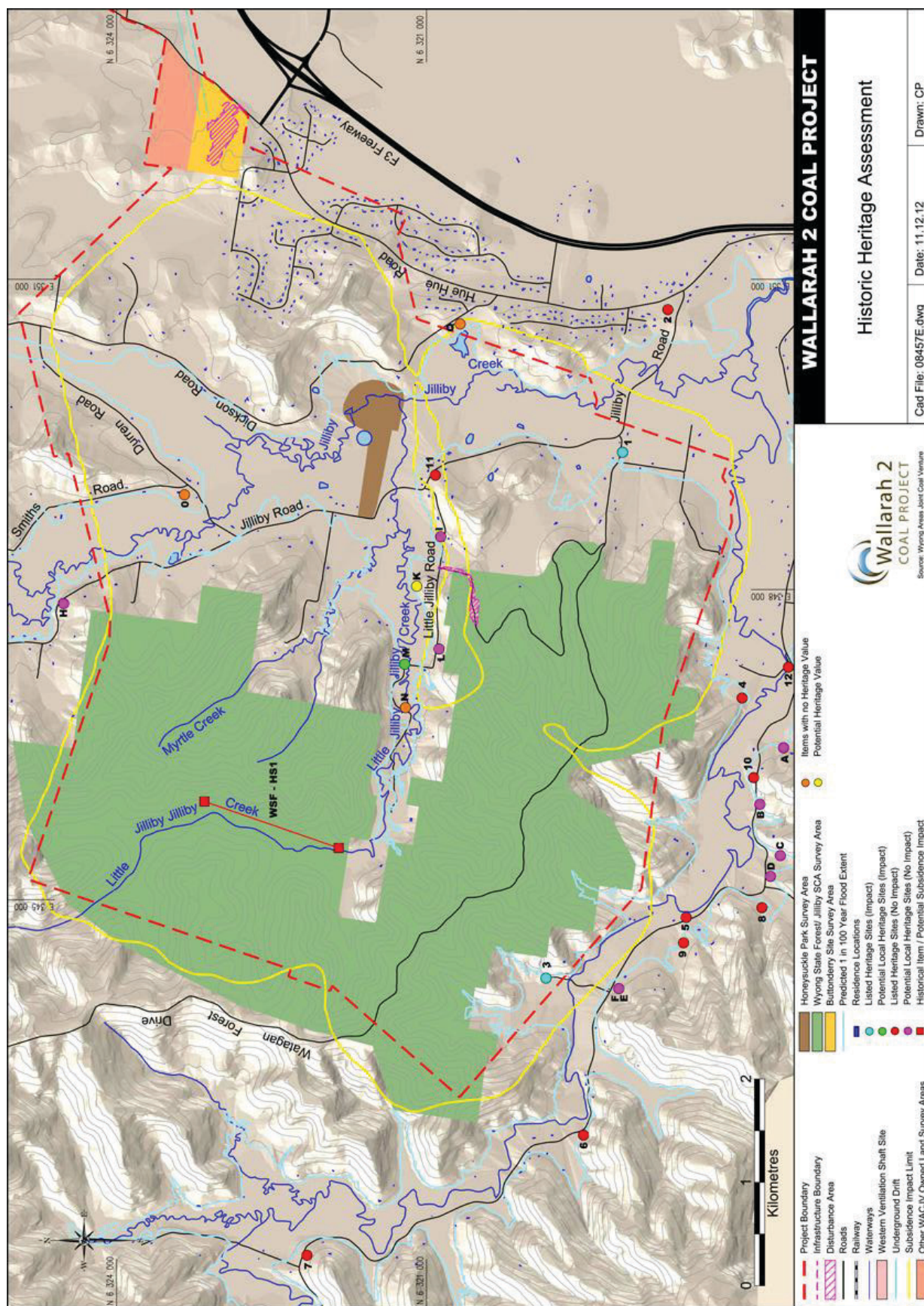
4.4.3.4 *Items K, M, N, O & Q*

Five historic items, first identified by ERM 2001d (**Table 4**), have potential to be impacted by mine related subsidence or increased flooding levels.

Of the five items, item M (local heritage values) and item K (potential heritage values) are the only items with assessed or potential heritage values that have potential to be impacted by the Project.

The remaining items (N, O & Q) have been assessed by OzArk in 2012 to have no heritage values and therefore, although located within the Subsidence Impact Limit, their heritage values will not be harmed by the proposed works. Several of these items, however, have interesting features and will be subject to separate recommendations.

Figure 8: Potential impact of subsidence and flooding on historic items.



5 MANAGEMENT AND MITIGATION: HISTORIC HERITAGE

5.1 MANAGEMENT AND MITIGATION OF RECORDED HISTORIC SITES

5.2 HERITAGE MANAGEMENT PLAN

Management strategies to mitigate direct and indirect impacts are provided below. It is recommended that these strategies be detailed in a Historic Heritage Management Plan (HHMP) for the Project.

5.3 DISTURBANCE AREA

As no items of historic heritage significance have been identified within this area, no specific management measures are required.

5.4 OTHER WACJV OWNED LAND

As no historical heritage items have been identified within this area, no specific management measures are required.

5.5 SUBSIDENCE IMPACT LIMIT

5.5.1 Items on Wyong LEP

It is recommended that a study be undertaken to assess potential impacts with input from a structural engineer, a subsidence engineer and a heritage consultant. Subsequent management strategies should be developed to ensure that heritage significance is not adversely affected and to establish appropriate remediation measures (**Table 5**).

As these items are privately owned, potential impacts and any remediation to them will be addressed in the SMP. Consultation with the WSC and the NSW Heritage Office may also be required.

Table 5: Recommendations for possible remedial work to listed historic items.

Heritage Site	Description	Recommendation(s)
Items of listed local heritage significance		
1	Brick & Iron Silo	Normal building maintenance techniques to repair cracking. Reviewed by heritage consultant. Study to be undertaken to assess potential impacts with input from structural engineer, subsidence engineer and heritage consultant. Management strategies should be developed to ensure that heritage significance is not adversely affected and to establish remediation measures.
3	Dwelling "Bangalow"	Minor to substantial remediation measures, including releveling of some wet areas. Reviewed by heritage consultant. Study to be undertaken to assess potential impacts with input from structural engineer, subsidence engineer and heritage consultant. Management strategies should be developed to ensure that heritage significance is not adversely affected and to establish remediation measures.

5.5.2 Other historic items

Of the items identified by ERM (2001d) as having potential heritage value, only items M and K have actual or potential heritage significance. **Table 6** gives management recommendations for these items.

Table 6: Recommendations for possible remedial work to other historic items.

Heritage Site	Description	Recommendation(s)
Items of local heritage significance		
M	Little Jilliby Road Bridge (local heritage values)	Minor to substantial remediation works. Study to be undertaken to assess potential impacts with input from structural engineer, subsidence engineer and heritage consultant. Management strategies should be developed to ensure that heritage significance is not adversely affected and to establish remediation measures.
Items of potential heritage significance		
K	Dwelling (potential heritage values)	Minor to substantial remediation works. Study to be undertaken to assess potential impacts with input from structural engineer, subsidence engineer and heritage consultant. Management strategies should be developed to ensure that heritage significance is not adversely affected and to establish remediation measures.

As a result of the 2012 OzArk survey, several items assessed by ERM 2001d as having potential heritage values were reassessed as having no heritage values. However, certain interesting features of these items should be recorded or studied further prior to undermining in the area. Appropriate recommendations are given in **Table 7**.

Table 7: Items with no heritage values: recommendations for further recording or research work.

Heritage Site	Description	Recommendation(s)
Items of no heritage significance		
O, Q	Silos	Silos should be recorded to archival standards prior to undermining in the area.
N	Bunya Pine	Further community consultation should take place prior to undermining in the area to fully determine if this item has any historical associations.

5.5.3 Wyong State Forest/Jilliby SCA

WSF-HS1, recorded in the then Wyong State Forest (this area is now Jilliby SCA), was assessed as having low heritage significance. Further, the nature of the proposed impacts is not seen as likely to greatly disturb the context and association of the recorded historic items. As no significant historical heritage items have been identified within this area, no specific management measures are required.

5.5.4 Honeysuckle Park

As no historical heritage items have been identified within this area, no specific management measures are required.

5.6 RELEVANT LEGISLATION

5.6.1 Introduction

Cultural heritage is managed by a number of State and National Acts. **Sections 5.5.2 and 5.5.3** summarise the legislative requirements in relation to heritage assets and development proposals.

5.6.2 State Legislation

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

The WACJV seeks a Development Consent under Division 4.1 in Part 4 of the EP&A Act for the Project.

On 1 October 2011, Part 3A of the EP&A Act was repealed and replaced by new provisions in the EP&A Act, which create an environmental assessment framework for two new categories of development: State significant development (SSD) and State significant infrastructure (SSI).

The classes of development that are SSD or SSI are set out in the State Environmental Planning Policy (State and Regional Development) 2011 which also commenced on 1 October 2011.

The procedures for SSD are set out in Division 4.1 of Part 4 of the EP&A Act.

The Minister for Planning is the consent authority for SSD – however this determination role has been delegated to the PAC or senior officers of the Department of Planning & Infrastructure in certain circumstances. A development application (DA) for SSD is to be accompanied by an EIS. Applicants for SSD will need to seek the Director-General's requirements (DGRs) for the EIS prior to lodging a DA.

Section 79C of the EP&A Act applies to SSD, therefore, all relevant planning controls contained in any environmental planning instruments will need to be considered, including local environmental plans. However, development control plans do not apply to SSD.

Concurrence or subsequent approvals are not required in respect of SSD, including in relation to heritage, bushfire and threatened species. Input from relevant agencies will occur at DGR stage.

DAs for SSD must be exhibited for 30 days.

Under the EP&A Act - Sect 89J, following Project approval, an approval under Part 4, or an excavation permit under section 139, of the Heritage Act 1977 does not apply.

NSW Heritage Act 1977

This Act established the Heritage Council of NSW. The Heritage Council's role is to advise the government on the protection of heritage assets, make listing recommendations to the Minister in relation to the State Heritage Register, and assess/approve/decline proposals involving modification to heritage items or places listed on the Register.

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

Excavation of land on which it is known or where there is reasonable cause to suspect that 'relics' will be exposed, moved, destroyed, discovered or damaged is prohibited unless ordered under an excavation permit. Should the current Project be approved, the development consent will be governed by the EP&A Act - Sect 89J that overrides the Heritage Act.

5.6.3 Commonwealth Legislation

Environment Protection and Biodiversity Conservation Act 1999.

Amendments in 2003 established the National Heritage List and the Commonwealth Heritage List, both administered by the Commonwealth Department of the Environment, Water, Heritage and the Arts (DEWHA), now the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC). Ministerial approval is required for proposals involving significant impacts to National/Commonwealth heritage places. Additionally, the Australian Heritage Council maintains the Register of the National Estate (RNE).

5.6.4 Applicability to the Project Boundary

State legislation

The current Project is being assessed under Division 4.1 in Part 4 of the EP&A Act.

This heritage assessment has been prepared in accordance with the DGRs for the Project issued 12 January 2012 in accordance with the requirements in Part 2 in Schedule 2 to the EP&A Regs.

Commonwealth legislation

No places or sites within the Study Area are governed by the EPBC Act.

6 RECOMMENDATIONS

Recommendations for the management of historical heritage within the Project Boundary are as follows:

1. No recommendations are made regarding historic heritage in the Infrastructure Boundary or other WACJV owned land (including Honeysuckle Park) as no historical heritage items have been identified within these areas.
2. Heritage items on the Wyong LEP (**Tables 3–5; items 1 and 3**).
 - Two items on the Wyong LEP that have the potential to be impacted by subsidence effects of longwall mining in the Subsidence Impact Limit (a silo and a house).
 - As these items are privately owned, potential impacts to them will also be addressed in the SMP. Consultation with the property owner, Wyong Shire Council and the Heritage Office may also be required. Specific recommendations are set out in **Section 5.6.1**.
 - These items, having local heritage significance, should be managed under a precautionary program that maintains or enhances the item's heritage significance. This would involve a heritage consultant inspecting and commenting on any remedial work to these items that may be recommended in the SMP.
3. Items of potential local heritage significance that are in or near the Subsidence Impact Limit area (**Tables 3–5; items G, J, K, M, N, O, Q, R and S**).
 - As items G, J, R, & S are privately owned, potential impacts to these items will be addressed in the SMP. Consultation with the property owner may also be required. Specific recommendations are set out in **Section 5.5.2**. It is assessed that items G, J, R, & S require no further historic heritage management.
 - Item M is assessed to have local heritage significance. It should be managed under a precautionary program that maintains or enhances the item's heritage significance. This would involve a heritage consultant inspecting and commenting on any remedial work to these items that may be recommended in the SMP.
 - Items O and Q have no particular heritage constraints, but archival recording of the items is recommended prior to the commencement of mining in the area.
 - Item N should be the subject of further community consultation to determine any historical connections to this item prior to the commencement of mining in the area.
 - Item K was not accessible for assessment in 2012 and is assessed as having possible heritage values. This item requires further assessment for recommendations to be made concerning its heritage management.

7 REFERENCES

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PLATES



Plate 1: Tooheys Road Site. Wallarah Creek is at the bottom of the hill beyond the cleared fields and dairy shed.



Plate 2: Buttonderry Site.



Plate 3: Brothers Road near the Western Ventilation Shaft area.



Plate 4: Other WACJV Owned Land at Hue Hue Road (DP719762). Note the steep slope and limited visibility except on the track. Regrowth trees illustrate the impacts of selective, long term logging.



Plate 5: Subsidence Impact Limit: Jilliby SCA. View from Maculata Road towards Daniels Point across Little Jilliby Jilliby Creek.



Plate 6: Subsidence Impact Limit: Wyong State Forest/Jilliby SCA. Typical view of slopes below the ridgeline in the Wyong State Forest/Jilliby SCA.



Plate 7: Subsidence Impact Limit: Honeysuckle Park alluvial floodplain property.



Plate 8: View northeast of the farm ruin (26/NI; Tooheys Road Site).



Plate 9: View west of the farm ruin (26/NI; Tooheys Road Site).



Plate 10: WSF-HS1: A road cutting for the forestry road running along Little Jilliby Jilliby Creek.



Plate 11: WSF-HS1: Axe marks in a tree stump beside the forestry road along Little Jilliby Jilliby Creek.



Plate 12: WSF-HS1: Different phases of culverts beneath the forestry road along Little Jilliby Jilliby Creek. On the left is the older form of drain made from tin, while a concrete drain to right suggests the road was re-engineered at some point and new drainage features installed.



Plate 13: Brick and iron silo that is registered on the Wyong LEP (**Table 3; item 3**). This site, assessed in the Wyong LEP as having local (regional) significance, will be potentially be affected by subsidence related impacts.



Plate 14: View from the road of Item G (**Table 3**). The item is unlisted and was not assigned any heritage value in this assessment. Source: Hansen Bailey.



Plate 15: This view of Item J was taken from Little Jilliby Road (**Table 3**). As with items G, S, and R, the item has not been previously assessed beyond having potential heritage significance, and no new significance is attributed to the item here. Source: Hansen Bailey.



Plate 16: This was the best available aspect of Item K (**Table 3**). It was not assessable due to its inaccessibility. A large shed complex is just to the left (west) of this view.



Plate 17: View north along the bridge over Little Jilliby Road (**Table 3**; Item M). This assessment suggests the bridge has a local level of heritage significance.



Plate 18: Steel girders have somewhat compromised the aesthetic value of the bridge, but a large portion of the original elements are intact.



Plate 19: Planking, sandbagging, and a silt fence have been instated to combat erosion at this end of the bridge. Further steel supports can be seen and this type of support exists at the other end of the bridge. Replacement planks are also visible on the underside of the bridge's surface.



Plate 20: The Bunya Pine (**Table 3**; Item N) is in a relatively original setting but is not particularly associated with a specific cultural landscape of plantings.



Plate 21: Keegan's silo (Table 3, Item O), within the Subsistence Impact Limit. The concrete veneer shed can be seen in the background as part of a larger shed complex.



Plate 22: The silo comprising Item Q (Table 3) is the same type of construction as Item O. It is not listed on any heritage registers.



Plate 23: This barn or cottage (**Table 3**, Item R) was difficult to assess due to the heavy overgrowth. This very factor diminishes the potential heritage value of the item though. Source: Hansen Bailey



Plate 24: This cottage (Table 3; Item S) is similar to others in the area and was not assessed as reaching a local level of significance. Source: Hansen Bailey.