



BERRIMA RAIL PROJECT

Environmental Impact Statement

Prepared for Hume Coal Pty Limited | March 2017



DECLARATION

For submission of an environmental impact statement (EIS) under Part 4, Division 4.1 of the NSW *Environmental Planning and Assessment Act 1979*

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Proposed development

Berrima Rail Project

Refer to Chapter 2 of this EIS for a description of the proposed development


Land to be developed

Refer to Appendix A of EIS

Declaration

We confirm that we have prepared this EIS in accordance with the Secretary's environmental assessment requirements issued for the Hume Coal Project on 20 August 2015 and supplementary Secretary's environmental assessment requirements issued 18 January 2016 and that the:

- EIS has been prepared in accordance with Schedule 2 of the EP&A Regulation 2000;
- EIS contains all available information that is relevant to the environmental assessment of the proposed development; and
- information in the EIS is neither false or misleading.



Paul Mitchell
9 March 2017



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9 March 2017



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Berrima Rail Project

Final

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Date 9 March 2017

Date 9 March 2017

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Executive Summary

ES1 Introduction

Hume Coal Pty Limited (Hume Coal) is seeking development consent under Division 4.1 of Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) for the construction and operation of a new rail spur and loop in the Southern Highlands region of New South Wales (NSW), known as the Berrima Rail Project (SSD 7171). Hume Coal is also seeking approval in a separate development application to develop and operate the Hume Coal Project (SSD 7172); an underground coal mine and associated mine infrastructure in the NSW Southern Coalfields. Coal produced by the Hume Coal Project will be transported to port for export or to domestic markets by rail via a new rail spur and loop, constructed as part of the Berrima Rail Project. Both projects are State significant development.

The new rail spur and loop will be connected to the western end of the existing Berrima Branch Line; a privately owned line branching off the Main Southern Rail Line at the Berima Junction approximately 2.5 km north of Moss Vale and 1.5 km north of Moss Vale Junction. The Berrima Branch Line is owned and used by Boral Cement Ltd (Boral) for the transportation of cement, limestone and clinker to and from the Berrima Cement Works. It is also used by Inghams Enterprises Pty Limited (Inghams) for the transportation of grain to its feed mill east of the cement works, and by Omya (Australia) Pty Ltd (Omya) for the transportation of limestone from Marulan South Limestone Mine to their Moss Vale plant at the Berrima Junction.

In addition to the construction and operation of the new rail spur and loop, the Berrima Rail Project (the project) also involves upgrades to the Berrima Branch Line and use of the upgraded rail infrastructure. The rail project and the Hume Coal Project are the subject of separate development applications as the upgraded rail infrastructure will be used by organisations including Hume Coal, as noted above.

Development consent for the Berrima Rail Project is one of three approvals required under the EP&A Act for the Hume Coal mine to operate. Hume Coal is therefore seeking:

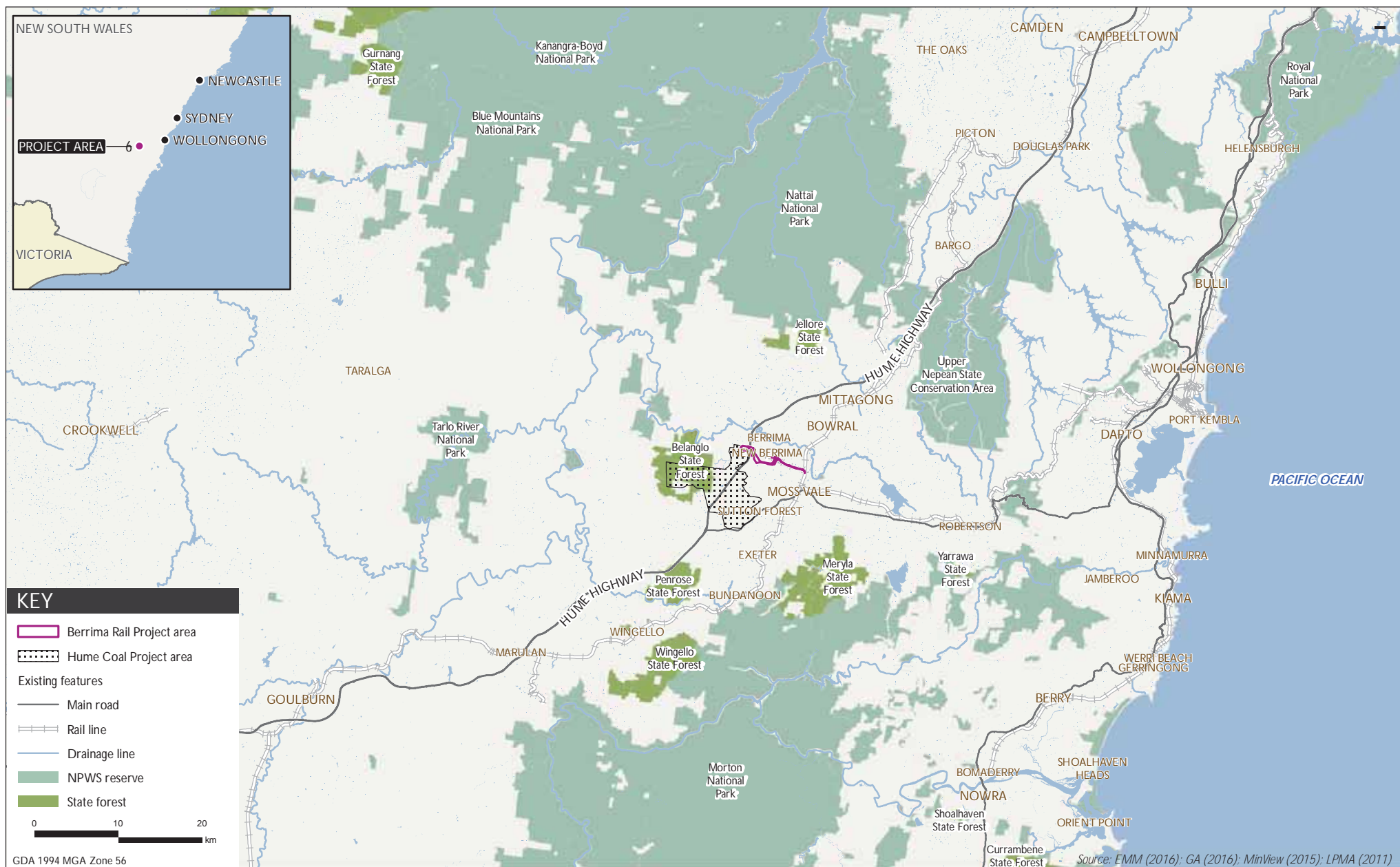
- development consent for the mine and associated facilities (ie the Hume Coal Project) under Part 4, Division 4.1 of the EP&A Act;
- development consent for the construction and use of a new rail spur and loop (the rail project which is the subject of this EIS) under Part 4, Division 4.1 of the EP&A Act; and
- an activity approval for proposed electricity supply works under Part 5 of the EP&A Act.

All three projects are inextricably linked, in that one will not be developed without the other two. Approval for the three projects is being sought separately and in parallel, and construction will occur concurrently.

The location of the project is shown in Figure ES1 and the conceptual project components is illustrated in Figure ES2.

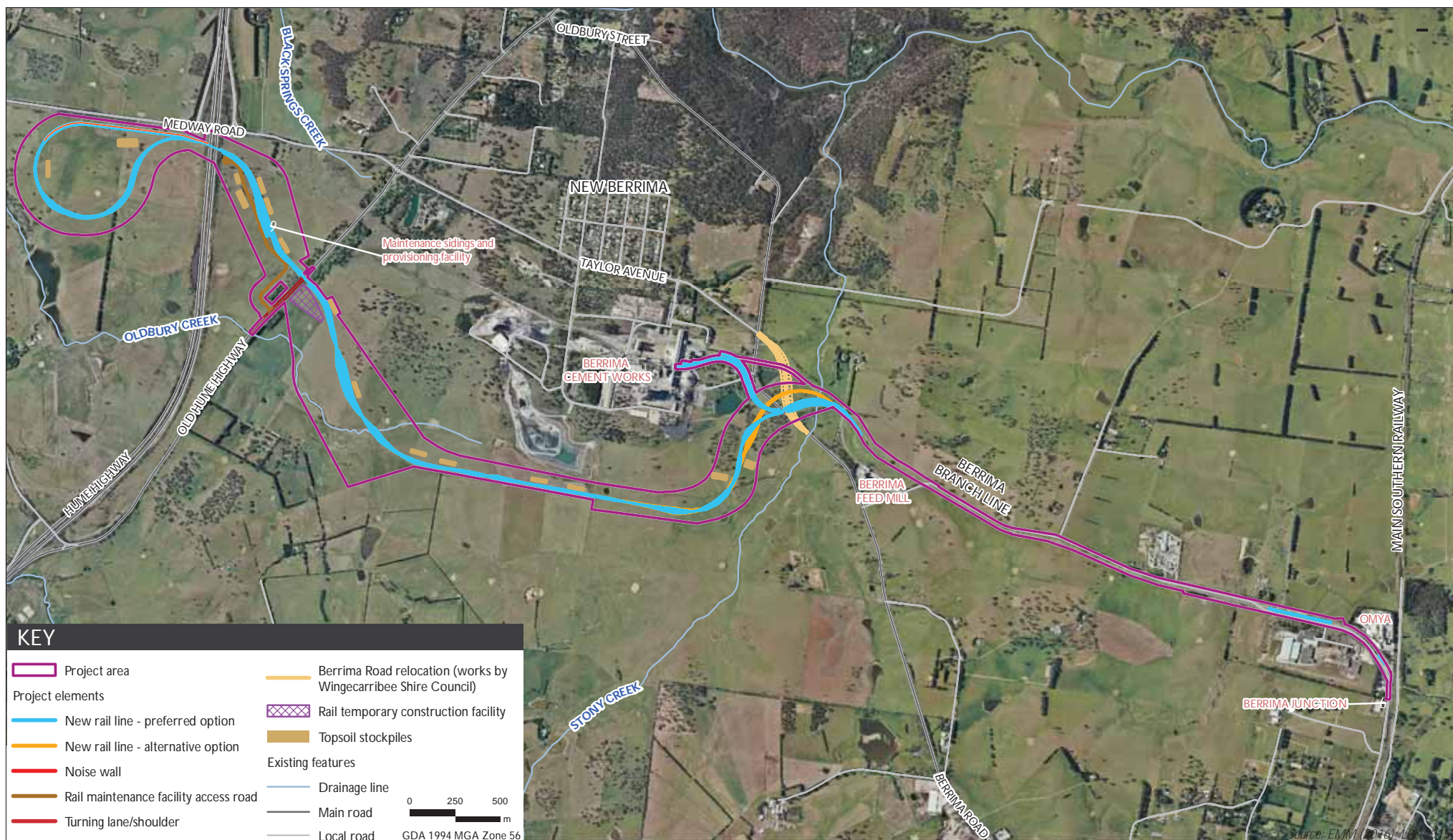
ES2 Project Overview

The Berrima Rail Project will enable the transportation of coal produced by the Hume Coal Project to market. In summary, the project involves:



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Locality plan
Berrima Rail Project
Environmental impact statement
Figure ES1



Conceptual project components

Berrima Rail Project
Environmental impact statement

Figure ES2

- upgrades to Berrima Junction (the eastern end of the Berrima Branch Line) to improve the operational functionality of the junction, including extending the number 1 siding, installation of new turnouts, and associated signalling on the branch line. This does not involve any work at or beyond the interface with the Australian Rail Track Corporation (ARTC) - controlled track;
- construction and operation of a railway bridge over Berrima Road;
- construction and operation of a new rail connection into the Berrima Cement Works from the railway bridge, including realignment of various tracks inside the works to suit the new connection;
- decommissioning of the existing rail connection into the Berrima Cement Works including the Berrima Road level crossing;
- construction and operation of a new rail spur line from the Berrima Branch Line connection to the Hume Coal Project coal loading facility;
- construction of a grade separated crossing (railway bridge) over the Old Hume Highway;
- construction and operation of maintenance sidings, a passing loop and basic provisioning facilities on the western side of the Old Hume Highway, including an associated access road, car parking and buildings;
- construction and operation of the Hume Coal rail loop adjacent to Medway Road; and
- construction and operation of associated signalling, services (including water and sewerage), access tracks, power and other ancillary infrastructure.

Approval is sought for two slightly differing alignments of the new rail line where it will cross Berrima Road. The preferred option includes construction of a railway bridge over Berrima Road as described in the points above. This preferred project design has been developed in consultation with Boral as the owner of the Berrima Branch Line.

The alternative option accounts for a proposal by Wingecarribee Shire Council (WSC) to realign approximately 700 m of Berrima Road between Taylor Avenue and Stony Creek to replace the T-intersection at Berrima Road and Taylor Avenue with a roundabout, and to replace the existing rail level crossing into the Berrima Cement Works with a rail overbridge. If WSC relocate Berrima Road, then the following project components would vary:

- the turnout for the new spur line to service the Hume Coal Project would be installed on the existing Berrima Branch Line approximately 1000 m east of the cement works. A short section of the existing Berrima Branch Line would be shifted north, within the rail corridor on Boral-owned land, to accommodate the spur line;
- the construction of a railway bridge over Berrima Road would be replaced by a railway underpass beneath the realigned Berrima Road, constructed through the elevated embankment for the road;
- the construction of a new rail connection into the Berrima Cement Works from the railway bridge would no longer be required, and the cement works access would remain unchanged; and
- the existing rail connection into the Berrima Cement Works and the Berrima Road level crossing would not be decommissioned, since the road would be realigned to pass over the existing rail alignment using a bridge.

The weekly train movements on the Berrima Branch Line associated with the existing users of the line will be approximately 120 train movements (where a train movement is a one direction journey), noting that the actual number of train movements in any week depends on market conditions and operational activities of the existing users.

The transport of up to 3.5 Mtpa of product coal by Hume Coal will require approximately 50 train movements per week along the new rail spur, the Berrima Branch Line, and on to the Main Southern Rail Line between the Berrima Junction and Moss Vale Junction. Therefore, with the Berrima Rail Project in operation, the total weekly movements associated with all users along the Berrima Branch Line will be approximately 170 (ie approximately 85 trains in and 85 trains out).

ES3 Environmental impact assessment

The assessment of environmental issues associated with the project has been multi-disciplinary and involved consultation with stakeholders. The project is not anticipated to pose any significant adverse impacts to the local environment or community. While the information presented in the body of this EIS should be read in its entirety, the following sub-sections provide an overview of the key findings.

ES3.1 Noise and vibration

A noise and vibration assessment was performed by EMM in accordance with the Secretary's Environmental Assessment Requirements (SEARs) and appropriate guidelines, policies and industry requirements. This assessment considered 74 potentially noise sensitive locations (ie residential properties) or 75 dwellings (location 14 was identified as having two dwellings on the property) surrounding the project area.

The area surrounding the project area is diverse in terms of existing background noise levels and the noise sources which make up the overall acoustic environment. Both unattended long-term and attended short-term noise monitoring were undertaken at sites representative of the most sensitive receptors to characterise the existing noise environment. Both the preferred and alternative project options were considered.

Noise from construction activity associated with the project is predicted to be above the relevant noise management level (NML) at some assessment locations, with 25 locations predicted to experience levels above the NML during standard construction hours and eight locations predicted to experience noise levels above the NML outside standard construction hours. The *Interim Construction Noise Guideline* (DECC 2009) (ICNG) highly noise affected construction noise level is predicted to be satisfied at all assessment locations. A Construction Environmental Management Plan will be prepared and implemented to address noise and vibration management and mitigation during construction. Where noise levels from works undertaken out of hours are predicted, affected landholders will be consulted prior to and during construction activity, and will be notified of proposed mitigation measures that will be used to manage construction noise levels to below ICNG NMLs.

Noise from operation of the Berrima Rail Project (including both existing users and Hume Coal trains) has been assessed in accordance with the *Rail Infrastructure Noise Guideline* (EPA 2013). One dwelling (assessment location 28) is predicted to be impacted by noise from the project on the Berrima Branch Line (non-network rail line) above the trigger level for voluntary mitigation rights in accordance with the *Voluntary Land Acquisition and Mitigation Policy* (VLAMP) (NSW Government 2014).

Operation of Hume Coal trains on the broader public rail network is predicted to cause a negligible increase in existing rail noise levels. The likelihood of sleep disturbance as a result of the project is also predicted to be minimal. Similarly, vibration impacts from construction and operation of the project are predicted to be negligible.

Noise from operation of the rail maintenance facility has been assessed in accordance with the *Industrial Noise Policy* (INP) (EPA 2000). Operational noise levels are predicted to satisfy the relevant project specific noise levels (PSNL) at all assessment locations with the exception of one location (19), where a negligible 1 dB above the PSNL is predicted.

ES3.2 Air quality and greenhouse gas

An air quality assessment was undertaken by Ramboll Environ to quantify air pollutant emissions associated with the project.

Air pollutant emissions were quantified for particulate matter less than 10 microns in aerodynamic diameter (PM₁₀), particulate matter less than 2.5 microns in aerodynamic diameter (PM_{2.5}), oxides of nitrogen (NO_x) and the individual volatile organic compounds (VOCs) benzene, ethylbenzene, toluene and xylenes.

The predicted concentrations from existing Berrima Branch Line users are well within the acceptable range of air quality criteria at all surrounding receptors. The introduction of additional Hume Coal train movements and associated increase in annual air pollutant emissions will increase ground level concentrations slightly; however, the increase in emissions will not result in exceedance of any applicable air quality criteria at any receptor location.

Cumulative impacts associated with the emissions from the Berrima Rail Project, the Hume Coal Project, neighbouring emission sources and existing ambient background concentrations were also assessed. The results of the cumulative air quality impact assessment demonstrated that no exceedance of air quality criteria would occur at any receptor location.

In relation to greenhouse gases, the annual Scope 1 and Scope 3 emissions associated with the combustion of diesel fuel by locomotives represent approximately 0.0033% of total greenhouse gas emissions for NSW and 0.0008% of total greenhouse gases emissions for Australia, based on the latest National Greenhouse Gas Inventory for 2014.

ES3.3 Traffic and transport

A traffic assessment was prepared by EMM to assess the potential impacts of the Berrima Rail Project on the safety and efficiency of road and rail networks.

Hume Coal will require up to four trains per day to transport product coal to market. With the addition of these eight daily train movements, combined with the maximum daily movements of 26 trains associated with existing users, the Berrima Branch Line will be operating at approximately 50% of its theoretical capacity (which is about 77% of the practical operating capacity). This usage level is within the ARTC's recommended limits for freight line operations.

Traffic delays caused by additional coal trains (four trains daily in each direction) as a result of the project at the major level crossings on the route, such as on the Illawarra Highway at Robertson, will be up to an extra 24 minutes in total each day.

The net effect of the additional coal trains will be to increase the proportion of the total time each day when each level crossing will be closed to traffic by a passing train, from 4.8% to 6.3% of the total time each day. On a daily average, the added delays would increase the total time each day by 1.5% when the level crossings would be closed to road traffic.

The peak construction workforce will generally comprise about 40 people. Non-local construction workers will be based at the accommodation village in the Hume Coal Project area. These workers will not use private vehicles to travel to work sites because shuttle buses or pooled vehicles will convey them between the accommodation village and worksites. At the primary construction worksites on the Old Hume Highway, the peak daily traffic increases will be around 80 daily vehicle movements (40 movements to/from the north and 40 movements to/from the south). These peak movements will result in a 2.9% increase in daily traffic on the Old Hume Highway route, assuming there are equal proportions of traffic travelling north or south from construction worksites.

To allow construction access with safe turning movements into the main rail construction facility, a temporary turning lane and wider shoulder will be constructed on the Old Hume Highway over a 450 m long section north of Oldbury Creek.

During the project operational stage, there will be much lower daily traffic movements generated on the surrounding road network, which will be limited to mainly fuel and other maintenance materials deliveries and employee and site visitor car traffic movements. For this longer term operations access, the temporary turning lane and shoulder widening of the Old Hume Highway will be reconfigured to provide a type CHR(S) access intersection, which will provide a dedicated right turn lane and acceleration/deceleration lanes.

ES3.4 Aboriginal heritage

An Aboriginal cultural heritage assessment was prepared by EMM in accordance with the SEARs; appropriate guidelines, policies and industry requirements; and following consultation with Aboriginal community members and archaeologists from the NSW Office of Environment and Heritage (OEH).

The survey team recorded 11 new sites in the project area. Eight sites were assessed to have low scientific significance, one site was assessed with moderate scientific significance and two sites were assessed to have higher moderate scientific significance.

The project has been designed to avoid the areas of highest archaeological sensitivity. Further, large undisturbed areas in the surrounding region contain comparable archaeological sites. Given the general richness of the surrounding archaeological landscape and the amount of ground disturbance required for infrastructure, the cumulative impact of the project on Aboriginal heritage is considered very low.

Eight of the 11 Aboriginal sites will be impacted to some degree by the project. Of these, six sites of low significance will be impacted (four partially and two totally) and two sites of higher moderate significance will be partially lost. Two sites of low significance (HC_158 and HC_140) will be avoided and the one grinding groove site of moderate significance (HC_138) will also be avoided.

An Aboriginal cultural heritage management plan (ACHMP) will be developed for the project in consultation with the registered Aboriginal parties (RAPs) and OEH. The ACHMP will provide details of all Aboriginal sites identified for the project; management measures and their progress towards completion. The management measures to be implemented for the 11 Aboriginal sites will include passive avoidance, active management (fence and avoid), collection and salvage excavation.

ES3.5 Historic heritage

A historic heritage assessment was undertaken by EMM in accordance with the SEARs and relevant legislation, policies and guidelines. As part of this assessment, primary and secondary research was conducted, statutory and non-statutory registers were reviewed and a targeted field survey was undertaken.

The project area includes a property that is listed in Schedule 5 of the *Wingecarribee Local Environmental Plan 2010* (LEP 2010: I351). The listing in the schedule describes the item as “Mereworth” house and garden, and is of local heritage significance. The significant components of the Mereworth property, being the house and garden, comprise a small part of the overall property and are not within the project area. Impacts to the existing landscape and setting will be minor and restricted to the northern paddocks of the property. The new rail loop will be visible from the ha-ha (the edge of the lawn formed by a retaining wall). It is anticipated that existing trees will partially screen views of the rail loop. Further, the project elements will not be visible from the entrance to the house and garden, and therefore will not interfere with the effect produced by the avenue of trees upon arrival, nor will it be visible once inside the forest-effect of the garden.

On the eastern side of the Boral Cement Works, a garden attributed to twentieth century landscape designer Paul Sorensen will be impacted by the rail connection from the cement works to the main new line under the preferred project option. However, the majority of trees to be removed as part of the project are in poor condition and the garden will remain in keeping with the original principle of its design; that is a living garden providing screening around industrial elements. Under the alternative option, there will be no impact to this feature.

ES3.6 Biodiversity

A biodiversity assessment was prepared by EMM in accordance with the SEARs and relevant standards and guidelines. The assessment included database searches, vegetation mapping and plot-based surveys, targeted flora and fauna species surveys, fauna habitat assessments, and aquatic assessments.

Two native and one exotic vegetation community were recorded in the biodiversity study area, comprising, respectively, Broad-leaved Peppermint Narrow-leaved Peppermint grassy woodland; Snow Gum Woodland; and cleared land.

Sixteen individual Paddy's River Box trees (*Eucalyptus macarthurii*), listed as endangered under both the TSC Act and EPBC Act, were recorded in the wider biodiversity study area. A further 24 individuals were recorded south-west of the study area. The study area does not contain habitat for any other listed threatened flora species.

Both the preferred and alternative options will result in minor residual impacts on 2 hectares (ha) of native vegetation and potential Squirrel Glider habitat. The preferred option will also remove one Paddy's River Box tree, while the alternative option would retain it. No key fish habitats or habitat for threatened fish species was recorded.

The direct disturbance footprint has been optimised such that direct impacts on native vegetation will be minimised for the preferred and alternative options insofar as possible, given rail geometry and other constraints. The project will directly impact the following vegetation communities and threatened flora species through clearing:

- approximately 1.8 ha of low condition Broad-leaved Peppermint - Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion (PCT 731);
- approximately 0.2 ha of low condition Snow Gum - Candlebark woodland on broad valley flats of the tablelands and slopes, South Eastern Highlands Bioregion (PCT 1191);
- approximately 2 ha of potential habitat that contains suitable hollow bearing-trees for the Squirrel Glider, a species credit species; and
- removal of one individual Paddy's River Box tree(preferred option only).

As the two plant communities in the project area contain habitat for threatened species, this residual impact will need to be offset in accordance with the *Framework for Biodiversity Assessment* (FBA) (OEH 2014).

An offset strategy has been prepared to compensate for the residual impacts on 2 ha of native vegetation and potential Squirrel Glider habitat, and the removal of one Paddy's River Box tree, should the preferred option be adopted. The offset strategy will be finalised within 12 months of project approval in consultation OEH and the NSW Department of Planning and Environment (DP&E).

ES3.7 Surface water

A flooding and drainage assessment was conducted by Parsons Brinkerhoff for the project. The flooding assessment was based on flood models developed from recent LiDAR and ground survey data and calibrated against a recently observed flood event. The Oldbury Creek model achieved a good fit to the calibration event, and is assessed as providing reliable predictions of flood behaviour in the subject creeks.

Culverts will be constructed in a number of locations to allow water to pass the proposed rail infrastructure and reduce flooding impacts on nearby land. The modelling results indicate that for flooding events up to the 100 year annual recurrence interval (ARI) for the operation and rehabilitation scenarios:

- there are no buildings located within the flood extents;
- changes in flood levels will be within the acceptability criteria for roads and rail; and
- changes in flood levels will be very minor and within the acceptability criteria for private land.

The cumulative modelling results for the Hume Coal Project and Berrima Rail Project indicate that the impacts of the two projects on flood levels in the Oldbury Creek catchment will be within the acceptability criteria for public roads, rail and private land for flooding events up to 100 year ARI for the operational and rehabilitation scenarios.

Peak velocities are expected to increase immediately downstream of culverts. Standard erosion and scour protection measures will be implemented around culvert inlets and outlets so that the velocity does not exceed the existing flow velocity or the threshold velocity of erosion of the channel lining downstream of the culvert.

Erosion and sediment controls will be implemented in accordance with the Blue Book (Landcom 2004).

ES3.8 Soils

A land and soil assessment was prepared by EMM and included a desktop review of existing information, a soil survey to characterise soil types within the project area, an assessment of land and soil capability (LSC), and an assessment of agricultural land use. Potential impacts on soil resources and proposed management and mitigation methods were also considered.

A total of 29 observation points were surveyed over an overall area of 355 ha during field surveys undertaken in 2014 and 2015. The survey points covered an area larger than the project area, as the alignment of the railway line and associated infrastructure had not been finalised at the time of the survey.

The soil survey identified Dystrophic Yellow Kandosol as the major soil type (or soil order) within the project area. Land within the project area that is characterised by this soil type is extensively cleared and used mainly for grazing, improved pastures and existing infrastructure. Small patches of Kandosolic Redoxic Hydrosol and Eutrophic Grey Dermosol were also identified.

The LSC assessment found that the project area is mainly Class 5 (moderate – low capability) (44%) and Class 4 (moderate capability) (25%) land. These soils are most suited for grazing, but could be used occasionally for cultivation with the implementation of suitable soil conservation measures. Approximately 10% of the land was conservatively classified as Class 3 (high capability); although insufficient data for surface pH means that it is not fully classified, and may in fact be Class 4 or 5. There is only 17.5 ha of this higher capability land in the project area, of which just 1.5 ha will be disturbed. The remainder of the land in the project area is either low or very low capability land (Classes 6, 6 or 8).

The impact to agricultural land use of the proposed railway corridor is limited to the proposed construction footprint. After construction, the area of land impacted will be restricted to the area of the infrastructure itself. The railway corridor does bisect some paddocks; however the paddocks will still be able to support the current grazing land use.

The topsoils of the area to be disturbed will generally allow usable material approximately 0.3 m deep to be stripped and stockpiled. The overriding goal for the project's rehabilitation will be to return any disturbed land to a condition that is stable, and supports the proposed post-disturbance land use, which is to return the site to grazing with improved pasture.

Although most of the land will be returned to grazing, the post disturbance LSC (once rehabilitation has been completed) will be reduced across 14% of the project area; comprising (a reduction of 1% of Class 3, 4% of Class 4, 8% of Class 5, 1% of Class 6). This will result in an increase of land classified as Class 7 (43.9 ha).

ES3.9 Visual

The visual assessment considered potential visual impacts associated with the construction of the new rail line and loop that will comprise the construction of 8.2 km of new railway track or 7.6 km if the alternative option is constructed.

Viewpoints were selected to provide a representative sample of the likely impacts on the different users of the areas surrounding the project and included views from private residential properties, a main transport route and local roads nearest to the project. The viewpoints were primarily selected to represent the 'worst case' where clear views of the project could potentially be obtained.

The development of the project will result in some changes to the landscape especially in the early stages prior to maturation of screen landscaping. However, Hume Coal has already undertaken an extensive tree planting program that will eventually provide a visual screen to the rail line and associated infrastructure along sections of Medway Road and the Hume Highway. As a result of this tree screen, once established, and the rail line being predominantly at or near grade, the project will not result in significant visual impacts for viewers across the project area. Further, due to the relatively intermittent frequency of trains travelling along the railway line the overall visual impact is minimised. It is also important to note that a railway line already exists within the landscape in the eastern extent of the project area at present so viewers will not experience significant alterations to existing views in the locality. Furthermore a historical railway formation exists in the landscape in the western extent of the project area.

ES4 Justification and conclusion

The project will enable the transportation of coal from the proposed Hume Coal Project whilst maintaining usage by the three existing users of the Berrima Branch Line, via the upgrade of, and extension to, existing rail infrastructure. In addition to facilitating the transportation of bulk goods, the project will improve operational functionality at the Berrima Junction for all users of the Berrima Branch Line, improve safety conditions on Berrima Road with the removal of the level crossing, create 40 fulltime equivalent positions during the peak construction period and 16 during operations, and provide a financial benefit to the community through the increased use of a previous public investment in rail infrastructure on the public sections of the rail network.

The project has been carefully designed through the investigation of numerous alternative locations to avoid areas of value or sensitivity, and includes all practical measures to reduce construction and operational impacts. The project, resulting from this thorough design process, represents the best of the alternatives available when all relevant economic, environmental and social impacts and benefits are taken into consideration. Consequently, it will have minimal adverse impacts. All applicable standards and criteria specified by relevant regulators will be satisfied meaning no impacts will occur that are at unacceptable levels. The net overall outcome of environmental, economic and social impacts is positive and therefore it is considered the project is orderly development and will be in the public interest.

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E	Noise and Vibration Assessment Report
F	Air Quality Impact and Greenhouse Gas Assessment Report
G	Traffic and Transport Assessment Report
H	Aboriginal Cultural Heritage Assessment Report
I	Statement of Heritage Impact
J	Biodiversity Assessment Report
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1 Introduction

1.1 Background

Hume Coal Pty Limited (Hume Coal) is seeking approval for the construction and operation of a new rail spur and loop, known as the Berrima Rail Project (SSD 7171), in the Southern Highlands region of New South Wales (NSW). Hume Coal is also seeking approval in a separate development application to develop and operate the Hume Coal Project (SSD 7172); an underground coal mine and associated mine infrastructure in the NSW Southern Coalfields. Coal produced by the Hume Coal Project will be transported to port for export or to domestic markets by rail via a new rail spur and loop, constructed as part of the Berrima Rail Project (which is the subject of this Environmental Impact Statement (EIS)). Both projects are defined as State significant development.

The new rail spur and loop will be connected to the western end of the existing Berrima Branch Line; a privately owned line branching off the Main Southern Rail Line at the Berrima Junction approximately 2.5 km north of Moss Vale. The Berrima Branch Line is owned and used by Boral Cement Ltd (Boral) for the transportation of cement, limestone, coal and clinker to and from the Berrima Cement Works. It is also used by Inghams Enterprises Pty Limited (Inghams) for the transportation of grain to its feed mill east of the cement works, and by Omya (Australia) Pty Ltd (Omya) for the transportation of limestone to their Moss Vale plant at the Berrima Junction.

In addition to the construction and operation of the new rail spur and loop, the Berrima Rail Project (the project) also involves upgrades to the Berrima Branch Line and use of the upgraded rail infrastructure. The rail project and the Hume Coal Project are the subject of separate development applications as the upgraded rail infrastructure will be used by a number of organisations including Hume Coal, as noted above.

The location of the project is shown in Figure 1.1, and the local context around the project area is illustrated in Figure 1.2.

1.2 Project overview

The Berrima Rail Project will enable the transportation of coal produced by the Hume Coal Project to various customers. A full project description is provided in Chapter 2. In summary the project involves:

- upgrades to Berrima Junction (at the eastern end of the Berrima Branch Line) to improve the operational functionality of the junction, including extending the number 1 siding, installation of new turnouts and associated signalling on the branch line. This does not involve any work at or beyond the interface with the Australian Rail Track Corporation (ARTC) - controlled track;
- construction and operation of a railway bridge over Berrima Road;
- construction and operation of a new rail connection into the Berrima Cement Works from the railway bridge, including realignment of various tracks inside the works to suit the new connection;
- decommissioning of the existing rail connection into the Berrima Cement Works including the Berrima Road level crossing;
- construction and operation of a new rail spur line from the Berrima Branch Line connection to the Hume Coal Project coal loading facility;

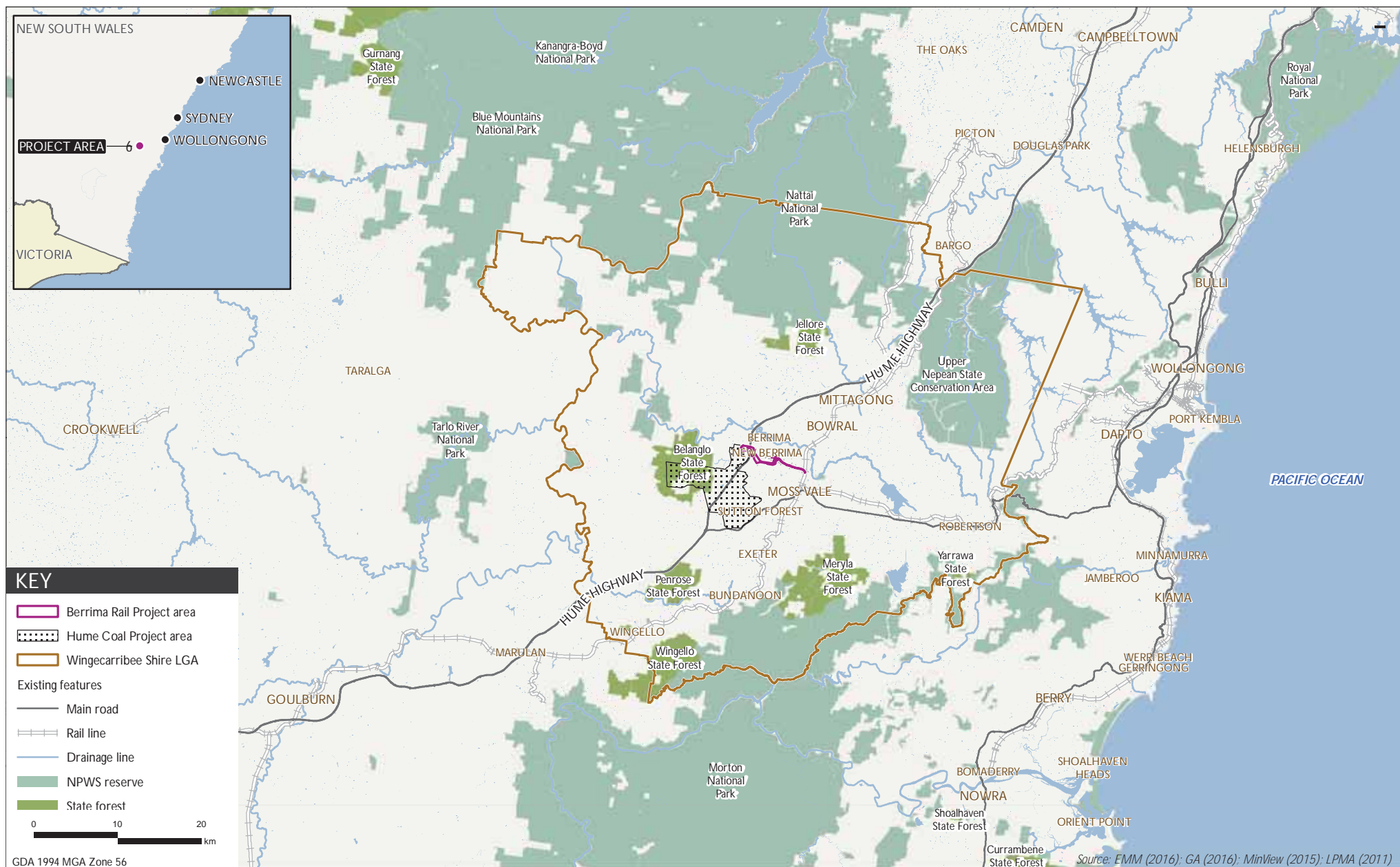
- construction and operation of a grade separated crossing (railway bridge) over the Old Hume Highway;
- construction and operation of maintenance sidings, a passing loop and basic provisioning facilities on the western side of the Old Hume Highway, including an associated access road, car parking and buildings;
- construction and operation of the Hume Coal rail loop within the Hume Coal Project Area, adjacent to Medway Road; and
- construction and operation of associated signalling, services (including water and sewerage), access tracks, power and other ancillary infrastructure.

The conceptual project layout is illustrated in Figure 1.3. As shown, approval is sought for two alignments of the new rail line where it will cross Berrima Road. The preferred option is the blue rail alignment shown in Figure 1.3, which includes construction of a railway bridge over Berrima Road as described in the points above. This preferred project design has been developed in consultation with Boral as the owner of the Berrima Branch Line.

The alternative option (orange alignment in Figure 1.3) accounts for a proposal by Wingecarribee Shire Council (WSC) to realign approximately 700 m of Berrima Road between Taylor Avenue and Stony Creek to replace the T-intersection at Berrima Road and Taylor Avenue with a roundabout, and to replace the existing rail level crossing into the Berrima Cement Works with a rail overbridge. If WSC relocates Berrima Road to the alignment shown in Figure 1.3, then the following project components would vary:

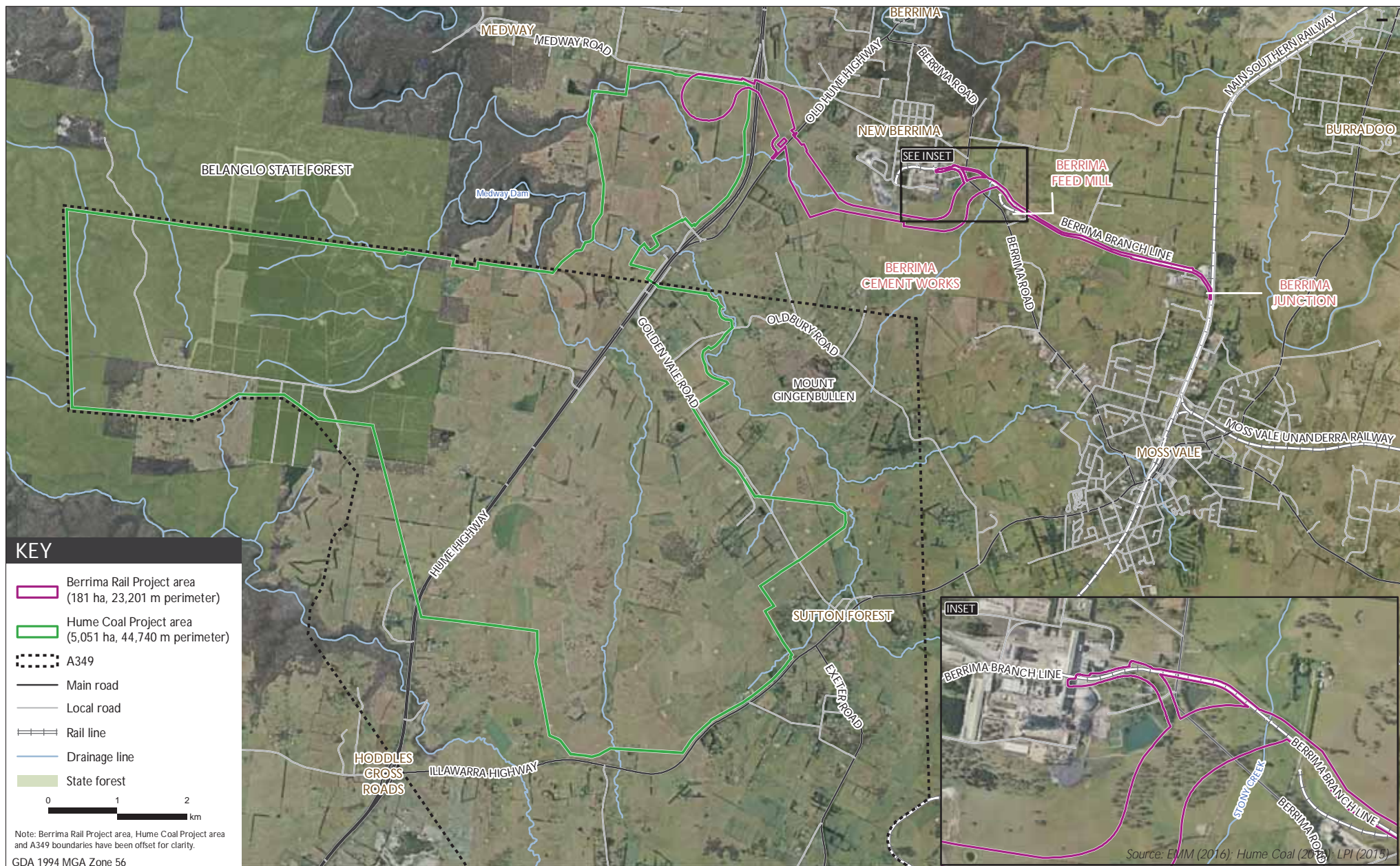
- the turnout for the new spur line to service the Hume Coal Project would be installed on the existing Berrima Branch Line approximately 1000 m east of the cement works. A short section of the existing Berrima Branch Line would be shifted north, within the rail corridor on Boral-owned land, to accommodate the spur line;
- the construction of a railway bridge over Berrima Road would be replaced by a railway underpass beneath the realigned Berrima Road, constructed through the elevated embankment for the road;
- the construction of a new rail connection into the Berrima Cement Works from the railway bridge would no longer be required, and the cement works access would remain unchanged; and
- the existing rail connection into the Berrima Cement Works and the Berrima Road level crossing would not be decommissioned, since the road would be realigned to pass over the existing rail alignment using a bridge.

If the project is approved, the development consent will only be commenced upon construction starting on the project. In the event that this does not occur the existing users of the Berrima Branch Line will continue to operate pursuant to existing use rights, unless written notification is provided to the Secretary of the Department of Planning and Environment providing that they wish to take up the development consent.



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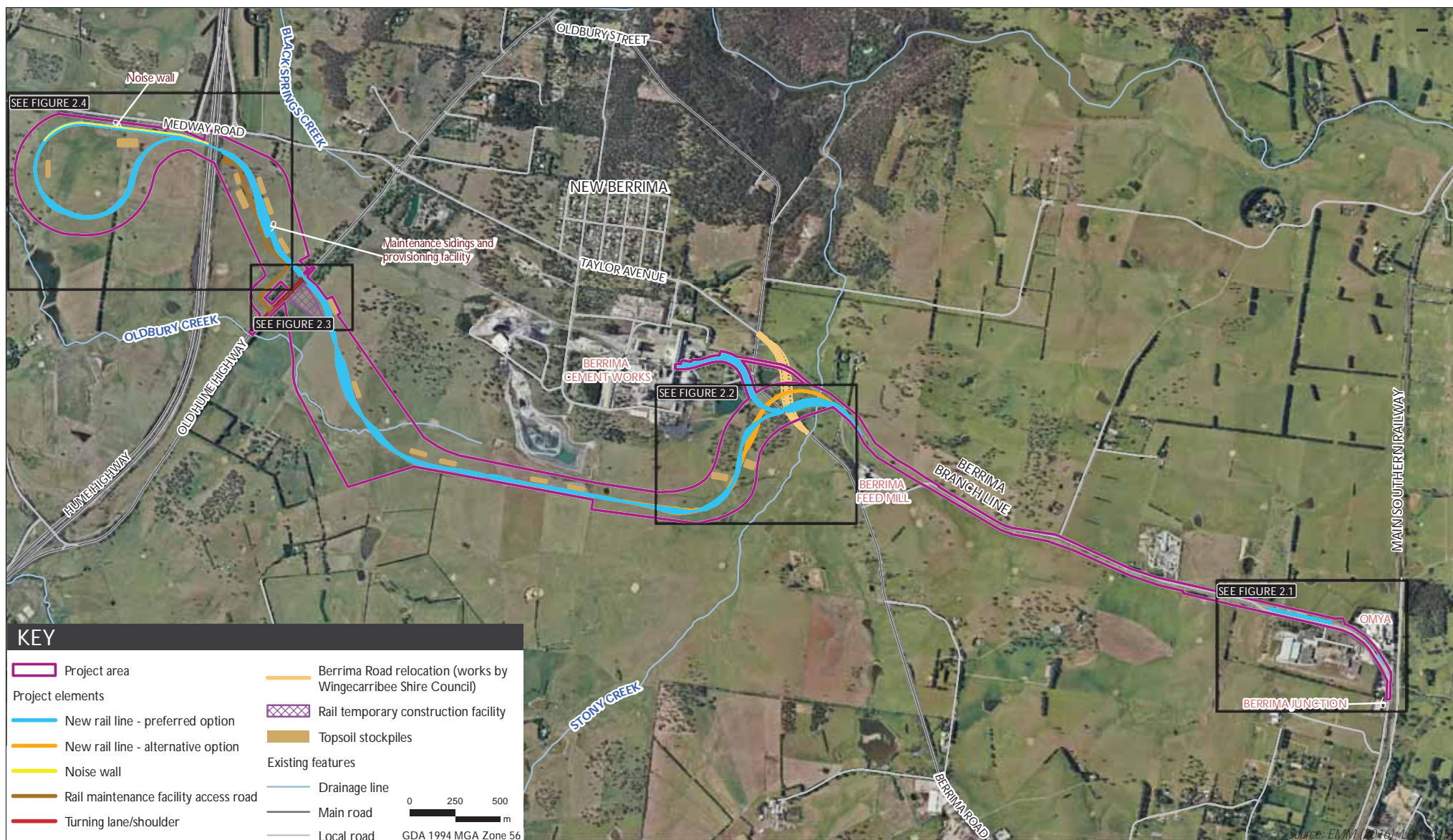
Locality plan
Berrima Rail Project
Environmental Impact Statement
Figure 1.1



Local context

Berrima Rail Project
Environmental Impact Statement

Figure 1.2



Conceptual project components

Berrima Rail Project
Environmental Impact Statement

Figure 1.3

The impacts of both rail alignments have been assessed in the EIS, with the impacts of the preferred option presented first, followed by the difference in impacts should the alternative option need to be built to accommodate the Berrima Road relocation. The two options are presented and assessed in the EIS due to the uncertainty around whether WSC will proceed with the road relocation. At the time of commencing the EIS, construction of the Berrima Road relocation appeared to be less certain than it currently does.

Hume Coal will transport product coal by rail, primarily to Port Kembla terminal for export, and possibly to the domestic market depending on demand. Hume Coal will transport up to 3.5 Million tonnes per annum (Mtpa) of product coal which will require up to eight train paths per day (four in each direction), with a typical day involving four to six paths (two to three in each direction).

1.3 Purpose of this document

The project is defined as SSD pursuant to Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* (State and Regional Development SEPP). Accordingly, approval is required under Division 4.1, Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). The approval pathway and legislative requirements relating to the project are discussed in detail in Chapter 4 of this EIS.

This EIS has been prepared by EMM Consulting Pty Limited (EMM) on behalf of Hume Coal to support the SSD application for development consent under Section 78A(8)(a) of the EP&A Act for the project. It has been prepared to the form and content requirements set out in Clauses 6 and 7 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation). The schedule of lands to which the EIS applies is provided in Appendix A.

The primary objective of the EIS is to inform government authorities and other stakeholders about the project and the measures that will be implemented to mitigate, manage and/or monitor potential impacts, together with a description of the residual social, economic and environmental impacts. It addresses the specific requirements provided in the Secretary's environmental assessment requirements (SEARs) issued by the NSW Department of Planning and Environment (DP&E) on 20 August 2015. The SEARs are provided in Appendix B, along with a table showing where the SEARs have been addressed. The EIS has also been prepared with input from technical specialists in all the relevant areas. The study team is provided in Appendix C.

The project is not a controlled action under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. This has been confirmed in correspondence with the Commonwealth Department of the Environment and Energy, provided in Appendix D.

1.4 Interaction with the Hume Coal Project

As mentioned above, Hume Coal is seeking separate development consent under Division 4.1, Part 4 of the EP&A Act for the underground coal mine (the Hume Coal Project) that will use the Berrima Rail Project. Three separate approvals will be required under the EP&A Act for the Hume Coal mine to operate. Hume Coal is therefore seeking:

- development consent for the mine and associated facilities (ie the Hume Coal Project) under Part 4, Division 4.1 of the EP&A Act;
- development consent for the construction and use of a new rail spur and loop (the rail project which is the subject of this EIS) under Part 4, Division 4.1 of the EP&A Act; and

- an activity approval for proposed electricity supply works under Part 5 of the EP&A Act.

All three projects are inextricably linked, in that one will not be developed without the other two. Approval for the three projects is being sought separately and in parallel, and construction will occur concurrently.

The rail infrastructure will be constructed in conjunction with construction of the mine, so that the rail loop and spur is ready for use upon the commencement of mine operations. Similarly, the electricity supply works for which approval is being sought under Part 5 will be completed prior to commencement of the operational phase of the mine.

Separate development consent is being sought for the Hume Coal Project and the Berrima Rail Project because the rail project involves more than one party. The Berrima Branch Line, to which the Hume Coal rail line will be connected as part of the rail project, is owned by Boral and is currently used by Boral, Inghams and Omya to transport material to and from their respective facilities, as described in Section 1.1. The rail project has therefore been separated from the Hume Coal Project so that the Hume Coal mine development consent, if granted, does not apply to the portion of rail line to be used by the mine that is owned and used by Boral (ie the Berrima Branch Line).

1.5 Project objectives

The purpose of the project is to service the needs of Hume Coal without impacting on the other users of the rail infrastructure, and for existing users to continue their usage of the line.

1.6 The applicant

Hume Coal is a wholly-owned subsidiary of POSCO Australia (POSA), the Australian subsidiary of POSCO. POSCO is a leading multi-national steel manufacturer and one of the largest buyers of Australian coal and iron ore. Hume Coal was formed in 2010, as a joint venture company between POSA and Cockatoo Coal Limited (ASX: COK). POSA subsequently acquired Cockatoo Coal's 30% stake in 2013 to hold the 100% ownership of Hume Coal.

POSCO, through POSA, has invested heavily in coal and iron ore projects in NSW, Queensland, and Western Australia. POSCO is set to make a substantial investment in the Southern Highlands region if both the Hume Coal and Berrima Rail Projects are approved, making the projects an important part of the company's plans to increase its Australian investment portfolio. Hume Coal's headquarters is in Moss Vale, south-east of the project area. Hume Coal is an active member of the local community and supports and participates in various groups including the Moss Vale Chamber of Commerce and the Southern Highlands Chamber of Commerce and Industry. The Berrima Rail Project and the Hume Coal Project will last some decades and the company is committed to making a significant and lasting contribution to the region's prosperity.

The existing Berrima Branch Line, which will be upgraded as part of the project, is wholly owned by Boral. Hume Coal has Boral's consent to lodge a development application for the project.

2 The project

2.1 Introduction

Hume Coal is seeking approval for the construction and operation of a new rail spur and loop that will connect to the existing Berrima Branch Line, associated upgrades to the existing Berrima Junction, construction of a basic rail maintenance and provisioning facility, and use of the upgraded rail infrastructure. Approval is also sought for the ongoing use of the Berrima Branch Line, including rail movements as described in this chapter, regular maintenance and associated shunting activities, by existing users and other future users as may change from time to time.

This chapter describes the project, including how it will be constructed and operate.

2.2 Interaction with the Hume Coal Project

As described in Chapter 1, Hume Coal is also seeking approval in a separate development application to develop and operate an underground coal mine and associated mine infrastructure (the Hume Coal Project). Coal produced by the Hume Coal Project will be transported to port for export, or to domestic markets, by rail. The Berrima Rail Project will therefore enable coal produced by the Hume Coal Project to be transported to relevant markets.

The Hume Coal Project seeks approval for all activities associated with the excavation and processing of coal, and construction and operation of the required coal loading facilities to load the coal into train wagons. The Berrima Rail Project comprises the construction and operation of the new rail line and loop.

The overlap between the two project areas is illustrated in Figure 1.2.

2.3 Key design features

2.3.1 Overview

The major components of the project are illustrated in Figure 1.3, and are described in the sub-sections below, as well as shown in more detail in Figures 2.1 to 2.4.

As shown in Figure 1.3 and noted in Chapter 1, approval is sought for two slightly different alignments of the new rail line where it crosses Berrima Road near the Berrima Cement Works. The preferred option is shown in blue in Figure 1.3 and includes a grade separated crossing comprising a railway bridge over the existing Berrima Road. The alternative option (shown in orange) accounts for the Berrima Road realignment, which is currently being proposed by WSC between Stony Creek and Taylor Avenue, should it be built. In this instance a grade separated crossing will once again be constructed; however in this case it would be road-over-rail. The impacts of both rail alignments have been assessed in the EIS.

The new rail track will be constructed to accommodate a 30 tonne axle load and will comprise the construction of approximately 8.2 km of new railway track (including sidings and loop), or approximately 7.6 km if the alternative option is constructed.

2.3.2 Modifications to the Berrima Junction and Berrima Branch Line

Some modifications to the existing Berrima Junction will be required to accommodate the rail movements associated with the project, and in particular to allow two trains to cross in the junction. This will greatly improve the operational functionality at the junction and practically eliminate the risk of delays due to trains being held back by train control.

The sections of the junction to be modified are illustrated in Figure 2.1. The modifications will involve:

- the extension of the western end of the number 1 siding at Berrima Junction by approximately 240 m from about chainage 143.7 km (from the existing clearance point to the proposed clearance point) across the existing creek crossing;
- installation of a new turnout on the western end of the siding;
- installation of a new turnout on the eastern end of the number 1 siding, and extension of the siding by approximately 13 m (clearance point to clearance point) on the eastern end. These changes in combination will provide a proposed clear standing room of approximately 663 m; and
- renewal of the through-line in this locality (with new rail and sleepers), if this has not already been undertaken during routine maintenance by the time the siding is lengthened.

The new rail line will connect to the Berrima Branch Line near the Berrima Cement Works. For the preferred option, this connection will require decommissioning of the existing rail connection into the Berrima Cement Works, and installation of a new turnout at the connection point (refer to Figure 2.2).

2.3.3 Road and creek crossings

The new rail line will require a number of road and creek crossings as described below.

i Un-named tributary to Wingecarribee River

The number 1 siding at Berrima Junction will be extended across a box culvert over an un-named minor tributary of the Wingecarribee River. Whilst the culvert in this location has been constructed to a sufficient width to accommodate an extension of the number 1 siding; it may need to be replaced or upgraded since its construction quality is unknown.

ii Berrima road

a. Preferred option

As shown in Figure 2.2, a grade separated crossing over Berrima Road and a new rail siding into the Berrima Cement Works will be constructed. The existing level crossing and stop sign on Berrima Road (where the Berrima Branch Line enters the Berrima Cement Works) will therefore no longer be required. In addition, the existing portion of the Berrima Branch Line between the new rail line connection point and Berrima Road will be removed.



Project components - modifications to the Berrima Junction

Berrima Rail Project
Environmental Impact Statement

Figure 2.1



Project components - connection to the Berrima Branch Line

Berrima Rail Project
Environmental Impact Statement

Figure 2.2

b. [Alternative option](#)

If Berrima Road is relocated by WSC to the alignment shown in Figure 2.2, the road will be constructed so that the rail line passes under the road.

iii [Stony Creek](#)

a. [Preferred option](#)

The existing rail bridge over Stony Creek will be decommissioned and a new culvert, subject to final detailed design, will be constructed to accommodate the new rail line.

b. [Alternative option](#)

If Berrima Road is relocated by WSC to the alignment shown in Figure 2.2, the existing rail bridge over Stony Creek will remain, and a new culvert over Stony Creek will be constructed to accommodate the rail spur.

iv [Old Hume Highway](#)

A bridge will be constructed over the Old Hume Highway to allow crossing of the rail line over the highway, as shown in Figure 2.3. Detailed design of this bridge will be undertaken following consultation with NSW Roads and Maritime Services (RMS) and in accordance with relevant standards and guidelines. Photograph 2.1 shows the approximate location of the highway crossing, looking south along the Old Hume Highway.



Photograph 2.1 [Old Hume Highway – approximate location of railway bridge, looking south-west](#)

The new rail line will cross the Hume Highway via an existing underpass of the highway, approximately 100 m south of Medway Road (refer to Figure 2.4). This underpass was constructed to accommodate the former railway to Berrima Colliery. The colliery is currently undergoing closure having ceased operations in 2013.

With the Hume Highway underpass already in place, no interruption of traffic flows on the Hume Highway will occur as a result of the project.

2.3.4 Rail maintenance facility

A rail rolling stock maintenance and provisioning facility will be constructed adjacent to the new rail line, between the Hume Highway and the Old Hume Highway, as illustrated in Figure 2.4. The facility will generally be used for re-fuelling of trains, maintenance inspections and activities, and the storage of maintenance provisions such as sand. It will also include double track to allow the passing of trains.

Two maintenance sidings will be constructed at the facility to allow for basic maintenance activities, as well as associated buildings, including a shed for maintenance activities, a small crib room and office and a small ablutions building. All heavy maintenance activities such as refurbishments and overhauls will be undertaken off-site. A provisioning point will be established at each end of the double track section, which will include self-bunded re-fuelling facilities for diesel locomotives, water tanks, and sand storage. A shed will also be constructed at the northern provisioning point for the purposes of noise mitigation, as discussed further in Chapter 7 (noise). This shed will be at least the length of one locomotive. Photograph 2.2 shows the approximate location of the maintenance sidings.

Power will be supplied to the maintenance and provisioning facility via connection to existing electricity supply infrastructure in the area. An application will be lodged with Endeavour Energy for connection to this existing infrastructure.

Normal workshop activities will be undertaken during standard hours. Train visual inspections, train movements, and minor maintenance tasks (such as refilling oil and refuelling) will be undertaken 24 hours a day, seven days a week.

During the operational phase, vehicle access to the maintenance and provisioning facility will be via a new, sealed access road off the Old Hume Highway, as shown in Figure 2.3. A new intersection will be constructed to provide safe access to the new access road off the highway. The intersection will be constructed as a CHR(S) intersection in accordance with *Austroads Guide to Road Design* (Austroads 2013), which includes a channelised right turning lane to ensure safe turning access for fuel tankers and other vehicles using the intersection. The intersection will also include a dedicated left turning lane. Further detail on this intersection design is provided in Chapter 9 (traffic and transport). During the construction stage there will be a general road shoulder widening on both sides of the road to facilitate the safe construction access to both sides of the road.

Hume Coal has undertaken substantial tree planting along Medway Road, to provide a visual barrier to the maintenance sidings and provisioning facility as well as the balloon loop.



Project components - temporary construction facility and Old Hume Highway crossing

Berrima Rail Project
Environmental Impact Statement

Figure 2.3



Project components – rail loop and maintenance facility

Berrima Rail Project
Environmental Impact Statement

Figure 2.4



Photograph 2.2 Maintenance siding location – looking south west from the Old Hume Highway

2.3.5 Rail loop

The rail loop will be positioned as shown in Figure 2.4. It will be constructed on formation that follows the land surface as closely as possible but still allows trains to remain under tension whilst being loaded. At the loading facility, this will require an earthworks embankment approximately 4 m high, and in other places the loop will be either approximately at-grade or in small amounts of cut. The rail loop has been designed so that at least one train length can fit on either side of the coal loading point.

A noise wall will also be constructed of appropriate materials to mitigate potential noise impacts to the residents north of the rail loop along Medway Road. The wall will be approximately 4 m high relative to the height of the railway track, and will extend from the Hume Highway underpass to the west for approximately 950 m (refer to Figure 2.4). Further discussion on the noise wall is provided in Chapter 7 (noise).

Hume Coal has also undertaken substantial tree planting between the northern side of the rail loop and Medway Road, to provide a visual barrier. This has been taken into account in the loop design. Further details on the tree planting, including species planted, is provided in Chapter 15 (visual amenity).

Once operational, land use within the rail loop will continue to be agricultural, as it is now. Grazing of livestock will continue inside the rail loop, with access to be provided to livestock via a ramp or culvert, subject to final detailed design of the loop.

2.3.6 Drainage

Appropriate drainage will be constructed to safely and efficiently convey surface water runoff in and around the rail loop and rail line. Drainage works will be designed to generally accommodate a 1 in 50 year average recurrence interval (ARI) event.

Further detail on the surface water drainage design is provided in Section 13.2 (flooding and drainage).

2.3.7 Disturbance footprint

The project disturbance footprint associated with the project is illustrated in Figures 2.5 and 2.6 for the preferred alignment and alternative option respectively, and comprises areas for the new rail line, maintenance siding, cut and fill areas, temporary construction facility, topsoil stockpile areas and areas to be modified at Berrima Junction. Both the operational footprint and a temporary construction buffer zone is shown. The construction buffer zone includes a construction buffer of variable width around the operational footprint of the project to allow for construction related disturbance (for example movement of plant and equipment during construction).

2.4 Construction phase

2.4.1 Construction methods

Construction of the project will be undertaken in four stages: mobilisation, earthworks, construction, and demobilisation and rehabilitation. The planned activities involved in each of these four stages, in approximate sequence, are presented in Table 2.1.

Table 2.1 Construction stages and activities

Construction stage	Activity
Mobilisation	<ul style="list-style-type: none">• Site survey and identification of the limits of clearing to ensure no clearance occurs outside the nominated disturbance footprint.• Installation of erosion and sediment controls. Controls will be installed in accordance with <i>Best Practice and Managing Urban Stormwater: Soils & Construction, Volume 1, 4th Edition</i>, ("the Blue Book") (Landcom 2004), as described in Chapter 14 (soil and land resources).• Establishment of a temporary construction facility on Hume Coal owned land adjacent to the Old Hume Highway (refer to Figure 2.3). This facility will contain the site office, amenities, and storage areas for equipment.

Table 2.1 Construction stages and activities

Construction stage	Activity
	<ul style="list-style-type: none"> Establishment of site access points. Vehicle entry and exit to the temporary construction facility will be directly from the Old Hume Highway. Localised widening of the Old Hume Highway will occur at this entry point to enable safe vehicle access to the construction facility (refer Figure 2.3). Access to other parts of the construction area will be from the nearest public road, across land where Hume Coal has an appropriate right of access either by ownership or agreement, if it is impractical to access those sites from the rail corridor itself. Traffic control will be used during construction to manage the public safety aspects of construction access at these locations. No new intersections other than the abovementioned intersection with the Old Hume Highway will be constructed. Sites of environmental significance in proximity to the construction will be demarcated if they have not been assessed as part of the project disturbance. Services relocations as required. An initial investigation to identify services has been undertaken as part of the rail line concept design. A detailed search will be completed during finalisation of the detailed design. Establishment of access tracks within the project area to enable access along the construction corridor. Installation of temporary fencing on a needs basis in areas of construction.
Earthworks	<ul style="list-style-type: none"> Stripping of vegetation and topsoil from within the project disturbance footprint. Topsoil will be stripped in accordance with the recommendations of the soil and land resources assessment prepared for the project (refer Chapter 14). Stockpiling of topsoil in approximately 15 stockpile locations within the project area, as shown in Figure 1.3. Bulk earthworks including transportation of material between cut and fill areas, placement and compaction of fill material, importation, placement and compaction of capping material and road base and stockpiling of topsoil materials. Material will generally be delivered to the temporary construction facility, although other access points may be required as described above (refer to mobilisation). Placement and compaction of select fills for bridge and culvert abutments.
Construction	<ul style="list-style-type: none"> Bridge and culvert construction. Placement of ballast, laying of track and installation of turnouts to connect the new rail line and loop to the Berrima Branch Line, and at Berrima Junction. Trenching, excavation and connection of signalling equipment. Construction of a permanent all weather track along the new rail line. Commissioning of signalling. Construction and sealing of the maintenance facility access road. Construction of the intersection of the Old Hume Highway with the maintenance facility access road and temporary access to the construction facility; including construction of the turning lane and associated widening of the Old Hume Highway. Installation of buildings and shed, refuelling points, jacking points and water tanks at the maintenance facility. Construction of the noise wall along the northern limb of the rail loop.
Demobilisation and rehabilitation	<ul style="list-style-type: none"> Demobilisation of the temporary construction facility, including the removal of remaining stockpiles of construction materials. Rehabilitation of construction disturbance, such as temporary access roads and the temporary construction facility. These areas will be shaped if required, topsoil replaced at nominally 0.3 m thick, and the areas seeded with suitable grasses, if required. Once construction areas are rehabilitated, erosion and sediment controls installed during the mobilisation stage will be removed.

2.4.2 Plant and equipment

The anticipated plant and equipment required for construction across the four stages is listed in Table 2.2.

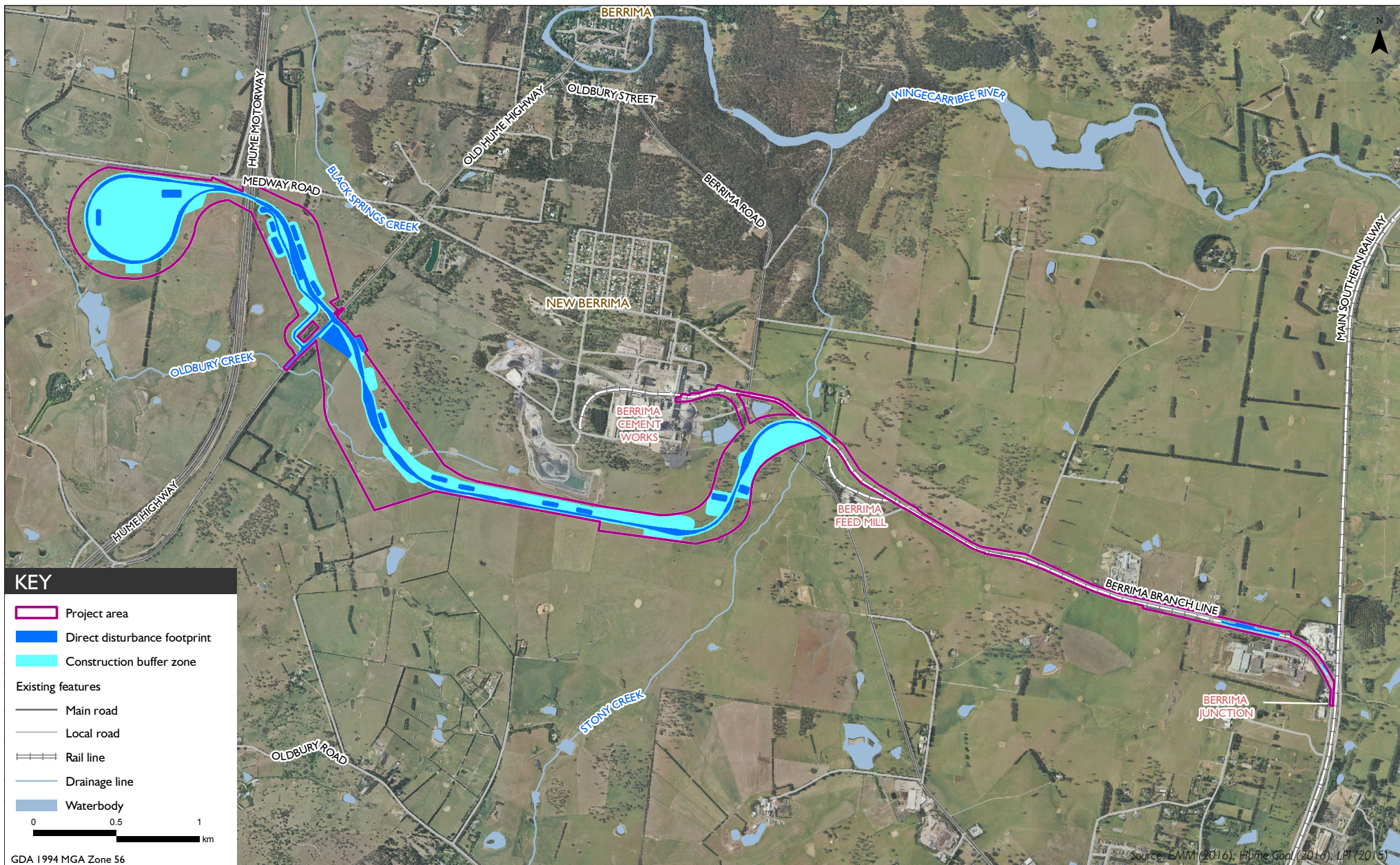
Table 2.2 Indicative construction plant and equipment

• Concrete trucks	• Compressors	• Rail welding equipment
• Compactors	• Pumps	• Generators
• Concrete pumps	• Front end loaders	• Wacker packers
• Mobile 25 T crane/s (Franna)	• Graders	• Tip trucks (8 m ³)
• Excavators (of various sizes)	• Vibrating rollers	• Piling rig/s
• Backhoe	• Semi-trailers	• Dump trucks
• Cranes (50T and 150T)	• Dozers (D8, D9, D10)	• Water trucks
• Hiab trucks	• Truck and dog (ballast deliveries) ¹	• Rail track laying and tamping machine
• Scrapers		

Notes: 1. Ballast deliveries may also be via rail.

2.4.3 Workforce

A peak of approximately 40 construction workers will be required on site at any one time during construction works. All non-local construction workers will reside in the accommodation village to be constructed within the Hume Coal Project area.



Disturbance footprint - alternative option

Berrima Rail Project
Environmental Impact Statement

Figure 2.6

2.4.4 Construction work hours

Construction is anticipated to take approximately 15 months. During this time, all civil, track and signalling works outside track possession will be undertaken during standard construction hours as follows:

- 7 am to 6 pm Monday to Friday;
- 8 am to 1 pm Saturday; and
- no works to be undertaken on Sundays or public holidays, with the exception of the works described below and during emergencies.

Some out of hours work may be required during:

- track possession;
- works required by utility providers;
- construction on bridges and other structures that may affect traffic flows or the use of other major infrastructure; and
- oversize deliveries and unloading of machinery.

Track possession will be required for the removal of turnouts and subsequent installation and commissioning of new turnouts at Berrima Junction, installation and commissioning of signals, and connection of the new rail line to the Berrima Branch Line near Berrima Cement Works. During possession, construction works will be undertaken 24 hours, seven days per week to ensure that works can be completed as soon as possible so that the railway can be reinstated for resumption of normal train operations. Any potentially affected residents will be notified prior to any planned out of hours work. The procedures for notification will be described in the Construction Environmental Management Plan (CEMP) for the project, as described further below.

During construction, Boral will continue with normal business and 'out of hours' track maintenance activity unrelated to Hume's construction activities.

2.4.5 Water supply and management

i Demand

Construction water will be primarily used for dust suppression on roads and earthworks, with other minor volumes being used for wetting bulk materials to aid compaction. Construction water demand for the Hume Coal and Berrima Rail projects combined is estimated to be around 90 ML per annum.

ii Water Supply

Construction water will be sourced from existing registered bores within the Hume Coal Project area, and from nuisance water made during drift construction, out of the existing licensed groundwater entitlement. The current total licensed groundwater allocation associated with these bores totals 667 ML per annum (excluding stock and domestic basic landholder rights), of which around 13% would be required to satisfy the site construction water requirements during construction for both the Berrima Rail Project and the Hume Coal Project. Hume Coal currently holds over 1000 ML per annum of groundwater licence entitlement.

iii Waste Water

The generation of waste water during construction of the rail project will be limited to the water generated from vehicle wash down activities, small quantities of effluent from site toilets and crib room facilities, as well as any water captured in bunded areas that are used for hydrocarbon transfer and storage.

Water used for vehicle wash down will be recycled, using one of the many commercial, off-the shelf washdown bay designs. Any potentially contaminated rainfall water that is captured in bunded areas, as well as the small quantities of sewage effluent, will be trucked off-site (separately) to a licensed treatment facility using a licensed contractor, as required.

Sediment-laden rainfall runoff from earthworks areas will be captured by appropriately-sized sediment dams in accordance with the Blue Book (Landcom 2004) or otherwise treated (for example via use of sediment fencing or swales).

2.4.6 Construction Environmental Management Plan

A CEMP will be developed prior to commencement of construction activities. The CEMP will describe management measures for a number of construction related issues including:

- noise and vibration management measures (refer to Chapter 7);
- air quality management measures (refer to Chapter 8);
- traffic management (refer to Chapter 9);
- management measures to protect identified historic and Aboriginal heritage sites (refer to Chapters 10 and 11);
- biodiversity management measures (refer to Chapter 12);
- erosion and sediment controls (refer to Chapter 14);
- waste management;
- lighting; and
- notification procedures for identified nearby residents.

2.5 Operation

2.5.1 Users

There are currently three existing users of the Berrima Branch Line; Boral, Inghams and Omya, although these users may vary in the future. The project will add Hume Coal as a another user of the line.

Boral currently uses the Berrima Branch Line for the transport of material such as clinker, cement, coal and limestone to and from the Berrima Cement Works and other rail based supply and customer/product transfer facilities. Omya uses the Berrima Branch Line to transport material such as limestone to its plant located at Berrima Junction adjacent to the Main Southern Rail Line corridor, and generally only uses the Berrima Branch Line rail facilities at Berrima Junction. Inghams transports grain along the Berrima Branch Line to its feed mill on Douglas Road.

For each full train operating on the Berrima Branch Line there is also a corresponding empty returning train. There are also a number of light train movements between the Berrima Cement Works and the Berrima Junction associated with shunting, changing locomotives, and track maintenance, which do not proceed to the Main Southern Rail Line.

The rail track manager of the Main Southern Rail Line is the Australian Rail Track Corporation Ltd (ARTC). The number and timing of existing railway operations generally reflect the agreed train paths with the ARTC and other network owners, based on a priority system that gives preference to passenger trains, and this will continue to be the case when the Berrima Rail Project is operational.

2.5.2 Train movements

As described above, the new rail line and loop to be constructed off the Berrima Branch Line and into the Hume Coal Project area will be used to transport up to 3.5 Mtpa of coal, produced by the Hume Coal Project, to international and domestic markets. The transport of 3.5 Mtpa of product coal will require approximately 50 train movements per week along the new rail spur, the Berrima Branch Line, and on to the Main Southern Rail Line between the Berrima Junction and Moss Vale Junction. It is important to note that a typical year will involve the transportation of less than 3.5 Mt of coal; however, mine production scheduling, market conditions, major maintenance outages and other factors may result in uneven rail volumes from year to year.

The maximum weekly train movements on the Berrima Branch Line associated with the existing users of the line, and/or future users (other than Hume Coal) which may vary from time to time, will be approximately 120 train movements (where a train movement is a one direction journey, generally from a siding to the junction or vice versa). This total includes full and empty wagons. The actual number of train movements in any week depends on market conditions and operational activities of the users.

Therefore, with the Berrima Rail Project in operation, the total weekly movements along the branch line will be approximately 170 (ie around 85 trains in and 85 trains out), comprising:

- 120 train movements between the Berrima Cement Works and the Main Southern Rail Line associated with other users (currently Boral, Omya and Inghams trains).
- 50 future train movements between the Berrima Cement Works and the Hume Coal rail loop (consisting of Hume Coal trains only).

Further detail and discussion on the predicted train movements is provided in Chapter 7 (noise) and Chapter 9 (traffic and transport).

2.5.3 Maintenance

Programmed track maintenance and regular inspections will be undertaken as required. Waste produced during these maintenance activities will be recycled where possible, or disposed of at appropriately licensed facilities.

2.5.4 Water supply and management

i Demand

The operational water demands of the project will be minor. The estimated water demands during operation of the rail maintenance facility are anticipated to be as listed below.

- Potable drinking water: approximately 4,000 litres per annum.
- Ablutions facilities: approximately 150,000 litres per annum.
- Locomotive and other wash-down demands: approximately 100,000 litres per annum 'make-up water' (refer Section 2.5.4ii below).

ii Water Supply

The total water demand at the maintenance facility will be approximately equivalent to a typical dwelling or small business. It is proposed that the rail maintenance facility is connected to the WSC's mains water supply, which runs along Medway Road. As an alternative, if insufficient pressure or quantity is available in the main system, the following sources of water for the project will be implemented:

- Potable drinking water will be supplied via large 20 L drinking water drums at the office and crib room facility using one of the available commercial drinking water suppliers.
- Water for ablutions at the rail maintenance facility will be supplied via rainwater tank water from the roof of the workshop building and office facility. Tanks will be occasionally topped up via trucks if rainfall is insufficient. A tank (or tanks) totalling around 100,000 litres will be installed at the site, excluding the tank capacity in the water recycling circuit for the wash-down facility. The tank(s) would be maintained above 72,000 L at all times to provide a supply of firefighting water.
- Wash-down facilities will utilise recycled water, with the demand being required as 'make up water' to account for system losses only.

iii Waste Water

The generation of waste water during operation of the project will be limited to the water generated from wash down activities, small quantities of effluent from site toilets and crib room facilities, as well as any water captured in bunded areas that are used for hydrocarbon storage.

Water used for wash down will be recycled, using one of the many commercial, off-the shelf washdown bay designs. Any potentially contaminated rainfall water that is captured in bunded areas, will be trucked off-site to a licensed treatment facility using a licenced contractor, as needed.

Black water and grey water will be treated in a commercially available septic system that meets Council and Sydney Catchment Authority (SCA) requirements.

Rainfall runoff from roads, railway formations and hard-stand areas have been assessed to meet Neutral or Beneficial Effect (NorBE) criteria using treatments including swale drains. The surface water assessment of the project is discussed in detail in Chapter 13.

2.5.5 Workforce

During operations the project will create approximately 16 additional full time equivalent positions, comprising predominantly of train drivers.

2.6 Rehabilitation

2.6.1 Rehabilitation objectives

The overall objective of rehabilitation activities will be to re-establish and/or improve pasture to enable livestock grazing use at approximately the same carrying capacity as before the area was disturbed.

Specific rehabilitation objectives upon completion of the project (ie when the new rail spur and loop is no longer required by Hume Coal) are as follows:

- all Hume Coal rail-related infrastructure is removed;
- the site is safe for people and animals now and in the foreseeable future;
- no hazardous material and/or sources of contamination remain;
- no adverse impacts on downstream water quality;
- establishment of a stable landform;
- soil fertility is able to support the proposed land-use of grazing; and
- vegetation establishment is able to support the planned final land use.

2.6.2 Progressive rehabilitation works

Opportunities for progressive rehabilitation throughout the life of the project will be limited to rehabilitation of construction worksites when no longer needed. At the completion of the construction phase, areas disturbed that are not required for operation of the rail line and maintenance facility will be rehabilitated. This includes the temporary construction facility on the eastern side of the Old Hume Highway, and access roads to construction worksites along the rail corridor. All construction buildings and associated material will be removed and the disturbed areas rehabilitated in accordance with the procedures outlined below in Section 2.6.3ii.

2.6.3 Final rehabilitation

i Decommissioning

Upon completion of the project, the Hume Coal rail infrastructure will be dismantled and removed. Decommissioning and rehabilitation works will include the removal of the rail track and the maintenance sidings and provisioning facility. The portion of track owned by Boral, including the rail siding to the cement works, will remain indefinitely. The potential for contamination will be assessed, such as around re-fuelling areas, and areas remediated if required.

ii Earthworks and rehabilitation

Compacted areas will be deep ripped as required, and the topsoil that was stripped during construction and stockpiled at various locations within the project area will be returned to the disturbed land. Soil stripping, stockpiling and application procedures are described in Chapter 14 (soil and land resources).

After the topsoil has been replaced and contour ripped, pasture grass species will be spread onto the prepared soil. Fertilisers may also be spread onto the soil at this time. The pasture grass species will be chosen to suit a final land use of grazing, as well as species that are suitable for fast establishment of an initial cover crop. The timing of the seeding operation will take into account the seasonal growing season for the grass species and will also take place as soon as practically possible after the topsoil has been returned to prevent soil erosion.

Rehabilitated vegetation will be monitored annually in the first three years following rehabilitation, subject to review of observed vegetation growth rates.

2.6.4 Rehabilitation completion criteria

Preliminary completion criteria have been developed and are provided in Table 2.3.

Table 2.3 Interim completion criteria – post activity land use

Objective	Completion criteria (quantifiable target)	Performance indicator
Long term safety		
Site is safe for people and animals now and in the foreseeable future	All Hume Coal infrastructure is removed, including rail track, signalling equipment, bridges, culverts, maintenance and provisioning sidings, and noise wall. Land surface is structurally safe and contains no hazardous materials.	All infrastructure is removed. A risk assessment has been completed and no hazards remain.
Landform stability		
Landform design achieves appropriate erosion rates	Rates of soil loss do not exhibit any signs of continued erosion greater than that exhibited at a comparable reference site. The comparable reference site must have similar chemical and physical characteristics including slope as the rehabilitated landform.	Certification by a suitably experienced soil scientist that disturbed land does not exhibit any signs of continued erosion greater than that exhibited at a comparable reference site.
	If engineered structures to control water flow are required (eg contour banks, channel linings, surface armour and other required measures), they are installed and functioning.	Certification by a suitably experienced civil engineer that any required structures to control water flow has been properly constructed and installed, and is functioning according to their design criteria.
	Landform stability maintained when grazed.	Certification by the soil scientist that stability is being maintained after grazing has commenced.

Table 2.3 Interim completion criteria – post activity land use

Objective	Completion criteria (quantifiable target)	Performance indicator
Non-polluting		
No hazardous material or other sources of contamination	Any hazardous material or potential sources of contamination have been removed from site.	Certification by an appropriately qualified contamination specialist that the land has been remediated (if required) and is suitable for its post-mining uses.
No adverse impacts on downstream water quality	Downstream surface water quality at monitoring locations is within acceptable criteria.	Trends indicated by sampling results (undertaken by a suitably qualified person) from baseline monitoring and the five years previous to closure are compared to monitoring results for the rehabilitated land, showing water quality not negatively impacted.
Post activity land use sustainable		
The rehabilitated land supports the desired land use of grazing with improved pasture	Topsoil thickness is adequate to support growth of pasture species suitable for desired land-use.	Topsoil has been respread according to the depths required in the Topsoil Management Plan.
	Site soil characteristics. (eg pH, salinity, nutrient content, sodium content) are able to support growth of pasture species suitable for desired land-use.	Topsoil chemical properties (eg pH, salinity, nutrient content, sodium content) are not limiting the growth of pasture.
	Pasture establishment is able to support the specified land use.	Soil physical properties, (eg rockiness, depth of soil, wetness and plant available water capacity) are adequate for pasture growth. Vegetation growth parameters (eg. biomass, percentage of cover, height and vigour of plant species) are no less than that exhibited at a comparable reference site.

Further discussion on final land use and land capability is provided in Chapter 14.

2.6.5 Rehabilitation and post-closure maintenance

Where rehabilitation criteria have not been met, further maintenance works will be undertaken. This may include the following:

- additional seeding of pasture species in bare areas;
- fertiliser or other soil amendment application; and
- earthworks to repair erosion gullies and to create additional drainage structures if required.

3 Alternatives considered

3.1 Introduction

Early in the planning phase of the project, two forms of transport were considered for the movement of product coal from the Hume Coal Project to Port Kembla; rail and road. These options are discussed in this chapter.

3.2 Transport by road

The transport of coal by trucks via the existing road network was considered as an alternative to rail transport, and quickly found to not be unsuitable. Two transport routes were considered as follows:

- transport of coal by B-doubles trucks via Picton Road to Port Kembla; and
- transport of coal by trucks via Macquarie Pass to Port Kembla.

The transport of coal via trucks was rejected due to the environmental impacts associated with trucking coal, high operating costs associated with this option, as well as the safety risks of introducing additional trucks to the road network when compared to the alternative of rail. Further, Macquarie Pass was found to be unsuitable for B-doubles.

The alternative of trucking coal was therefore ruled out very early on in the planning phase, and not considered further.

3.3 Transport by rail

With rail chosen as the optimal method of product coal transport for the Hume Coal Project, a number of alternatives were then considered in determining the ultimate project design. These options are discussed in the below sub-sections.

3.3.1 Rail access options

The following key factors were considered when determining the optimal design of the project:

- efficiency and capacity of existing infrastructure;
- potential impacts on existing users;
- topographical, environmental and physical constraints and general constructability;
- land ownership and access;
- capacity of new or upgraded infrastructure to transport the required amount of product coal; and
- allowance for the required rail geometries such as curve radii and grades.

Alternatives relating to both the connection of the new rail loop (either directly to the Main Southern Rail Line or off the Berrima Branch Line), and various rail loop locations were investigated. Each of the main alternatives considered, and reasons for not proceeding with each particular option, are summarised in Table 3.1. The alternative locations considered for the rail loop are illustrated in Figure 3.1.



Options considered for the rail loop location
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 Figure 3.1

Table 3.1 **Alternative rail loop location options**

Alternative rail loop location	Description	Comments and reasons for rejecting or selecting
A - Rail siding at Weraí	Rail loop or siding off the Main Southern Rail Line at Weraí.	This option was based on an alternative surface infrastructure location for the Hume Coal Project near Weraí. This pit-top location was rejected very early in project planning for reasons including the fragmented nature of land ownership and road access, and hence this rail loop location was also rejected.
B - Berrima Junction loop	New spur off the Main Southern Rail Line, immediately north of Berrima Junction, with a rail loop on the northern side of Collins Road (north of the Berrima Junction).	This option would require coal to be transported around 7 km by overland conveyor from the Hume Coal surface infrastructure area to the rail load-out on the rail loop. This was rejected due to the proximity to semi-rural residences, the significant capital costs associated with the conveyor, land acquisition required for the conveyor and loop, and noise impacts of the long overland conveyor. This option would also have likely required significant signalling upgrades on the ARTC-controlled track at Moss Vale.
C - Douglas Road loop	Rail spur off the Berrima Branch Line, with a new loop between Douglas Road and Berrima Road.	As per the above Berrima Junction loop option, this rail loop location would also require construction and operation of an overland conveyor to transport coal to the rail loadout. It was therefore also rejected due to land acquisition costs, noise impacts of the overland conveyor, and the associated significant capital cost.
D - Leets Vale loop	Rail spur off the Berrima Branch Line, with a new loop west of Berrima Road and south-east of the cement works on the “Leets Vale” property.	Once again this option was rejected due to the associated capital cost of overland conveyor construction and noise impacts of the conveyor, as well as constrained site geometry.
E - Eastern Mereworth loop	Rail spur off the Berrima Branch Line, with a rail loop between the Old Hume Highway and Hume Highway on the “Mereworth” property and conveyor from the product stockpile.	The site geometry of this location was found to be unsuitable for the required size and layout of the rail loop/conveyor arrangement, as well as likely higher capital costs.
F - Loop around the stockpiles and CPP	Rail spur off the Berrima Branch Line and rail loop around the outside of the stockpiles and CPP.	This location was found to have Aboriginal heritage and ecological constraints, as well as site geometrical constraints, and likely higher capital costs.
G - Evandale loop	Rail spur off the Berrima Branch Line and rail loop north of Medway reservoir on the “Evandale” property.	The topography of this potential location was found to have adverse grades, as well as unsuitable site geometry and likely significant capital costs.
H - South of Medway Road	Rail spur off the Berrima Branch Line, with a rail loop south of Medway road and west of the Hume Highway.	Chosen option due to appropriate site geometry, proximity to the Hume Coal surface infrastructure area, and no significant ecological and heritage constraints. A detailed justification for the project and chosen project design is provided in Chapter 18.

3.3.2 Berrima junction upgrade

A number of alternative options were investigated relating to upgrade works at the Berrima Junction to enhance operability of the junction and to reduce the risk of delays associated with the introduction of nominally 36 or 38 wagon coal trains (depending of the style of wagon chosen during procurement). The alternatives considered are presented in Table 3.2.

Table 3.2 Berrima Junction upgrade alternatives

Option	Infrastructure changes at Berrima Junction	Comments and reasons for rejection
1	Nil	Leaving the junction as is may cause delays with the addition of Hume Coal trains depending on future mainline traffic levels. This is the least cost option, given no changes to rail infrastructure would be implemented. However, trains longer than the number (No.) 1 siding would not be able to pass each other in the Berrima Junction yard under this scenario, which may cause them to be held back on the network until a path is available, resulting in delays to those trains or missed paths. Train control would almost always hold these trains at locations where they would not impact on high priority users such as passenger trains.
2	Extend arrival road	This would allow arriving trains to operate independently of departing and shunting trains, improving the reliability of limestone and Hume Coal trains as they would be able to cross in the junction yard. However, this option may require changes to the Omya operation and would require access to the Main Southern Rail Line to run around trains that do not fit in the No. 3 siding or when building long cement trains. Some signalling changes would also be required.
3	Allow two long trains to cross at Berrima Junction by extending arrival road and connecting No. 2 siding with No. 1 siding.	This would also allow arriving trains to operate independently of departing and shunting trains, where trains would run around via the additional connection provided. As per option 2, this would increase the reliability of limestone and Hume Coal trains, and would allow longer trains to cross at the junction. This option would require significant changes to ARTC's signalling and control system, and is likely to be the most costly option.
4	Extend Berrima Junction westwards by extending arrival road and No. 3 siding, and providing additional wagon storage.	This would allow arriving trains to operate independently of departing and shunting trains, and would allow cement trains to run around on the extended No. 3 siding. Some signal changes would also be required for this option, and it would have an increased associated disturbance footprint, possibly requiring more land. It may also make shunting the Omya sidings more difficult.
5	Duplicate line from Collins Road to Douglas Road	This option would provide approximately 1.2 km of duplicated rail line between the Collins Road and Douglas Road level crossings. It would allow arriving and departing trains to be held closer to the mainline and would retain the current functionality at Berrima Junction. No signal changes would be required to implement this option, and it would have a smaller associated capital cost compared to options 2-4. However, it would have an increased disturbance footprint, possibly requiring more land, and may also make shunting in the Omya sidings more difficult.
6	Extend No. 1 siding	The preferred option. Allows two trains to pass at the junction.

The chosen option for infrastructure and operational changes at Berrima Junction is option 6 in Table 3.2; to extend the No. 1 siding to allow trains to pass at Berrima Junction. This option is preferred since it is simple and cost-effective to implement, will achieve a high degree of operational flexibility, and will avoid the need to carry out any work on the Main Southern Rail Line, including signalling in and around Moss Vale.

3.3.3 Rail loop vertical alignment

Once the optimum rail loop location was identified (refer to Table 3.1), various vertical alignment options were investigated to best match topography along the corridor, whilst also ensuring that the train remains under tension during loading operations, with the aim of eliminating any bunching of wagons and associated noise.

The outcome of this optimisation modelling of the vertical loop alignment was that the final embankment height (and therefore the top of the train load out conveyor) at the train load out was lowered by around 4.4 m. This reduced the potential for both visual amenity and noise impacts associated with the train loadout.

3.3.4 Maintenance siding locations

As described in Chapter 2, a basic provisioning facility and maintenance sidings will be constructed and operated in the area between the Old Hume Highway, the Hume Highway and Medway Road (refer to Figure 1.3). Varying configurations of the maintenance sidings were considered; in particular establishing the maintenance sidings on either the northern or southern side of the rail line, as indicatively illustrated in Figure 3.2.

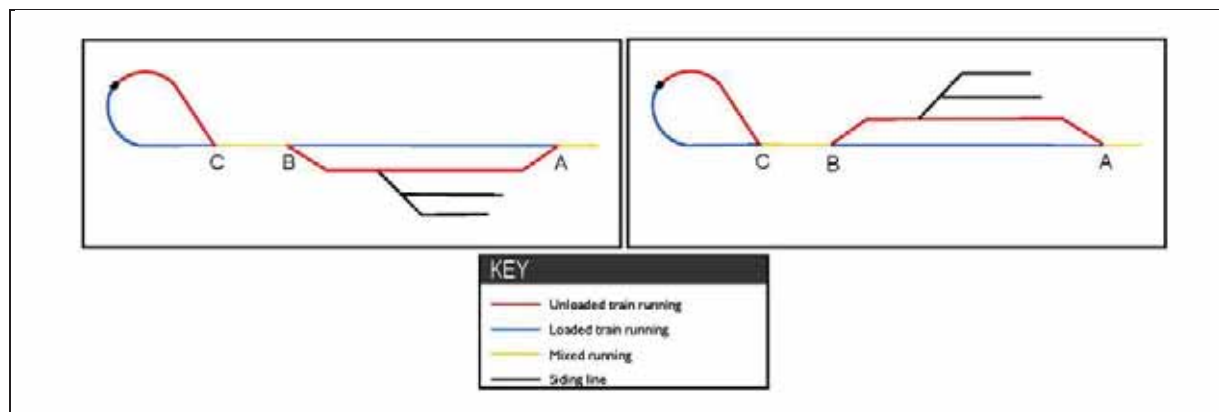


Figure 3.2 Maintenance siding options

Hume Coal decided to keep the maintenance sidings on the southern side of the through-line rather than the northern side, as the northern side would be closer to receptors on Medway Road/Taylor Avenue.

3.4 Do nothing

Without the Berrima Rail Project, the Hume Coal Project would not be able to operate, with coal unable to be transported to customers. A detailed justification for the Hume Coal Project having regard to biophysical, economic and social considerations is provided in the Hume Coal Project EIS (EMM 2017a).

Further, the upgrade to the Berrima Junction will allow increased use of the existing rail infrastructure, including the ARTC-controlled sections of railway, resulting in a higher financial return from this infrastructure whilst almost eliminating the risk of trains becoming stranded on other sections of track and unable to enter the private line. It is in the public interest to ensure the most efficient use of the public rail infrastructure. The 'do nothing' option was therefore not considered further.

4 Legislation and policy

4.1 Introduction

This chapter describes the relevant Commonwealth and State regulatory and policy framework under which the project will be assessed and determined.

4.2 NSW Environmental Planning and Assessment Act 1979

4.2.1 Overview

The EP&A Act and EP&A Regulation form the statutory framework for planning approval and environmental assessment in NSW. Implementation of the EP&A Act is the responsibility of the Minister for Planning, statutory authorities and local councils. The EP&A Act contains three parts which define the requirements for planning approvals:

- Part 4, which provides for control of 'development' that requires development consent from the relevant consent authority. A division of Part 4 (Division 4.1) provides for control of SSD where the Minister for Planning (or delegate) is the consent authority.
- Part 5, which provides for control of 'activities' that do not require approval or development consent under Part 4.
- Part 5A, which provides for control of State significant infrastructure that does not require approval or development consent under Part 4.

The requirement for development consent is set out in environmental planning instruments, being State Environmental Planning Policies (SEPPs) or local environmental plans (LEPs).

4.2.2 State significant development provisions

Part 4, Division 4.1 of the EP&A Act specifically relates to the assessment of State significant development (SSD). Under Section 89C(2) of the EP&A Act, a development is SSD if it is declared to be as such by any SEPP.

State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP) defines certain development as State significant. Clause 8 of the SRD SEPP states:

- (1) Development is declared to be State significant development for the purposes of the Act if:
 - (a) the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and
 - (b) the development is specified in Schedule 1 or 2.

Schedule 1 of the SRD SEPP defines various works that are SSD. Clause 5 (Mining) of Schedule 1 states:

- (3) Development for the purpose of mining related works (including primary processing plants or facilities for storage, loading or transporting any mineral, ore or waste material) that:

- (a) is ancillary to or an extension of another State significant development project, or
- (b) has a capital investment value of more than \$30 million.

The Berrima Rail Project is development specified in Schedule 1 being 'mining related works' for transporting 'a mineral' and which 'has capital investment value of more than \$30 million'. In addition, the project is not permissible without development consent within the project area, as discussed below in Section 4.2.3. Accordingly, the project is SSD and will be subject to the provisions of Division 4.1 of Part 4 of the EP&A Act.

Under Section 89D of the EP&A Act, the Minister for Planning is the consent authority for SSD. However, pursuant to Section 23 of the Act, the Minister may delegate the consent authority function to the Planning Assessment Commission (PAC), the Secretary or to any other statutory authority.

A development application (DA) for SSD must be accompanied by an EIS in accordance with Section 78A (8A) of the EP&A Act and the EIS must be prepared in accordance with the EP&A Regulation. Before preparing an EIS, an applicant must request the Secretary's environmental assessment requirements (SEARs), which specify the issues to be addressed in the EIS. The SEARs for the project were issued by the DP&E on 20 August 2015 and are provided in Appendix B. The sections of the EIS where the SEARs have been addressed are also identified in this Appendix.

4.2.3 Permissibility

Pursuant to the Wingecarribee LEP, the rail works associated with the project will traverse land zoned IN1 General Industrial, IN3 Heavy Industrial, RU2 Rural Landscape, SP2 Infrastructure, E2 Environmental Conservation and E3 Environmental Management (refer to Figure 4.1). The rail works are prohibited in the SP2, RU2, E2 and E3 zones and are permitted with consent in the IN1 and IN3 zones. However, Section 36 of the EP&A Act and Clause 1.9 of the Wingecarribee LEP provide that *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* (Mining SEPP) prevails over any inconsistencies with an LEP. Clause 7(1) of the Mining SEPP states:

(1) Mining
Development for any of the following purposes may be carried out only with development consent:

- (a) underground mining carried out on any land,
- (b) mining carried out:
 - (i) on land where development for the purposes of agriculture or industry may be carried out (with or without development consent), or
 - (ii) on land that is, immediately before the commencement of this clause, the subject of a mining lease under the Mining Act 1992 or a mining licence under the Offshore Minerals Act 1999,

...

- (d) facilities for the processing or transportation of minerals or mineral bearing ores on land on which mining may be carried out (with or without development consent), but only if they were mined from that land or adjoining land...

Under the Mining SEPP, mining is defined as:

mining means the winning or removal of materials by methods such as excavating, dredging, or tunnelling for the purpose of obtaining minerals, and includes:

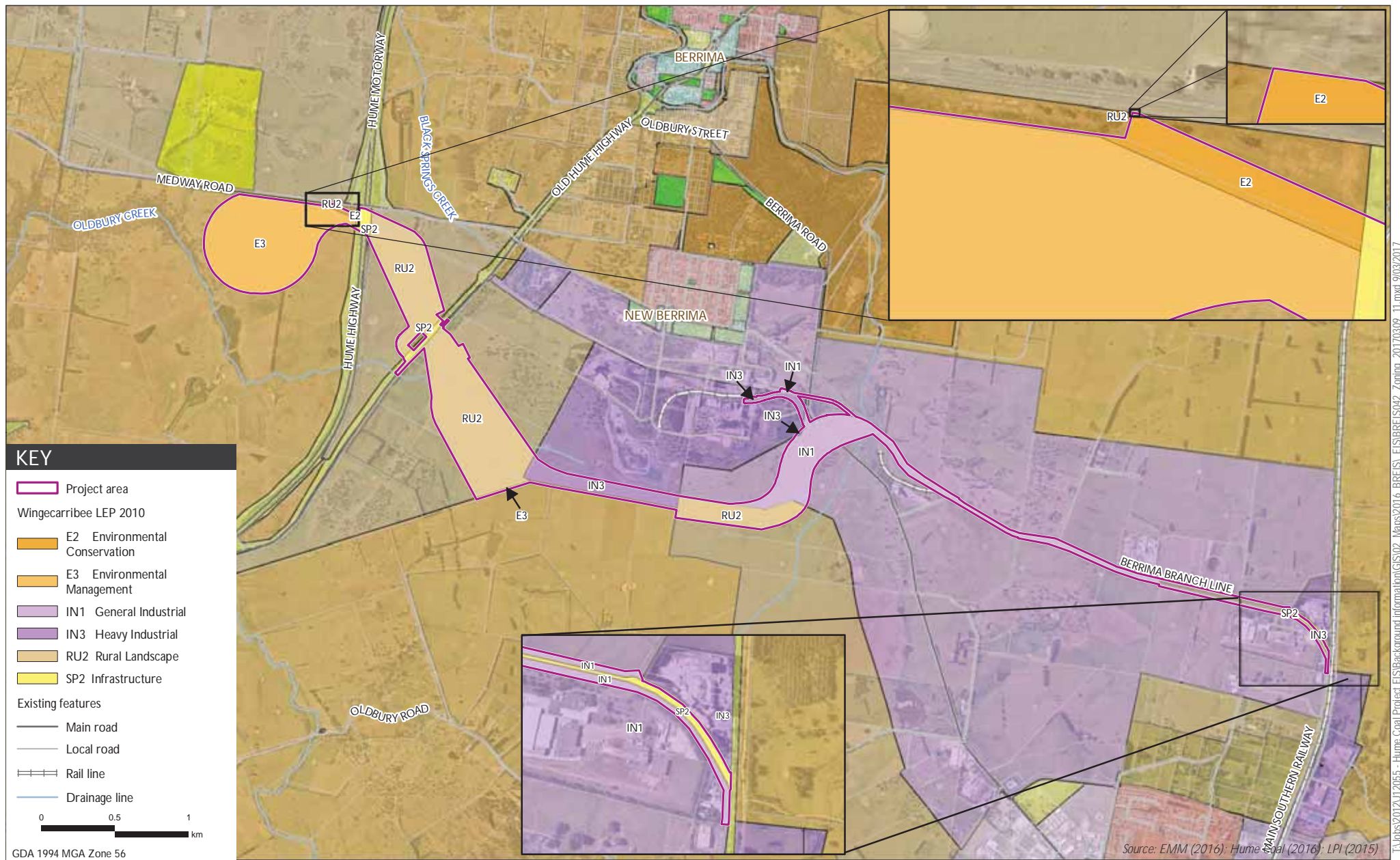
- (a) the construction, operation and decommissioning of associated works, and
- (b) the stockpiling, processing, treatment and transportation of materials extracted, and
- (c) the rehabilitation of land affected by mining.

Pursuant to the Mining SEPP, the rail works fall within the definition of mining. Clause 7(1)(b)(i) of the SEPP allows mining in any zone where agriculture or industries are permitted. Development for the purpose of agriculture is permitted in RU2 and E3, and therefore the Mining SEPP overcomes the LEP prohibition in these zones.

With respect to the land zoned E2, that land is the subject of a mining lease - Consolidated Coal Lease 748 – and has been since 18 December 1990. Therefore, that land was the subject of a mining lease immediately before the commencement of Clause 7 of the Mining SEPP, which was on 17 February 2007. Clause 7(1)(b)(ii) of the Mining SEPP therefore overcomes the LEP prohibition in the land zoned E2.

However, the rail works are not permitted under the Mining SEPP in the SP2 zone. That the rail works are prohibited in the SP2 zone is of no material consequence for the consent authority's power to lawfully grant consent for the Berrima Rail Project. It is not necessary that the Berrima Rail Project be wholly permissible under relevant environmental planning instruments in order to be the subject of a lawfully granted development consent. This is because, in relation to SSD, section 89E(3) of the EP&A Act states:

Development consent may be granted despite the development being partly prohibited by an environmental planning instrument.



Zoning
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 Figure 4.1

4.2.4 Section 79C matters for consideration

i General

When assessing a development application for SSD, the consent authority is required to take into consideration the matters given in Section 79C of the EP&A Act, which states:

(1) Matters for consideration – general

In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application:

- (a) the provisions of:
 - (i) any environmental planning instrument, and
 - (ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and
 - (iii) any development control plan, and
 - (iiia) any planning agreement that has been entered into under section 93F, or any draft planning agreement that a developer has offered to enter into under section 93F, and
 - (iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), and
 - (v) any coastal zone management plan (within the meaning of the Coastal Protection Act 1979), that apply to the land to which the development application relates,
- (b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,
- (c) the suitability of the site for the development,
- (d) any submissions made in accordance with this Act or the regulations,
- (e) the public interest.

Despite Section 79C(1)(a)(iii), clause 11 of the SRD SEPP states that development control plans do not apply to SSD.

The matters for consideration that apply to the Berrima Rail Project are discussed in the below sub-sections.

ii Environmental planning instruments

a. State Environmental Planning Policy (State and Regional Development) 2011

The SRD SEPP, amongst other matters, defines whether or not a development is SSD under Part 4 of the EP&A Act. The relevance of the SRD SEPP to the project is discussed in Section 4.2.2.

b. State Environmental Planning Policy (Infrastructure) 2007

The Infrastructure SEPP aims to facilitate the effective delivery of infrastructure across NSW. The SEPP, amongst other matters, defines the planning approval and assessment requirements for different types of infrastructure projects.

Clauses 84(4), 86(4), 87 of the Infrastructure SEPP set out a number of matters that the consent authority must take into consideration for development involving access via levels crossings; excavation in, above or adjacent to rail corridors; and the impact of rail noise or vibration on non-rail development, respectively.

These matters, and where they have been addressed in the EIS, is summarised in Table 4.1.

It is noted however, that section 79B of the EP&A Act relieves the Minister from having to consult with or obtain the concurrence of any person under the abovementioned clauses of the Infrastructure SEPP. This is because there is nothing in those clauses which specifies that the requirement for consultation or concurrence applies to SSD.

Table 4.1 Consideration of the relevant Infrastructure SEPP matters

Matter	Addressed in the EIS
84 Development involving access via level crossings	
(4) In determining whether to provide concurrence, the chief executive officer [of the rail authority for the rail corridor] must take into account:	
(a) any rail safety or operational issues associated with the aspects of the development, and	Sections 9.3.3, 9.4 and 9.5.
(b) the implications of the development for traffic safety including the cost of ensuring an appropriate level of safety, having regard to existing traffic and any likely change in traffic at level crossings as a result of the development.	
86 Excavation in, above or adjacent to rail corridors	
(4) In deciding whether to provide concurrence, the chief executive officer [of the rail authority for the rail corridor] must take into account:	
(a) the potential effects of the development (whether alone or cumulatively with other development or proposed development) on:	The project involves upgrades to the existing Berrima Junction (extension of the number 1 siding), which will improve the operational functionality of the junction. Excavations are proposed as part of the required earthworks for the new rail line and rail loop to provide a safe and appropriate vertical alignment.
(i) the safety or structural integrity of existing or proposed rail infrastructure facilities in the rail corridor, and	
(ii) the safe and effective operation of existing or proposed rail infrastructure facilities in the rail corridor, and	
(b) what measures are proposed, or could reasonably be taken, to avoid or minimise those potential effects.	

Table 4.1 **Consideration of the relevant Infrastructure SEPP matters**

Matter	Addressed in the EIS
87 Impact of rail noise or vibration on non-rail development	
(1) This clause applies to development for any of the following purposes that is on land in or adjacent to a rail corridor and that the consent authority considers is likely to be adversely affected by rail noise or vibration:	Chapter 7 addresses potential impacts of noise and vibration on the nearest residential receptors.
(a) a building for residential use,	No places of workshop, hospital or educational establishments are in the vicinity of, or have the potential to be affected by, the project.
(b) a place of public worship,	
(c) a hospital,	
(d) an educational establishment or child care centre.	

c. State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007

The Mining SEPP provides for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of NSW.

The SEPP prevails to the extent of any inconsistency with any other environmental planning instruments, including local environmental plans. The applicability of the Mining SEPP to the project is discussed in Section 4.2.3.

Part 3 of the Mining SEPP sets out a number of matters the consent authority must consider before determining a development application for the purposes of mining, petroleum production or extractive industry. Clause 12AB of Part 3 establishes a number of non-discretionary development standards for the purposes of Section 79C (2) and (3) of the EP&A Act in relation to the carrying out of development for the purposes of mining. As outlined in Section 4.2.3, the project falls within the definition of mining and therefore these standards apply where relevant to the project. The standards relate to cumulative noise level, cumulative air quality level, airblast overpressure, ground vibration and aquifer interference. Not all of these standards are applicable, in particular those relating to aquifer interference as the project does not involve an aquifer interference activity as defined in the *Water Management Act 2000*. Those standards relevant to the project are addressed in Chapters 7 and 8 for noise and vibration, and air quality, respectively.

An assessment of the project against the remaining Clauses of Part 3 of the Mining SEPP has been undertaken as part of the EIS, as summarised in Table 4.2.

Table 4.2 **Consideration of relevant Mining SEPP, Part 3 matters**

Matter	Addressed in this EIS
12 Compatibility of proposed mine, petroleum production or extractive industry with other land uses	
Before determining an application for consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must:	-
(a) consider:	-
(i) the existing uses and approved uses of land in the vicinity of the development, and	Chapter 6 (site and surrounds)
(ii) whether or not the development is likely to have a significant impact on the uses that, in the opinion of the consent authority having regard to land use trends, are likely to be the preferred uses of land in the vicinity of the development, and	Chapters 7-16

Table 4.2 **Consideration of relevant Mining SEPP, Part 3 matters**

Matter	Addressed in this EIS
(iii) any ways in which the development may be incompatible with any of those existing, approved or likely preferred uses, and	Chapter 6
(b) evaluate and compare the respective public benefits of the development and the land uses referred to in paragraph (a) (i) and (ii), and	Chapter 3 (alternatives) and Chapter 18 (justification)
(c) evaluate any measures proposed by the applicant to avoid or minimise any incompatibility, as referred to in paragraph (a) (iii).	Chapter 17 (summary of commitments)
12A Consideration of voluntary land acquisition and mitigation policy	
(2) Before determining an application for consent for State significant development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider any applicable provisions of the voluntary land acquisition and mitigation policy and, in particular:	Section 4.7.2
(a) any applicable provisions of the policy for the mitigation or avoidance of noise or particulate matter impacts outside the land on which the development is to be carried out, and	Chapter 7 (noise) Chapter 8 (air quality)
(b) any applicable provisions of the policy relating to the developer making an offer to acquire land affected by those impacts.	Chapters 7 and 8
(3) To avoid doubt, the obligations of a consent authority under this clause extend to any application to modify a development consent for State significant development for the purposes of mining, petroleum production or extractive industry.	Not applicable
(4) This clause extends to applications made, but not determined, before the commencement of this clause.	Not applicable
13 Compatibility of proposed development with mining, petroleum production or extractive industry	
2) Before determining an application to which this clause applies, the consent authority must:	-
(a) consider:	Chapter 6 (site and surrounds)
(i) the existing uses and approved uses of land in the vicinity of the development, and	
(ii) whether or not the development is likely to have a significant impact on current or future extraction or recovery of minerals, petroleum or extractive materials (including by limiting access to, or impeding assessment of, those resources), and	Chapter 18 (justification)
(iii) any ways in which the development may be incompatible with any of those existing or approved uses or that current or future extraction or recovery, and	Chapter 6 and Chapter 18
(b) evaluate and compare the respective public benefits of the development and the uses, extraction and recovery referred to in paragraph (a) (i) and (ii), and	Chapter 18
(c) evaluate any measures proposed by the applicant to avoid or minimise any incompatibility, as referred to in paragraph (a) (iii).	Chapter 18
14 Natural resource management and environmental management	
1) Before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring that the development is undertaken in an environmentally responsible manner, including conditions to ensure the following:	-
(a) that impacts on significant water resources, including surface and groundwater resources, are avoided, or are minimised to the greatest extent practicable,	Chapter 13
(b) that impacts on threatened species and biodiversity, are avoided, or are minimised to the greatest extent practicable,	Chapter 12
(c) that greenhouse gas emissions are minimised to the greatest extent practicable.	Chapter 8

Table 4.2 **Consideration of relevant Mining SEPP, Part 3 matters**

Matter	Addressed in this EIS
(2) Without limiting subclause (1), in determining a development application for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider an assessment of the greenhouse gas emissions (including downstream emissions) of the development, and must do so having regard to any applicable State or national policies, programs or guidelines concerning greenhouse gas emissions.	Chapter 8
(3) Without limiting subclause (1), in determining a development application for development for the purposes of mining, the consent authority must consider any certification by the Chief Executive of the Office of Environment and Heritage or the Director-General of the Department of Primary Industries that measures to mitigate or offset the biodiversity impact of the proposed development will be adequate.	Chapter 12
15 Resource recovery	
(1) Before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider the efficiency or otherwise of the development in terms of resource recovery.	Not applicable
(2) Before granting consent for the development, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at optimising the efficiency of resource recovery and the reuse or recycling of material.	Not applicable
(3) The consent authority may refuse to grant consent to development if it is not satisfied that the development will be carried out in such a way as to optimise the efficiency of recovery of minerals, petroleum or extractive materials and to minimise the creation of waste in association with the extraction, recovery or processing of minerals, petroleum or extractive materials.	Not applicable
16 Transport	
(1) Before granting consent for development for the purposes of mining or extractive industry that involves the transport of materials, the consent authority must consider whether or not the consent should be issued subject to conditions that do any one or more of the following:	
(a) require that some or all of the transport of materials in connection with the development is not to be by public road,	Not applicable
(b) limit or preclude truck movements, in connection with the development, that occur on roads in residential areas or on roads near to schools,	Not applicable
(c) require the preparation and implementation, in relation to the development, of a code of conduct relating to the transport of materials on public roads.	Not applicable
(2) If the consent authority considers that the development involves the transport of materials on a public road, the consent authority must, within 7 days after receiving the development application, provide a copy of the application to:	-
(a) each roads authority for the road, and	Not applicable
(b) the Roads and Traffic Authority (if it is not a roads authority for the road).	Not applicable
(3) The consent authority:	
(a) must not determine the application until it has taken into consideration any submissions that it receives in response from any roads authority or the Roads and Traffic Authority within 21 days after they were provided with a copy of the application, and	Not applicable
(b) must provide them with a copy of the determination.	Not applicable
(4) In circumstances where the consent authority is a roads authority for a public road to which subclause (2) applies, the references in subclauses (2) and (3) to a roads authority for that road do not include the consent authority.	Not applicable

Table 4.2 **Consideration of relevant Mining SEPP, Part 3 matters**

Matter	Addressed in this EIS
17 Rehabilitation	
(1) Before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring the rehabilitation of land that will be affected by the development.	Section 2.6
(2) In particular, the consent authority must consider whether conditions of the consent should:	-
(a) require the preparation of a plan that identifies the proposed end use and landform of the land once rehabilitated, or	Section 2.6 and Chapter 14
(b) require waste generated by the development or the rehabilitation to be dealt with appropriately, or	Section 2.5.3
(c) require any soil contaminated as a result of the development to be remediated in accordance with relevant guidelines (including guidelines under section 145C of the Act and the Contaminated Land Management Act 1997), or	-
(d) require steps to be taken to ensure that the state of the land, while being rehabilitated and at the completion of the rehabilitation, does not jeopardise public safety.	Section 2.6

d. State Environmental Planning Policy No 33 – Hazardous and Offensive Development

State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33) requires the consent authority to consider a project's potential to cause hazards or be offensive, including consideration of the location of the development and the way in which it is to be carried out. The project has been assessed to determine if it is classified as potentially hazardous or offensive development, as described in detail in Chapter 19, using DP&E's guideline *Hazardous and Offensive Development Application Guidelines: Applying SEPP 33* (DoP 2011a) and *Hazardous Industry Planning Advisory Paper No 4: Risk Criteria for Land Use Safety Planning* (DoP 2011b).

As discussed in Chapter 16, a number of hazardous substances will be transported to the project area and stored on site during the construction phase of the project, including diesel and liquefied petroleum gas (LPG). All hazardous substances required on site during construction will be stored at the temporary construction facility (refer to Figure 2.3) in accordance with the relevant Australian Standards, and maintained at the appropriate separation distances to publically accessible areas to remain outside the potentially hazardous regions specified in DoP (2011). Additionally, quantities of hazardous substances stored at the construction facility, for example LPG, will be less than the screening thresholds in Table 3 of DoP (2011a). Consequently, the transport and storage of hazardous material during the construction phase of the project will not qualify it as a potentially hazardous or offensive development.

Operation of the rail line will not require the storage or use of hazardous materials except for the hydrocarbons stored on trains for their operation, and minor quantities of hydrocarbons and flammable gases used during track maintenance. Accordingly, operation of the rail line will also not qualify it as a potentially hazardous or offensive development.

e. **State Environmental Planning Policy No 44 – Koala Habitat Protection**

State Environmental Planning Policy No. 44 – Koala Habitat Protection (SEPP 44) encourages the conservation and management of koala (*Phascolarctos cinereus*) habitat, to ensure permanent free-living koala populations are maintained over their present range. SEPP 44 requires the consent authority to consider if the land covered by a development application is ‘potential Koala habitat’ or ‘core Koala habitat’.

Wingecarribee LGA is listed in Schedule 1 of SEPP 44 and therefore, the project is subject to a SEPP 44 assessment. A Koala habitat assessment was undertaken as part of the biodiversity assessment of the project. The assessment did not identify any areas of core koala habitat within the project area. Although koalas have been recorded in the region in the Belanglo State Forest (approximately 4 km west of the project area), as well as north-east of the project area, these areas are fragmented from the project area by the Hume Highway, Old Hume Highway, the Berrima Branch Line and Berrima Road. In addition, the fragmented patches of native vegetation contain only a small number of feed tree species (Cabbage Gum) and is dominated by Peppermint species which are not classified as feed trees.

f. **State Environmental Planning Policy No 55 – Remediation of Land**

State Environmental Planning Policy No 55 – Remediation of Land (SEPP 55) provides a state-wide approach to the remediation of contaminated land for the purpose of minimising the risk to human health and the environment. SEPP 55 requires that a consent authority does not consent to the carrying out of development on land unless it has considered any potential contamination issues.

The potential for the presence of contaminated land within the project area has been assessed in Chapter 16. The preliminary site contamination investigation concluded there is no material evidence of widespread or ongoing contamination activities and/or contamination sources in the disturbance area associated with the project, and hence there are no known contamination constraints for the project.

g. **State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011**

State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 (Drinking Water SEPP) provides that a consent authority must not grant consent to a proposed development in Sydney’s drinking water catchment unless it is satisfied that it will have a neutral or beneficial effect on the catchment’s water quality. The Wingecarribee River sub-catchment is listed in Clause 7 of the Drinking Water SEPP as forming part of the Sydney drinking water catchment. Therefore, an assessment of the project against the ‘*Neutral or Beneficial Effect on Water Quality Assessment Tool 2011*’ (Sydney Catchment Authority 2011) is included in Chapter 13.

h. **Wingecarribee Local Environmental Plan 2010**

The rail works will traverse land zoned IN1 General Industrial, IN3 Heavy Industrial, RU2 Rural Landscape, SP2 Infrastructure, E2 Environmental Conservation and E3 Environmental Management, pursuant to the Wingecarribee LEP. Under the Wingecarribee LEP, the proposed activities are prohibited in the SP2, RU2, E2 and E3 zones and are permitted with consent in the IN1 and IN3 zones. However, as described in Section 4.2.3, the project is permissible in the RU2, E2 and E3 zones in accordance with the provisions of the Mining SEPP and the Infrastructure SEPP, which prevail over any inconsistencies with the LEP.

Section 1.9A of the Wingecarribee LEP address covenants, agreements and instruments, stating that:

For the purpose of enabling development on land in any zone to be carried out in accordance with this Plan or with a consent granted under the Act, any agreement, covenant or other similar instrument that restricts the carrying out of that development does not apply to the extent necessary to serve that purpose.

Eight easements have been identified across the project area. Hume Coal will consult with the relevant beneficiaries of the easements to discuss the proposed development.

iii Planning agreements

Section 93F of the EP&A Act relates to planning agreements, which are defined as:

...a voluntary agreement or other arrangement under this Division between a planning authority (or 2 or more planning authorities) and a person (the developer):

- a) who has sought a change to an environmental planning instrument, or
- b) who has made, or proposes to make, a development application, or
- c) who has entered into an agreement with, or is otherwise associated with, a person to whom paragraph (a) or (b) applies, under which the developer is required to dedicate land free of cost, pay a monetary contribution, or provide any material public benefit, or any combination of them, to be used for or applied towards a public purpose.

Section 93F enables the proponent of a development to enter into a voluntary planning agreement (VPA) or other arrangements with planning authorities in lieu of a Section 94 contribution. Hume Coal proposes to progress discussions with WSC on potential Hume Coal involvement in or support towards relevant community programs that provide material public benefits.

iv The regulations

As previously stated, a development application for an SSD project must be accompanied by an EIS, prepared in accordance with the EP&A Regulation. The requirements for the preparation of an EIS are set out in Clause 6 and 7 of Schedule 2 of the EP&A Regulation. A summary of these requirements, and where they are addressed in the EIS, is provided in Table 4.3.

Table 4.3 **Schedule 2 requirements for an EIS**

Requirement	Where contained in the EIS
Clause 6 Form of environmental impact statement	
(a) the name, address and professional qualifications of the person(s) by whom the statement is prepared,	Certification page at the front of the EIS
(b) the name and address of the responsible person (the applicant),	Certification page at the front of the EIS
(c) the address of the land: <ul style="list-style-type: none">(i) in respect of which the development application is to be made, or(ii) on which the activity or infrastructure to which the statement relates is to be carried out,	Appendix A (Schedule of Lands)
(d) a description of the development, activity or infrastructure to which the statement relates,	Chapter 2

Table 4.3 **Schedule 2 requirements for an EIS**

Requirement	Where contained in the EIS
(e) an assessment by the person by whom the statement is prepared of the environmental impact of the development, activity or infrastructure to which the statement relates, dealing with the matters referred to in this Schedule,	Chapters 7-18
(f) a declaration by the person by whom the statement is prepared to the effect that: <ul style="list-style-type: none"> (i) the statement has been prepared in accordance with this Schedule, and (ii) the statement contains all available information that is relevant to the environmental assessment of the development, activity or infrastructure to which the statement relates, and (iii) that the information contained in the statement is neither false nor misleading. 	Certification page at the front of the EIS
Clause 7 Content of environmental impact statement	
(a) A summary of the EIS,	Executive summary
(b) A statement of the objectives of the development, activity or infrastructure,	Section 1.5
(c) An analysis of feasible alternatives to the carrying out the development, activity or infrastructure, having regard to its objectives, including the consequences of not carrying out the development, activity or infrastructure,	Chapter 3
(d) an analysis of the development, activity or infrastructure, including: <ul style="list-style-type: none"> (i) A full description of the development, activity or infrastructure, and (ii) A general description of the environment likely to be affected by the development, activity or infrastructure, and (iii) The likely impact on the environment of the development, activity or infrastructure, and (iv) A full description of the measures proposed to mitigate any adverse effects of the development, activity or infrastructure, and (v) A list of any approvals that must be obtained under any other Act or law before the development, activity or infrastructure may lawfully be carried out, 	Chapter 2 (the project) Chapter 6 (site and surrounds) Chapters 7-16 Chapter 17 (summary of commitments) Section 4.8
(e) A compilation (in a single section of the EIS) of the measures referred to in item (d)(iv),	Chapter 17
(f) The reasons justifying the carrying out of the development, activity or infrastructure in the manner proposed, having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development.	Chapter 18 (justification)

v **Likely impacts of the development**

The EIS comprehensively describes the likely impacts of the project, including predicted environmental impacts on both the natural and built environments, and social and economic impacts in the local area, region and State. It also describes commitments proposed by Hume Coal to mitigate and manage these impacts. The likely impacts as described in the EIS are based on technical studies prepared by specialists, which were prepared using the most recent and accurate scientific data relevant to the project in consideration of current policies and legislation. In addition, the technical studies adopted conservative assumptions to enable the upper limit of likely impacts to be assessed.

The likely impacts of the project on the natural and built environment, likely economic and social impacts and likely cultural impacts are described in Chapters 7-16.

vi Suitability of the site for the development

The site of the Berrima Rail Project (the project area) is considered to be suitable for the rail works for the reasons detailed in Chapter 18 (justification).

Principally, the project will facilitate the efficient transport of coal produced by the Hume Coal Project to market while also maintaining current rail usage by other users, currently Boral, Inghams and Omya. The project will avoid land use conflicts by using existing rail infrastructure where possible and by locating new rail works in areas which avoid impacts to significant environmental, cultural and built features. A range of commitments have been made by Hume Coal to mitigate potential impacts of the project on surrounding land uses. Subject to the application of these commitments, the project is unlikely to have a significant impact on these land uses.

vii Submissions

The EIS will be placed on public exhibition for a minimum of 60 days by DP&E and submissions will be sought from WSC, government agencies and the community. Any submissions received by the DP&E will be reviewed and forwarded to Hume Coal to consider and respond to via a response to submissions (RTS) report.

Following receipt of the RTS, the DP&E will prepare its assessment report considering the EIS, all submissions received during the exhibition process and the RTS.

viii Public interest

To assist the consent authority in determining whether the project is in the public interest, the EIS provides a detailed justification for the proposal in Chapter 18, taking into consideration its potential environmental, social and economic impacts and the suitability of the site. It also considers the project against the principles of Ecologically Sustainable Development (ESD). The consent authority will also be required to consider all submissions received during the public exhibition of the EIS.

4.2.5 Other relevant sections of the EP&A Act

i Threatened species, population and ecological communities

Section 5A of the EP&A Act relates to threatened species, populations and ecological communities. It requires a number of factors to be taken into consideration in deciding whether a proposed action is likely to have a significant effect on threatened species, populations or ecological communities, or their habitats. The impacts of the project on flora and fauna are assessed in detail in Chapter 12.

ii Remaining provisions

Other sections of the EP&A Act which may be relevant to the Project include:

- Section 23D, which states the functions of the Planning Assessment Commission (PAC), including “to review any (or any aspect or part of any) development, activity, infrastructure or project to which this Act applies” and “hold a public hearing into any matter the subject of any such advice or review” if requested to do so by the Minister or Secretary;

- Section 94, which enables the consent authority to impose a condition requiring the applicant to provide a development contribution if the consent authority “is satisfied that development for which development consent is sought will or is likely to require the provision of or increase the demand for public amenities and public services within the area”. Section 93F enables the applicant to enter into a VPA with planning authorities in lieu of a Section 94 contribution;
- Section 97, which states that an applicant who is dissatisfied with a determination can lodge an appeal in the Land and Environment Court within six months after determination. If the appeal is against a deemed refusal under Section 82(1), the appeal must commence within six months after the expiration of the relevant period; and
- Section 98, which allows an objector to appeal against a consent authority’s decision to grant consent within 28 days of the notice of determination. Section 23F states that a decision made by the PAC cannot be challenged if it was made after a public hearing.

4.3 Requirements of other NSW legislation

In addition to the development consent, the project will require a number of other authorisations. Under Section 89K of the EP&A Act, the following authorisations cannot be refused and are to be substantially consistent with a development consent for SSD:

- a) an aquaculture permit under Section 144 of the *Fisheries Management Act 1994*;
- b) an approval under Section 15 of the *Mine Subsidence Compensation Act 1961*;
- c) a mining lease under the *Mining Act 1992*;

Note. Under Section 380A of the *Mining Act 1992*, a mining lease can be refused on the grounds that the applicant is not a fit and proper person, despite this section.

- d) a production lease under the *Petroleum (Onshore) Act 1991*;

Note. Under Section 24A of the *Petroleum (Onshore) Act 1991*, a production lease can be refused on the grounds that the applicant is not a fit and proper person, despite this section.

- e) an environment protection licence under Chapter 3 of the *Protection of the Environment Operations Act 1997* (for any of the purposes referred to in Section 43 of that Act);
- f) a consent under Section 138 of the *Roads Act 1993*; and
- g) a licence under the *Pipelines Act 1967*.

Not all of the above approvals are relevant to the Berrima Rail Project, in that no aquaculture or petroleum production lease is needed. The approvals that are relevant to the project are discussed below.

4.3.1 Mine Subsidence Compensation Act 1961

The *Mine Subsidence Compensation Act 1961* is administered by the Mine Subsidence Board, who is responsible for reducing the risk of mine subsidence damage to properties by assessing and controlling the types of buildings and improvements which can be erected in Mine Subsidence Districts.

The project area is not located within a Mine Subsidence District. No surface improvements will require approval by the Mine Subsidence Board prior to construction.

4.3.2 Mining Act 1992

The NSW *Mining Act 1992* (Mining Act) regulates mining in NSW, and makes provisions for the granting of mining authorities, leases and licences. Section 5 of the Mining Act provides the following:

A person must not prospect for or mine any mineral except in accordance with an authorisation that is in force in respect of that mineral and the land where the prospecting or mining is carried on.

Section 6 of the Mining Act provides the following:

- (1) A person must not carry out a mining purpose specified for the purposes of this section except in accordance with an authorisation that is in force in respect of the land where the purpose is carried out.
- (2) The regulations may provide for the exemption, by order of the Minister, of a person or class of persons from the operation of this section with respect to the carrying out of a particular mining purpose, or a class of mining purposes, that is specified for the purposes of this section.
- (3) The mining purposes specified for the purposes of this section are the following mining related purposes:
 - (a) the construction, maintenance or use of any reservoir, dam (including a tailings dam), drain or water race, other than any reservoir, dam, drain or water race principally used for purposes not connected with mining or any other activities regulated by or under an authorisation,
 - (b) opal puddling,
 - (c) the removal, stockpiling or depositing of overburden, ore or tailings to the extent that it is associated with mineral extraction or mine beneficiation.

Accordingly, infrastructure such as the rail spur and loop to be constructed for the project is not required to be within a mining lease.

4.3.3 Protection of the Environment Operations Act 1997

The NSW *Protection of the Environment Operations Act 1997* (POEO Act) is the principal environmental protection legislation in NSW and is administered by the EPA. Schedule 1 of the POEO Act lists the 'scheduled activities' which require an environment protection licence (EPL). An EPL prescribes management standards and monitoring requirements to control environmental pollution. Schedule 1 includes 'railway systems activities', meaning the installation, on site repair, on site maintenance or on site upgrading of track, including the construction or significant alteration of any ancillary works. However, the definition of 'track' to trigger 'railway systems activities' as a scheduled activity is 30 kms of track:

track means railway track that forms part of, or consists of, a network of more than 30 kilometres of track, other than railway track that is used solely by railway vehicles that are themselves used solely for heritage purposes.

Less than 30 km of track will be constructed or upgraded as part of the project, and therefore the project will not require an EPL.

4.3.4 Roads Act 1993

The NSW *Roads Act 1993* (Roads Act) regulates activities that may impact on public roads in NSW. Consent is required from the relevant roads authority under Section 138 of the Roads Act for any work in, on or over a public road. In the case of SSD, Section 89K of the EP&A Act stipulates that an authorisation under Section 138 cannot be refused and must have terms that are substantially consistent with the development consent for the SSD.

The project includes the construction of grade separated crossings of the Old Hume Highway and Berrima Road (under the preferred option), as well as a new intersection off the Old Hume Highway to gain access to the maintenance siding and temporary construction facility. The works at the No 1 Siding at Berrima Junction require some earthworks within the road corridor land, although not on the road itself. These works will require a Section 138 approval under the Roads Act. The potential impacts of the project on the existing road network, and works required, are discussed in further detail in Chapter 9.

4.4 Exemptions from other approval requirements

Pursuant to Section 89J of the EP&A Act, the following authorisations subject to other NSW legislation are not required for an approved SSD project:

- a) the concurrence under Part 3 of the *Coastal Protection Act 1979* of the Minister administering that Part of that Act;
- b) a permit under Sections 201, 205 or 219 of the *Fisheries Management Act 1994*;
- c) an approval under Part 4, or an excavation permit under Section 139, of the *Heritage Act 1977*;
- d) an Aboriginal heritage impact permit under Section 90 of the *National Parks and Wildlife Act 1974*;
- e) an authorisation referred to in Section 12 of the *Native Vegetation Act 2003* (or under any Act repealed by that Act) to clear native vegetation or State protected land;
- f) a bush fire safety authority under Section 100B of the *Rural Fires Act 1997*; and
- g) a water use approval under Section 89, a water management work approval under Section 90 or an activity approval (other than an aquifer interference approval) under Section 91 of the *Water Management Act 2000*.

Whilst the above approvals are not required, and one is not relevant (*Coastal Protection Act 1979*), it is still necessary to discuss them as they relate to the project. This discussion is provided in the sub-sections below.

4.4.1 Fisheries Management Act 1994

The NSW *Fisheries Management Act 1994* (FM Act) aims to conserve, develop and share the fishery resources of NSW for the benefit of present and future generations. It lists threatened aquatic species and ecological communities and contains measures to conserve these.

An assessment of the potential impacts on aquatic ecology resulting from the project is contained in Chapter 12.

4.4.2 Heritage Act 1977

The NSW *Heritage Act 1977* (Heritage Act) aims to protect and conserve the natural and cultural history of NSW, including scheduled heritage items, sites and relics. Approvals under Part 4 or an excavation permit under Section 139 of the Heritage Act are not required for an SSD project by virtue of Section 89J of the EP&A Act. Nevertheless, potential heritage impacts of the project are assessed in detail in Chapter 11.

4.4.3 National Parks and Wildlife Act 1974

The NSW *National Parks and Wildlife Act 1974* (NPW Act) provides for nature and cultural heritage conservation in NSW, including protection of native flora and fauna and the conservation of places, objects and features of significance to Aboriginal people.

Part 8A of the NPW Act provides for the protection of threatened flora and fauna. Section 118A (1)(a) states that a person must not harm any animal that is, or is part of, a threatened species, an endangered population or an EEC. Potential impacts to flora and fauna are detailed in Chapter 12.

A person must not harm or desecrate an Aboriginal object or place without an Aboriginal heritage impact permit under Section 90 of the NPW Act. However, a Section 90 permit is not required for SSD by virtue of Section 89J of the EP&A Act (see Section 2.2.4). Notwithstanding, an assessment of potential impacts on Aboriginal cultural heritage in accordance with OEH guidelines is required. The project's potential impacts to Aboriginal heritage are discussed in Chapter 10.

4.4.4 Native Vegetation Act 2003

The NSW *Native Vegetation Act 2003* (NV Act) provides for the promotion, improvement and protection of native vegetation in NSW. Approval to clear native vegetation in NSW is required under the NV Act. However, under Section 89J of the EP&A Act, SSD is exempt from an authorisation to clear native vegetation under Section 12 of the NV Act if development consent has been granted. Notwithstanding, potential impacts to native vegetation are assessed in detail in Chapter 12.

4.4.5 Rural Fires Act 1997

The NSW *Rural Fires Act 1997* (Rural Fires Act) aims to provide for the prevention, mitigation and suppression of bush fires and other fires in LGAs (or parts of areas) and other parts of NSW constituted as rural fire districts, such as the Wingecarribee LGA. It also provides for the co-ordination of bush fire fighting and prevention, and the protection of people, property and assets from fire damage.

The EP&A Act also establishes a system for requiring bush fire protection measures on bush fire prone land at the development application stage. Generally, development applications on bush fire prone land must be accompanied by a bush fire assessment report demonstrating compliance with the aims and objectives of *Planning for Bush Fire Protection* (NSW Rural Fire Service 2006) (PBP guidelines) and the specific objectives and performance criteria for the land use proposed.

Three sections of the rail line will be in the 100 m vegetation buffer surrounding Vegetation Category 1 on the WSC bushfire prone land map (refer to Figure 16.2 in Chapter 16). However, no habitable structures associated with the rail line will be constructed in bush fire prone land. Therefore, a comprehensive bushfire hazard assessment in accordance with the PBP guidelines is not required. Notwithstanding, further discussion on bush fire prone land is provided in Chapter 16 (hazard and risk).

4.4.6 Water Act 1912 and Water Management Act 2000

The NSW *Water Act 1912* (Water Act) and NSW *Water Management Act 2000* (WM Act) regulate the management of water in NSW by establishing a regime for the granting of licences, approvals for taking and using water, and trading of both groundwater and surface water. The WM Act applies to those areas where a water sharing plan has commenced. Alternatively, in those water sources where a water sharing plan has not yet commenced, the Water Act applies. The WM Act has therefore been progressively replacing the Water Act as relevant water sharing plans are introduced across the State.

Water sharing plans (WSPs) have commenced for most areas of NSW. Licensing of monitoring bores continues under the Water Act until a regulation surrounding aquifer interference activities provides a mechanism for an approval for these activities. Licensing of reinjection into groundwater systems is also still currently managed under the Water Act.

Two WSPs are applicable to the project area; one covering surface water resources and the other applicable to groundwater. These are the *Water Sharing Plan for the Greater Metropolitan Region, Unregulated River Water Sources 2011* (Metropolitan surface water WSP), and the *Water Sharing Plan for the Greater Metropolitan Region, Groundwater Sources 2011* (Metropolitan groundwater WSP).

Section 89J of the EP&A Act (see Section 2.2.4) removes the need for a number of approvals under the WM Act when development consent has been granted for SSD. These are a water use approval under Section 89, a water management work approval under Section 90 and an activity approval (other than an aquifer interference approval) under Section 91. The project will not involve the 'take' of water, and no licences will be required under the Water Act or WM Act.

Further discussion of the project in relation to water resources is provided in Chapter 13.

4.5 Other relevant NSW legislation

4.5.1 Threatened Species Conservation Act 1995

The *Threatened Species Conservation Act 1995* (TSC Act) aims to conserve biological diversity in NSW through the protection of threatened flora and fauna species, populations and EECs. The TSC Act also provides a framework for the assessment of a project's potential impacts on threatened species. A detailed assessment of the potential impacts to threatened species, populations and EECs as a result of the project is provided in Chapter 12.

4.5.2 Noxious Weeds Act 1993

The NSW *Noxious Weeds Act 1993* (NW Act) aims to reduce the negative impacts of weeds on the economy, community and environment in NSW and provide for their management. The NW Act specifies the requirements of landholders in controlling declared noxious weeds.

Chapter 12 discusses the presence of declared noxious weeds within the project area.

4.5.3 Contaminated Land Management Act 1997

The NSW *Contaminated Land Management Act 1997* (CLM Act) establishes a process for the investigation and remediation of contaminated land. Section 60 of the CLM Act requires landowners to report any contamination that represents a significant risk of harm to human health or the environment to OEH.

The potential for the presence of contaminated land within the project area has been assessed in Chapter 16. As noted above in Section 4.2.4(ii)(f), the preliminary site contamination investigation concluded there is no material evidence of widespread or ongoing contamination activities and/or contamination sources in the disturbance area associated with the project.

4.5.4 Crown Lands Act 1989

The NSW *Crown Lands Act 1989* (Crown Lands Act) sets out how Crown land is to be managed. Applications to use Crown land generally need to be authorised by a lease, licence or permit. There is no Crown land located in the project area and therefore, no permit under the Crown Lands Act is required.

4.5.5 Forestry Act 1916

The NSW *Forestry Act 1916* (Forestry Act) provides the statutory framework for the dedication, reservation, control and use of state forests. Under Section 31 of the Forestry Act, an occupation permit is required for any component of the project within a state forest. There are no areas of state forest located within the project area and therefore, an occupation permit is not required.

4.6 Commonwealth legislation

4.6.1 Environment Protection and Biodiversity Conservation Act 1999

The EPBC Act provides the legal basis for the protection and management of internationally and nationally important flora, fauna, ecological communities, heritage places and water resources which are deemed to be matters of national environmental significance (MNES). MNES, as defined under the EPBC Act, are:

- World Heritage properties;
- places listed on the National Heritage Register;
- wetlands of international significance listed under the Ramsar Convention;
- threatened flora and fauna species and ecological communities;
- migratory species;
- Commonwealth marine areas;
- Great Barrier Reef Marine Park;
- nuclear actions (including uranium mining); and
- water resources, in relation to coal seam gas or large coal mining development.

Under the EPBC Act, actions that will, or are likely to, have a significant impact on a MNES are deemed to be controlled actions and can only proceed with the approval of the Commonwealth Minister for the Environment. An action that may potentially affect a MNES is to be referred to the Commonwealth Department of Environment and Energy (DoEE) for determination as to whether or not it is a controlled action.

The proposal has been assessed as not having the potential for a significant impact on any MNES. Further, the DoEE confirmed that the Department is satisfied the Berrima Rail Project does not need to be included in the referred action for the Hume Coal Project. Relevant correspondence with the DoEE in this regard is attached in Appendix D. Therefore, approval from the Commonwealth Minister for the Environment and Energy is not required.

4.6.2 Native Title Act 1993

The Commonwealth *Native Title Act 1993* provides for the recognition and protection of native title rights in Australia. It allows a native title determination application (native title claim) to be made in respect of land or waters where native title has not been validly extinguished, for example, extinguished by the grant of freehold title to land.

Applications for compensation for extinguishment or impairment of native title rights can also be made. All native title claims are subjected to a registration test and will only be registered if claimants satisfy a number of conditions. A register of native title claims is maintained by the National Native Title Tribunal.

Proposed activities or development that may affect native title are called 'future acts'. Claimants whose native title claims have been registered have the right to negotiate about some future acts, including mining and granting of a mining lease over the land subject of their native title claim. Where a native title claim is not registered, a development can proceed through mediation and determination processes, though claimants will not be able to participate in future act negotiations.

There are currently no native title applications over the project area.

4.7 Regional plans and strategies

4.7.1 Sydney – Canberra Corridor Regional Strategy 2006-2031

The Sydney-Canberra Corridor Regional Strategy (SCCRS) 2006-2031 is a long term strategic land use plan for the area extending between Sydney and Canberra, including the local government areas of Wingecarribee, Upper Lachlan, Goulburn Mulwaree, Yass Valley, Palerang and Queanbeyan. This region is predicted to experience significant growth given its strategic location between two capital cities. Therefore, the strategy provides a framework to manage and direct growth in housing and employment while protecting the natural and built environment in the region. Specifically, the strategy establishes a number of actions for rural land and primary industry, economic development and employment growth, regional transport, housing and settlement, the natural environment, water and energy resources and cultural heritage in the region.

The project is located within the Wingecarribee LGA and therefore the Strategy applies to the development. The strategy recognises the importance of the Wingecarribee LGA for economic development and employment growth due to:

- the proximity of the area to major metropolitan markets for regionally based business;
- the improved accessibility of the area through infrastructure such as the M7 and M5 in the southern part of the Sydney metropolitan area;
- land affordability; and
- high rates of commuting out of the subregion.

The strategy recognises the importance of the Main Southern Railway, the Moss Vale – Unanderra rail line and the Sydney – Canberra rail line as national transport connections between Sydney and Canberra, Melbourne, Wollongong and other regional centres in NSW. In Wingecarribee LGA, rail facilitates the movement of freight and people into and out of the area, enabling population growth and contributing to the local and State economy. Therefore, the strategy provides for the development of, and investment in transport links, including rail links, within the Sydney-Canberra Corridor. The project facilitates this process through the construction and operation of a new rail spur and loop, upgrades to the Berrima Branch Line, and use of existing rail infrastructure. This will enable the increased usage of the branch line and contribute to economic growth in the local area.

4.7.2 Voluntary Land Acquisition and Mitigation Policy

The Voluntary Land Acquisition and Mitigation Policy (VLAMP) applies to SSD applications for mining, petroleum and extractive industry development. The Policy describes how the consent authority is to deal with predicted noise and dust impacts when determining DAs for these SSD applications.

The policy establishes a framework for ensuring that when noise and dust impacts from a proposal exceed the relevant assessment criteria, land owners are provided with:

- a negotiated agreement between the land owner and the proponent; or
- obligations on the proponent to offer mitigation of impacts on the land, or acquisition of the land, in accordance with conditions of a project approval.

The policy expresses a preference for negotiated agreements, but specifies some minimum requirements for those agreements if they are to justify the grant of a planning approval. It also specifies the kinds of mitigation commitments, and the terms of land acquisition offers, which would be required in any approval conditions imposed under the policy.

The air quality assessment of the project did not predict any exceedance of relevant air quality criteria as a result of the project. Therefore, the VLAMP does not apply in relation to dust impacts. Exceedance of the relevant noise criteria are predicted at some nearby residential receptors, whereby these residents will be entitled to mitigation rights under the VLAMP, as discussed in Chapter 7 (noise).

4.8 Summary of approval requirements

A summary of the licences, approvals and permits that are likely to be required for the project is provided in Table 4.4.

Table 4.4 Summary of required licences, approvals and permits

Legislation	Authorisation	Consent of approval authority
EP&A Act	Development consent under Part 4, Division 4.1	Minister for Planning or delegate
Roads Act	Section 138 permit for road and intersection improvements	RMS

5 Stakeholder engagement and issue identification

5.1 Introduction

Hume Coal has been engaging with stakeholders about the project, in conjunction with consultation on the Hume Coal Project, since 2011. The objectives of this engagement were to identify potential stakeholders with an interest in the project, to inform them about the project and to obtain their feedback. To achieve this, Hume Coal prepared a stakeholder engagement and consultation plan. The plan sets out who the potential stakeholders are, how, why and when they are to be engaged. Information gathered through the consultation process has been used to identify and assess potential issues, opportunities, risks, concerns and perceptions of the community in relation to the project. This information has been used to inform the project's planning and assessment process, and to develop mitigation and management measures which respond to the identified issues.

This chapter documents the stakeholder engagement and consultation activities undertaken for the project. It describes the stakeholder engagement process, the consultation activities undertaken and the results, including how these results have been incorporated into the project design, environmental assessment and mitigation measures.

5.2 Assessment requirements

The SEARs for the project state that consultation with stakeholders must be undertaken during the preparation of the EIS. Specifically, the SEARs state:

During the preparation of the EIS, you must consult with relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. The EIS must describe the consultation that was carried out, identify the issues raised during this consultation, and explain how these issues have been addressed in the EIS.

5.3 Stakeholder identification

As the first step in the process, a program of stakeholder identification was undertaken. This included identification of all stakeholders who may be affected by or have an interest in the project, as well as those who could affect it.

The broad stakeholder groups identified were:

- Landholders – those located within and adjacent to the rail corridor, including Boral as the owner of the Berrima Branch Line;
- Community – local businesses and industry groups, Registered Aboriginal parties, existing rail users and service providers; and
- Government – WSC, State and Commonwealth agencies, local, State and Federal members and Ministers.

A range of formal and informal engagement tools were used to engage with each of these broad stakeholder groups, including phone calls, emails, face-to-face meetings and community information sessions. The consultation methods used and the outcomes of the consultation are described in the following sections.

5.4 Consultation methods

5.4.1 One-on-one consultation

i Email

Hume Coal has a dedicated email address for liaising with stakeholders (info@humecoal.com.au). Hume Coal also has an email address for media enquiries (media@humecoal.com.au) and Hume's charitable foundation (charitablefoundation@humecoal.com.au). The community liaison team documents and responds to all queries received via email.

ii Telephone

Hume Coal has two contact phone numbers for enquiries – the main project office (02 4869 8200) and the community shop front (02 4877 2481). These phone lines are maintained by Hume Coal's community liaison team. Both phone lines also have an out of hour's answering service to ensure all queries are captured and responded to.

iii Community shop front and office

Hume Coal opened a community shop front in November 2012 in Moss Vale (Shop 7, 256 Argyle Street, Moss Vale), which remained open until a community shop front was opened in Berrima (Shop 3/30 Old Hume Highway, Berrima) in May 2016. The Berrima community shop front is open four days per week and provides an opportunity for community members to speak directly with the project's community liaison team and technical staff.

Community members can also speak directly with the community liaison team or technical staff as required at the project's head office in Moss Vale (Unit 7-8 Clarence House, 9 Clarence Street, Moss Vale).

iv Letters

In July 2015, Hume Coal distributed letters to individual landholders located within and adjacent to the railway corridor (ie the project area). These letters were personally addressed to each landholder and included information on the release of project plans, the submission of the request for SEARs and accompanying Preliminary Environment Assessment document to the DP&E, and an offer to meet with the project team to discuss the project in more detail or to provide feedback on the proposal.

5.4.2 Communication materials

Hume Coal has published and distributed a number of factsheets and bulletins within the local community. These are available in the community shop front, via the mailing list, and on Hume Coal's website. These publications address a range of topics related to both the Berrima Rail Project and the Hume Coal Project.

5.4.3 Briefings and representation

Hume Coal has undertaken a program of project briefings to interested stakeholder groups, particularly local businesses and industry groups. Hume Coal continues to be a member of a number of groups including the Southern Highlands Chamber of Commerce and Industries, and the Moss Vale Chamber of Commerce, and representatives continue to attend various meetings of these groups. Hume Coal was also a member of the Southern Highlands Manufacturing Cluster until it dissolved in 2014.

5.4.4 Community information sessions

A number of community information sessions have been conducted across the local area. These sessions presented information about the project including its relationship with the Hume Coal Project. They gave the community the opportunity to engage directly with project representatives, to provide feedback on the project, and raise any concerns or queries. The community information sessions were held throughout August 2015, as listed below:

- New Berrima (6 August 2015);
- Moss Vale (11 August 2015);
- East Bowral (12 August 2015);
- Robertson (19 August 2015);
- Exeter (20 August 2015); and
- Moss Vale (relocated from Sutton Forest) (25 August 2015).

5.5 Consultation summary

A summary of matters raised by each stakeholder group during the consultation activities described above are summarised in Table 5.1, including where each relevant matter is discussed in the EIS.

Table 5.1 Matters raised by government, service providers and agencies

Stakeholder	Theme	Matters raised	EIS reference
<i>Nearby landholders</i>			
	Project design	Project update (letters sent to 23 landholders in vicinity of project area offering a detailed project briefing) Project timeline	-
	Transport	Transport options Easements and access Rail movements (frequency and timing) Location of train paths Impacts to existing passenger trains Wagon design (covered wagons) Impacts to traffic	Chapter 3 Chapter 2 Chapter 2 Chapter 2 Chapter 9 Chapter 8 Chapter 9
	Noise	Potential noise impacts	Chapter 7
	Dust	Potential dust impacts	Chapter 8

Table 5.1 Matters raised by government, service providers and agencies

Stakeholder	Theme	Matters raised	EIS reference
		Dust management measures	Chapter 8
	Visual amenity	Potential impacts to visual amenity	Chapter 15
<i>Community</i>			
	Project design	Project update including approvals process	Chapter 4 (approvals process)
	Transport	Details of proposed rail infrastructure, rail movements and train frequency	Chapter 2
<i>Government</i>			
Wingecarribee Shire Council	Community services and demographics	General discussions	-
	Community consultation	Types of community consultation being undertaken	Chapter 5
		Hume Coal apprenticeship program	-
		Hume Coal charitable program	-
	Heritage	New heritage listings	Chapter 11
	Traffic and transport	Potential impacts and possible road upgrading required. Several meetings have been held between Hume Coal, WSC and Boral regarding WSC's proposed Berrima Road relocation, and the required rail over road bridge for the project if Berrima Road is not relocated.	Chapter 9
	Local tourism	Impacts on local tourism and the need for a construction accommodation village	Chapter 2 and 18
NSW Department of Industry (formerly Department of Trade and Investment, Regional Infrastructure and Services)	Community consultation	Local jobs expo	-
		Berrima Community shop reception to date	-
		Community information sessions	Chapter 5
		Hume Coal apprenticeship program	-
		Hume Coal charitable foundation	-
	Significant local issues	Youth employment in the Southern Highlands Region	Chapter 18
NSW Office Water	Water management	General discussions	Chapter 13
	Determination process update	SEARS	Appendix B
NSW Environment Protection Authority	Determination process update	SEARS	Appendix B
	Air quality	Assessment methodology	Chapter 8
		Preliminary results and mitigations	Chapter 8
	Noise	Assessment methodology	Chapter 7
	Surface water	Assessment methodology	Chapter 13
NSW Department of Planning and Environment	Project update	Project description	Chapter 2
		Environmental considerations	Chapters 7-16
	Determination timeframe	Adequacy review period	-

Table 5.1 Matters raised by government, service providers and agencies

Stakeholder	Theme	Matters raised	EIS reference
NSW Office of Environment and Heritage	Project update	Project progression	-
		Preliminary ecology and heritage results	Chapters 12 & 11
NSW Roads and Maritime Services	Clarify agency requirements	Road crossings	Chapter 2.3.3
		Flood assessment	Chapter 13
Office of Angus Taylor, Federal Member for Hume	Transport	Covering coal wagons during transport	Chapter 8
	POSCO	Investments in Australia	Chapter 1
		Importance of Hume Coal Project to POSCO's consideration of any further investment in the Australian market	Chapter 1
Office of Stephen Jones, Federal Member for Throsby	Local opposition	Anti Asian/Korean sentiment as Xenophobic	-
	Transport	Transport of material by road	Chapter 3
	Water	Water systems, particularly groundwater in the Southern Highlands	Chapter 13
Office of Jai Rowell, Member for Wollondilly	Employment	Number of future jobs	Chapter 2
	Water	Groundwater	Chapter 13
	Agriculture	Current farming practices on the project site	Chapter 6
Premier	Project update	Letter sent providing project update and timing	-

Additional details on consultation with key stakeholders is provided in the following sections.

5.6 Aboriginal community consultation

Aboriginal consultation for the Berrima Rail Project and the Hume Coal Project was conducted as one consultation process. All Aboriginal stakeholder consultation was undertaken in accordance with the Department of Environment, Climate Change and Water publication (DECCW – now OEH) (2010) *Aboriginal Cultural Heritage Consultation Requirements for Proponents*.

The outcomes of Aboriginal stakeholder consultation are documented in Chapter 10, including key issues raised and mitigation measures proposed to address the issues.

5.7 Consultation with Boral and users of the Berrima Branch line

The project area includes the Berrima Branch Line, as described in Chapter 1. As the owner of this line, Boral was consulted on the project by Hume Coal. In particular, Boral's input was sought on the assumptions relating to train movements on the line associated with existing and/or future users (other than Hume Coal). The assumed train movements described in Section 2.5.1, and in the relevant technical assessments such as noise, air quality and traffic and transport, are therefore as agreed with Boral.

A draft of the EIS was then provided to Boral for review in August 2016, with Boral providing feedback to Hume Coal on matters of relevance to them in October 2016. The approach to addressing Boral's comments on the EIS was discussed and agreed upon during a meeting between Boral and Hume Coal representatives, and EMM. The EIS was subsequently finalised, with the revised version provided to Boral for signoff in November 2016.

As described in Section 5.4.1iv, Hume Coal sent letters in mid-2015 about the project to relevant landholders in the vicinity of the project area, and this included Inhgams and Omya as current users of the line. Further consultation with existing users of the line throughout the preparation of the EIS was directed through Boral, as the owner of the Berrima Branch Line.

5.8 Australian Rail Track Corporation

Hume Coal consulted with the ARTC on numerous occasions through the project planning phase and preparation of the EIS. A summary of consultation with ARTC is provided in Table 5.2.

Table 5.2 Summary of consultation with ARTC

Date	Summary of meeting
April 2013	An initial meeting between ARTC and members of the Hume Coal project to discuss the project, including access arrangements to the ARTC-controlled rail track, and the scope of feasibility/engineering studies to be undertaken.
July 2014	A second meeting was held at the ARTC offices in Wynyard. Hume Coal provided a project update, and discussed the option of building a new branch line off the Main Southern Rail Line, which was an alternative that was being considered by Hume Coal at the time (eg options A and B discussed in Chapter 3, refer to Table 3.1). At this meeting ARTC offered a meeting with their technical staff in Newcastle to discuss the project further.
August 2014	Following on from the July meeting, Hume Coal met with ARTC technical staff at the ARTC offices in Newcastle. Topics of discussion included timing of the project, train size and numbers, maintenance, signalling and operational impacts of another mainline turnout (this is no longer part of the project), and potential impacts on the downstream sections of the main line.
May 2015	Hume Coal provided ARTC with a further project update.

5.9 Ongoing stakeholder consultation

The project team will continue to work closely with relevant stakeholders, particularly directly and indirectly affected landholders, local community members and government agencies throughout all phases of the project. This consultation will continue to be undertaken in accordance with the project's stakeholder engagement and consultation strategy which will be regularly reviewed and updated to reflect the project's status and consultation outcomes.

5.10 Preliminary risk assessment

5.10.1 Method

In addition to stakeholder engagement and consultation, a qualitative preliminary risk assessment of environmental, social and economic characteristics of the project was undertaken during the project planning phase. This helped to identify and prioritise matters to be considered in the planning phase and to inform an appropriately focused EIS. The risk assessment was based on knowledge of the existing environment, environmental interactions and consideration of the project's footprint and activities, including proposed rail usage.

The risk assessment identified potential impacts related to each characteristic and ranked them as low, medium or high priority for assessment, according to their likelihood of occurrence and the potential consequences of the impact to people, property, environment and/or community if they occurred. The assessment did not include any environmental safeguards and measures to address potential impacts and therefore, it was for a hypothetical, unmitigated scenario.

5.10.2 Issue prioritisation

Each of the characteristics considered in the risk assessment was assigned a qualitative risk level of 1, 2 or 3, based on the likelihood and consequence of potential impacts due to the project, with 1 being the highest, as follows:

- 1 – noise, air quality, economics, rail capacity and amenity;
- 2 – surface water, historic heritage, and visual; and
- 3 – groundwater, ecology, Aboriginal heritage, rehabilitation and land and soils capability.

Assessment of all of the above potential impacts was subsequently undertaken, as described in Chapters 7-16 of the EIS. The risk assessment process only considered potentially adverse impacts. However, the project will have a number of significant benefits and both positive and negative impacts will have to be considered in making conclusions about the project's overall merits. Positive impacts are not assessed here but are considered in the respective chapters.

Since the preliminary risk assessment was undertaken, Hume Coal has completed detailed studies, subsequently refining and optimising the final project design, as presented in Chapter 2. Technical studies have been undertaken based on this final design. In addition, the risk assessment did not consider the application of mitigation measures. Therefore, based on the results of the risk assessment, mitigation measures, if required, were devised, tested and, if appropriate, adopted, and the technical assessments were finalised based on the application of these measures. Accordingly, all of the technical studies included in the EIS consider and assess any residual impacts following the application of mitigation measures.

The findings of the technical studies have therefore superseded the outcomes of the preliminary risk assessment and provide a more accurate and realistic understanding of the environment and how the project will interact with it than originally understood during preparation of the risk assessment. For this reason, the risk register has not been included as it does not accurately reflect the current detailed and accurate understanding of the risks associated with the project, as documented in the EIS.

5.10.3 Conclusion

Identification and ranking of potential environmental, social and economic impacts has enabled the project's characteristics requiring assessment to be prioritised. Whilst noise, air quality and economics were identified as high priority areas for assessment based on the preliminary risk assessment; assessments of all relevant characteristics have been undertaken as part of the EIS. Hume Coal has already made modifications to the project and included mitigation measures in the design to avoid and minimise environmental impacts, as described in Chapter 3, and has committed to a range of leading practice environmental management measures as detailed in Chapters 7-16, and summarised in Chapter 18 of the EIS.

