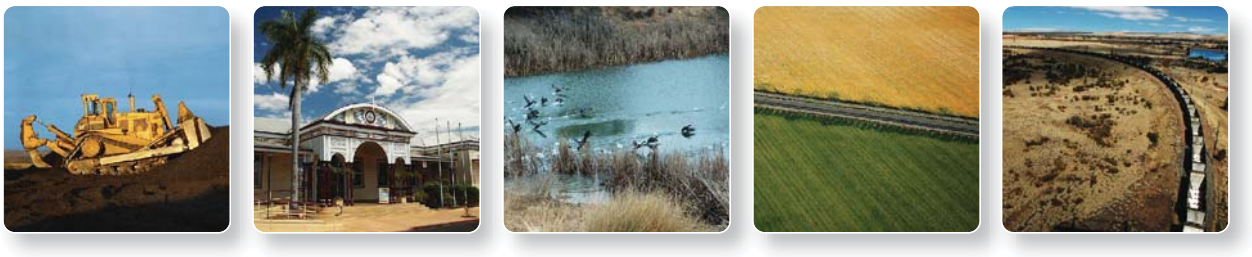


BYLONG COAL PROJECT

PLANNING ASSESSMENT COMMISSION
Response to Submissions
Development Application SSD 14-6367

for

WorleyParsons Services Pty Ltd

16 June 2017

Hansen Bailey

ENVIRONMENTAL CONSULTANTS

BYLONG COAL PROJECT
DEVELOPMENT APPLICATION SSD 14-6367

PLANNING ASSESSMENT COMMISSION
RESPONSE TO SUBMISSIONS

Prepared by:

HANSEN BAILEY
6 / 127 – 129 John Street
SINGLETON NSW 2330

June 2017

For:

WORLEYPARSONS SERVICES PTY LIMITED
Level 17, 141 Walker Street
NORTH SYDNEY NSW 2060

TABLE OF CONTENTS

LIST OF APPENDICES

1 INTRODUCTION

On the 19 May 2017, the Planning Assessment Commission (PAC) placed its independent heritage advice over the Bylong Coal Project (the Project) on its web site. Following this, on the 22 May 2017, the PAC also uploaded the written submissions received over it on its website. They are extensive. KEPCO Bylong Australia Pty Limited (KEPCO) and its Project team have now competed a reviewed of the PAC's independent heritage advice and the written submissions. This document has been prepared to provide a response to this information focussing on any new matters raised.

2 PAC SPECIALIST REPORTS

This section provides a response to the PAC's Independent Heritage Advice from GML Heritage. The Independent Heritage Advice subject of this response is the *Bylong Coal Project Heritage Review* (GML Heritage Report) (GML, 2017) which was placed on the PAC website on 19 May 2017.

2.1 GML HERITAGE REVIEW

The KEPCO Project team undertook an initial review of the GML Heritage Report and provided some comments to the PAC on 24 May 2017 in relation to the factual errors and confusing statements presented within the GML Heritage Report. This correspondence commented that in light of the initial errors identified, that the KEPCO Project team was preparing a detailed response. The detailed response was to provide clarification on the measures proposed by the proponent to manage and/or mitigate the potential impacts of the Project as identified within the GML Heritage Report.

Hansen Bailey, on behalf of WorleyParsons and KEPCO has subsequently commissioned Chris Betteridge, Director, Betteridge Consulting Pty Ltd t/a MUSEcape (MUSEcape) to conduct a peer review and prepare a response to the GML Heritage Report. It is noted that MUSEcape was selected for this peer review given their specialist preeminent expertise in the assessment of landscape heritage values. Further MUSEcape has had no prior involvement during the preparation of the Historic Heritage Impact Assessment or associated approvals documentation for the Project which were subject to review in the GML Heritage report.

The MUSEcape peer review response was provided to the PAC in email correspondence dated 9 June 2017 with a summary of the key findings discussed in the following sections. It should be noted that MUSEcape's Chris Betteridge has previously been relied upon by the NSW Land and Environment Court in relation to landscape heritage issues and has worked for the NSW Government in the development and implementation of regulatory policy and provision of advice in relation to the assessment and management of heritage values.

2.1.1 Errors of Fact/Omission and Confusing Statements

As mentioned above, the KEPCO Project team identified a number of errors and/or confusing statements following an initial review of the GML Heritage Report. These obvious errors raised uncertainty as to whether the findings presented within the GML Heritage Report are entirely valid.

MUSEcape has further contributed to the table of obvious errors previously provided to the PAC on 24 May 2017 and have identified further technical matters of error or omission from the GML Heritage Report which they have felt obliged to bring to our attention. This is presented as Table 1 of the MUSEcape peer review.

2.1.2 Review of Methodology

MUSEcape has reviewed the methodology which has been applied to the preparation of the heritage review presented within the GML Heritage Report.

The conclusions of the MUSEcape peer review of the GML report can be summarised as follows:

> *"The Report does not include an Executive Summary of its scope, methodology and key findings but it is well referenced, with numerous endnotes (to section 3 at least) but no separate Bibliography. The findings in the GML Heritage Report are not summarised in a Conclusion. These omissions make the findings more difficult to assess."*
>
> *…*
>
> *"The Tarwyn Park Farm Complex (comprising Tarwyn Park and Iron Tank) is assessed in the GML Heritage Report as satisfying a number of criteria for State heritage listing and / or Local listing but the inclusion and exclusion guidelines for testing places against the criteria are not mentioned or discussed. No Statement of Significance for Tarwyn Park Farm Complex has been compiled from the analysis of significance against the assessment criteria."*
>
> *…*
>
> *"The Comparative Analysis at section 3.3 of the GML Report does not focus enough on truly comparable properties and includes listed heritage items of widely different age and type from Tarwyn Park Farm Complex. "*
>
> *…*
>
> *In my opinion, the report includes considerable research findings about the history of Tarwyn Park Farm Complex and its associations but does not provide sufficient information or critical analysis to warrant the significance assessments reached.*

These conclusions identify a number of items missing from the GML Heritage Report which would have provided useful information to the PAC and the Heritage Council for NSW to further justify the findings from the analysis of significance against the assessment criteria.

2.1.3 Mitigation and Management Measures

As concluded within the MUSEcape review, the GML Heritage Report has provided "*inadequate consideration of the impacts on heritage values requested by the former Minister in the Terms of Reference or the mitigation measures proposed in the EIS to address potential heritage impacts."*

The potential impacts which have been identified within the GML Heritage Report are qualitative only at best and do not consider the mitigation / management measures proposed to be implemented for the Project or the fact that the open cut component is short term in nature. The identified impacts also include a number of measures in relation to the impacts of the Project on the broader region, rather than the impacts on Tarwyn Park itself.

The Project EIS, RTS, Supplementary RTS and other supporting approvals documentation (DP&E Assessment Report, Recommended Conditions of Consent) have identified the potential impacts of the Project on the assessed heritage values identified within the Study Area (including Tarwyn Park Farm Complex). Most importantly these documents have committed to the implementation of a robust conservation management regime in order to manage the potential impacts of the Project on the assessed heritage values.

The GML Heritage Report fails to acknowledge or even consider the mitigation and management measures proposed to minimise the impacts of the Project. The KEPCO Project team highlights the importance of considering the mitigation and management measures to be implemented to appreciate the true residual impacts to the Tarwyn Park Farm Complex as a result of the Project.

Table 2 of the MUSEcape peer review provides a description of the mitigation and management measures proposed for implementation in relation to the potential impacts of the Project on the Tarwyn Park Farm Complex as identified in Table 5.1 of the GML Heritage Report. The table illustrates that the potential impacts of the Project as identified within the GML Heritage Report are able to be appropriately managed and minimised through the implementation of the mitigation and management measures already proposed for the Project.

2.1.4 Conclusion

Whilst MUSEcape have identified a number of shortcomings of the GML Heritage Report, it is important to highlight that the potential impacts of the Project on the Tarwyn Park Farm Complex have previously been identified within Project-related documentation. Further to this, KEPCO has committed to the development and implementation of a comprehensive conservation management regime throughout the life of the Project which will minimise the identified potential impacts. The committed measures forming part of this comprehensive management regime have subsequently been included within the DP&E Recommended Development Consent conditions for the Project.

KEPCO would appreciate further discussions with GML Heritage and the NSW Heritage Council in relation to the State Heritage Register nomination to illustrate how the conservation management actions proposed for the Project will minimise the impacts to the heritage values of Tarwyn Park Farm Complex. If indeed either party can identify any practical additional mitigation measures that can be incorporated into the Project, these will also be duly considered by KEPCO and its Project team.

3 PAC RESPONSE TO PUBLIC SUBMISSIONS

This section provides a response to the key matters raised in the 654 written submissions (inclusive of the public hearing presentations) received during the public consultation stage of the PAC review. A brief overview of the written submissions received by the PAC is provided below.

The general matters raised within many of these submissions are discussed within the following sections. Where general matters have been previously responded to in detail, a reference to where the issue has been addressed is provided, rather than duplicating the response.

3.1 OVERVIEW

A total of 654 written submissions have been placed on the PAC website. These submissions originated from various stakeholders, including local government (Muswellbrook Shire Council (MSC)), Special Interest Groups and individual members of the public.

Of the 654 submissions, 559 were objections, 89 were in support of the Project, 4 provided comments and 2 were not related to the Project.

The large majority of the objections (475) comprised different variations of a '*form letter*' which lists a range of generic issues (i.e. identical pre-populated type submissions lodged by multiple persons) whereby the sender was only required to copy part of or all information from the form letter into their own submission. There were seven identified variations of form letters submitted in objection to the Project, with one particular variation submitted by 454 members of the public through the website "*DoGooder*" and a campaign organised by the special interest group, Lock the Gate Alliance.

There were 68 duplicate submissions of objection coming from a base of 46 unique submitters. Duplicate submissions included multiple submissions made under the same or similar name, multiple submissions under the same or similar name, multiple submissions via different platforms and partnered submissions e.g. husband and wife.

Of the 89 positive submissions, at least 30 were identified from the Mid Western Regional Council (MWRC) Local Government Area (LGA) (this does not include submissions which did not disclose the place of residence). These submissions included a mix of local residents, local businesses and local business groups.

Submissions received in support of the Project were generally due to the creation of jobs and opportunities within the MWRC LGA and, more particularly, the local community. This document does not provide any further responses to these supporting submissions.

The following sections provide a response to the key matters which have been raised within the latest submissions. It is noted that the latest submissions have not raised any additional matters which have not previously been addressed within earlier Project environmental assessment documentation.

3.2 WATER RESOURCES

Many of the submissions received by the PAC have raised concerns regarding the potential impacts of the Project on water resources which occur within the Bylong Valley. The key issues raised were in relation to the long-term availability and security of water supplies within the Bylong Valley region both during and following the development of the Project.

From the outset of the initial mine planning for the Project, the potential impacts to the water resources within the Bylong Valley was highlighted as a likely community issue which warranted the extensive environmental studies which have now been completed. The potential impacts of the Project on water resources has been a key matter raised by Project stakeholders throughout all stages of the planning approvals process. In this regard, the EIS, RTS, Supplementary RTS and other supporting documentation includes a considerable amount of modelling and assessment of the potential impacts of the Project on water resources.

Three of the many submissions raising water issues were from local stakeholders which have properties located within the neighbouring Growee River valley. Two of these three properties are located on Growee River, upstream of the confluence of the Growee River and Bylong River which is located downstream of the Project. The third property is located downstream of the Project on the Bylong River and has been afforded the rights to acquisition upon request within the Recommended Development Consent conditions due to predicted significant noise impacts from the Project. As stated in Section 4.3.4 of the PAC Public Hearing Response document, the modelling of groundwater for the EIS, RTS and Supplementary RTS has consistently indicated no potential for a significant impact to occur to groundwater levels within the Growee River areas. It has been determined with confidence that the water resources at these properties are unlikely to be significantly affected as a result of the Project.

In this regard, Department of Planning and Environment's (DP&Es) Preliminary Environmental Assessment Report (PEAR) concluded that "*the Department accepts that the project is unlikely to significantly affect groundwater or surface water resources, water users or the environment.*"

Despite the above, because of the importance of the water resources within the area, the PEAR has recommended a number of measures to further minimise and manage the potential impacts of the Project.

3.3 NOISE

A number of the submissions received by the PAC raised the potential for the Project to adversely impact on the amenity of the local rural area. Further some submissions have questioned the application of reasonable and feasible noise management and mitigation to the Project and also the assessment of low frequency noise from the Project.

KEPCO and its consultants have previously responded to these matters in Sections 4.8 and 5.12 of the RTS, Section 2.8 and Appendix G of the Supplementary RTS and Sections 4.3 and 4.12 of the PAC Public Hearing Response report.

In general, the Noise and Blasting Impact Assessment for the Project has appropriately assessed the potential noise impacts in accordance with the relevant Government guidelines and policies (and where these are not appropriate in accordance with current science as accepted by the NSW Government).

The predicted noise impacts of the Project results in one receiver experiencing significant noise impacts and one receiver experiencing moderate noise impacts. KEPCO is in ongoing discussions with these receivers in relation to reaching the appropriate compensation agreement (by acquisition agreement in one case) for the predicted noise impacts. It should be noted that the greatest noise impacts are predicted to occur for the initial years of the Project and will greatly reduce upon the commencement of the underground mining operations.

3.4 TARWYN PARK HERITAGE

A number of submissions (mainly as form submissions) have been received by the PAC which raise concerns in relation to the impacts of the Project on the Tarwyn Park Farm Complex for its association with Natural Sequence Farming which is noted as a method of regenerative agriculture within the submissions.

Section 2.1 provides a response to the heritage advice which has been provided to the PAC in relation to the assessed heritage values of the Tarwyn Park Farm Complex and the potential impacts of the Project. As explained within **Section 2.1**, KEPCO has already committed to the implementation of a comprehensive conservation management regime within the EIS and throughout planning approvals process undertaken to date. The implementation of the proposed conservation management regime (which was not acknowledged within the GML Heritage Report) will effectively minimise and manage the potential impacts of the Project to the assessed heritage values on the Tarwyn Park Farm Complex.

KEPCO is undertaking various investigations to understand the benefits of and the scientific basis for Natural Sequence Farming techniques. To understand the benefits of the Natural Sequence Farming techniques to the wider agricultural industry, Hansen Bailey, on behalf of WorleyParsons and KEPCO, commissioned SLR Australia to conduct a comparative assessment of the agricultural productivity of the Tarwyn Park Farm Complex with neighbouring landholdings within the Bylong Valley. The *Comparative Agricultural Productivity Assessment of Properties Subject to Varying Land Management Techniques* (CAPA) (SLR, 2017) was provided to the PAC in an email dated 9 May 2017.

The CAPA involved the following work components:

- An initial desktop assessment of the Agricultural Baseline Condition reports previously prepared for KEPCO of the Tarwyn Park Farm Complex and neighbouring properties owned by KEPCO;
- Selection of soil sampling sites on the Tarwyn Park Farm Complex and neighbouring properties which contain similar landforms, slope and soil type for the purposes of soils analysis;
- Conduct of a field visit entailing site inspections, soil testing (for laboratory analysis) and land degradation assessment; and
- Preparation of a report which details the results of the above and provides a comparison of the agricultural productivity of the Tarwyn Park Farm Complex (which is subject to the Natural Sequence Farming methods) against that of neighbouring properties within the Bylong Valley.

The CAPA concluded that there is little difference in potential agricultural productivity between the Tarwyn Park Farm Complex (which has been operated under Natural Sequence Farming principles) and the neighbouring property (Wallings) which has been operated as a "traditional" cattle grazing enterprise. However, the CAPA did identify that the Tarwyn Park Farm Complex was deficient in key soil nutrients required for plant growth in comparison with the neighbouring property (Wallings).

The Dermosol soils on the neighbouring property (Wallings) were identified to have a higher potential productivity due to higher average phosphorus, sulfur and nitrogen levels when compared to the Tarwyn Park Farm Complex. The nitrogen levels were found to be higher on average across all sample sites at the neighbouring property (Wallings) compared to the Tarwyn Park Farm Complex. The lower nutrient levels at the Tarwyn Park Farm Complex were described to be the result of the Natural Sequence Farming philosophy relying on nutrient capture from areas higher in the catchment. By not regularly applying fertiliser (under the Natural Sequence Farming methods), nutrients required for plant growth are being removed from the property in the form of bone and muscle, every time cattle are removed from the property for sale. It was confirmed that the net nutrient capture from the upstream catchment at Tarwyn Park Farm Complex is not replacing the nutrients being removed by the cattle grazing operations. That is, the Natural Sequence Farming techniques which have been employed at Tarwyn Park Farm Complex may be considered to be not sustainable in this regard.

The CAPA also identified that the Natural Sequence Farming techniques do not appropriately manage the noxious weeds which are prevalent on the property. As a result of this, the CAPA explained the potential for these noxious weeds to be spread to neighbouring properties.

Further the CAPA identified that discussions with the KEPCO Farm Manager have confirmed that the feed quality on the Tarwyn Park Farm Complex when compared to other KEPCO landholdings is inferior. The CAPA commented that this may be a result of the seasonal waterlogging of the floodplain areas on the Tarwyn Park Farm Complex (caused by the illegal obstruction of natural water courses) and has recommended that comparative feed quality testing be undertaken using the comparison sites to determine if there is a significant difference between similar areas.

3.5 ECOLOGY

Some submissions received by the PAC were in relation to the impacts for the Project on threatened biodiversity values, particularly in relation to the impacts on the Regent Honeyeater.

The EIS, RTS and Supplementary RTS have extensively addressed the potential impacts of the Project on the biodiversity values comprised within the Study Area. Section 4.8 of the PAC Public Hearing Response also addresses the concerns raised in the public hearing presentations in relation to the impacts of the Project on biodiversity values.

The Ecological Impact Assessment and relevant sections of the RTS and the Supplementary RTS described the measures which have been implemented to avoid impacts to biodiversity values and has identified the potential impacts of the Project to biodiversity. These assessments have also applied the NSW Offsets Policy for Major Projects (Offset Policy) and the Framework for Biodiversity Assessment (FBA) to the Project. These assessments have confirmed that KEPCO's biodiversity management regime and biodiversity offset package is comprehensive and the Office of Environment and Heritage (OEH) and DP&E have confirmed this. The PEAR states:

> *"In accordance with the NSW Offsets Policy for Major Projects and the associated Framework for Biodiversity Assessment (FBA), KEPCO has designed the mine to avoid and/or mitigate impacts on biodiversity as far as practicable, particularly given the location of the coal resource relative to the remnant native vegetation and known populations of threatened flora.*
>
> *…*
>
> *With proper governance, both the Department and OEH consider that the offset strategy has the potential to improve biodiversity values and habitat connectivity in the region in the longer term, particularly as the strategy requires the restoration and enhancement of biodiversity values on areas of land that have been degraded over time."*

Whilst the issues identified within the submissions are accepted, KEPCO (and its consultants) has previously identified these impacts and have committed to the implementation of a comprehensive biodiversity management and offsetting regime to ensure that the residual impacts are not significant. DP&E's Recommended Development Consent conditions relevantly address this committed management and offsetting regime.

3.6 AGRICULTURE

Various submissions received by the PAC have commented on the impacts of the Project on the agricultural land use within the Bylong Valley and wider NSW. The submissions have raised concerns in relation to the impacts of the Project on Biophysical Strategic Agricultural Land (BSAL), Equine Critical Industry Cluster (Equine CIC) and the general impacts on land which has historically been utilised for agriculture.

KEPCO has responded to similar concerns from community stakeholders throughout the planning approvals process within the RTS and Supplementary RTS. KEPCO also addressed similar general concerns within various sections of the PAC Public Hearing Response report.

The open cut mining operations for the Project have been designed to avoid direct impacts to the most productive agricultural lands within the Bylong Valley (i.e. mining area avoids impacts to the alluvial floodplains). The Project will directly disturb approximately 1,160 ha of land within the Project Disturbance Boundary. Of this, approximately 423.1 ha of verified BSAL and approximately 700 ha of mapped Equine CIC will be directly impacted by the Project. The Project's Biodiversity Offset Strategy will also progressively result in a change in the land use from agriculture to biodiversity conservation as a result of the Project. This includes approximately 288 ha of BSAL and approximately 515 ha of mapped Equine CIC.

As explained in Section 7.15 of the EIS, KEPCO has developed a comprehensive strategy for the progressive rehabilitation of land which is directly disturbed by open cut operations and associated activities. Rehabilitation activities will commence in the third year of the Project and has been conceptually designed to result in a final landform which is generally consistent with pre-mining conditions. During the underground mining operations, the open cut mining areas will be progressively backfilled with the reject materials generated from the processing of raw coal recovered from the underground mining operations. Overburden material and stockpiled topsoil will be used to create the final rehabilitated land surface.

The rehabilitation strategy has been developed with the aim to create stable, non-polluting post-mining landforms that are cognisant of site constraints and allow the achievement of the agreed post-mining land uses. The rehabilitation strategy aims to establish a range of soil profiles and land capabilities, including the creation of BSAL, and LSC classes 3, 4, 5, 6 and 7. The target outcomes for these land capabilities reflect the use of this land to various agricultural enterprises, in particular cropping and grazing. These target outcomes are congruent with the potential for the rehabilitated land to be used as an equine grazing business, and therefore the use of the land for such an endeavour will not be limited by the physical landform, soil profile or pasture established on site.

Further to the above and the direct impacts to agricultural land within the Project Disturbance Boundary and Biodiversity Offset Areas, KEPCO own a considerable amount of land which will not be directly affected by the Project.

KEPCO has previously committed to retain its non-mine agricultural land in productive agriculture throughout the life of the Project. In this regard, KEPCO is resourcing and employing a Farm Manager to operate its non-mine agricultural land as a productive best practice agricultural enterprise throughout the life of the Project. KEPCO has developed a Farm Management Plan for implementation by the Farm Manager. The Farm Management Plan provides direction in relation to the productive management of all areas of non-mine agricultural land owned by KEPCO.

KEPCO acknowledges that the Project has the potential to result in impacts to the agricultural land uses and resources within the Bylong Valley. In this regard, KEPCO has identified these impacts with certainty and has committed to (and commenced the implementation of) an extensive management regime which ensures that mine rehabilitation will cater for agricultural land uses post-mining and that the residual agricultural land is maintained and managed throughout the life of the Project.

3.7 TRAFFIC

Various submissions received by the PAC have continued to address the potential impacts of the Project on the regional road network. Issues raised have included requirements for road upgrades, general road safety, heavy vehicle traffic impacts and the distribution of the Project-related road traffic on the regional road network.

As part of its submission to the PAC, the MSC has provided a copy of the *Peer Review Bylong Coal Project Planning and Traffic Review* (Traffic Review) which has been prepared by Cardno. Hansen Bailey, on behalf of WorleyParsons and KEPCO has subsequently commissioned WSP Parsons Brinckerhoff (WSP) to respond to the Traffic Review. A copy of the WSP response is provided in **Appendix A**.

The Traffic Review makes a number of statements which require confirmation. It is unclear from reviewing the Traffic Review as to whether Cardno has reviewed the revised Traffic and Transport Impact Assessment (Appendix D of the RTS) but has relied upon the earlier Traffic and Transport Impact Assessment (Appendix Z of the EIS).

Section 2.1 of the Traffic Review comments on the conclusions from the Economic Assessment Mining Affected Communities (NSW Industry & Investment, 2011). Based on the assessment methodology used and the limited assessment timeframe (2010-2011), the conclusion from the Economic Assessment of Mining Affected Communities is justifiable for the financial year 2010 – 2011. However, as noted by the assessment:

> '*The data provides a snapshot at a particular point in time, with data primarily obtained for the most recent financial year, 2010 -2011. It is acknowledged that capital expenditure may vary from year to year, and low expenditure in one year may be explained by high expenditure in previous years, or vice versa*.'

In the 2010-2011 period, it was identified that the LGAs of Singleton and MSC were found to have received less funding per capita than other LGAs, however the paper also recommended '…*consideration should be given to undertaking a time series analysis*' to obtain a more detailed and holistic analysis of received capital and resulting expenditure within the LGAs.

Since this paper was developed by the NSW Industry and Investment, the NSW Government has developed the Restart NSW Resources for Regions initiative. The Resources for Regions initiative was developed to address the key findings of the Economic Assessment of Mining Affected Communities. Since this time, a significant portion of the funding has been allocated to the MSC and Singleton Shire Council for road improvement and upgrade projects.

Nearly half of the $111 million allocated to road projects under this initiative to date has been received by the MSC and Singleton Council with approximately $22.5 million and $34 million respectively. It is noted that in addition to the Resources for Regions funding, MSC receives substantial funding for road capital upgrades from other government initiatives and contributions from the mining industry which are located within the MSC LGA. An update to the findings of the Economic Assessment Mining Affected Communities is likely to suggest that the funding to MSC and Singleton Shire Council have substantially improved since 2011.

Section 2.4 of the Traffic Review suggests that the Bylong Valley Way directly connects the township of Sandy Hollow with Mudgee. This is not entirely correct. The Bylong Valley Way extends between Castlereagh Highway to the north of Illford (approximately 53 km south of Mudgee) and the Golden Highway to the east of Sandy Hollow.

The Project is located entirely within the MWRC LGA. The potential impacts to the regional roads (i.e. the Bylong Valley Way, other public roads such as the Yarrawa Road (part of which is unsealed) would be unsuitable for regular use) within the MSC LGA has been assessed within the EIS and supporting studies to be minimal. KEPCO has also made the commitment to restrict specific Project-related heavy vehicles from utilising the Bylong Valley Way within the MSC LGA in order to minimise the impacts on this section of road. This commitment is reflected within the DP&E Recommended Development Consent conditions.

In light of the minor impacts predicted to the Bylong Valley Way and the recognition of the existing condition of this section of road, KEPCO is committed to a one off payment to MSC of $40,000 prior to the commencement of construction activities. This contribution is to assist the MSC in remediating the existing road safety deficiencies which have been identified within the GHD Road Safety Audit completed for MSC in 2015 and the subsequent Road Safety Audit completed for KEPCO by WSP in 2016 (as provided within Appendix C of the Supplementary RTS).

Given the remoteness of the Project from regional town centres, the residential location of the Project workforce and materials as well as the management of transport of workers and materials to the Project has always been under consideration and review by the Project team from the initial mine planning phase and throughout the planning approvals process to date.

Given its location within the MWRC LGA, KEPCO has been in close consultations with the MWRC from the initial mine planning phase in relation to the design of the Project so as to minimise and manage the potential impacts on the regional roads within the local area. The Project has been designed in close consultation with the MWRC to ensure that the towns of Mudgee, Rylstone and Kandos within the MWRC LGA will be suitable of accommodating the Project workforce within a 1-hour commute of the Project site (i.e. the local area). The remoteness of these towns and accommodation availability within the local area was also a key area for consultation with the MWRC. This included discussions in regard to the requirement for a Workforce Accommodation Facility for the Project construction workforce.

KEPCO has reached agreement with MWRC for the provision of annual road maintenance contributions given the predicted usage of Project-related traffic on the road network within the MWRC LGA. KEPCO is also in discussions with MWRC in relation to future contributions for capital upgrade improvement works within the MWRC LGA, including sections of Wollar Road travelling through the Munghorn Gap Nature Reserve and some pertinent sections of the Bylong Valley Way including intersection upgrades of the Bylong Valley Way and Wollar Road intersection.

Given that the majority of the Project's traffic related impacts are predicted to occur within the MWRC LGA, it is prudent that the funds which KEPCO has already committed should be invested within the MWRC LGA.

3.8 SOCIAL

A few submissions received by the PAC have raised concerns regarding the potential social impacts resulting from the Project, including those social impacts which have been experienced within the Bylong Valley throughout the planning approvals process to date.

Section 4.10 of the PAC Public Hearing Response provides the relevant response to the presentation provided by Ms Askland at the public hearing. The responses provided to the presentation are also relevant to the key concerns raised within the written submission received.

As explained within Section 4.10 of the PAC Public Hearing Response, Ms Askland's issues and concerns in relation to the Project appear to be derived largely from her discussions with the Wollar community and her analysis of impacts on the Wollar community rather than specifically on the Bylong Valley. The Bylong Valley is materially different to the Wollar community.

The issues raised by Ms Askland are consistent with the issues raised in the *Bylong Coal Project – Peer Review of Social Impact Assessment and Response to Submissions* document (SIA Peer Review) prepared by Elton Consulting for the DP&E, dated 2 September 2016.

KEPCO has previously responded to these concerns. In consideration of KEPCO's responses to the queries raised within the SIA Peer Review, it is clear that the SIA completed for the Project is adequate and that the social impacts of the Project will be able to be appropriately managed throughout the life of the Project.

DP&E's Recommended Development Consent conditions have recommended the preparation and implementation of a Social Impact Management Plan to assist in managing the social impacts throughout the life of the Project.

3.9 GENERAL PROJECT VIABILITY & NEED

Consistent with the submissions received following the public exhibition of the Project EIS, a number of the submissions received by the PAC have questioned the need for developing a greenfield coal mine and also the viability of such a coal mine.

Section 5.26.2 of the RTS responded to the submissions which raised the need for the Project in the context of the apparent decline in the demand for coal within the global energy market. Section 4.11.1 of the PAC Public Hearing Response similarly responds to a presentation making similar comments.

As explained within the above mentioned responses, the main demand for the coal from this Project is from South Korea. South Korea has limited coal resources of its own, with the available resource being low-quality anthracite used in home heating and small boilers.

Bituminous coal supplies (steam coal for power plants and industrial boilers and metallurgical coal for steelmaking) need to be imported, mainly from Australia and Indonesia. Coal consumption in South Korea increased by 59% between 2005 and 2014, driven primarily by growing demand from the electric power sector and the forced shutdowns of some nuclear plants in late 2012 because of safety issues.

KEPCO Korea is forecasting its demand for thermal coal to rise significantly in the future. KEPCO forecasts demand for thermal coal to rise to approximately 110 Mtpa by 2020, representing a 27% increase from 2014. The coal to be recovered by the Project has a high energy capacity with low emission properties which makes the thermal coal product attractive to KEPCO Korea. In this regard, KEPCO is seeking to develop the energy resources located within the Project site so as to reduce KEPCO Korea's exposure to global supply and demand fluctuations and to assist in ensuring energy security for South Korea as a whole. In addition, the development of the coal resource will ensure coal supply is secured for KEPCO Korea and the people of South Korea.

In this regard, the comment that no new coal mines are needed is considered unreasonable in the context of who is developing this mine and who is driving the main demand for the coal from this Project.

As explained in Section 4.11.3 of the PAC Public Hearing Response, the Economic Impact Assessment does not comment on the viability of the Project. However, it is unclear why The Australia Institute (and other stakeholders) oppose the Project, if they truly believe it to be unviable. If the Project really was unviable, then the Project would not proceed, even if approved. Obtaining an approval for a Project would only have some "value" if it were financially viable. It is incomprehensive that KEPCO would spend more than $650 million obtaining an approval for an unviable Project for which there is no demand.

The conduct of the Project will result in material benefits to society and include:

- 830 direct and indirect jobs for the regional economy and 1,496 jobs for the State economy;
- $624 million in annual business turnover within the regional economy and $855 million for the State economy;
- Direct capital investment value over the life of the project of $1.5 billion; and
- $763 million ($290 million present value) in royalties for the NSW Government.

The Cost Benefit Analysis which was completed within the economic assessment for the Project identified and weighed up all of the Project's benefits and costs based on its full range of environmental, social and economic impacts and benefits. The assessment calculated that the Project would have a net benefit to society of approximately $807 million, with a minimum of $596 million of these net benefits accruing to Australia. Taxes and royalties over the Project life will amount to some $302 million in company tax and $290 million in royalties (present value).

4 CONCLUSION

Beyond the public hearing over the Project and the PAC Public Hearing Response provided to the PAC on 19 May 2017, this document has been prepared to provide a response to the written submissions received by the PAC following the public hearing stage of the review.

A peer review and response has been prepared in relation to the GML Heritage Report which was undertaken on behalf of the PAC. The peer review has been completed by Mr Chris Betteridge, Director of MUSEcape who has been selected given his specialist preeminent expertise in the assessment of landscape heritage values and thorough knowledge of the NSW heritage regulatory policy.

MUSEcape's response has highlighted a number of errors of fact within the GML Heritage Report which have raised uncertainty as to whether the findings presented within the GML Heritage Report are entirely valid. MUSEcape has also identified a number of shortcomings with the assessment methodology and presentation of the GML Heritage review. Despite these shortcomings, the potential impacts of the Project on the Tarwyn Park Farm Complex as identified within the GML Heritage report have previously been identified within Project-related documentation. Further to this, KEPCO has committed to the development and implementation of a comprehensive conservation management regime throughout the life of the Project which will minimise the identified impacts. The committed measures have subsequently been included within the DP&E Recommended Development Consent conditions for the Project.

KEPCO would appreciate further discussions with GML Heritage and the NSW Heritage Council to demonstrate how the potential impacts to the heritage values on Tarwyn Park Farm Complex will be managed throughout the life of the Project.

In order to further understand the benefits of natural sequence farming techniques, KEPCO commissioned the CAPA to compare the agricultural productivity of Tarwyn Park Farm Complex (which has been subject to natural sequence farming techniques) with the neighbouring properties owned by KEPCO (which has been subject to "traditional" cattle grazing management approach). The CAPA concluded that there is little difference in potential agricultural productivity between the Tarwyn Park Farm Complex and the neighbouring property. However, the CAPA did identify that the Tarwyn Park Farm Complex was deficient in key soil nutrients essential for plant growth in comparison with the neighbouring property (Wallings) and as such, the natural sequence farming techniques may not be considered sustainable in this regard.

KEPCO has also sought feedback from the consultant who prepared the Traffic and Transport Impact Assessment for the Project to respond to the Cardno Peer Review which was lodged to the PAC by the MSC. The Cardno Peer Review identified matters which have either previously been responded to (in response to the late MSC submission received following the public exhibition of the EIS) or have been specifically addressed within the Recommended Development Consent conditions as requirements of the Traffic Management Plan.

In summary, the submissions received by the PAC did not raise any new issues which have not previously been comprehensively addressed within the EIS, RTS or the Supplementary RTS. This response provides further clarification and context over some of the key matters to ensure that the PAC is appropriately informed when assessing the merits of the Project. The submissions received have not identified any new information that should influence the findings of the PEAR and its conclusion that the Project is in the public interest and should be approved with conditions.

The Project will deliver material socio economic benefits including the creation of 830 fulltime equivalent long term jobs in the MWRC LGA and a total royalty payment to the NSW Government of $290 million present value over the life of the Project.

We trust that this report provides the PAC with the information required to inquisitorially address the matters raised in the written submissions received by the PAC during the public consultation process.

Please do not hesitate to contact the undersigned should you require any further information.

For
HANSEN BAILEY

Nathan Cooper
Principal

James Bailey
Director

5 REFERENCES

- Department of Planning and Environment (2017). *State Significant Development Assessment Bylong Coal Project (SSD-5367) Preliminary Assessment Report.*
- GML Heritage (2017). *Bylong Coal Project Heritage Review.*
- Hansen Bailey (2015). *Bylong Coal Project Environmental Impact Statement.*
- Hansen Bailey (2016). *Bylong Coal Project Environmental Impact Statement Response to Submissions.*
- NSW Department of Planning and Environment (2015). *State Significant Development Assessment Drayton South Coal Project (SSD 6875) Secretary's Environmental Assessment Report Section 89E of the Environmental Planning and Assessment Act 1979.*
- NSW Industry & Investment (2011). *Economic Assessment of Mining Affected Communities*.
- SLR (2017). *Comparative Agricultural Productivity Assessment of Properties Subject to Varying Land Management Techniques.*

Appendix A

Response to MSC Traffic Peer Review

MEMO

TO:	Nathan Cooper (Hansen Bailey)
FROM:	Ryan Miller
SUBJECT:	**Bylong Coal Project Traffic and Transport Impact Assessment – Response to Cardno Peer Review for Muswellbrook Shire Council**
OUR REF:	2196777A-ITP-MEM-001.docx
DATE:	**14 June 2017**

Hi Nathan,

Please find enclosed our response to the *Bylong Coal Project Planning and Traffic Review Peer Review* undertaken by Cardno on 10 May 2017 on behalf of Muswellbrook Shire Council (MSC).

1. RESPONSE TO SECTION 3 REVIEW OF KEPCO TRAFFIC AND TRANSPORT IMPACT ASSESSMENT

Cardno reporting comments in italics with WSP response following.

- *The construction and operations workforce – origin/destination analysis is not detailed enough to assess impacts effectively. A greater proportion of traffic than assessed will originate from the east given the mining and mining support workforce based in the Lower and upper Hunter. This situation will be amplified during the construction phase of the project.*

  As explained in Section 4 of the Traffic and Transport Impact Assessment (TTIA) and revised TTIA, the construction and operations workforce origin and destination is detailed in the Social Impact Assessment (SIA) prepared by Hansen Bailey. Workforce origins and destinations were retrieved from the SIA to inform the TTIA. Section 5.8 of the TTIA details the trip distribution for staff (workforce).

- *Similarly, information on construction materials quantities, heavy vehicle haulage capacities and haulage routes are required to accurately assess whether the estimated heavy vehicle trips are reasonable.*

  Construction material quantities, heavy vehicle haulage capacities and routes are detailed in Section 5.6 of the revised TTIA. In response to submissions received on the EIS, further detailed information was provided to WSP by the Project team and was subsequently utilised for the revised TTIA (Appendix D of the RTS). Section 5.8 of the TTIA documents trip distributions applied for service and delivery vehicles.

Level 27, 680 George Street
Sydney NSW 2000
GPO Box 5394
Sydney NSW 2001

Tel: +61 2 9272 5100
Fax: +61 2 9272 5101
www.wsp.com

- *In terms of intersection analysis, while the capacity is not an issue at intersections, the proportionate impact is significant. In relation to link analysis, again while capacity is not an issue, the proportionate impact is considered significant up to 461% increase.*

  The proportionate increase in traffic volumes due to Bylong Coal Project (the Project) has been documented. The large increase (proportionate increase) in traffic volumes on the Wollar Road to the north of Bylong Valley Way is in part due to the very low existing traffic volumes on the road network. It is also noted that the stated increase in traffic is for the construction phase in the no WAF scenario for the Project. As stated, even with this large proportionate increase in traffic due to the Project, both intersection and mid-block road performance operate well within their capacities at good levels of service.

- *Safety at the intersections, particularly with respect to turning movements will be a critical factor. Turn warrant assessment and swept path analysis requires consideration.*

  Noted. Key roads along travel and haulage routes are all B-Double approved roads. B-Double approved roads include Golden Highway, Ulan Road, Wollar Road, Ulan-Wollar Road, Bylong Valley Way and Upper Bylong Road. Intersection turn warrants were undertaken utilising Austroads Guide to Road Design to determine intersection layout suitability. To further determine intersection layout suitability for intended vehicle use, swept path analyses and vehicle drive through could be undertaken noting that several intersections are proposed to be upgraded namely Bylong Valley Way and Upper Bylong Road and Bylong Valley Way and Wollar Road.

- *Pavement impact assessment also requires consideration.*

  As documented previously in the TTIA and the revised TTIA, a road dilapidation/condition report is to be prepared in conjunction with the relevant roads authority representatives to assess the impacts to road pavement pre and post construction of the Project. As committed to in Appendix F of the Supplementary Response to Submissions report, KEPCO has proposed to conduct dilapidation inspections of the 40 km section of Bylong Valley Way in consultation with MSC before and after Project-related construction activities. Based on the results of these 'before' and 'after' dilapidation inspections, KEPCO would make a 'payment for damage' contribution to MSC for any damage identified to the road beyond normal wear and tear which is the direct result of Project-related road traffic movements.

- *It is noted that the Roads and Maritime Services (RMS) has raised similar concerns relating to road safety and commitments to manage driver fatigue and mine commuter safety. In particular, RMS considered there was a lack of certainty for implementing and achieving measurable and successful management strategies. For example, commitments to car-pooling and bussing of employees and avoiding shift changes to school bus pick and drop off times are not firmly locked in (Department of Planning & Environment 2017 p30).*

  A meeting was convened by the Department of Planning & Environment (DP&E), Roads and Maritime Services (RMS) and the Mid-Western Regional Council (MWRC) on 23 June 2016 to discuss road safety concerns including strategies and commitments proposed by KEPCO. RMSs concerns were addressed within a letter

to DP&E dated 14 July 2016 which was included as Appendix C of the Supplementary RTS.

Schedule 4, Condition 55 of the Recommended Conditions of Development Consent requires the preparation of a detailed Traffic Management Plan which is to include (amongst other matters) performance measures and criteria for transport and fatigue management of employees and contractors.

Staff travel is discussed further in this document below.

- *Transport for NSW (TfNSW) has requested similar clarifications sought by the RMS but did not provide any further comment on this project (Department of Planning & Environment 2017, p30). Further investigations and clarification of road improvement contribution for these upgrades are required.*

  As indicated above, the issues raised by the RMS (and other stakeholders, including TfNSW) were addressed within a letter to DP&E dated 14 July 2016.

  Since the preparation of the Supplementary RTS, KEPCO has been in ongoing discussions with both the MWRC and the MSC regarding the relevant road contributions. DP&E reflected the latest situation of these discussions within its Recommended Development Consent conditions.

- *The Department of Planning and Environment (DPE) conclusions concerning the predicted low number and percentage of workforce using this route does not appear to consider the removal or reduction of the WAF and the proximity of accommodation in nearby Sandy Holly, Denman and Muswellbrook.*

  The TTIA and revised TTIA utilised information sourced from the SIA for the No WAF scenario included as Appendix C of the Response to Submissions (RTS) report with regards to workforce and their places of residence / accommodation. Whilst the TTIA presented within the EIS did not consider the impacts of traffic on the regional road network, the revised TTIA (Appendix D of the RTS) certainly did assess this scenario. It is also noted that the traffic distributions were modified within the revised TTIA due to the recognised downturn in the mining industry and therefore availability of some additional accommodation within the Sandy Hollow and Denman townships. The town of Muswellbrook is not considered an appropriate accommodation location for Project workers as it is located outside of the local area, being the acceptable travel commute times within one hour to the Project. This information is therefore available should the no WAF scenario be realised.

2. RESPONSE TO TABLE 3-1 REVIEW OF KEPCO TRAFFIC AND TRANSPORT IMPACT ASSESSMENT AND RESPONSE TO SUBMISSIONS

Table 2.1 Responses to issues identified

ITEM	ISSUE IDENTIFIED	RESPONSE TO IDENTIFIED ISSUE
HIGH PRIORITY		
Construction and operations workforce – origin/destination	Some details (below) regarding origin/destination of construction and operations workers but not detailed enough to assess impact effectively 10-15% from local area (not specified which areas) 20 staff housed in KEPCO accommodation near site. Remaining workers: 80% from Mudgee, 20% from Denman/Sandy Hollow, Kandos/Rylstone and with MRC LGA (details of routes not specified). It is reasoned that a greater proportion of traffic than assessed will originate from the east (Muswellbrook/Sandy Hollow) given the mining specialists in this area. Further clarification is required.	This information has been provided to WSP by KEPCO and sourced from the SIA. For more detailed information please refer to the SIA prepared for workforce housing including origin/destinations. KEPCO has previously responded to this issue raised by MSC on numerous occasions. Section 4.2.1 of the PAC Public Hearing Response document (dated 19 May 2017) provides a response to the MSC's concerns.
Construction materials quantities and haulage routes	Details for materials (quantities for road construction materials, pipes, fuel, etc.) not provided. These details are required to accurately assess whether the estimated heavy vehicle trips are reasonable. Example of relevant materials included at Appendix A. Breakdown of origin/destinations for the construction trips (by materials supplied, vehicle types, route proposed) not provided. Further information required.	Section 5.6 and Table 5.7 of the revised TTIA (Appendix D of the RTS) provide the relevant level of detail on vehicle types and material/equipment they will be transporting for the purposes of a detailed environmental assessment. The assessment has utilised conservative assumptions and has assessed the likely worst case impacts resulting from the development. The Traffic Management Plan which is required for the Project (Schedule 4, Condition 55 of the Recommended Development Consent conditions) will detail the various management measures to be implemented to minimise any impacts during the construction phase of the Project. Section 5.8 of the revised TTIA discusses the trip distribution for construction haulage routes.
Delivery quantities and routes	Heavy vehicle trips have been included in the assessment, however details for their purpose have not been provided. Further explanation required, refer to Appendix A for an example.	Section 5.6 and Table 5.7 of the revised TTIA provide detail on vehicle types and material/equipment they will be transporting.
Intersection analysis	While the capacity is not an issue at the intersections, the proportionate impact is significant and should be investigated further.	The proportionate increase in traffic volumes due to the Project has been documented. The large increase (proportionate increase) in traffic volumes on the Wollar Road to the north of Bylong Valley Way is in part due to the very low existing traffic volumes on the road network. It is also noted that the stated increase in traffic is for the construction phase in the no WAF scenario for the Project. Even with this large proportionate increase in traffic, both intersection and mid-block road will continue to operate well within capacity at good Levels of Service.
Link analysis	While the capacity is not an issue, the proportionate impact is significant (up to 461% increase) and should be investigated further.	The proportionate increase in traffic volumes due to the Project has been documented. The large increase (proportionate increase) in traffic volumes on the Wollar Road to the north of Bylong Valley Way is in part due to the very low existing traffic volumes on the road network. It is also noted that the stated increase in traffic is for the construction phase in the no WAF scenario for the Project. Even with this large proportionate increase in traffic, both intersection and mid-block road will continue to operate well within capacity at good Levels of Service.

ITEM	ISSUE IDENTIFIED	RESPONSE TO IDENTIFIED ISSUE
Turn warrant assessment	Only Bylong Valley Way/Wollar Road and Bylong Valley Way/Upper Bylong Road have been assessed. Other intersections have not been assessed. Demonstration of the turn warrant assessments (plotted graphs) have not been provided. Further information required.	Only those two intersections (Intersection 1 Bylong Valley Way and Wollar Road and Intersection 2 Bylong Valley Way and Upper Bylong Road) were assessed for turn warrants on the major roads at intersections. The percentage of Project related traffic at the following intersections was determined to be negligible and would not warrant such an assessment: - Intersection 3 Golden Highway and Bylong Valley Way - Intersection 4 Golden Highway and Ulan Road - Intersection 5 Wollar Road and Ulan-Wollar Road (vast majority of Project traffic at this intersection is through traffic on Wollar Road with negligible side road turning traffic) - Intersection 7 Castlereagh Highway and Bylong Valley Way - Intersection 8 Ulan Road and Ulan Wollar Road. Intersection 6 Wollar Road and Ulan Road is a rural Type CHR channelised intersection and accommodates increased major road traffic volumes and turn volumes as documented in Figure 4.9 from the Austroads Guide to Road Design, Part 4A Unsignalised and Signalised Intersections. Turn volumes have been provided in Section 6.2.1 of the revised TTIA for use in Figure 6.1 of the revised TTIA. Plotted graphs are not considered necessary.
Swept Path Analysis of development affected intersections	No swept path analysis of development vehicles at subject intersections has been undertaken. It is not clear whether the existing intersection geometry can accommodate all development vehicles. Further investigation required and details of localised upgrades if required.	Section 10 of the revised TTIA has recommended that swept path analyses be undertaken for the Construction Traffic Management Plan. The following intersections are proposed for upgrade and therefore swept path of these existing intersection layouts would be superseded: Bylong Valley Way and Upper Bylong Road and Bylong Valley Way and Wollar Road. Bylong Valley Way, Wollar Road and Ulan Road are currently approved for B-Double for 19 m length vehicles. Existing semi-trailers (articulated vehicles) of 19 m length already utilise these roads and there intersections for Bylong Quarry operations.
Pavement impact assessment	Report recommends inspections to be undertaken to monitor pavement impacts. Usually a pavement scoping assessment will be undertaken to determine whether a detailed pavement impact assessment will be warranted prior to approval of the project. Further investigation required.	A road dilapidation/condition report was recommended within the revised TTIA to be undertaken pre and post construction. This may determine whether a detailed pavement impact assessment is required. A pavement assessment is a standalone report that does not form part of a TTIA.
Road safety audit	No road safety audit has been undertaken. Preliminary assessment of Bylong Valley Way highlights the following areas of concern: Existing physical constraints including narrow carriageway widths, narrow or non-existent shoulders, sheer drop off without adequate guard rails, sharp horizontal curves, steep grades, etc. Lack of signage and line marking Increase in traffic volumes due to the development warrants the need for a road safety audit. Contributions towards road safety upgrades should be based on the proportionate impact of the development traffic to the baseline traffic. Further details outlining how the contribution was calculated should be provided.	WSP completed a road safety audit (Appendix C of the Supplementary RTS) for Wollar Road between Bylong Valley Way and Ulan Road and Bylong Valley Way between the Golden Highway and Castlereagh Highway. In addition, it is noted that a road safety audit including road safety infrastructure upgrade recommendations was also completed by GHD in 2015 for MSC for Bylong Valley Way within the MSC LGA. The purpose of the revised TTIA is not to discuss contributions but sources traffic data for cost apportionment purposes. It is unclear how this last paragraph relates to the actual revised TTIA itself. Contributions and cost apportionment are a separate exercise undertaken between the relevant parties. Correspondence to MSC from KEPCO dated 9 December 2016 clearly provides details on how the road safety contribution has been calculated. It is noted that the contribution was calculated from MSCs estimated road safety upgrade costs and the proportionate impact of the development traffic to the baseline traffic.
MODERATE PRIORITY		

ITEM	ISSUE IDENTIFIED	RESPONSE TO IDENTIFIED ISSUE
Crash data review	Crash analysis undertaken, no conclusions regarding the crash risk were formulated, safety upgrades to be implemented by MSC and MRC were mentioned.	A review of crash data was undertaken and is summarised in Section 2.7 of the revised TTIA. This is standard crash data reporting. General road safety improvements were documented in Section 7.3 of the revised TTIA with the suggestion that a road safety audit be undertaken. The road safety audit would identify road safety hazards. Road safety upgrade measures can also be prepared in response to road safety audit findings. For the Supplementary RTS, WSP completed a road safety audit for Wollar Road between Bylong Valley Way and Ulan Road and Bylong Valley Way between the Golden Highway and Castlereagh Highway. A road safety audit including road safety infrastructure upgrades was completed by GHD in 2015 for MSC for Bylong Valley Way within the MSC LGA.
Peak hour assessed	Assumed 6:00-7:00am and 6:00-7:00pm for AM and PM peaks respectively, coinciding with the development peak. Assessment should provide a sensitivity assessment for the road network peaks and development traffic during those periods.	A standardised AM and PM peak hour was used to align with the cumulative mine traffic assessment undertaken. The Projects peak traffic was applied to the cumulative traffic peak hours (6:00-7:00am and 6:00-7:00pm) for assessment purposes.
Heavy vehicle permitted routes	Sufficient detail is not provided, only summarised the B-double routes.	Project access routes are provide in Section 5.8.1 and Table 5.8 of the revised TTIA. Section 5.13 of the revised TTIA states that oversized vehicles will need to travel to the Project site via Wollar Road due to the overhead rail bridge on Bylong Valley Way. The Golden Highway, Ulan Road, Wollar Road, Bylong Valley Way and Upper Bylong Roads are B-Double approved. It is noted that Schedule 4, condition 53 of the Recommended Development Consent conditions provides further certainty on the heavy-vehicle permitted routes, which is in line with the most recent correspondence and discussions within MSC.
LOW PRIORITY		
Traffic surveys	Traffic surveys from multiple sources across different assessment years, it is not clear how the data has been factored to the 2015 baseline year. Further information required.	Initial traffic surveys for the TTIA were undertaken for the Project in 2014 based on a selected study area extent. This study area was further widened within the RTS for the revised TTIA and therefore additional traffic surveys were undertaken in 2015. Further volumes were referenced from traffic impact assessments from neighbouring developments. Section 1.6 of the revised TTIA documents the traffic surveys undertaken for the Project. As documented in Sections 4.2 and 4.3 of the revised TTIA, a 2% yearly traffic growth rate was applied to background traffic volumes to determine future year background traffic volumes.
Vehicle occupancy	A car share rate of 30% has been utilised. A 30% rate is considered to be reasonably high and will be difficult to achieve. Further justification required. Bus trips have assumed close to 100% (93%) occupancy which may not be achievable.	A car share rate of 30% was an estimation for the purposes of the traffic assessment. The revised TTIA assumed the transport of workers by bus with WAF in operation with the use of 50 seater buses. To transport the 280 workers to and from the site each shift, 6 bus trips in either direction is required which would accommodate 300 workers at 100% occupancy, seated. Having a 93% occupancy with all workers seated is considered suitable for assessment purposes. Schedule 4, Condition 55 of the Recommended Development Consent Conditions requires that the Traffic Management Plan include measures which would be implemented to use buses and car pooling to transport the workforce to and from the site.
Construction Management Plan	Not prepared, recommendation made for a CMP to be prepared prior to construction commencing.	A construction management/traffic management plan will be prepared the Project prior to construction commencing. Schedule 4, Condition 55 of the Recommended Development Consent conditions provides these requirements.

3. RESPONSE TO SECTION 4 MINE WORKER LOCATION AND TRAVEL PATTERNS

KEPCO has previously responded to MSCs concerns regarding the expected Project workforce demographics. This is summarised within the previous PAC Public Hearing Response document dated 19 May 2017.

The Project is entirely located within the Mid-Western Regional Council Local Government Area (MWRC LGA). KEPCO has been in close consultation with MWRC in relation to the development of the Project within the MWRC LGA and opportunities for accommodating the Project workforce within the local area. Resources for Regions funding has been granted for the upgrade to Wollar Road which will make the regional town of Mudgee within a one hour commute. The towns of Denman and Sandy Hollow are the only towns to the east of the Project which are located within the local area (i.e. within a one hour commute of the Project site). Muswellbrook is located outside of the local area.

The accommodation availability assessments which have been completed within the EIS, RTS and since this time have demonstrated that there is some limited accommodation available within Denman and Sandy Hollow. The RTS assessment resulted in a slight increase to the percentage of workforce originating from the east of the Project.

Schedule 4, Condition 55 of the Recommended Development Consent conditions requires that the Traffic Management Plan include a monitoring program to confirm the vehicle numbers and routes for comparison against the predictions within the EIS.

4. RESPONSE TO SECTION 5 MINE WORKFORCE AND MINING SUPPORT SERVICES

Similar to the above, KEPCO has previously responded to this concern from MSC. Refer to the PAC Public Hearing Response report dated 19 May 2017.

Whilst it is acknowledged that there is an established base of mining related suppliers and contractors within the Hunter Valley, it is noted that a number of these suppliers and contractors (with whom KEPCO is in ongoing discussions) already support the existing mines from within the Mudgee region, having satellite bases within Mudgee and surrounds. KEPCO notes its preference to utilise suppliers and contractors located within the local area.

5. RESPONSE TO SECTION 6 KEY ISSUES AND CONSEQUENCES

5.1 KEY INFORMATION GAPS

Response to select comments:

In essence road safety issues on Bylong Valley Way attributed to this proposal remain unresolved and will negatively impact on Muswellbrook LGA.

As identified within the two road safety audits conducted on the Bylong Valley Way within the Muswellbrook LGA, there are existing road safety issues on this road based on the current traffic which need to be resolved. It is unclear what road safety issues remain unresolved due to Project traffic on Bylong Valley Way.

Schedule 4, Condition 51 of the Recommended Development Consent conditions requires KEPCO to provide $40,000 to the roads authority (MSC) prior to the commencement of construction activities for the purpose of contributing to required road safety upgrades on the existing road. This funding contribution is in line with the latest discussions with MSC over these current road safety implications.

The assumption that the workforce will primarily be drawn from the Mudgee/Mid-Western LGA requires further analysis and justification. The proponent's assertion that the operational workforce will be mainly reside in communities local to the Project and as such minimal impacts are to be expected on road linkages such as the Bylong Valley Way.

As above.

In the absence of an independent road safety audit, the proponent's offer of $40,000 contribution to Muswellbrook Shire Council towards road safety upgrades on Bylong Valley Way requires further explanation how this figure was calculated.

Refer to KEPCO letter dates 9 December 2016 for explanation and calculations for this road safety contribution. See attached. The proportion of Project traffic to background baseline traffic was utilised with the MSCs road safety upgrade costing spreadsheet to determine monetary contributions.

The key issues in respect to road user safety are increased employee exposure to risk and exposure to other road users. Given the relative isolation of this proposed mine from nearby centres, longer travel distances along with 12 hour working shifts, managing worker fatigue is a critical issue for the project during construction and operations. Carpooling will assist but is unlikely to achieve the levels identified and relied upon in this proposal.

Schedule 4, Condition 55 of the Recommended Development Consent conditions addresses the various road safety and fatigue management issues being questioned by Cardno. The Traffic Management Plan will describe measures to implement to manage driver fatigue, car pooling and bussing. The Traffic Management Plan will also detail the monitoring program to determine the effectiveness of the measures to be implemented.

The existing road environment comprises challenging road geometry and grades, narrow sections, drop offs and blind bends. In the absence of an independent road safety audit provided by the proponent, this review relies on the road safety audit prepared by GHD for Muswellbrook Shire Council.

The revised TTIA and a Road Safety Audit are two separate reports and should not be interlinked. It is unclear what reporting is required here for the revised TTIA.

The Road Safety Audit completed by WSP as provided within Appendix C of the Supplementary RTS identifies the similar challenges on the existing road network in the absence of the Project.

Operational observations for the nearby Wilpinjong coal mine identifies 141 heavy vehicles per day (vpd) or 12.9% heavy vehicle proportion confirms that heavy vehicles use Bylong Valley Way (GTA 2015, p14).

The location of this traffic count is identified as Site 12 as per Figure 1-1 of the GTA report is misleading and has no associated count data summary provided. This location as per Figure 1-1 is in the town of Wollar on Wollar Road just east of Ulan-Wollar Road. Between the traffic count location and the MSC LGA boundary on Bylong Valley Way, there are numerous other locations/routes for these vehicles to be travelling to and from.

The survey identified that heavy vehicles up to Class 11 vehicles use Bylong Valley Way. This exceeds the 10 tonne limit which has been conditioned for the road.

Bylong Valley Way between the Castlereagh Highway (Ilford) and the MSC LGA boundary is an approved 19 metre B-Double route with 50 tonne limit. The vehicles currently utilising the road are not Project-related. The Recommended Development Consent conditions for the Project will not restrict unrelated heavy vehicles from utilising this road.

Contributions towards road safety upgrades should be based on the proportionate impact of the development traffic to the baseline traffic. Council's road safety audit identifies a series of "intolerable" risks ratings requiring attention. The installation of 140 metres of new safety barriers will cost $103,600. This figure excludes upgrades and/or repairs to existing safety barriers. The total cost of road safety works is $1.18m. These works should form part of the initial road safety response prior to and during the construction period.

Refer to KEPCO letter dated 9 December 2016 which clearly provides a description of how the road safety contribution was calculated. As described within this letter, the contribution was calculated utilising the road safety upgrade works previously nominated by MSC.

5.2 NO WORKFORCE ACCOMODATION FACILITY (WAF)

The Department's conclusion and recommendation that the WAF is either not required or significantly reduced in scale does not appear to consider the likely traffic flows of mine workers travelling to and from nearby towns in the Muswellbrook LGA including Denman, Sandy Hollow, Muswellbrook and potentially further distances to the Lower Hunter.

The revised TTIA assessed both with and without WAF scenarios. Workforce distributions assessed within the revised TTIA have been based on the findings of ongoing accommodation availability surveys and continue to remain relevant.

5.3 HEAVY VEHICLES

The Project proposes to transport coal via rail and not road transport. Heavy vehicle demand will be at its peak during the construction phase of the Project.

Given the temptation to avoid a 70 minute time penalty and short cut travel via the Bylong Valley Way, it is considered prudent to require regular independent traffic counts to reinforce compliance, particularly during the construction phase. This would involve counts over a 7 day period targeting AADT exceeding background traffic growth of 1% and independent auditing of Journey Management Plans (JMP) to inform the Traffic Management Plan (TMP) are also recommended.

Agreed to traffic counts on Bylong Valley Way during the construction phase and preparation of JMP and TMP. This recommendation is in line with the requirements of Schedule 4, Condition 55 of the Recommended Development Consent conditions.

5.4 TRAFFIC MANAGEMENT PLAN

Importantly, Muswellbrook Shire Council must be included as a key stakeholder involved in the Traffic Management Plan (TMP) annual reviews and planning for proposed road safety upgrades. Muswellbrook Council was previously identified in the draft conditions of consent issued to the proponent in 2016 and should be reinstated in this role as part of the conditions of consent.

Noted and agreed. Schedule 4, Condition 55 of the Recommended Development Conditions requires the Traffic Management Plan to be prepared in consultation with MSC (and others).

5.5 ROAD MAINTENANCE 'PAYMENT FOR DAMAGE' CONTRIBUTION

Conditions of consent must include KEPCO previous commitment to Muswellbrook Shire Council dated 13 April 2017 for an appropriate road maintenance 'payment for damage' contribution to be made for the peak construction activities which will be negotiated with Council based on the results of the proposed 'before' and 'after' dilapidation inspections.

Noted and agreed, although not required as a condition of consent.

6. RESPONSE TO SECTION 7 CONCLUSION

Cardno's traffic peer review and analysis, highlights that the existing road network cannot be considered safe for the increase in vehicular movements until numerous information gaps are addressed and additional independent analysis and assessment of Bylong Valley Way is addressed, particularly for the construction phase of this project.

This comment infers that the existing road network is unsafe without the Project. There are road safety concerns on Bylong Valley Way which have been identified and well documented. The Road Safety Audit completed by WSP was included within the Supplementary RTS (Appendix C). The Project will only contribute a minimal amount of traffic to Bylong Valley Way east of Wollar Road based upon the traffic distributions utilised in the assessment. Schedule 4, Condition 55 of the Recommended Development Consent conditions covers the identified information gaps which Cardno has identified within its review.

The BCP has a role and an ongoing financial contribution to make in collaboration with Mid-Western and Muswellbrook local government areas to facilitate a safe road network for mine workers and all road users.

The financial contributions which have been negotiated and agreed to by DP&E have been reflected within the Recommended Development Consent conditions. This entails a number of road upgrades within the MWRC LGA, road maintenance contributions to MWRC and future capital upgrades regarding Munghorn Gap, Wollar Road and pertinent sections of Bylong Valley Way. The Recommended Development Consent conditions also require a contribution to be provided to MSC prior to the commencement of construction to assist in remediating the existing road safety issues on Bylong Valley Way. This contribution is proportionate to the amount of traffic generated by the Project compared to the baseline traffic volume on the Bylong Valley Way.

The Department has a key role in enforcing conditions of consent with proposed monitoring and the involvement of Muswellbrook Shire Council in the Traffic Management Plan (TMP) supporting this.

Noted and agreed.

7. RESPONSE TO APPENDIX A

The Technical Memorandum prepared by Cardno relates to the Traffic and Transport Impact Assessment (TTIA) prepared for the Environmental Impact Statement (EIS) issued 21 March 2016. Responses have been provided in Table 7.1 below where based upon Cardno's determination, one or both of the following have not been assessed or the assessment undertaken did not do so by a reasonable approach.

7.1 RESPONSE TO TABLE 1

Table 7.1 Response to comments

ITEMS FOR TRAFFIC ASSESSMENT	INCLUDED IN ASSESSMENT?	REASONABLE APPROACH?	COMMENTS	RESPONSE
ASSUMPTIONS				
Traffic surveys			Traffic surveys from multiple sources across different assessment years, it is not clear how the data has been factored to establish the 2015 baseline year. Further information required.	Initial traffic surveys for the TTIA were undertaken for the Project in 2014 based on a selected study area extent. This study area was further widened within the RTS for the revised TTIA and therefore additional traffic surveys were undertaken in 2015. Further volumes were referenced from traffic impact assessments from neighbouring developments. Section 1.6 of the revised TTIA documents the traffic surveys undertaken for the Project. As documented in Sections 4.2 and 4.3 of the revised TTIA, a 2% yearly traffic growth rate was applied to background traffic volumes to determine future year background traffic volumes.
Crash data review			Crash analysis undertaken, no conclusions regarding the crash risk were formulated, safety upgrades to be implemented by MSC and MRC were mentioned but not detailed.	A review of crash data was undertaken and is summarised in Section 2.7 of the revised TTIA. This is standard crash data reporting. General road safety improvements were documented in Section 7.3 of the revised TTIA with the suggestion that a road safety audit be undertaken. The road safety audit would identify road safety hazards. Road safety upgrade measures can also be prepared in response to road safety audit findings. For the Supplementary RTS, WSP completed a road safety audit for Wollar Road between Bylong Valley Way and Ulan Road and Bylong Valley Way between the Golden Highway and Castlereagh Highway. A road safety audit including road safety infrastructure upgrades was completed by GHD in 2015 for MSC for Bylong Valley Way within the MSC LGA.
Construction workforce – origin/destination			Some details (below) regarding origin/destination of construction and operations workers but not detailed enough to assess properly — 10-15% from local area (not specified which areas) — 20 staff housed in KEPCO accommodation near site — Remaining workers: 80% from Mudgee, 20% from Denman/Sandy Hollow, Kandos/Rylstone and with MRC LGA (details of routes not specified) It is reasoned that a greater proportion of traffic than assessed will originate from the east (Muswellbrook/Sandy Hollow) given the mining specialists in this area.	This information has been provided to WSP by KEPCO and sourced from the SIA. For more detailed information please refer to the SIA prepared for workforce housing including origin/destinations. KEPCO has previously responded to this issue raised by MSC on numerous occasions. Section 4.2.1 of the PAC Public Hearing Response document (dated 19 May 2017) provides a response to the MSC's concerns.
Operations workforce – origin/destination				
Peak hour assessed			Assumed 6:00-7:00am and 6:00-7:00pm for AM and PM peaks respectively, coinciding with the development peak. Assessment should provide a sensitivity assessment for the road network peaks and development traffic during those periods.	A standardised AM and PM peak hour was used to align with the cumulative mine traffic assessment undertaken. The Projects peak traffic was applied to the cumulative traffic peak hours (6:00-7:00am and 6:00-7:00pm) for assessment purposes.

ITEMS FOR TRAFFIC ASSESSMENT	INCLUDED IN ASSESSMENT?	REASONABLE APPROACH?	COMMENTS	RESPONSE
Vehicle occupancy			A car share rate of 30% has been utilised. A 30% rate is considered to be reasonably high and will be difficult to achieve. Further justification required. Bus trips have assumed close to 100% (93%) occupancy which may not be achievable.	A car share rate of 30% was an estimation for the purposes of the traffic assessment. The revised TTIA assumed the transport of workers by bus with WAF in operation with the use of 50 seater buses. To transport the 280 workers to and from the site each shift, 6 bus trips in either direction is required which would accommodate 300 workers at 100% occupancy, seated. Having a 93% occupancy with all workers seated is considered suitable for assessment purposes. Schedule 4, Condition 55 of the Recommended Development Consent Conditions requires that the Traffic Management Plan include measures which would be implemented to use buses and car pooling to transport the workforce to and from the site.
Construction material quantities			Details for materials (quantities for road construction materials, rail loop, pipes, water infrastructure, etc.) not provided. Required to accurately assess whether the estimated heavy vehicle trips are reasonable. Example of relevant materials included at Appendix A.	Section 5.6 and Table 5.7 of the revised TTIA (Appendix D of the RTS) provide the relevant level of detail on vehicle types and material/equipment they will be transporting for the purposes of a detailed environmental assessment. The assessment has utilised conservative assumptions and has assessed the likely worst case impacts resulting from the development. The Traffic Management Plan which is required for the Project (Schedule 4, Condition 55 of the Recommended Development Consent conditions) will detail the various management measures to be implemented to minimise any impacts during the construction phase of the Project. Section 5.8 of the revised TTIA discusses the trip distribution for construction haulage routes.
Construction haulage routes			Breakdown of origin/destinations for the construction trips (by materials supplied, vehicle types, route proposed) not provided. Further information required.	Section 5.8 of the revised TTIA discusses the trip distribution for construction haulage routes.
Delivery quantities			Heavy vehicle trips have been included in the assessment however details for their purpose have not been provided. Further explanation required for construction and operations.	Section 5.6 and Table 5.7 of the revised TTIA provide detail on vehicle types and material/equipment they will be transporting.
Delivery routes				
Mine Operations Equipment			Details of mine operations equipment has not been provided. Further information required volume, type, haulage route and origin and destination of equipment.	The revised TTIA has included a conservative assessment of the proposed heavy vehicle traffic which is likely to travel to and from the site. The Traffic Management Plan will include further detail regarding the proposed Heavy Vehicle Movements throughout the various stages of the Project.
Heavy vehicle permitted routes			Sufficient detail is not provided, only summarised the B-double routes. Further information required.	Project access routes are provide in Section 5.8.1 and Table 5.8 of the revised TTIA. Section 5.13 of the revised TTIA states that oversized vehicles will need to travel to the Project site via Wollar Road due to the overhead rail bridge on Bylong Valley Way. The Golden Highway, Ulan Road, Wollar Road, Bylong Valley Way and Upper Bylong Roads are B-Double approved. It is noted that Schedule 4, condition 53 of the Recommended Development Consent conditions provides further certainty on the heavy-vehicle permitted routes, which is in line with the most recent correspondence and discussions within MSC.
INTERSECTION ANALYSIS				

ITEMS FOR TRAFFIC ASSESSMENT	INCLUDED IN ASSESSMENT?	REASONABLE APPROACH?	COMMENTS	RESPONSE
Key criteria assessed			The intersection assessment summaries provide DOS, delay, LOS and queues. While the capacity is not an issue at the intersections, the proportionate impact is significant and should be investigated further.	The proportionate increase in traffic volumes due to the Project has been documented. The large increase (proportionate increase) in traffic volumes on the Wollar Road to the north of Bylong Valley Way is in part due to the very low existing traffic volumes on the road network. It is also noted that the stated increase in traffic is for the construction phase in the no WAF scenario for the Project. Even with this large proportionate increase in traffic, both intersection and mid-block road will continue to operate well within capacity at good Levels of Service.
LINK ASSESSMENT				
Key criteria assessed			While the capacity is not an issue, the proportionate impact is significant (up to 461% increase) and should be investigated further.	The proportionate increase in traffic volumes due to the Project has been documented. The large increase (proportionate increase) in traffic volumes on the Wollar Road to the north of Bylong Valley Way is in part due to the very low existing traffic volumes on the road network. It is also noted that the stated increase in traffic is for the construction phase in the no WAF scenario for the Project. Even with this large proportionate increase in traffic, both intersection and mid-block road will continue to operate well within capacity at good Levels of Service.
TURN WARRANT ASSESSMENT				
Intersections assessed			Only Bylong Valley Way/Wollar Road and Bylong Valley Way/Upper Bylong Road have been assessed. Other intersections have not been assessed. Demonstration of the turn warrant assessments (plotted graphs) have not been provided. Further information required.	Only those two intersections (Intersection 1 Bylong Valley Way and Wollar Road and Intersection 2 Bylong Valley Way and Upper Bylong Road) were assessed for turn warrants on the major roads at intersections. The percentage of Project related traffic at the following intersections was determined to be negligible and would not warrant such an assessment: - Intersection 3 Golden Highway and Bylong Valley Way - Intersection 4 Golden Highway and Ulan Road - Intersection 5 Wollar Road and Ulan-Wollar Road (vast majority of Project traffic at this intersection is through traffic on Wollar Road with negligible side road turning traffic) - Intersection 7 Castlereagh Highway and Bylong Valley Way - Intersection 8 Ulan Road and Ulan Wollar Road. Intersection 6 Wollar Road and Ulan Road is a rural Type CHR channelised intersection and accommodates increased major road traffic volumes and turn volumes as documented in Figure 4.9 from the Austroads Guide to Road Design, Part 4A Unsignalised and Signalised Intersections. Turn volumes have been provided in Section 6.2.1 of the revised TTIA for use in Figure 6.1 of the revised TTIA. Plotted graphs are not considered necessary.

ITEMS FOR TRAFFIC ASSESSMENT	INCLUDED IN ASSESSMENT?	REASONABLE APPROACH?	COMMENTS	RESPONSE
Swept Path Analysis of development affected intersections			No swept path analysis of development vehicles at subject intersections has been undertaken. It is not clear whether the existing intersection geometry can accommodate all development vehicles. Further investigation required and details of localised upgrades if required.	Section 10 of the revised TTIA has recommended that swept path analyses be undertaken for the Construction Traffic Management Plan. The following intersections are proposed for upgrade and therefore swept path of these existing intersection layouts would be superseded: Bylong Valley Way and Upper Bylong Road and Bylong Valley Way and Wollar Road. Bylong Valley Way, Wollar Road and Ulan Road are currently approved for B-Double for 19 m length vehicles. Existing semi-trailers (articulated vehicles) of 19 m length already utilise these roads and there intersections for Bylong Quarry operations.
PAVEMENT IMPACT ASSESSMENT				
Pavement impacts assessed			Report recommends inspections to be undertaken to monitor pavement impacts. Usually a pavement scoping assessment will be undertaken to determine whether a detailed pavement impact assessment will be warranted prior to approval of the project. Further investigation required.	A road dilapidation/condition report was recommended within the revised TTIA to be undertaken pre and post construction. This may determine whether a detailed pavement impact assessment is required. A pavement assessment is a standalone report that does not form part of a TTIA.
ROAD SAFETY AUDIT				
Road safety assessed			No road safety audit has been undertaken. Reference is made to the MSC road safety audit however this has not been made available at the time of review. Preliminary assessment of Bylong Valley Way highlights the following areas of concern: — Existing physical constraints including narrow carriageway widths, narrow or non-existent shoulders, sheer drop off without adequate guard rails, sharp horizontal curves, steep grades, etc. — Lack of signage and line marking Increase in traffic volumes due to the development warrants the need for a road safety audit of the affected roads, particularly along Bylong Valley Way east of Wollar Road. Contributions towards road safety upgrades should be based on the proportionate impact of the development traffic to the baseline traffic. Further details outlining how the contribution was calculated should be provided. Mitigating road safety risks, particularly with the additional traffic associated with the mine, is a primary concern.	WSP completed a road safety audit (Appendix C of the Supplementary RTS) for Wollar Road between Bylong Valley Way and Ulan Road and Bylong Valley Way between the Golden Highway and Castlereagh Highway. In addition, it is noted that a road safety audit including road safety infrastructure upgrade recommendations was also completed by GHD in 2015 for MSC for Bylong Valley Way within the MSC LGA. The purpose of the revised TTIA is not to discuss contributions but sources traffic data for cost apportionment purposes. It is unclear how this last paragraph relates to the actual revised TTIA itself. Contributions and cost apportionment are a separate exercise undertaken between the relevant parties. Correspondence to MSC from KEPCO dated 9 December 2016 clearly provides details on how the road safety contribution has been calculated. It is noted that the contribution was calculated from MSCs estimated road safety upgrade costs and the proportionate impact of the development traffic to the baseline traffic.
CONSTRUCTION MANAGEMENT PLAN				
Construction Management Plan prepared			Not prepared, recommendation made for a Construction Management Plan to be prepared prior to construction commencing.	A construction management/traffic management plan will be prepared the Project prior to construction commencing. Schedule 4, Condition 55 of the Recommended Development Consent conditions provides these requirements.

8. RESPONSE TO APPENDIX B

Figures in Appendix B relate to mine related vehicles traffic monitoring extracts from a SATURN model prepared by Cardno. These figures are referenced in Case Study 4 in Section 6.1 of the Cardno report. It is unclear the purpose or relevance of these figures in relation this Project.

Ryan Miller
Principal Traffic Engineer

Suite 1301, Level 13, 141 Walker St
North Sydney NSW 2060
Phone: 02 8904 9508 Fax: 02 8904 9588

13 April 2017

Mr Steve McDonald
General Manager
Muswellbrook Shire Council
Via email:

Dear Mr McDonald

BYLONG COAL PROJECT

RESPONSE TO MSC CORRESPONDENCE

1 INTRODUCTION

Thank you for your letter dated 19 January 2017 in response to our letter (dated 9 December 2016) in relation to an offer to contribute funds to Muswellbrook Shire Council (MSC) at the commencement of construction activities for the Bylong Coal Project (the Project) to assist in addressing the existing road safety issues on Bylong Valley Way. As you may be aware, KEPCO met with Neil Pope, Edi Ediriwickrama and Scott Brooks on 8 February 2017 to discuss the contents of this correspondence and to establish an appropriate way forward.

This letter responds to the residual concerns raised within your letter dated 19 January 2017 and provides the additional information which was requested during our meeting on 8 February 2017.

2 MSC'S OPINION OF TRAFFIC CONTRIBUTIONS OF PROJECT ON BYLONG VALLEY WAY TO EAST

KEPCO has previously responded to concerns from MSC regarding the forecast Project traffic distributions in letter correspondence to the Department of Planning and Environment (DP&E) dated 7 July 2016. KEPCO has undertaken an extensive amount of work from the initial mine planning phase and throughout the preparation of the EIS and associated approvals process to determine the availability of potential employees for the Project and their likely place of residence.

The Project is located wholly within the Mid-Western Regional Council (MWRC) Local Government Area (LGA). In addition to the townships within the MWRC LGA, the nearby townships of Denman and Sandy Hollow (within the MSC LGA) were also identified to be within a one hour commute from the Project site (the Local Area) and have therefore been considered as acceptable places of residence for Project employees.

The availability of accommodation and potential employees has been reflected within the forecast traffic distributions for the Project. The township of Muswellbrook (and other localities to the east of the Project) is located more than a 1 hour commute from the Project site and is therefore not considered to be an acceptable place of residence for Project-related employees whom are likely to travel to the Project site on a daily basis.

During early consultations with MWRC, it was identified that MWRC was considering an upgrade to the Wollar Road to facilitate a more direct route for tourists to travel to and from the Mudgee Region. Resources for Regions funding for this road upgrade was announced in May 2015 and these works have since commenced. The upgraded Wollar Road is anticipated to provide the most appropriate route from Mudgee to the Project as the closest regional centre to the Project within Mid Western NSW. Mudgee has therefore been forecast to be the primary place of residence for the majority of Project-related employees.

Whilst Denman and Sandy Hollow are located within the Local Area for the Project, the accommodation and personnel available from these townships has historically been heavily influenced by the extensive mining development, which is located much closer to home within the Muswellbrook and Singleton LGAs. Whilst there is predicted to be a proportion of employees (and associated traffic movements) from these areas, it is anticipated that this would be a small proportion compared to those likely to be residing within the MWRC LGA. The Revised Traffic and Transport Impact Assessment (RTTIA) (Appendix D of the Response to Submission report) considered an amended distribution of Project-related traffic to the east when compared to the EIS assessment. This amended distribution was made as a result of the updated surveys completed during late 2015 indicating the increased availability of accommodation and employees within Denman and Sandy Hollow.

MSC has also previously commented that there are a number of mining contractors whom have established bases within the MSC LGA (and at other locations to the east of the Project) would likely travel the Bylong Valley Way to the Project site. KEPCO acknowledges that there is an established base of mining related suppliers and contractors within the Hunter Valley. However, it is noted a number of these suppliers and contractors (with whom KEPCO is in ongoing discussions) already support the existing mines from within the Mudgee region having satellite bases within Mudgee and surrounds. KEPCO has previously noted its preference to utilise suppliers and contractors located within their Local Area.

As noted in letter correspondence to MSC dated 9 December 2016, KEPCO has also made the commitment to DP&E to restrict Project-related heavy vehicles from utilising the Bylong Valley Way (to the east). In this regard, KEPCO has also supported a draft Development Consent condition from DP&E which restricts heavy vehicles related to the development (excluding light rigid heavy vehicles and medium rigid heavy vehicles up to a GVM of 10 tonnes) from utilising Bylong Valley Way between the Golden Highway intersection and the entry into the Bylong Quarry. This commitment will further minimise the potential impacts of the Project to the 40 km section of Bylong Valley Way within the MSC LGA from those assessed within the RTTIA. Accordingly, KEPCO remain confident that the forecast traffic movements on Bylong Valley Way which are directly related to the Project as assessed within the RTTIA remains appropriate.

KEPCO's proposed offer to MSC consists of a one off upfront road safety contribution to address existing road safety issues on the Bylong Valley Way within the MSC LGA. This offer was calculated on a prorate basis in consideration of the Project's forecast use of the 40 km section of Bylong Valley Way and has been made to assist MSC in remediating the existing road safety issues which have been identified on this road (i.e. not on any impacts which have resulted from the Project). This offer is entirely consistent with MSC's initial approach to KEPCO over a request for funding and will assist in addressing any currently identified safety issues.

In light of the above, KEPCO continues to remain of the opinion that the offer of a one off upfront road safety contribution of $40,000 to MSC is appropriate. KEPCO is also proposing to maintain its previous commitment to MSC for an appropriate prorated road maintenance 'payment for damage'

contribution to be made for the peak construction activities which will be negotiated with MSC based on the results of the proposed 'before' and 'after' dilapidation inspections. In addition, KEPCO has also made a number of further commitments from those previously stated to ensure that adverse impacts of the Project on Bylong Valley Way within the MSC LGA are negligible. Whilst KEPCO is committed to monitoring and managing the Project-related traffic generally in accordance with the forecast distributions from the RTTIA, it is unrealistic for MSC to request KEPCO to pay additional annual road contributions over the life of the operating Project based on the forecast limited usage of this regional public road.

3 MANAGING HEAVY VEHICLE MOVEMENTS ON BYLONG VALLEY WAY TO EAST

KEPCO is committed to complying with the above mentioned restrictions for Project-related heavy vehicles on certain roads on the regional road network (including Bylong Valley Way to the east) and has accepted a draft Development Condition from DP&E in this regard.

KEPCO has previously made commitments in response to a submission from the NSW Roads and Maritime Services (RMS) to manage the proposed traffic restrictions. These include the application of standard contractual arrangements for any heavy vehicle delivery to the mine site and the requirement for all Project-related heavy vehicle movements to be accompanied by a Journey Management Plan. These commitments are briefly described below.

- **Standard Contractual Arrangements** – KEPCO will incorporate specific contractual conditions to ensure that suppliers, contractors and other personnel associated with the Bylong Coal Mine will comply with the SSD Development Consent conditions and the relevant regulatory requirements. This will include (amongst other matters) a reference to the relevant Development Consent conditions which have been discussed and agreed with DP&E. As requested during the meeting of 8 February 2017, please find attached a copy of relevant draft contractual conditions and associated plan identifying the heavy vehicle road restrictions.
- **Journey Management Plans** – The attached example of a Journey Management Plan (including drivers of Heavy Vehicles) has been modelled on the current requirement for WorleyParsons personnel to complete Journey Management Plans for any distant travel (2 hours or more) beyond their office locations. KEPCO will require specific a Journey Management Plan to be compiled for each heavy vehicle which is to travel to and from the site. The requirements for Journey Management Plans will be specified within the site's Safety Management System to which all personnel will be required to comply with. Relevant management systems will be developed to ensure ongoing compliance and monitoring of the requirement to prepare Journey Management Plans.

In addition to the above requirements, the draft Development Consent conditions (as discussed with DP&E in late 2016) requires the preparation and implementation of a Traffic Management Plan as follows:

> *"54. Prior to carrying out any development under this consent, unless otherwise agreed by the Secretary, the Applicant must prepare a Traffic Management Plan for the development to the satisfaction of the Secretary. This plan must:*
>
> *(a) be prepared in consultation with the RMS, Council and MSC;*
>
> *(b) include detailed plans and implementation schedules for road closures, road re-alignments and road and safety upgrades specified in Table 16;*
>
> *(c) describe the measures that would be implemented to:*
>
> - *minimise the construction and operational traffic impacts of the development, including on school bus routes;*

- *manage fatigue and improve road safety for the construction and operational workforce, including driver education training programmes;*
- *maintain the pavement of the realigned Upper Bylong Road (East Link) and "right of way" for access to eastern landholdings; and*
- *encourage the construction and operational workforce to utilise buses and car-pooling to travel to the site as far as reasonably practicable;*

(d) include a monitoring program for:

- *heavy vehicle traffic movements, including monitoring heavy vehicle access restrictions;*
- *vehicle numbers and traffic routes against predictions in the EIS; and*
- *utilisation rates of shuttle buses and car-pooling during construction and operations.*

55. The Applicant must implement the approved Traffic Management Plan for the development."

Accordingly, MSC will be consulted during the preparation of the Traffic Management Plan for the Project. The Plan will contain procedures for managing various potential traffic related issues, including those raised by MSC. The draft Development Consent conditions require the Traffic Management Plan to include a monitoring program to monitor Project-related traffic movements (including heavy vehicles) for comparison to the EIS (or RTTIA as the latest document). This monitoring program will assist in confirming compliance with the heavy vehicle restrictions.

In addition to the above, KEPCO proposes that the site will likely have security system in place at the gatehouse/security/point of delivery to monitor the vehicles arriving and departing the site. Drivers of heavy vehicles will be asked to provide a copy of their relevant Journey Management Plan and confirm the route that they have or intend to travel.

4 MSC REQUEST FOR ROAD MAINTENANCE CONTRIBUTION FOR BYLONG VALLEY WAY TO EAST

As per the above, KEPCO has committed to restricting its heavy vehicles (as defined under the Heavy Vehicle National Law (NSW), excluding light rigid and medium rigid heavy vehicles up to a GVM of 10 tonnes) from utilising the Bylong Valley Way to the east of the Project. As noted by MSC in its letter dated 19 January 2017, it is the heavy vehicle traffic which contributes to the majority of the maintenance requirements on MSC roads. The Project-related traffic movements on the Bylong Valley Way to the east of the Project which will be mainly light vehicles are therefore unlikely to result in material impacts to the road condition and/or road maintenance regime.

The RTTIA modelled an indicative 26 light vehicles per day for the PY 2 (Construction) and PY 9 (Dual Operations) scenarios and seven light vehicles per day in PY 13 (Underground only) on Bylong Valley Way, between Wollar Road and Golden Highway intersection. The RTTIA has also modelled an indicative 10 heavy vehicles per day for the PY 2 (Construction) scenario, and two vehicles per day for the PY 9 (Dual operations) and PY 13 (Underground only) scenarios on Bylong Valley Way, between Wollar Road and Golden Highway intersection. Based on the Project Year scenarios modelled in the RTTIA, Project-related traffic flows will contribute an average of 6.3% and 4% to the background traffic flows for light and heavy vehicles respectively. In light of the proposed additional restrictions for heavy vehicles, the forecast traffic resulting from the Project as assessed within the RTTIA are anticipated to be only a minor proportion of the traffic on Bylong Valley Way.

KEPCO has already committed to extensive capital upgrades to the regional road network surrounding the Project and within the MWRC LGA (within which the Project is located). In light of MSCs primary concerns relating to road safety, KEPCO has also offered MSC with $40,000 of funding to assist in addressing existing road safety issues on this section of Bylong Valley Way.

KEPCO does not concur with MSCs approach that the minimal traffic movements on the Bylong Valley Way to the east of the Project should trigger the requirement for annual road maintenance contributions to be paid.

5 QUERY REGARDING THE BACKGROUND HEAVY VEHICLE TRAFFIC MOVEMENTS

During the meeting with MSC on 8 February 2017, the numbers of heavy vehicles currently utilising the Bylong Valley Way to the east of the Project was questioned by MSC representatives. Specifically, MSC representatives questioned the information presented in an email from Nathan Cooper to Peter Higgins dated 14 October 2016. The relevant table from this email is reproduced below.

Project Traffic Contribution - Heavy Vehicles (vehicles per day)

	Year assessed in RTTIA (2016)	Bylong Valley Way (Wollar Road to Sandy Hollow)		
		Project Alone	Cumulative	Exc Project
Construction	PY2 with WAF	10	119	109
Construction	PY2 No WAF	8	117	109
O/C & U/G	PY9 No WAF	2	122	120
U/G only	PY13 No WAF	2	128	126

The information presented within the Table above is the result of the consideration of various traffic surveys at locations on Bylong Valley Way on behalf of KEPCO, MSC and other developers from 2008 until the end of 2015. The background levels also incorporate the proposed traffic movements from other developments within the local area, including:

- Bylong Quarry predicted road usage as per the 2011 EIS;
- Moolarben, Wilpinjong and Moolarben limited usage of Bylong Valley Way; and
- Cumulative annual traffic growth rate of 2% applied to background traffic movements, which is considered a typical trend for main roads in rural areas.

It is noted that with the Wollar Road upgrade being undertaken by MWRC to develop a more direct regional route, it is likely that the assumed background traffic growth rate may be exceeded in the future.

6 CONCLUSIONS

As discussed during the meeting and as further outlined in this letter, KEPCO continues to remain of the opinion that the offer of a one off upfront road safety contribution of $40,000 to MSC is appropriate and that the negligible impacts anticipated by the Project to Bylong Valley Way to the east do not warrant the triggering of annual road maintenance contributions.

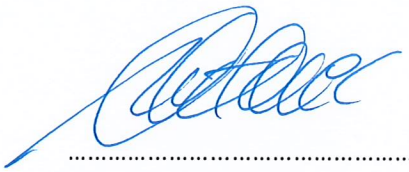
In addition to the one off up front road safety contribution offer, KEPCO has also made a number of further commitments from those previously stated to ensure that adverse impacts of the Project on Bylong Valley Way within the MSC LGA are negligible. KEPCO is also proposing to maintain its previous commitment to MSC for an appropriate road maintenance 'payment for damage' contribution to be made for the peak construction activities which will be negotiated with MSC based on the results of the proposed 'before' and 'after' dilapidation inspections. Whilst KEPCO is committed to monitoring and managing the Project-related traffic generally in accordance with the forecast distributions from the RTTIA, it is unrealistic for MSC to request KEPCO to pay additional annual road contributions throughout the life of the Project based on the usage of a public road.

We trust this response addresses the residual issues raised in MSCs correspondence dated 19 January 2017.

KEPCO looks forward to the acceptance of the MSC road safety funding contribution proposed in this correspondence in relation to the Bylong Coal Project.

Should you have any queries in relation to this letter, please do not hesitate to contact myself on (02) 8904 9508.

Yours faithfully



.....

William (Bill) Vatovec
Chief Operating Officer
KEPCO Australia Pty Ltd

6 PROJECT VEHICLES

The Contractor will be responsible for providing its own project vehicles. Total numbers of vehicles will be limited on the Site to minimise vehicle related safety incidents. The maximum number of vehicles, approved access procedures and vehicle inspection procedures will be agreed with the Principal's Representative prior to mobilisation to Site.

A bus service will be provided by the Contractor to transport construction personnel from the accommodation facilities to the Site to minimise vehicle traffic.

The Contractor will be responsible for refuelling its own vehicles, including buses.

The Contractor is to ensure that it complies with all Draft Conditions of Consent including, without limitation, clause 53 as follows:

Heavy Vehicle Access Restrictions – Bylong Valley Way

53. The Applicant must ensure that no project-related heavy vehicles, excluding light rigid heavy vehicles and medium rigid heavy vehicles up to a GVM of 10 tonnes, use:
- Bylong Valley Way between the Golden Highway intersection and the entry into the Bylong Quarry entry; or
- Bylong Valley Way between the Castlereagh Highway and Upper Bylong Road to access the site; or
- Ulan-Wollar Road until it is fully sealed along its entire length;

except in any emergency to avoid loss of life, property and/or to prevent environmental harm or as otherwise agreed by the Secretary.

Note: Project-related heavy vehicles can access Bylong Valley Way within the subsidence area for the purposes of road maintenance and implementing mitigation measures for subsidence impacts.

The Contractor must include in its Traffic Management Plan strategy and preventative mechanisms to manage compliance with clause 53 as above by the Contractor, its personnel and Subcontractors.

JOURNEY MANAGEMENT PLAN
HEAVY VEHICLES

FORM: KEPBYL-013-HS-FRM-0337
REV: 0
STATUS: DRAFT ONLY
Date: 20/03/2017
DOC OWNER: HSE MANAGER

Note: Heavy Vehicle Access Restrictions apply for Bylong Valley Way. No Bylong Mine related heavy vehicles (excluding light rigid heavy vehicles and medium rigid heavy vehicles with two axles up to a GVM of 10 tonnes) are permitted to use Bylong Valley Way: Between the Golden HWY intersection and the entry into the Bylong Quarry entry; or between Castlereagh HWY and Upper Bylong Road to access the Bylong Mine site. Wollar Road and Bylong Valley Way between Wollar Road and Upper Bylong Road are the approved routes for Bylong Mine related heavy vehicles.

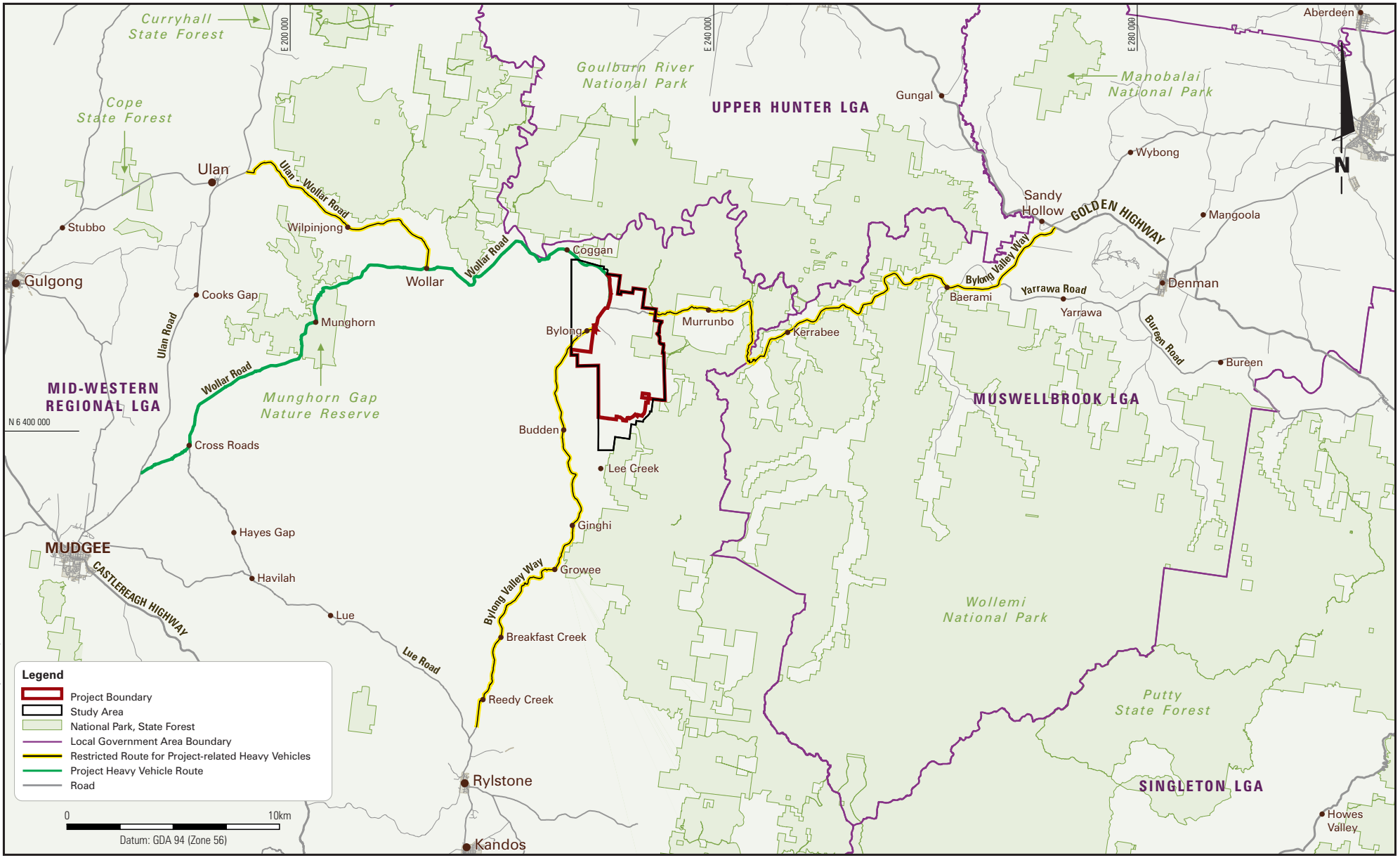
Signature for Confirmation of Requirement:	

	Description:		**Description:**
Purpose of Trip:		**Name of Passenger/Second Driver:**	
Name of Driver/s *(and Company):*		**Final Destination:**	
Vehicle ID / Type:		**How long approx is the trip expected to take?**	**Days:** **Hours:**

Is the vehicle suitable for the trip?	**Departure Date**	**Departure Time**	**Is the drivers license valid for the vehicle?**	**Name and mobile of nominated contact (buddy)**	
				Name and mobile of Buddy:	
				Name and mobile of Buddy (next of kin):	

Route Destination and Rest Areas	**Arrive time**	**Date of Arrival**	**Depart time**	**Date of Depart**	**Rest Break?**	**Buddy Contact required?**	**Known hazards to destination / rest areas and <u>mitigation measures</u>, <u>specific instructions</u>** *(i.e. wildlife, fatigue, long distances, dawn/dusk driving, travelling on un-sealed roads, known blackspots (Telstra 3G only at Bylong), first-aid kits, post-shift driving etc)*

Driving Life Saving Rules	**FEEDBACK / COMMENTS ON TRIP?** Did the trip go as expected?	**Driver signature**
No alcohol or drugs while working or driving. *Do not use your phone or exceed speed limits while driving* *Wear you seat belt* *Follow prescribed Journey Management Plans.* *Rest stop every 2 hours*		



HB BYLONG RTS Post Works 1538 F1 Project Heavy Vehicle Routes 05 12 2016

BYLONG COAL PROJECT

Project Heavy Vehicle Routes

FIGURE 1