

16 January 2018

**NSW Planning Assessment Commission Determination Report
Wallarrah 2 Coal Project – D482/17**

1. INTRODUCTION

On 25 September 2017, the Planning Assessment Commission received from the Department of Planning and Environment a State significant development application from Wyong Areas Coal Joint Venture (the applicant) to develop a new underground coal mine

The Department has referred the development application to the Commission for determination in accordance with the Minister for Planning's delegation because the Department received more than 25 submissions from the public in the nature of objections.

The Department's referral follows the Commission's public hearings dated 2 April 2014 and 5 April 2017 and respective review reports¹² (on its Reviews) dated June 2014 and 19 May 2017.

Ms Lynelle Briggs AO, Chair of the Commission, nominated David Johnson (chair), Andrew Hutton, and Dr Peter Williams to constitute the Commission to determine the development application.

1.1 Summary of Development Application

The development application proposes to develop a new underground coal mine located west of Wyong in the Central Coast local government area (LGA), near its boundary with Lake Macquarie LGA. Longwall mining methods are proposed to be used to extract up to 5 million tonnes of run of mine (ROM) thermal coal a year, for up to 25 years. The ROM coal would be sized and screened on site, stockpiled and then transferred by an overland conveyor to a rail siding before being transported by rail to the Port of Newcastle for export.

The proposal includes development of surface infrastructure at three sites. The Tooheys Road site would accommodate a declining tunnel to the underground mine workings, conveyors, coal stockpiles, water and gas management, offices, rail siding and train loadout facilities. The Buttonderry site would accommodate access and ventilation shafts, offices and amenities, an access road, car park and surface water treatment facilities. The site of the Western Ventilation shaft would accommodate a downcast ventilation shaft for the underground workings.

The project originally included development which was partly on land owned by the Darkinjung Local Aboriginal Land Council (Darkinjung LALC), however the applicant did not have the consent of the landowner and an alternate project layout was considered. Consequently, the project no longer includes this land, and has been redesigned to:

- remove the originally proposed rail loop on the Darkinjung LALC's land;
- establish a rail spur and train load out facility to the eastern side of the Main Northern Rail Line;
- include an overland conveyor system to deliver product coal from the ROM stockpile to the train load out facility; and

¹ <http://www.pac.nsw.gov.au/projects/2014/01/wallarrah-2-coal-project>

² <http://www.pac.nsw.gov.au/projects/2017/03/wallarrah-2-coal-project>

- realign the sewer connection to avoid the Darkinjung LALC's land.

As a result of the first review of the amended project by the Planning Assessment Commission (PAC) in April 2017, a compensatory agreement was required whereby treated mine water is now proposed to be returned to the Central Coast Drinking Water Supply Catchment. The applicant has provided indicative pipeline route options and has also nominated a potential discharge point in consultation with the Council. Approvals for these aspects are not included in this development application as the precise route and discharge location are not necessary to conclusively establish, as the means of providing 300ML of water per annum, including any potential pipeline route and discharge location, can be better ascertained closer to the commencement of the compensatory water agreement, and are not prescribed in the conditions to this determination. Additional information on the potential impacts of any pipeline and water discharge will be required in a future application in order to assess and determine the acceptability of these elements. The recommended conditions for the current mining proposal require the compensatory agreement to be developed, prior to the extraction of Longwall 6N. Accordingly, mining operations would not continue into Longwall 6N and beyond unless the compensatory scheme is in place.

The applicant confirmed that it is not necessary to finalise the plans for the pipeline and discharge point as part of this application, as it will not reach this point of mining longwall 6N, for approximately 10 years (which includes 1 year for a feasibility study, 3 years for construction and then 5 years of mining in longwall panels 1N – 5N).

1.2 Background

The first application for the Wallarah 2 Coal Project was lodged in 2006 and was refused by the then Minister for Planning in March 2011 *“because of uncertainties in relation to the subsidence predictions, ability to meet acceptable water quality outcomes and ecological and heritage impacts”*.

In October 2012, a new application was lodged and was subject to a Planning Assessment Commission Review in 2014. The 2014 Review provided 35 recommendations and concluded that if the project adopted all of the recommendations it could be considered for approval, if not, a precautionary approach would need to be adopted.

Following the 2014 review, the Darkinjung LALC initiated legal proceedings in the NSW Land and Environment Court. The project proposed a rail spur on Lot 195 DP 1032847 which is owned by the Darkinjung LALC and land owner's consent for the application had not been granted. The proceeding resulted in the Court's decision that the application could not be determined without the NSW Aboriginal Land Council first providing its consent for Lot 195 DP 1032847, in accordance with Clause 49(3A) of the *Environmental Planning & Assessment Regulation 2000*.

The Secretary of the Department proposed mediation proceedings between the applicant and the Darkinjung LALC which took place from February to April in 2015 without the parties reaching an agreement. Consequently, the applicant was unable to provide the required landowner's consent for those elements of the project on the Darkinjung LALC's land.

The applicant subsequently lodged an amended development application in July 2016 that avoided the land from the Darkinjung LALC. A second review of the amended application was then requested by the Minister for Planning in early 2017. The 2017 Review supported the initial findings of the 2014 review and provided a number of additional recommendations.

Table 1 History of the current Wallarah 2 proposal's assessment and review process

Date	Event
October 2012	Walarah 2 application is submitted.
February 2014	Department completes its Preliminary Assessment Report. The Minister for Planning refers the project to the Planning Assessment Commission for a merit review.
June 2014	The Planning Assessment Commission completes its review and provides 35 recommendations.
June 2014	Land and Environment Court rules that the applicant must obtain consent from the Darkinjung LALC.
February 2015 to February 2016	Department conducts pre-mediation conferences between the Darkinjung LALC and the applicant to reach agreement. Agreement was not reached.
June 2016	Applicant lodges amended application avoiding Darkinjung LALC land.
June 2016 to January 2017	Further negotiations between the Darkinjung LALC and the applicant take place. Agreement was not reached.
February 2017	Department completes its Addendum Assessment Report. The Minister for Planning refers the project to the Planning Assessment Commission for a second merit review.
May 2017	The Planning Assessment Commission completes its review and makes additional recommendations.
September 2017	Department completes its Residual Matters Assessment Report and the project is referred to the Planning Assessment Commission for determination.

2. DEPARTMENT'S ASSESSMENTS REPORTS

The Department completed its preliminary assessment report on 20 February 2014, the addendum assessment report on 1 March 2017 and the residual matters assessment report on 13 September 2017. The residual matters report responded to each of the Commission's final recommendations from the original application and the subsequent amended application. The Department's assessment concluded overall that:

- impacts to groundwater resources, creeks and rivers are likely to be minor as a result of subsidence. The subsidence impacts to built features are also likely to be minor and can be managed through the recommended conditions of consent;
- impacts on water resources, built features, biodiversity, and other environmental matters are minor. Residual impacts would be managed under the conditions of consent and Subsidence Advisory NSW provisions where applicable;
- any potential loss to the water availability from the aquifer of the Central Coast Water Supply would be compensated by the applicant by providing 300ML a year of treated water to the catchment;
- the recommended conditions of consent would provide a comprehensive, strict and precautionary approach to ensuring the project complies with performance and mitigation standards;
- the project would have benefits that include direct employment during construction and operations with estimated market employment benefits of \$25 million Net Present Value and

economic benefits to the state of New South Wales of \$274 million.

3. COMMISSION'S MEETINGS AND SITE VISIT

As part of its consideration of the proposal, the Commission met with the Department, the applicant, and Central Coast Council, and visited the site. Notes from these meetings are provided in **Appendix 1**. The Commission also conducted a public meeting to hear from the community. Notes from the public meeting are provided in **Appendices 2 and 3**.

3.1 Briefing from the Department

On 20 October 2017, the Department briefed the Commission on the history of the project, the recommendations from the 2014 and 2017 PAC Reviews and outlined the strengthening of the recommended conditions following the Review, including the compensation measures and arrangements from possible impacts to the Central Coast Water Supply. The Department also briefed the Commission on social and economic benefits, the level of community consultation undertaken by the applicant, landowner's consent issues and also provided a comparison between the Wallarah 2 proposal and the Dendrobium mine (in the Illawarra area), which was the subject of a recent study as a result of some significant adverse surface cracking which occurred.

3.2 Meeting with Central Coast Council

On 2 November 2017, the Commission met with Central Coast Council. Council indicated that its major concern from the project is the risk to water security of the Central Coast water supply and pointed out that it had had further meetings with the applicant in relation to working together on the water compensation arrangements. Council also provided comments on the recommended conditions of consent to reflect the strategies reached between Council and the applicant.

3.3 Briefing from the applicant

On 2 November 2017, the Commission met with the applicant. The applicant explained its long-term intention of achieving no net impact on the catchment and the water compensation measures agreed with the Department. The applicant also briefed the Commission on its community engagement strategy since the original application and its support to the management of the water compensatory arrangement with Central Coast Council. The applicant also outlined the pipeline options under consideration, for the supply of compensatory water to the catchment.

3.4 Site Visit

On 2 November 2017, the Commission independently visited the area around the proposed locations for the surface infrastructure including the Tooheys Road site, the proposed rail siding area as well as inspecting the Blue Haven residential area and then drove through the roads of the Jilliby and Dooralong valleys, where the underground workings are proposed.

3.5 Public Meeting

The Commission held a public meeting at the Wyong Golf Club on 3 November 2017 to hear the public's views on the proposal. A list of the 21 speakers that presented to the Commission is provided in **Appendix 2**. A summary of the issues raised by the speakers and provided in written submissions is provided in **Appendix 3**.

4. ADDITIONAL INFORMATION

The Commission sought expert advice on subsidence impacts from Emeritus Professor Jim Galvin. In particular, the Commission sought to understand whether there is any significant new or emerging knowledge that would influence the findings of previous work, reviewed in 2010, and if so, whether the 2010 findings can still be relied upon. E/Prof Galvin's advice is attached (see **Appendix 4**).

On 16 November, the Commission sought additional information from the applicant that included concerns from Dr Philip Pells and the Darkinjung LALC on possible water loss, sources to replenish downward leakage from the alluvium, compensatory measures to topography changes as a result of

any possible early cessation of operations, alternative pipeline routes and discharge points for the compensatory water supply; and Tooheys and Nikko Roads ownership arrangements after cessation of operations (see **Appendix 5**).

The Commission also sought clarification from the Department on Dr Pells' claims in relation to the project being non-compliant with NSW Aquifer Interference Policy; and whether landowner's consent was provided for each of the lots identified in Appendix 1: Schedule of Land in the draft conditions (see **Appendix 6**).

In response to these requests, the Commission received additional information from the Department and the applicant on 22 and 23 November 2017 respectively (see **Appendix 7 and 8**).

5. COMMISSION'S CONSIDERATION

In this determination, the Commission has considered carefully:

- all information provided by the applicant including the additional information that was provided through the process;
- the Department's preliminary, addendum and residual matters assessment reports;
- additional information from the Department;
- advice and recommendations from experts and government agencies;
- speakers' presentations at the public hearing (and public meeting) and written submissions received by the Commission;
- relevant matters for consideration specified in section 79C of the *Environmental Planning and Assessment Act 1979* (EP&A Act), including:
 - relevant environmental planning instruments;
 - the *Environmental Planning and Assessment Regulation 2000*;
 - the likely impacts of the development on both the natural and built environments;
 - social and economic impacts in the locality;
 - the suitability of the site for the development;
 - written and verbal submissions from the public; and
 - the public interest, including the objects of the EP&A Act.

The key matters considered by the Commission during this process include:

1. Strategic context
2. Impacts on surface and groundwater
3. Impacts on residents and property relating to mine induced subsidence
4. Continued access due to proposed road closure
5. Biodiversity
6. Economic costs and benefits
7. the precautionary principle.

The Commission is satisfied with the Department's assessment of other matters including Aboriginal cultural heritage, historic heritage, cliffs and rock formations, traffic and transport, agriculture, visual impacts, contamination, management of waste, rehabilitation and the relevant environmental planning instruments, including *Wyong Local Environmental Plan 2013*, *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*, *State Environmental Planning Policy No 71 – Coastal Protection* and *State Environmental Planning Policy (Infrastructure) 2007*.

5.1 Strategic context

5.1.1 Coal quality, demand and greenhouse gas emissions

The Wallarah 2 coal mine proposes to extract 95 million tonnes of high-grade thermal coal over 28 years. Coal mining would be undertaken at depths of between 350m and 690m below the surface within the underground extraction area. Mining and related activities are expected to occur 24 hours a day, seven days a week. Extracted coal would undergo minimal processing on site. Product coal would be transported by rail to the port of Newcastle for export or to local domestic power stations.

Demand for coal over the next 28 years and the acceptability of the greenhouse gas emissions associated with the end use of the coal are significant uncertainties for the project. Renewable energy technologies have advanced substantially since mining of this resource was first contemplated. Global agreement on climate change and the need for mitigation has also strengthened around the Paris Agreement at the United Nations Framework Convention on Climate Change at the 21st Conference of the Parties in Paris (30 November to 12 December 2015).

Notwithstanding this, construction of new thermal coal power plants continues. In Southeast Asia alone, coal consumption could more than double in the period to 2040 under some estimates.³ Even scenarios designed to accommodate the objectives of the Paris Agreement suggest Southeast Asia's coal consumption will increase, before falling back to current levels, of around 60 GW of coal generated electrical capacity in 2040.⁴ The Powering Past Coal Alliance declaration notes that coal phase-out is needed no later than by 2030 in the OECD and EU28, and no later than by 2050 in the rest of the world.⁵ Carbon capture and storage solutions also continue to be developed.

The Commission acknowledges there is uncertainty in the future demand for thermal coal over the life of the proposed project. Generally, the profitability of the project is a matter for the applicant in developing and operating the mine. Nonetheless, the Commission has considered carefully the potential impacts of the mine becoming unviable, and ceasing to operate partway through the proposed 28-year Life of Mine plan. The Commission notes the potential socio-economic impacts of an unplanned early mine closure, and has also sought clarification on the environmental impacts of an unplanned mine closure. These issues are discussed further in section 5.2 and 5.6 below.

The Commission also acknowledges the greenhouse gas emissions that would be produced from any future burning of the coal extracted, whether it is consumed locally or internationally. It is noted that presently there are alternative coal sources available to the market in the event that this mine does not proceed. Consequently, the downstream use of the coal (and any emissions abatement or capture technologies deployed) will need to be considered at that location.

In relation to the emissions generated on site, the Commission is satisfied that greenhouse gas emissions will be minimised as the conditions require a feasibility study for the beneficial use of methane, along with implementation of any feasible options, and the capture and flaring of methane where beneficial use is not feasible.

5.1.2 Regional context and project location

The proposal is located within the Central Coast region and local government area, and largely to the west of the M1 Pacific Motorway. It adjoins the Lake Macquarie local government area. The proposed underground mining area is positioned within the Central Coast's drinking water supply catchment, noting also that there is a pipeline between the Central Coast and the lower Hunter that was established as a result of a 2006 agreement to supply water in either direction during periods of prolonged dry. Significant concerns have been raised about potential impacts on this drinking water catchment and on the water supply for the growing Central Coast population which has been estimated to grow to 415,050 people with 36,350 more households over the next 20 years to 2036.⁶

³ International Energy Agency, 2017. Southeast Asia Energy Outlook 2017
https://www.iea.org/publications/freepublications/publication/WEO2017SpecialReport_SoutheastAsiaEnergyOutlook.pdf

⁴ Ibid

⁵ Powering Past Coal Alliance: Declaration
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/660041/powering-past-coal-alliance.pdf

⁶ <http://www.planning.nsw.gov.au/~media/Files/DPE/Plans-and-policies/central-coast-regional-plan-2036-2016-10-18.ashx> accessed 13 December 2017

This issue has been the subject of detailed review by previous panels of the Planning Assessment Commission and this Commission has considered the issue and the reviews carefully. Impacts on water are discussed in section 5.2.

The proposed mine plan underlies a number of private properties, homes, agricultural operations and areas of State Forest and State Conservation Area. The pit tops and related infrastructure are located within relatively sparsely populated areas, however concerns have been raised about potential health, amenity, access and land sterilisation impacts, as discussed in section 5.3. Notwithstanding these concerns the mine would generate significant local employment which is consistent with strategic planning for population and economic growth in the region.

5.2 Water

Potential impacts on water have been considered in detail in the assessment and reviews of the application. Key potential impacts and risks can be categorised as:

- those immediate impacts and risks associated with undermining the Central Coast's drinking water supply, including potential impacts on surface water and the shallow alluvial aquifer;
- long-term, temporary or ongoing impacts and water loss from the Central Coast water supply catchment; and
- impacts on groundwater, including the loss of water to existing bores, availability of water for any future bores and the management of water within the mine underground workings.

5.2.1 Impacts and risks to the Central Coast water supply during mining

The project proposes to extract coal under the Wyong River catchment aquifer that feeds the Central Coast water supply. This water resource is considered highly significant as the population in the Central Coast is supplied by the catchment and is expected to significantly increase by 2020 and beyond. Therefore, evaluation of the risks to the water supply, to the aquifer and its quality are considered of critical importance.

The assessment and previous reviews of the application have found that there would be a small and temporary impact on water flows as a result of changes to topography as mining and associated subsidence progresses across the mine plan. The applicant has indicated the water would not be lost, or drain to the mine workings. Rather, the impact is associated with a drop in the relative level of the surface water features and shallow water storing alluvium where it is undermined, comparative to surrounding receiving surface water features. This means some additional water would be temporarily stored lower in the alluvium, relative to surface features that have not been undermined. Consideration was also given to this process in the event of an unplanned closure where ongoing longwall mining would cease.

Reductions in surface flows are predicted at less than 300 ML a year. This impact is associated with both changing the topography of the alluvium (discussed above) and the storage of water within shallow cracks (predicted at up to 2.45ML a year). In the 2014 Review, that panel of the Commission considered this matter carefully and made a recommendation for the applicant to ensure there would be *"no net impact on the water availability in the catchment"*. The Commission also found that the maximum predicted impacts on the catchment should be able to be offset with compensation of suitably treated mine water for any water loss during the life of the mine.

In response to the 2014 Review Commission's recommendation, the applicant agreed to develop a compensatory mechanism and a water quality monitoring regime, in consultation with the relevant agencies. The Department reflected that commitment in its recommended draft conditions and in addition it recommended the applicant consider all reasonable and feasible measures, including purchasing water licences, to compensate for measured water losses

In the 2017 Review, the Commission considered that the Department's recommended conditions for the purchase of water licences did not meet the 2014 Review intent of *"no net impact on the*

catchment yield". Consequently, the 2017 Review by the Commission recommended the strengthening of the conditions with preference for a compensation mechanism of returning sufficiently treated water to the catchment side of the water supply system.

The Department's Residual Matters Report indicates that the applicant has now agreed to the compensation mechanisms, in consultation with the relevant agencies, in response to both the 2014 and 2017 reviews. The applicant has agreed to provide at least 300ML of treated water per year into the catchment, from the extraction of Longwall 6N onwards, in consultation with DPI Water and Central Coast Council.

Preliminary options for the development of a pipeline to take treated water from the mine site to the catchment have been prepared, but are not included in this application. The Commission questioned the applicant on this point. It advised that the compensatory water will not be required to be supplied for almost a decade and consequently a final solution to deliver the treated water would be resolved with the Council in the intervening years (noting that strategic planning, growth and development outcomes may influence the final layout and/or return point). The Commission is satisfied that there are options available and a solution to develop the infrastructure and deliver the compensatory water can be adequately resolved in the intervening years, prior to the mining of Longwall 6N.

Concerns of impacts beyond those predicted

The Commission noted considerable concerns within the community about the potential for greater impacts on the drinking water catchment, particularly that cracking would drain surface water flows. It was noted that connective cracking has become an issue for some long wall mining operations within Sydney's drinking water catchment, including relatively recently at the Dendrobium Mine in the Illawarra area. The Commission acknowledged this concern and sought further information from both the Department of Planning and Environment, and subsidence expert Emeritus Professor Jim Galvin.

The Department of Planning and Environment noted there are significant differences between the Wallarah 2 proposal and the Dendrobium mine. It identified a number of key differences, particularly the width to depth ratio, the topography, the geology, the prevalence of geological features, and the presence of historical mine workings in the case of Dendrobium (see the summary of the Commission's briefing from the Department at **Appendix 1**).

The Commission also sought the expert advice of E/Prof Galvin on whether there is any significant new or emerging knowledge that would influence the findings of previous work he had reviewed in 2010, and if so, whether the 2010 findings can still be relied upon. E/Prof Galvin's advice is attached in **Appendix 4**. It confirms there is a very high level of confidence that connective cracking would not develop over the longwall panels proposed to be extracted as part of this application. The advice notes that two longwall panels that are not part of this development application, but are mapped for potential future mining (longwall panels LW20N and LW21N) could result in direct hydraulic connection reaching the surface above these longwalls. Again, longwall panels LW20N and LW21N are not part of this application and as such these potential impacts would need to be considered in any future applications made by the applicant to extend the life of the mine beyond the current mine plan which is the subject of this application. With respect to the current mine plan, adaptive management and trigger action response plans should ensure the risks of exceedance of any performance measure are identified early and are able to be avoided (for example by reducing the longwall panel width, or stopping short of a particular feature or sensitive location). Nonetheless, the Commission has taken a conservative approach and added a requirement in the conditions of consent for an additional independent audit within 6 months of the completion of longwall panel 14N, to be finalised prior to the commencement of mining longwall panel LW16N, to ensure the width of mining is appropriately managed to prevent any direct hydraulic connection developing.

The Commission also sought to clarify whether any greater longer-term loss to the creek water would occur in the event that extraction stopped short of that outlined in the current mine plan which would

leave part of the site subsided and other parts at existing relative topographical levels. The applicant advised that any adjustments to the water table level as a consequence of subsidence would soon reach an equilibrium level with no further net loss of surface water. Consequently, the Commission is satisfied impacts on the Central Coast water supply would not be adversely affected in the event of early mine closure.

5.2.2 Groundwater and acceptability of water take

Concerns about the impact on groundwater, including the volume of water captured by the mine and the associated impacts on existing and potential future groundwater bores were raised by members of the public with the Commission. In particular it was suggested that the mine's impact would be inconsistent with the NSW Aquifer Interference Policy. The Commission sought and received clarification on this point, including from the Department of Industry's Crown Lands and Water, that the project is consistent with Level 1 impact considerations of the policy. The Commission notes that conditions require the applicant to compensate the owner of any privately-owned land for any adverse impact on their water supply.

Long-term or ongoing impacts and water loss from the Central Coast water supply catchment

The source of water to replenish groundwater impacts was questioned in objections to the project. The Commission notes that only 7.3ML/year is predicted to leak from the alluvium. A further 29.2ML/year is predicted to leak from the shallow hard rock groundwater system. The Commission sought clarification from the applicant on whether any other water sources or replenishment pathways would exist. The applicant reiterated its earlier predictions about leakage from the alluvium, highlighting that recharge rainfall would exceed the leakage volumes. It indicated it does not envisage that seepage from the alluvium would result in redirection of water from any other surface or groundwater sources.

This annual predicted loss is small, and the Commission notes that the applicant predicts piezometric drawdown in overlying geological strata for at least 500 years. The mine would act as a groundwater sink for the foreseeable future. While acknowledging concerns raised about potential future use of this groundwater, the Commission accepts groundwater impacts are predicted to comply with the NSW Aquifer Interference Policy and would have minimal loss impacts on the drinking water supply catchment. Nonetheless, it will be critically important to ensure any mining undertaken is carefully managed with monitoring and adaptive management measures being implemented to identify the impacts and to ensure they are within an acceptable range to those predicted in the EIS. Consequently, the Commission has carefully considered the recommended conditions of consent and made amendments, as follows.

The Commission was satisfied with conditions specifying performance measures, including that the applicant shall ensure there is no connective cracking (Condition 1 of Schedule 3), but noted potential confusion with later conditions (e.g. Condition 3 of Schedule 3) which specifies actions to be taken in the event performance measures are exceeded. The Department confirmed that other conditions are not intended to interact or in any way impact on the meaning of the performance measures, and that these would not affect the ability for regulatory action to be taken in the event the mine did not comply with the performance measures set out in the conditions. The Commission accepts this advice. Nonetheless, in light of the sensitive location of mining, the Commission has added a condition allowing the Secretary to require mining to cease in the very unlikely event that a significant breach occurred, as part of the suite of regulatory and compliance action available to the Department.

With these conditions in place the Commission is satisfied that impacts on surface and groundwater resources, and the Central Coast Water Supply in particular, can be acceptably managed.

5.2.3 Management of mine water

The mine is predicted to produce up to 2.5 ML of water a day, with emergency capacity to dewater 3.5 ML a day following temporary storage during wet periods. A water treatment plant is proposed to

be installed to allow the mine water to be treated. Treated water will be discharged to Wallarah Creek (other than that water which is returned to the Central Coast water supply catchment, from commencement of mining of Longwall 6N). The Commission notes the impact of discharging additional treated water into Wallarah Creek has been assessed, and is satisfied suitable conditions are in place to ensure this impact is appropriately managed.

The Department has also considered the impacts on the coastal zone as required by *State Environmental Planning Policy No. 71 – Coastal Protection* (SEPP71), finding that potential impacts associated with management of effluent and stormwater would be appropriately managed. Effluent would be directed to the Charmhaven Sewage Treatment Plant, and runoff would be captured and treated prior to being discharged from the site. The Commission has considered the relevant requirements to protect public access, effluent disposal and stormwater under SEPP 71 and is satisfied that:

- the proposal will not impede or diminish access to or along the public foreshore;
- effluent will be appropriately disposed of; and
- stormwater will be appropriately treated prior to discharge.

The Commission is also satisfied conditions will require other surface water impacts to be appropriately managed, including:

- the waste salt or brine from the water treatment plant that is proposed to be returned to the mine workings; and
- that pit top stormwater controls are appropriately designed and implemented.

5.3 Residents and property

5.3.1 Subsidence

Subsidence would occur above the extraction area, with predicted ground level reductions of up to 1000mm under the Hue Hue Mine Subsidence District Area and up to 2600 mm under the State Forest Area. This change in ground level has the potential to cause a number of impacts, including on built structures and on flooding of property and emergency access routes. These issues have been considered in both reviews undertaken by the Planning Assessment Commission.

As part of the 2017 Review, the Commission noted and was satisfied that the Department had amended the draft conditions of consent to reflect the 2014 Review recommendations on subsidence and mitigation measures.

The amended application did not propose additional impacts from subsidence as the subject of the amendments related to the rail component of the project. The Commission was therefore satisfied that the recommendations from the 2014 Review were still applicable.

Nonetheless, the Commission recommended further clarification on a range of concerns raised at the public hearing that related to compensation for subsidence impacts and damage to private and public properties, built structures and infrastructure, disputes resolution, and flooding.

5.3.1.1 Built structures and infrastructure

Subsidence has the potential to impact on built structures and infrastructure; this includes residential property, commercial and infrastructure facilities such as the Buttonderry Waste Facility and power and water services. The 2014 Review made a set of recommendations on subsidence performance measures and compensation measures on property damage in response to concerns raised by the community.

Following the recommendations, the Department's Addendum Assessment Report indicated that affected landowners will be able to request compensation in accordance with the changes to the *Mine Subsidence Compensation Act 1961 - MSC Act 1961*. The changes included that underground coal

mine operators are directly responsible for the subsidence damages that they cause at their own cost. The draft condition in the amended application caused some confusion amongst the community on the extent of the change and the processes to follow.

In considering this issue the 2017 Review noted that the draft conditions included a requirement for the applicant to prepare a Built Features Management Plan in consultation with the Division of Resources and Energy (DRE) and affected owners. The condition also requires the plan to define additional performance indicators for each of the performance measures.

The Commission was satisfied with the approach taken by the Department and accepted the draft condition. Nonetheless, the Commission acknowledged the community's concerns and recommended the inclusion of performance measures to minimise possible future disputes between the applicant and any landowner on property damaged by subsidence.

The Department has now included the Buttonderry Waste Management Facility in *Table 2 Subsidence Impact Performance Measures* in condition 2 of Schedule 3 of the conditions of consent.

5.3.1.2 Flooding

The area above the proposed underground mine is subject to flooding by both the 1 in 5 year average recurrence interval (ARI) event (20% annual exceedance probability (AEP)) and the 1 in 100 year ARI event (1% AEP).

During a 1 in 100 year ARI flood event an additional 33.2 ha of land is expected to be flooded, while 4.9 ha would no longer be flooded. Flood depths are predicted to increase by up to 1.35 m during the 1 in 100 year ARI event. Of the 88 dwellings located on the floodplain 33 are predicted to be adversely affected (as well as two sheds), including four dwellings that are not currently subject to inundation during the 1 in 100 year flood event and one that would become inundated during the 1 in 50 year event. Fifteen roads and bridges are predicted to be impacted by flooding, with one section of Jilliby Road being inundated for 27-31 hours longer (i.e. for a total of 33 hours during each 1 in 100 year ARI event and for 31 hours during the 1 in 5 year event) – affecting 172 residences.

The 2014 Review considered this issue in detail, noting that up to 198 dwellings within the Dooralong Valley may have no emergency access if low points D50 and D70 are cut off simultaneously.

Mitigation and management measures are proposed for the adversely affected dwellings, including house lifting or relocation for certain properties and flood levees for five others. Where property modifications are impractical or ineffective the applicant has committed to purchasing the properties, or providing compensation.

Submissions from the community and Central Coast Council raised concerns that flooding impacts would be larger than those predicted as subsidence predictions, timing and how the pillars would yield was uncertain.

During the 2014 Review, the Commission acknowledged these concerns and noted that the Department's Preliminary Assessment Report had considered and addressed these issues into the draft conditions. The Commission was satisfied with the predicted impacts, the applicant's mitigation measures and the Department's approach; and further recommended that:

- prior to determination the consent authority should consider the risk of pillars failing to yield or not yielding uniformly;
- potential impacts on stream morphology; and
- mitigation measures and compensation should be included in an Emergency Evacuation Management Plan, prepared in consultation with affected landowner and relevant agencies.

The Department's Addendum Assessment Report pointed out the applicant's potential mitigation measures to stream morphology and flooding impacts and accepted the recommendations. The Department further included a requirement for a flood management protocol as part of the Water Management Plan to be prepared in consultation with State Emergency Services and Central Coast Council.

As the amended application for the 2017 PAC Review and for this determination did not propose changes to the mining methods or sequence and subsidence impacts, predicted flooding impacts and recommended conditions have remained the same. Therefore, the Commission considered that although the same flooding impacts concerns were still raised, these had been adequately addressed by the applicant and the Department.

During the determination process, the applicant provided further information to the Commission restating the current flooding conditions of the area. The response also indicated that while some areas are predicted to experience minor flooding increase, adaptive management would validate the subsidence model and identify areas that would require further attention.

The Commission is satisfied that flooding impacts have been adequately addressed by both the Department and the applicant. The Department has strengthened the conditions of consent on the adaptive management approach and validation of the subsidence model, and has required the applicant to execute proper planning on flood risks and impacts with affected landowners and appropriate authorities. The Commission has also clarified in the conditions, that public roads affected by flooding as a result of mine subsidence must remain safe and serviceable, ensuring residents will not be adversely affected by roads becoming impassable where they are not currently subjected to flooding.

5.3.2 Road closures/acquisitions

Separate to this development application, the applicant has sought approval from Crown Lands to close both Nikko and Tooheys Roads. It has indicated it proposes to locate mine infrastructure within part of the road reserves.

5.3.2.1 Access to properties adjoining Nikko Road

Submissions from affected landowners, including the Darkinjung Local Aboriginal Land Council, raised concerns that the closure would prevent access to their adjacent land and would prevent future connectivity between Wyee and Warnervale town centre. Central Coast Council also initially expressed concerns that the purchase of Nikko Road was not necessary, as well as raising issues around arrangements for the road's tenure post mining.

In the 2017 Review, the Commission noted that the applicant will offer adjacent landholders a 6-metre wide all-weather easement providing access through Nikko Road, including to the Darkinjung LALC landholdings. The Commission was generally satisfied with the solution for landholdings north of the Link Road. However, final details of the easement or access arrangements were still underway and a recommendation was made for the applicant to provide design details of the access roads prior to determination. A recommendation was also made to prepare and implement a Nikko Road access management plan in consultation with the affected landowners.

The Department's Residual Matters Report indicates that the applicant has produced an indicative concept design and access arrangements from additional consultation with affected landowners. The Department concluded that the access arrangements would be acceptable with: the adoption of the 2017 Review recommendation; included design details; and the conditions providing for the maintenance of Nikko Road and for the tenure to be transferred to Council upon completion of mining activities (if the applicant is granted the tenure).

At the public meeting, the Darkinjung LALC raised concerns that the details of the easement and terms of the access are still unclear as the applicant has not officially provided design and access management plans.

Vehicle access to this road corridor is currently not well serviced, nonetheless, the Commission sought further advice from the applicant on the access arrangements for properties relying on Nikko Road south of the Link Road. Unhelpfully, the applicant listed the various documentation it had presented to the Department on the easement arrangements. The Commission was already aware of this information. The response also states that the current plan for the easement reflects the Darkinjung LALC's requests and that it does not restrict access to their land. The applicant also indicates that an indicative access plan and road layout and section plans were formally submitted to the Darkinjung LALC in June 2017. The Commission also understands the project is not contingent on the outcome of its road closure application.

The Commission understands the application to close the road is subject to a separate process. For its part however, the Commission is satisfied with the conditions that require access to be provided to adjoining land holdings and requirements for the road to be returned to public ownership, post mining (in the event the road closure application is approved).

The Darkinjung LALC has otherwise provided detailed submissions about suggested impacts associated with this aspect of the development. The Commission has carefully considered all of those submissions and is satisfied that the conditions are appropriate in the circumstances as they maintain a form of access with a 6-metre wide road and include further provision for it to be handed back to Council on the conclusion of mining.

5.3.2.2 Emergency access via Tooheys Road

The original application proposed the potential closure of a section of Tooheys Road adjacent to the proposed pit top area; this raised concerns about emergency access and egress for nearby residents.

The 2017 Review noted that there was insufficient information on the extent of the portion of the road to be closed. The terms of the access arrangements in place for emergency vehicles and residents in emergency situations were also unclear. Consequently, the Commission made a recommendation for the applicant to clarify the extent of Tooheys Road to be closed as well as the arrangements for access.

The Department's Residual Matters Report indicates that the applicant's proposal to close and purchase a portion of Tooheys Road responded to security concerns raised by local residents. The Department also indicates that since the concern was raised the applicant has now committed to keeping Tooheys Road open to public access. While the applicant has confirmed that purchase of the road is not essential to the proposal, it is awaiting a separate decision on its application to purchase a section of the road. While the purchase of the road does not form part of the application before the Commission, the Department has recommended a condition to enforce the applicant's commitment on keeping the purchased section of Tooheys Road open, in the event the road is purchased.

The Commission had concerns about whether closure and purchase of Tooheys Road was necessary and on the details of the access arrangements for emergency vehicles and residents in emergency situations.

The Commission sought further advice from the applicant on these matters, including whether the proposed mine infrastructure could be built within the road corridor without closure and purchase of Tooheys Road. The applicant's response details the section of the road to be purchased. The response indicates that the restricted access proposal had been developed in response to issues raised by some local residents on illegal activities occurring on Tooheys Road. The applicant confirmed its commitment to keeping the road open to the public.

The response also indicates that the applicant has no issues in returning the road to public ownership upon completion of mining and notes the Voluntary Planning Agreement with the Council on the requirements to maintaining the road to a standard agreed with Council.

The Commission is now satisfied that the conditions would ensure Tooheys Road remains open to public access over the life of the mine, regardless of whether it remains in public ownership, or is purchased by the applicant. The Commission has added a condition requiring the applicant to return the road to public ownership at the conclusion of mining and consequently it is satisfied this will ensure the road is available for emergency access if required.

5.3.3 Noise

The original application proposed the main surface facilities which included the rail infrastructure component and a rail loop at the Toohey's Road site. This raised concerns amongst the community about the possible noise impacts to adjacent residences during construction and operations, especially from wheel squeal.

The 2014 PAC Review noted that although noise would meet the relevant criteria, properties 57 and 58 would experience exceedances of the Project Specific Noise Levels (PNSL), specifically from wheel squeal, due to their proximity to the rail infrastructure at the Tooheys Road site. The Commission made two recommendations for this impact to be addressed.

As a result of the unsuccessful outcome of the mediation between the applicant and the Darkinjung LALC, the applicant lodged an amended application that relocated the rail component of the project to the eastern side of the Main Northern Rail Line with the addition of a conveyor system and the removal of the rail loop spur. Because of the changes, the proposed number of train movements per day had changed from 12 to 6 and the overall noise impacts were reassessed.

The 2017 PAC Review was generally satisfied that noise impacts from the original application were adequately addressed and that the two recommendations made by the 2014 PAC Review were no longer applicable to the project. However, the amended application posed significant construction noise impacts to residences P14, P15, and P16. The Commission noted that construction noise would exceed relevant levels by up to 20dBA outside standard construction hours and operational noise exceedances of up to 4dBA from the rail and train load-out infrastructure. The applicant advised that consultation with the owners of P15 and P16 was underway but that it has not been successful in contacting the owners for P14.

The 2017 Review recommended a condition requiring the applicant to provide mitigation measures for these properties and to use best available technology of noise reduction construction material for the rail infrastructure.

The Department's Residual Matters Report indicates that the draft conditions of consent already provided mitigation for properties P14, P15, and P16 upon request and the applicant had committed to continue liaising with these residents during construction of the rail infrastructure and operations. Nevertheless, the Department supported the recommendation and included a condition in the recommended consent for the applicant to notify noise affected residents at least three months prior to the construction of the conveyor, transfer station and loadout facility. The Department also supported the recommendation to use best available technology in noise reduction construction material and has amended the conditions as such.

The Commission notes that for this determination, no changes to the noise impacts are proposed and no new noise issues have been raised by the community. The Commission has carefully considered

the assessment and reviews undertaken and is satisfied the noise conditions would ensure impacts on surrounding residents are minimised where possible.

5.4 Air quality

At the public meeting, the Commission heard from the community that dust from the coal stockpile and handling area would reach homes adjacent to the surface facilities, causing health impacts as well as polluting water tanks.

The 2017 Review considered the implications of the amendments to the project, including the location of the coal stockpile. The review noted and was satisfied with the EPA's report and the applicant's updated air quality and greenhouse gas assessment report which concluded that the predicted emissions from the amended project will be within the relevant assessment criteria. The review also noted that in relation to the risk of polluting water tanks, the predicted emissions would be below the relevant criteria.

The Commission understands the issues raised, and acknowledges the community concerns. However, since the 2017 Review, there has been no additional information provided that the Commission considers warrants it taking a different approach on air quality. Therefore, the Commission is satisfied that the findings of the 2017 Review still stand.

The Commission notes that recommended conditions 8 to 10 of Schedule 4 of the conditions of consent require the applicant to monitor air and dust emissions in accordance with the air quality criteria. The conditions also require the implementation of an air quality and greenhouse gas management plan and monitoring regime.

The Commission is satisfied that with these measures in place, residual air quality impacts, including airborne dust would be appropriately managed and will be unlikely to affect the water quality in residents' water tanks.

5.5 Biodiversity

The application includes the clearing of native vegetation, including three endangered ecological communities (EECs) listed under the NSW *Biodiversity Conservation Act 2016*:

- Blackbutt – Turpentine open forest of the foothills of the North Coast (5.41 ha)
- Paperbark swamp forest of the coastal lowlands of the North Coast and Sydney Basin (0.63 ha); and
- Spotted Gum – Broad-leaved Ironbark grassy open forest of dry hills of the lower Hunter, Sydney Basin (4.47 ha).

A number of other vegetation communities would also be impacted by clearing including 49.42 ha of native vegetation. This would include clearing of the Charmhaven Apple species. While Black-eyed Susan, Bynoe's Wattle and Leafless Tongue-orchid species were not identified in field surveys they are considered likely to occur within the proposed disturbance area. The Charmhaven Apple, Leafless Tongue-orchid and Black-eyed Susan are listed as vulnerable under both the NSW *Biodiversity Conservation Act 2016* and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, while the Bynoe's Wattle is endangered in NSW and vulnerable at the national level.

Threatened fauna species could also be impacted with clearing of 43.4 ha of potential habitat for the Spotted-tailed Quoll. A further 2725.8 ha of potential habitat would be undermined, with potential for some relatively minor impacts associated with subsidence.

The Commission also notes that there is potential koala habitat within the project area. Up to 9.9 ha of potential koala habitat is predicted to be impacted. The Department's assessment has found that the application is consistent with the aims, objectives and requirements of *State Environmental Planning Policy No. 44 – Koala Habitat Protection*. The Commission has considered this impact in relation to the requirements of SEPP 44 and is satisfied core koala habitat would not be impacted.

A total of 1.7 ha of Mountain Blue Gum – Turpentine Moist Shrubby Open Forest would be removed, where the Giant Barred Frog is known to occur. A further 1040.7 ha of this forest community could be impacted by subsidence; however, the Department's assessment has found these impacts are expected to be minimal and that breeding habitat for the species is highly unlikely to be affected. The Department has recommended conditions requiring a frog research program to be implemented over four years, followed by an ongoing monitoring program for the life of the project. The Commission notes that the proposed figure of \$156,000 nominated for the research program was originally provided to the Commission in early 2014 and would have been calculated in 2013, consequently, the figure has been updated to reflect indexation since 2013.

In addition to the direct clearing or disturbance of vegetation on and around the surface facilities, the proposal would undermine areas containing a number of endangered ecological communities and threatened species.

The Commission received comments from one resident suggesting the Lowland Rainforest on Coastal Floodplains EEC (not previously identified by the applicant) occurred on property to be undermined. The applicant has indicated that this community is not likely to occur in the region. Nonetheless, the Commission understands it is possible the community is present. The Commission has carefully considered whether it was necessary to confirm the presence of the Coastal Floodplains EEC, noting that this would require detailed species composition surveys to determine whether the vegetation is part of that endangered ecological community. The Commission has found that this is not necessary at this stage. Given a number of endangered ecological communities and groundwater dependent ecosystems are known to occur in the area to be undermined, the Commission has found that the potential impacts of undermining sensitive ecological communities have been assessed. The assessment found that while there would be temporary, localised changes to the water table levels, given the low permeability of the alluvial material and the low reliance on the water table in elevated areas (along with rapid recharge from rainfall) no significant impacts are expected. The Department has recommended conditions including a performance criterion of negligible environmental consequences on threatened species, threatened populations and endangered ecological communities from underground mining. The Commission is satisfied this will ensure impacts are minimised and managed.

The Commission is satisfied with the Department's assessment that found other listed flora and fauna species are unlikely to be significantly impacted.

5.6 Social and economic impacts

The economic analyses of the Wallarah 2 Coal project have been the subject of significant contention over the assessment of this project. In particular, the level of economic benefit has been questioned, as well as the viability of the application, particularly given fluctuations in coal export prices and questions about the future demand for thermal coal. Recent submissions have noted the significant difference in the estimates of the economic costs and benefits, which range from an original economic contribution to NSW of \$1,561 million to a more conservative recent estimated economic benefit of \$32 million (from the Centre for International Economics (CIE) who were engaged by the Department - to provide independent advice on the economics of the project). It has also been suggested that the costs of the project are likely to outweigh its benefits.

This issue has been considered in detail in both the 2014 and 2017 reviews of the project, and in both reviews the Commission accepted that the project would have some economic benefits to the region and to the state. The Commission found that early estimates of the economic benefits had been overstated, and that the applicant will need to ensure that the residual impacts are reduced to a level that is commensurate with this altered evaluation. Preventing or compensating potential impacts on water supply for the Central Coast were considered key to ensuring environmental costs do not exceed the projects benefits. More recently the 2017 Review recommended that conclusions on the net

economic benefits should be clarified prior to the determination as the figures provided by the consultants were significantly different and highly contested.

The Department's latest report explains that the cost-benefit analysis by Gillespie Economics (undertaken on behalf of the applicant) includes an extra percentage of capital cost that captures the changes and that the inclusion of the new infrastructure was balanced by the removal of the rail loop and cost related to using the Darkinjung LALC land for the rail spur. The Department's report suggests that the differences appear as both consultants utilise different approaches in their models, the applicant's being less conservative than used by CIE.

The mine is predicted to employ the equivalent of 300 full time employees during operations, and approximately 450 contractors during construction. This is a significant number of jobs for the local area. Nonetheless the long-term security of jobs such as these in the mining sector is somewhat uncertain given the questions about the future demand for coal and the implications for the viability of the mine across its life. While financial profitability of a project is not typically a relevant consideration, the Commission notes early mine closure, or the replacement of many employees through automation, would have negative socioeconomic impacts. The Commission acknowledges these uncertainties, and the resulting number of employment opportunities over the duration of the mine's life.

Social and economic impacts for those affected by subsidence, or in the vicinity of pit top sites must also be considered. The Commission heard from a number of speakers concerned about the impact of the proposal on their properties, amenity and/or health. The uncertainty about whether the application would proceed, and the level of impact each individual would experience will also be an ongoing concern for residents, some of whom would not be undermined for many years. Ultimately systems for managing mine subsidence impacts and compensatory mechanisms are well established in NSW. The Commission nonetheless acknowledges the potential for impacts on the social wellbeing of the local community.

In the same vein, the Darkinjung LALC submitted that it has proposals in train, to rezone and develop its land, that would be negatively impacted by the mine. The Commission has carefully considered those submissions. The Commission notes that the prospects of those projects appear somewhat uncertain. Nevertheless, and irrespective of that matter, the Commission is satisfied the assessment has found the mine's operations would comply with relevant amenity criteria in NSW policy in relation to noise and air quality and is satisfied impacts on adjoining properties can be managed within acceptable levels for the current land use zones.

The Commission finds that economic costs and benefits of the project are finely balanced, with inevitable uncertainties about the demand for thermal coal 20 years into the future. Nonetheless, the Commission has found the proposal will bring significant employment benefits during construction and for the duration of the mining operation. With the generation of royalties and local investment the Commission is satisfied the proposal will benefit both the local community and the state of NSW. This satisfaction exists irrespective of whether there is an early shutdown of the mine. Ultimately the profitability and associated viability of the mine is a matter for the applicant, and it will be important to ensure the government maintains adequate rehabilitation bonds, and that closure and/or workforce adjustment plans provide detailed contingencies for mitigating the social impacts of any early mine closure.

The Commission acknowledges the potentially significant employment benefits for the region and the generation of royalties for the state. Combined with measures in the conditions to ensure provision of compensatory water supply from the commencement of mining longwall panel 6N onwards, and the requirements for regular audits and the implementation of trigger action response plans, along with compensatory schemes for mine subsidence and the control of dust and noise emissions, the

Commission is satisfied that the project is capable of delivering a positive socio-economic outcome for the Central Coast community and the state of NSW.

5.7 Precautionary Principle and other principles of Ecologically Sustainable Development

The Commission heard calls from numerous speakers at the public meeting to apply the precautionary principle and refuse the application, particularly given the threat of serious or irreversible damage to the drinking water catchment. The Commission has given this issue very careful consideration. It has had regard to the discussion of the precautionary principle in *Telstra Corporation Ltd v Hornsby Shire Council* (2006) 146 LGERA 10 and in section 6 (2)(a) of the *Protection of the Environment Administration Act 1991*.

The Commission acknowledges the concerns raised about the potential for unacceptable impacts, including to the drinking water catchment, and the request to apply a precautionary approach. The Commission has considered the precautionary principle in relation to all aspects of the project and its potential impacts.

Specifically, in relation to potential impacts on the drinking water catchment, having given full consideration of the technical assessments and around the issue, the Commission has found that there is a small risk of impacts, including to the drinking water catchment, and a small level of scientific uncertainty in relation to these. On this basis the Commission is satisfied that the threat of serious or irreversible environmental damage is very low. Nonetheless the Commission has taken a precautionary and preventative approach in its consideration of potential impacts and the adequacy of the recommended conditions. The Commission is satisfied the threat of serious or irreversible impacts, for example on the catchment, are able to be appropriately managed and contained by adopting this approach.

Both in relation to the precautionary principle, and the project and its potential impacts more specifically, the Commission is satisfied that the application of monitoring, and an adaptive management approach will require operational changes where impacts are considered possible (and in extreme cases this may include the early closure of the mine). As discussed in section 5.2 above, a rigorous framework of conditions, management plans, monitoring programs and independent audits are proposed in the draft conditions. The Commission has further strengthened these conditions to ensure the Secretary can require extraction to cease in the event of significant adverse impact beyond those predicted in the assessment.

The Commission notes that the precautionary principle is just one part of ecologically sustainable development (section 5(a)(vii) of the EP&A Act and section 6(2) of the *Protection of the Environment Administration Act 1991*). It has considered ecologically sustainable development in relation to the project and is satisfied principles such as inter and intra-generational equity, diversity, and the internalisation of external costs will be assured through the requirements of the conditions. This includes requirements discussed elsewhere in this report to minimise greenhouse gas emissions; offset and otherwise protect threatened species and endangered ecological communities; minimise the socioeconomic impacts of future mine closure; and repair, make good or compensate for impacts to private property, bores and access routes.

6. COMMISSION'S FINDINGS AND DETERMINATION

The Commission has considered carefully the applicant's proposal, the Department's assessment report, the Commission's 2014 and 2017 reviews of the project and the relevant matters for consideration under section 79C of the EP&A Act. The Commission has noted the advice and recommendations from Central Coast Council, and government agencies including the Department of Planning and Environment, the Environment Protection Authority, the Department of Industry Crown Lands and Water, the Office of Environment and Heritage, Subsidence Advisory NSW and the Commonwealth Department of Environment. Finally, the Commission has considered the submissions

made and heard from members of the community about their concerns for the proposal during the public meeting in Wyong.

While acknowledging the significant community concerns about the potential for impacts to the Central Coast drinking water supply catchment, the Commission found that this issue has been assessed in detail. Impacts are expected to be small and acceptable. The framework of conditions requiring formal reviews of the subsidence predictions and impacts combined with provisions for adaptive management, no net impact on the availability of water for the Central Coast drinking water supply catchment and for mining to cease in the event impacts are greater than those predicted, provide a precautionary approach to protecting the drinking water supply catchment.

Flooding, emergency access and the potential closure of Tooheys and Nikko Roads have been carefully considered. The Commission is satisfied that flood impacts on dwellings will be appropriately managed through works such as levees or the raising or relocation of buildings, or through compensation. Emergency access will be resolved through detailed planning with the relevant emergency services and support from the mine. Road closures are not the subject of this application, however the Commission has carefully considered the issues raised and has included conditions to ensure that access would be maintained for adjoining landowners and where the road provides an important secondary access point needed in the case of emergencies.

Air and noise emissions have been considered and conditions have been imposed to ensure these are contained within acceptable levels. The applicant is also required to work with those residential properties affected by significant construction noise impacts to ensure these impacts are minimised and must implement an out of hours work protocol for any construction works required to be undertaken overnight, on Saturday afternoon and on Sundays.

The Commission has carefully considered the relevant considerations under section 79C of the *Environmental Planning and Assessment Act 1979*, including the provisions of the *Wyong Local Environmental Plan 2013*, *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*, *State Environmental Planning Policy No 44 – Koala Habitat Protection*, *State Environmental Planning Policy No 71 – Coastal Protection*, *State Environmental Planning Policy (Infrastructure) 2007*, the planning agreement entered into by the Central Coast Council, the suitability of the site for underground mining (particularly acknowledging its location under a sensitive drinking water catchment and the strategic context of an uncertain future coal market and the need to curb carbon emissions and reliance on coal fired power stations), the submissions made, the likely impacts of the development and the public interest.

The Commission has found that the environmental and social impacts of the project can be managed and minimised to an acceptable level, that the proposal would provide employment and economic investment for the local community and royalty benefits to the state of NSW, and that the Central Coast's drinking water supply catchment would be protected, including through a range of precautionary audit and review requirements before progressing to the next stage of mining.

For the reasons set out above, the Commission accepts the Department's recommendation that this proposal be approved. Consequently, the Commission has determined to grant consent to the development application subject to the conditions set out in the development consent.



David Johnson (Chair)
Member of the Commission



Andrew Hutton
Member of the Commission



Dr Peter Williams
Member of the Commission

List of Appendices

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APPENDIX 1
RECORDS OF COMMISSION MEETINGS FOR THE DETERMINATION PROCESS

Notes of briefing from the Department of Planning and Environment

This meeting is part of the determination process.	
Date: Thursday 19 October 2017	Time: 01:00pm
Project: Wallarah 2 Coal Project (SSD 4974)	
Meeting place: Commission's Office	
<p>Attendees:</p> <p>Planning Assessment Commission Commission Members: David Johnson (Chair), Andrew Hutton and Peter Williams Commission Secretariat: David McNamara – Director, Megan Webb - Team Leader, Jorge Van Den Brande - Planning Officer</p> <p>Department of Planning and Environment Howard Reed - Director Resource Assessments 2A, Melanie Hollis - Senior Environmental Assessment Officer Clay Preshaw - Director Resource Assessment 1B</p>	
The purpose of the meeting was for the Department to brief the Commission on its assessment reports, particularly the most recent Residual Matters Report.	
<p>The Department briefed the Commission on the applicant's response to the 2017 Review and gave an overview of the project and its history. The Department particularly focused on:</p> <p>No net impact on the catchment</p> <ul style="list-style-type: none"> • The applicant has agreed to compensate with 300ML of water a year and will monitor quality of the water that is put back into the catchment. • The Department has proposed conditions of consent that require the applicant to ensure no net impact on the catchment, including water quality parameters and consultation with Council and Department of Primary Industries. • There are legal and prosecution procedures if the applicant breaches the consent. <p>Water Supply Compensatory Arrangement</p> <ul style="list-style-type: none"> • Compensation would be provided from the commencement of extracting longwall N6 and subsequent longwalls. • Clarity on the timing for provision of compensation. • Applicant must prepare the compensatory arrangement in consultation with Council and DPI Water and must reflect the intent of the Commission's recommendations. <p>Comparison to Dendrobium mine cracking.</p> <ul style="list-style-type: none"> • The Commission noted that the public raised concerns on the risks of mining near a water catchment and the recent events that have taken place in relation to cracking under the metropolitan water catchment area. • The Commission was interested in the comparison of Wallarah 2 and Dendrobium mine in the southern coalfields, as Wallarah 2 is near the Central Coast Water Supply and proposes to mine under a water catchment. • The Department summarised the differences between the two mines, noting a number of significant differences, which included: <ul style="list-style-type: none"> • the width to depth ratio, i.e. the width of the longwall panels to the depth from the surface. Wallarah 2 is a much deeper mine proposal meaning its ratio to panel width is conservative in comparison to the Dendrobium mine, and considered acceptable; • the topography of the southern coalfields is considered unique, characterised by steep gorges 	

which is very different to the more even terrain above the Wallarah 2 workings,

- significant geological structures, including lineaments, dykes and faults occur in the vicinity of the Dendrobium coal mine, such structures have not been identified around Wallarah 2,
- the geology is very different; the geology around Wallarah 2 includes claystone and thick alluvium that will limit surface impacts,
- the Dendrobium mine is in relatively close proximity to significant dam infrastructure, with setbacks of only 200 – 250 m,
- there is a long history of mining around the Dendrobium mine, with a potential system of fractures already occurring in that location, unlike the greenfield nature of the Wallarah 2 site.

Social and economics benefits

- Although there are differences in the economics between the Gillespie and CIE assessments and approaches, both find that the project is still expected to provide economic benefits to the region and the state.
- The Department pointed out a typographical error in the fourth paragraph on page 22 of its Residual Matters Report, that the word “any” is replaced by “all” and should read “*it is unlikely that all future workers...*”

Community consultation

- Applicant held further community consultation sessions after the Commission published its 2017 Review.
- There has been better understanding of the community on the project’s amendment.
- Department has met with the Darkinjung LALC and still opposes the project.
- There has been additional meetings between the applicant and the Darkinjung LALC where some agreements have been reached.
- Applicant has committed to further consult with Darkinjung LALC on the closures of Nikko Road.

Landowner’s consent

- The Department noted that an area in the western part of the project site is part of a State Conservation Area and that the applicant has not been granted landowners consent for the proposal in this location yet.
- The Department confirmed the applicant must obtain landowners consent on this parcel of land before the Commission can determine the application.
- The Department advised the process for gaining land owners consent was well advanced and was expected within coming weeks.

Documents tabled: Summary of progress of community consultation. Applicant’s response to Commission’s 2014 Review.

Meeting closed at: 03:30 pm

Notes of Briefing from Central Coast Council

This meeting is part of the determination process.	
Date: Thursday 2 November 2017	Time: 11:00 am
Project: Wallarah 2 Coal Project (SSD 4974)	
Meeting place: Council's Office 49 Mann Street, Gosford NSW.	
Attendees: Planning Assessment Commission Commission Members: David Johnson (Chair), Andrew Hutton and Peter Williams Commission Secretariat: Megan Webb - Team Leader, Jorge Van Den Brande - Planning Officer Central Coast Council: Bileen Nel (Senior Manager Water and Sewer), Tass Meli (Unit Manager Water Planning & Development), Tanya O'Brien (Unit Manager Development Assessment), Gary Casement (Section Manager Headworks)	
The purpose of the meeting was for Council to provide its comments to the Commission on the Department's assessment report and on the proposal.	
Council commented on the following matters: Council's position <ul style="list-style-type: none">Although the Department's report captures the Council's position, there are still a few matters that need revision in the conditions including water supply, water discharge quality, water system operations and management, and return of Tooheys road. Water supply <ul style="list-style-type: none">Council's objective is to protect water supply for the community.Recommended conditions account only for water losses for up to 300ML. Council explained that the conditions should reflect compensation for water losses above 300ML.Recommended condition 17 does not fully reflects the agreement between the applicant and council on the operational procedures for the compensatory water supply. The conditions should be amended to reflect the agreed joint management.Council has no objections to the applicant's location for treated water discharge point. Water quality parameters <ul style="list-style-type: none">Council considers that water quality from the discharge is paramount and recommended conditions should reflect clarity on the treatment to potable standards and not limited to the parameters currently listed in the conditions.Public health is a priority and conditions should allow scope to include additional parameters for analysis should the need arise.Requirements for audits should include a hydrogeologist as part of the basic skill set for the audit in recommended condition 10 Schedule 3. Toohey Road <ul style="list-style-type: none">Amend condition 31 for the applicant to maintain Tooheys Road as it is not of a quality to withstand heavy vehicles.	
Documents to be provided: Written clarification of Council's requested amendment to conditions.	
Meeting closed at: 12:00 pm	

Notes from briefing from the applicant

This meeting is part of the determination process.	
Date: Thursday 2 November 2017	Time: 01:30pm
Project: Wallarah 2 Coal Project (SSD 4974)	
Meeting place: Applicant's Office at 25 Bryant Drive, Tuggerah NSW	
Attendees: Planning Assessment Commission Commission Members: David Johnson (Chair), Andrew Hutton and Peter Williams Commission Secretariat: Megan Webb - Team Leader, Jorge Van Den Brande - Planning Officer The applicant: Sang Park (Managing Director) Peter Allonby (General Manager) Kenny Barry (Project Manager) Peter Smith (Environment and Community) Kevin Reed (Engineering and Technical)	
The purpose of the meeting was for the applicant to brief the Commission and to provide comments on the Department's assessment report.	
The applicant briefed the Commission on the following matters: Progress of the community consultation since 2017 Planning Assessment Commission Review <ul style="list-style-type: none">• Consultation has been going on since 1996 and since the 2017 Review it has been furthered targeted to promote awareness of the project in the Bluehaven community.• There has been some interest in the community to apply for jobs at the company.• There has been furthered engagement with the Darkinjung LALC on the access of Tooheys Road and easement proposal on Nikko Road.• Although Darkinjung opposes the project, there is scope to continue to work together. Water compensation and achieving no net impact on the catchment yield <ul style="list-style-type: none">• Operations on the water compensatory arrangements will be agreed and operated jointly by the applicant and council.• Consideration of the water treatment plant has always formed part of the application, but the treatment technology is still premature to agree on as extraction longwall 6N will not occur for approximately 10 years if the project is approved.• To get a good design of the treatment plant, there is a need to collect enough and reliable information on the water that will be treated before discharge.• The applicant explained the options it has been considering for the location of the water pipeline, however it did not include it as part of this application in order to allow further work with Council on the most appropriate location options while the compensatory arrangement is established, indicating it would be almost ten years before the pipeline was required to be operating and that other factors might influence the suitability of various route options over the intervening years. Other matters <ul style="list-style-type: none">• If the mine ceases operations, the closing management plan will be brought forward.• Applicant will undertake a revision of the economic modelling and benefits.	
Documents tabled at meeting: Newspaper clipping. Darkinjung LALC Annual Report.	
Meeting closed at: 02.30 pm	

APPENDIX 2
LIST OF SPEAKERS AT THE PUBLIC MEETING

Planning Assessment Commission
Wallarrah 2 Coal Project

Date and Time: Friday 3 November 2017, 9 am

Place: Wyong Golf Club, 319 Pacific Highway Wyong NSW 2259

List of Speakers

1. Kelia Keogh
2. Abigail Boyd (Central Coast Greens)
3. Colin Pursehouse
4. Alan Hayes (Australian Coal Alliance)
5. Laurie Eyes
6. David Harris MP (State Member for Wyong)
7. Barbara Gorman
8. Ken Greenwald
9. Christine Hammond
10. Simone Griffiths
11. Bruce Cross
12. Mike Campbell (Community Environment Network)
13. Andrew Thomson
14. Gary Blaschke (Northern Lakes Disability Tourism Committee)
15. Paul Salmon – withdrew/did not speak.
16. Lynne Hamilton (Darkinjung Aboriginal Land Council)
17. Steve Philips (Lock The Gate Alliance)
18. Mayor Jane Smith (Central Coast Council)
19. Dr Philip Pells
20. Keith Hart (NSW Nature Conservation Council) – withdrew-did not speak
21. Karl Schaerf
22. Lisa Matthews
23. Sonia Adams – withdrew-did not speak.

APPENDIX 3

SUMMARY OF ISSUES RAISED AT THE PUBLIC MEETING

The following issues were raised:

Water supply and quality

- The project poses a significant risk to the water catchment and the issue of affecting water supply is not sufficiently addressed by the applicant or the Department.
- The Department has not provided information on the parameters that should be tested to ensure potable water standards from the discharge point. Water treatment cannot be mismanaged and there should be water quality protection provisions if additional contaminants are detected.
- Water that is lost cannot be measured, therefore the quantity of water that would be lost is unknown. The validity of how the company arrived at 270 ML that would be lost is questioned.

Subsidence predictions and conservative approach

- The magnitude of the subsidence and pillar yielding predictions are uncertain as the company has taken a conservative approach of the impacts. Therefore, if predictions are unreliable then the proposed adaptive management regime is also unreliable.
- The more conditions that are added to the recommended consent in relation to subsidence below the water catchment, the weaker the project becomes as gaps of information appear.
- Subsidence impacts resulting from this project are underestimated and pose a similar scenario to the Dendrobium mine that should be considered before determination.

Precautionary Principle

- The project triggers the precautionary principle for not having sufficient information to fully address the risks and impacts.
- The Commission must give significant consideration to the precautionary principle as it is a fundamental determining consideration on this project.
- If the project fails to protect the water availability, the community will bear the consequences

Air quality, coal dust and health

- The project will have noise and dust generation on a 24-hour basis contributing to air pollution and health impacts.
- Coal dust from coal stock piles is detrimental to health as it causes respiratory issues on the community that should be considered before determining the project.
- Environmental health provides human health and if the project is approved the environmental health will be affected.
- If coal dust pollutes waterway, residents must be entitled to request mitigation measures.
- Climate change should be a sufficient reason to stop the project.

Darkinjung Land Aboriginal Local Council

- Darkinjung has not yet agreed to any of the terms on the applicant's Nikko Road easement proposal as documents have not been provided. Terms of the easement are still unknown and the applicant should provide them along with plans, prior to determination.
- The project will impact financially on future proposals from Darkinjung LALC.
- Darkinjung has a rezoning application with Council that the Commission should consider as part of this determination.

Social economic benefits

- The economics of the project are overestimated and should be reassessed.
- The community is aware that there is a need for jobs in the area, but the jobs must ensure environmental protection, and a high standard of living of the community.

Other matters

- The company has not been proactive in engaging with the community and has not held a public meeting anywhere. Open door does not mean community engagement.
- If the company will keep Tooheys Road open for the public, then there is no need for the company to acquire the road.
- Coal is an important nutrient for plants to grow and should not be extracted.
- Coal market has entered a structural decline and Australian coal has decreased in demand.
- Population growth in the Central Coast is expected to be high in the coming years.
- No trust in the rehabilitation plan as the state has not been able to rehabilitate other sites that have ceased operations.
- Turf farming depends on water resources and impacts on the Jilliby Jilliby Creek will affect turf business.
- The Central Coast Water Supply is a small catchment and should be carefully managed so that the need for water is met and not coal.
- If the mine fails, its activities can be turned off however the impacts after effects will stay.
- House prices will decrease if the project is approved

APPENDIX 4
EXPERT ADVICE ON WALLARAH 2 – SUBSIDENCE IMPACTS

Galvin and Associates Pty Ltd
ABN 27 086 258 871

11 November 2017

Ms M Webb
Planning Assessment Commission
NSW Department of Planning & Environment
320 Pitt St
Sydney NSW 2001

Dear Megan

Subject: Expert Advice on Wallarah 2 – Subsidence Impacts

I refer to the Planning Assessment Commission's (PAC) request to seek advice on whether there is any significant new or emerging knowledge that would influence the findings of a 2010 review by the PAC of the proposed Wallarah 2 Project in relation to avoiding direct hydraulic connections to the surface and, if so, whether the 2010 findings can still be relied upon.

As you are aware, I was a member of the PAC that assessed this project in 2010 and one of two peer reviewers for a 2015/16 independent review of issues associated with height of fracturing and hydraulic connections from mine workings to the surface at Dendrobium Mine in the Southern Coalfield of NSW. That review and my involvement were both commissioned by the Department of Planning and Environment (DPE). During 2016, I also provided a range of advice to WaterNSW and the Department of Planning and Environment on this topic.

The methodology relied upon to assess the height of fracturing in the 2010 EIS for the Wallarah 2 Project continues to find application, being a component of two conference presentations by the developers in the last week, namely Gale (2017) and Mills & Blacka (2017). The latest findings presented by Mills and Blacka have been adopted for the purpose of preparing this advice.

Since 2010, two empirical equations have also been developed for predicting the height of connective fracturing above longwall panels. These are referred to as the Tammetta equation (Tammetta, 2013) and the Ditton and Merrick equation (Ditton & Merrick, 2014). Both equations have their strengths and weaknesses and neither are universally accepted. The Tammetta equation tends to be more conservative than the Ditton and Merrick equation in many situations. That is, it predicts greater heights of fracturing. This is the case for the Wallarah 2 Project.

For the purpose of this advice, I have reviewed relevant aspects of the 2010 PAC determination and tested the three subsequent developments noted above against the proposed Wallarah 2 mine design. The following is concluded:

1. The methodology relied upon for the 2010 determination in respect of the potential for hydraulic connections between the mine workings and the surface remains current.
2. More recent findings indicate that the height of direct hydraulic connection could reach the surface over portions of LWN20 and LWN21.
3. The Ditton and Merrick equation predicts that a direct hydraulic connection will not develop over any of the proposed longwall panels.
4. Based on the Tammetta equation, there is a 90% level of confidence that a direct hydraulic connection will not develop over any of the longwall panels other than for LWN20 and LWN21.

LWN20 and LWN21 are both planned to be 255 m wide which, along with some other panels, is the maximum longwall panel width in the mine layout for Wallarrah 2. The surface topography over the panels is hilly, with depth of cover ranging from 380 m to 630 m. The shallower areas correspond to valley watercourses, one of which runs for a considerable distance over LWN20. Based on Mills & Blacks (2017), the height of direct fracturing will not extend to the surface if the widths of LWN20 and LWN21 are reduced to 255 m. The Tammetta equation predicts to a 90% confidence level that the height of direct fracturing will not extend to the surface if the widths of LWN20 and LWN21 are reduced to 225 m and 245 m, respectively.

LWN20 and LWN21 are not scheduled to be extracted for many years, during which time the knowledge base will no doubt evolve. Should the PAC decide that the project is approvable, it could consider limiting panel width to , say, 225 m now or, alternatively, framing approval conditions that require the design to be revisited closer to the time of planned extraction.

If you have any queries in relation to this matter, please do not hesitate to contact me.

Yours sincerely



Emeritus Professor JM Galvin
FTSEA, FIEAust CPEng, FAusIMM CP(Min)

APPENDIX 5
COMMISSION'S REQUEST FOR ADDITIONAL INFORMATION FROM THE APPLICANT



Contact : Megan Webb
Phone : 02 9383 2113
Fax : 02 9383 2133
Email : megan.webb@pac.nsw.gov.au

Mr Sang Park
General Manager
Wyang Areas Coal Joint Venture
25 Bryant Drive
TUGGERAH NSW 2259

16 November 2017

Dear Mr Sang Park,

Wallarrah 2 Coal Project

Further to the public meeting held on 3 November 2017, the Commission has been considering the issues raised at the meeting, and in the written comments now available on the Commission's website. The Commission would appreciate any additional information you wish to provide in response to the issues raised.

The Commission has some additional questions in relation to the potential risks to the Central Coast water supply.

1. Dr Philip Pell's suggests that losses from the alluvium will be substantially greater than that predicted and that these losses would not be measurable. What strategies would be adopted to ensure losses from the alluvium and surface water systems are measured and no greater than predicted?
2. Downward leakage from the alluvium is predicted to be small (7ML/year at the end of mining) due to the constrained zone. Are there any other sources/pathways to replenish this groundwater? If so, what quantities of water would be diverted from these other sources?
3. In the event the mine ceased extraction at any point mid-way through the mine plan, somewhere between longwall 1N and 16N, is there any configuration of topographical change to the landscape (and the alluvium) that would result in a longer-term loss to the creek water supply? If so, please quantify the loss and any mitigation or compensatory measures able to be provided.
4. In relation to the compensatory water supply, are there any alternative pipeline routes and discharge points that could be pursued in the event options 1 and 2 currently presented are not able to be approved?

The Commission would also appreciate your response to the following questions.

5. Which portion of Toohey's Road is proposed to be purchased? Can the proposed infrastructure be built within the road corridor without purchasing the road? If so, why is purchasing the road the applicant's preferred approach? The Commission notes Council has sought to clarify that the applicant is required to upgrade the road to a standard suitable for its heavy vehicles. The Commission also notes requests that the road is returned to public ownership upon completion of mining.
6. What access arrangements are proposed for properties relying on Nikko Road south of the Link Road? How would these access arrangements be maintained following the completion of mining?

COMMISSION SECRETARIAT
Level 3, 201 Elizabeth Street SYDNEY, NSW 2000
TELEPHONE (02) 9383 2100 FAX (02) 9383 2133
pac@pac.nsw.gov.au

7. The Commission heard concerns about the social impacts an approval would have on landowners whose properties would be undermined, particularly the uncertainty occupants would face prior to undermining which in some cases could be a number of years following commencement of mining. The Commission acknowledges there is some uncertainty surrounding the commencement of the project. What is proposed to mitigate these social impacts?
8. What socioeconomic mitigation measures would the applicant implement to minimise impacts of early or unplanned closure.

The Commission is also seeking additional clarification from the Department, a copy of that correspondence is enclosed for your information.

If you have any questions in relation to the Commission process, please call Megan Webb on 02 9383 2113 or email megan.webb@pac.nsw.gov.au.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'D. Johnson', with a stylized flourish at the end.

David Johnson
Member of the Commission

APPENDIX 6
COMMISSION'S REQUEST FOR ADDITIONAL INFORMATION FROM THE DEPARTMENT OF
PLANNING AND ENVIRONMENT



Marcus Ray
Deputy Secretary
Planning Services
NSW Planning and Environment
GPO Box 39
SYDNEY NSW 2001

16 November 2017

Dear Mr Ray

Wallarrah 2 Coal Project

Further to the public meeting held on 3 November 2017, the Commission has been considering the issues raised at the meeting, and in the written comments now available on the Commission's website.

The Commission is seeking additional information from the applicant on a number of matters, including some of those raised by Dr Philip Pells on water loss and also the Darkinjung Local Aboriginal Land Council, a copy of the Commission's request to the applicant is enclosed for information.

Amongst other issues raised, Dr Pells suggests the mine would have impacts on groundwater resources, inconsistent with the NSW Aquifer Interference Policy. The Commission would appreciate clarification on whether the project complies with this government policy.

The Commission also notes that landowners consent for the application has been an ongoing issue for this proposal, and seeks clarification that land owners consent has been provided for each of the lots identified in Appendix 1: Schedule of Land in the draft conditions.

If you have any queries on the above, please contact Megan Webb Team Leader Secretariat on 9383 2113.

Yours sincerely

David Johnson
Member of the Commission

APPENDIX 7
ADDITIONAL INFORMATION PROVIDED BY THE DEPARTMENT OF PLANNING AND ENVIRONMENT



Mr David Johnson
Chairperson
Wallarah 2 Coal Project Determination Panel
NSW Planning Assessment Commission
Level 3, 201 Elizabeth Street
Sydney NSW 2000


Dear Mr Johnson


**Wallarah 2 Coal Project
(SSD 4974)**

On the 16 November 2017, the Department of Planning and Environment received correspondence from the Planning and Assessment Commission requesting further information on the Wallarah 2 Coal Project.

The Department has prepared a response, appended to this letter as **Attachment A**.

If you have any enquiries about this matter, please contact me on 9274 6308 or via email at howard.reed@planning.nsw.gov.au.

Yours sincerely


Howard Reed 22.11.17
Director
Resource Assessments

Attachment A

Land Owner's Consent

Clause 49 of the *Environmental Planning and Assessment Regulation 2000* (the Regulation) sets out the circumstances where land owner's consent for State Significant Development (SSD) is required.

Land owner's consent is not required for an SSD application that is made by a 'public authority' or is a 'public notification development', if certain notification requirements are otherwise met. For 'public notification development' land owner's consent is not required if the Applicant gives notice of the application either by written notice to the owner of the land prior to making the development application or by advertising in a newspaper circulating in the area within 14 days of the application being made.

The Wallarah 2 Coal Project meets the requirements of a 'public notification development'. Wyong Areas Coal Joint Venture (WACJV) advertised the original project on 31 October 2012 in the Central Coast Express Advocate newspaper. A further advertisement, for the amended project, was placed in the Central Coast Express Advocate on 13 June 2014. The Department considers that this meets the requirements of clause 49(2) of the Regulation.

However, 'public notification development' does not apply to development within State Conservation Areas (SCAs). For the area of the project located within the Jilliby SCA, WACJV sought land owner consent from the Minister of the Environment. The Minister provided this consent on 16 November 2017 (copy enclosed).

Other areas within the proposed project boundary are located within Wyong State Forest, road reserves or areas that overlap with Boral's existing mining lease. Land owner's consent for these areas is not required prior to determination of this development application. Project impacts within these areas would be managed through the requirements of other approvals, including permits under the Forestry Act 2012, the mining lease and road closure applications.

WACJV has lodged an application under the *Mining Act 1992* for a mining lease over the lands on which it intends to construct the conveyor and rail load-out facility. WACJV needs Boral to agree to its application as the land is covered by Boral's existing mining lease for the extraction of clay/shale. There is no impediment under the *Mining Act 1992* to the grant of overlapping mining leases, providing that they are for different 'groups' of minerals (ie coal v clayshale) and the consent (most likely by way of commercial agreement) of the first leaseholder (ie Boral) is first obtained.

A Land and Environment Court decision on the original Wallarah 2 Coal project required consent from the NSW Aboriginal Land Council under clause 49(3A), which was not provided. The amended Wallarah 2 Project is no longer located on any land owned by a Local Aboriginal Land Council and therefore no consent is required from the NSW Aboriginal Land Council.

Consequently, the Department considers that the consent requirements of the project have been met through the:

- notification requirement of clause 49(2) of the Regulation having been met;
- land owner's consent from the Minister of the Environment for the area within the SCA has been obtained;
- private agreement with Boral for a mining lease application is anticipated; and
- provisions of the *Mining Act 1992*, *Forestry Act 2012* and the *Roads Act 1993* have been met or are expected to be met.

Aquifer Interference Policy

In July 2013, the then NSW Office of Water requested that WACJV undertake an assessment against the minimal impact considerations of the NSW Aquifer Interference Policy (AIP) for the Wallarah 2 Coal Project.

WACJV responded to these requests, providing a technical report. The NSW Office of Water noted that:

- likely worst-case impacts on the drainage from the alluvium are accepted;
- assessment against the "minimal impact considerations" of the AIP for the non-alluvial aquifer were assessed to be Level 1; and

- a water quality deterioration from 7,500 mg/L to 9,500 mg/L is considered reasonable and deemed to be Level 1 given the natural salinity of the groundwater and the very low permeability of the strata (beneficial use criteria).

The Office of Water accepted that WACJV had adequately addressed its concerns, provided that the recommended conditions of approval require a water monitoring plan. The Office of Water recommended conditions of consent requiring development of a monitoring, response and mitigation strategy in the event that vertical leakage is greater than predicted.

The Crown Lands and Water Division of the Department of Primary Industry, which now replaces the Office of Water, provided confirmation on 21 November 2017 that the AIP requirements had been met (copy enclosed). The Department notes that it has recommended strict draft conditions requiring groundwater monitoring and response and mitigation strategies should vertical leakage exceed predictions.



The Hon Gabrielle Upton MP
Minister for the Environment
Minister for Local Government
Minister for Heritage

DOC17/509005

The Hon Anthony Roberts MP
Minister for Planning
Minister for Housing
Special Minister of State
Member for Lane Cove
GPO Box 5341
SYDNEY NSW 2001

By email: office@roberts.minister.nsw.gov.au

Dear Minister

I write regarding the development application by the Wyong Area Coal Joint Venture Group for the Wallarah 2 Coal Project (SS 4974).

As the Minister administering the *National Parks and Wildlife Act 1974*, on behalf of the Crown as owner Crown land reserved as the Jilliby State Conservation Area under the *National Parks (Reservations) Act 2003*, I grant consent for the purposes of section 78A(1) of the *Environment Planning and Assessment Act 1979* and clauses 49(1)(b), 50(1)(a) and 1(1)(i) in Schedule 1 to the Environmental Planning and Assessment Regulation 2000, to the lodgement of the development application by the Wyong Area Coal Joint Venture Group for the Wallarah 2 Coal Project (SS 4974).

This letter constitutes only a consent to the lodgement of the development application and should not be construed as reflecting any view on my part as to whether the development application warrants a favourable determination.

Yours sincerely

Gabrielle Upton MP
Minister for the Environment
Minister for Local Government
Minister for Heritage

16.11.17

GPO Box 5341 Sydney NSW 2001 ■ P: (02) 8574 6107 ■ F: (02) 9339 5546 ■ E: www.nsw.gov.au/ministerupton



Department of Industry

OUT17/46499

Ms Melanie Hollis
Senior Planning Officer
Resources and Land Use
NSW Department of Planning and Environment

melanie.hollis@planning.nsw.gov.au

Dear Ms Hollis

**Wallarah 2 Coal Project (SSD 4974)
Response to Planning Assessment Commission (PAC)**

I refer to your email of 16 November 2017 to the Department of Industry in respect to the above matter. Comment has been sought from Crown Lands & Water.

Any further referrals to Department of Industry can be sent by email to landuse.enquiries@dpi.nsw.gov.au.

The department considers that, based on the approved groundwater model, the project is consistent with Level 1 impact considerations of the [Aquifer Interference Policy \(2012\)](#), as per the advice provided by the Office of Water in the letter dated 1 November 2013.. Crown Lands & Water has not undertaken any detailed groundwater assessment of the project since 2013 as the amended EIS did not include a contemporary groundwater assessment. It should also be noted, the model as presented in 2013 had highly constrained spatial and temporal data to support it

Yours sincerely

A handwritten signature in blue ink, appearing to read 'G White'.

Graeme White
Manager, Assessment Advice
21 November 2017

Planning Policy and Assessment Advice appreciates your help to improve our advice to you. Please complete this three minute survey about the advice we have provided to you, here:
<https://goo.gl/o8TXWz>

APPENDIX 8
ADDITIONAL INFORMATION PROVIDED BY THE APPLICANT

WALLARAH 2 COAL PROJECT – AMENDMENT TO SSD-4974

RESPONSE TO PAC3 QUERIES

for

Wyong Areas Coal Joint Venture

1 INTRODUCTION

This document responds to an email and accompanying letter from the Planning Assessment Commission (PAC) dated 17 November 2017 in relation to the Wallarah 2 Coal Project, as Amended (the Project).

The letter requested a response to eight issues from the public meeting held on 3 November 2017 and written comments available on the PAC website which generally related to potential Project impacts to: Central Coast water supply, road closures and socio economics.

A response to each inquiry is provided below.

Inputs to the responses have been jointly with Wyong Areas Coal Joint Venture (WACJV).

2 CENTRAL COAST WATER SUPPLY

2.1 IMPACTS TO ALLUVIUM

2.1.1 Issue 1

Dr Philip Pells suggests that losses from the alluvium will be substantially greater than that predicted and that these losses would not be measurable. What strategies would be adopted to ensure losses from the alluvium and surface water systems are measured and no greater than predicted?

2.1.2 Response

The predictions to losses from the alluvium in the EIS are worst-case. DPI – Water and a peer review of the EIS have confirmed this. The comments by Philip Pells are without basis and incorrect.

We also refer to the response to Pells' earlier unfounded comments on groundwater modelling clarified in the document 'KA Review of 'Pells Consulting (2016)' Report and 'Pells Sullivan Meynink (2013)' related issues ' by Dr Franz Kalf (as included in the 'Response to Submissions: Amendment to Development Application SSD-4974' (Hansen Bailey, 2016)).

The Project established hardrock and alluvial groundwater monitoring in 1999. WACJV has proposed a greatly expanded and comprehensive groundwater monitoring program for the Project, as described in Section 9 of the Groundwater Impact Assessment (Appendix I of the EIS). The Groundwater monitoring program will include a network of open standpipe piezometers to measure water levels in the alluvium. Water level measurements can be interpreted with reference to the Cumulative Rainfall Departure to determine if the Project has resulted in any changes to alluvial water levels.

In addition, vertical arrays of pore pressure transducers will be installed beneath the alluvium and in the deeper overburden strata to extend the existing network. These vertical arrays will be capable of measuring the groundwater pressures at different heights above the mine workings. It is anticipated that the pressure measurements will indicate depressurisation of the deeper strata, but minimal change in the pressures near the alluvium.

The proposed monitoring of water levels and pressures are suitable methods for confirming that the seepage from the alluvium is not significant.

Schedule 3 Condition 8(f) of the draft development consent requires *“(f) regularly undertake groundwater age dating from nested piezometers to identify any downward leakage of water from surface watercourses, associated alluvium or shallow groundwater systems; and ...”*

Further, Schedule 3 Condition 6(g)(iii) requires the preparation of a Water Management Plan (WMP) in consultation with Council, EPA and DPI - Water which includes *“... surface and groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse impacts on water resources or water quality; ...”* and *“... a plan to respond to any exceedances of the surface water and groundwater assessment criteria; ...”*

The WMP will include background monitoring data from monitored piezometers. From this, background data will be analysed and a Stage 1 - 95th Percentile and Stage 2 – Maximum Percentile will be developed for key parameters which shall form “trigger values”.

An indicative “trigger” may be 50% of alluvial bore levels fall below the trigger levels in a designated period of monitoring; or water levels in any alluvial bore fall below the trigger levels for three consecutive periods; and/or water levels in any deeper bores fall below the trigger levels for three consecutive periods. This trigger is indicative only and will need to be developed in consultation with required regulators specific to the Project.

Should the monitoring program identify the occurrence of a Stage 1 or Stage 2 Event, the relevant Response Protocol (Protocol) will be implemented in accordance with the Response Actions identified in the approved WMP.

An indicative Protocol may include the following steps:

- Investigate change of *status* of groundwater and consider mitigating factors;
- Initiate detailed investigation if results indicate potential impact (this may include engaging technical specialist to assess impact and prepare report);
- Review follow up results; and

- If necessary, apply the “Response Protocol” and report the event in accordance with conditions of consent.

The Protocol may include:

- Review the unforeseen impact, including consideration of any relevant monitoring data and current mine activities and land management practices in the relevant area and/or commission an investigation into the unforeseen impact by an appropriate specialist selected in consultation with DRI - Water. This Protocol is indicative only and will need to be developed in consultation with required regulators as part of the WMP and be specific to the Project; and
- Develop appropriate ameliorative measures based on the results of the above investigations, in consultation with the relevant authorities (which may include additional monitoring where relevant to measure the effectiveness of the ameliorative measures).

The WMP will be reviewed and revised periodically, as mining conditions change or new risks are identified.

2.2 DRAWDOWN LEAKAGE

2.2.1 Issue 2

Downward leakage from the alluvium is predicted to be small (7ML/year at the end of mining) due to the constrained zone. Are there any other sources/pathways to replenish this groundwater? If so, what quantities of water would be diverted from these other sources?

2.2.2 Response

Consistent with Section 6.2 of the Groundwater Impact Assessment (MER, 2013), the rate of seepage from the alluvium (as a result of the Project) is predicted to be less than 2 millilitres per day per square metre (2 mL/day/m²). The rate of rainfall recharge is estimated at 130 mL/day/m² assuming recharge equivalent to 4% of rainfall. Therefore, the predicted seepage from the alluvium is capable of being entirely replaced through rainfall recharge. It is not envisaged that seepage from the alluvium will result in any re-direction of water from any other surface water or groundwater sources.

2.3 LONGER-TERM CREEK LOSS

2.3.1 Issue 3

In the event the mine ceased extraction at any point mid-way through the mine plan, somewhere between longwall 1N and 16N, is there any configuration of topographical change to the landscape (and the alluvium) that would result in a longer-term loss to the creek water supply? If so, please quantify the loss and any mitigation or compensatory measures able to be provided.

2.3.2 Response

Summary

WACJV has undertaken extensive environmental assessment. Subsidence and subsidence-related issues (such as topography, surface water systems and groundwater) have been fully taken into account in Project planning. WACJV is highly confident that all potential impacts to surface water systems and topography in the Jilliby Jilliby Creek alluvial zone have been identified and addressed. Importantly, the impacts have been evaluated on a worst-case basis.

Any adjustments to the water table level as a consequence of subsidence would soon reach an equilibrium level with no further net loss of surface water. There is not likely to be any measurable change to evaporation regimes in the stream and alluvial system as overall surface ponding is expected to remain within the existing natural range. Any localised changes in ponding depth or extent could be easily mitigated through minor drainage works, if required. Any such works would be carefully planned and implemented, using soft engineering techniques, to minimise disturbance to vegetation and potential fluvial erosion.

Potential impacts associated with all configurations of topographical and hydrological change predicted to arise during extraction of LW1N to LW16N will be within the envelope of worst-case impacts already evaluated. No other impacts have been identified which present risks of long term loss to the creek water supply.

Importantly, all detailed mining approvals will be in place and Property Subsidence Management Plans will be developed in consultation with each relevant property owner.

Background

The period of extraction of longwalls LW1N to LW16N spans two discrete stages:

- LW1N – LW11N: Initial phase of longwall mining spanning nearly 10 years (potential expected period 2022 to 2032); and
- LW12N to LW16N: Second phase of longwall mining in the north area after nearly 10 years of mining LW1S to LW10S (potential expected period 2042 to 2045, which is the proposed timeframe of the development consent which is sought).

Longwall extraction will occur from south to north (geologically up-dip and hydrologically up-stream). This is a preferable extraction direction for managing the predicted risks and implications on the dynamic surface streams (Jilliby Jilliby Creek).

Jilliby Jilliby Creek, specifically its streambed (thalweg), is the lowest point in the alluvial and stream system. It is characterised by dynamically variable conditions of pools and riffles and the streambed and banks are known to be subject to natural scouring and deposition. The creek bed defines the hydraulic gradient in both the surface drainage and its alluvial system that provides near-surface groundwater flow components to the stream from times of full alluvial saturation until the low baseflow stage.

Jilliby Jilliby Creek sits atop a saturated, variably stratified alluvium up to 45 m deep in the mining area, which is in turn underlain by the Patonga Claystone unit – an effective aquitard.

While the meandering creek's morphology exhibits bank heights of up more than 4 m in many areas, flooding is a relatively common occurrence in the Dooralong Valley. These aspects have been closely investigated and modelled, with key factors incorporated into mine design such as restricting longwall panel configuration width to control subsidence.

The creek itself is largely aligned along the eastern side of the alluvium of the Dooralong Valley, especially along the areas where longwalls LW6N to LW9N and LW1S and LW2S occur. Alluvial areas are first mined in the initial part of LW6N where Jilliby Jilliby Creek is also first undermined. Due to this fact the creek will always maintain its function of being the hydraulic gradient control to the alluvial system. This relationship of coal extraction sequencing and creek location has always been a critical design consideration.

Figure 1 shows the aerial plan of Jilliby Jilliby Creek and an overview of the specific areas where fluvial management attention during mining may be required. While this will be further informed with additional detail during future extraction plans following the validation of the subsidence model after mining commences, it indicates that there are no factors of major concern for the stability of the creek system which will typically register total vertical subsidence of less than 1.3m (refer below for further discussion on incremental subsidence). This remains the case whether or not mining progresses beyond any particular point in the mining sequence.

No zones of extreme or high risk are predicted on the stream management zones in **Figure 1**. As examples of locations where unplanned cessation of mining could occur, two types of longwall configuration relative to Jilliby Jilliby Creek are potentially relevant:

- Where the stream crosses the panel in the east-west direction (e.g. at LW10N), and
- Where the stream aligns with a longwall panel (such as at LW9N).

At LW10N, the 175 m wide panel only intersects a short length of stream. **Figure 1** shows that the stream section above the western part of the panel LW10N will register steeper gradients due to mining subsidence effects. However, as discussed below, the amount of vertical subsidence movement will be incremental with each progressive panel extraction.

The risk here is considered **Medium** while the eastern (meandering) section of the stream above LW10N will register **Low** risk (*'Response to PAC Review Report'* (Hansen Bailey, 2014)). These management and mitigation measures, if required, will predominantly be "soft" engineering type compatible with natural processes and informed by detailed monitoring.

At LW9N, mining progresses in alignment with Jilliby Jilliby Creek for up to 1.5 km of stream length. LW9N then continues northwards beneath a longer extent of a minor tributary (unnamed ephemeral drainage line). The upstream direction of mining will result in an orderly and gradual progression of the initial incremental subsidence.

In both the above cases, should mining cease at that point then no further subsidence would be registered beyond only the initial incremental amount (since there will be no additional longwall panel extraction).

Stream morphology and alluvial flow gradients will adjust to a new equilibrium state which will result in negligible change to the existing range of streamflow patterns.

While vertical subsidence of between 1.0 m and 1.3 m is predicted along the streamline (worst case basis), it is important to appreciate that these measurements represent total subsidence over a period of up to four longwall extraction phases. **Figure 2** depicts the incremental phases of subsidence at two types of location:

- Above panel centre, and
- Above gate road (chain pillar) at edge of panel.

At any single phase the maximum vertical subsidence is approximately 50% of these predicted worst case total subsidence figures. Also, with the mitigating influence of yielding pillars, the typical differential surface subsidence between centre of panel and edge of panel gate roads is of the order of 200 mm to 350 mm, which will not be perceptible nor cause any discernible effects across the 175 m panel width.

Given that the topographic variation across the alluvial plain can vary by over 2.0 m, the incremental vertical subsidence effects over the alluvial area, and even the overall total subsidence over this floodplain, are unlikely to be perceptible. Further, the incremental subsidence phases of less than 0.65 m approximately a year apart neither present a significant hazard to the stream bed morphology nor to their hydrological and alluvial hydrogeological systems and their catchment yield function.

Figure 3 (source Mackie Environmental Research (MER) report in the EIS Appendix I, Figure 11) demonstrates the subsidence predicted in the alluvial areas. It is noted that areas of subsidence effect over 1.3 m are not extensive, despite the large coverage of the category shown of “1.0 to 1.4m” in the plan.

The above discussion is on the basis of existing plans and assessments.

However, it should be noted that adaptive management measures can be employed, if required, throughout stages of the mining operation by adjustment to the mining extraction configuration – including changes to longwall panel width and/or extraction height. This would particularly be the case if for some unforeseen reason it was decided that the mine should prematurely cease operations at some designated point in time.

The proposed mine plan already accommodates various extraction panel widths (125 m, 155 m, 175 m, 205 m and 255 m) and extraction heights of 3.5 m, 4.0 m and 4.5 m). This is additional to mine design which has accommodated surface environmental constraints by way of panel layout, orientation, mining direction, and chain pillar dimensions and behaviour.

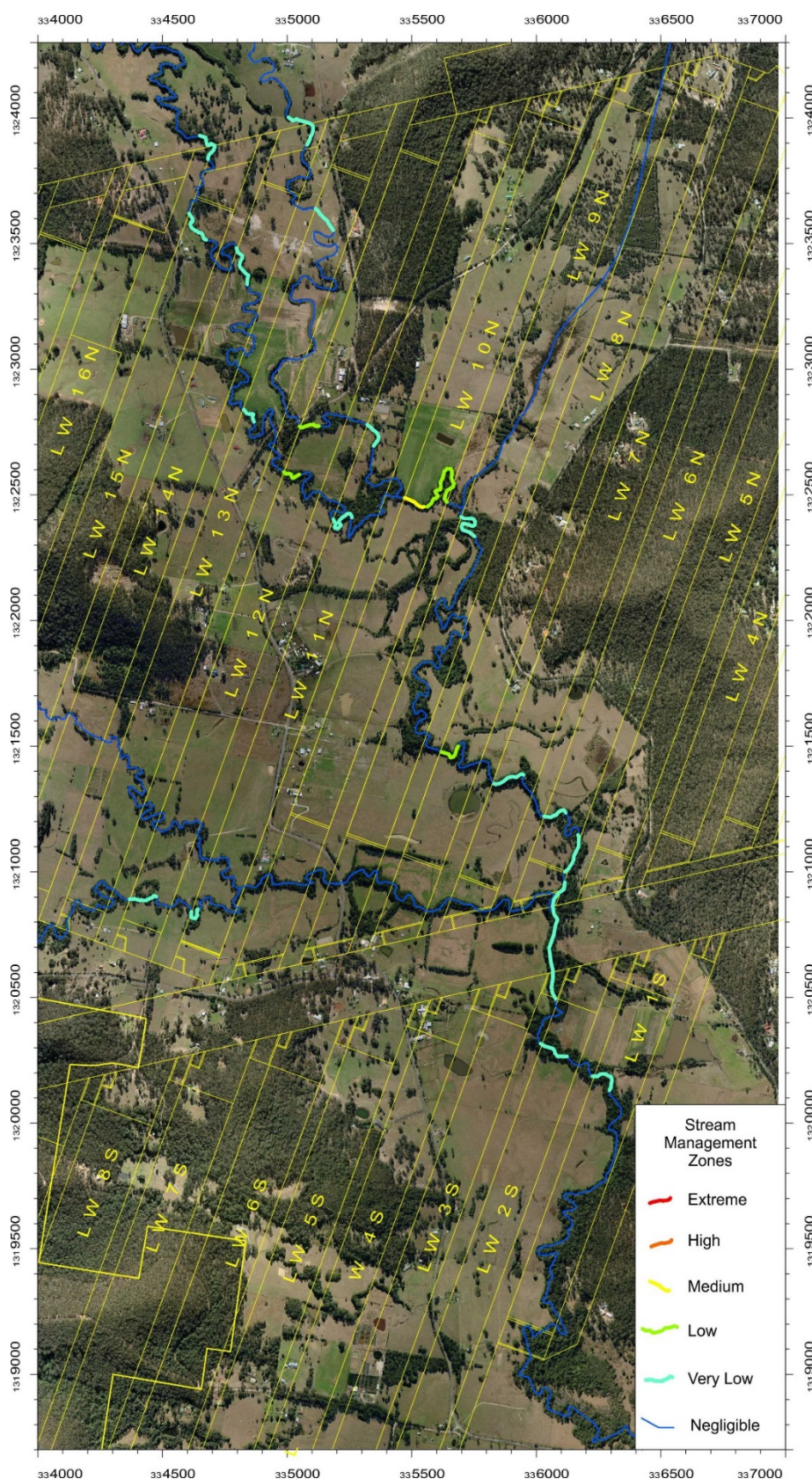


FIGURE 1 – Jilliby Jilliby Creek Stream (Response to PAC Review Report, July 2014)

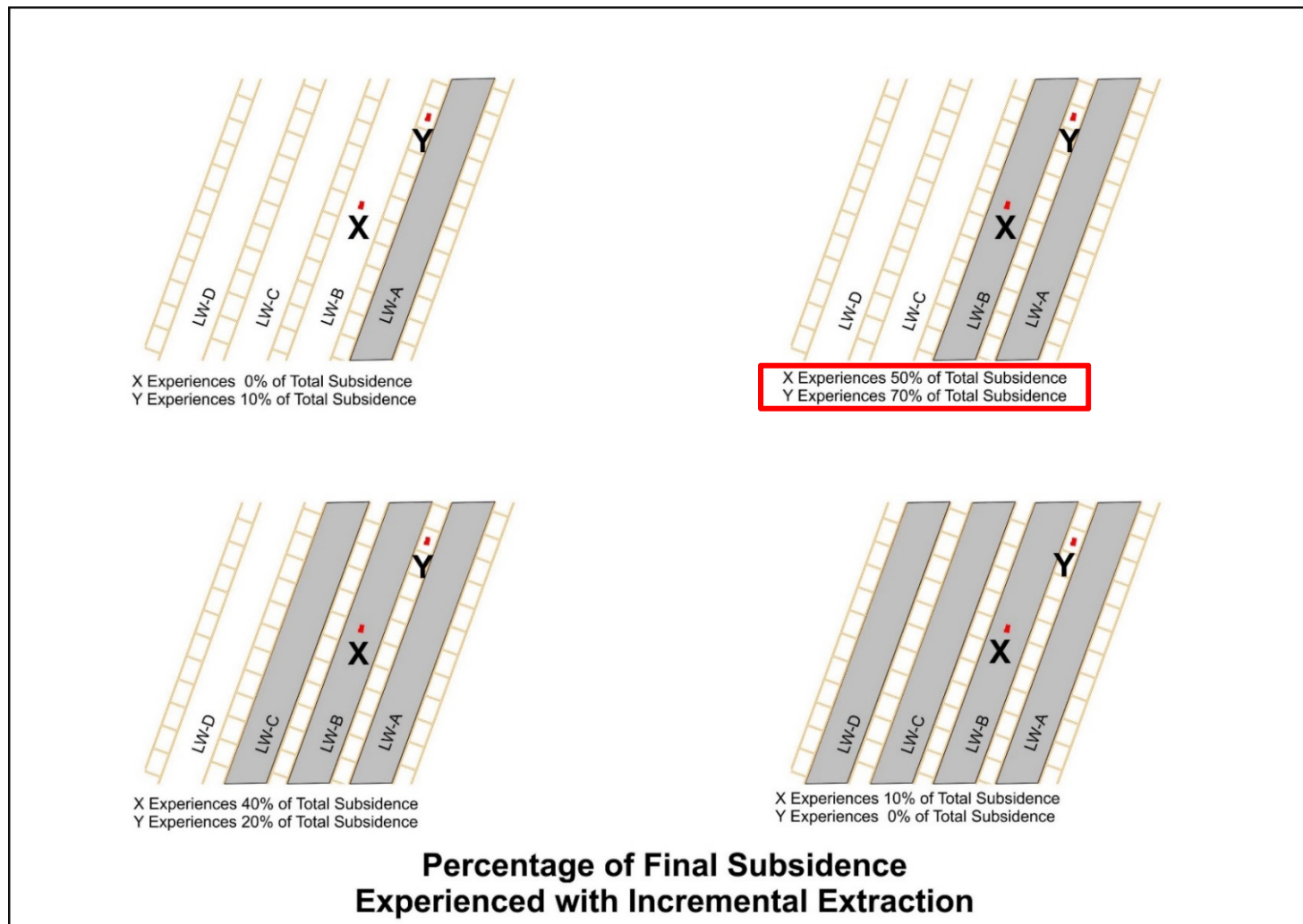
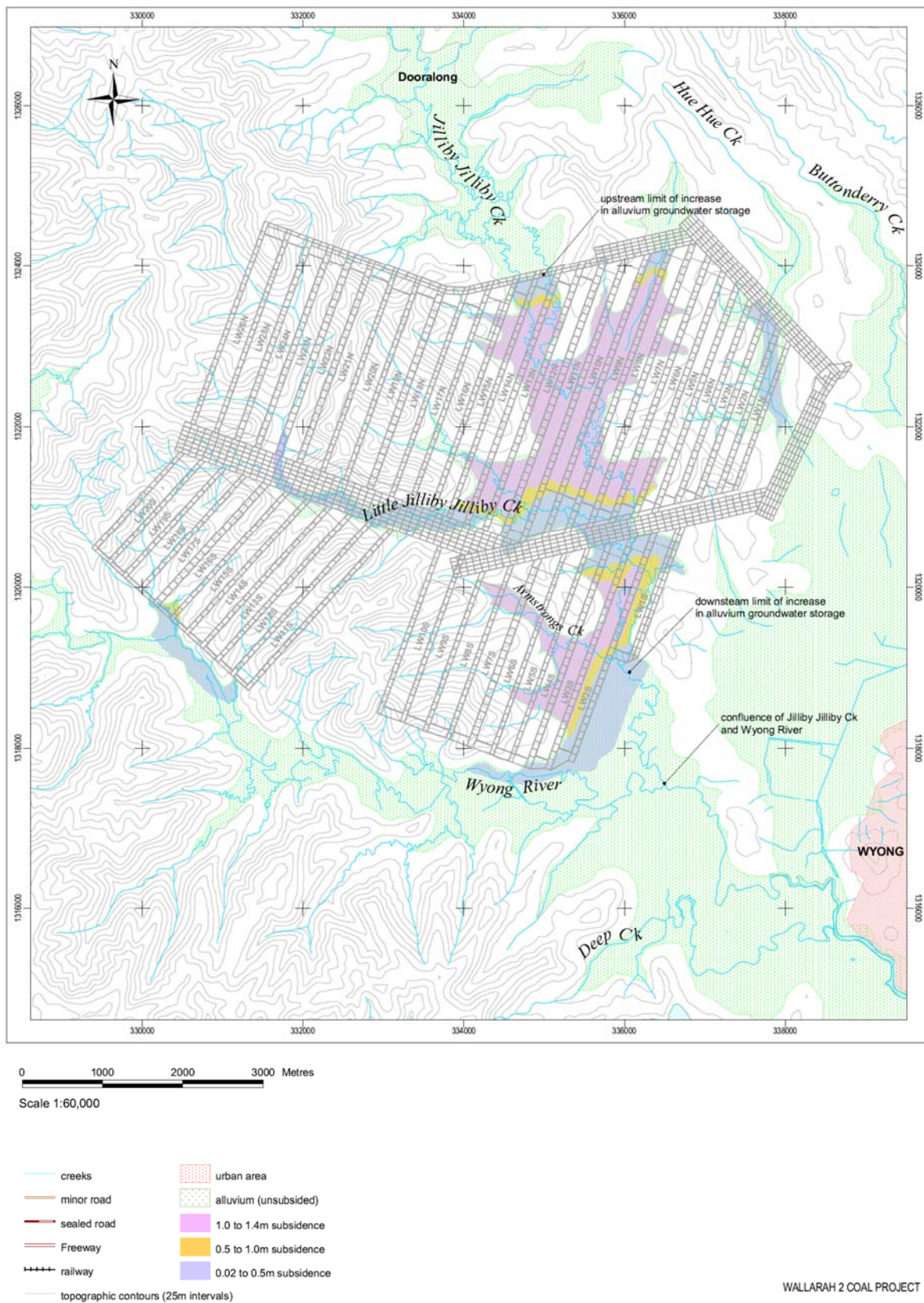


Figure 2 – Relative Subsidence Experienced with Incremental Longwall Extraction
 (maximum phase highlighted) (W2CP, 2014)



Subsidence affected areas within alluvial lands

Figure 3 – Subsidence Affected Areas within Alluvial Lands (source: MER. 2013)

2.4 COMPENSATORY WATER SUPPLY PIPELINE ROUTES

2.4.1 Issue 4

In relation to the compensatory water supply, are there any alternative pipeline routes and discharge points that could be pursued in the event options 1 and 2 currently presented are not able to be approved?

2.4.2 Response

The two preferred pipeline options are described in detail in the document 'Response to DPE Queries over PAC2 Review Report' dated 13 July 2017. Section 2.6.2 of that report notes that the two alignments were developed in consultation with Central Coast Council (Council). A significant proportion of these two routes are proposed within WACJV land while the remainder is within public road reserves. The end point is Council's existing extraction point (near the pump pool above Wyong River weir). The pipeline's anticipated disturbance is minor and its construction is a type of roadside construction that is routine and low-risk, occurring throughout the region on an ongoing basis. Being a pipeline, the flexibility of the alignment allows the opportunity to avoid any relatively sensitive environmental or other features. As such, WACJV is confident that the further approvals required for either of these alignments will be forthcoming.

However, there are other possible alignments on private land which could be further investigated should either of the preferred alignments be unable to be approved. These options were not pursued further to date, to avoid interactions with private land holders.

It should also be noted that it is approximately 7 years from commencement of construction to the requirement to provide the compensatory water supply providing more than adequate time to secure any required subsequent approvals for a final pipeline route and discharge points.

3 TOOHEYS AND NIKKO ROADS

3.1 TOOHEYS ROAD

3.1.1 Issue 5

Which portion of Tooheys Road is proposed to be purchased? Can the proposed infrastructure be built within the road corridor without purchasing the road? If so, why is purchasing the road the applicant's preferred approach? The Commission notes Council has sought to clarify that the applicant is required to upgrade the road to a standard suitable for its heavy vehicles. The Commission also notes requests that the road is returned to public ownership upon completion of mining.

3.1.2 Response

Summary

The portion of Tooheys Road to be closed and subsequently purchased is shown in yellow on Figure 5 of the Residual Matters Report. The remainder of Tooheys Road will remain a public road and will be open to the public, including emergency services.

There is no infrastructure proposed to be built on the surface of the road corridor. The conveyor that crosses from WACJV's 128 DP658436 to WACJV's Lot 103 DP755245 will be built either under the road or over it. It will not preclude access.

Upgrade of the road has already been agreed to in Voluntary Planning Agreement (VPA) made on 7 July 2014 with Wyong Shire Council (Schedule 2 Condition 16 of draft development consent).

WACJV has no issues with any part of Tooheys Road that it owns being returned to public ownership at completion of mining.

Background

Section 4.4.1 of Residual Matters Report states:

"The original project proposed the potential closure of the section of Tooheys Road adjacent to the proposed pit top area."

The PAC reviewed the application in 2014 on that basis and raised no issue at that stage.

Whilst WACJV was investigating its subsequent amendment to its application for development consent it met with Department of Industry – Lands (DIL) to discuss possible access to Nikko Road. At that meeting the Department suggested that WACJV lodge an application to close and purchase both Nikko Road and Tooheys Road.

Unfortunately the use of DIL's terminology "close and purchase" has created confusion during assessment of the Amendment.

An application was lodged to "close and purchase" however at that time there was no intent to restrict access to Tooheys Road. Local residents raised security concerns associated with alleged illegal activities in this area and in response the Amendment, when lodged, did propose to restrict access other than to residents, emergency services and those associated with WACJV.

Arising from public exhibition of the Amendment and its subsequent PAC Review it was decided to remove access controls as noted in Section 4.4.5 of Residual Matters Report. Schedule 4 Condition 31 of draft development consent consequently requires that: *"The Applicant must ensure that Tooheys Road is kept open during the life of the development for access by the general public and emergency services vehicles."*

Despite the Residual Matters Report, draft Conditions of Consent and being personally contacted on 25 May 2017 to explain that WACJV had changed its position on restricting access to Tooheys Road, Mr Bruce Cross again raised this matter at the PAC Meeting.

Further, it was asserted in the PAC Meeting that access to the proposed CASAR Motorsports Park on Darkinjung Lot 195 DP1032847 may be impeded if Tooheys Road is closed. WACJV notes:

1. CASAR Development Application shows access via Hue Hue Road;
<http://wsconline.wyong.nsw.gov.au/applicationtracking/modules/applicationmaster/default.aspx?page=wrapper&key=509761>
2. Darkinjung has requested access to Lot 195 DP1032847 via WACJV's Lot 103 DP1032847. This was agreed in writing on 22 June 2017 (Residual Matters Report, Appendix D of Appendix E); and
3. Access to and along Tooheys Road is not being restricted.

Which part of Tooheys Road is proposed to be purchased?

The portion of Tooheys Road to be “closed” and subsequently purchased is shown in yellow on Figure 5 of the Residual Matters Report with details provided in section 4.4.3 of that report (reproduced below as **Figure 4**).

WACJV has committed to keeping Tooheys Road open with unimpeded access to the general public, including emergency services.

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.



- Legend**
- Project Boundary
 - Infrastructure Boundary
 - Buildings
 - Infrastructure Area
 - Water Management Structure
 - Roads
 - Stockpiles
 - Application Area
 - Newly Proposed Infrastructure
 - Rail Spur
 - New Conveyors
 - Indicative Sewer Connection

200m
Datum: GDA 2014 Zone 56

WALLARAH 2 COAL PROJECT
Conceptual Tooheys Road Closure

Wallahar 2 | Hansen Bailey

Figure 4 – Conceptual Tooheys Road Closure

Can the proposed infrastructure be built within the road corridor without purchasing the road?

There is no infrastructure proposed to be built on the surface of the road corridor. The conveyor that crosses from WACJV's Lot 128 DP658436 to WACJV's Lot 103 DP755245 will be built either under the road or over it. It will not preclude access. It is preferable to secure ownership of the road for this purpose.

Why is purchasing the road the applicants preferred approach? The commission further notes Council has sought to clarify that the applicant is required to upgrade the road to a standard suitable for its heavy vehicles

The Applicant is only seeking to purchase a small section of Tooheys road as shown in yellow on Figure 5 in the Residual Matters Report. Upgrade of the road has already been agreed to in the VPA made on 7 July 2014 with Wyong Shire Council. Schedule 2 Condition 16 of draft development consent requires implementation of the VPA. It will be significantly easier to undertake that work if WACJV is the owner of the road.

The following is an extract of Schedule 2 of the VPA.

Item No.	Contributions	Intended Use / Public Purpose	Timing/Payment details
1	Works In Kind to complete the whole of the subject works OR, Monetary Contribution: \$4,000,000 minus the value of any Works In Kind to partially complete the subject works.	Tooheys Road upgrade - to reconstruct the entire length to a sealed road standard (Commercial & Industrial "Other" Table 7.2 and other related requirements of the Wyong Shire Council Civil Works Design Guide) including an access intersection layout as shown in Figure 7.1 on page 112, Wallarah 2 Coal Project EIS – Appendix Q Traffic & Transport Impact Assessment.	In the case where a monetary contribution has been agreed by WSC, prior to the physical commencement of construction works for the development at the Tooheys Rd site.

The Commission also notes requests that the road be returned to public ownership upon completion of mining.

WACJV has no issue with this.

3.2 NIKKO ROAD

3.2.1 Issue 6

What access arrangements are proposed for properties relying on Nikko Road south of the Link Road? How would these access arrangements be maintained following the completion of mining?

3.2.2 Response

Summary

All of these landholders will be offered an easement which would provide them with access via Nikko Road. The easement would be on standard terms and will effectively provide them the required rights to be able to access their properties.

WACJV would agree to a condition that the terms of such an agreement should be as agreed or as determined by the Secretary if they cannot be agreed.

Nikko Road will be built and maintained to enable such access.

The easements will "run with the land" and could not be revoked without such landowners consent. Also, it is proposed to transfer the land to Council at the end of mining.

Detailed Response

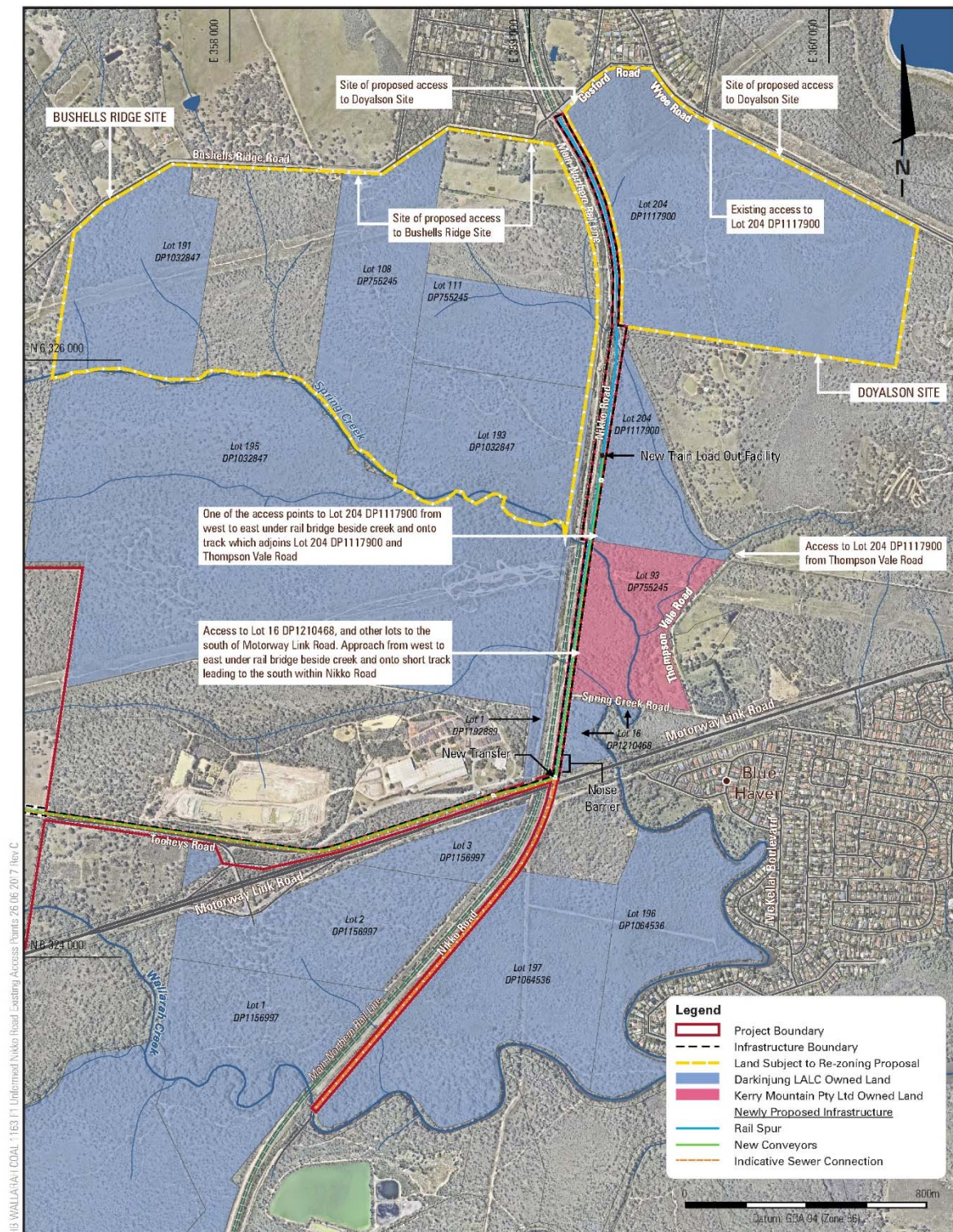
What access arrangements are proposed for properties relying on Nikko Road south of the Link Road?

Section 6.5.1.7 of the Commission's Review Report of 19 May 2017, found:

- The proposed 6m wide all weather access road with an easement is an acceptable solution to address the issue of access to adjacent privately owned lands including the section south of the Link Road, noting that access to the south of the Link Road is currently restricted by the footings of the Link Road bridge;
- 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; and
- In addition, a condition of consent should be included to require the preparation of an Access Management Plan in consultation with the adjacent landowners.

Subsequent consultation with Darkinjung Local Aboriginal Land Council is summarised in section 4.4 of Residual Matters Report and extensively addressed in section 2.5.1 of Appendix E of that report and Schedule 4 Condition 29 included in draft development consent.

Figure 4 of Residual Matters Report (reproduced below as **Figure 5**) shows the current access to lands adjoining Nikko Road. It is noted that the only trafficable access to Nikko Road is via Darkinjung's land to the west of the railway or via the rail corridor. Both being secured by locked gates.



WALLARAH 2 COAL PROJECT

Unformed Nikko Road Access Points



Figure 5 – Existing Nikko Road Access Points

Appendix E section 2.5.1 Figure 2 of Residual Matters Report shows access locations developed in conjunction with Darkinjung Local Aboriginal Land Council (DLALC) (reproduced as **Figure 6** below). It is noted:

1. The meeting with Darkinjung on 5 June 2017 was a working session where options were investigated on Google Earth or SIX Maps projected from a DLALC computer. The only paper plans used were those previously included in Amendment documentation. Following this working session plans were formally submitted to DLALC on 22 June 2017. These are included in Residual Matters Report Appendix E section 2.5.1 and the communication to DLALC included in Appendix D of Appendix E;
2. As is currently the case, there will be no gate at DLALC's access point to Nikko Road from under the railway; and
3. DLALC has however requested a locked gate on Nikko Road at the Link Road bridge, introducing an access restriction to its lands to the south that currently does not exist.

Further, Appendix E Section 2.5.1 Table 1 of Residual Matters Report tabulates current and future access to all lands, including those owned by Darkinjung LALC, adjacent to Nikko Road.

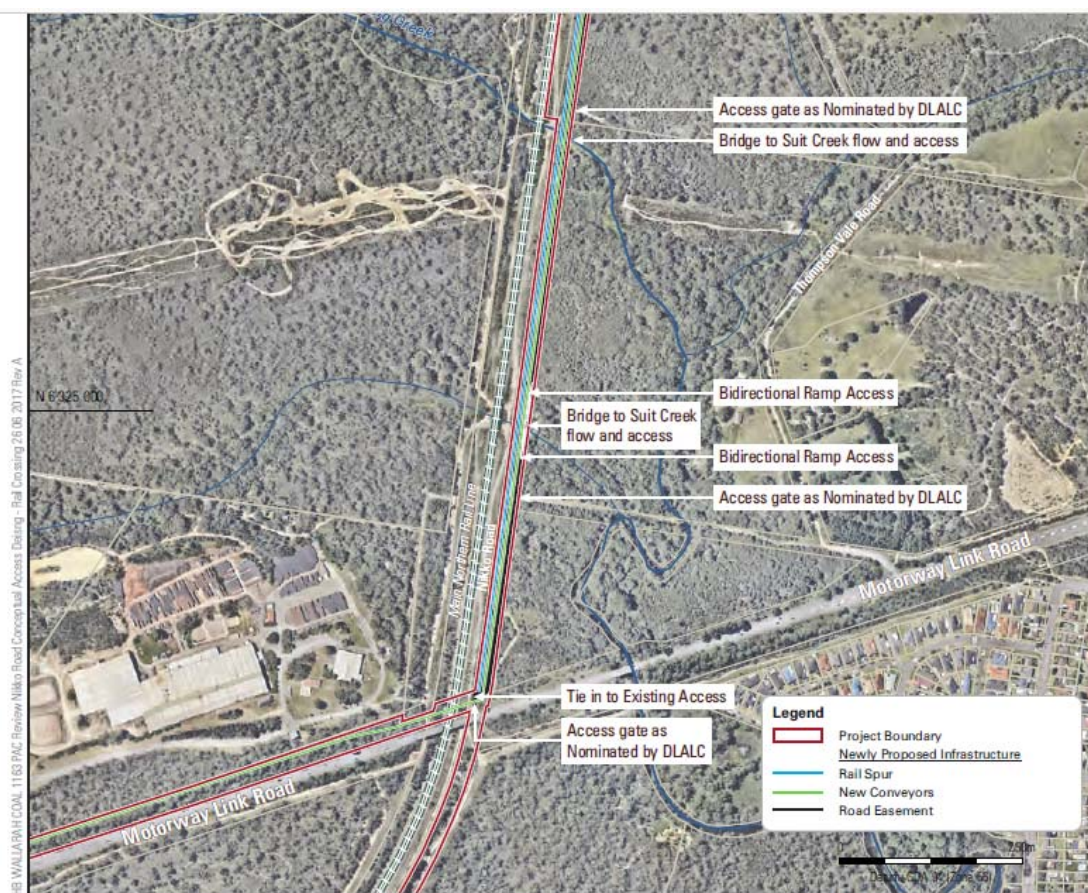


Figure 6 – Nikko Road Conceptual Access Design – Rail Crossing

How would these access arrangements be maintained following the completion of mining?

Schedule 4 Condition 30 of draft development consent provides for the handover of Nikko Road to Council upon completion of mining operations if the ownership of the Nikko Road is transferred to the applicant.

All adjacent landholders will be offered an easement which would provide them with access via Nikko Road. The easement would be on standard terms and will effectively provide them the required rights to be able to access their properties.

The easements will "run with the land" and could not be revoked without such landowners consent.

Schedule 4 Condition 30(b) of draft development consent requires *"the road is in a good state of repair prior to this transfer."*

4 SOCIO ECONOMICS

4.1 LANDOWNERS

4.1.1 Issue 7

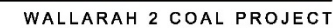
The Commission heard concerns about the social impacts an approval would have on landowners whose properties would be undermined, particularly the uncertainty occupants would face prior to undermining which in some cases could be a number of years following commencement of mining. The Commission acknowledges there is some uncertainty surrounding the commencement of the project. What is proposed to mitigate these social impacts?

4.1.2 Response

WACJV notes that market supply and demand conditions and strong coal price provide certainty for the commencement of the Project following a positive determination by the Commission. Figure 18 from the EIS (reproduced below as **Figure 7**) provides the conceptual mine plan with indicative timing of extraction.

WACJV will continue to implement its Stakeholder Engagement Strategy (SES) which will be updated and enhanced throughout the different project stages.

Further, the Community Consultative Committee (CCC) as required in Schedule 6 Condition 7 will be operating from 2018 (assuming a positive determination by end 2017). Regular meetings and updates on proposed WACJV activities will be provided at these meetings.



Conceptual Mine Plan

Figure 7 – Conceptual Mine Plan

During feasibility studies (proposed in 2018 assuming a positive determination by end 2017) to enable the commencement of construction (2019-2020), WACJV will continue to facilitate best practice consultation, including: provide widely distributed newsletter updates (including indicative construction and mining operation timing updates), regular website updates, briefings to groups and associations hold drop in sessions at its offices, and meet with interested landholders or other interested parties who request such meetings (in response to newsletters).

Part of the SES for the construction stage will include a defined program for landholders within the current Extraction Plan (EP) area (i.e. up to 7 years) as well as those outside this area. Consistent with common practice, those within the current EP area will be directly contacted and, in close consultation with the landowner, will have a Property Subsidence Management Plan (PSMP) prepared.

WACJV operates a suite a community-oriented programs supporting socio-economic improvements in the local region. These include:

- Wallarrah 2 Coal Project Community Foundation Grants Program – since 2013, direct sponsorship funding assistance to 67 community projects and initiatives for environment and community wellbeing and education outcomes within the Wyong region;
- Guringai Tribal Link Aboriginal Corporation Mutual Advancement Covenant – signed 2015, where WACJV works with Guringai TLAC to deliver increased education, training and employment opportunities for the wider Indigenous community on the Central Coast, comprising five schemes: Indigenous apprenticeships, business start-up support, mentoring, Green Group business establishment, and Indigenous scholarships to university; and
- Wallarrah 2 Coal Project Apprenticeships Program – established in 2013 and supported 26 young people and their business hosts to date. The program is managed and administered by Central Coast Group Training on behalf of WACJV.

In addition to the above programs, the VPA signed with Council includes a component titled *Monetary Contribution: Community and Environment* totalling \$4 million to be paid in four tranches from the time of Wyong Coal's decision to physically construct the project up until the completion of Longwall 1. The intended use of the environment and community funding is for:

- Community, social and cultural development infrastructure projects;
- Environmental improvement projects being undertaken by Council, and
- Enhancement of water re-use, trade waste capacity and sustainability programs.

4.2 MITIGATION MEASURES – EARLY CLOSURE

4.2.1 Issue 8

What socioeconomic mitigation measures would the applicant implement to minimise impacts of early or unplanned closure.

4.2.2 Response

Condition 39 of the draft development consent requires WACJV to “... *rehabilitate the site to the satisfaction of DRG. This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the EIS and comply with the objectives in Table 8.*”

Schedule 4 Table 8 of draft consent conditions includes an objective to: “*Minimise adverse socio-economic effects associated with mine closure*”.

Condition 41 of the draft development consent requires WACJV to prepare a Rehabilitation Management Plan (RMP) which must be prepared in consultation with OEH, RMS, DPI Water, Council, the CCC and the Department and submitted to DRG for approval prior to commencement of construction of the surface facilities sites and include the rehabilitation objectives in the EIS and in Schedule 4 Table 8 of draft consent conditions.

As the RMP must be completed for approval prior to construction, and consultation must occur with various regulators and the CCC, WACJV suggests there is extensive scope if in the unlikely event that unplanned or early closure occurs, for specific, detailed socioeconomic mitigation measures to be incorporated.

These mitigation measures will include consideration of current *Best Practice Guidelines on Mine Closure, including: the Minerals Council of Australia’s ‘Enduring Value – the Australian Minerals Industry Framework for Sustainable Development’, ‘AA1000 Stakeholder Engagement Standard 2011’* and the *‘International Association for Public Participation’* (or latest versions). Consultation may include (but will not be limited to):

- Regular engagement between WACJV and the local community(s) throughout all stages of mine development in order to manage the potential socio-economic and environmental impacts of mine closure;
- Risk based approach to potential closure and development of completion criteria on socio-economic parameters;
- Consideration of the welfare of workers and local community with clear provisions for the accumulation of resources adequate to implement the RMP.
- Periodic review and update the RMP in light of new circumstances and in consultation with affected stakeholders;
- Establish a dedicated project team to implement the decommissioning plan and safely restore the site for re-use to the fullest extent practicable; and
- Develop internal Procedures and Policies on: Notifications and Employee Retraining Assistance.

From: [Allonby, Peter](#)
To: [Megan Webb](#)
Cc: [Barry, Kenny](#); [Sang Park](#); [Melanie Hollis](#)
Subject: Wallarah 2 Coal Project - Determination PAC Additional Query
Date: Thursday, 23 November 2017 3:44:55 PM
Attachments: [image007.png](#)
[image001.png](#)
[image003.png](#)
[image005.png](#)
[image006.png](#)
[Fig 7 Land Ownership \(overall\)_085611.PDF](#)
[Fig 29 Predicted Subsidence Contours_08822E.PDF](#)
[Fig 39 Vegetation Communities_087791.pdf](#)

Hi Megan,

As requested, WACJV has undertaken a review of the submission from Mr Robert Pritchard dated 17 November 2017 (submission) and provides a response to the following statement:

"... Although this property is only about 40 acres we believe it is almost unique in the Dooralong Valley. So far we have identified four different native vegetation areas, including the presence of a Lowland Rainforest on Coastal Floodplains EEC. ... Extrapolation analysis of expected subsidence impacts data (EIS Wallarah 2 Appendix H) indicates subsidence of 480 mm – 1300 mm of these addresses. SHOULD THE WALLARAH 2 COAL PROJECT GOES AHEAD ALMOST CERTAINLY THESE LAST AREAS OF FLAT LAND RAINFOREST IN THE DOORALONG VALLEY WILL BE IRREVERSIBLY DAMAGED AND LOST FOREVER!"

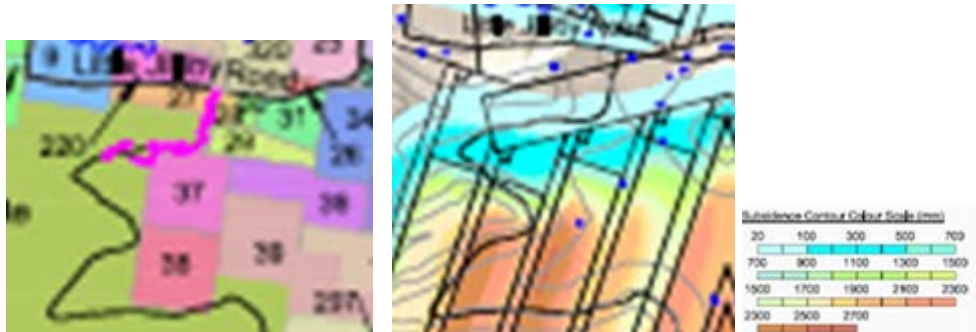
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Subsidence

A landownership search undertaken today confirms lot 611 DP 867346 is owned by R.C Pritchard and G.M. Eagles. This property is identified as Property 37 in the EIS. EIS "Figure 7 Landownership" shows Property 37 generally southeast of the Western Ventilation Shaft on Brothers Road which is located above main roadways (see [attached](#)).

As per Figure 29 of the EIS ([attached](#)) subsidence predictions at the property are generally between 20 mm and 1,300 mm.

-



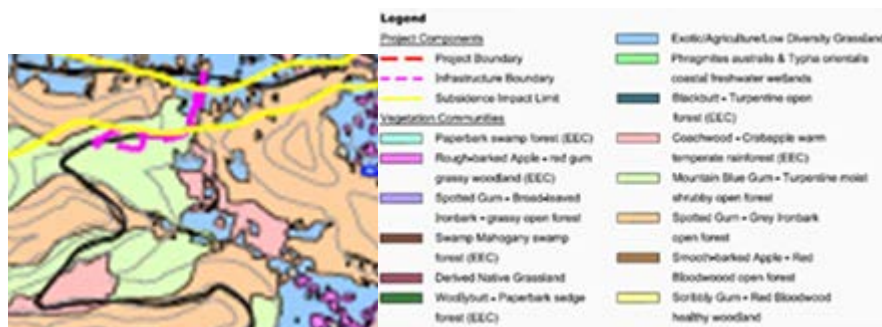
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EEC

As per the EIS Figure 39 ([attached](#)) mapping and assessment in the vicinity of Property 37 included the identification of EEC.

Cumberland Ecology notes the following:

- The community identified in the EIS 'Coachwood-Crabapple warm temperate rainforest (EEC)' (see [attached](#) EIS figure) is considered part of the 'Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions' and so is found in the Wyong area. This EEC is described in the final determination as being associated with a range of high-nutrient geological substrates, notably basalts and fine-grained sedimentary rocks, on coastal plains and plateaux, footslopes and foothills, and therefore can occur on the coastal floodplains. Cumberland is therefore confident it has mapped the correct EEC within the subsidence area.
- We note that the submission states 'presence of a Lowland Rainforest on Coastal Floodplains EEC'. Cumberland has concluded that this cannot be the listed EEC 'Lowland rainforest on floodplain in the NSW North Coast Bioregion' as by definition, this EEC does not occur in the Bioregion that the Project is located.
- Cumberland compared the diagnostic species and associated species for both variants of the Coachwood-Crabapple warm temperate rainforest community, in particular Map Unit 40, as described in the EIS' with the species lists in the final determination for both EECs. About 10 of the positive diagnostic species and 10 additional for Map unit 40 are present in the Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions. There are no positive diagnostic species listed for Map unit 40 in the final determination list for 'Lowland rainforest on floodplain in the NSW North Coast Bioregion'.
- In summary, the Lowland Rainforest EEC that Cumberland Ecology assessed does occur on Coastal Floodplains. It has also been assessed in the EIS as a Groundwater Dependant Ecosystem (GDE). No areas of this EEC will be cleared and impacts from subsidence are unlikely to be significant.
- The two key regulators responsible for EECs, OEH and DoEE are satisfied with Cumberland Ecology's EIS Ecological Assessment.



Kind regards

Peter

Peter Allonby

General Manager

Wyong Coal Pty Limited

PO Box 3039 TUGGERAH NSW 2259

