



Office of Environment & Heritage

Your reference

Our reference:

Our contact:

DOC11/26460

Mr Paul Wearne, (02) 4224 4100

NSW Department of Planning and Infrastructure
Manager Mining Projects
(Attention: Mr Howard Reed)
GPO Box 39
SYDNEY NSW 2001

Dear Mr Reed

I am writing in response to the exhibited Environmental Assessment (EA) for the Major Project, Berrima Coal Project (application no MP10_0172) received by the Office of Environment and Heritage (OEH) on 7 June 2011.

The EA states that current underground coal mining is in accordance with a Subsidence Management Plan (SMP) that was approved by NSW Department of Trade and Investment, Regional Infrastructure and Services on 2 October 2009. The proponent is now seeking approval for coal mining of 460,000 tpa over eight years.

Key Environmental Issues

OEH has reviewed the EA and identified a number of key issues that require clarification or additional information from the proponent prior to determination. These relate to:

- Mine water discharge to the Wingecarribee River
- Groundwater
- Subsidence Impact Assessment
- Noise Impact Assessment
- Air Impact Assessment

Further detailed comments on these issues are provided in **Attachment 1**. A number of these issues were identified during the EA adequacy check and remain unresolved in the exhibited EA. OEH is not in a position to provide any recommended Conditions of Approval until this information has been received as it is unclear what the project will involve, the environmental impacts and the measures proposed to mitigate these impacts.

In particular the water discharge information is important in ensuring the values identified by the NSW Healthy Rivers Commissions *Independent Inquiry Into The Hawkesbury Nepean River System* Final Report 1998 and the NSW Government's Statement of Joint Intent are being met.

Other Environmental Issues

OEH has identified other environmental issues for Department of Planning and Infrastructure (DoPI) consideration in the assessment on the project. These matters could also be addressed through additional Statement of Commitments being sought from the proponent or through conditions of approval. These are detailed in **Attachment 1**. They relate to:

- Onsite Wastewater Management
- Flora and Fauna

The Department of Environment, Climate Change and Water is now known as the Office of Environment and Heritage, Department of Premier and Cabinet

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- Aboriginal Cultural Heritage; and
- Current Monitoring Programmes

Consideration of recent Southern Coalfields Inquiries

As a result of several Government inquiries in the Southern Coalfields there has been a considerable increase in the level of knowledge on underground coal mining, its environmental impact and the necessary steps needed to manage these impacts.

The proponent should carefully consider the findings and recommendations of key reports including but not limited to the following:

- *Impacts of underground coal mining on natural features in the Southern Coalfield: strategic review* (2008)
- *The PAC Review of the Metropolitan Coal Project* (2009); and
- *The PAC Review of the Bulli Seam Operations Project* (2010).

These reports provide guidance and information that would be relevant to the Berrima Coal Project.

European Heritage

OEH's Heritage Branch (formerly part of the Department of Planning) has previously provided advice to DoPI on the adequacy of the EA in relation to the Environmental Assessment Requirements on 17 November 2010. The Heritage Branch will be providing comment on the exhibited EA to DoPI in a separate letter.

OEH is happy to meet with DoPI at a mutually convenient time to discuss any of our comments and advice. Should you require any further information or clarification on the above matters please call Paul Wearne on (02) 4224 4100 at our Wollongong Office.

Yours sincerely

G Howard 8/8/11

GISELLE HOWARD
Director Metropolitan
Environment Protection and Regulation
Office of Environment and Heritage
Department of Premier and Cabinet

Encl.

Attachment 1

Office of Environment and Heritage Comments on Berrima Colliery MP10_0172

1. Mine water discharges to the Wingecarribee River

The Environmental Assessment (EA) states that the current discharge from the adits to the Wingecarribee River is approximately 3 ML/day and may increase by up to 7 per cent due to groundwater flowing into the mine. An OEH review of median flow in the Wingecarribee River downstream of the mine indicates that mine water may currently make up about 10 per cent of the median river flow. However, this percentage contribution to the river may also be greater due to decreased river flows as a result the cessation of water transfers from Tallowa Dam to Wingecarribee River (ultimately Warragamba Dam). Sydney Catchment Authority (SCA) currently releases a minimum environmental flow of 3 ML/d from Wingecarribee Reservoir. Under these flow conditions it is likely that the Colliery's discharge comprise approximately 50 per cent of river flows.

Given the mine water discharge represents a significant contribution to the River, its future management is an important issue that requires careful consideration. On the basis of an OEH review of the Water Quality Assessment accompanying the EA, there is insufficient information to fully understand the environmental impacts from both current and future discharges. These deficiencies include but are not limited to the following:

- a) A lack of data on mine water and its characterisation. Based on the limited data presented in the EA, the mine water potentially contains high levels of metals (for example, nickel, manganese and zinc) and low levels of other metals. No data has been provided on other potential contaminants, such as organics.
- b) Limited background information on the receiving water flows of the Wingecarribee River. For example, the report states that "no active gauging stations on the Wingecarribee River" were found on the NSW Water Information website. There are at least four gauging stations on the Wingecarribee River downstream of Wingecarribee Dam (Sheepwash Bridge, Bong Bong, Berrima and Greenstead; DECCW 2010 – 2010 Audit of the Sydney Drinking Water Catchment).
- c) An assessment of the likely impacts of pollutants in the mine water is needed. This assessment should be undertaken in accordance ANZECC 2000. In particular, it should take into account the ANZECC 2000 guideline recommendations for ecosystem health (for example, Table 3.3.2-3.3.3 for upland rivers in South-east Australia) or trigger values for toxicants that protect freshwater species (Table 3.4.1 of ANZECC 2000). The current EA uses reference values based on "aesthetic purposes" rather than "ecosystem protection". (Note: OEH does not support the proposed (inferred) guideline for conductivity of 1700 uS/cm (SEEC Table 6) when the ANZECC (2000) guideline for upland rivers in South-east Australia is 350 uS/cm).
- d) The relevant environmental values in Healthy River Commission's *Independent Enquiry Into The Hawkesbury Nepean River System* Final Report 1998 should also be assessed with the associated ANZECC 2000 guidelines for each environmental value. Environmental values expressed as Water Quality Objectives provide goals that help in the selection of the most appropriate management options. The guiding principles are that:
 - where the environmental values are being achieved in a waterway, they should be protected; and

- where the environmental values are not being achieved in a waterway, all activities should work towards their achievement over time.

In setting any Environment Protection Licence requirements OEH is required to take into account the environmental values of the receiving waters.

- e) Information on any effects of the discharge on river health quantitatively in terms of ecotoxicity, and changes to in-stream biota;
- f) Predicted increases in mine water make (for example, 7 per cent) due to the expanded mine roof area also needs greater consideration than currently provided in the EA. Given the volume of mine water being discharged, the issue of contaminant loads and the potential fate of pollutants in depositional areas downstream also need consideration.
- g) The identification of any mitigation options in response to any adverse river health impacts from the mine water discharge.
- h) An assessment of possible arrangements for continued discharge or cessation of flows from Berrima Colliery following eventual closure of mining operations. The environmental and social impacts of such arrangements should be broadly considered.
- i) Information (written advice from NSW Health) on the acceptability of reuse of mine water by the public (approximately 300 litres per day) in Medway Village.

2. Groundwater

On the basis of our review of the EA, OEH consider the Groundwater Assessment (GA) is deficient and requires further information to address the following matters. These include:

- Potential for Connective Fracturing from the Mine to the Surface; and
- Groundwater Hydrology

The EA states that the depth of cover for Berrima Colliery is quite shallow, ranging from 135 to 190m beneath rural lands. With such shallow mining there is greater potential for connective cracking compared to other mines in the Southern Coalfields. Such fracturing has the potential to impact upon local groundwater systems and contribute to loss of surface waters. The EA states that the maximum tensile strains over previous workings vary from between 0.5 to 4.7 mm/m while maximum compressive strains range from between 0.5 to 11.0 mm/m. OEH considers that such subsidence parameters are similar to those that were identified by the Bulli Seam PAC Report as contributing to bedrock fracturing.

The accompanying Ditton Geotechnical Services (DgS) report provides a predictive assessment on potential impacts. This includes both connective fracturing (cracking that could directly connect surface and groundwater to the underground workings) and discontinuous fracturing (horizontal cracking that could impact upon groundwater resources). This Assessment has revealed there is a risk of connective fracturing to within 61m of the surface and disconnective fracturing from the mine to within 10m of the surface. On its own, disconnective fracturing can cause aquifer depressurisation. Given the presence of dykes and faults in the area however (as described in the EA), it is possible that disconnective fracturing could interact to become connective fracturing in some areas. The DgS Report states that subsurface aquifers within 74 to 107m of the workings could be affected by direct hydraulic connection to the workings. This may result in subsequent long-term increases to vertical permeability or relatively free drainage into the workings.

The GA is based on limited groundwater data and information across the project area. The EA states that the project area contains two main regional groundwater systems, being the fractured rock associated with the Hawkesbury sandstone and the coal seams of the Illawarra Coal Measures. In addition, igneous intrusions and basalt flows form higher permeability aquifers but these are more localised and do not extend over large areas. The EA however contains limited information on shallow groundwater aquifers including potential water bearing zones at the soil-bedrock interface. Local groundwater resources may be sustaining both agricultural production and the surrounding natural environment. In addition, a number of relatively high quality groundwater aquifers in the area are currently being used for stock watering and or domestic use in Medway village. The GA is based on a limited number of bores associated with properties over proposed and previous mine areas. Currently, monitoring is undertaken in two registered private property bores (GW101581 and GW106150) and one 'old' coal resource exploration drill hole on private land ('Culpepper')(Delta Mining Pty Ltd).

Figure 7 in the GA provides a visual representation of groundwater depressurisation across the project. This suggests the potential for depressurisation across the landscape with inflows possibly coming from surrounding waterways including the Wingecarribee River. In the absence of comprehensive groundwater data across the project area, it is difficult to understand how the local groundwater system functions. There is also limited information on the fate of the groundwater in the landscape such as groundwater fed springs and whether it feeds local waterways.

To address the above issues, OEH recommends that additional investigations of groundwater resources in the area be undertaken. This should be supported by a comprehensive monitoring program. These investigations would determine whether surface to seam connective fracturing actually occurs. In addition, it should also investigate any potential impacts upon shallow groundwater aquifers

3. Subsidence Impact Assessment

3.1 *Uncertainty on the Methodology for the Extraction of Coal*

The EA states that underground mining will use a "bord and pillar" methodology for the extraction of coal. However, the EA states that a number of remaining coal pillars will be removed. Whilst the EA discusses "effective pillar widths" it implies an extraction methodology similar to "total extraction".

For example, Figure 1 of the DgS report appears to suggest that previous workings in NW2, 401-405 and 500 panels may have removed all the coal in these areas (excluding the subsidence protection zones). It is unclear whether any pillars remain in these areas and whether the centreline pillars in the current proposal will remain or will eventually be extracted at some later stage. This uncertainty is further compounded in the presented Mine Plan in the EA which presents a chequer board mine layout that implies coal pillars remaining.

Detailed information should be sought from the proponent on the current and future Mine Plan and associated extraction methodology. This should include but not be limited to the following:

- a) Information on what pillars will remain over the current and proposed mine layout; and
- b) Details on the process that informs which pillars do remain and how this is undertaken during operations.

3.2 *Limitations in Subsidence Assessment Model*

The subsidence assessment has taken into account some features including man made structures, dams, steep slopes, telecommunication lines, a groundwater bore and an Aboriginal Heritage site.

The main land use in the project area is agriculture. The proponent should demonstrate that there will be no significant impacts on agricultural land and its productivity. These impacts may include changes to drainage lines, drying of soils due to subsidence cracks and soil erosion. Given the shallow depth of mining they could be very site specific and localised. Further advice should be sought from the NSW Department of Trade and Investment, Regional Infrastructure and Services.

The EA should clearly identify all features that require protection and this should be closely linked to subsidence impact performance measures that are required to protect them. For example certain water courses (3rd order streams and above) and important biodiversity (threatened species, populations, ecological communities or their habitats) should have a negligible subsidence impact performance outcome. Agricultural productivity could also be linked to a negligible impact performance outcome.

The Subsidence Assessment (SA) presented in the EA uses an influence function-based Subsidence Contour Prediction Model (SDPS) to predict subsidence over the mine layout. As presented in Figures 9a to 9d in the accompanying DgS Report the model was able to provide a reasonable match for subsidence over the 404 Panel, but did less well for tilt and curvature and poorly for strain. In relation to the latter, the Model was unable to predict significant levels of compressive strain measured at approximately the 300m chain of the 404 Panel. Other predicted peak tensile and compressive strains were also unable to be verified.

The SA also predicts maximum tensile strains over the current proposal range from 0.5 to 2mm/m but appear to be relatively insensitive to 'effective' pillar width. While maximum predicted compressive strains over the current proposal range from 1 to 4mm/m appear to be sensitive to 'effective' pillar width (being higher over SW1(LHS) compared to 406 and SW1(RHS)). OEH considers this conflict highlights the models need for further refinement for prediction purposes.

In general, there was limited information on model calibration data presented in the EA. Such limited calibration data highlights potential concerns on the models reliability in providing accurate subsidence predictions. In this regard, additional calibration data should be sought from the proponent including any associated verification information of the Subsidence Model over the mine area to accurately determine accuracy. This should also include but not necessarily be limited to:

- a) Areas where coal has been entirely removed including any subsidence monitoring results to verify past subsidence predictions;
- b) If subsidence predictions have not been met, identify any subsequent consequences and adaptive responses; and
- c) Details on the models limitations.

4. **Noise Impact Assessment**

4.1 *Road Traffic Noise*

The New South Wales Government's Environmental Criteria for Road Traffic Noise (ECRTN) provides advice on land use developments that create traffic. On page 18,

Section 3.5 of this guideline there is information on shoulder periods. It states there will be instances where the noise levels in an area begin to rise earlier than 7am (the standard time delineating day and night) due to normal early morning activity from the general community. For these situations it is reasonable to consider varying the standard day and night-time periods to better reflect the actual temporal changes in noise for that location. In these situations, appropriate noise level targets for the 'shoulder periods' may be negotiated with the determining or regulatory authority on a case-by-case basis.

The proponent has not provided any noise graphs demonstrating that early morning noise level rise, and so it is not possible to determine whether a shoulder period is justified. We recommend that further information should be sought from the proponent to address this issue.

4.2 Operational Noise

The Noise Impact Assessment (NIA) that accompanies the EA states that *"the subject site is not undergoing an upgrade but merely is seeking approval for continued operations. Hence at this point in time, there is not an opportunity to mitigate noise emissions where they are above project specific criteria"*. OEH does not agree with this comment.

The proponent is seeking to double production capacity (up to 460,000 tonnes of coal per annum) compared with current production (about 220,000 tonnes per annum). The proposal also involves changes in the operation of the site from five to seven days a week. Concerns have been raised by the community to OEH regarding existing noise impacts from activities at the site.

The NIA has concluded that noise emissions from the premises are above the project specific noise level. The proponent quotes Chapter 10 of the INP which states that *'in many instances the site will be required to reduce its emissions progressively to achieve the specified noise limits by specified dates. This will require noise to be managed as an integral part of site upgrades. However, the development of formal operating practices to reduce noise generation often need not be linked to site upgrades, and where feasible these operating practices should be applied at the earliest opportunity.*

The proponent should document all feasible and reasonable noise mitigation measures including a time-frame for implementation to satisfy the above requirements.

5. Air Impact Assessment

The EA states that air monitoring data has not been historically collected at Berrima Colliery. However, three dust deposition sites were established in October 2009, and the EA reports this data up until June 2010. Background airborne particulate levels in Medway were estimated using OEH data from a Metropolitan Air Quality Monitoring Station at Ridge Road, Oakdale. This site is located in a rural environment, approximately four km from the nearest coal works on Burraborang Road, Nattai.

An inspection of the site was carried out by OEH on 17 June 2011. It revealed unsealed internal haulage roads, unsealed work areas around the pit top area, un-vegetated exposed open areas, no water sprays on stockpiles and accumulations of coal fines dust beneath conveyors, crushers and loading areas. OEH considers there is a need for improvements in dust management at the site both currently and associated with the proposed project.

The village of Medway is located in close proximity to the pit-top facilities. A review of the Air Quality Assessment (AQA) reveals that Dust Deposition, TSP and PM10 concentrations are predicted to increase at Medway Village, although are likely to remain less than OEH impact assessment criteria. Although the assessment does not present a cumulative impact assessment for 24-hour PM10 as outlined in the Approved Methods, the semi-quantitative statistical approach provides a reasonable indication of the likelihood of impacts.

The AQA is based on the implementation of adequate operational dust management strategies over the life of the proposal. The proposed mitigation measures are based on management measures include watering roads, sweeping, and speed limits for vehicles. In relation to unpaved trafficable areas, the EA recommends that dust control efficiency can rise from 60% to 80% by increased watering. However, the EA provides no information on how this would be achieved nor measured in terms of demonstrating success.

Given the above, the proponent should be required to undertake a site specific best management practice determination to identify the most technically and economically feasible measures to minimise dust emissions (TSP, PM10 and PM 2.5). This BMP determination should be transparently linked to the AQA and any relevant Air Quality Management Plans.

For your information, OEH commissioned Katestone Environmental Pty Ltd to research and identify international best practice to prevent and or minimise particle emissions from all activities associated with coal mining in NSW. A copy of this report can be obtained at OEH website:

<http://www.environment.nsw.gov.au/resources/air/KE1006953coalminebmqpreport.pdf>

OEH recommends that this report be consulted when preparing the above additional information. This will ensure all practicable and feasible measures to prevent and/or minimise dust are carefully considered and the facility meets contemporary requirements.

5.1 Dust Monitoring

OEH recommends that Boral install and operate a dust deposition, and fine particulate (TSP and PM10) monitoring network around the Medway pit top. This should be used to confirm the predictions in the EA and to monitor ongoing environmental performance.

6. Onsite Wastewater Management

While the EA states there will be improvements to the onsite wastewater system, no information has been presented in the EA. This was also raised as a deficiency by OEH in letter to DoPI dated 22 November 2010 regarding EA adequacy.

A description of the Site Sewage System should be documented. The system should be assessed against contemporary requirements for small sewage systems. The goal of the system should be to maximise the reuse of treated wastewater where it is safe and practicable to do so and would provide the best environmental outcome. It should also achieve a zero direct discharge to surface waters. The design, installation and operation of the system should satisfy the following environmental performance outcomes at all times.

- Protection of surface waters
- Protection of groundwater
- Protection of lands
- Protection of plant and animal health
- Prevention of public health risks
- Provides resource use; and
- Protects community amenity.

7. Flora and Fauna

7.1 Closure of portals

OEH advises that any proposals to close or modify old mine adits or entrances be undertaken in close consultation with OEH. This is because of the presence of threatened Eastern Bentwing Bats at the site. OEH understands that significant impacts on roosting bats of this species can occur from gating, even if the gates do not completely close or bar possible entry by bats through or around the gate structures. Berrima Coal should investigate options that satisfy NSW Department of Trade and Investment Regional Infrastructure and Services access requirements as well as allowing bat access to portals.

7.2 Vegetation Clearance

The EA states that 3.59 ha of native vegetation will be cleared to create an Asset Protection Zone (APZ) around the pit top buildings. The EA also states 2.25 ha of vegetation will be cleared so the Loch Catherine Stockpile site can be increased in size from 100,000 tonnes to 115,000 tonnes.

OEH recommends that clearing for proposed Asset Protection Zones should avoid removal of large trees with hollows wherever possible. Removal of tree hollows is a key threatening process under the Threatened Species Conservation Act. Where trees are being selected for removal in order to achieve canopy separation, preference should be given to removal of trees without visible hollows and retention of trees with hollows. In this regard, we seek this recommendation as either as an additional SOC or Condition of Approval.

OEH also recommends that if native vegetation is to be cleared for the expansion of the Loch Catherine coal stockpile this clearing should be offset to achieve an improve or maintain outcome for the ecological communities that will be affected. Any offset proposals should be developed with reference to the '*Principles for the use of biodiversity offsets in NSW*' (access at: <http://www.environment.nsw.gov.au/biocertification/offsets.htm>), and in consultation with OEH.

8. Aboriginal Cultural Heritage

Aboriginal community consultation has been undertaken in accordance with OEH 2010 consultation requirements, not the 2004 interim Part 3A consultation requirements. While use of OEH 2010 requirements satisfies OEH requirements, DoPI needs to determine whether OEH 2010 requirements meet DoPI's requirements for Aboriginal community consultation in relation to this Part 3A projects.

There is one site within the proposed development area, namely an open artefact scatter (BC-OS1). This site has been assessed as having moderate scientific significance and low public significance. It will not be impacted by the proposed mining if the current subsidence impact predictions are correct. The proposed management for this site is that an Archaeological and Cultural Heritage Management Plan be prepared for this site. As there is only one open artefact scatter it may be more appropriate to develop a management statement, rather than a Plan of Management.

OEH supports the preparation of either a Management Statement or Plan. The purpose of the Plan or Statement is to outline strategies to ensure that the site is protected in the long term and must be prepared by a qualified archaeologist and developed in consultation with the Aboriginal community. OEH does not seek a consultation role in respect of the preparation of a Plan or Statement of Management for this artefact scatter.

OEH requires that this site is registered on the AHIMS register as soon as possible, if this has not already occurred and notes that this is a regulatory requirement under the NPW Act.

9. Current Monitoring Programmes

As part of OEH consideration of the EA, OEH also reviewed the "Monitoring Progress Report, February 2011" prepared by Berrima Colliery. The Monitoring Report (MR) was prepared in accordance with the SMP approval and subsequent Environmental Management Plan and covers monitoring of subsidence, groundwater and surface water quality. This monitoring program is proposed to be continued as part of the current project application. OEH does not consider this program is appropriate to fully assess the environmental performance of the proposed major project for the following reasons.

The MR states that water quality monitoring has been undertaken approximately monthly since early 2010 at the V notch weir discharge point and in the Wingecarribee River (upstream and downstream of the discharge point). The results indicate that the discharge contains elevated conductivity, and elevated levels of manganese, nickel and zinc, compared with background levels in the Wingecarribee River and also compared with ANZECC (2000) trigger values for protection of aquatic ecosystems (at 90 per cent and 95 percentile values). The average levels of nickel and zinc in the discharge are more than an order of magnitude above ANZECC trigger values and measured background levels upstream.

The MR however, favourably compares the water quality results at the V-Notch weir to the ANZECC Guidelines for "long term irrigation of water". No justification is given for the use of irrigation water trigger values which are less stringent than values for protection of aquatic ecosystems. While both environmental values are relevant to the Wingecarribee River, the ANZECC Guidelines state that the most stringent values (namely protection of aquatic ecosystems) must be adopted in assessing the condition of a river.

The MR also states that ANZECC Guidelines allow site specific water quality criteria to be developed where data has been collected for a period of two years. The Report states inspections of the river downstream of the mine show no evidence of water quality issues or environmental harm caused by the long term discharge of mine water. Site specific criteria should not be based on visual inspections and subjective assessments. The development of such criteria under ANZECC processes

involves a detailed assessment program design. This design is based around evaluation of the effect of the discharge on biological indicators representative of local species.

The MR is also insufficient to determine the effect of the mine on local aquifers and groundwater transport. Monitoring is currently undertaken at three wells. Two of the wells are farm production wells and are significantly impacted by drawdown for agricultural production making data interpretation difficult. The Belbin Well is 60m below the level of the coal seam and cannot represent the impact of mining subsidence on intermediate aquifers. The other "monitoring" bore is "outside the possible influence of the well on groundwater". No local rainfall monitoring data is collected or used to interpret the well groundwater levels and the frequency of data collection (daily) is not likely to detect the mine's impact on short term fluctuations that can occur in near surface aquifers.

In summary, the existing surface and Groundwater Monitoring Program presented in the monitoring report and the Environmental Assessment is insufficient for OEH to ascertain the likely impact of:

- the discharge on downstream health of the Wingecarribee River; and
- the extent of mine-aquifer interference and groundwater movement.

The above information should be carefully considered when responding to OEH comments on the mine water discharges to the Wingecarribee River and groundwater detailed in Sections 1 and 2 above.



Office of Water

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5 August 2011

Our ref : ER20870
Your ref: 10/02259

Attention: Clay Preshaw

Dear Clay

SUBJECT: Berrima Coal Project Application Number: MP10_0172

I refer to your letter dated 2 June 2011 regarding the review of Environmental Assessment (EA) for the Berrima Coal Project.

The NSW Office of Water (NOW) provides the following advice on the basis that the existing legislative provisions under Part 3A of the *Environmental Planning and Assessment Act 1979* apply to this proposal.

NOW is not satisfied with the Berrima Colliery Continued Operations EA. The information presented in the EA is inadequate and non quantifiable to enable an adequate assessment of the proposed extension to operations.

NOW provides specific comments and recommended conditions in Attachments A and B which are to be address prior to project approval.

If you require further information please contact Jodie Dabovic, Planning and Assessment Coordinator on (02) 4904 2571.

Yours sincerely

Mark Mignanelli
Manager Major Projects and Assessment

ATTACHEMENT A

**NOWS COMMENTS ON THE CONTINUED OPERATIONS FOR BERRIMA COLLIERY
ENVIRONMENTAL ASSESSMENT**

1. Legislation/Licences

The EA states

"The Water management Act 2000 has not yet commenced in the Hawkesbury Nepean Region which covers the Southern Coalfields, and therefore the Water Act 1912 still applies at the Berrima Colliery. When the NSW Government has developed a Hawkesbury Nepean Region Water Sharing Plan, the Water Management Act 2000 will replace the Water Act 1912."

At the writing of this EA in 2010, the draft *Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources 2011* (WSPGMRGWS) and draft *Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources 2011* (WSPGMRURWS) was on exhibition and both plans commenced on 1 July 2011. The Berrima Colliery is located in the Upper Nepean and Upstream Warragamba Water Source in the WSPGMRURWS, and the Sydney Basin Nepean Sandstone Groundwater Source, Nepean Management Zones 1 and 2. The Nepean Management Zone 1 is currently embargoed and the water sharing rules need to be considered in the EA.

The EA states that

"Berrima Cement has submitted an application for a licence from the NOW to extract groundwater at Berrima Colliery under Part 5 of Water Act 1912. This licence will allow Berrima Colliery to extract Groundwater which flows into the underground workings at a maximum rate of 2, 000 ML/yr, averaged over 3 years, which is within the predicted increase."

The licence application is yet to be finalised, however the amount of groundwater required to be extracted by Berrima Colliery is significantly larger than the licence application.

2. Groundwater

The EA states that

"Larry Cook and Associates (2008) undertook the only known groundwater investigation at the Berrima Colliery as part of the Subsidence Management Plan in order to assess the potential impact of 59 Panel, Panel 406 and South West Panel 1."

"Larry Cook and Associates (2008) describe the implementation of a groundwater monitoring program which commenced at the colliery in 2007. The program included inspection of three registered bores within the area of the proposed underground workings."

"Publically available elevation data (Shuttle Radar Topography Mission), was used to estimate the surface level at each registered bore, and the water level subtracted to determine the groundwater surface elevation.... The resultant water level contour map should be treated with caution as it presents water levels over a long period of time, from bores installed into different aquifers that potentially have different water levels. There is also a level of inaccuracy in the digital elevation data that can be $\pm$ 6m based upon previous experience."

"The extent of the depressurisation created by the mining operations is difficult to ascertain as there are very few bores in the immediate vicinity of the underground mining operations."

"Surface Water/Groundwater Interaction - the influence of seepage from the Wingecarribee River into the underlying aquifers, and the impact of this seepage on maintaining groundwater levels around the colliery is not well understood."

The above statements from the EA highlight the lack of monitoring and knowledge of the hydrogeology in the Berrima Colliery mining area. The information presented in the EA was based upon using three production bores used by local landholders as stock and domestic bores. The use of stock and domestic bores in the manner is not acceptable.

The EA states that

"Two drill holes to be drilled in the SMP area for coal resource exploration purposes. It is planned that these drill holes will be converted to groundwater bores to enable the impact of the continuing operations to be monitored."

The addition of only two monitoring bores for the mining area to detect impacts is inadequate to detect impacts from the colliery operations. NOW is not satisfied with the current level of knowledge for the hydrogeology within the mining area due to the minimal information provided being unrepresentative and unquantifiable.

3. Surface water

Currently the only monitoring undertaken for surface water courses is to satisfy the current EPL. These monitoring points are upstream and downstream of the discharge point in the Wingecarribee River. In the mining area there are two major water courses which may potentially be impacted on by the Berrima Colliery Operations. The Wingecarribee River is a 6th order water course and Mandemar Creek, a tributary of Wingecarribee is 5th order. There has been no water quality monitoring undertaken within Mandemar Creek.

The EA states

"We are in receipt of a limited amount of water quality data which is not statistically valid. It covers a short period between late 2008 and early 2011..In addition many of the water quality indicators in Table 6 have not been tested for and so we cannot accurately comment on all the results."

The EA however does not state at what frequency this data was collected and what indicators are missing.

There has been no attempt to determine the surface water/groundwater connectivity within both water sources and the information provided on water quality within the EA is limited and the lack of simultaneous sampling of mine discharge water and Wingecarribee River does not allow for representative and quantifiable comparison and detection of impacts to the Wingecarribee River. NOW is not satisfied with the level of information provided within the EA.

4. GDEs

The EA has only considered upland swamps as being groundwater dependent. Field inspections focused on identifying upland swamps within the Berrima Colliery mining area. The EA has not considered base flows within water courses or the aquifers themselves as being dependent groundwater ecosystems. NOW is not satisfied with the lack of

knowledge gained on these other ecosystems. There has been no attempt at determining baseflow contributions, surface/groundwater connectivity and impacts to those dependent ecosystems.

End Attachment A.
5 August 2011

ATTACHEMENT B

**NOWS RECOMMENDED CONDITIONS FOR THE CONTINUED OPERATIONS FOR
BERRIMA COLLIERY**

1. Legislation/Licences

The Berrima Colliery mining area is within surface and groundwater water sharing plan areas. NOW requires that the EA considers the water sharing plan rules applicable to all surface and groundwater sources within the mining area.

NOW requires that all licences for the current operation to be finalised and applications for any additional water requirements for the extension to be submitted and discussed with NOW prior to project approval.

2. Groundwater

Additional groundwater water investigations need to be undertaken and submitted to NOW for assessment prior to project approval and is to include:

- a) Installation of additional monitoring bores within the alluvium and coal seam aquifers for the assessment of groundwater within and adjacent to the mining area.
- b) Assessment of alluvial extent for Wingecarribee River and associated 5th order tributary of Mandemar Creek adjacent to the project area.
- c) Detailed hydrogeological assessment of the mining area.
- d) Surface/groundwater connectivity assessment for Wingecarribee River and associated 5th order tributary of Mandemar Creek adjacent to the project area.
- e) Preparation of a Groundwater Management Plan to include but not limited to:
 - I. Water quality parameters to be monitored,
 - II. monitoring frequency for quality (minimum of monthly sampling),
 - III. water level monitoring (installation of water level loggers),
 - IV. monitoring of GDEs,
 - V. measured and predicted site water balance,
 - VI. Trigger criteria to detect impacts from the operation.

3. Surface water

The EA Acknowledges that

"A program including physical measurement of flows in the river to determine if losses are occurring, and an isotopic chemistry study should be undertaken..."

Along with the above study additional surface water investigations need to be undertaken and submitted to NOW for assessment prior to project approval and is to include:

- a) Geomorphic description of streams and rivers within and downstream of the project site (i.e. river style, geomorphic energy regime to bankfull discharge)).
- b) Mitigation measures to prevent/limit incision and subsequent degradation of stream channels for each longwall and the cumulative subsidence envelope.
- c) A detailed water quality monitoring program to be implemented for Wingecarribee River and Mandemar Creek to coincide with the groundwater monitoring.
- d) Installation of flow monitoring sites to enable continuous monitoring of flows in Wingecarribee River and Mandemar Creek.
- e) Development of trigger criteria for detecting impacts to the water courses due to the mining operations.

4. GDEs

NOW requires the following undertaken and submitted to NOW for assessment prior to project approval and is to include:

- a) The GDE monitoring program is to be developed in consultation with NOW.
- b) Establish monitoring bores of groundwater quality and groundwater levels for all GDE's and water courses identified in/adjacent to the mining area.
- c) The monitoring is to include terrestrial, macrophytes and macroinvertebrates within the water sources and stygofauna within aquifers.
- d) Monitoring water quality monthly and water levels daily for a minimum of 2 years in all bores coinciding with surface water and ecology monitoring.
- e) Development of trigger criteria for detecting impacts to the ecosystems due to the mining operations.
- f) Submit a report of the monitoring and outcomes within one month of the completion of the baseline monitoring program to NOW for review and assessment of longer term monitoring requirements.

5. Reporting

An annual report to include all groundwater, surface water and GDE monitoring and any exceedances in trigger criteria is to be submitted to NOW.

**End Attachment B
5 August 2011**

21st July 2011

Mining and Industry Projects
Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Attention: Clay Preshaw

Dear Sir

Re: Berrima Colliery at Medway, Major project MP10_0172

I refer to the recent notice of the development application and public exhibition in relation to the Berrima Colliery. The matter has been considered in a report to Council at its meeting of the 13th July 2011 where Council resolved as follows:

- 1. THAT Council not oppose the continued operations of the Berrima Colliery at Medway at a production level based ONLY on the condition that the approval be granted ONLY to meet the demands of local and domestic customers using historical averages of 220,000 tonnes per annum to meet this objective AND THAT the current Part 3A Development Application (DA) be modified to reflect this.***
- 2. THAT Council not support the export of coal as proposed in this development application AND THAT the Department of Planning and Infrastructure (DoPI) be advised that this component of the current application and the Berrima Cement Works modification application reference DA No 401-11-2002-I MOD 6 should form a separate development application.***
- 3. THAT Council in its submission to the DoPI request that should any development consent be granted whether for the export of coal or the formalisation of the continued domestic operations that Boral be required to construct a haul bypass road of Medway Village AND THAT the applicant be required to enter into a Voluntarily Planning Agreement to upgrade and maintain the remaining section of Medway Road to be used by heavy vehicles.***
- 4. THAT Council in its submission to the DoPI requests that the Berrima Colliery and Boral Cement be required to operate within legislative and accepted industrial limits to reduce the impacts of noise, dust and water quality for local residents and the environment AND THAT the DoPI demands that all loads leaving the mine and stockpiling areas be covered.***
- 5. THAT Council requests that noise generating activities such as loading and hauling which are carried out in close proximity to existing residences be restricted to working hours typical of comparative operations such as 7.00am to 6.00pm Monday to Friday and 7.00am to 1.00pm Saturdays AND THAT no loading and haulage to occur on Sundays or Public Holidays.***

6. THAT Council make a submission in accordance with the content of this report and final resolutions of Council to the NSW DoPI as its response to the public exhibition of the development application, reference no MP 10_0172.

The above resolutions are the adopted Council position on this proposal. A full copy of the report may be found at the following link

<http://www.wsc.nsw.gov.au/council/business-papers/2011-council-agendas-minutes>

The following commentary, and a viewing of the Council report, will provide the Department with the necessary background to these resolutions. This information is provided for the Departments consideration in the assessment and determination of the development application.

1. The proposal when compared to current and past operations

Boral's long term objectives for the colliery appear to have changed from a supplier to local and domestic customers to an increasingly export orientated business. Boral has submitted that the collieries operations in the past have been up to 600 000 tpa however they have adopted a verified annual figure of 460 000 tpa for the purposes of this application. However as an example of recent operational levels the EA states in the Traffic Impact Statement *"The average production over the last ten years has been approximately 220 000 tpa"*.

Council has considered the extraction levels for this continued usage application on the site, should be this figure.

Also from Boral's own statements the verified peak level extraction of 460 000tpa was to service the local customers as the colliery has never directly exported coal.

This questions the *"business as usual"* approach that has been taken by Boral in the application and throughout the EA.

2. Traffic

The requirement for a village bypass haulage road in resolution 3 above is based upon the "whole of mine life" for the colliery. Council and the community believe their requests are reasonable and totally in line with any other mine proposal under consideration within the State where a residential area is directly impacted by Colliery traffic . If the proposal were being lodged as a new development application for a 460 000 tpa colliery, it would be naïve for an applicant to believe they could operate within a local street network due to the amenity and safety impacts.

The implementation of a village haul road bypass would not only provide significant benefits for the village residents. Boral would gain considerable benefits through positive public relations and a reduction in potential and real costs of

- Ongoing conflict and complaint management
- The risks associated with traffic accidents and incidents with pedestrians within the village zone
- Requested road upgrading and contribution from Council for road maintenance on an ongoing nature for the roads and streets bypassed.

Truck movements between the Colliery and Loch Catherine stockpile should also be wholly located on Boral property with appropriate noise and dust control measures.

A further pertinent consideration is that the Colliery was originally designed and operated utilising rail transportation to the Berrima Cement Works. Road transportation would appear to have evolved as the preferred means of transport moving the transportation of the coal from rail and into a position of conflict with village and Medway Road residents and users.

The Department has previously been made aware that Council has been considering a report from Boral for the gazettal of Medway Road for use by B Double trucks. Whilst Council has been supportive of this proposal, it is based upon a number of considerations for upgrading of Medway Road. The upgrading of parts of Medway Road has also been recommended in the report by ARUP consultants to Boral as part of the B Double application. Council in considering the B Double proposal resolved on the 13th July 2011:

- 1. THAT Council confirms its decision of 8 September 2010 to gazette Medway Road for use by B-Doubles, noting the technical benefits of using Medway Road as a B-double route including a reduction in the number of truck movements by one-third and the subsequent reduction in pavement damage.***
- 2. THAT Council supports the separation of access through Medway Village through the construction of a separate haul road around the Village and supports the upgrading of Medway Road to a standard compliant with AUSTROADS.***
- 3. THAT Council support for the gazettal is conditional upon Boral voluntarily entering into a road maintenance agreement based upon a monetary rate per ton per kilometre.***
- 4. THAT the hours of operation be restricted to 7.00am to 6.00pm Monday to Friday and 7.00am to 1.00pm Saturdays AND THAT no loading and haulage to occur on Sundays or Public Holidays.***

Generally, the Traffic Impact Assessment (TIA) limits the scope of assessment to (as listed in Sec. 1.2) to:

- ☐ *Assessment of existing site traffic and transport arrangements*
- ☐ *Review site parking provision and management*
- ☐ *Determine forecast traffic generation with the proposal and its impact to the surrounding road networks*
- ☐ *Assessment of the truck ingress, egress and circulation into the site and its impact on external road networks*
- ☐ *The impact of the proposal on road network traffic safety and efficiency*

The consideration of B Doubles is not included in the EA.

Council considers that the TIA is deficient in its scope of assessment. There are also impacts from the Modification Application for Berrima Cement Works that compound issues on Medway Road, between the South Western Freeway and Medway village that have not been considered in the TIA.

For these reasons, Council believes the following should also occur with the development proposal from a Traffic perspective:

- a) The applicant provide AUSTROADS "BAR" and "BAL" road widening treatments and AUSTROADS Approach Sight Distance requirements for the 85th percentile speed of Medway Road or 90kph (which ever is the greater), at all private driveways along Medway Road, between the Medway village boundary (as defined in Council's LEP) and the South Western Freeway, and

- any vegetation (of a reasonable size) removed in the process be replaced with Wingecarribee Shire Council approved offset planting.
- b) The intersection of Liebmans Road and Medway Road be improved to meet AUSTROADS "BAR/BAL" requirements, and that a minimum length of 25m of Liebmans Road (measured from the existing seal on Medway Road) be bitumen sealed to meet Wingecarribee Shire Council requirements. That clear sight lines be established which meet AUSTROADS Approach Sight Distance requirements for the 85th percentile speed of Medway Road or 90kph (whichever is the greater) and any vegetation (of a reasonable size) removed in the process be replaced with Wingecarribee Shire Council approved offset planting.
 - c) The applicant engage ARRB to undertake an existing pavement analysis and report of Medway Road between the South Western Freeway and the colliery gates (or the point of juncture of a future Medway village Bypass road) and that the analysis and report be repeated each 3 years thereafter.
 - d) A funding mechanism based on a per tonne production of coal royalty be developed for the purpose of maintaining Medway Road between the colliery and the South Western Freeway.

3. Air Quality

There has been no long term air monitoring at the colliery and environs. Council requires best practice initiatives to be in place with whatever final arrangements for the handling, loading and transportation of coal eventuate from the assessment process. This should include the sealing of Colliery and Loch Catherine access roads and the regular sweeping of these roads. Council has also received anecdotal evidence that coal trucks travel along Medway Road with uncovered loads. Council requests copies of regular monitoring reports be made available to the public through its offices and website.

4. Surface and Ground Water impacts

Proposed surface water management improvements are long overdue and the proposals in the EA are supported. Council would also expect that the contents of the State Governments draft "Aquifer Interference Policy" will receive appropriate consideration in the assessment of this application

From a recent site inspection the Septic tank and disposal system requires an immediate upgrade. This has been mentioned in the EA and will be subject to a suitable design and approval process for the proposed operation. These works should be completed within a six month time frame. Council requests copies of regular monitoring reports be made available to the public through its offices and website

5. Noise

Noise level measurements were completed at three locations for operational noise. The location of these three properties is questioned as they would not be properties that receive significant impacts from colliery traffic.

One of the main impacts upon amenity is noise from the transport of coal within the village. The assertions and criteria used in this assessment are based upon DECCW guidelines and provide for a scientific analysis of the noise impacts of road transport. The residents however perceive the proposed increase in coal transport from a different perspective. The January 2011 export campaign intensity has reinforced

views that their amenity will be substantially eroded with any increase in truck movements.

The analysis of truck noise does also appear to be constructed upon criteria that Council does not accept. Under the DECCW guidelines the **local council** classifies roads according to listed criteria. Assumptions have been made that Medway Road is classified as a principal haulage route and a collector road thus increasing the applicable noise criteria. Council would more appropriately classify the road as a local road thereby reducing the minimum criteria to be used for noise assessments. In addition to this the calculated noise measurement 15m from façade to centre line of Medway Road does not present itself as a realistic methodology in this instance. A retesting of noise measurements using appropriate criteria AND at representative sample locations on Medway Road is required to enable a professional assessment of this issue that will also meet legislated due diligence requirements.

The proposed extended hours and days of operation also exacerbates noise impacts from vehicle movements. Truck movements from 6am to 9pm are considered excessive and would be more amenable to local residents if they were adjusted to between 7am to 6pm weekdays and 7am – 1pm Saturdays.

Any on site equipment, when replaced, should meet contemporary operational noise standards.

6. Conflicting Figures and Statements

Throughout the EA there would appear to be conflicting figures. This has raised particular concerns within the community and has unfortunately contributed to a level of suspicion by local residents. When compared with some of the details in the “Berrima Cement Works Modification 6 “application there are conflicts with proposed hours of operation viz:

- ❑ Part 3A application EA page 62 general delivery times 6am – 9 pm
- ❑ Modification application page 34 commenting on export campaigns *“Approximately 4 000 and 1 000 tonnes per day of export coal will be transported from each site between the hours of 4am and 4pm each weekday.*

Further examples emerge when analysing various impacts of the proposal:

- ❑ The Part 3A application EA summary page 62 – approximate existing number of coal truck deliveries per day 32
- ❑ Part 3A Traffic Impact Assessment Report page 23 – approximate number of coal truck deliveries per day 23 (average)

Also in respect of figures quoted in regard to coal transported page 25 of the Traffic Impact Assessment *It is expected that on weekdays in the future a maximum of 66 truckloads of coal would be dispatched either direct from the Colliery or via the Lock Catherine stockpile area, using Medway Road. Based upon one truck carrying 40 – 45 tonne of coal, this equates to about 2600 – 3000 tonne coal transported per weekday (about 675 t to the Berrima Cement Works and the remainder to external customers).”*

The legal loading limit of 33 tonnes would suggest additional truck movements to achieve the maximum levels of extraction will be necessary.

7. Mine Subsidence Zone

The declaration of a Mine Subsidence zone should be considered for the mining affected areas. This will alert prospective purchasers of the existence of past and proposed mining activities beneath the surface of their properties through the Section 149 Planning Certificate process. Provisions relating to construction standards to deal with mine subsidence would also be reinforced through this declaration.

8. Community offsets

The provision of an appropriate ongoing contribution toward all roads where Council wholly or partly maintains roads along the transport route should form part of a negotiated VPA under section 93F of the Environmental Planning and Assessment Act 1979. In addition to this, road upgrading works to the standard specified in the "Traffic" section should be carried out on the roads along the transport route at full cost to the developer as required by Council and the Roads and Traffic Authority.

Contributions to the local community through a playground at Medway or upgrades to the New Berrima Hall are also possible community enhancement projects. Any specific projects should be part of a negotiated process between Council, Boral and the local community.

A summary of requested items for further attention and conditions of consent is provided in attachment One.

Should you have further enquiries please do not hesitate to contact Mr Peter Mitchell in councils Environmental Assessment Branch on 48 680754 Monday to Friday.

Yours sincerely



Scott Lee

Director, Environment and Planning

Attachment One

Council requests that the following items be addressed prior to any determination of application MP10_0172

1. The current Part 3A Development Application (DA) be modified to reflect a level of production of 220 000 tpa as required to meet local and domestic customers
2. Council will not support the export of coal as proposed in this Development Application. This component of the current application and the Berrima Cement Works modification application reference DA No 401-11-2002-I MOD 6 should be combined to form a separate development application.
3. The Environmental Assessment should be reviewed and errors and miscalculations addressed. Council is then to be advised and given the opportunity for a final comment on the EA.
4. Noise retesting and subsequent analysis of results to be convened to allow for use of appropriate criteria and representative sample locations.
5. Council does not concur with the "Collector" road classification of Medway Road within Medway village pursuant to DECCW guidelines for noise assessment.
6. The Mine Subsidence Board should be consulted on the need for the declaration of a Mine Subsidence zone in the mining affected areas.

Requested content for inclusion in conditions in any Development Consent issued for MP10_0172

Traffic

1. The construction of a Medway village bypass road with appropriate dust and noise suppression measures all constructed to appropriate construction standards. It should be noted that any future road forming a bypass of the Medway village for access to the Berrima Colliery and Loch Catherine mine shall be for the sole use of the colliery as a private haul road and be developed to prevent access by others along the route of the bypass.
2. The provision of an appropriate ongoing contribution, adjusted annually by the Consumer Price Index, through a VPA under section 93F of the Environmental Planning and Assessment Act 1979 toward all roads used by the Berrima Colliery where Council wholly or partly maintains roads along the transport route.
3. The applicant be required to physically separate traffic moving between the Berrima Colliery and Loch Catherine mine from Medway village traffic.
4. The applicant to be required to enter into a Voluntarily Planning Agreement to upgrade the remaining section of Medway Road from the intersection with the bypass haul road to the Hume Highway. The upgrading works to include and not be limited to:
 - (a) The applicant provide AUSTROADS "BAR" and "BAL" road widening treatments and AUSTROADS Approach Sight Distance requirements for the 85th percentile speed of Medway Road or 90kph (which ever is the greater), at all private driveways along Medway Road, between the Medway village

boundary (as defined in Council's LEP) and the South Western Freeway, and any vegetation (of a reasonable size) removed in the process be replaced with Wingecarribee Shire Council approved offset planting.

(b) The intersection of Liebmanns Road and Medway Road be improved to meet AUSTROADS "BAR/BAL" requirements, and that a minimum length of 25m of Liebmanns Road (measured from the existing seal on Medway Road) be bitumen sealed to meet Wingecarribee Shire Council requirements. That clear sight lines be established which meet AUSTROADS Approach Sight Distance requirements for the 85th percentile speed of Medway Road or 90kph (whichever is the greater) and any vegetation (of a reasonable size) removed in the process be replaced with Wingecarribee Shire Council approved offset planting.

The upgrading works within this condition are to be considered in conjunction with the Council resolution of the 13th July 2011 report reference o-IS2 in relation to the gazetting of Medway Road for usage by B Double vehicles.

5. The applicant engage ARRB to undertake an existing pavement analysis and report of Medway Road between the South Western Freeway and the colliery gates (or the point of juncture of a future Medway village Bypass road) and that the analysis and report be repeated each 3 years thereafter. The report to be submitted to Council for its ongoing assessment of the local road network at completion each three years.

Operational issues

6. Boral be required to operate within legislative limits to reduce the impacts of noise, dust and water quality for local residents and the environment
7. All loads leaving the mine and stockpiling areas are to be covered.
8. Noise generating activities such as loading and haulage which are carried out in close proximity to existing residences are to be restricted to the hours of 7.00am to 6.00pm Monday to Friday and 7.00am to 1.00pm Saturdays with no loading and haulage to occur on Sundays or Public Holidays.
9. Copies of regular air, water and noise monitoring reports be made available to the public through Councils offices and website.
10. The Septic tank and disposal system requires immediate upgrading. All appropriate reports and applications are to be made to Council to facilitate this upgrade occurring within six months of this consent.
11. Any on site equipment, when replaced, shall meet the legislated noise standards at that time of installation.

Community

12. A Voluntary Planning Agreement is to be entered into with the Wingecarribee Shire Council for an appropriate local community contribution. The specific project shall be selected following a negotiated process between Council, Boral and the local community.



Our Ref: 11/08548
Your Ref:
Contact: John Flarrey

11th July 2011

Mr Brett McLennan
Director
EMGA – Mitchell McLennan
Ground Floor, Suite 01,
20 Chandos Street,
ST LEONARDS NSW 2065

Dear Mr McLennan,

SUBJECT: BERRIMA COLLIERY ENVIRONMENTAL ASSESSMENT (EA) FOR CONTINUING OPERATIONS.

Reference is made to the documents received in this office 8th June 2011 seeking comments on the environmental assessment for the above project.

Whilst Crown Lands Division of the Department of Primary Industries (CLD) reserves the right to make further representations on this proposal when it is formally advertised through the Department of Planning, the opportunity to comment on the EA at this stage is appreciated.

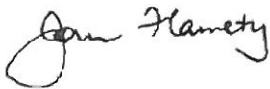
The following should now be noted:

1. There are a number of parcels of Crown land and or roads within the boundary of the mining lease area – refer to attached status schedule and Diagrams.
2. Whilst the diagrams included in the EA appear to show no watercourses within the proposed Colliery operating area, there are several inside the external boundaries that may potentially be affected by the continuing mining operations. These will be taken into account in any final response from CLD.
3. It is clear that crown roads both within the mining operations and the mining lease areas are affected by this proposal. As Section 5 (1) of the *Roads Act 1993* prescribes the public's rights to use these roads for access, any structures or works on the roads would be considered a breach of Section 138 of the *Roads Act*.
4. In the circumstances CLD would be seeking for the adjoining landowners to lodge an application to close and purchase the affected sections of road. I have taken the liberty of enclosing a package of information and an application on road closures for your information.
5. Given the advertising processes involved with CLD cannot guarantee the success of any application lodged.
6.
 - a. It should be noted a number of Claims under the *Aboriginal Land Rights Act 1983* has been lodged over various parcels of land within the mining lease area.
 - b. CLD is not in a position to consider any proposals for use of this Crown reserve until the Claim is determined and the legislative appeal period expires. It cannot undertake any activities that would be seen as pre-empting or prejudicing the Claim.
 - c. In view of the nature of this project, I have requested the Aboriginal Land Claims be processed as a priority.

7. To allow this office to properly and fully investigate this proposal following Director General's requirements and or formal advertising, it would be appreciated if the proponent could supply:
 - a. Diagrams at a suitable scale that identifies the location of any works in relation to the cadastre.
 - b. The Diagram should especially show the site of the main pit/s and or similar works as they relate to the cadastre, to allow this office to assess their impact on Crown land or roads.
8. Any exploratory works on or affected Crown land and or roads will need to be authorised.

If you have any queries or would like to meet to discuss the content of this letter please do not hesitate to call me at the CLD Goulburn Office on (02) 4824-3714.

Yours Sincerely

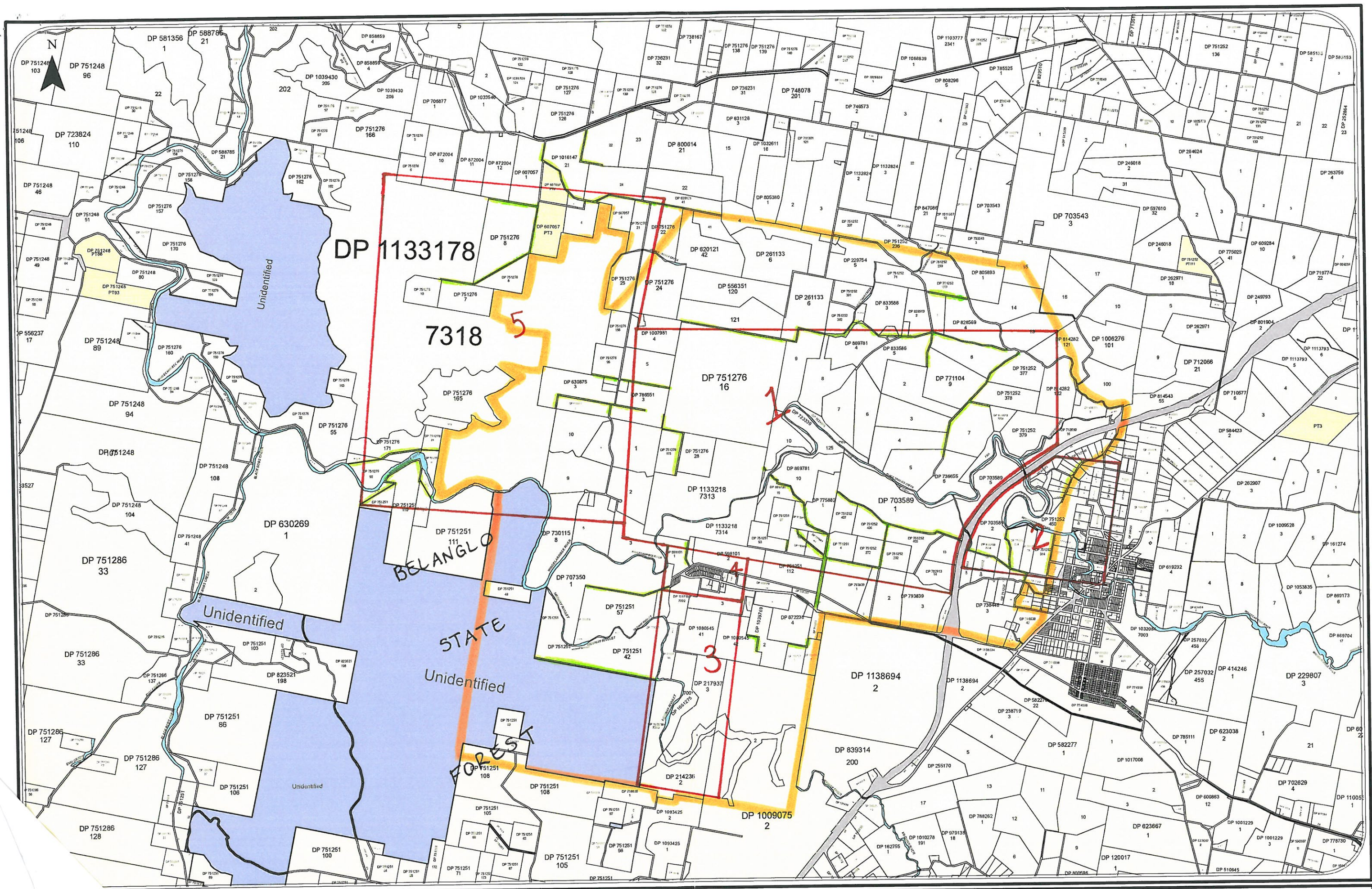
A handwritten signature in black ink, appearing to read 'John Flarrey', with a stylized, cursive script.

John Flarrey
Group Leader, Goulburn

NO.	LOT NO.	TENURE	FILE	NO.	LOT NO.	TENURE	FILE
1	part Lot 7318 DP 1133178	Licence 308136	GB98H37	21	Lot 3 DP 217937	ALC 29909	10/11336
2	part Lot 7318 DP 1133178 Lot 155 DP 751276	Licence 314762	GB99H218	22	Lot 91 DP 751251	ALC 29966	10/11423
3	Lot 7313 DP 1133218	Licence 329755	GB01H200	23	Lot 7310 DP 1160386 Lot 2 Sec 3 DP 758665 Lot 7303 DP 1146983	part R 751251 FPR Notd 29.6.2007	
4	Lot 7314 DP 1133218	Licence 324761	GB00H295	24	Lot 2 Sec 3 DP 758665	ALC 29996	10/11453
5	Lot 7006 DP 1125139	PO 138439 ALC 9153 QR 26992 Notd 18.12.1897	GB93H280 06/0656	25	Lot 7300 DP 1146983	R 73406 Pub Rec Notd 16.12.1946 (Devolved to Wingecarribee Shire Council) R 26996 Pub Rec Notd 18.12.1897 (managed by Wingecarribee Shire Council) R 66428 for Access Notd 27.11.1936 part R 751252 FPR Notd 29.6.2007	
6	Lot 4 Sec 1 DP 758665	Licence 312232	GB98H596	26	Lot 450 DP 751252		
7	Lots 3, 4, 5, 6 & 8 Sec 2 DP 758665	Licence 205131	GB96H146	27	Lots 7302, 7303 & 7307 DP 1133155		
8	Lots 5, 6 & 7 Sec 10 DP 758665	PO 78063	GB93H217	28	Lots 7304 & 7306 DP 1133155		
9	Lot 7302 DP 1146983	R 84511 FPR Notd 6.9.1963		29	7008 DP 1124512	ALC 9867 ALC 29962 R 91935 FPR Notd 14.3.1980	06/1556 10/11419
10	Lot 7301 DP 1146983	PO 159418	GB93H277	30	Lot 125 DP 723339	R 90225 for Access Notd 9.3.1973	
11	Ellsmore St Medway	EP 43505	GB96H464	31	Lot 7009 DP 1123918		
12	Lots 1, 2, 3, 4, 5 & 6 Sec 4 DP 758665 Lot 7002 DP 1117559 Lot 7001 DP 1061275 Lot 3 DP 217937 Lot 91 DP 751251	R 88144 Public Rec & Preservation of Native Fauna & Flora Notd 19.2.1971 (Devolved to Wingecarribee Shire Council)		32	Lot 7318 DP 1133178	part R 751276 FPR Notd 29.6.2007	
13	Lot 1 Sec 4 DP 758665	ALC 30088	10/11546	33	Crown road through Lot 3 DP 786551	EP 43390	GB93H108
14	Lot 2 Sec 4 DP 758665	ALC 30093	10/11551	34	Crown road through & east of Lot 1 DP 775882	EP 11216	GB99H164
15	Lot 3 Sec 4 DP 758665	ALC 30091	10/11549	35	Crown road through Lot 10 DP 869781	EP 316923	GB99H360
16	Lot 4 Sec 4 DP 758665	ALC 30089	10/11547	36	Crown road part west of Lot 394 DP 751252	EP 43435	GB99H155
17	Lot 5 Sec 4 DP 758665	ALC 30090	10/11548	37	part Shelley St Berrima	EP 148248	GB90H581
18	Lot 6 Sec 4 DP 758665	ALC 30092	10/11550		Whole area	Native Title Claims 97/7, 99/3 & 98/12	
19	Lot 7002 DP 1117559	ALC 29876	10/11333			Mining Lease Boundary	
20	Lot 7001 DP 1061275	ALC 29896	10/11353			Crown Public Roads	

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Date Printed: 05/07/2011
Land NSW Office: GOULBURN
Telephone: (02) 4824 3700

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COUNTY: CAMDEN
LGA: WINGECARRIBEE
SUBURB: JOADJA

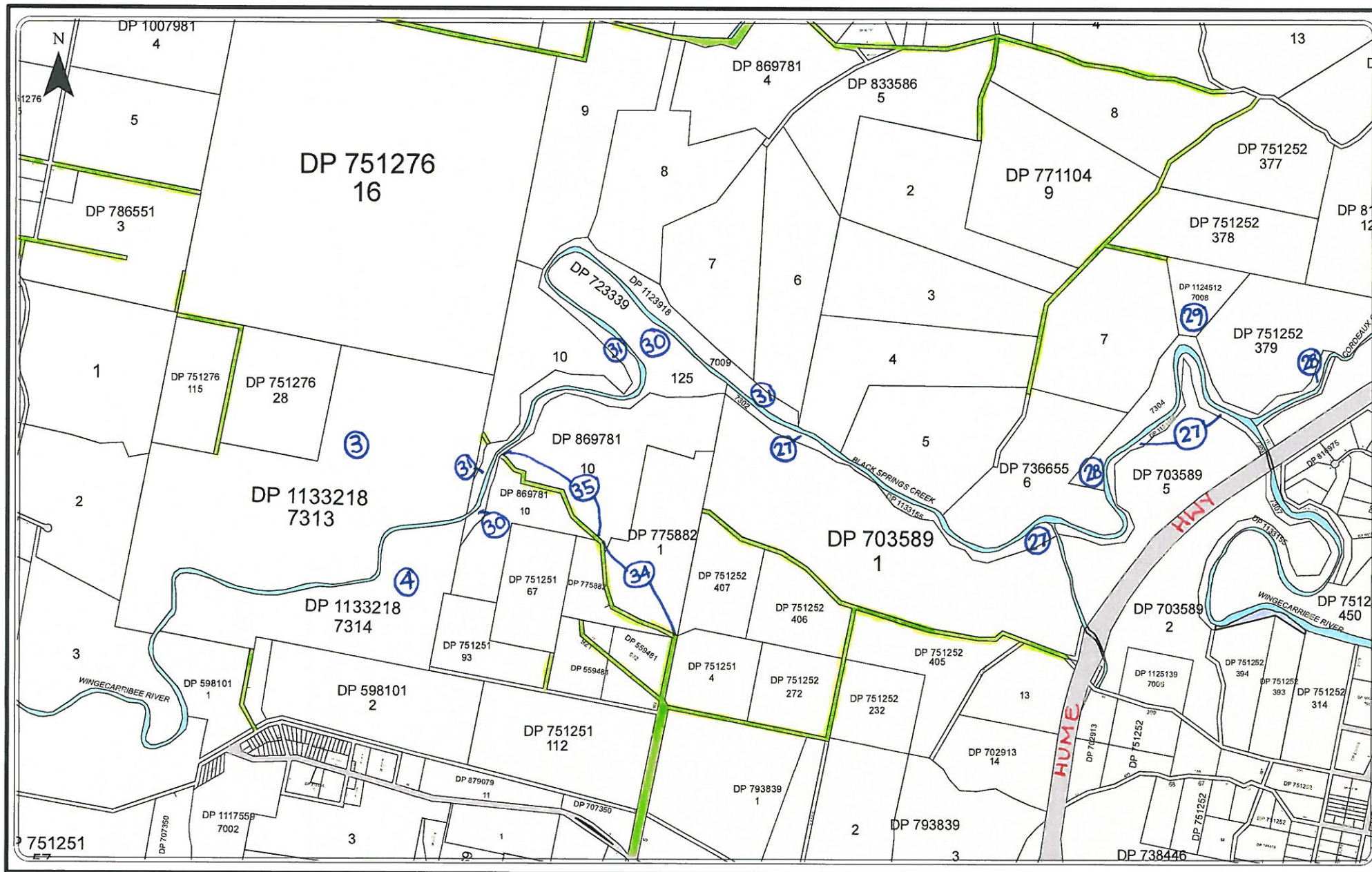
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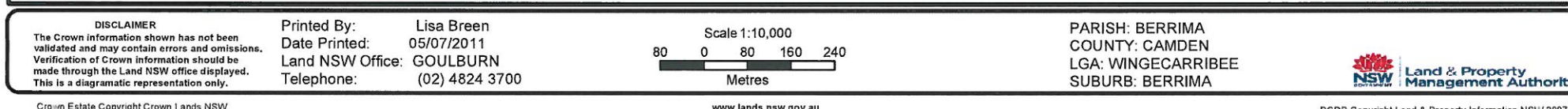
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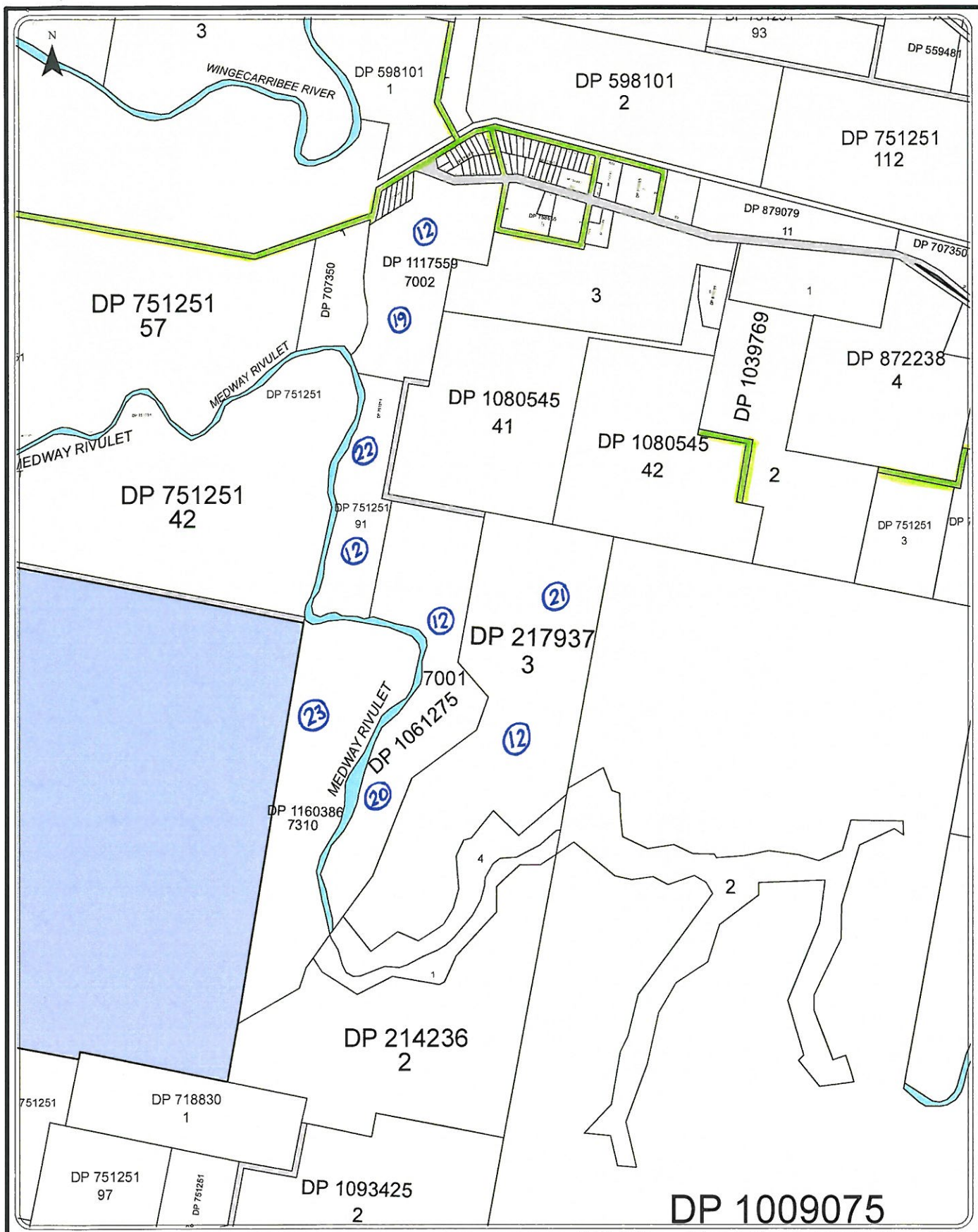
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COUNTY: CAMDEN
LGA: WINGECARRIBEE
SUBURB: MEDWAY







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PARISH: BELANGLO
COUNTY: CAMDEN
LGA: WINGECARRIBEE
SUBURB: MEDWAY

280 0 280 560 840 Metres



1st August 2011

Mr Brett McLennan
Director
EMGA – Mitchell McLennan
Ground Floor, Suite 01,
20 Chandos Street,
ST LEONARDS NSW 2065

ATTENTION: RACHAEL RUSSELL

Dear Mr McLennan,

SUBJECT: BERRIMA COLLIERY ENVIRONMENTAL ASSESSMENT (EA) FOR CONTINUING OPERATIONS.

Reference is made to my letter of 11th July 2011 and our subsequent emails commenting on the environmental assessment for the above project.

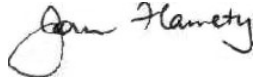
Thanks to the additional diagrams supplied by Ms Russell on 28th July 2011 CLD now has a clearer picture of the impact of the continuation of the Berrima Colliery operations on the Crown estate:

1. Berrima Top Pit has a Crown road crossing the eastern extremity of the site as marked "C-D" on Diagram A attached hereto;
2. Loch Catherine stock pile has a Crown road in close proximity to its northern boundary as marked "E-F" on Diagram A.
3. The Underground Operations area has a Crown road traversing the site as marked "A-B" on Diagram B also attached hereto.
4. Whilst there are currently Aboriginal Land Claims near both the Berrima Top Pit and Loch Catherine Stock Pile sites, it is unlikely they would have an impact on the proposed operations.

In terms of the EA, the proponents should note that members of the public have a statutory right vide Section 5 (1) of the Roads Act 1993 to use these roads for access irrespective of whether they are formed or not. CLD therefore requests that the proponent arrange for adjoining land owners to submit applications to close and purchase the sections of Crown road identified "C-D", "E-F" and "A-B" as soon as practicable.

If you have any queries or would like to meet to discuss the content of this letter please do not hesitate to call me at the CLD Goulburn Office on (02) 4824-3714.

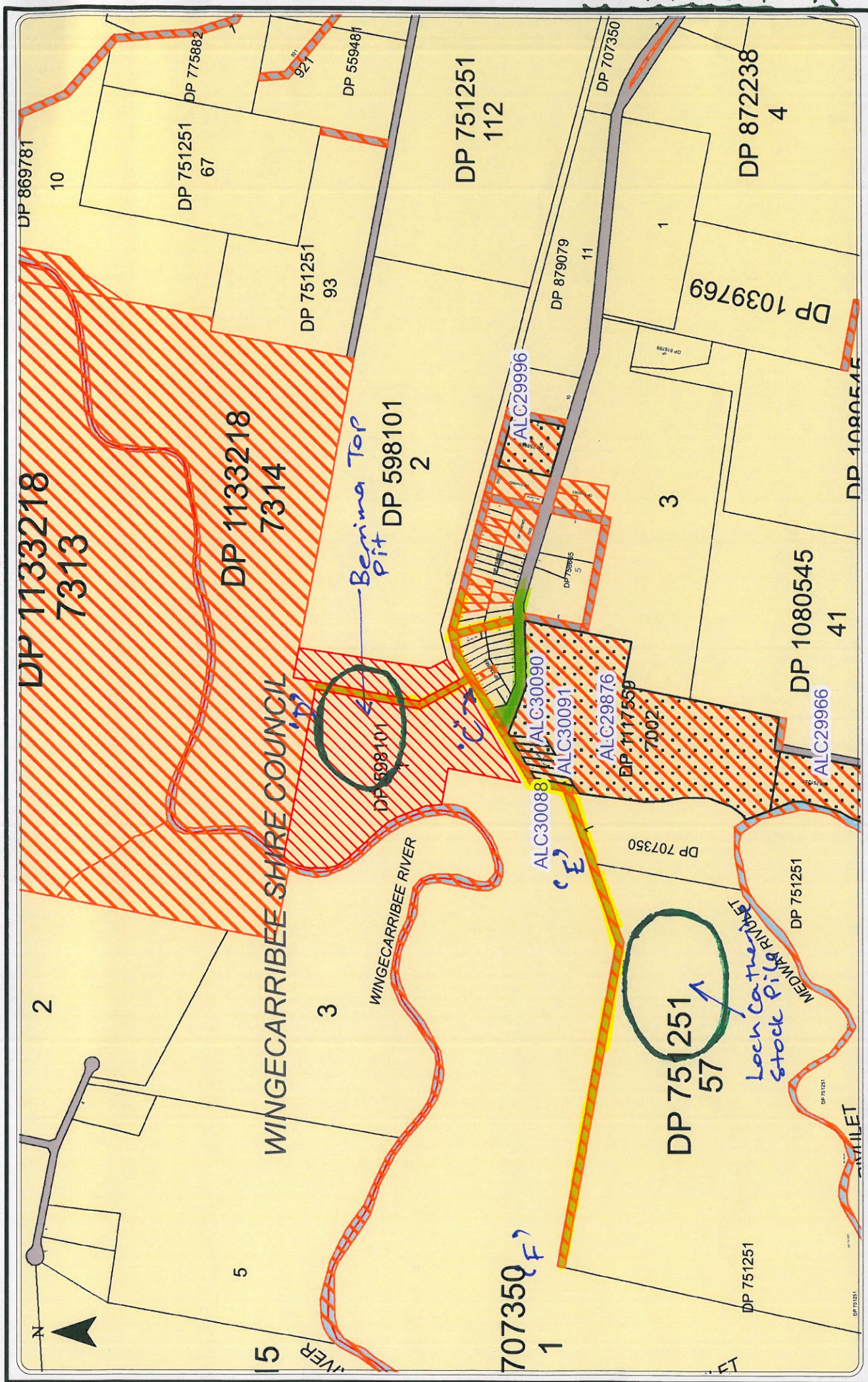
Yours Sincerely

A handwritten signature in black ink, appearing to read "John Flarrey". The signature is written in a cursive style with a large initial "J" and a long, sweeping underline.

John Flarrey
Group Leader, Goulburn

Cc Clay Presland, Senior Planner, Department of Planning & Infrastructure, 23-33 Bridge Street,
Sydney NSW 2000.

DIAGRAM 'A'



DISCLAIMER

The Crown information shown has not been validated and may contain errors and omissions. Verification of Crown information should be made through the Land NSW office displayed. This is a diagrammatic representation only.

Crown Estate Copyright Crown Lands NSW

Printed By: John Flarrey
Date Printed: 28/07/2011
Land NSW Office: GOULBURN
Telephone: (02) 4824 3700

PARISH: BELANGLO
COUNTY: CAMDEN
LGA: WINGECARRIBEE
SUBURB: MEDWAY

Scale 1:12,955

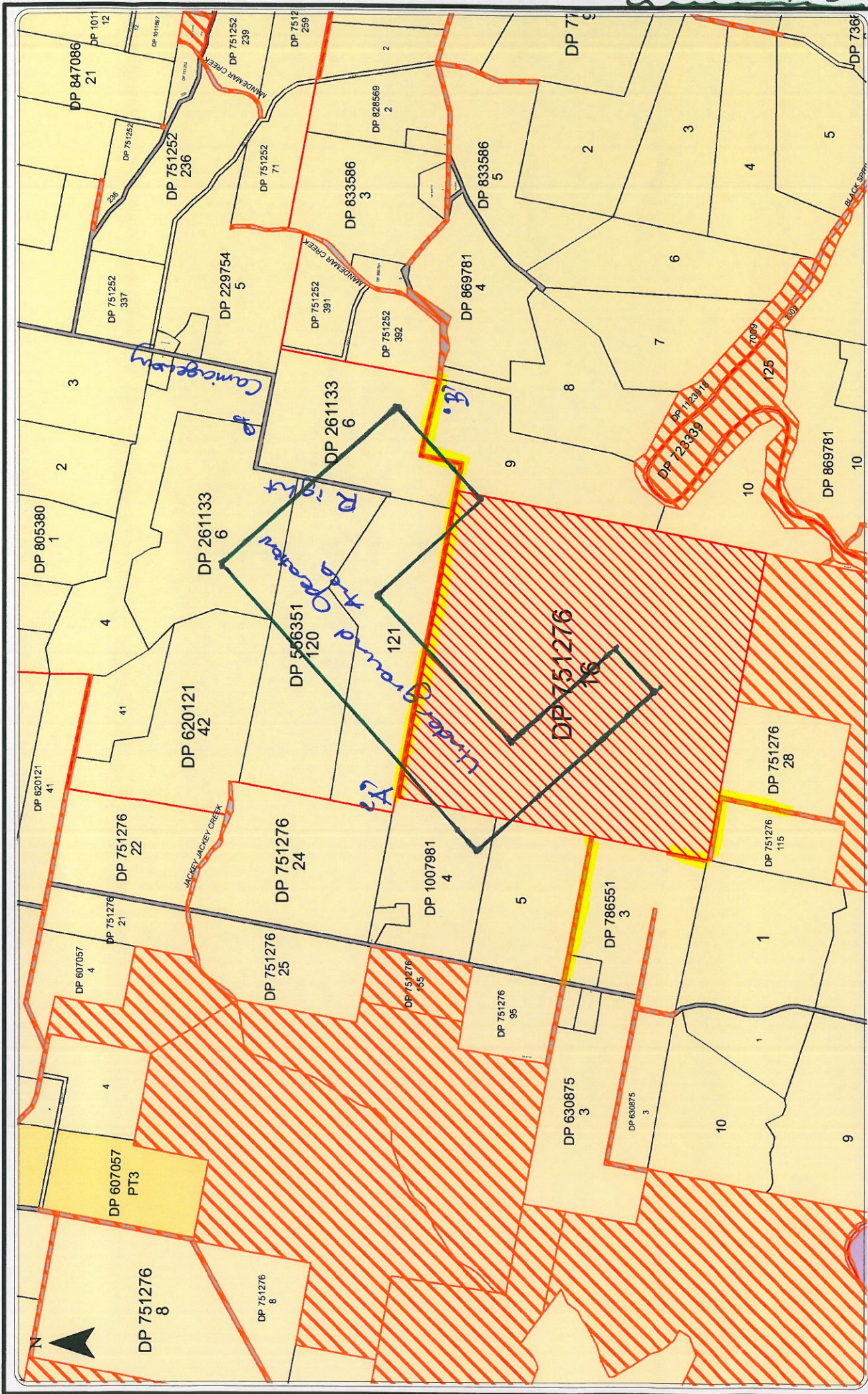
100 0 100 200 300 Metres

www.lands.nsw.gov.au

Land & Property Management Authority

DCDB Copyright Land & Property Information NSW 2007

DIAGRAM 'B'



DISCLAIMER
The Crown information shown has not been validated and may contain errors and omissions. Verification of Crown information should be made through the Land NSW office displayed. This is a diagrammatic representation only.

Printed By: John Flarrety
Date Printed: 28/07/2011
Land NSW Office: GOULBURN
Telephone: (02) 4824 3700

Scale 1:25,000

200 0 200 400 600

Metres

PARISH: JOADJA
COUNTY: CAMDEN
LGA: WINGECARRIBEE
SUBURB: JOADJA



**Land & Property
Management Authority**



**Resources
& Energy**

Our Reference: OUT11/11730
Your Reference: 10/2259

Mr Howard Reed
Manager Mining Projects
Department of Planning & Infrastructure
GPO Box 39
SYDNEY NSW 2001.

Dear Mr Reed

Berrima Coal Project MP10_0172

I refer to your letter dated 2 June 2011 seeking comments from the Division of Resources & Energy (DRE) of the Department of Trade & Investment, Regional Infrastructure & Services (DTIRIS) on the proposed Berrima Coal Project, including any recommended conditions of approval.

Although DRE preferred additional information be provided in the EA on rehabilitation completion criteria, rehabilitation monitoring and post mining maintenance, DRE believes that any additional information can be provided in the Mining Operations Plan (MOP) or Rehabilitation Environmental Management Plan (REMP) which is a condition of the colliery's mining leases.

To ensure that a revised MOP or REMP is submitted in a timely manner it is recommended that the following conditions be included in any development approval that may be issued:

Rehabilitation Plan

The Proponent must prepare a Rehabilitation Plan within three months from the grant of project approval.

The Rehabilitation Plan is to be prepared in accordance with Guidelines of the Department of Trade & Investment, Regional Infrastructure & Services – Division of Resources and Energy.

The Rehabilitation Plan must be approved by the Director-General of DTIRIS in consultation with the Department of Planning and Infrastructure.

Yours sincerely

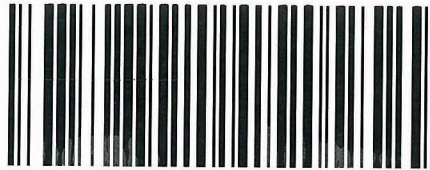
for  6/7/11
Dave Agnew
Director Industry Coordination

NSW Department of Trade and Investment, Regional Infrastructure and Services
Division of Resources and Energy; Industry Coordination Unit
Level 6, 201 Elizabeth Street, Sydney NSW 2000: PO Box K220, Haymarket, NSW 1240
Contact: Vince Fallico Tel: (02) 8289 3930; Fax: (02) 9286 3208 : www.industry.nsw.gov.au

Our Ref: 495DA179 (11/660) STH09/02593
Contact: Andrea Boes 4221 2771
Your Ref: 10/02259

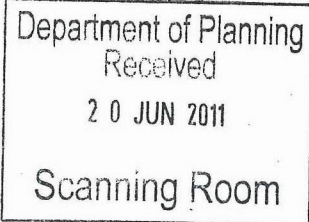


16 JUN 2011



PCU023420

Department of Planning
GPO Box 39
SYDNEY NSW 2001



Attention: Howard Green

**WINGECARRIBEE SHIRE COUNCIL – PART 3A MAJOR PROJECT APPLICATION
NUMBER MP 10_0172 – BERRIMA COAL PROJECT – PROPOSED CONTINUED
OPERATIONS**

Dear Sir

Reference is made to your letter dated 6 June 2011 regarding the subject major project application forwarded to the Roads and Traffic Authority (RTA) for consideration.

The RTA has reviewed the information provided and notes planned future improvements to Medway Road. The RTA considers that the road network surrounding Berrima Colliery and Berrima Cement Works has ample capacity to cater for the current level of traffic generated by the Coal Project and the increase that would occur if the colliery was operating at the proposed maximum production rate of 460,000 tonnes per annum. Given this the RTA does not object to the application in principle.

Upon the Department of Planning's determination of this matter, it would be appreciated if the Department of Planning could forward a copy of the Notice of Determination to the RTA within the appellat period for advice and consideration.

Yours faithfully

Brian Lefoe
Manager, Road Safety and Traffic Management
Southern Operations and Engineering Services

Roads and Traffic Authority



PO Box 323 Penrith NSW 2751
Level 4, 2-6 Station Street
Penrith NSW 2750
Tel 1300 722 468 Fax 02 4725 2599
Email info@sca.nsw.gov.au
Website www.sca.nsw.gov.au

Our Ref: D2011/020335

Mr Howard Reed
Manager, Mining Projects
Major Projects Assessments, Mining & Industry
Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Attention: Clay Preshaw

Dear Mr Reed

ENVIRONMENTAL ASSESSMENT BERRIMA COAL PROJECT (MP 10_0172)

I refer to your department's letter dated 2 June 2011 providing the Environmental Assessment (EA) from EMGA Mitchell McLennan, and requesting comment on the proposal and any recommended conditions of approval.

The SCA has reviewed the EA and considers that it has satisfactorily addressed the majority of its issues previously raised in relation to the draft EA except for the following:

- While the SCA is satisfied that appropriate erosion and sediment control measures will be implemented during vegetation clearing, the EA **does not propose** offsets for the clearing of an additional 3.6 hectares of vegetation. The SCA considers that revegetation of an adequate area of other nearby cleared land should be undertaken to offset the water quality impact associated with the clearing 3.6 hectares of native woodland vegetation.
- While the SCA is satisfied that the water quality monitoring program will consider an upstream monitoring point and will include testing for metals such as nickel, manganese and iron, the document **has not addressed** event-based sampling under a representative range of rainfall events. The SCA considers that event-based sampling should be included as routine monitoring alone will not provide meaningful information to enable a comparative evaluation of the water quality impact of the proposed development in relation to external watercourses.
- While the SCA is generally satisfied with the conceptual Soil and Water Management Plans (SWMPs), it notes that the SWMP for the stockpile area (Project No. 10000019; Sheet No. SWMP02) uses catch drain locations and clean water areas based on the existing stockpile area and **not** the proposed extension to the stockpile area as outlined in the EA. The SCA considers that this SWMP be updated to reflect the extension to the stockpile area and ensure an appropriate separation of clean and dirty water, which is a fundamental aspect of effective water quality management.

The SCA requests that the attached conditions be incorporated in any approval.

If you wish to discuss any matter raised in this letter please do not hesitate to contact Neil Cowley on 4886 9417 or via e-mail neil.cowley@sca.nsw.gov.au or Dr Bob Banens on 4724 2458 or via e-mail robert.banens@sca.nsw.gov.au

Yours sincerely

MALCOLM HUGHES
A/Senior Manager Sustainability

27/6/11

**SUBMISSION TO DEPARTMENT OF PLANNING AND INFRASTRUCTURE
FROM
SYDNEY CATCHMENT AUTHORITY**

**PART 3A ASSESSMENT
BERRIMA COAL PROJECT**

June 2011

The Sydney Catchment Authority (SCA) has specific roles, objectives and functions specified in the *Sydney Water Catchment Management Act, 1998*. In particular the SCA has certain functions including managing and protecting Sydney's drinking water catchment areas.

The project is located within the Wingecarribee River sub-catchment which is part of the Sydney Drinking Water Catchment. The Wingecarribee River sub-catchment is located within the Warragamba Dam catchment, which is the main source of water for Sydney.

As the project has been assessed as a Major Project under what was formerly Part 3A of the *Environmental Planning and Assessment Act 1979*, it is not formally subject to the provisions of *State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011* (the SEPP). Nevertheless, the SCA considers that the project should be constructed and operated in a manner which does not adversely affect the quality of surface and ground waters beyond the boundaries of the site.

The SCA has completed a detailed review of the Environmental Assessment (EA) and has undertaken an inspection of the project site. The EA has addressed the significant issues of potential concern to the SCA and overall the SCA endorses the proposed water management measures.

Given the information contained in the EA report the SCA considers the proposal is likely to achieve a neutral effect on water quality providing the measures proposed in the EA report and the following conditions are included in the approval:

1. The Soil and Water Management Plan for the Loch Catherine stockpile area (Project No. 10000019; Sheet No. SWMP02) must be updated to reflect the extension to the stockpile area, and ensure an appropriate separation of clean and dirty water as part of surface water quality management.
2. The water quality monitoring program must incorporate all the recommendations of the Environmental Assessment (Section 14.4.1; EMGA MitchellMcLennan; May 2011) and must also incorporate event-based sampling under a representative range of rainfall events.
3. A revegetation program must be developed in consultation with the Sydney Catchment Authority to revegetate a minimum nine hectares of cleared land in the area with a mixture of locally-native tree and shrub species.

The SCA notes that any increase in coal stockpiles at the Berrima Cement Plant should be part of a modification application for the plant. The SCA should be consulted in relation water quality impacts of such a development when proposed.



Contact: Katrina Stankowski
Phone: 02 98738569
Email: Katrina.Stankowski@planning.nsw.gov.au
Our ref: B405750 & B405770
Your ref: MP 10_0172
File: 10/22563

Mr Howard Reed
Manager Mining Projects
Department of Planning
GPO Box 39
SYDNEY NSW 2001

Attention: Clay Preshaw

Dear Mr Reed

RE: Heritage Branch comments regarding the Environmental Assessment by EMGA/MitchellMcLennan for continued operation at Berrima Colliery currently on public exhibition.

I refer to your letter dated 2nd June requesting any comments that the Heritage Branch may have regarding the Environmental Assessment (EA) currently on exhibition for Major Project 10_0172 (continued operations at Berrima Colliery). The Heritage Branch notes that it has previously supplied comments on this project on the 17th of November, 2010.

The Heritage Branch has reviewed the volumes of the report submitted- '*Berrima Colliery Continued Operations Environmental Assessment*' dated May 2011, Volume 1 (Main Report) and Volume 2 (Appendices) and notes that the comments previously made regarding the lack of assessment for historic heritage have been addressed by a desk top study in the updated EA. It is noted that no historic heritage times are located within the study area and that heritage within the townships of Berrima and Joadja are some distance away from the study area and will not be impacted.

Furthermore, the potential for structural elements of Berrima Colliery to be of heritage significance has been recognised and whilst they will not be impacted by the current proposal, any future impacts related to upgrades will be assessed under a separate application. Therefore, unless the extent or nature of the works change, the Heritage Branch has no further comments on the proposal at this stage.

Inquiries on this matter may be directed to Katrina Stankowski on 98738569 or via email at Katrina.Stankowski@planning.nsw.gov.au.

Yours sincerely



15-07-2011

Dr Siobhan Lavelle OAM
A/Manager, Conservation Team
Heritage Branch
Office of Environment & Heritage

AS DELEGATE OF THE NSW HERITAGE COUNCIL