



**Planning &
Environment**

***RESIDUAL MATTERS REPORT:
STATE SIGNIFICANT DEVELOPMENT
Wallarrah 2 Coal Project (SSD 4974)***



Section 89E of the
Environmental Planning and Assessment Act 1979

September 2017

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Published September 2017

NSW Department of Planning and Environment

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EXECUTIVE SUMMARY

In 2012, Wyong Areas Coal Joint Venture (WACJV) lodged a development application for the Wallarah 2 Coal Project (the original project) to develop and operate an underground coal mine near Wyong on the Central Coast.

In early 2014, the Department of Planning and Environment assessed the environmental impacts of the original project and prepared a Preliminary Assessment Report (PAR). The original project was then subject to a merit review by the Planning Assessment Commission, which made 35 recommendations to avoid, mitigate or manage the project's predicted impacts. The Commission considered that, if these recommendations were adopted, there would be merit in the project proceeding.

However, the application was not able to be determined because WACJV could not reach agreement with the Darkinjung Local Aboriginal Land Council (Darkinjung LALC) to locate particular coal transportation infrastructure and a sewer connection on land owned by the LALC.

In June 2016, WACJV amended its development application, proposing changed arrangements for its surface infrastructure in order to avoid all land owned by Darkinjung LALC. The environmental impacts of the amended project were assessed by the Department in an Addendum Assessment Report (AAR) in February 2017. The amended project was then subject to a second merit review by the Commission in May 2017.

The Department has now produced this Residual Matters Report (RMR) in response to the Commission's second merit review. This RMR addresses all recommendations of the Commission's 2017 Review, including recommendations of the Commission's 2014 Review that the Commission's 2017 Review did not consider to have been fully addressed in the AAR. This RMR includes:

- a brief project history, chronology of events, final project description and summary of the consultation undertaken with Government agencies following the Commission's 2017 Review;
- an assessment of the residual matters and responses to the recommendations in the Commission's 2014 and 2017 Reviews and WACJV's responses to those reports; and
- overall conclusions and final draft conditions.

This RMR is supplementary to the PAR and AAR, which remain part of the Department's overall assessment of the original and amended project.

The project involves the development of a new underground coal mine with extraction rates of up to 5 million tonnes per annum of run of mine coal using longwall mining methods and a 28-year project life. Surface facilities would be located at two key sites: Buttonderry Road and Tooheys Road. Only minimal processing of the coal would occur on-site before transport by rail from the Tooheys Road site to the Port of Newcastle for export. The project would have a capital investment of approximately \$805 million, and would employ around 450 people during construction and 300 during operations.

The Commission made seven key recommendations and three secondary recommendations in its 2017 review of the amended project. Three of the key recommendations and all of the secondary recommendations are connected to residual issues from the Commission's 2014 Review to:

- ensure no net impact on potential catchment yield;
- confirm the preferred compensation mechanism to return sufficiently treated water to the catchment side of the Central Coast Water Supply (CCWS) system;
- update the water supply compensatory arrangement before mine closure; and
- provide greater clarity in conclusions on the net economic benefits of the project, including consideration of the capital investment value of the preferred water supply compensatory system and the cost of greenhouse gas emissions.

The remaining four key recommendations are new issues raised by the Commission in its 2017 review which relate to noise, road closures and community engagement. In addition, the Commission recommended minor amendments to the Department's previous draft proposed conditions that it believed would strengthen the conditions and satisfy consultation requests made by the Central Coast Council.

The Department has undertaken further consultation with WACJV and key government agencies to resolve the residual issues identified in the Commission's 2017 Review. In particular, the Department has consulted with WACJV and Council to further clarify the water compensatory system required to meet the Commission's recommendation for the project to meet "a *no net impact performance outcome on catchment water resources during the life of the mine*".

The Department has amended and strengthened its draft conditions and performance measures to require:

- development of a Central Coast Water Supply Compensatory Arrangement prior to the extraction of Longwall 6N, which must:
 - be prepared in consultation with Council and DPI Water;
 - supply mine water treated to an equivalent quality as the receiving environment;
 - discharge at least 300 megalitres per annum of treated water directly into the CCWS system at a location mutually agreed with Council; and
 - operate at least until the cessation of mining operations; and
- no water loss greater than 36.5 megalitres/year following the cessation of mining.

WACJV would still be required to purchase water licences as required by the *Water Management Act 2000*. The Department notes that there are sufficient units in the Jilliby Jilliby Creek Water Source to allow WACJV to satisfy this requirement.

The Department believes that the updated and amended water supply performance measures and conditions accurately reflect the Commission's recommendations, as well as the compensatory arrangements agreed between WACJV and Council.

The Department acknowledges the Commission's concerns about the duration and level of the predicted construction noise impacts at three residences, and supports the Commission's recommendation that these residences be given the opportunity to request mitigation prior to construction, or at any time during construction and operations of the rail loading facilities and conveyor at Nikko Road. The Department also agrees with the Commission's recommendation that WACJV use, wherever feasible, the best technologies to reduce operational noise impacts of the proposed conveyor and rail infrastructure. The Department has recommended conditions to this effect.

The Department notes that WACJV has undertaken additional consultation with local landowners (including Darkinjung LALC) and Council in relation to ongoing access arrangements during mining operations and also post-mining for both Nikko Road and Tooheys Road. The Department is satisfied that the conceptual design and access arrangements for the proposed upgrade of Nikko Road would provide new and improved access to adjacent landowners through construction of an all-weather road. The Department supports the recommendations of the Commission and Council, and has included draft conditions requiring a Nikko Road Access Management Plan and post-mining tenure arrangements with Council for the road.

The Department is satisfied that WACJV has engaged in a consultation program to date that is in-line with current best practice for State significant developments. The Department is also satisfied that its recommended conditions of consent would require the company to continue to proactively consult with the local community.

The Department generally supports the Commission's recommended amendments to the draft conditions in relation to clarification of definitions; timing and consultation associated with audits, management plans and feasibility studies; bushfire management; and reporting requirements.

The Department re-commissioned the Centre for International Economics (CIE) to provide greater clarity on the net economic benefits of the project. Although CIE questioned some economic benefit estimates provided by WACJV, it concluded that, even using highly conservative assumptions, the project would deliver net benefits to the NSW community.

The Department remains satisfied that the project would provide real and significant economic and social benefits for the Central Coast region and for NSW as a whole. WACJV estimates that the benefits would include the:

- direct employment of 300 full time staff equivalents during operations (targeting 70% local employees and 10% Indigenous employees) and around 450 contractors during construction;
- estimated indirect employment of around 879 people across NSW during operations;
- estimated market employment benefits of \$25 million (Net Present Value); and
- total estimated net economic benefit to NSW of \$274 million (Net Present Value), which includes:
 - \$4 million in voluntary contributions;
 - \$200 million to the State of NSW in royalty revenue; and
 - \$70 million in Commonwealth, State and local tax revenues.

The Department is satisfied that its recommended conditions, which incorporate changes as recommended by the Commission, are based on contemporary policy and reflect current best practice, and are equitable and enforceable. The Department remains satisfied that the project is, on balance, in the public interest, and is approvable, subject to the draft conditions of consent.

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1.0 INTRODUCTION

1.1. Overview of Project History and Timeline

In October 2012, Wyong Areas Coal Joint Venture (WACJV) lodged a development application for the Wallarah 2 Coal Project (the original project). The Department of Planning & Environment (the Department) assessed the environmental impacts of the original project and prepared a Preliminary Assessment Report (PAR) in early 2014. The original project was then subject to a merit review by the Planning and Assessment Commission (the Commission). The Commission's *Wallarrah 2 Coal Project Review Report* of June 2014 (Commission's 2014 Review) made 35 recommendations to avoid, mitigate or manage the project's predicted impacts. The Commission considered that, if these recommendations were adopted, there would be merit in the project proceeding.

However, prior to a full consideration of these recommendations, the Land & Environment Court held that the consent of the NSW Aboriginal Land Council (NSWALC) was required before the project could be approved. This was because WACJV proposed to locate coal transportation infrastructure and a sewer connection on land owned by the Darkinjung Local Aboriginal Land Council (Darkinjung LALC). Darkinjung LALC was not in favour of the project proceeding on the terms proposed by WACJV. On this basis, NSWALC decided not to give its consent for the proposed use of the land owned by Darkinjung LALC.

In June 2016, WACJV lodged an amended development application (the amended project) with the Department. The amended project changed the proposed arrangements for coal transportation infrastructure and the sewer connection to avoid all land owned by Darkinjung LALC. The environmental impacts of the amended project were then assessed by the Department, which produced an Addendum Assessment Report (AAR) in February 2017. The amended project was then subject to a second merit review by the Commission in May 2017. The Commission's *Wallarrah 2 Coal Project Review Report* of May 2017 (Commission's 2017 Review) made 7 key recommendations, along with a number of associated recommendations and requests.

The Department has now produced this Residual Matters Report (RMR) for consideration by the Commission. The RMR addresses all recommendations of the Commission's 2017 Review, including particular recommendations of the Commission's 2014 Review that the Commission's 2017 Review did not consider to have been fully addressed in the AAR. This RMR includes:

- a brief project history, chronology of events, final project description and summary of the consultation undertaken with government agencies following the Commission's 2017 Review;
- an assessment of the residual matters and a response to the recommendations in the Commission's 2014 and 2017 Reviews and WACJV's responses to those reports; and
- final draft conditions, and overall conclusions and recommendations.

This RMR is supplementary to the PAR and AAR, which remain part of the Department's overall assessment of the project.

A brief chronology of the key events relevant to the project is presented in **Table 1**.

Table 1: Chronology of events

Date	Event
October 2012	Development application submitted for the original Wallarah 2 Coal Project (SSD 4974)
November 2012	Department requested more information from WACJV around water, flood management, biodiversity, Aboriginal and non-Aboriginal heritage, subsidence, noise, traffic, transport and visual impacts
February 2013	Department received revised Environmental Impact Statement (EIS) and asks for more information to be included
March 2013	Department received a second revised EIS, which is accepted
April – June 2013	Public exhibition of EIS, leading to 700 submissions including around 600 objections
February 2014	Department completed its PAR. The Minister for Planning referred the project to the Commission for a merit review
April 2014	Commission held public hearings
June 2014	Commission completed its first review and provided 35 recommendations to further reduce the project's impacts

June 2014	Land and Environment Court ruled that WACJV needs to obtain the consent of NSWALC before development consent can be granted, because a rail spur for the project would be on Darkinjung LALC-owned land (ie Lot 195 DP 1032847)
February – April 2015	A pre-mediation conference took place on 9 February 2015, with representatives of WACJV, Darkinjung LALC, the NSWALC and the Department present. Formal confidential mediation took place on 19 and 20 February 2015, and 10 April 2015. Only the two parties, their legal representatives and the mediators were present (ie the Department was not a party to the formal mediation process)
29 April 2015	Mediation concluded with no agreement reached between Darkinjung LALC and WACJV. The opportunity given the parties to reconvene was not taken up
19 June 2015	NSWALC wrote to the Minister for Planning confirming that it would not give its consent for the development application to be made
June 2015 to February 2016	WACJV investigated alternative locations for its coal conveyor, rail siding and rail load-out facility that would either avoid Darkinjung LALC land or else be acceptable to the LALC
February 2016	WACJV lodged two applications with DPI - Crown Lands to close and purchase Crown roads on which it proposes to construct components of its revised coal conveyor, rail siding and rail load-out facility
16 June 2016	WACJV lodged an amended development application and accompanying particulars describing proposed changed arrangements for product coal conveying and rail load out
1 July 2016	Department sought further work on the amended development application
11 July 2016	Amended development application and accompanying particulars accepted as adequate
15 July 2016	Minister's delegate agreed to an amended development application under clause 55 of the <i>Environmental Planning & Assessment Regulation 2000</i> (EP&A Regulation)
22 July – 5 September 2016	Public exhibition of the amended development application. Approximately 680 submissions received
September – October 2016	Darkinjung LALC and WACJV re-initiated consultation, seeking to negotiate an outcome beneficial to both parties. Darkinjung LALC proposed a third option involving a coal conveyor and train load out to the south of the current proposals and closer to Wallarah
27 October 2016	Darkinjung LALC advised WACJV that it wished to withdraw from these discussions and reinforced its position that it: <ul style="list-style-type: none"> • strongly objects to the amended development application; • is prepared to revisit the original development application; however, this would be negotiated on commercial terms; and • is open to developing a 'negotiated regional planning outcome' on its lands to the south of the Motorway Link Road to seek a balanced use of lands
4 November 2016	WACJV submitted its Response to Submissions on the amended development application
22 December 2016	Department sought further information from WACJV to inform its assessment of the amended project
16 January 2017	WACJV submitted a response to the Department's information request
7 February 2017	Department completed its AAR. The Minister for Planning referred the project to the Commission for a second merit review
5 April 2017	Commission held public hearings.
19 May 2017	Commission completed its second review. Its report contained 7 key recommendations to further reduce the project's impacts, together with 6 associated recommendations and 11 recommended amendments to strengthen the draft conditions
27 June 2017	WACJV provided a response to the Commission's 2017 Review report.
30 June 2017	Department requested further information from WACJV to inform its assessment of the final consolidation project
6 July 2017	Department met with Central Coast Council representatives to discuss the Commission's recommendations
13 July 2017	WACJV provided a response to the Department's information request

1.2. Overview of the Project

1.2.1. Original Project

WACJV's original project sought to develop a new underground coal mine near Wyong on the Central Coast. The project involves extraction of up to 5 million tonnes per annum (Mtpa) of run of mine (ROM) coal using longwall mining methods and a 28-year project life. Surface facilities would be located at two key sites; Buttonderry and Tooheys Road. Only minimal processing of the coal would occur on-site before transport by rail to the Port of Newcastle for export. The project would have a capital investment of approximately \$805 million, and would employ up to 450 people during construction and 300 during operations. **Table 2** below provides a summary of the original project.

Table 2: Key components of the original Wallarah 2 Coal Project

Aspect	Description
Project Summary	<ul style="list-style-type: none"> Development of a new underground coal mine using longwall mining methods; Extraction of up to 5 Mtpa of thermal coal; Development of surface infrastructure at the following three sites: <ol style="list-style-type: none"> Tooheys Road Site, including rail loop and spur, raw coal and product coal stockpiles, decline tunnel, water and gas management facilities and offices; Buttonderry Site, including administrative offices, training rooms and bath house, the main personnel access to the mine, new intersection with Hue Hue Road, access road and car park, upcast and downcast ventilation shafts, and surface water treatment facilities; and West Shaft Site, including a downcast ventilation shaft. Transfer of all coal extracted from the mine to the Tooheys Road Site for limited processing, and railing to domestic and export markets; and Rehabilitation of the site.
Mining and Reserves	Extraction from a total coal resource of 375 million tonnes (Mt) from the Wallarah-Great Northern Seam. Longwall panel widths would range from 125 metres (m) to 255 m, with narrower panels below the Hue Hue Mine Subsidence District (MSD) and below the 1:100 year flood zone.
Coal Processing & Reject Management	Coal would undergo minimal processing. The coal would not require washing, but would be sized and screened. A minor amount of waste rock may be produced during processing, which would be trucked offsite to a licensed emplacement facility. No fine coal tailings would be produced.
Water Demand and Supply	Underground dewatering would result in a peak water surplus of approximately 2.5 megalitres (ML) per day after 8 years of operations. The water management system would involve: <ul style="list-style-type: none"> a 180 ML operational water dam, a 30 ML portal dam, a 20 ML stockpile dam, 20 ML treated water storage, 9 ML of brine storage, stormwater management system and potable water storage tanks at the Tooheys Road Site; and a 10 ML entrance dam and stormwater management system at the Buttonderry Site.
Project Life	28 years, including 3 years for construction and 25 years of mining operations.
Employment	Construction workforce of 450 employees and an operational workforce of 300 employees.
Capital Investment Value	\$805 million.
Support Facilities and Utilities	Administration, store, workshop and staff facilities (bathhouse, lamp room, etc); ventilation systems and service/distribution boreholes; water bores and surface water management infrastructure; power supply and communications infrastructure; bulk storage facilities; underground mine access; rail provisioning facility; internal site roads.
Hours of Operation	Operations would take place 24 hours a day, seven days a week.
Product Coal Transportation	All product coal would be transported via rail to the Port of Newcastle for export, using the project rail loop and spur. On average, about 4.3 trains would be loaded and dispatched per day, with a peak of 6 trains per day.
Mine Access	Access to the Tooheys Road infrastructure site would be via the Motorway Link Road. Access to the Buttonderry pit top site would be via Hue Hue Road.
Clearing, Rehabilitation and Offsets	The project would result in the loss of 89 hectares (ha) of native vegetation and indirect impacts resulting from mine subsidence. The rehabilitation and offset strategy involves rehabilitation of the Buttonderry and Tooheys Road Sites and conservation of 261 ha of land at Hue Hue Road, including 201 ha of native vegetation.

1.2.2. Amended Project

WACJV submitted an amended development application to the Department in June 2016. As detailed in **Section 1.1** above, the amendment avoided development on land owned by Darkinjung LALC. The amended project reflects changes to the proposed surface facilities at the Tooheys Road site only. **Table 3** provides a summary of the elements which comprise the amended project.

Table 3: Key amendments to the Wallarah 2 Coal Project

Project Aspect	Original Project	Amended Project
Tooheys Road Site	<ul style="list-style-type: none"> Drift (decline) portal ROM coal stockpile Secondary crusher Conveyor to product coal stockpile Product coal stockpile Water management structures 	<ul style="list-style-type: none"> No change No change No change No change No change No change

	<ul style="list-style-type: none"> Storage facilities Workshop Offices Water and sewer connections Rail loop and spur to the west of the Main Northern Rail Line Train load out facility west of the product coal stockpile Conveyor from product stockpile to train load out facility 	<ul style="list-style-type: none"> No change No change No change Realignment of sewage pipeline Rail loop removed. Proposed rail siding located east of and next to the Main Northern Rail Line Train load out facility located on the new rail siding Conveyors from product stockpile to relocated train load out facility
Coal Transportation to Port	<ul style="list-style-type: none"> Rail to Newcastle 38 x 120 tonne (t) wagons Average of 4.3 trains/day and a peak of 6 trains/day would be loaded and dispatched 	<ul style="list-style-type: none"> No change 44 x 100 t wagons (Years 4 to 6) 60 x 100 t wagons (Years 7 to 28) Maximum of 4 train cycles per day

The amended project did not involve changes to the original project in terms of the proposed:

- mining area, mining methods and maximum production rate;
- coal handling or rail loading methods;
- surface infrastructure other than coal loading and dispatch infrastructure listed above;
- construction schedule;
- operational and construction workforce; or
- capital investment value.

1.2.3. Consolidated Final Project Description

The major components of the consolidated project, as amended, are summarised in **Table 4** and depicted in **Figures 1** and **2**.

Table 4: Key components of the final Wallarah 2 Coal Project

Aspect	Description
Project Summary	<ul style="list-style-type: none"> Development of a new underground coal mine using longwall mining methods; Extraction of up to 5 Mtpa of ROM thermal coal; Development of surface infrastructure at the following three sites: <ol style="list-style-type: none"> Tooheys Road Site, including a declining tunnel ('decline') to the underground mine workings, conveyors, ROM coal and product coal stockpiles, water and gas management facilities, offices, <u>and a rail siding and train load out facility located to the east of the Main Northern Rail Line;</u> Buttonderry Site, including a vertical shaft to the underground mine workings to provide main personnel access, administrative offices, training rooms, bath house, an access road from a new intersection with Hue Hue Road, car park, upcast and downcast ventilation shafts and surface water treatment facilities; and Western Ventilation Shaft Site, including a downcast ventilation shaft. Transfer of all coal extracted from the underground mine by conveyor in the decline to the Tooheys Road Site for limited processing and railing to market; and Rehabilitation of the site.
Project Life	28 years, including 3 years for construction and 25 years of mining operations.
Mining and Reserves	Extraction of 95 Mt of a mineable reserve of 150 Mt within a total potentially viable coal resource of 375 Mt in the Wallarah-Great Northern Seam. Longwall panel widths would range from 125 m to 255 m, with narrower panels below the Hue Hue MSD and below the 1:100 year flood zone.
Coal Processing & Reject Management	ROM coal would undergo minimal processing. ROM coal would not be washed, only sized and screened. A small amount of waste rock may be produced, which would be trucked offsite to a licensed emplacement facility. No fine coal tailings would be produced.
Water Demand and Supply	Underground dewatering would result in a peak water surplus of approximately 2.5 ML per day after 8 years of operations. The water management system would include: <ul style="list-style-type: none"> • a 180 ML operational water dam, a 30 ML portal dam, a 20 ML stockpile dam, a water treatment plant, a 20 ML treated water storage, 9 ML of brine storage, a stormwater management system and potable water storage tanks at the Tooheys Road Site; and • a 10 ML entrance dam and stormwater management system at the Buttonderry Site.
Employment	Construction workforce of 450 employees and an operational workforce of 300 employees.

Aspect	Description
Support Facilities and Utilities	Administration, store, workshop and staff facilities (bathhouse, lamp room, etc); ventilation systems and service/distribution boreholes; water bores and surface water management infrastructure; services boreholes; power supply and communications infrastructure; bulk storage facilities; underground mine access; rail provisioning facility and internal site roads.
Hours of Operation	24 hours, 7 days a week.
Mine Site Access	<ul style="list-style-type: none"> Access to the Tooheys Road infrastructure site would be via the Motorway Link Road; Access to the Buttonderry pit top site would be via Hue Hue Road; and Access to the Western Ventilation Shaft site would be via Little Jilliby Road to a location on Brothers Road.
Product Coal Transport	All product coal would be transported via rail to the Port of Newcastle for export, <u>using conveyors from the Tooheys Road Site to the rail siding and train load out facility. A maximum of 4 train cycles/day (8 one way movements) would be loaded and dispatched.</u>
Clearing, Rehabilitation and Offsets	<ul style="list-style-type: none"> The project would cause a loss of 76 ha of native vegetation and indirect impacts resulting from subsidence. The rehabilitation and offset strategy involves rehabilitation of the Buttonderry and Tooheys Road Sites and conservation of 261 ha of land at Hue Hue Road, which includes 201 ha of native vegetation. Rehabilitation of all surface facilities following the completion of mining.
Capital Value	\$805 million.

2.0 OVERVIEW OF DEPARTMENT'S ASSESSMENT REPORTS & COMMISSION'S REVIEWS

2.1 Department's Preliminary Assessment Report (PAR)

The Department completed its PAR for the original project early in 2014. The PAR provides a detailed assessment of the key issues associated with the original project in accordance with the requirements of the *Environmental Planning & Assessment Act 1979* (EP&A Act) and forms part of the Secretary's environmental assessment of the overall project. The PAR is provided in **Appendix A** of this report.

Based on consultation with the community and government agencies, key areas of concern relating to the original project were identified as:

- predicted mine subsidence impacts of ponding and reductions in surface flows in key streams;
- potential mine subsidence impacts on streams in the upland areas;
- predicted mine subsidence impacts on built features, including from flooding; and
- noise and air quality impacts, particularly in relation to the Tooheys Road Site.

The Department completed a detailed assessment of the original project, which included consideration of all community and government agency concerns; all potential environmental, social and economic impacts; and the relevant requirements of the EP&A Act. This assessment concluded that the original project would be likely to cause:

- relatively minor subsidence impacts on creeks and rivers and would not adversely affect the region's water supply;
- minor impacts on the region's key aquifers;
- minor impacts to built features;
- minor amenity and health impacts; and
- a significant economic benefit to the Wyong LGA, Central Coast region and the State of NSW.

The PAR recommended a strong set of conditions that included:

- strict performance criteria;
- requirements for a suite of management plans to avoid, minimise and remediate environmental impacts;
- stringent monitoring, reporting and auditing requirements; and
- an adaptive management approach, based on an awareness that knowledge and understanding of this 'greenfield' underground mine site would increase over the project life.

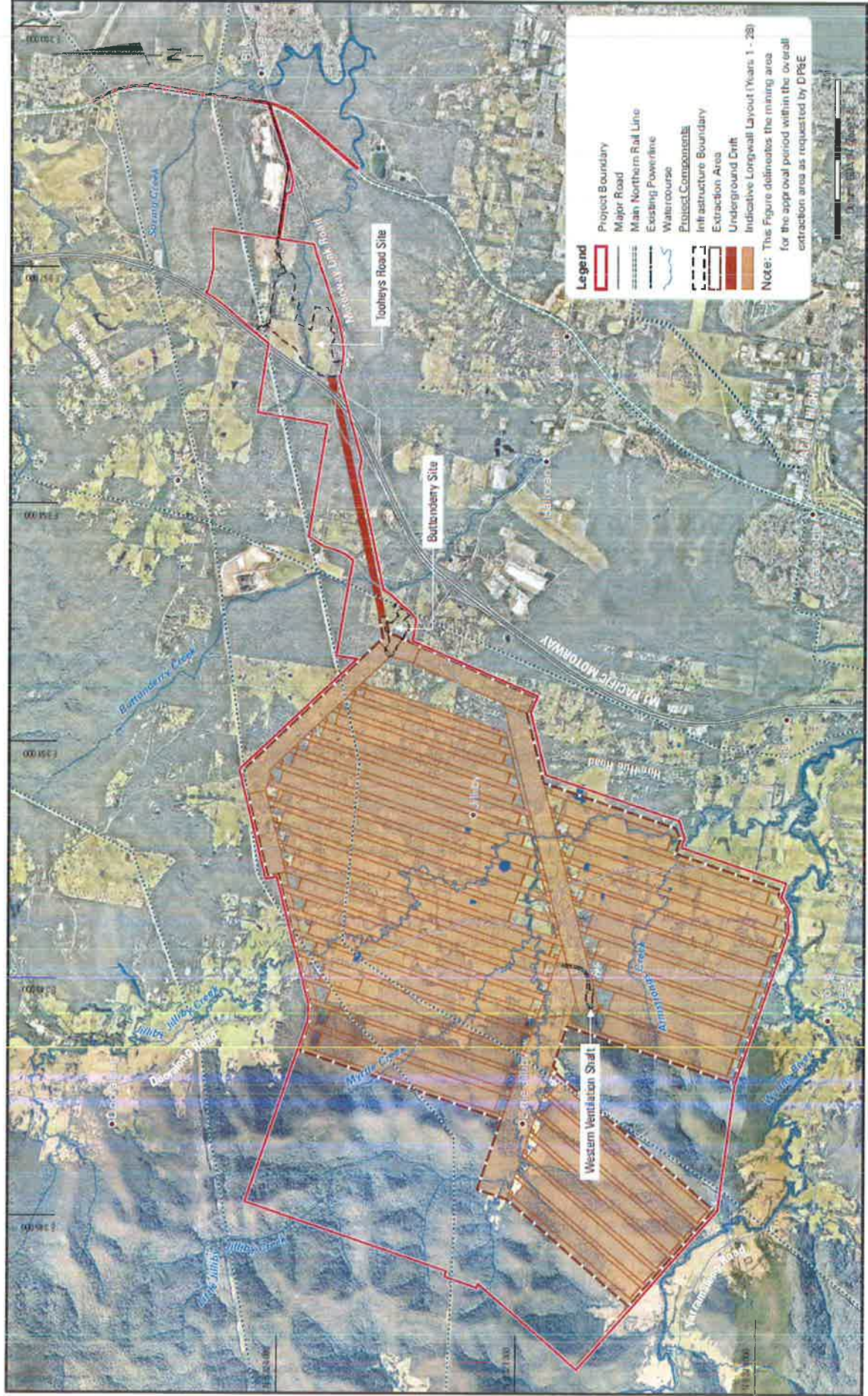


Figure 1: Location of proposed longwalls

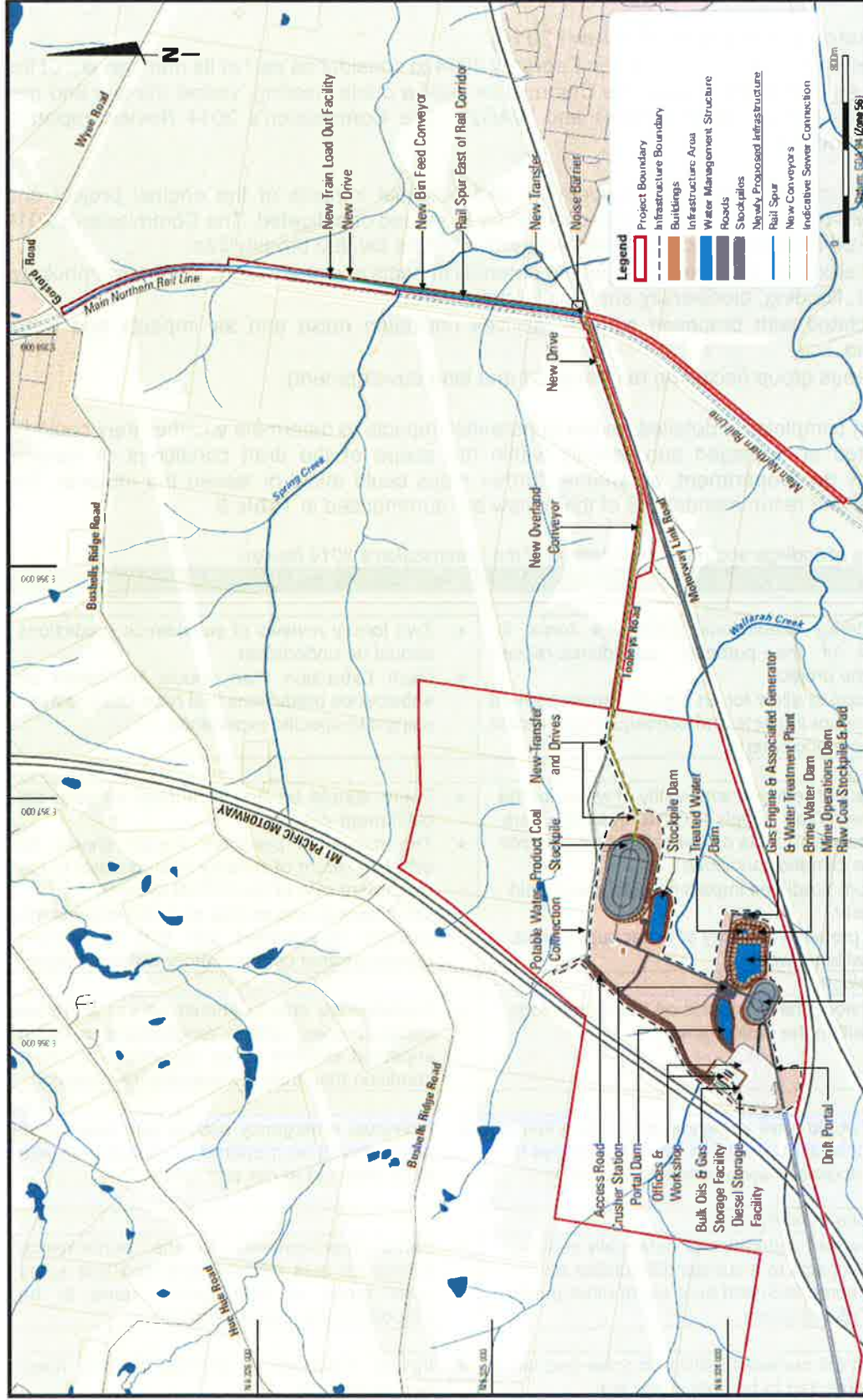


Figure 2: Location of proposed Tooheys Road Surface Facilities (final)

The Department's PAR concluded that the benefits of the original project outweighed the potential impacts and that it was therefore in the public interest. Accordingly, the Department recommended approval subject to the recommended conditions.

2.2 Commission's First Merit Review (2014)

The PAR was referred to the Commission in February 2014 to consider as part of its merit review of the original project. As part of this review, the Commission held a public hearing, visited the site and met with government agencies, local councils and WACJV. The Commission's 2014 Review report is attached as **Appendix B**.

The Commission critically reviewed the benefits and potential impacts of the original project and examined whether these impacts could be successfully managed or mitigated. The Commission's 2014 Review considered that the project's potential impacts could be divided broadly into:

- those associated with subsidence (including potential impacts of water supply, stream morphology, groundwater, flooding, biodiversity and built infrastructure);
- those associated with proposed surface facilities (including noise and air impacts and water balance); and
- a miscellaneous group (including rail transport and land development).

The Commission completed a detailed review of potential impacts to determine whether they could be avoided, mitigated or managed successfully within the scope of the draft conditions of consent recommended by the Department, or whether further steps could avoid or lessen the impacts. The principal findings and recommendations of the review are summarised in **Table 5**.

Table 5: Summary of findings and recommendations of the Commission's 2014 Review

Findings	Recommendation(s)
<i>Subsidence</i>	
<ul style="list-style-type: none"> • The subsidence predictions provide a basis for assessment of the potential subsidence-related impacts of the project. • There is scope to allow for an adaptive management regime to ensure impacts and consequences remain within performance criteria. 	<ul style="list-style-type: none"> • Two formal reviews of subsidence predictions should be undertaken. • Each Extraction Plan should be based on subsidence predictions that have been revised using site-specific experience.
<i>Water Supply</i>	
<ul style="list-style-type: none"> • There is a risk of reduced availability of water for the Central Coast Water Supply (CCWS) in some years if the subsidence impacts on the catchment coincide with adverse climatic conditions. • The maximum predicted impact on catchment yield is 300 ML/year. • The project presents an array of water supply risks to some local landowners. 	<ul style="list-style-type: none"> • There should be no net impact on potential catchment yield. • The maximum predicted impact should be offset by return of suitably treated water to the catchment side of the CCWS system. • Conditions to ensure that potential impacts are properly investigated and that landowners receive prompt compensatory water supplies.
<i>Stream Morphology</i>	
<ul style="list-style-type: none"> • The project would have impacts on the morphology of streams within the project area. 	<ul style="list-style-type: none"> • Performance criteria should be set at 'minor consequences', with a requirement to return impacted streams to an equivalent or better condition than their pre-subsidence condition.
<i>Flooding</i>	
<ul style="list-style-type: none"> • The project would have some impact on flood levels and behavior and may result in increased delays for emergency access to some properties in major floods. 	<ul style="list-style-type: none"> • Individual emergency access and evacuation plans should be prepared in consultation with each owner of at-risk properties.
<i>Public and Private Infrastructure</i>	
<ul style="list-style-type: none"> • The project would undermine or potentially cause subsidence impacts to a substantial number of residences (some 245) and an array of other public and private infrastructure. 	<ul style="list-style-type: none"> • Some improvements to the performance criteria for built infrastructure and that some other types of infrastructure need to be included in the relevant provisions.
<i>Noise and Air</i>	
<ul style="list-style-type: none"> • Impacts from the surface facilities on noise and air quality are expected to be both minor and manageable. 	<ul style="list-style-type: none"> • Include measures to address residual noise and air impacts.
<i>Biodiversity and Aquatic Ecology</i>	
<ul style="list-style-type: none"> • Potential biodiversity and aquatic ecology impacts 	<ul style="list-style-type: none"> • Nil.

have been reduced by removal of the initially proposed eleven western longwalls.	
<i>Economic and Social Benefits</i>	
<ul style="list-style-type: none"> The Commission questioned the credibility of WACJV's calculations of the scale of the project's benefits for royalties, employment and capital investment. 	<ul style="list-style-type: none"> The Commission offered the alternatives of either accepting its own revised estimates of project benefits, or else for WACJV to undertake a new economic analysis subject to rigorous independent review.

Overall, the Commission generally accepted the Department's assessment but provided 35 recommendations to ensure that potential impacts were further avoided, minimised or mitigated.

The Commission noted that *"if these recommendations were adopted then there would be merit in allowing the project to proceed."* However, it also stated that, if its recommendations were not adopted in full then the Commission's position would probably change in favour of a precautionary approach.

As previously noted, immediately following the Commission's 2014 review, the original project was subject to a judgment in the NSW Land and Environment Court following proceedings initiated by the Darkinjung LALC. This judgement prevented the original project from being determined in that form. WACJV then requested that the application was put on hold. Subsequently, WACJV amended the project to avoid locating any part of the project on land owned by Darkinjung LALC.

2.3 Department's Addendum Assessment Report (AAR)

In February 2017, the Department completed the AAR in consideration of the amended project. The AAR is provided in **Appendix C** of this report. The AAR is supplementary to the PAR and is in three parts, which separately:

- assess the amended elements of the project (see **Section 1.2.2**);
- address the recommendations of the Commission's 2014 Review; and
- provide conclusions and recommendations.

The Department's assessment of the amended project considered its potential impacts on noise, air quality, visual amenity, transport, biodiversity, water resources, socio-economics and Aboriginal heritage. This assessment also addressed the outcomes of an independent review of WACJV's Economic Impact Assessment for the amended project, which was commissioned by the Department.

Darkinjung LALC had advised the Department that it strongly objected to the amended project and had concerns about the potential impacts that it could have on Darkinjung LALC development opportunities, currently subject to gateway applications to re-zone adjacent land. The Department assessed the amended project in consideration of the potential impacts to the future development of this area. The AAR noted that there were still substantial regulatory requirements that must be satisfied before Darkinjung LALC's proposed residential development could proceed and concluded that it would not be reasonable to halt assessment of the project subject to completion of this undetermined and uncertain process.

The AAR concluded that the Department was satisfied that the amended project's potential impacts on noise, air quality, visual amenity, transport, biodiversity, water resources and Aboriginal heritage would be minor and could be managed through consent conditions. In addition, the AAR indicated that the Department remained satisfied that the amended project would provide significant economic and social benefits for the Central Coast region and the State of NSW. The predicted benefits include royalty and tax revenues, in addition to direct and indirect employment for people locally and more broadly across the state.

In Part 2 of the AAR, the Department addressed the recommendations of the Commission's 2014 Review. The Department supported the Commission's recommendations and provided amended and strengthened draft conditions including requirements to:

- monitor non-conventional subsidence movements;
- develop detailed Trigger Action Response Plans (TARPs) within each Extraction Plan, to warn of any increasing risk of unacceptable subsidence impacts and to guide the implementation of adaptive management;

- undertake intensive and comprehensive monitoring of water resources, including surface water, groundwater, and potential impacts on flooding and the CCWS;
- ensure compliance with strengthened performance measures for streams, their alluvium and the CCWS;
- complete independent audits of subsidence, surface water and groundwater impacts; and
- develop and implement a compensatory mechanism to offset any measured loss of water to the CCWS.

The Department also recommended a number of comprehensive water-related conditions.

Overall, the Department remained satisfied that on balance the amended project was in the public interest, and was approvable, subject to its proposed conditions of consent.

2.4 Commission's Second Merit Review (2017)

The AAR was referred to the Commission to consider as part of a second merit review of the amended project. The composition of the Commission differed from the Commission which undertook the first merit review of the original project. As part of the second review, the new Commission members held another public hearing, visited the parts of the site affected by the amended project and met with government agencies, the newly amalgamated Central Coast Council and WACJV.

The Commission considered potential economic, environmental and social impacts of the amended project and the merits of the project as a whole. In addition, the Commission examined the Department's response to the Commission's Review Report 2014 and provided recommendations on additional measures to avoid, minimise and/or manage potential impacts of the amended project. The Commission's 2017 Review report is provided in **Appendix D**.

Generally, the Commission found that the Department had addressed the 2014 Commission's recommendations. However, the Commission considered that the draft conditions relating to the performance measures and compensatory mechanisms for water supply did not fully reflect the original intent of the 2014 Commission's recommendations. In particular, the Commission questioned whether the Department's recommended conditions were sufficient to ensure "*no net impact on potential catchment yield*".

The Commission considered that resolving potential impacts on water supply within the catchment remained one of the most significant factors in assessing the merits of the overall project. To this end the Commission reported its decision to maintain full consistency with the intent of the Commission's 2014 Review report.

The Commission also considered the potential impacts on undeveloped Darkinjung LALC land and other privately-owned land to the north. The Commission found that "*the planning proposal to rezone some of the undeveloped lands for residential development is in its early stage of investigation. Given the timing and scope of the rezoning approval are uncertain, the consent authority can only consider the potential impacts on these adjacent lands as currently zoned, which have been adequately assessed in the Addendum Report and the applicant's responses*" (p 4).

The Commission made seven key recommendations and three secondary recommendations in its review of the amended project. Three of the key recommendations and all the secondary recommendations are connected to residual issues from the Commission's 2014 Review to:

- ensure no net impact on potential catchment yield and the preferred compensation mechanism to return sufficiently treated water to the catchment side of the water supply system;
- update the water supply compensatory arrangement before mine closure; and
- provide greater clarity regarding the net economic benefits of the project, including consideration of the capital investment value of the preferred water supply compensatory system and the cost of greenhouse gas emissions.

The remaining four key recommendations are new issues raised by the Commission in its 2017 Review, and relate to noise, road closures and community engagement.

The residual recommendations from the Commission's 2014 Report and the additional key and secondary recommendations from the Commission's 2017 Report are listed in **Section 4.0**, together with the Department's consideration and response to each recommendation.

In addition, the Commission recommended 14 additional amendments to the draft conditions that it believed would strengthen the conditions and satisfy consultation requests made by Council. These relate to clarification of definitions; timing and consultation associated with audits, management plans and feasibility studies; bushfire management; and reporting requirements. The recommended amendments to the draft conditions, together with a summary of WACJV's responses and the Department's consideration of the recommendations are reviewed in **Section 5.0**.

2.5 WACJV's Response to the Commission's 2017 Review

At the request of the Department, in June 2017 WACJV submitted a report that provides a response to the recommendations of the Commission's 2017 Review. The Department subsequently requested more detailed information in relation to the compensatory water supply system, noise impacts, Nikko Road access arrangements and socio-economic data. WACJV provided this information in July 2017.

WACJV's Response Report (June 2017) and Additional Information Report (13 July 2017) are provided in **Appendix E**.

3.0 ADDITIONAL AGENCY CONSULTATION

The Department has undertaken extensive consultation as part of the assessment of both the original and amended projects. A detailed description of the consultation undertaken by the Department is provided in Section 4 of both the PAR and AAR (see **Appendices A & C**).

The Department has also undertaken recent additional consultation with key government agencies in order to resolve the residual issues arising from the Commission's 2017 Review. The nature and outcomes of this consultation are discussed below.

Copies of correspondence from the key agencies are provided in **Appendix F**.

3.1 Central Coast Council

Following discussions with WACJV, the Central Coast Council wrote to the Department clarifying its position on the Commission's 2014 and 2017 Reviews. Council confirmed that it generally agreed with the findings and recommendations of the Commission's two reviews and provided additional comments concerning compensation for subsidence-induced water losses and the management of Nikko Road.

In relation to compensation of subsidence-induced water loss, Council indicated that:

- its preference is that the purchase of water licences is excluded as a compensatory mechanism; and
- a sufficient quantity of sufficiently treated water is returned to a location within the catchment that is mutually agreed by Council and WACJV.

For the management of Nikko Road, Council agreed that WACJV should prepare and implement a Nikko Road Access Management Plan, in consultation with affected landowners. Council also indicated that if the ownership of Nikko Road were transferred to WACJV, it would prefer that:

- WACJV be required to transfer the ownership back to Council upon completion of mining activities;
- the post-mining transfer be at no cost to Council, and that the road be in a good state of repair;
- a meeting be held between Council and WACJV 12 months prior to the transfer of the road, so that Council can nominate what capital improvements or infrastructure that may have been installed as part of mining activities are to be removed prior to the transfer; and
- should WACJV not remove these items prior to the transfer date, then Council at its discretion may remove the items, and WACJV be required to then reimburse Council for the cost of the removal.

In its Additional Information Report (July 2017) WACJV agreed to the Council's four requests in relation to post-mining arrangements for Nikko Road. As discussed in **Section 4.4**, the Department has

recommended conditions requiring preparation and implementation of a Nikko Road Access Management Plan and the post-mining Nikko Road management arrangements proposed by Council.

The Department met with Council representatives on 6 July 2017 to further clarify its position on the nature of the proposed compensatory water supply system. Senior Council officers indicated that Council had consulted further with WACJV and that both parties had agreed, in principle, to an appropriate location for the return of treated water for the augmentation of the CCWS and to potential options for the water return pipeline route. Council also requested that design of the compensatory water supply system should consider:

- seasonal variation in the supply of water;
- water treatment to ensure consistency with the receiving environment; and
- ongoing water monitoring requirements.

In its Additional Information Report (July 2017) WACJV provided detailed additional information on the agreed return location and pipeline route options. These options, along with the Department's consideration of the options, are described in detail in **Section 4.1**. Overall, the Department is satisfied that reasonable and feasible measures to compensate for the losses of water to the CCWS exist, and has recommended a condition requiring the arrangement to be fully developed prior to the approval of any Extraction Plan that authorises extraction of Longwall 6N.

The Department notes that, as well as implementing the CCWS compensatory arrangement, WACJV is required to meet the requirements of the *Water Management Act 2000* and purchase water licences for water losses associated with the project. As discussed in **Section 4.1**, the Department is satisfied that there are sufficient licences available to account for predicted water take.

3.2 DPI Water

At the request of the Department, DPI Water provided a written response to the Commission's 2017 Review report. DPI Water indicated that it considers that matters of regulatory interest to it have been adequately addressed. Additionally, DPI Water indicated that, should the project be approved, it would contribute significantly to the development of post-approval management documents, with a strong focus on ensuring adequate groundwater baseline data is available for potentially impacted aquifers, prior to mining operations commencing.

The Department's recommended conditions require WACJV to prepare Extraction Plan(s), including the associated Water Management Plan(s), in consultation with DPI Water and other relevant agencies.

In its 2017 review, the Commission observed that DPI Water had not provided comments on WACJV's response to the Commission's 2014 Review recommendations 5(d) and (e) which required estimates of potential losses to baseflow from any changes to catchment flows and other potential sources of loss of water from subsidence-induced changes. The Department notes that in January 2017, WACJV provided revised estimates regarding temporary and permanent potential losses to the CCWS.

As indicated by the Commission in its 2017 review, *"all relevant parties agreed that the predicted maximum impact would be in the order of 300 ML/year"* (p 15). As discussed in **Section 4.1**, the Department has recommended a condition requiring a volume of 300 ML/per year is provided to the CCWS as compensatory water to offset potential losses to baseflow.

3.3 Subsidence Advisory NSW

At the request of the Department, Subsidence Advisory NSW (SA NSW) provided a written response to a subsidence issue raised at the Commission's 2017 public hearing. A submitter contested that partial extraction, not full extraction as proposed by WACJV, applies to the Hue Hue Mine Subsidence District (MSD). A historic Mine Subsidence Board (MSB) minute paper (May 1995) was submitted to support this claim.

The Department had sought comment from MSB in its assessment of the original project, which noted that the *"subsidence predictions for the Hue Hue Mine Subsidence District are consistent with the Clough/Smith Ministerial Committee's predictions of a maximum of 3 mm/m strain and 4 mm/m tilt."*

The minute paper defines partial extraction as either:

- longwall mining: 150 m face width, 35 m wide chain pillars (pillars are not stable following extraction); or
- longwall mining: 150 m face width, 50 m wide chain pillars (pillars are stable following extraction).

The minute paper also notes ground movement parameters for partial extraction of:

- maximum ground strain – 3 mm/m;
- maximum ground tilt – 4 mm/m.

The Department concluded in its PAR that “*subsidence impacts to built features are likely to be minor and compensation should be able to be managed by the Mine Subsidence Board*”.

The localised, peak maximum vertical subsidence predictions as presented in the PAR have been duplicated in **Table 6** below.

Table 6: Maximum conventional subsidence Effects (from Table 3 of the PAR)

Domain	Vertical Subsidence (mm)	Tilt (mm/m)	Hogging Curvature (/km)	Sagging Curvature (/km)	Tensile Strain (mm/m)	Compressive Strain (mm/m)
Hue Hue MSD Area	1,000	4	0.12	0.15	3	3

Table 6 shows that the predictions for subsidence impacts from the proposed longwalls within the Hue Hue MSD are within the parameters of the Clough/Smith Ministerial Committee report.

SA NSW confirmed that the minute paper provides clarifications to recommendations included in the report of the Clough/Smith Ministerial Committee. The Department also notes that the Wallarah 2 longwall design is conservative when compared to the partial extraction longwall parameters noted above, with 115 to 145 m longwall face width and 65 m wide chain pillars.

The Department is satisfied that the content of the Minute Paper provided has been appropriately considered in the assessment of the original and amended projects, in consultation with the MSB (now SA NSW), and considers that the ground movements of the project would meet the definition of partial extraction as defined for the Hue Hue MSD. Furthermore, the Department has recommended conditions to ensure that mitigation, repair, replacement or compensation of impacts to built features, which are discussed further in **Section 5**.

4.0 RESIDUAL ISSUES

The following section consolidates the residual issues, key and secondary recommendations from the Commission's 2017 review report. A summary of the Commission's consideration of the issues, WACJV's response and the Department's consideration and response to the recommendations is provided.

Key and secondary recommendations included in the Commission's 2017 Review report are shaded in blue and the relevant page and/or section references in the Commission's reports have been included.

It should be noted that the Commission has also recommended 14 amendments to the draft conditions. These have been addressed separately in **Section 5.0** of this report.

4.1 Water Resources – Central Coast Water Supply

Commission's 2017 Report Recommendation 1:

The draft conditions should be updated to accurately reflect the recommendations in the Commission's 2014 Review, particularly the no net impact on potential catchment yield and the preferred compensation mechanism is by return of sufficiently treated water to the catchment side of the water supply system. The burden of proof of any impact less than predicted rests with the applicant (pp 18 and 54).

Commission's 2017 Report Recommendation 2:

The performance measures for water supply should be updated to also reflect the recommendation in the Commission's 2014 Review of "no net impact on potential catchment yield from the mining operation" (p 54).

Commission's 2017 Report Secondary Recommendation 2(a):

Condition 15 Schedule 4 (CCWS Compensatory Arrangement) should be updated to address the review requirement before mine closure (p 18).

4.1.1 Background

Underground mining is proposed beneath Jilliby Jilliby Creek and Wyong River catchments, both of which contribute catchment flows to the CCWS. Council is the water authority that manages the CCWS.

WACJV estimated that the combined maximum impacts of subsidence on the baseflow within these catchments is 300 ML/y, with 270 ML/year loss from the Jilliby Jilliby Creek system and 30 ML/year loss from the Wyong River system. These estimates have been accepted by all parties, including DPI Water and the Commission. The majority of these baseflow losses are predicted to be 'temporary', being attributed to storage increases associated with the subsidence of sections of alluvium causing increased water holding capacity in these subsided area. These losses are likely to occur incrementally after the commencement of subsidence impacts on alluvial lands (ie Longwall 6N) until subsidence impacts are complete at the cessation of mining. A small portion of the overall loss (ie 36.5 ML/year) is considered to be a 'permanent' loss associated with cracking at the base of the alluvium. These losses are likely to extend beyond mine closure.

The Commission's 2014 Review report raised concerns regarding the potential for the project to reduce water available to supply residential and business users on the Central Coast. Of particular concern was the impact on the relatively small water supply catchment during drought conditions, combined with forecast population growth over the life of proposed mining operations.

This led the Commission to recommend that the project be required to meet "a *no net impact performance outcome on catchment water resources during the life of the mine*". The Commission recommended that both temporary and permanent water losses be treated as potential impacts on the CCWS and that these losses be compensated/offset by augmentation of the CCWS by the return of mine water sufficient to offset baseflow losses (ie up to 300 ML/year) treated to the required standard for raw water supply during the life of the mine. The Commission also recommend that:

- mining beyond LW 5N not be permitted until the mechanism to compensate for potential impacts on water availability for the CCWS is operational; and
- no compensation be required beyond mine closure for the predicted 36.5 ML/year loss if a review prior to mine closure confirms that the loss does not exceed 36.5 ML/year.

The Commission noted that there was in-principle agreement by all agencies that this compensatory system would be an appropriate way to offset the baseflow losses potentially arising from the project, but acknowledged that there were many matters of detail to be negotiated between the parties. This included how and where the raw water compensation might be delivered to the CCWS system.

As part of the amended project, WACJV committed to developing a compensatory water supply mechanism that involved treatment of mine water at an onsite water treatment plant and discharge of surplus treated water in accordance with the Commission's recommendations. WACJV confirmed that the mechanism would be developed in consultation with Council and DPI Water.

At the time of preparing the AAR, the Department was of the view that there was insufficient information available to determine the most appropriate measure to provide compensatory water to the CCWS. The Department considered that the best measure would likely be the most economically efficient and environmentally acceptable, when considered from the perspectives of both WACJV and Council (as the water supply authority).

Consequently, the Department recommended a condition requiring WACJV to provide compensatory water to the CCWS prior to mining of Longwall 6N. The condition required the compensatory arrangement to consider all reasonable and feasible measures to compensate for measured water losses, including water treatment and discharge, as well as the purchase of water licences and the contribution of funds to Council to assist in funding water supply infrastructure works.

4.1.2 Commission's View

In its 2017 Review report, the Commission reiterated its view that the threat to the CCWS *"is real and cannot be ignored, particularly when regard is given to the projected increase in population in the area over the next 20-30 years"* (p 15) and that the *"effective resolution of the water related concerns within the catchment over the life of the project remain one of the most significant determinants of the project's overall viability"* (p 17).

The Commission noted that the amended project did not involve any changes to the proposed mining area, and does not alter or provide any new information on the predicted rates of mine inflow or seepage. The Commission indicated that it continued to support the integrity of the 2014 Review's key recommendations and conclusions relating to subsidence-induced water loss and compensation.

The Commission questioned whether the Department's draft conditions sufficiently reflected the *"no net impact on potential catchment yield"* recommendation, particularly in relation to the allowance for the purchase of water licences as a compensatory option. The Commission's stated:

"a compensatory package must be a sustainable solution that will not divert the available water resources out of the water supply catchment. This is considered especially significant during periods of low flow. On this basis, a sustainable solution is a solution that does not rely unduly on the reallocation of other water licences. Although the purchase of water licences is required to meet the requirements of the Water Management Act 2000, it does not meet the "no net impact" recommendation" (p 17).

Council also raised this issue in its submission to the Commission and requested that the purchase of water licences be specifically excluded as a compensatory measure. In addition, the Commission indicated that DPI Water advised that the use of water licences to compensate for the predicted water losses was not considered to meet the intent of the Commission's 2014 Review for managing impacts on other users during low flow periods.

On this basis, the Commission recommended that the compensatory arrangement more clearly give priority to the return of treated mine water back into the water supply system. Further, the Commission considered that the performance measures should be more prescriptive, in order to fully reflect the intent of the 2014 Commission's recommendations regarding no net impact on catchment waters.

The Commission also noted Council's concerns that the Department's recommended conditions do not truly reflect the intent of the Commission's 2014 Review in relation to post-mining water loss compensation, which states *"that no compensation be required beyond mine closure for the predicted 36.5 ML/year loss provided that a review prior to mine closure confirms that the loss does not exceed 36.5 ML/y"*. The Commission considered that the draft conditions did not address the requirement for review before mine closure.

4.1.3 WACJV's Response

Following the Commission's 2017 Review and in response to requests from the Department, WACJV undertook additional consultation with key agencies in relation to the options for the compensatory water supply mechanism. WACJV provided a detailed summary of the nature and outcome of its discussions with the Commission, DPI Water and Council in its Additional Information Report (see **Appendix E**).

One key issue of discussion was the most appropriate and feasible option for the repatriation location for the treated water. The Commission recommended in both the 2014 and 2017 Review reports that treated water is returned *"to the catchment side of the water supply system"*.

The Department notes that this phrase is capable of a wide range of meaning. It is not abundantly clear whether the intent is for return to the upper catchment, the middle catchment or the lower catchment. However, the 2014 report did acknowledge that *"there are a number of reasons why [return to the upper catchment] may not be a sound proposition"*.

WACJV has confirmed that all parties have now agreed that returns to the upper catchment are not sound for the following reasons:

- it would require an extremely complex system to supply water at multiple sites to coincide with subsidence impacts;
- supply of fixed quantities of water on a regular basis is not likely to mimic natural flows and may not be environmentally sound; and
- the intended purpose of the compensatory supply is for the CCWS only and therefore opportunities for further losses to its supply should be minimised.

WACJV reported that all parties agree that repatriated water would only be for CCWS purposes and that water should be returned as close as possible to the CCWS's water supply off take in Wyong River.

WACJV subsequently met with Council, where both parties agreed that a suitable location to receive compensatory treated water into the Wyong River is at Woodbury's Bridge, Yarramalong Road (see **Figure 3**). This location is considered practical from an engineering perspective and would provide good environmental outcomes, as treated water would be transferred directly into the Wyong River, immediately upstream of an existing take-off used by Council for the CCWS. This location is considered to have several advantages, including:

- the alignment of the pipeline would follow Hue Hue Road, which would require minimal vegetation clearing;
- Wyong River has higher flow rates, so there would be reduced impact from the 'unnatural' flow regime of compensatory water supply;
- the receiving environment is better suited to mixing and dilution of compensatory water; and
- it allows for pumping directly to the Mardi Dam for storage and further treatment at the Mardi Water Treatment Plant.

WACJV has proposed two options for the pumping of water from its proposed water treatment plant (WTP) at its Tooheys Road Site via a pipeline to Woodbury's Bridge, (see **Figure 3**). These comprise:

- west across WACJV-owned land to the intersection with Hue Hue Road. The pipeline would then follow Hue Hue Road to the discharge point at Woodbury Bridge; or
- utilising the mine access portal, surfacing at the Buttonderry Site and then following Hue Hue Road to the discharge point at Woodbury Bridge.

WACJV indicates that the second option is its preferred approach, but that both options would be subject to more detailed environmental and design studies. WACJV has confirmed that the WTP and transfer system would be constructed and commissioned prior to it starting extraction of Longwall 6N. WACJV has also committed to consult further with Council in relation to discharge rates to account for seasonal variation in water demand and supply at the receiving location.

In terms of water supply, WACJV considers that it would have adequate water available from mining operations to supply the CCWS with the maximum predicted volume of 300 ML/year after Longwall 5N and thence for the continuation of the mine life. WACJV has committed to providing this total volume of water to the CCWS throughout the operational life of the mine, rather than seeking to supply the equivalent of actual losses (ie for baseflow losses to be modelled, monitored, reported and agreed on a rising and falling annual basis).

4.1.4 Conclusion

The Department acknowledges the views of the Commission and Council that the purchase of water licences under the *Water Management Act 2000* would not meet the 'no net impact' recommendation and should therefore not be an option to compensate for the subsidence-induced water loss associated with the project. The Department accepts that the acquisition of licences may not fully compensate for low flow impacts during drought conditions. It also acknowledges that the CCWS relies on a relatively small water supply catchment and that there are projected increases in population to be supplied by the CCWS in the next 30 years.

The Department has therefore deleted any reference to the possible purchase of water licences as an option for the proposed Central Coast Water Supply Compensatory Arrangement from its proposed draft conditions. The Department has recommended a revised condition which is more prescriptive and accurately reflects the Commission's recommendations and WACJV's agreements with Council, as follows:

Prior to the approval of any Extraction Plan that authorises extraction of Longwall 6N, the Applicant must develop a Central Coast Water Supply Compensatory Arrangement to provide 300 megalitres (ML) per annum of water to the Central Coast Water Supply system. The Central Coast Water Supply Compensatory Arrangement must:

- a) be prepared in consultation with Council and DPI Water;
- b) supply mine water treated to an equivalent quality for pH, oxygenation and electrical conductivity as the receiving environment;
- c) discharge at least 300 ML per annum of treated water directly into the Central Coast Water Supply system at a location mutually agreed with Council; and
- d) operate at least until the cessation of mining operations (see condition 5 of Schedule 2),

The Department believes that there is insufficient information available to approve the construction and operation of the Water Supply Compensatory Arrangement as part of this development consent. The Department considers that construction and operation of the Compensatory Arrangement could be accommodated either via a modification to any consent granted by the Commission, or via a separate development application. This would provide WACJV time to further progress the detailed design and operational arrangements of the system, as well as to undertake environmental studies. The Department is satisfied that there is more than sufficient time to complete these final design and approval stages prior to extraction of Longwall 6N.

WACJV would still be required to purchase water licences as required by the *Water Management Act 2000*, as well as developing and implementing the proposed Central Coast Water Supply Compensatory Arrangement. WACJV has confirmed that it currently holds 185 units from the Jilliby Jilliby Creek Water Source and it has identified there are available units across the catchment area which could be acquired to ensure that it would hold licences for the full 300 ML.

Finally, to more clearly address Council's concern and the Commission's recommendation in relation to post-mining water loss compensation, the Department has recommended an additional water supply performance measure requiring "no water loss greater than 36.5 ML/year following the cessation of mining". This would require WACJV to monitor to confirm post-mining water losses and compensate for any ongoing losses which were in excess of 36.5 ML/year.

Overall, the Department considers that the updated and amended water supply performance measures and conditions accurately reflect the intent of all of the Commission's relevant recommendations, as well as the compensatory arrangements agreed between WACJV and Council.

4.2 Socio-Economic Assessment

Commission's 2017 Report Recommendation 3:

The Department, in consultation with the applicant, should provide greater clarity in its conclusion on the net economic benefits of the project to the consent authority, having regards to the conclusion of its consultant that the economic benefits of the project are likely to be less than those claimed by the applicant (pp 43 and 55).

Commission's 2017 Report Secondary Recommendation 3(a):

The implementation of the water supply compensatory system that will return treated water to the supply catchment may have an impact on the CIV. Given the variance of the figures, the Commission finds this issue needs to be clarified prior to the time of determination (p 41).

Commission's 2017 Report Secondary Recommendation 3(b):

Clarification of the cost of greenhouse gas emission estimates, given the significant discrepancy of the estimates between the Gillespie Report 2016 and the Centre for International Economics (CIE) peer review report (p 42).

4.2.1 Background

As part of its original project application, WACJV engaged Gillespie Economics to prepare an Economic Impact Assessment (EIA) in 2013. The EIA was then updated to address the Commission's 2014 Review (see Recommendation 34); take into account amendments in the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* (Mining SEPP); and to reflect the NSW Government's then draft *Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals* (Economic Guidelines).

To address the Commission's 2014 Review, the Department engaged the Centre for International Economics (CIE) to undertake an independent review of the updated EIA. While the CIE questioned some of the inputs to the EIA and the methods used, CIE concluded that the updated EIA is broadly consistent with the Economic Guidelines and the project would result in a net benefit to NSW.

4.2.2 Commission's View

In its 2017 Review, the Commission indicated that it generally agreed with the Department "that the project, if approved, would have certain economic benefits to the region and NSW". However, due to variations identified between Gillespie's updated EIA and the CIE's review, the Commission considered that "the quantum of the benefits is highly contested" (p 43).

The key differences in the economic benefit estimates provided in Gillespie's updated EIA and the CIE review were summarised by the Commission in its report (p 41) and are set out in Table 6 below.

Table 6: Summary of Differences between the Gillespie EIA and the CIE Review

Aspect	Gillespie EIA	CIE Review
Net Economic Benefits	\$274 million to \$485 million	\$32 million to \$229 million
Royalties	\$200 million	\$156 million to \$259 million
Company Tax	\$70 million	Gillespie estimate should be treated as the upper bound
Greenhouse Gas Cost	\$25,000 to \$114,000	\$27 million to \$121 million
Market Employment Benefits	\$25 million	\$3.7 million to \$7.4 million
Residual Environmental Costs	\$1 million	\$1 million
Employment	<ul style="list-style-type: none"> 300 full time operational jobs 450 construction jobs 553 regional indirect employment jobs during operation 	Estimates appear higher than can be expected.

Of particular concern to the Commission was the significant discrepancy in estimated greenhouse gas emissions cost between the Gillespie EIA and the CIE review. The Gillespie EIA estimates that scaled greenhouse gas cost to NSW households would be between \$25,000 to \$114,000, while the CIE estimate the global costs would be in the order of \$27 million to \$121 million. The Commission recommended that these discrepancies should be clarified (see Sub-recommendation 3(b)).

The Commission also questioned the claim that the project's Capital Investment Value (CIV) remains unchanged from the time of exhibition of the original project. In particular, as indicated in Sub-recommendation 3(a) above, the Commission noted that "the implementation of the water supply compensatory system that will return treated water to the supply catchment may have an impact on the CIV" (p 41).

4.2.3 WACJV's Response

WACJV re-engaged Gillespie Economics to prepare a response to each of the issues raised in the Commission's 2017 Review report. The detailed response is included at Appendix A of WACJV's Response Report and is summarised below.

Net Economic Benefits

Gillespie noted that the CIE's estimated range of the net benefits of the project to NSW is obtained by subtracting the highest global social cost of greenhouse gas emissions from the lowest royalty estimate, and the lowest greenhouse gas cost from the highest royalty estimate. Gillespie indicated that this approach excludes all other potential benefits of mining projects identified in the Economic Guidelines, including company tax benefits, residual producer surplus and wage benefits. Further, Gillespie noted that the CIE's greenhouse gas costs estimates are based on global costs, and not costs to NSW as required by the Economic Guidelines (as discussed in more detail below).

Royalties

Gillespie noted that the CIE royalty estimate is based on a minimum benefit of the project to NSW, while the Gillespie royalty estimate is based on a range of different price assumptions. The resultant estimates from both consultants are comparable and were not contested by the Commission.

Company Tax

Gillespie noted that its estimate of company tax is based on revenues and cost assumptions identified in its original EIA and includes a depreciation schedule. The coal price assumptions are in the middle of the coal price range (AUD\$80 to AUD\$177 per tonne) and were not considered at the upper bound estimate, as suggested by CIE. Gillespie noted that calculation of company tax at 30% is consistent with standard practice and allocating 32% of this to NSW is in accordance with Economic Guidelines.

Greenhouse Gas Costs

Gillespie points out that the economic cost of greenhouse gas emissions reported by CIE was based on the global social costs of carbon. CIE's justification for this was that it was consistent with the draft Economic Guidelines, which required the attribution of the full global social damage cost of emissions to NSW. However, Gillespie noted that this approach to estimation of benefits was not adopted in the final version of the Economic Guidelines, which require "benefits and costs to be estimated where possible as those that accrue to the NSW community" (p 9).

Consequently, Gillespie estimated global damage costs to NSW damage costs using Australia's share of the global population (around 0.3%) and NSW's share of the Australian population (32%), which resulted in greenhouse gas costs ranging from \$25,000 to \$114,000.

Market Employment Benefits

Market employment benefits represent the increase in employee income as a result of a project. Gillespie noted that CIE's estimated wage benefit is based on all future employees already being employed in the region in the mining sector, when in reality there are likely to be large numbers of unemployed miners who would benefit from the project. Gillespie states that this approach is likely to considerably understate the benefits of mine wages. Gillespie used the more conservative of two different approaches, which assumes that some of the project's workers would otherwise have been unemployed.

Residual Environmental Costs

Both Gillespie and CIE agreed that the residual environmental impacts are primarily in relation to water and that a value of \$1 million is reasonable.

Employment

Gillespie used Input Output Modelling (IOM) to estimate the potential magnitude of flow-on employment from the project. Gillespie considered that IOM is an internationally-recognised and well-established method. IOM estimates were that the construction and operational phase regional flow-on employment would be up to 1,155 and 553, respectively. Gillespie therefore disagrees with CIE, which claims that these estimates are higher than could be expected.

Capital Investment Value

The Commission's 2017 Review questioned why the CIV remains unchanged from the original project to the amended project. Gillespie confirmed that this is largely because the cost of the proposed new infrastructure (ie conveyor system, transfer station and coal loading facility) was balanced by removal of the rail loop and costs to use Darkinjung LALC land for the rail spur. However, Gillespie noted that the cost-benefit analysis incorporates sensitivity testing of +/-20% in capital costs, which it believes is sufficient to capture any substantial changes in these costs.

The Commission's 2017 Review also questioned the impact that implementation of the water supply compensatory system may have on the CIV. Gillespie confirmed that the 2013 EIA included the following capital and operating costs:

- \$29.8 million for water treatment and brine treatment plant, ponds and connection to augment the CCWS; and
- \$1.6 million per annum in operating costs for the water treatment plant.

Gillespie indicated that these costs were carried through to the most recent EIA.

4.2.4 CIE Comments

The Department re-engaged CIE to consider the response prepared by Gillespie Economics and advise on whether any changes to CIE's original advice were appropriate. The detailed response is included at **Appendix G** and is summarised below.

CIE provided clarification of its approach to its economic analysis, and explained the differences in the estimates for project costs and benefits as presented by both experts. CIE was not critical of the approaches used by Gillespie Economics, but provided further justification and rational of its conservative approach.

CIE indicated that, where estimates were difficult to test (eg due to confidentiality, limited publicly available data or varying assumptions regarding future factors), it used a 'minimum threshold approach'. This approach focuses on those items that are consistent with the guidelines and can be readily tested.

On the benefits side, at a minimum, CIE indicates that the NSW Government would receive royalty payments of between \$154 m to \$257 m in present value terms over the life of the project. Both CIE and Gillespie agree with the quantum of this benefit.

On the costs side, the key item relates to greenhouse gas emissions, which CIE estimates ranges from \$27 m to \$121 m in present value terms. CIE confirms that this estimate is based on the assumption that all of the global impacts of greenhouse gas emissions from the project are attributed to households within NSW. CIE notes that the final Economic Guidelines (2015) do not explicitly provide a 'rule' on how to estimate these impacts, but acknowledges that Gillespie raises a valid point regarding the extent to which global social cost of carbon is appropriate for use in benefit cost analysis for domestic projects. The Department confirms that its practice is to ascribe Scope 1 and Scope 2 emissions to NSW and only to ascribe Scope 3 emissions (including those associated with coal combustion) to NSW when that combustion takes place in NSW. Empirically, this approach is identical to that used for transport-related emissions, where that transport takes place outside of NSW, as is the case for exports.

Nevertheless, CIE points out that, even if it is assumed that the upper bound estimates of greenhouse gas emissions (\$121 m) and lower bound estimates of royalties (\$154 m), the project is expected to deliver net benefits of around \$33 m in present value terms. CIE states: *"The quantum of the net benefit is expected to be larger than the minimum threshold but it is difficult to test precisely how much larger. However, as long as the minimum still delivers net benefits to the community then the Project should be accepted"* (p 9).

CIE also considered the differences between its estimates for company tax and market employment benefits and those presented by Gillespie. CIE indicates that the discrepancies can be explained by differences in assumptions in relation to company profits, future coal prices, employment rates and wages.

CIE accepted the Minerals Council of Australia and the ATO company tax data quoted by Gillespie Economics, which indicates that company tax is paid at a rate close to 30% of taxable income. However, CIE noted that numerous coal mining companies in Australia had no 'taxable income' in 2014-2015 and, therefore, did not pay any tax. CIE therefore maintained that it is reasonable to treat the company tax estimate presented by Gillespie Economics as a high side estimate.

CIE took a similarly conservative approach when estimating market employment benefits. The CIE approach assumes that all future workers at Wallarah 2 are already employed in the mining industry and that the NSW economy is at full employment.

Notably, CIE confirmed that, even if company tax and employment benefits are reduced to zero (due to corporate tax minimisation practices reducing taxable income to zero throughout the life of the project and complete substitution of existing construction and operational employment), it would not change its primary conclusion that the mine would still deliver net benefits to the community. This is the case even under conservative assumptions.

Finally, CIE confirmed that the capital cost and operation of the Water Treatment Plan and associated pipeline for the compensatory water supply have been included in the \$1.5 billion life of project capital estimate utilised for the project.

4.2.5 Conclusion

The Department accepts that there are differences in the economic benefit estimates provided in the updated Gillespie EIA and the CIE Review. The Department considers both approaches to the economic analysis to be legitimate, and notes that the variances can be explained by differences in assumptions, scope and methodology adopted by the two experts. In general, the CIE estimates are considered to be conservative, whereas the Gillespie estimates are considered to be theoretical maxima. In the Department's view, the most likely outcome lies somewhere between the two.

In relation to the costs of greenhouse gas emissions, the Department must note that the CIE's estimates considered by the Commission's 2017 Review were global costs, rather than the NSW-only approach, the latter being the Department's preferred approach.

In terms of employment, the most recent census data (2016) is not yet available. However, 2011 census data shows unemployment rates in the then Wyong LGA at 7.8%, compared to 5.9% in NSW and 5.6% for Australia. Data from June 2014¹ shows unemployment rates of 7.9% in the then Wyong LGA compared with much lower unemployment levels in the nearby centres of Gosford (5.1%) and Newcastle (5.5%). Figures for the same period for NSW and Australia were 5.7% and 5.9% respectively. The same data showed that 36.8% of employed Wyong residents travelled outside the LGA for employment and that the Socio-Economic Indexes for Areas (SEIFA) index of relative socio-economic disadvantage for Wyong LGA were significantly higher than Gosford LGA (951.7 compared to 1006.3, where a lower number shows a higher level of disadvantage).

Given the above data, the Department considers it is unlikely that any future workers at Wallarah 2 would already be employed or that the NSW economy should be considered as at full employment.

In respect of indirect employment, the Department notes the Commission's view that the quantum of indirect flow-on employment benefit is not certain. Due to this uncertainty, the Commission's 2014 Review report only accepted the direct employment benefit of 300 operational jobs associated with the project. The Commission's 2017 Review report acknowledged that there would be indirect flow-on employment benefits but stated that the quantum of indirect employment benefit is unknown and is likely to be less than current estimates (pp 42-43).

The Department accepts that the estimation of indirect employment from direct mine employment is not a precise science and that a variety of methodologies can be used, each providing differing estimations. As noted above, Gillespie used IOM to estimate the construction and operational phase regional flow-on employment as up to 1,155 and 553, respectively. As discussed in the AAR, the Department's Division of Resources and Geosciences (DRG, formerly DRE) prefers to use more empirical evidence and therefore used a 2012/13 survey of NSW mining by the NSW Minerals Council to derive a flow-on employment multiplier of 5.5. DRG estimates that around 1,200 indirect jobs would result from the 300 direct jobs to be created for the project.

However, overall the Department believes that mining projects have large flow-on effects for regional economies as they have large operating costs (some of which is spent on suppliers in the local region) and they pay higher than average wages (much of which is then spent in the local region). The Department therefore maintains its general view that flow-on employment benefits are significant benefits from mining in NSW, which should be given weight in assessing the project's overall merits.

The Department also notes that WACJV has undertaken extensive consultation with the previous Wyong Shire Council over a proposed Voluntary Planning Agreement (VPA) that would benefit the Wyong LGA. The terms of the VPA were agreed between these parties on 7 July 2014 and address various water, sewerage and road/intersection upgrade works, as well as \$4 million towards community, cultural, social and environmental programs. The total value of the VPA, including both works-in-kind and monetary contributions, is \$17 million. Amending the VPA was discussed by WACJV and Council, however both parties agreed to retain the existing VPA.

Finally, the Department confirms that WACJV's CIV estimate of \$1.5 billion for the project includes the capital cost and operation of the water treatment plans and pipeline infrastructure associated with the compensatory water supply system.

¹ Wyong Shire Council Factsheet – Transforming the NSW Central Coast
NSW Government
Department of Planning & Environment

4.3 Noise

Commission's 2017 Report Recommendation 4:

An explicit requirement be included in the draft conditions that the applicant shall provide mitigation measures for residences P14, P15 and P16 before construction commencing, if requested by the residents and to use the best available technology in noise reduction construction material for the conveyor, transfer station and train load out facility (pp 27 and 55).

4.3.1 Background

The Commission was generally satisfied that potential noise impacts associated with the project were adequately addressed in the PAR and AAR (see **Appendices A and C**).

The amended project application removed the previously proposed rail loop and relocates the rail infrastructure component to the east of the Main Northern Railway Line. These amendments would result in a reduction in the previously predicted noise impacts from the Tooheys Road Site. As a result, the Commission accepted that the recommendations in its 2014 Review report relating to noise impacts on properties 57 and 58 and wheel squeal from the rail loop did not require further consideration.

The rail and train load-out infrastructure in the amended project is predicted to exceed the relevant noise criteria at three residences (P14, P15 and P16) by up to 4dB(A) during operations. The operational noise exceedances fall within the criteria for consideration of the *Voluntary Land Acquisition and Mitigation Policy* (VLAMP), hence the Department has recommended a condition requiring WACJV to implement mitigation measures at these properties at the request of the landowners. The Commission accepted this approach.

However, construction noise exceedances are predicted to occur at the same three residences, for periods throughout the two-year construction period. Exceedances are predicted to be most significant during times outside of standard construction hours. At such times, exceedances of up to 20dB(A) are predicted when work is required in the rail easement for construction of the conveyor and bin and tying-in of the railway siding. In relation to construction noise predictions, the Department notes that:

- the noise modelling and predicted exceedances are worst case scenarios;
- most construction would occur within standard construction hours, with only construction stages 3 and 9 involving track possession requiring work outside standard hours; and
- track possession would be likely only for 48 hour increments and as required by Sydney Trains; and
- WACJV did not include noise mitigation measures in the modelling. However, WACJV stated that operational mitigation measures could be provided for the impacted receivers, prior to construction commencing.

4.3.2 Commission's View

Overall, the 2017 Commission found that the noise issues associated with the project had been adequately addressed. The Commission was satisfied that the operational noise levels at the Blue Haven community would be within relevant Environment Protection Authority (EPA) criteria and sleep disturbance criteria would not be exceeded. However, given issues raised by local residents during the public hearing, the Commission remained concerned about the duration and level of the predicted construction noise impacts.

The Commission also sought clarification from WACJV about the proposed infrastructure cladding as modelled in the noise assessment. WACJV advised the Commission that the assessment used standard cladding. However, it was now aware of an alternate cladding which could contribute to a reduction in noise from the infrastructure. As a result of this information, the Commission recommended that WACJV use the best available technology in noise reduction construction material for the conveyor, transfer station and train load out facility.

To further reduce construction noise impacts, the Commission also recommended that noise mitigation measures for residences P14, P15 and P16 be required to be available before construction commences.

4.3.3 WACJV's Response

WACJV noted that the three residences predicted to be impacted by noise from the construction of the conveyor, coal transfer facility and the rail siding are the same residences effected by operational noise. Therefore, under the proposed draft conditions, these landowners would be able to request mitigation measures to reduce operational noise impacts.

WACJV indicated to the Department that operational noise mitigation would be offered to these residents, prior to construction of the conveyor, coal transfer facility and the rail siding. This would include provisions for alternative accommodation during works outside standard hours or where residents requested respite breaks.

WACJV also confirmed that it had commenced consultation with these landowners. Meetings with the owners of residences P15 and P16 occurred during June 2017, at which time WACJV offered noise mitigation and temporary relocation during noisy construction. At the time of this report, a meeting with the owners of residence P14 had been scheduled but was yet to take place. However, WACJV provided the same offer of mitigation and temporary relocation via a letter sent to the property owner in early July 2017. WACJV has committed to continue consultation with these residents during the construction and operational phases of the development. WACJV also advised the Department that it supports the Commission's recommendation to use the best available noise reducing technology, where feasible.

WACJV investigated options to provide further noise mitigation at the conveyor, transfer station and train load out facility. The current noise modelling reflects a worst-case scenario, and is based on standard Colourbond covering. A replacement covering that features a polymer layer between two Colourbond sheets, could reduce noise across the frequency range and WACJV considers that it could be used for exposed sections of the overland conveyor.

WACJV would also consider the feasibility of using a noise curtain in the transfer station during final design of the conveyor infrastructure. The noise curtain comprises a series of small steel and polymer blocks placed within the product fall zone inside the transfer station, which aids in reducing noise.

In its Response Report, WACJV reiterated its previous noise mitigation commitments, including:

- low noise rated conveyors and motor drives;
- side and roof screening of conveyors to provide directional noise amelioration;
- acoustic treatments of train load out bin and other conveyor infrastructure;
- switching off southern locomotive engines when on the rail spur;
- construction of a noise barrier at the southern end of the rail spur, 50 m long and 4.5 m high; and
- inclusion of level sensors in the coal load out bin to maintain a coal base for falling coal.

WACJV considers these mitigation measures to be the current best technology available to reduce noise impacts around the conveyor and rail siding facilities.

4.3.4 Conclusion

The Department notes that the construction noise exceedances are predicted to occur at the same three residences as those predicted to experience operational noise exceedances (P14, P15 and P16). The existing draft conditions require WACJV to implement additional mitigation measures at these residences, upon receiving a written request from the owner.

In order to satisfy the Commission's recommendation and ensure that these landowners are given the opportunity to request mitigation prior to construction or at any time thereafter, the Department has recommended that the relevant draft condition is amended to require the notification of residents "*at least 3 months prior to the commencement of construction of the conveyor, transfer station and load-out facility*". The Department notes that this approach is also consistent with the commitments proposed by WACJV and the mitigation procedures required under the VLAMP.

The Department supports the Commission's recommendation that WACJV should use, where feasible, the best technologies to reduce the operational noise impacts of the proposed conveyor and rail infrastructure. The continued review of noise mitigation technology has the potential to reduce the predicted noise levels at impacted residents throughout the life of the development. The Department has therefore recommended that the relevant draft condition be extended to require WACJV to "*use the*

best available technology in noise reduction construction material for the conveyor, transfer station and train load out facility".

Overall the Department considers that the amendments proposed to draft conditions in response to the Commission's recommendations and WACJV's commitments strengthen the previous draft conditions. The amended conditions provide additional certainty for the residents predicted to be impacted by both construction and operational noise from the development.

4.4 Road Closures and Access

Commission's 2017 Report Recommendation 5:

The draft condition should include a requirement that the Applicant prepare and implement a Nikko Road access management plan in consultation with affected landowners. The plan should ensure access to private lands is maintained during construction and operation of the mine. Design details of the access road should be included in the application prior to determination to ensure proper connections to existing access points. Post mining access to the road alignment may need to be included if the tenure of the Nikko Road reserve is changed following approval of this application, as part of the regular update requirements of management plans (pp 34 and 56).

Commission's 2017 Report Recommendation 6:

The final assessment report should clarify the extent of Tooheys Road which is to be closed and access arrangement for residents and emergency vehicles in emergency situations (pp 35 and 56).

4.4.1 Background

Nikko Road

WACJV proposes to locate a conveyor and rail infrastructure within part of the existing Nikko Road reserve to the north of the Motorway Link Road. This requires closure of this section of Nikko Road, which is currently a dirt track, less than 300 m in length, that provides access to one Darkinjung LALC-owned property (Lot 16 DP1064536) located immediately to the north of Motorway Link Road (see **Figure 4**). All other lots along Nikko Road, to the north of the Motorway Link Road, are legally accessible via Thompson Vale Road, Spring Creek Road and Wyee Road.

Development proposed by WACJV on Nikko Road to the south of the Motorway Link Road only involves installation of a sewage pipeline. The pipeline would be installed so as not to impede access to the frontage of lots along Nikko Road. To provide third parties legal access to this section of road, WACJV has committed to registering an easement over this land.

During assessment of the amended project, concerns were raised by owners of land adjacent to Nikko Road that the proposed infrastructure may limit existing and future access to privately-owned properties and could impact the community by limiting access to emergency services personnel (eg during a bushfire).

WACJV has proposed construction of a 6-m wide all-weather formed access road along the eastern side of the road reserve to the north of Motorway Link Road. To facilitate this, WACJV has lodged a road closure application with DPI - Crown Lands. If this application is successful, then WACJV intends to purchase the road from the Crown. WACJV has indicated that there are other alternatives available to secure the necessary tenure over the road should the road closure and purchase application not be successful. It should be noted that the road closure application is not a directly relevant consideration under the EP&A Act, as it is the responsibility of the Minister for Roads to assess and determine a road closure application. WACJV contends that this all-weather road would provide improved access for adjacent landowners.

In its AAR, the Department indicated that it is satisfied that adequate access would continue to be available to all land adjacent to Nikko Road and that the works proposed by WACJV would actually improve access conditions compared with current conditions.

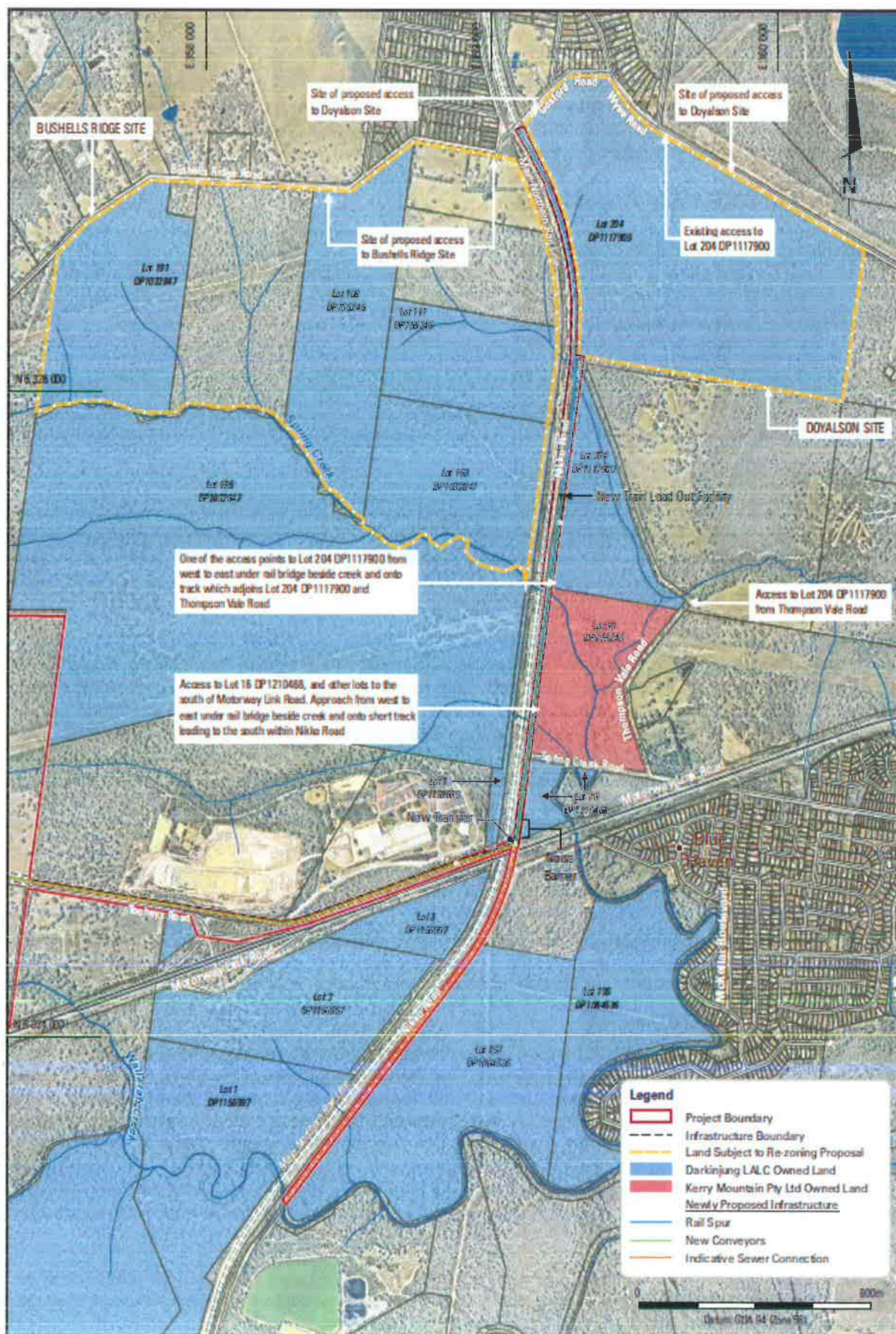


Figure 4: Existing Nikko Road access points

Tooheys Road

The original project proposed the potential closure of the section of Tooheys Road adjacent to the proposed pit top area. The application to close and purchase this section of Tooheys Road was initiated by WACJV following feedback from local residents about security concerns associated with alleged illegal activities in this area.

4.4.2 Commission's View

Nikko Road

In its 2017 Review report, the Commission noted that issues relating to the Nikko Road closure were reiterated at the public hearing by adjacent landowners, primarily the Darkinjung LALC.

Although the Commission found that the proposed 6-m wide all-weather access road with an easement would be an acceptable solution to address the issue of access to adjacent privately owned land, it also found that:

- there is a general lack of publicly available detail relating to the terms of the easements and the design of the access road and access points to adjacent lands;
- a condition of consent should be included to require consultation with all adjacent private landowners before the final design of the access road is constructed;
- a condition of consent should be included to require the preparation of an Access Management Plan in consultation with adjacent landowners; and
- Council should enter into further discussions with WACJV about the future of the road reserve post-mining.

Tooheys Road

The Commission found that insufficient information is available regarding the extent of the road to be closed and access arrangements for emergency vehicles and residents in emergency situations.

4.4.3 WACJV's Response

Nikko Road

In its Response Report, WACJV provided an indicative conceptual design and access arrangements for the proposed upgrade of Nikko Road. WACJV confirmed that the conceptual designs were prepared following consultation with Council and potentially affected landowners, including the Darkinjung LALC.

The full set of conceptual design drawings is included in WACJV's Response Report (see **Appendix E**). WACJV has indicated that the conceptual designs would generally comprise:

- a 6-m wide road;
- an all-weather surface;
- a bridge over Spring Creek at rail level;
- a bi-directional ramp from the current unformed track to rail level adjacent to Spring Creek; and
- gated access at three locations.

WACJV has confirmed that the proposed access arrangements would provide new or improved access to four Darkinjung LALC-owned properties and would not affect existing access from other roads to three Council and privately-owned properties.

WACJV has committed to further consultation with all potentially affected landowners (including Darkinjung LALC) and relevant regulators prior to finalisation of the detailed Nikko Road design. WACJV has also indicated that the company supports the Commission's recommendation requiring the preparation and implementation of a Nikko Road Access Management Plan.

Tooheys Road

The proposed purchase and closure of a section of Tooheys Road by WACJV was in response to security concerns raised by local residents. WACJV has subsequently undertaken further consultation with the local community in relation to this issue and has now committed to keeping Tooheys Road open with unimpeded access to the general public and emergency services.

However, WACJV has indicated that the application to purchase a section of Tooheys Road does remain in place to allow the installation, operation and service of a security monitoring system, such as cameras, along the length of Tooheys Road adjacent to the project's operations. The section of Tooheys Road subject to the road closure application is shown in **Figure 5**.



WALLARAH 2 COAL PROJECT

Figure 5: Tooheys Road, road closure application area

4.4.4 Council's View

In accordance with the Commission's recommendation, WACJV has confirmed that it has consulted further with Council in relation to the future of the Nikko Road reserve post-mining. As indicated in **Section 3.1**, Council subsequently wrote to the Department requesting that, if ownership of Nikko Road was transferred to WACJV, it would prefer that:

- WACJV be required to transfer the ownership back to Council upon completion of mining activities;
- post-mining transfer be at no cost to Council, and that the road be in a good state of repair;
- a meeting be held between Council and WACJV 12 months prior to road transfer to Council, so that Council can nominate what capital improvements or infrastructure that may have been installed as part of mining activities are to be removed prior to transfer; and
- should WACJV not remove the items prior to the transfer date, then Council at its discretion may remove the items, and WACJV be required to reimburse Council for the cost of removal.

WACJV has agreed to comply with Council's requests.

4.4.5 Conclusion

The Department acknowledges that WACJV has undertaken additional consultation with local landowners (including Darkinjung LALC) and Council in relation to access arrangements and post-mining management associated with both Nikko Road and Tooheys Road.

WACJV has produced indicative conceptual design and access arrangements for the proposed upgrade of Nikko Road, which the Department is satisfied would provide new and improved access to adjacent landowners through construction of an all-weather road.

The Department agrees with the Commission and Council, and has recommended a condition requiring WACJV to prepare a Nikko Road Access Management Plan, to the satisfaction of the Secretary. The Department has recommended that the plan must:

- be prepared, in consultation with adjacent private landowners, prior to the commencement of construction activities;
- include detailed designs for the newly formed Nikko Road which provide:
 - a 6-m wide road with an all-weather surface;
 - a bi-directional ramp from the current unformed track to rail level adjacent to Spring Creek;
 - a bridge over Spring Creek at rail level; and
 - gated access at agreed locations; and
- include measures to ensure the road is maintained in a good state of repair over the life of the development.

The Department accepts Council's requests in relation to the post-mining management of Nikko Road and has recommended a condition that, if the tenure of the Nikko Road reserve is transferred to WACJV, then WACJV be required to:

- transfer of the ownership of Nikko Road back to Council upon completion of mining activities;
- ensure the road is in a good state of repair prior to transfer;
- hold a meeting with Council 12 months prior to transfer of the road, so that Council can nominate what capital improvements or infrastructure that may have been installed as part of mining activities are to be removed prior to transfer; and
- remove any unnecessary capital improvement items as requested by Council prior to the transfer date, or reimburse Council for the cost of removal of the nominated items.

The Department is also satisfied that WACJV has committed to keeping Tooheys Road open, with unimpeded access to the general public and emergency services. The Department has recommended a condition to ensure this is the case during the construction and operation of the development.

4.5 Community Engagement

Commission's 2017 Report Recommendation 7:

A more proactive and inclusive engagement program, that aligns with the community participation plan principles proposed by the Department in the updates to the planning legislation, should be adopted by the application prior to the consideration by the consent authority (pp 51 and 56).

4.5.1 Background

WACJV provided details of its stakeholder engagement in its assessment documentation for both the original and amended projects. Consultation with infrastructure owners, government agencies, the community and Aboriginal groups was fully documented. WACJV has since confirmed that a wide range of consultation methods have been utilised to engage with these groups, including:

- community newsletters;
- information days;
- community reference group;
- personal briefings with landowners;
- consultation with Aboriginal stakeholders;
- sponsorship and support of community groups and clubs;
- community contact line and website; and
- participation at local fairs and trade shows.

During its assessment, the Department has publicly exhibited the original and amended projects. Both projects attracted significant community interest with 742 submissions received during exhibition of the original project and 687 community submissions during exhibition of the amended project.

4.5.2 Commission's View

In its 2017 Review report, the Commission acknowledged the consultation undertaken by WACJV as part of its amended project application, which included a community newsletter and letterbox drop, five community consultation sessions and direct consultation with businesses and adjoining landowners. However, the Commission questioned the effectiveness of this consultation given the low attendance at WACJV's community sessions. The Commission also noted concerns raised during its public hearing that the community had not been adequately consulted, including a claim that there was no consultation with the Blue Haven community, which is the closest residential area to the proposed infrastructure in the amended application.

The Commission cited the current proposed updates to the NSW planning legislation in relation to enhanced community involvement in major planning and development proposals. It recommended that WACJV engage in a more proactive and inclusive consultation program that aligns with the community participation plan principles proposed by the Department in the updates to the planning legislation, with an emphasis on those areas closest to the proposed development.

4.5.3 WACJV's Response

In its Response Report, WACJV noted that it has implemented best practice consultation programs since the exploration phase of the project in the 1990s and early 2000s and that comprehensive consultation has been ongoing since this time. Evidence of that consultation was provided in the documentation for both the original and amended projects, including the EIS, RTS and the company's responses to each of the Commission's Review reports.

WACJV advised that it prepared a Stakeholder Engagement Strategy in 2012 for the original project and that it had been revising and implementing the strategy since this time. WACJV considers that the principles of its Stakeholder Engagement Strategy are broadly consistent with the consultation principles in the Department's *Planning Legislation Updates – Summary of Proposals* (January 2017).

WACJV's Response Report also describes the additional consultation that it has implemented following receipt of the Commission's 2017 Review report, which has involved:

- radio advertisements broadcast on two local radio stations between 26 May and 5 June 2017;
- advertisements in the Central Coast Express Advocate;
- targeted letterbox drop inviting members of the Blue Haven, Wyee, Doyalson and Bushells Ridge community to further public consultation sessions in June 2017; and
- discussions with Council, Sydney Trains, RailCorp, Ausgrid, Roads and Maritime Services (RMS), Boral, Darkinjung LALC and nearby noise-affected landowners.

WACJV indicated that no additional issues to those previously identified were raised by the community during this additional phase of consultation. WACJV reported that the majority of issues raised were in relation to misunderstandings surrounding details of the project, which the company then clarified.

WACJV has committed to continue to implement its Stakeholder Engagement Strategy, which it indicated would involve holding additional open days, placing advertisements, website updates and sending community newsletters.

4.5.4 Conclusion

In May 2016, the Government announced its plan to update the EP&A Act to make the planning system simpler and faster for all participants and help ensure that future growth across NSW is carefully planned.

Following targeted stakeholder consultation, in January 2017 the Department released the *Planning Legislation Updates – Summary of Proposals*, which provided an overview of the key changes to the planning system being proposed and sought stakeholder feedback on the proposals. This feedback will inform the preparation of a final Bill for introduction to Parliament, expected in late 2017.

One of the key changes to the planning system that is being proposed is to enhance community participation, including requiring each planning and consent authority under the EP&A Act to prepare a community participation plan. The plan would explain how the authority would engage the community in plan-making and development decisions. When preparing community participation plans, planning authorities would need to have regard to the community participation principles, which state that:

- the community has a right to be informed about planning matters that affect it;
- planning authorities should encourage the effective and on-going partnerships with the community to provide meaningful opportunities for community participation in planning;
- planning information should be in plain language, easily accessible and in a form that facilitates community participation in planning;
- the community should be given opportunities to participate in strategic planning as early as possible to enable community views to be genuinely considered;
- community participation should be inclusive and planning authorities should actively seek views that are representative of the community;
- members of the community who are affected by proposed major development should be consulted by the proponent before an application for planning approval is made;
- planning decisions should be made in an open and transparent way and the community provided with reasons for those decisions (including how community views were taken into account); and
- community participation methods (and the reasons given for planning decisions) should be appropriate having regard to the significance and likely impact of the proposed development.

In addition, the Government is proposing stronger consultation requirements for major developments, including requiring applicants to demonstrate how they consulted with the community prior to lodgement.

These initiatives are still under development by Government and are not likely to come into effect until early next year.

In relation to the Wallarah 2 Coal Project, the Department is satisfied that consultation implemented to date is in-line with current best practice and is generally in accordance with the consultation principles listed above. The EIS and associated documentation for the original and amended projects clearly demonstrate that extensive consultation has been undertaken by WACJV with a range of stakeholders over many years. In addition, since the Commission's 2017 Review report, WACJV has further consulted with the general community and has commenced direct consultation with potentially impacted local landowners (including Darkinjung LALC) in relation to property access arrangements and noise mitigation and management (refer to **Sections 4.3 and 4.4**). WACJV has committed to continue implementing its Stakeholder Engagement Strategy during any post-approval and construction phases.

If the development application is approved, the Department has recommended conditions to ensure the community and any potentially affected landowners are kept informed of the project's status, as well as their rights under the development consent. The Department has recommended that WACJV be required to consult with landowners during the preparation of numerous management plans associated with exploration, built features, water and noise management, and property access. In addition, WACJV would be required to operate a Community Consultative Committee (CCC) for the development, which is aimed at ensuring that the community and stakeholder groups are:

- kept informed of the status of project, any new initiatives, and the performance of WACJV;
- consulted on the development of project management plans and proposed changes to the approved project; and
- able to provide feedback on key issues that may arise during the development or implementation of the project.

The Department is satisfied that WACJV has engaged in a consultation program that is in-line with current best practice for State significant developments, including mining and other resource developments. The Department is also satisfied that its recommended conditions of consent would require the company to continue to proactively consult with the community.

4.6 Additional Considerations

4.6.1 Air Quality

In its 2017 Review report, the Commission noted that “*additional studies are currently being carried out by the Chief Scientist and Engineer and the NSW EPA to address the issue of dust generated by the coal wagons along rail corridors*” (p 55). The Commission indicated that these studies would be relevant to the consent authority’s consideration at the time of determination.

The Department contacted the Chief Scientist and Engineer and has been advised that these studies are still in the design and implementation phase, and that it is unlikely that any results would be available within the next 12 months. The Department is satisfied that recommendations from these studies would be implemented on an industry wide basis.

The Department notes the Commission’s findings that the ambient air quality is generally good and the predicted emissions from the amended project would be within the relevant assessment criteria.

Greenhouse Gas Emissions

The PAR contained an assessment of the project’s anticipated greenhouse gas emissions (see Section 5.7.3 of the PAR). The AAR also contained an assessment of the project’s anticipated air quality impacts, including greenhouse gas emissions (see Section 5.2 of the AAR).

In November 2016, the NSW Government released its *NSW Climate Change Policy Framework*. The policy sets an “aspirational long-term objective” of achieving net-zero emissions in NSW (ie greenhouse gas emissions within NSW will be balanced by carbon storage) by the year 2050. The policy states that the NSW Government will seek to achieve this objective through particular functions of Government, being:

- *Government policy*: The NSW Government will set policy to achieve emissions savings, consistent with Commonwealth action, and to enable effective adaptation to climate change;
- *Government operations*: The NSW Government is a major purchaser in the NSW economy through delivering government services and managing government assets. The government will lead by example and drive market change; and
- *National and international advocacy*: The NSW Government will advocate for climate policy action at national and international levels.

The policy makes no reference to coal mining or to the export of coal for consumption in other countries. Nor does it refer to any encouragement or discouragement of particular industries in NSW, or to restrictions on grant of development consent. The policy is not an environmental planning instrument under the EP&A Act with the function of controlling development (eg by zoning or prohibitions). The policy is at its essence a framework to guide Government in its own operations. The Department therefore considers that the policy has little or no direct or indirect bearing on either the project or its determination by the Commission.

Nonetheless, the Department notes that WACJV has committed to capturing and flaring all drained methane gas and to undertaking a study of the beneficial use of drained methane, as requested by the Commission. Capturing and combusting drained methane (a significant fugitive emission from underground coal mining) would significantly reduce the project’s greenhouse gas emissions in NSW. The Department considers that the combustion of coal within other countries is beyond the scope of the policy, even if that coal is mined in NSW.

4.6.2 Landowner Consent within Jilliby Jilliby State Conservation Area

Under clause 8F of the EP&A Regulation, landowner's consent from the Minister for the Environment is required for the grant of development consent for mining within an area of the project located within the Jilliby Jilliby State Conservation Area (SCA). WACJV first sought landowner's consent from the then Minister for the Environment on 5 November 2013. However, it is the policy of the Office of Environment and Heritage (OEH)'s National Parks and Wildlife Services (NPWS) Division to only recommend grant of this consent close to the time of determination, rather than at any earlier stage.

WACJV refreshed its application for landowner's consent to the NPWS on 12 September 2017. NPWS is currently preparing a consent recommendation for submission to its Minister. Without this consent, development consent cannot be granted within the Jilliby Jilliby SCA. The original project showed 11 future potential longwalls within the SCA, while not seeking approval for them to be mined. The Commission requested that WACJV amend the development area plan shown in Appendix 2 of the draft conditions to remove reference to these future longwalls (see **Section 5.1** below).

5.0 RECOMMENDED CONDITIONS

5.1 Commission's Recommended Amendments

In its 2017 Review Report, the Commission recommended 14 amendments to the Department's then-proposed draft conditions to strengthen them and to address specific requests from Council. These recommended changes to draft conditions were in addition to the Commission's seven key and three secondary recommendations, which are addressed in **Section 4** of this report.

The Commission's recommended amendments to draft conditions and the Department's consideration of these are shown in **Table 7** below. Reference is made to the section within the Commission's 2017 Review report where each issue is discussed.

WACJV has indicated it supports or would accept all of the Commission's recommended condition amendments. Overall, the Department supports the great majority of the Commission's recommendations. The Department does have some concerns over aspects of the implementation of a limited number of recommendations. The proposed actions by the Department to ensure the recommendations are given effect are summarised in the third column of **Table 7**.

Table 7: Commission's recommended amendments to draft conditions and the Department's consideration

Commission's Proposed Amendment		Department's Consideration
Performance Measures – Natural and Heritage Features		
1	<p>Condition 1 Schedule 3</p> <p>The Commission remains concerned about the ambiguity of the term 'negligible impact' for 6th order streams. Its needs to be made clear that connective cracking cannot be considered negligible (p 24).</p>	<p>As confirmed by the Department in a meeting with the Commission on 20 April 2017, connective cracking of the ground surface due to subsidence would not be considered a 'negligible subsidence impact'. To ensure this is clear, the Department has recommended an additional performance measure in <i>Table 1: Subsidence Impact Performance Measures – Natural and Heritage Features</i> (condition 1, Schedule 3) for 6th Order Streams and their alluvium. The additional performance measure requires "no connective cracking between the surface, or the base of the alluvium, and the underground workings".</p>
Performance Measures – Built Features		
2	<p>Public Infrastructure</p> <p>The definition of public infrastructure should include the Buttonderry waste facility (p 23).</p>	<p>The Department notes Council's concerns regarding possible subsidence impacts on its Buttonderry Waste Management Facility. The Department has recommended that the Buttonderry facility be included in the list of 'Other Infrastructure' in <i>Table 2: Subsidence Impact Performance Measures</i> (condition 2 Schedule 3). This requires WACJV to ensure that the development does not exceed the following performance measures in relation to the facility:</p> <ul style="list-style-type: none"> • Always safe and serviceable; and • Damage that does not affect safety or serviceability must be fully repairable, and must be fully repaired.

Commission's Proposed Amendment		Department's Consideration
Extraction Plan		
3	<p>Condition 6(g)(iii) Schedule 3</p> <p>Include consultation with Council as part of the Extraction Plan (p 20).</p>	<p>The Department does not typically support consultation with Councils as part of the preparation of Extraction Plans because they do not have regulatory responsibility and generally do not have relevant subsidence-related expertise. However, in the case of this project, Council is the water supply authority and mining is proposed under the water supply catchment. Therefore, the Department supports the Commission's suggested amendment and has recommended that the Extraction Plan condition (Condition 6(g)(iii), Schedule 3) be extended to require it to be prepared in consultation with Council, as well as EPA and DPI Water.</p>
Independent Audits of Subsidence Impacts		
4	<p>Condition 10 Schedule 3</p> <p>Include the requirement that prior to undertaking the independent audit, Council be consulted on any issue that it would like included in the audit scope (p 18).</p>	<p>On the same basis described above, the Department supports the Commission's suggested amendment and has recommended that the condition requiring Independent Audits of Subsidence Impacts (condition 10, Schedule 3) be extended to require that, prior to undertaking the audit, Council, DPI Water and DRG be consulted on the scope of the audit.</p>
5	<p>Condition 10 Schedule 3</p> <p>Require the audit to include a review of the Trigger Action Response Plan (TARP) and where appropriate update the performance measures (Appendix 9).</p>	<p>The Department supports the Commission's suggested amendment and has recommended that the condition requiring Independent Audits of Subsidence Impacts (condition 10, Schedule 3) be extended to require review of the TARP and Extraction Plan performance 'indicators' (NB performance 'measures' are part of the consent and cannot be changed without a formal modification. Performance 'indicators' are required as part of the Extraction Plan and can be changed during revisions of this plan).</p>
Air Quality & Greenhouse Gas Management Plan		
6	<p>Condition 10 of Schedule 4</p> <p>The condition seems to be inconsistent with the Commission's 2014 Review recommendation. The departure from the Commission's 2014 Review report has not been fully justified, in terms of timing for the:</p> <ul style="list-style-type: none"> • implementation of the methane gas capture and flaring system; • submission of the feasibility study for the beneficial use of methane (2 verses 3 years); and • implementation of the beneficial use of methane system (p 31). 	<p>The Department has recommended that condition 9, Schedule 4 (Air Quality & Greenhouse Gas Operating Conditions) be extended to require that methane gas be captured and flared during underground mining operations.</p> <p>The Department has recommended that previous draft condition 10(e) be deleted and a standalone condition (condition 11, Schedule 3) be added requiring a feasibility study for beneficial use of methane produced by underground coal mining to be completed within 2 years of commencing second workings. The Department considers that this is sufficient time to complete the study.</p> <p>Where a beneficial use option is considered immediately reasonable and feasible, the Department has recommended that WACJV be required to implement the works within 2 years of the Secretary's approval of the study. Where a beneficial use option is considered only reasonable and feasible at a later date in the mine's life (eg due to the quantities of methane being encountered), then the Department has recommended that WACJV be required to implement the works at a time specified by the Secretary.</p>
Compensatory Water Supply		
7	<p>Condition 14 Schedule 4</p> <p>If an alternative long term supply of water is to be provided, the affected landowner should be consulted before referral to the Secretary. Consultation with all potentially affected land owners should also be undertaken before being undermined (p 20).</p>	<p>The Department has recommended that the Compensatory Water Supply condition (condition 14, Schedule 4) be extended to require:</p> <ul style="list-style-type: none"> • pre-mining notification of potentially affected landowners of their right to a compensatory water supply, if their water supply is adversely and directly impacted by the development; and • consultation with any affected landowner prior to their property being undermined.
Bushfire Management		
8	<p>Condition 30 Schedule 4</p> <p>Include an explicit condition requiring preparation of a Bushfire Management Plan, in consultation</p>	<p>The Department has recommended its standard condition for a Bushfire Management be included in the consent.</p>

Commission's Proposed Amendment		Department's Consideration
	with the Rural Fire Service (RFS, p 50).	
Management Plan Requirements		
9	Condition 2 Schedule 6 Update to include the requirement of an integrated environmental monitoring and public reporting management plan (p 20 and Appendix 9).	The Department has recommended that the condition requiring an Environmental Management Strategy (condition 1, Schedule 6) be extended to include a full description of and a clear plan depicting all environment monitoring required to be carried out under the consent. The Department is satisfied that the requirements of the existing Access to Information condition (condition 12, Schedule 6) are adequate to ensure the public has access to all relevant reportable information in relation to the development.
Regular Reporting		
10	Condition 8 Schedule 6 Be explicit as to the frequency of reporting (Appendix 9).	The Department has recommended that the Regular Reporting condition (condition 8, Schedule 6) be amended to require that reporting on WACJVs website be updated at least quarterly.
Independent Environmental Audit		
11	Condition 10(a) Schedule 6 Specify that the team should include a subsidence expert and a hydrologist (Appendix 9).	The Department believes that it would be more appropriate for the Independent Audit of Subsidence (condition 10, Schedule 3) to be conducted by a team that includes a subsidence expert and a hydrologist, instead of requiring the more general Independent Environmental Audit (condition 10, Schedule 6) team to include such specialists. The Department has therefore recommended that the Independent Audit of Subsidence condition (condition 10, Schedule 3) be extended to require the audit to be <i>"conducted by a suitably qualified, experienced and independent team of experts, including a subsidence expert and a hydrologist, whose appointment has been endorsed by the Secretary"</i> .
12	Condition 10(b) Schedule 6 Include pre-audit consultation with Council and DPI Water to ensure any concerns they have will be included in the audit.	The Department has recommended that the Independent Environmental Audit condition (condition 10(b), Schedule 6) be extended to require pre-audit consultation with the DPI-Water, Council, any other relevant agencies and the CCC.
13	Condition 11 Schedule 6 Specify that the audit report should be provided to the Council, EPA and DPI Water as part of the reporting regime and other agencies upon request.	The Department has recommended that condition 11, Schedule 3 be amended to require the Independent Environmental Audit report to be submitted to the <i>"Secretary and any other state or local agency that requests it"</i> . The Department notes that the audit report is also required to be publicly available on WACJV's website (refer to existing condition 13, Schedule 6).
Appendix 2		
14	Remove the eleven indicative longwall panels shown in the potential future mining areas from the first figure in Appendix 2 (p 52 and Appendix 9).	A revised figure for the development area, which excludes future proposed mining areas, has been included in Appendix 2 of the consent.

Appendix H contains a list of all 45 key and secondary recommendations found within the Commission's 2014 and 2017 Reviews, setting out how the Department has addressed them in either the AAR or this RMR.

5.2 Department's Recommended Additional Condition Amendments

The RMS provided a submission to the Department in relation to the amended project application that raised no objections, but provided recommendations in relation to vibration monitoring of the Doyalson Link Road's M1 overbridge during establishment of the drift tunnel. These recommendations were not subsequently reflected in the previous draft conditions. A copy of RMS's submission on the amended project is included in **Appendix F**.

As part of the original project, WACJV proposed construction of an inclined tunnel (or 'drift') that would be the primary access to the underground mine for materials and equipment. RMS requested that WACJV:

- design and construct the proposed drift tunnel so as to avoid direct or consequential interaction with existing bridge piles or any effect on bridge structures; and
- undertake background vibration monitoring and ensure that vibration at the bridge supports for the existing Doyalson Link Road M1 overbridge resulting from the excavation and reinstatement of the proposed drift tunnel not exceed that expected under normal operational service.

In its RTS, WACJV indicated, *"the drift has been designed to be stable and nonsubsiding. The drift has also been designed so that it will not intersect any piles associated with surface structures. Therefore, the development of the drift will not result in any impacts to surface infrastructure."* (p 63). WACJV also committed to monitor vibration at the bridge supports for the Motorway Link Road M1 overbridge to confirm that there would be no impact on this infrastructure during construction of the drift tunnel.

The Department has recommended that the Doyalson Link Road M1 overbridge be included in the subsidence impact performance measure for Key Public Infrastructure. This would ensure that it is maintained in a safe and serviceable condition and that any damage that does not affect safety or serviceability is fully repairable, and must be fully repaired. The Department has also recommended a condition specifically requiring the design and construction of the incline drift tunnel to avoid direct or consequential interaction with existing bridge piles or any effect on bridge structures and requiring WACJV to undertake vibration monitoring during construction of the drift tunnel to confirm vibration levels are within normal infrastructure operational service levels.

5.3 Final Draft Conditions

Revisions have been made to the Department's previously-proposed draft conditions of consent to reflect the Commission's recommendations and additional recommendations made by the Department. In addition, a number of other updates have been made to reflect the Department's current drafting standards for standard conditions for underground coal mining developments.

The Department has also consulted with WACJV, Council, DPI Water, EPA, RFS, RMS, OEH and the Commonwealth Department of Environment and Energy in regard to the recommended conditions.

Comments made by agencies and WACJV have been taken into account in the final drafting of proposed conditions. A list of comments received from agencies and WACJV, and the Department's consideration of these comments are included in **Appendices I and J** respectively.

A complete list of the revisions, including justification for each change and section reference in this RMR, is included in **Appendix K**. The final draft conditions are included in **Appendix L**.

WACJV has advised the Department that it has no objections to the revised draft conditions.

6.0 CONCLUSION

The Department has carefully considered the recommendations of the Commission's 2017 Review report for the amended project, as well as the particular recommendations of the Commission's 2014 Review report for the original project that the Commission considered to not have been fully addressed.

The Department has undertaken further consultation with key government agencies and WACJV, and undertaken additional detailed assessment of the final project, particularly in relation to:

- the CCWS compensatory arrangement required to satisfy the Commission's *"no net impact performance outcome on catchment water resources during the life of the mine"* and post-mine closure compensation;
- the net economic benefits of the project when considering the cost of implementation of the compensatory water supply and greenhouse gas emissions;
- noise mitigation for local residents during construction works and on key surface infrastructure during operations; and
- access arrangements and post-mining management associated with both Nikko Road and Tooheys Road.

This assessment has shown that, with the implementation of relatively minor amendments and updates to draft conditions of consent, coupled with WACJV's proposed mitigation measures and the required management plans, the project can be carried out with limited and acceptable environmental impacts.

In June 2014, the Commission completed its first merit review (of the original project) and concluded that it is able to be approved, subject to clarifying some issues and strengthening a number of the then-proposed conditions. The 2014 Review report concluded that *"if the recommendations concerning improved strategies to avoid, mitigate or manage the predicted impacts of the project are adopted then there is merit in allowing the project to proceed."*

In May 2017, the Commission completed its second merit review (of the amended project) and found that the Department had satisfactorily addressed the Commission's 2014 Review's recommendations, with the exception of draft conditions relating to the compensatory mechanism for water supply.

The Department has subsequently amended and strengthened its draft conditions, including to require:

- development of a Central Coast Water Supply Compensatory Arrangement prior to the extraction of Longwall 6N, which must:
 - be prepared in consultation with Council and DPI Water;
 - supply mine water treated to an equivalent quality as the receiving environment;
 - discharge at least 300 ML/year of treated water directly into the CCWS system at a location mutually agreed with Council; and
 - operate at least until the cessation of mining operations;
- no water loss greater than 36.5 ML/year following the cessation of mining;
- notification of residents at least 3 months prior to the commencement of construction of the conveyor, transfer station and load-out facility to allow them to request noise mitigation prior to construction;
- use the best available technology in noise reduction construction material for the conveyor, transfer station and train load out facility;
- preparation of a Nikko Road Access Management Plan and the construction of a newly formed Nikko Road which complies to particular specified design criteria;
- post-mining management of Nikko Road in accordance with Council requests;
- preparation of a Bushfire Management Plan; and
- additional consultation prior to subsidence and independent audits of the project.

The Department considers that its draft conditions (see **Appendix L**) provide a comprehensive, strict, and precautionary approach to ensuring that the project can comply with relevant criteria and standards, and ensure that its residual impacts are effectively minimised, mitigated and/or compensated for. The proposed conditions incorporate (or else reflect) all changes recommended by the Commission. They are based on contemporary policy, reflect current best-practice and are equitable and enforceable. They reflect current best practice for the regulation of underground mining projects in NSW and protect the local environment and the amenity of the local community and promote the orderly development of the region's important natural resources.

WACJV's estimates of the benefits include the:

- direct employment of 300 full time staff equivalents during operations (targeting 70% local employees and 10% Indigenous employees) and around 450 contractors during construction;
- estimated indirect employment of around 879 people across NSW during operations;
- estimated market employment benefits of \$25 million (Net Present Value); and
- total estimated net economic benefit to NSW of \$274 million (Net Present Value), which includes:
 - \$4 million in voluntary contributions;
 - \$200 million to the State of NSW in royalty revenue; and
 - \$70 million in Commonwealth, State and local tax revenues.

While some of the figures have been questioned by the Department's independent economic expert (notably regarding likely payment of Commonwealth taxes and whether the jobs created resolve unemployment in the mining and related industries, or merely transfer positions), the Department remains satisfied that the project would provide real and significant economic and social benefits for the Central Coast region and for NSW as a whole.

The Department remains satisfied that the project is, on balance, in the public interest. Following on from its assessment of the project, the Department of Planning and Environment considers that the project is approvable, subject to the proposed conditions of consent (see **Appendix L**). This assessment report is hereby presented to the Planning Assessment Commission for determination.



Howard Reed
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Resource Assessments

13.9.17



Oliver Holm
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13.9.17