



WALLARAH 2 COAL PROJECT

Amendment to SSD-4974 Response to PAC 2 Report

for
Wyong Areas Coal Joint Venture Pty Ltd
June 2017

**WALLARAH 2 COAL PROJECT
AMENDMENT TO
DEVELOPMENT APPLICATION SSD-4974**

**PLANNING ASSESSMENT COMMISSION 2
REPORT RESPONSE**

Prepared by:

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

June 2017

For:

WYONG AREAS COAL JOINT VENTURE
PO Box 3039
TUGGERAH NSW 2259

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1 INTRODUCTION

1.1 BACKGROUND

The Wyong Areas Coal Joint Venture (WACJV) is seeking development consent under Division 4.1 of Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for the Wallarah 2 Coal Project (the Project). The Project is located north-west of Wyong in the Central Coast Local Government Area (LGA) in NSW.

The Project is the subject of a Development Application (DA) (SSD-4974) for State Significant Development. Environmental Assessment Requirements (EARs) were issued on 12 January 2012 and Supplementary EARs were notified on 11 July 2012.

WACJV prepared an Environmental Impact Statement (EIS) in accordance with the EARs and Supplementary EARs. The EIS was placed on public exhibition from 26 April 2013 to 21 June 2013. WACJV prepared a Response to Submissions (RTS1) to respond to the 748 submissions received.

On 7 February 2014, the Director-General published the Environmental Assessment Report (EA Report) for the Project. The Environmental Assessment Report concluded that *"the project's benefits outweigh its potential impacts and it is therefore in the public interest"* (DP&I, 2014).

On 16 January 2014, the Minister for Planning directed the Planning Assessment Commission (PAC) to review the merits of the Project as a whole (PAC 1). The PAC1 published its Review Report (PAC1 Report) in June 2014 which concluded that: *"If the recommendations concerning improved strategies to avoid, mitigate or manage the predicted impacts of the project are adopted, there is merit in allowing the project to proceed"*.

Following the review by the PAC1, the Project was the subject of legal proceedings in the NSW Land and Environment Court (LEC) (NSWLEC, 2014) initiated by the Darkinjung Local Aboriginal Land Council (DLALC). The LEC held that insofar as the DA (SSD-4974) is made in respect of Lot 195 DP 1032847 (which is owned by DLALC), the DA could not be determined without the consent of the NSW Aboriginal Land Council.

Despite WACJV's efforts to negotiate an agreeable outcome, the NSW Aboriginal Land Council has not given its consent under clause 49(3A) of the *Environmental Planning and Assessment Regulation 2000* (NSW) (EP&A Regulation).

1.2 AMENDMENT

The Project was re-designed to avoid land owned by DLALC. The particulars of the changes to the Project (the Amendment) include:

- Removal of the previously proposed rail loop;
- Relocation of the previously proposed rail spur to the eastern side of the Main Northern Rail Line, thereby avoiding land which requires the consent of the NSW Aboriginal Land Council Land under clause 49(3A) of the EP&A Regulation;

- Relocation of the train load out facility to the eastern side of the Main Northern Rail Line;
- A conveyor system to deliver product coal from the stockpile to the new location of the train load out facility; and
- Realignment of the sewer connection.

WACJV sought an amendment to the DA under clause 55 of the EP&A Regulation. The Minister for Planning accepted the amendment on 20 July 2016. The '*Wallarah 2 Coal Project Amendment to Development Application SSD-4974*' (Hansen Bailey, 2016) (Amendment Document) provided a comprehensive assessment of the Amendment.

The Amendment Document was placed on public exhibition from 22 July 2016 to 5 September 2016.

A Response to Submissions (RTS2) document was prepared on 4 November 2016 to respond to the public submissions received by the Department of Planning and Environment (DP&E) during the public exhibition period for the Amendment Document. The Terms of Reference for PAC2 were issued on 7 February 2017.

DP&E's Addendum Report was released on 24 February 2017 which reviewed the Amendment and PAC1's recommendations, and concluded:

"The Department remains satisfied that the project as amended would provide major economic and social benefits for the Central Coast Region and NSW as a whole. ... The Department remains satisfied that that project is, on balance, in the public interest and considers it to be approvable, subject to the draft conditions of consent."

A site visit was held by PAC2 on 4 April 2017 and public hearing conducted on 5 April 2017.

A further Response was prepared to respond to PAC2 queries from the site inspection on 4 April 2017 (and subsequent queries) and the public hearing on 5 April 2017.

1.3 REPORT PURPOSE

The PAC2 released 'Wallarah 2 Coal Project SSD 4974 Review Report' (PAC2 Report) (PAC, 19 May 2017) which had seven recommendations.

WACJV agrees with all of the seven recommendations. Further discussion on each recommendation is included in **Section 2**. Recommendation 1 and 2 are combined.

Other issues raised in the PAC2 Report text and its Appendix 9 are also discussed and responded to in **Section 3**.

2 PAC 2 RECOMMENDATIONS AND RESPONSES

2.1 WATER RESOURCES

2.1.1 Recommendation 1

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

2.1.2 Responses

WACJV supports this recommendation which is consistent with the PAC1 Report which allows for revised "offsets" below the maximum (worst case) prediction of 300 ML/year following monitoring which enables WACJV to confirm the actual impact from operations.

WACJV will supply up to 300 ML/year (as measured) to the catchment side of the water supply system.

The appropriate water transfer mechanism and route from the proposed Water Treatment Plant (WTP) to be constructed as part of the Project will be determined in consultation with the Central Coast Council (Council) and DPI – Water.

This consultation has commenced with discussions held regarding augmentation of the Central Coast Water Supply (as per Recommendation p77 June 2014 Wallarrah 2 Coal Project Review Report).

Both parties are continuing to work together in identifying potential transfer access points supporting the return of sufficient mine water treated to the required standards for raw water supply.

Correspondence from WACJV to Council confirming these discussions is provided in **Appendix E**.

2.2 SUBSIDENCE

2.2.1 Recommendation 2

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

2.2.2 Responses

WACJV supports this recommendation.

Condition 1 Schedule 3 "Performance Measures" should be updated to state "Combined water loss of equal to or less than 300 megalitres/year so there is no net impact on potential catchment yield from the mining operation".

2.3 ECONOMIC AND SOCIAL

2.3.1 Recommendation 3

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

2.3.2 Response

A detailed response to each of the issues raised in the PAC2 Report is presented in **Appendix A**.

Further, WACJV advises it will share its 'commercially sensitive' capital investment value information directly with DP&E or the PAC upon request, however due to its sensitive nature, cannot provide it as part of this public response.

2.4 NOISE

2.4.1 Recommendation 4

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

Further Appendix 9 recommends that Condition 3 Schedule 4 be updated to require the mitigation measures to be implemented before construction begins, and alternative accommodations should be provided during out-of-hour construction works, if requested by the residents.

2.4.2 Responses

WACJV supports both of these recommendations for P14, P15 and P16 whilst privately owned. WACJV is committed to providing best available "reasonable and feasible" noise reduction technology to ensure the predicted modelled outcomes are met and shall document this in the Noise Management Plan for the Project. WACJV will offer alternative accommodation during scheduled out of hours works in consultation with or where requested by the residents.

WACJV has commenced discussions with the landowners in this regard.

2.5 ROAD CLOSURE

2.5.1 Recommendation 5

The draft condition should include a requirement that the applicant prepare and implement a Nikko Road access management plan in consultation with affected landowners. The plan should ensure access to private lands are maintained during construction and operation of the mine.

Design details of the access road should be included in the application prior to determination to ensure proper connections to existing access points.

Post mining access to the road alignment may need to be included if the tenure of the Nikko Road reserve is changed following approval of this application as part of the regular update requirements for management plans.

Appendix 9 suggests the following new condition in Schedule 4 Access Management Plan:

- *“Adjacent landowners should be consulted before finalising design of the access road on the Nikko Road reserve;*
- *Maintain access during construction and operation of the mine; and*
- *Post mining access arrangement”*

Section 6.5.1.7 further states that Council should enter into further discussion with the Applicant about the future of the road reserve post-mining.

Response

WACJV supports this recommendation in relation to the preparation of a Nikko Road Access Management Plan. WACJV also supports a consideration of post mining access in consultation with Council to the 6 m wide all-weather formed road to be constructed and operated in line with the Project Access Management Plan to be prepared following determination.

Existing access points to the unformed Nikko Road from land owned by DLALC are shown in blue and pink respectively on **Figure 1**.

Figure 1 to **Figure 6** show the conceptual design and accesses to the formed Nikko Road following construction of the Amendment. This conceptual “Access Design” is indicative only and will be refined prior to construction following consultation with DLALC, other landholders and relevant regulators. However, the conceptual Access Design will generally comprise:

- A 6 m road between the conveyor and boundary fence;
- An all-weather surface;
- Bridge over the creek and rail level; and
- A bi-directional ramp from current unformed track to rail level adjacent to Spring Creek.

Table 1 lists the adjacent Lot/DPs and demonstrates how any accesses will or will not be affected during and following construction of the train load out facility.

Table 1
Non-WACJV owned Land Existing and Proposed Access

Access	Existing	Following Implementation of Conceptual Access Design
DLALC Proposed Development – Doyalson Site (Lot 204 DP1117900 (north))	Existing and proposed accesses (in the DLALC Gateway Application) are from Gosford Road / Wyee Road. This area is not accessed from the unformed Nikko Road.	Construction of the Amendment will not affect access to this property from Gosford or Wyee Roads. Additional access to this allotment from the formed all weather Nikko Road will be achievable following construction
DLALC Proposed Development – Bushells Ridge Site (Lot 111 DP755245 and Lot 193 DP1032847)	This block is accessed and located to the west of the existing rail line. Existing and proposed accesses (in the DLALC Gateway Application) are from Bushells Ridge Road. This area is not accessed from the unformed Nikko Road.	Construction of the Amendment will not affect access to this property.
DLALC (Lot 204 DP1117900 (south))	Access to this property is via Thompson Vale Road, off the Motorway Link Road. Access also undertaken by DLALC (and others) from the west via a creek culvert under the main northern rail line (RailCorp land).	Construction of the Amendment will not affect existing access to this property from Thompson Vale Road off the Motorway Link Road or via the creek culvert. Additional access to this allotment from the formed all weather Nikko Road will be achievable following construction. DLALC has requested an access gate be installed to facilitate access from the allotment to Nikko Road, to which Wyong Coal has agreed.
DLALC (Lots 196, 197 and 201 DP1064536 located south of the Motorway Link Road)	Access to these properties is via the unformed Nikko Road	Improved access to these allotments will be achieved following construction of the formed all weather Nikko Road.
DLALC Lot 16 DP1210468	Access to this property is via Thompson Vale Road and Spring Creek Road off the Motorway Link Road, and the unformed Nikko Road.	Construction of the Amendment will not affect existing access to this property from Spring Creek Road. Access will be improved as it will be a formed access road, rather than the existing unformed Nikko Road.
Council (Lot 78 DP755245)	Access to this property is via Thompson Vale Road, off the Motorway Link Road.	Construction of the Amendment will not affect access to this property.

Access	Existing	Following Implementation of Conceptual Access Design
Kerry Mountain (Lot 93 DP 755245)	Access to this property is via Thompson Vale Road, off the Motorway Link Road.	Construction of the Amendment will not affect access to this property. This property currently has no direct vehicular access to Nikko Road, however the WACJV in consultation with the owners will consider requests for gated access.

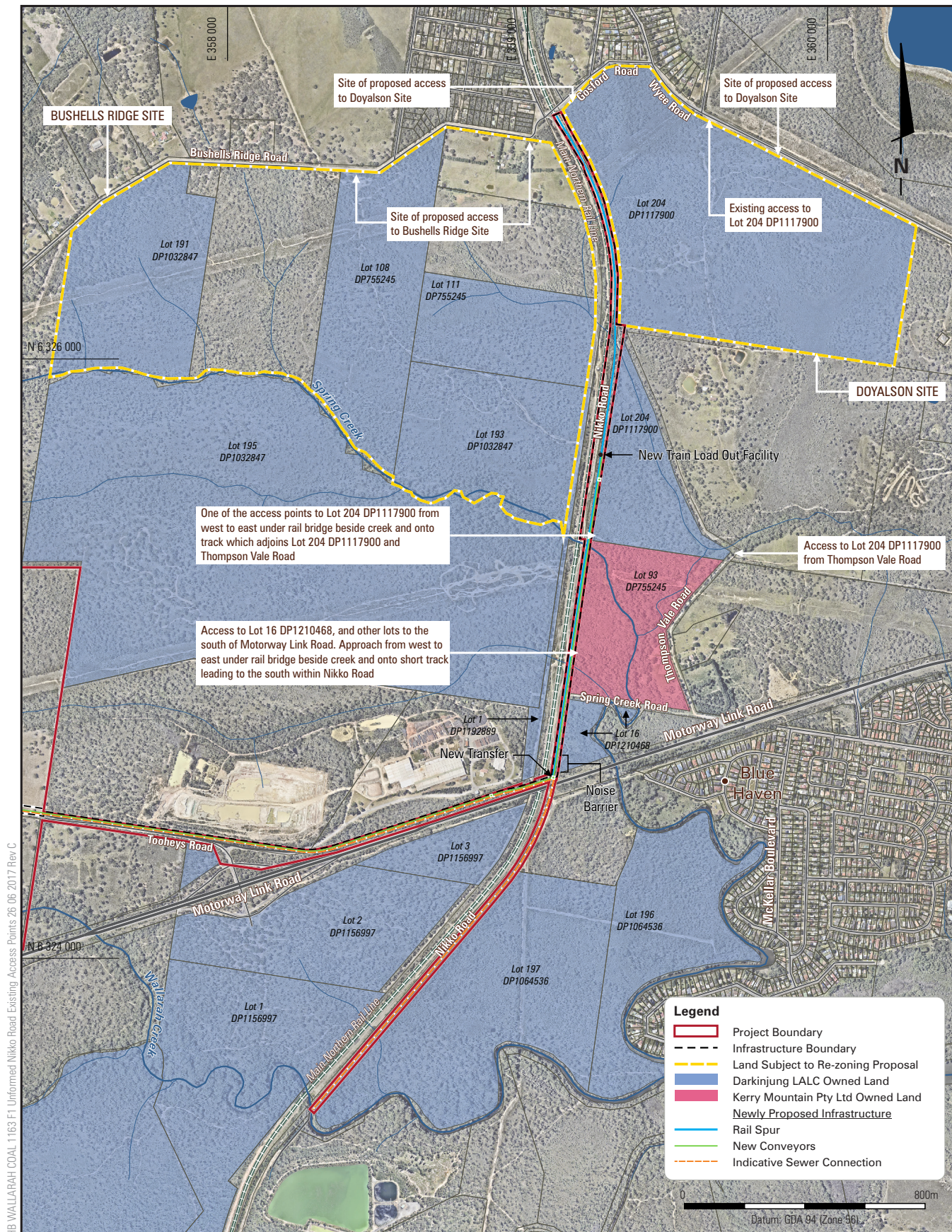
WACJV has held detailed consultative dialogue with the Central Coast Council regarding the future of Nikko Road. The two parties have reached a mutual understanding of post mining handover and ongoing access as outlined in **Appendix E**.

Following consideration of the PAC2 Review Report, W2CP conducted further consultation with affected landowners including DLALC regarding access to Nikko Road.

As a result of that consultation, DLALC requested a bi-directional ramp configuration allowing entry onto Nikko Road be constructed adjacent the existing Spring Creek tributary access point.

DLALC further identified three other locations at which the desire gated access to Nikko Road including points from Lot 204, Spring Creek Road and adjacent to the Motorway Link Road bridge. WACJV has agreed to both the bi-directional ramp and gated access points. DLALC provided several gate configurations for consideration and installation by WACJV during construction of Nikko Road. These are shown conceptually on **Figure 2**.

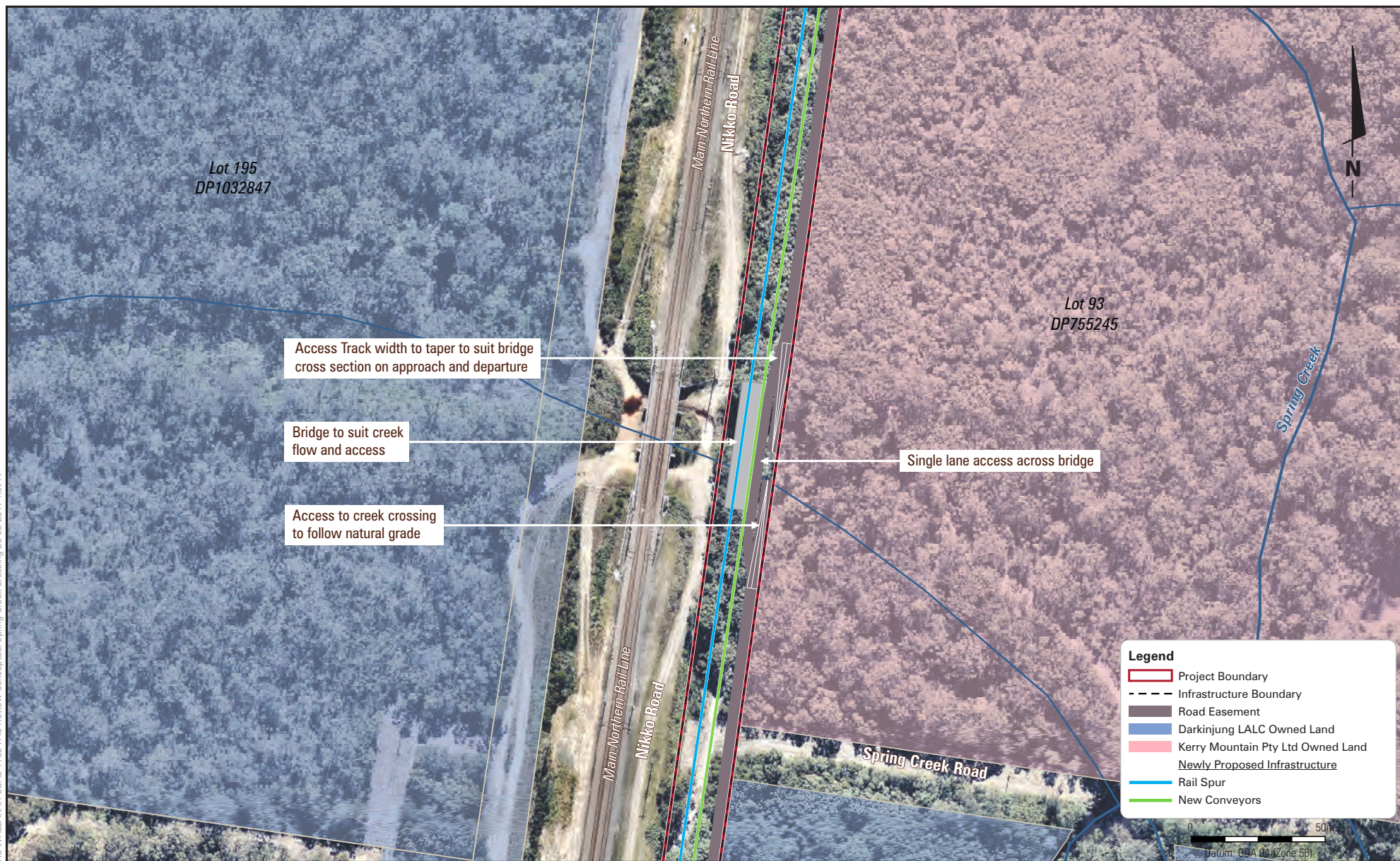
WACJV's most recent correspondence to DLALC dated 22 June 2017 which describes the above is provided in **Appendix D**. This includes indicative access points provided by DLALC, however final gate configuration will be determined in consultation with DLALC during detailed design.



WALLARAH 2 COAL PROJECT

Unformed Nikko Road Access Points

FIGURE 1



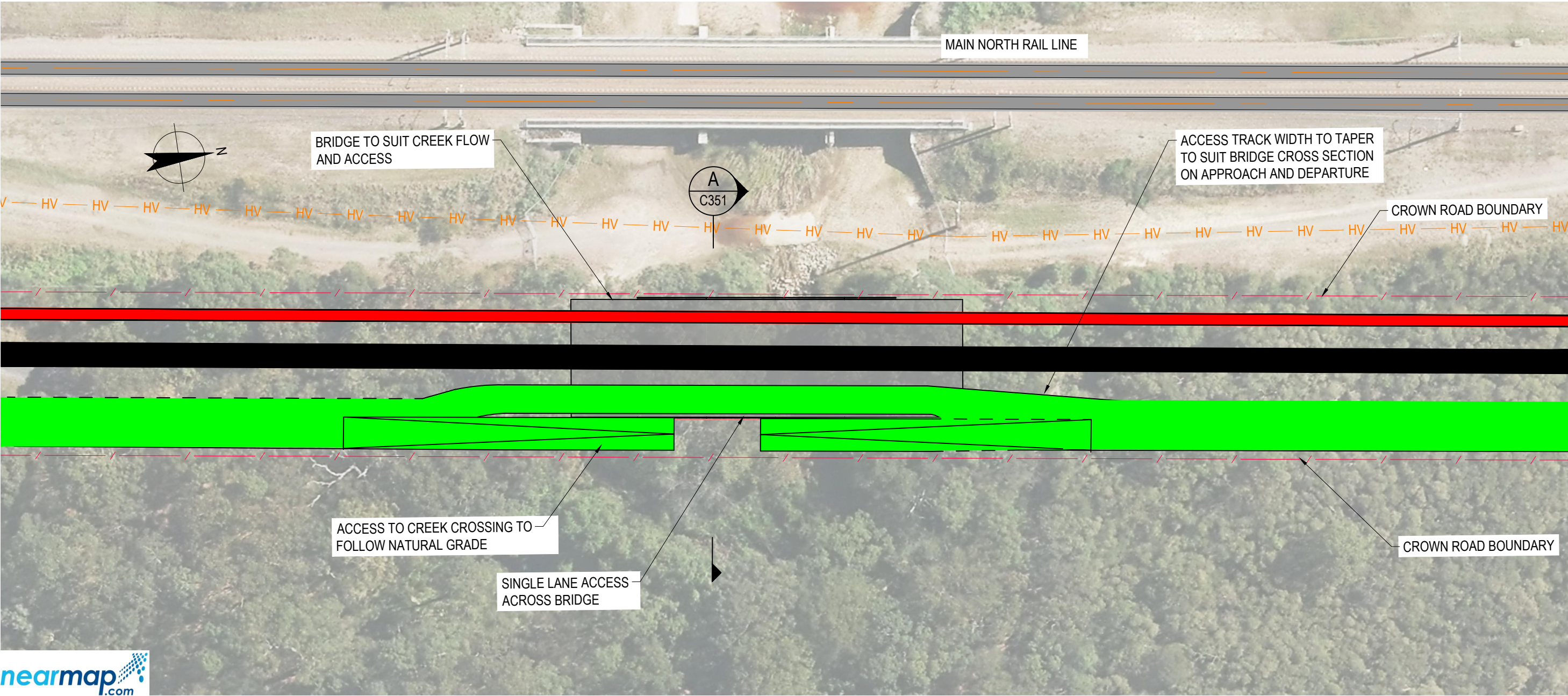
WALLARAH 2 COAL PROJECT

Conceptual Spring Creek (south) Crossing

FIGURE 2



WALLARAH 2 COAL PROJECT



LEGEND

- EXISTING RAIL TRACK
- RAIL SPUR
- CONVEYOR
- ACCESS ROAD EASEMENT
- EXISTING OVERHEAD POWERLINES
- DARKINJUNG LAND

NOTES:

- DARKINJUNG ONLY CURRENTLY ACCESS NIKKO ROAD TOWARDS THE SOUTH
- THIS DRAWING IS FOR DEMONSTRATION ONLY FINAL ACCESS ARRANGEMENT TO BE FINALISED IN CONSULTATION WITH ADJOINING LANDHOLDERS AND AGENCIES

CONCEPT ONLY

B	ISSUED FOR COMMENT	J.J			11.04.17
A	ISSUED FOR COMMENT	J.J			10.04.17
No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director

Plot Date: 21 June 2017 - 3:09 PM Plotted By: James Jennings Cad File No: G:\22\17704\CADD\Drawings\22-17704-C350.dwg



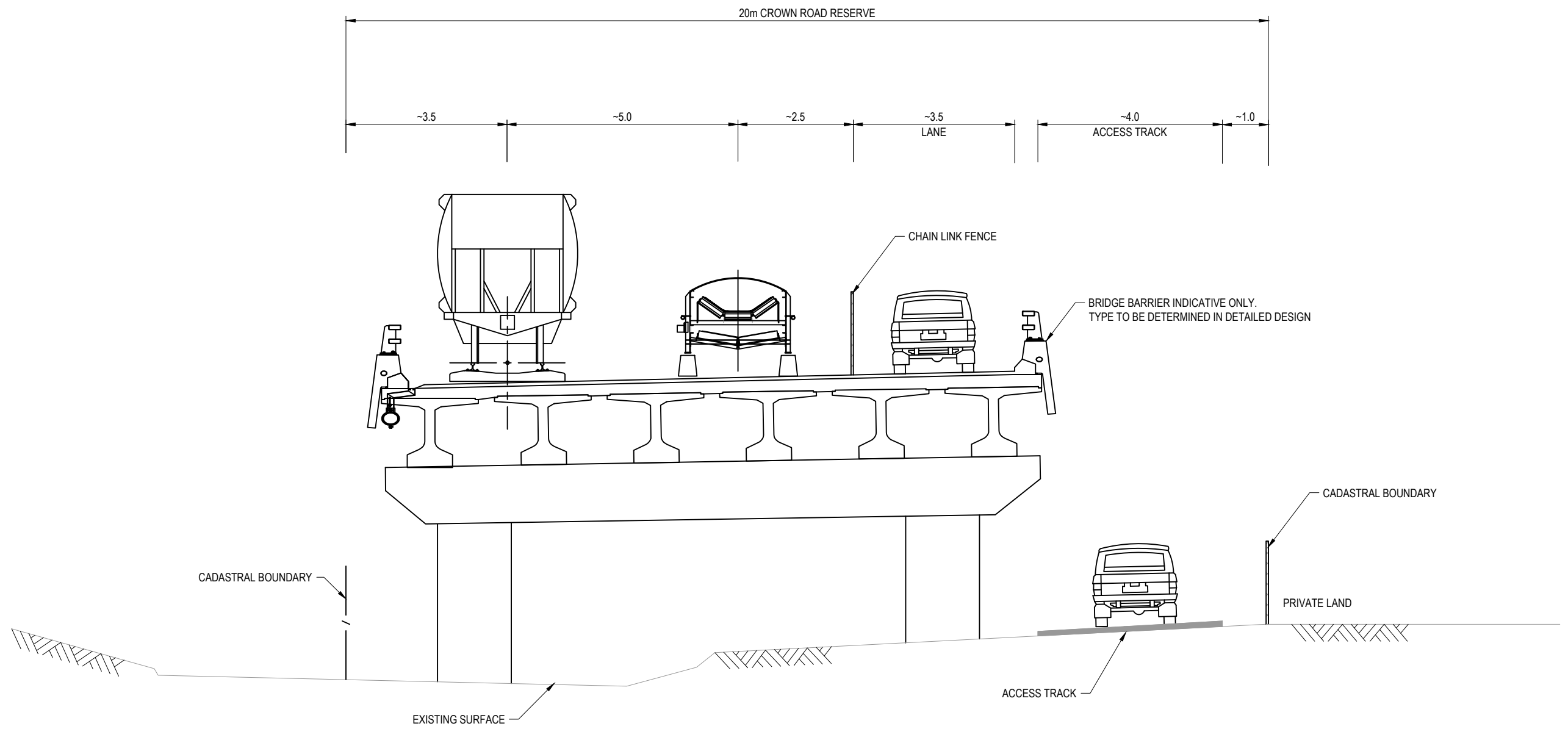
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WYONG COAL	WALLARAH 2	CREEK CROSSING BRIDGE PLAN	A3	22-17704-C350	B



SECTION 'A'
BRIDGE CROSS SECTION
SCALE 1:100

NOTES:

1. REFER TO DRAWING 22-17704-SK200 FOR PLAN
2. REFER TO 22-17704-C352 FOR ELEVATION

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B	PRELIMINARY	J.J			21.06.17
A	ISSUED FOR COMMENT	J.J			10.04.17
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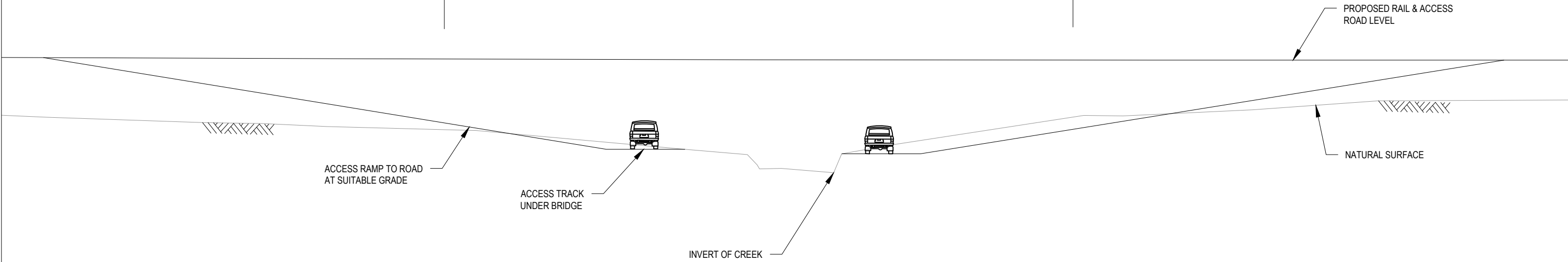
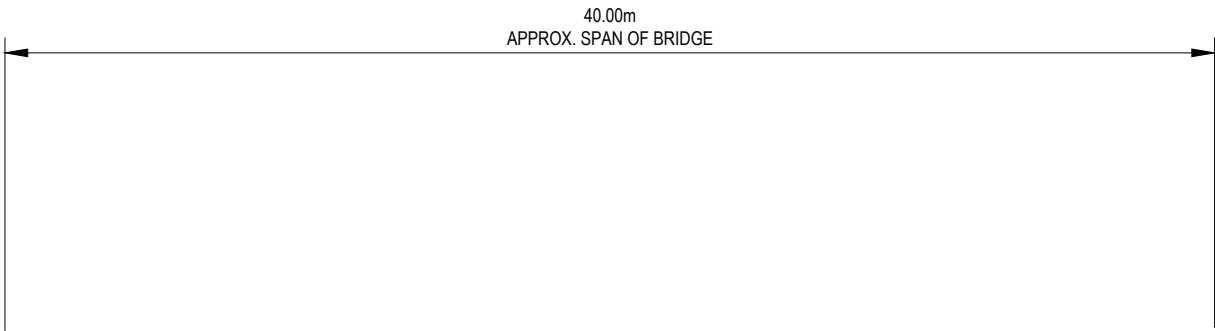
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Project	CREEK CROSSING BRIDGE		
Title	BRIDGE CROSS SECTION		
Original Size	A3	Drawing No:	22-17704-C351
Rev:	B		



SECTION 'A'
RAMP ELEVATION
SCALE 1:250

NOTES:

- REFER TO DRAWING 22-17704-SK200 FOR PLAN
- REFER TO DRAWING 22-17704-C351 FOR SECTION A

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	Approved (Project Director)			Title	CREEK ACCESS RAMPS		
	Date				SECTION		
	Scale AS SHOWN	This Drawing must not be used for Construction unless signed as Approved		Original Size	A3	Drawing No:	22-17704-C352

2.5.2 Recommendation 6

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

Response

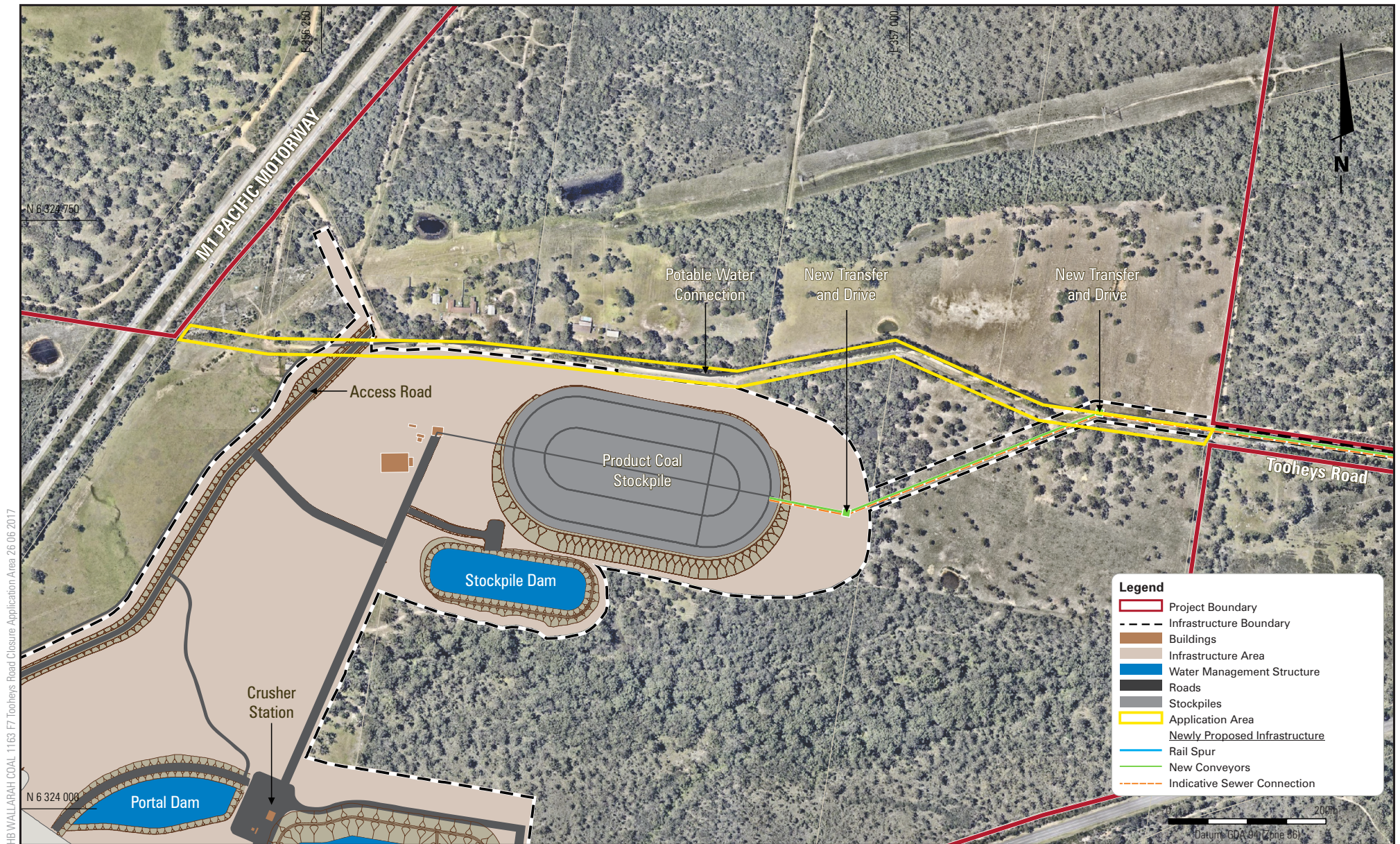
The application by WACJV to close and purchase the nominated section of Tooheys Road adjacent its eastern pit top area (Tooheys Road Site) was initiated following security concerns associated with the existing prevalence of criminal activity in that location and as a result of feedback provided by some Bushells Ridge residents during the August 2016 Community consultation sessions.

As a result of further consultation and feedback from the community, WACJV has reviewed its intended operational security requirements and reversed its decision, committing to keeping Tooheys Road open.

The application to purchase a defined section of Tooheys Road does however remain in place to ensure flexibility and to support the Project's ability to install, operate and service security monitoring devices such as cameras along the length of Tooheys Road adjacent to the Project's operations.

It should also be noted that a Road Closure and Purchase Application does not necessarily constitute physical closure of the road. At no time during operations will WACJV physically close or restrict access to Tooheys Road.

Figure 7 illustrates the portion of Tooheys Road which is the subject of the Application.



WALLARAH 2 COAL PROJECT

Conceptual Tooheys Road Closure

FIGURE 7

2.6 COMMUNITY ENGAGEMENT

2.6.1 Recommendation 7

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

2.6.2 Response

DP&E's 'Planning Legislation Updates – Summary of Proposals January 2017' (DP&E, 2017) state that under the EP&A Act each Government Planning Authority will have to prepare a Community Participation Plan (CPP) explaining how the authority will engage the community. We understand DP&E has not yet prepared this plan.

The WACJV has always taken its consultation obligations very seriously and has endeavoured to implement best practice consultation over the Project. To this end, a comprehensive consultation program was undertaken for the exploration phase in the 1990-2000's. Ongoing consultation has been undertaken over the past 11 years in relation to the Project including the 2006 Application; and the separate the 2013 Application as documented in the EIS, RTS and PAC responses.

Following receipt of the PAC 2 Report, WACJV has continued to implement the next stage of its structured Stakeholder Engagement Strategy which was prepared in 2012 for the 2013 Application and has been regularly revised for the various Project phases.

The actions described in the Stakeholder Engagement Strategy and implemented are consistent with the principles in the 'Planning Legislation Updates – Summary of Proposals January 2017' which generally include:

- The community has a right to be informed about planning matters;
- Planning authorities should encourage the effective and on-going partnerships with the community and provide meaningful opportunities for community participation in planning;
- Planning information should be in plain language, easily accessible and in a form that facilitated community participation in planning;
- The community should be given opportunities to participate in strategic planning as early as possible;
- Community participation should be inclusive and planning authorities should seek representative views of the community;
- Affected members of the community should be consulted by the proponent before an application for planning approval is made;
- Planning decisions should be open and transparent; and
- Community participation methods should be appropriate in regards to the significance and likely impact of the proposed development.

Figure 8 to Figure 13 illustrate conceptual Plan-Do-Check-Act Management Principles implemented for forward Project phases as part of the Stakeholder Engagement Strategy. These will be regularly revisiting during future Project phases.



Figure 8
Walarah 2 Coal Project Consultation Phases 1996-2017

Plan	Do	Check	Act
<ul style="list-style-type: none"> Share and discuss outcomes of PAC review and draft consent conditions Include all various audiences/ stakeholders Prioritise increased reach in 2262 postcode – venue and promotion Communicate specific relevant items from PAC review Direct liaison with owners of the 3 noise-affected residences and directly affected land/ asset owners. 	<ul style="list-style-type: none"> Radio and newspaper advertisements for Having Your Say (<i>multiple direct enquiries to date</i>) W2CP website Letter box invitations Information sessions Doyalson-Wyee RSL Direct consulting with residents re Tooheys Rd ‘closure’ Direct consultation with construction-affected residents & landowners Darkinjung LALC meeting scheduled Request to Kerry Mtn Contact with service providers, Council, CCWA, etc 	<ul style="list-style-type: none"> Review media response Review general feedback from individuals and other stakeholders Actively seek suggestions and register comments from residents attending information sessions and other stakeholders 	<ul style="list-style-type: none"> Media interviews to inform and provide balance as req’d Follow-up briefings/meetings with individuals, agencies and other stakeholders W2CP website information updates Address issues in future newsletters Analyse and respond/adjust strategy and messaging as req’d

Figure 9
Consultation – PAC Review Phase

Plan	Do	Check	Act
<ul style="list-style-type: none"> Share and discuss outcomes of PAC determination and consent conditions Include all various audiences/ stakeholders Communicate and discuss relevant items of approval conditions and future project stages with various audiences/ stakeholders Specifically continue direct liaison with owners of the 3 noise-affected residences and directly affected land/ asset owners 	<ul style="list-style-type: none"> Radio, newspaper, newsletter and website information updates/ advertisements Targeted information sessions Direct consultation with noise-affected residents Direct consultation with construction-affected residents & landowners Ongoing consultation with key stakeholder groups including agencies, Council, service providers, etc 	<ul style="list-style-type: none"> Track media Review general feedback from individuals and other stakeholders Actively seek suggestions and register comments from all residents and stakeholders consulted Potential social surveying/polling 	<ul style="list-style-type: none"> Media interviews to inform and to provide balance as required Follow-up briefings/meetings with individuals, agencies and other stakeholders W2CP website/other information updates Analyse and respond/adjust strategy and messaging as required

Figure 10
Consultation – Determination and Post-Approval Phase

Plan	Do	Check	Act
<ul style="list-style-type: none"> Communicate options and/or outcomes of detailed design with relevant stakeholders Include all audiences / stakeholders for general information exchange Continue direct liaison & mitigation planning with owners of the 3 noise-affected residences and directly affected land/asset owners Plan for CCC for construction stage Draft Strategic Communications Plans 	<ul style="list-style-type: none"> Radio, newspaper, newsletter and website info updates/ adverts Targeted information initiatives Ongoing consultation with key stakeholder groups. Direct consultation and mitigation planning with noise-affected residents Direct consultation & mitigation planning with construction-affected residents & landowners Prepare for CCC start 	<ul style="list-style-type: none"> Track media Review general feedback from individuals and other stakeholders Review design plans according to feedback during risk, constructability and financial assessments Potential social surveying/polling Ensure CCC planning consistent with DPE guidelines 	<ul style="list-style-type: none"> Media interviews to inform and to provide balance as required Follow-up briefings/meetings with individuals, agencies and other stakeholders W2CP website/other information updates Analyse and respond/adjust strategy and messaging as required

Figure 11
Consultation – Detailed Design Phase

Plan	Do	Check	Act
<ul style="list-style-type: none"> • Include all audiences / stakeholders for general information exchange in line with Construction Consultation Plan • Contractor (& W2CP) consult on construction approach/implications w. relevant stakeholders • Continue direct liaison for implementing noise mitigation measures with owners of the 3 noise-affected residences • Liaison with directly affected land/asset owners • Establish CCC 	<ul style="list-style-type: none"> • Radio, newspaper, newsletter and website info updates/ adverts • Targeted information initiatives & reporting • Implement noise mitigation measures at 3 noise-affected residences • Direct consultation with construction-affected landowners and asset owners on construction and implementing mitigation measures • Ongoing consultation with key stakeholders • Establish CCC; induct CCC members 	<ul style="list-style-type: none"> • Track media • Review feedback from individuals and other stakeholders, including CCC, for continuous improvement opportunities • Review construction performance and compliance, and report • Potential social surveying/polling • Ensure CCC operates consistently with DPE guidelines 	<ul style="list-style-type: none"> • Media interviews to inform and to provide balance as required • Follow-up briefings/meetings with individuals, agencies and other stakeholders • W2CP website/other information updates • Analyse and respond/adjust communications strategy and plans if required

Figure 12
Consultation – Construction Phase

Plan	Do	Check	Act
<ul style="list-style-type: none"> • Include all audiences / stakeholders for general information exchange in line with (operations) Consultation (Comms) Plan • Communicate on operations activities and plans with local community and specific relevant stakeholders, including directly affected land/ asset owners • Continue direct liaison and monitoring re noise-mitigated residences (3). • CCC meetings 	<ul style="list-style-type: none"> • Radio, newspaper, newsletter and website info updates/ adverts • Targeted information initiatives & reporting to stakeholders and employees • Ongoing/broad communications with surrounding community and specific stakeholders as per Comms Plan • CCC meetings • Comms Plan to align with general social engagement and formal Community Enhancement Program initiatives 	<ul style="list-style-type: none"> • Track media • Review general feedback from individuals and other stakeholders, including CCC • Review operations performance and compliance, and report • Potential social surveying/polling • Ensure CCC operates consistently with DPE guidelines 	<ul style="list-style-type: none"> • Media interviews to inform and to provide balance as required • Follow-up information, briefings or meetings with individuals, agencies & other stakeholders • W2CP website/other information updates • Analyse and respond/adjust communications strategy and plans if required

Figure 13
Consultation – Operations Phase

Methods

The activities undertaken for the current phase of consultation include:

- Targeted radio advertisements broadcast on 2GOFM and SEAFM between 26 May 2017 and 5 June 2017 outlining the Project's current status and publication of PAC recommendations, outlining ongoing consultation, inviting contact and comment; Feedback provided by Southern Cross Austereo indicates adverts reached an audience of over 90,000 per week during the two week period.
- Newspaper advertisements in the Central Coast Express Advocate outlining the Project's current status, publication of PAC recommendations, ongoing consultation and inviting contact and comment (see **Appendix B**);
- Targeted letterbox drop of over 3,000 invites between 2 and 4 June 2017 notifying of public consultation sessions aimed at facilitating further discussions with Blue Haven, Wyee, Doyalson and Bushells Ridge neighbours. Open discussion sessions were held at Doyalson Wyee RSL on 7, 13 and 16 June 2017 (at 10 am to 1 pm; and 4 pm to 7 pm) This venue was chosen due to its very close proximity to Blue Haven, Bushells Ridge and Wyee, access to electronic media facilities and other amenities, and the availability of a courtesy bus which was utilised by many attendees. Proceedings included :
 - A detailed presentation including a Project overview, Amendment description, flyover video of Project Amendment, PAC recommendations, proposed responses and Stakeholder Engagement Strategy outline;
 - Provision of maps, newsletters and other supporting materials utilised as discussion points;
 - An inclusive open group discussion and detailed Q&A session allowing all participants to provide viewpoints, seek clarification and provide constructive feedback;
 - A scheduled courtesy bus available for attendees, a number of whom utilised this service;
- Meetings and discussions with Council (Central Coast Water Authority), Sydney Trains/Rail Corp, Ausgrid, RMS, Boral, DLALC and noise-affected landowners.

Opportunities and Issues

Over 35 individuals attended the consultation sessions.

Table 2 lists the issues and opportunities identified during the consultation sessions. The majority of issues of concern related to misinformation disseminated by Project opponents.

No additional issues to those previously identified were raised during this phase of consultation.

Table 2
June 2017 Consultation Sessions Issues and Response

Issue	Response
<p>Misinformation on Project</p> <ul style="list-style-type: none"> • There will be a coal stockpile located close to or within 300m of Blue Haven • The Project is an open cut mine • Road trucks transporting coal in or near Blue Haven • Significant truck movements turning into Tooheys Road during operations • Access through Tooheys Road would be blocked • Shallow depth of mine and that it would affect streams • Attendees commented on professional and thorough information and group discussion outcomes • More information from WACJV aimed at dispelling myths and rumours 	<ul style="list-style-type: none"> • WACJV outlined and corrected errors and misinformation where raised by attendees. • In next newsletter, WACJV will provide a clear description of the Project clarifying these alleged components are not part of the Project (including a simplified map).
<p>Amenity</p> <ul style="list-style-type: none"> • Significant increased traffic movements through Blue Haven itself • Significant levels of coal “blanketing” Blue Haven from the coal train wagons and stockpile • Coal wagons should be covered because they cause pollution • Concern that right hand turn lane restrictions on Motorway Link Rd (near Aldi) which have been imposed by RMS since a serious accident would be exacerbated due to the Project • Concern that the existing Motorway Link Road is 100 km/hr and dangerous and that Project’s traffic would make this worse. • Trees recently cut down on Motorway Link Road result in more traffic noise • Devaluation of Blue Haven properties due to Project • Concern over the Project’s train movements adding to existing train noise • Will there be a view of the Tooheys Road stockpile from Blue Haven • Pollution of Spring Creek 	<ul style="list-style-type: none"> • WACJV confirmed all errors to attendees. • WACJV discussed modelling outcomes and explained reasoning behind confidence that dust will not be an issue • WACJV discussed coal transport configuration utilising best practice materials, enclosures and dust suppressions techniques • WACJV confirmed there is no evidence to support devaluation of properties in Bluehaven due to the Project. • Discussed and highlighted lack of impacts on Spring Creek as per study outcomes • Reviewed plans and maps with attendees confirming coal stockpile not visible, topographic and distance separation being greater than 2.5 km to the nearest Blue Haven property • In next newsletter, WACJV will provide a further clear description of the Project clarifying these components (including a simplified map).

Issue	Response
Project Timeframes <ul style="list-style-type: none"> Clarification on when the mine would start exporting coal from approval 	<ul style="list-style-type: none"> WACJV confirmed if approval was granted in 2017, coal would not be exported until approximately 2021. This is due to detailed design phases, post-approvals and construction works.
Employment and Economic Benefits <ul style="list-style-type: none"> Employment opportunities for 70% local target important that it is adhered to as high unemployment in the area Local manufacturing and support should be a priority, where possible 	<ul style="list-style-type: none"> WACJV reiterated its previously stated commitment to 70% local target and use of local products where practical. Description of existing local suppliers and other business already providing multiple services including infrastructure design assistance.
Compliance <ul style="list-style-type: none"> Neighbours want the Project to be done “properly” Unsure about how to complain if they need to and what the regulators would do to keep WACJV to its commitments Comments that DPE should address the Community following final approval to advise how they will address compliance and regulation during construction and operations Spring Creek must be monitored and reported on to ensure Project does not impact it 	<ul style="list-style-type: none"> WACJV described the consent conditions in relation to monitoring, reporting, auditing and compliance and DP&E and EPA’s roles in compliance. WACJV detailed DPE’s compliance function in addition to those of other Government Agencies
Interactions with Neighbours <ul style="list-style-type: none"> DLALC access to lands and potential access points discussed with DLALC representatives DLALC ongoing meetings regarding shared infrastructure and will provide marked up plans regarding required access points as discussed at previous private meeting Many attendees were not aware of the adjacent Mandalong Mine in operation to the north of the Project Many attendees were not aware of the existing Boral Clay Quarry to the east of the Project 	<ul style="list-style-type: none"> See discussion in Section 3.10.
Dissemination of Information <ul style="list-style-type: none"> WACJV congratulated on professional and inclusive consultation sessions with several attendees indicating they had been objectors but were now happy with the project following the provision of more information Attendee statements that amount of information issued by WACJV over the past several years had provided a significant amount of information to the wider community on the Project Attendee statements that many people in the area are ambivalent to the project and therefore don’t bother to attend consultation sessions or read written delivered materials, but just want to be 	<ul style="list-style-type: none"> WACJV appreciates these suggestions and will implement going forward. WACJV provided personal contact details of staff and encouraged attendees to drop in or contact at any time, as well as any neighbours or others who would like any information the Project.

Issue	Response
<p>assured that the project will be well designed, well operated and appropriately regulated, as appears to be the case.</p> <ul style="list-style-type: none"> • Suggestions that Newsletters are not always read as they come in post with other flyers • Several attendees agreed to contact WACJV at a later date and bring friends and relatives who are not so well informed to the Project's Tuggerah facilities for more personal consultation • Often emails also get lost with much 'junk' mail coming through • The public sessions are really useful and appreciated to get facts on the Project • Radio advertisements by WACJV was useful and prompted several Blue Haven residents to attend • Suggestions to set up brief 'YouTube' clip of key project description • Simpler maps with less information suggested • Various suggestions that DPE attend a meeting with the community after final approval to explain their compliance and regulatory process 	<ul style="list-style-type: none"> • WACJV detailed DPE's Compliance function in addition to those of other Government Agencies

Community Reference Group

Further, in Section 6.11.3 of the PAC2 Report, the status of the Wallarah 2 Community Reference Group (CRG) was queried. The CRG was a voluntary consultation group initiated by WACJV which ran until 2014 when development consent was originally anticipated. Following the grant of development consent, a Community Consultation Committee will be established in accordance with conditions of development consent.

Going Forward

Going forward to determination, WACJV will continue to hold open days at Doyalson RSL and Tuggerah office on alternate months. Relevant advertisements, website update and newsletters advising the community in this regard will be undertaken.

3 PAC 2 REPORT OTHER ISSUES

3.1 CLAUSE 55 AMENDED DA

3.2 ISSUE

At section 3.4, the PAC2 Report discusses Darkinjung Local Aboriginal Land Council's (DLALC) opinion that the amended development application is invalid.

3.3 RESPONSE

The amended development application was agreed to by the Minister's delegate under clause 55 of the *Environmental Planning and Assessment Regulation 2000* on 20 July 2016.

WACJV notes that the appropriate legal process has been followed for the Amended Project and that any appeal right in respect of the decision to agree to the amended development application has expired.

3.4 HUE HUE SUBSIDENCE DISTRICT

3.4.1 Issue

Section 6.2.5.1 of the PAC2 Report states:

*"The Hue Hue Mine Subsidence District was proclaimed in 1985. At the public hearing, a submitter contested that the partial extraction applies to the Hue Hue MSD, not full extraction as proposed by the applicant. A historic Mine Subsidence Board (MSB) Minute Paper (May 1995) was submitted to support the claim (see **Appendix 8**).*

In response to the issue raised, the applicant refers to the Commission's 2014 Review report which acknowledged the suitability of the mine plan in the Hue Hue MSD area by noting "the restricted mining parameters (narrower longwalls and reduced seam height) were designed to keep subsidence within the limits set for the Hue Hue MSD" Commission's 2014 Review report p.19).

The Commission finds the issue requires clarification for the consideration of the consent authority and recommends accordingly."

3.4.2 Response

PAC2 Report Appendix 8 shows a "Mine Subsidence Board Minute Paper (May 1995)" regarding the Hue Hue Mine Subsidence District (MSD) and notes at iii):

"Partial extraction shall have the definition as proposed in Dr Holla's report attached as an appendix to the Ministerial Committee report, which will have the following ground movement parameters:

- *Maximum ground strain - 3 mm/m*
- *Maximum ground tilt - 4mm"*

WACJV has designed the Project in the Hue Hue MSD to those ground movement parameters.

PAC2 Report Appendix 8 further states *“...important directions are therefore contained in the initial memorandum dated 23rd September 1998 and signed by Mr Ramsland and Dr Holla.”*

Appendix C includes a copy of Appendix 4 to the memorandum of 23 September 1998 as provided by the Department of Finance, Services and Innovation on 26 May 2017 which is titled ‘A report to the Ministerial committee on Mining subsidence and urban development Investigation into the type of surface development in the Hue Hue Mine Subsidence District’ (Dr L Holla, 1988).

The Executive Summary of Holla (1988) states *“The report examines the effects of ground movement due to the future longwall mining on the proposed residential development in the Hue Hue Mine Subsidence District ... Damage to dwellings due to longwall mining is no more than “negligible” ...”*.

It further states *“This report is prepared ... with a view to making an assessment of surface subsidence effect due to future longwall mining”*. It considers three longwall mining operations with different face lengths and total to partial extraction options.

Acceptable surface development is discussed stating that *“...damage to the undermined single storey brick veneer dwellings would be “negligible” if the ground strains were limited to under 2 mm/m ... acceptable tilt for dwellings from the point of view of maintaining serviceability varies between 3 mm/m and 5 mm/m.”*

It is therefore clear that the proposed longwall mining and associated tilts and strains in the Hue Hue MSD is fully consistent with Dr Holla’s recommendations to MSB.

3.5 NEGLIGIBLE IMPACT

3.5.1 Issue

Section 6.2.7 of the PAC2 Report states that *“The Commission remains concerned about the ambiguity of the term ‘negligible impact’. It notes the term negligible is defined in the draft conditions as “small and unimportant, such as to be not worth considering. The commission finds the wordings of the current condition causes confusion. It needs to be made clear that the connective cracking cannot be considered negligible”*.

Further Appendix 9 states *“the wordings (sic) cause confusion. It needs to be made clear that connective cracking cannot be considered negligible.”* Schedule 3 Condition 1 in relation to *“...water courses performance measures for 6th order streams and their alluvium”* is referenced.

3.5.2 Response

We note that this existing definition is consistent with all DP&E issued underground coal mine development consents as *“Negligible Small and unimportant, such as to be not worth considering”*.

Figure 14 reproduces Figure 5 from the EIS Groundwater Report (MER, 2013).

Only the highly connected cracking zone of depressurisation nearest to the extracted coal seam features vertical connected cracking. The overlying zone known as the Constrained Zone contains only non-connected cracking comprising mainly bed plane shear. There is negligible vertical permeability change and this zone which demonstrates a minimum of 120m thick (typically over 200m) aquitard (Patonga Claystone and interbedded shales) within the geological sequence which prevents vertical leakage and ensures no vertical connectivity allowing water loss from the surface to the mine workings (EIS Appendix I, Sections 4.1 and 6.2).

It is important to differentiate “*vertical connective cracking*” from other cracking and shearing (particularly in the Constrained Zone) that does not promote any vertical permeability change.

WACJV supports the PAC’s recommendation and suggests that a further notation be added to the “*performance measures*” for “*6th order streams and their alluvium*” only in Table 1 of Schedule 3 Condition 1 to state that “*Negligible subsidence impact excludes vertical connective cracking between the surface water regime and the mine workings*”.

3.6 BUILT FEATURES PERFORMANCE MEASURES

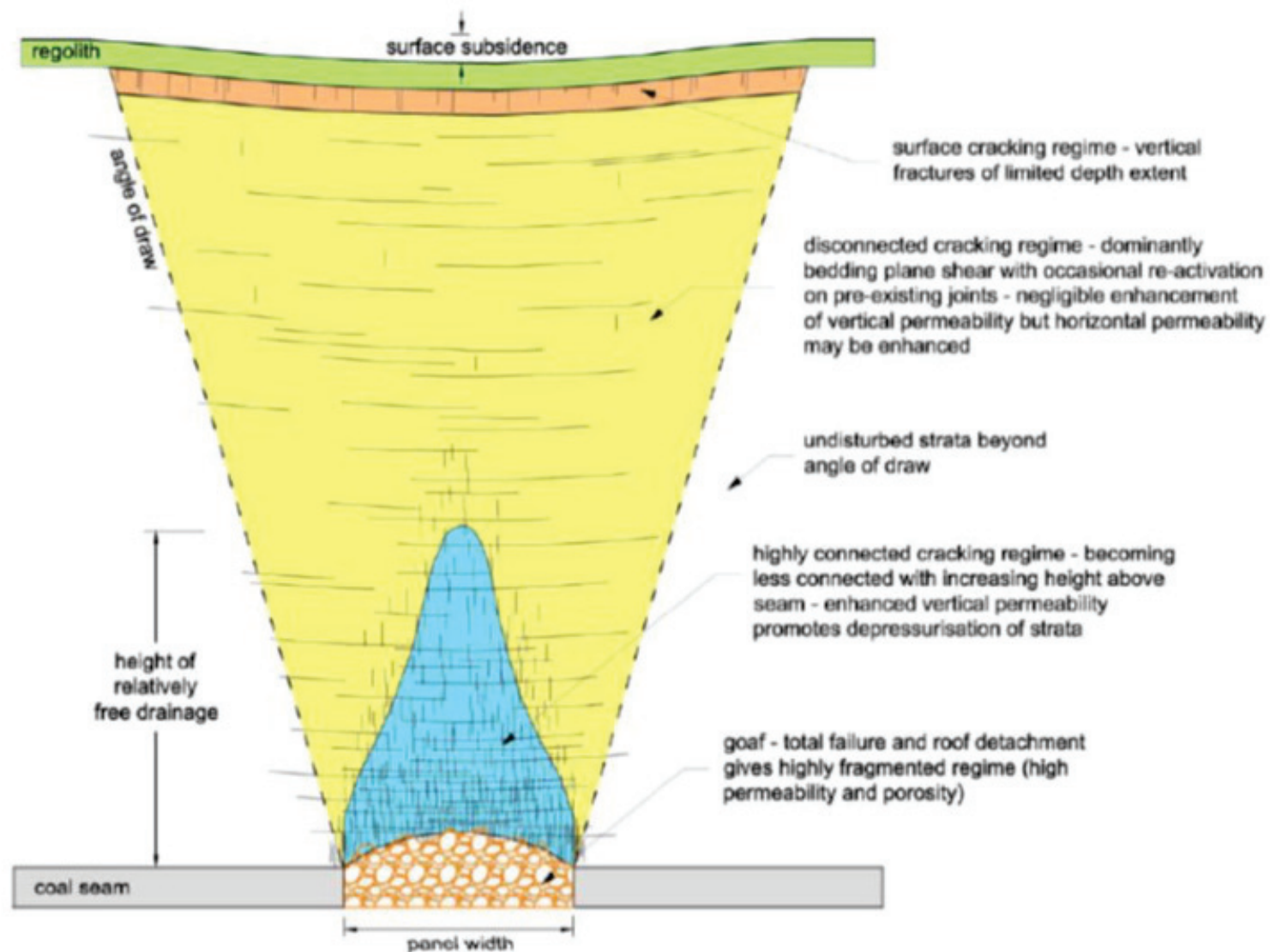
3.6.1 Issue

Appendix 9 refers to Condition 4 Schedule 3 “*Built Features Performance Measures*” and states that “*The Commission supports the inclusion of more detailed performance measures in the draft conditions and a proactive engagement program to reduce uncertainty and minimise future dispute between the applicant and landowners*”.

3.6.2 Response

WACJV commits to consulting with the owners of built features during and following the preparation of the Extraction Plan and associated Property Subsidence Management Plans (PSMPs). WACJV is actively engaged with SA NSW and other relevant stakeholders in their implementation of new consultation guidelines and built features management plans.

Consultation will be conducted in accordance with that described in **Section 2.6**.



NOT TO SCALE

WALLARAH 2 COAL PROJECT

Subsidence Zone Conceptualisation

FIGURE 14

3.7 ECONOMICS – COMPENSATORY WATER SUPPLY CIV

3.7.1 Issue

Section 6.6.11.2 of the PAC2 Report states “...the implementation of the water supply compensatory system that will return treated water to the supply catchment may have an impact on the CIV. Given the variance of the figures, the Commission finds the issue needs to be clarified prior to the time of determination.”

3.7.2 Response

The cost and operation of a Water Treatment Plant (WTP) and associated pipeline has been included in the \$1.5B life of project capital estimate utilised for the Project.

A detailed and considered response to this issue is provided in **Appendix B**.

3.8 ECONOMICS – GREENHOUSE GAS

3.8.1 Issue

Section 6.6.11.2 of the PAC2 Report states “... a significant discrepancy of the estimated greenhouse gas costs between Gillespie and the CIE. The Gillespie Report 2016 argues that the cost of greenhouse gas emissions estimate should be scaled downwards as Australia comprises 0.3% of the world population and NSW 32% of that. However, CIE pointed out that such approach is inconsistent with the NSW Economic Guidelines ... This is a matter that should be brought to the attention of the consent authority so that it can make an informed determination of the application as the economic benefits of the project could be as low as \$32 million. The applicant may wish to provide clarification on this issue prior to determination”.

3.8.2 Response

CIE only includes royalties as the Project's only benefit. From the lowest royalty estimate, CIE has subtracted potential global greenhouse impacts due to emissions from the Project. This is contrary to the **NSW Guidelines (2015)** which require the cost benefit analysis to only include those costs and benefits that "accrue to the NSW community".

The NSW Guidelines are very clear that the CBA of mining projects should be undertaken from a NSW perspective "requiring benefits and costs to be estimated where possible as those that accrue to the NSW community" (NSW Government 2015, p. 9).

In contrast, CIE has attributed all of the global impacts of greenhouse gas emissions from the Project to households of NSW. CIE's justification for this that it is consistent with the **2015 draft guidelines**, which require the attribution of the full global social cost of emissions to NSW.

A detailed response to this issue is provided in **Appendix A**.

3.9 BUTTONDERRY WASTE FACILITY

3.9.1 Issue

Section 6.2.5.3 of the PAC2 Report recommends “...Buttonderry facility is currently not included in the definition of public infrastructure in the draft conditions. The commission recommends that this should be rectified before the application is determined” so that it is included in the TARP.

3.9.2 Response

WACJV supports this proposed definition update.

3.10 NIKKO ROAD CLOSURE

3.10.1 Issue

Section 6.5.1.3 states that “The applicant has advised that a road closure application has been lodged with the DPI Crown Lands ... the road closure application is not part of the Amended Application ... they have other alternatives available in order to secure the necessary tenure over the road. No details have been provided to the Commission about the alternatives”.

3.10.2 Response

WACJV intends to continue the application to close and purchase the unformed Nikko Rd via the process currently under assessment by DPI Crown Lands.

However, should the closure and purchase of Nikko Road not proceed, then tenure over the road may be secured by the grant of a mining lease subject to a compensation agreement being entered into with the “landholder” under Part 13 of the *Mining Act 1992*.

3.11 AIR QUALITY

3.11.1 Issue

Section 7.4 of the PAC2 Report refers to additional studies proposed to be conducted by the Chief Scientist and Engineer and the EPA in relation to dust generated by coal wagons along rail corridors which should be considered by the consent authority at the time of determination.

3.11.2 Response

To date, no additional information was available in this regard.

WACJV notes that any recommendations from the future Chief Scientist’s reports could be implemented industry-wide via an Environment Protection Licence Pollution Reduction Program. Should such an initiative be deemed appropriate by the EPA in the future the WACJV will support its implementation.

3.12 GREENHOUSE GAS

3.12.1 Issue

At Section 6.4.2.3 the PAC2 Report discusses "...the applicant's commitment to the capture and enclosed flaring of methane upon commencement of underground mining. It is also proposed that a beneficial use of methane feasibility study be undertaken within 3 years of commencing longwall mining".

The PAC2 Report states that Condition 10 Schedule 4 requires the feasibility study to be completed *"...within 2 years of commencing second workings"* and is inconsistent with the PAC1 Report.

3.12.2 Response

WACJV supports this proposed condition update. WACJV supports a reversion to 3 years to undertake the feasibility study.

3.13 DPI – WATER

3.13.1 Issue

Section 6.1.6.3 states that "...DPI Water has yet to provide its comments on the applicant's response to the Commission's 2014 Review recommendations 5(d) and 5(e), which require estimates of potential losses to baseflow from any changes to catchment flows and other potential sources of loss of water from subsidence induced changes. This should be resolved and assessed before the application is determined by the consent authority".

3.13.2 Response

In a response to DP&E dated 8 December 2016, WACJV responded to these issues as follows *"A meeting was held with the PAC and Col Mackie on 29 April 2014 and 30 May 2014. The Response to PAC Report was prepared in response. All issues are addressed in Section 2.2.1 of that document as follows: ...*

- (d) losses to baseflow from any changes to catchment flows (ie loss of catchment area) for streams potentially supplying the CCWS; and*

The loss of catchment area due to construction of the Buttonderry Site is addressed in the text in Section 2.2.1. The Tooheys Road Site will reduce the catchment area of Wallarah Creek. However, this impact has not been included in the discussion because Wallarah Creek does not supply water to the Central Coast water supply scheme.

- (e) any other potential sources of loss of water from subsidence-induced changes to either the streams or the alluvial aquifers.*

Further, there are no other impacts mechanisms that may affect volumes of water within the Central Coast water supply scheme."

DP&E provided DPI – Water’s letter of 17 January 2017 requesting that the *“Proponent should provide detailed responses to each of the PAC recommendations outlined above from (a) through (e).”*

WACJV provided a further detailed response to DP&E on 19 January 2017.

DP&E’s Addendum Report of February 2017, states *“WACJV’s response of 19 January 2017 was provided to DPI Water, which noted on 23 February that, while it had not completed a detailed review, WACJV’s responses appear to address the Commission’s Recommendation 5(a)-(c). DPI Water made no detailed final comments on Recommendation 5(d)&(e). DPI Water indicated that it was prepared to meet with the Commission, the Department and WACJV further on these matters, if required.”*

The Department is satisfied that WACJV has provided an adequate response to the Commission’s recommendations. The Department’s view is that the likely losses to the CCWS, whether based on upper bound predictions or a more likely scenario, are very low, and are acceptable.”

The response above (emphasis added) clearly states that DPI – Water is satisfied that WACJV has provided an adequate response to the Commission’s recommendations.

3.14 WATER MANAGEMENT PLAN

3.14.1 Issue

Appendix 9 of the PAC2 Report recommends that Condition 6g(iiii) Schedule 3 be updated to include consultation with Council.

3.14.2 Response

WACJV supports this proposed condition update.

3.15 POST-MINING WATER REVIEW

3.15.1 Issue

Section 6.1.6.4 and Appendix 9 of the PAC2 Report recommends *“Condition 15 Schedule 4 should be updated to address the review requirement before mine closure”*.

This relates to the PAC1 Report which states *“that no compensation be required beyond mine closure for the predicted 36.5 ML/y loss provided that a review prior to mine closure confirms that the loss does not exceed 36.5 ML/y”*.

3.15.2 Response

WACJV supports this proposed condition update.

3.16 LANDOWNERS COMPENSATORY WATER SUPPLY

3.16.1 Issue

Appendix 9 of the PAC2 Report recommends that Condition 14 Schedule 4 be updated that the affected landowner(s) must be consulted before referral to the Secretary if the applicant is to provide alternate compensation because it is unable to provide an alternative long-term supply of water.

Consultation with all potentially affected land owners before undermining should be included in the draft conditions. The onus of proof that damage is not due to mining operations rests with the applicant.

3.16.2 Response

WACJV supports this condition update.

3.17 BUSHFIRE

3.17.1 Issue

Section 6.11.2 and Appendix 9 of the PAC2 Report states that Condition 30 Schedule 4 should be updated to include the preparation of a Bushfire Management Plan in consultation with the RFS (consistent with EIS commitments).

3.17.2 Response

WACJV supports this condition update.

3.18 TARPS

3.18.1 Issue

Appendix 9 of the PAC2 Report recommends that Condition 10 Schedule 3 in relation to the independent audits of subsidence impacts be updated to include a review of the TARP and where appropriate update the performance measures.

3.18.2 Response

WACJV supports this condition update.

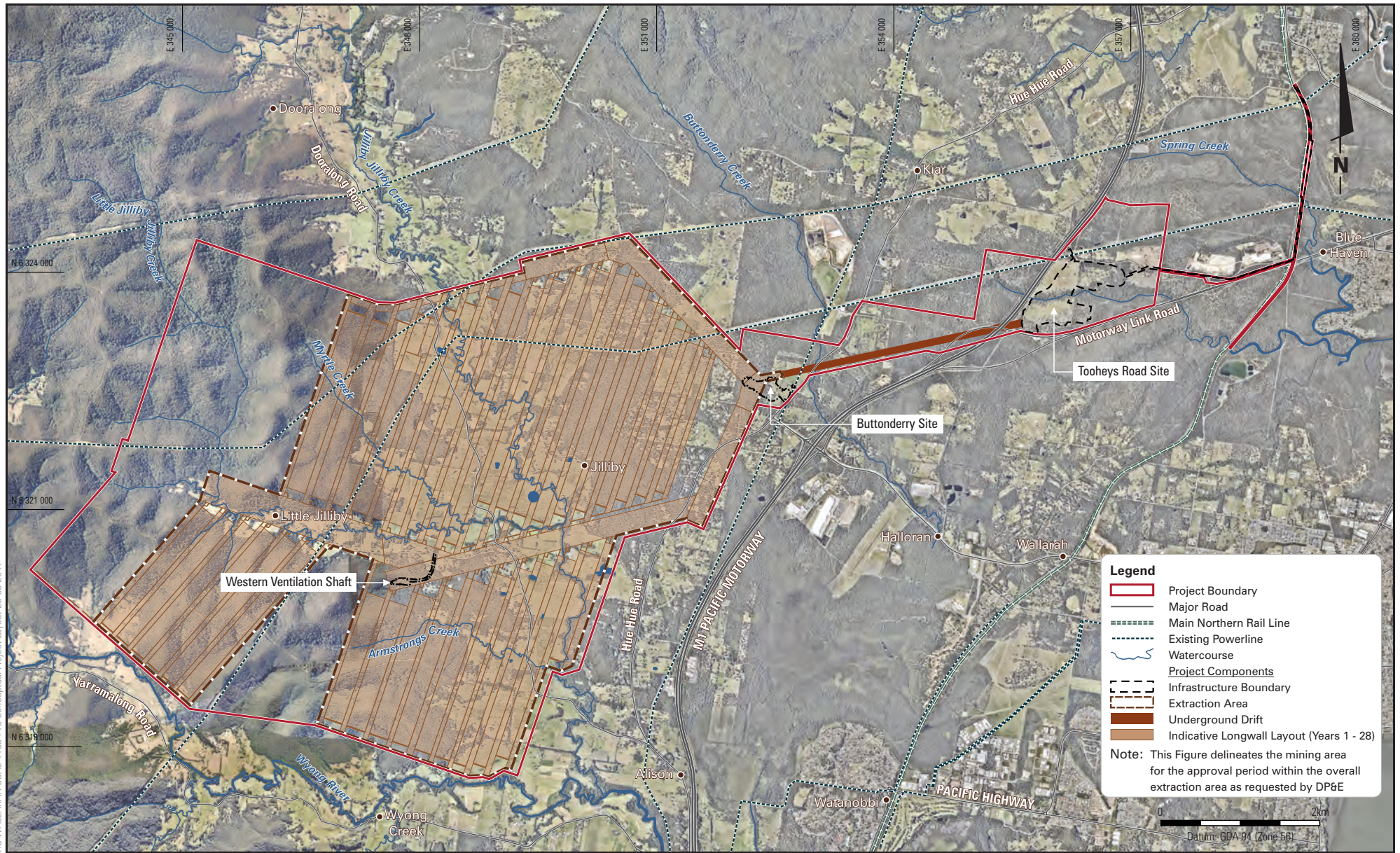
3.19 DEVELOPMENT LAYOUT PLAN

3.19.1 Issue

Section 6.2.5.3 and Appendix 9 of the PAC2 Report recommends Appendix of the Development Consent should be updated with a figure without the 11 western panels.

3.19.2 Response

WACJV supports this proposed update as shown in **Figure 15**.



WALLARAH 2 COAL PROJECT

Conceptual Project Layout

FIGURE 15

3.20 INDEPENDENT ENVIRONMENTAL AUDIT

3.20.1 Issue

Appendix 9 of the PAC2 Report that Condition 10 Schedule 6 be updated to (a) including a subsidence expert and hydrogeologist; and (b) include pre-audit consultation with Council and DPI-Water to ensure any concerns they have will be included in the audit scope.

3.20.2 Response

WACJV supports this condition update.

3.21 INDEPENDENT ENVIRONMENTAL AUDIT DISTRIBUTION

3.21.1 Issue

Appendix 9 of the PAC2 Report that Condition 11 Schedule 6 clarify that a copy of the audit report should be provided to the Council, EPA and DPI – Water as part of the reporting regime, and other agencies upon request.

3.21.2 Response

WACJV supports this condition update.

3.22 INTEGRATED ENVIRONMENTAL MONITORING AND REPORTING

3.22.1 Issue

Section 6.1.6.7 of the PAC2 Report recommends “Condition 2 Schedule 6 should be updated to include the requirement of an integrated environmental monitoring and public reporting management plan”.

The PAC2 Report states the plan “will assist the public to understand the various management and monitoring requirements.

Appendix 9 also references this new condition at Condition 2 Schedule 6. The Plan is to “...include details on what matters require monitoring/audit, the frequency of monitoring/audit and when reports will be available to the public.”

3.22.2 Response

WACJV supports this condition update.

3.23 REGULAR REPORT

3.23.1 Issue

Appendix 9 states that the Regular Report required at Condition 8 Schedule 6 should be updated to clarify the frequency of reporting.

3.23.2 Response

WACJV supports this proposed new condition and suggests quarterly reporting, however it should be consistent with that stipulated in any EPL granted over the Project.

*

*

*

For

HANSEN BAILEY

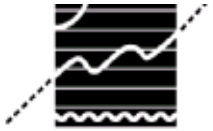


Dianne Munro
Principal Environmental Consultant



James Bailey
Director

Appendix A
Gillespie Economics Response



Gillespie Economics

Environmental and Resource Economics: Environmental Planning and Assessment

PO Box 171, West Ryde, NSW 1685
Telephone (02) 98048562
Facsimile (02) 9804 8563
Mobile 0419448238
Email gillecon@bigpond.net.au

21 June 2017

James Bailey
Hansen Bailey Pty Ltd
PO Box 473
Singleton NSW 2330

Dear James

Re: Response to Wallarah 2 Coal Project SSD 4974 Review Report

As discussed, Gillespie Economics has examined the Planning Assessment Commission comments that relate to the Economic Impact Assessment of the Wallarah 2 Coal Project. Attachment 1 provides a summary of responses to issues raised, including an explanation of disparities between values in the Gillespie Economics (2016) Economic Impact Assessment of the Wallarah 2 Project and those in the CIE (2016) Peer review of economic assessment: Wallarah 2 Coal Project. Attachment 2 provides some additional comments in relation to CIEs review of the regional economic impacts assessment of the Project.

Regards

Dr Rob Gillespie
Principal
Gillespie Economics

ATTACHMENT 1 - RESPONSE TO PLANNING ASSESSMENT COMMISSION'S COMMENTS

A. SUMMARY OF RESPONSES

Item	Gillespie Economics	CIE Review Report	Comment
Net Economic Benefits	\$274M to \$485M	\$32M to \$229M	<p>CIE's approach to estimating the net benefits of the Project to NSW is to exclude any company tax benefits, exclude residual producer surplus in the form of contributions, exclude any wage benefits (even the lower estimate that CIE calculated), exclude any non-market benefits of employment and to include all the global (rather than just the NSW) social damage costs of greenhouse gas emissions. CIE identifies its estimate as a "minimum". The range from CIE is obtained by subtracting the highest global social damage cost of greenhouse gas from the lowest royalty estimate and the lowest social damage cost from the highest royalty estimate.</p> <p>The range in values from Gillespie Economics is "with" and "without" the market and nonmarket employment benefits, based on central assumptions.</p> <p>A reasonable central estimate of the net benefits of the Project to NSW would be royalties plus company tax (NSW's share) plus contributions plus wage benefits less residual impacts less NSW's share of GHG emission impacts i.e. \$299M. Refer to Table 4.5 of the Economic Impact Assessment for the values of these components.</p>
Royalty	\$200M	\$156M to \$259M	Royalties are agreed. Gillespie Economics provides a central estimate with subsequent sensitivity testing. CIE report a range - the middle of which accords with Gillespie Economics.
Company tax	\$70M	Gillespie Economics estimate should be treated as an upper bound	CIE omits any estimate of company tax despite it being identified in the NSW Government (2015) Guidelines as being a valid benefit. Calculation of company tax at 30% of "taxable income" is consistent with Financial Appraisal textbooks, Government Guidelines and review of company tax paid by mining companies by Dr Sinclair Davidson, Professor of Institutional Economics at RMIT University. In accordance with the NSW Government (2015) Guidelines, 32% of estimated company tax is allocated to NSW.
Greenhouse gas cost	\$25,000 to \$114,000	\$27M to \$121M	<p>CIE has mistakenly included the global social damage cost of GHG i.e. costs of emissions to the world, in a NSW CBA that is required by the NSW Government (2015) Guidelines to only include costs and benefits that accrue to NSW households.</p> <p>Gillespie Economics has only included the social damage costs of GHG that accrue to NSW.</p>
Market employment benefits	\$25M	\$3.7M to \$7.4M	<p>CIE has estimated the wage benefit based on all future employees already being employed in the region in the mining sector, when there are large numbers of unemployed miners who will benefit from the Project.</p> <p>CIE has then omitted its own highly conservative estimate from the total net benefits of the Project to NSW.</p> <p>Gillespie Economics used two different approaches to estimating the wage benefit and then used the most conservative result. It was assumed that some of the future mine employees would otherwise have been unemployed, reflecting the downturn in the industry at the time of the assessment.</p>
Residual environmental costs	\$1M		CIE (p. 5) agreed with the residual value estimate of Gillespie Economics and identified no other "material" residual impacts apart from GHG emissions (CIE, p. 21), addressed above.
Employment	300 full time operation jobs 450 construction jobs		Gillespie Economics identified that the Project will provide 450 direct construction jobs and 300 direct operational jobs. The indirect employment for the region during the operation phase was estimated at 553 (not 879 indirect employment - this is the relevant figure at the NSW scale). It is well recognised that mining projects have large flow-on benefits for regional economies as they have large operating costs - some of which is spent on suppliers in the local region - and they pay high wages - some of which is then spent in the local region. The only question is how large these impacts are.

	879 indirect employment jobs during operation		The approach taken by the PAC is to question the internationally recognised and well established method used to calculate flow-ons and default to direct effects only. This default "method" has many more limitations than the IO method and will grossly understate the benefits of the Project to the region.
Regional Economic Benefits		The multipliers are likely to overstate the economic benefits, thus the regional economic analysis should be used with caution	Using IO to estimate multipliers is consistent with the NSW Government (2015) Guidelines and NSW Treasury (2007) Guidelines. CIE has previously identified that "The IO methodology is reasonable but should be considered an upper bound of the regional effects". CIE does not state "thus the regional economic analysis should be used with caution". Overstatement of impacts is less of an issue when IO is used to assess impacts on small open economies, which is the case for the Wallarah 2 Project. Ignoring indirect effects downplays the importance of projects to regional economies.
Item	PAC Comment		Comment
Level of Capital Investment Value (CIV)	Commission's 2014 Review considered CIV to be considerably less than the stated \$805M. Conflict with Gillespie Economics stated capital costs of \$1.5B.		The basis for the view in the Commission's 2014 Review was the Commission's concerns with the claimed benefits that were able to be examined. However, issues raised previously with respect to claimed benefits have been found to be false. Refer to the detailed explanation in the Wallarah 2 Project Response to Submissions.. CIV only captures upfront capital costs. Gillespie Economics also included sustaining capital over the life of the Project. Capital costs are not a benefit of the Project but a cost. If the CIV of the Project were to be lower than estimated by the proponent as claimed in the Commission's 2014 Review, this would increase the estimated net benefit of the Project.
CIV Unchanged	CIV unchanged in the amended application despite changes in infrastructure.		The cost of proposed new infrastructure of a conveyor system, transfer station and coal loading facility is balanced by the removal of the rail loop and the cost to use DLALC land for the rail spur. The Economic Impact Assessment undertakes sensitivity testing for +/- of total capital costs i.e. CIV plus sustaining capital, which is sufficient to capture substantial changes in capital costs.
Impact on CIV of Water Issues	Impact on CIV of Water Supply Compensatory System may have an impact on the CIV		The 2014 Economic Impact Assessment was amended prior to finalisation to included capital and operating costs for a brine water treatment plant and a connection to augment the Central Coast Water Supply. These costs were carried through to the 2016 Economic Impact Assessment. There is therefore no impact on the previously estimated CIV.

B. DETAILED RESPONSE

Estimated Net Benefits of the Project to NSW

CIE's estimate of the net benefits of the Project to NSW is referred to as a "minimum". Its estimation of benefits excludes all the other potential benefits of mining projects identified in the NSW Government (2015) Guidelines i.e. company tax benefits, residual producer surplus (in this case in the form of contributions) and wage benefits (even the lower estimate that CIE calculated). It also excludes non-market benefits of employment that have been established in the academic literature and empirical studies. The only benefit of the Project that CIE includes is royalties. From CIE's estimated range of royalties it subtracts all the **global** social damage costs of greenhouse gas (GHG) emissions i.e. impacts that occur around the world from emissions from the Project, contrary to the NSW Guidelines which require the cost benefit analysis (CBA) to only include those costs and benefits that "accrue to the NSW community". The range in values provided by CIE is obtained by subtracting the highest global social damage cost of greenhouse gas from the lowest royalty estimate and the lowest social damage cost from the highest royalty estimate.

As identified below, the justifications for exclusion of all the other benefits of the Project, apart from royalties, are spurious, and inconsistent with the NSW Government (2015) Guidelines. The justification for including the global damage costs of greenhouse gas emissions in a CBA of NSW is also spurious. Consequently, the estimate provided by CIE is highly conservative and does not adequately represent the net benefits of the Project to NSW.

A reasonable central estimate of the net benefits of the Project to NSW would be royalties plus NSW's share of company tax plus contributions plus wage benefits less residual environmental impacts less NSW's share of GHG impacts i.e. \$299M. Refer to Table 4.5 of the Economic Impact Assessment for component values.

Royalties

CIE focuses on royalties as an indicator of the minimum benefit of the Project to NSW. It provides a range of royalty estimates based on different price assumptions, the middle of which accords with the estimate of Gillespie Economics. CIE uses the range of royalty estimates in estimation of net benefits to NSW, while Gillespie Economics uses a central estimate, with subsequent sensitivity testing.

Treatment of Company Tax

On the basis of the submission from The Australia Institute (TAI), that the Project is unlikely to be financially viable, and the complexities involved in company tax payments, CIE considered that the estimates of company tax payments from the Project should be seen as an upper bound estimate. CIE then omits it from its consideration of the net benefits of the Project to NSW.

Without any basis, TAI claims that every coal mining project is not financially viable e.g. Wallarah 2, Bylong, Warkworth. It has also spuriously attempted on a number of occasions to show that coal mining companies do not pay the required level of company tax. However, neither of these claims are true.

Using Australian Tax Office data, Dr Sinclair Davidson¹, Professor of Institutional Economics at RMIT University and a Senior Fellow at the Institute of Public Affairs has found that the Australian mining industry pays corporate tax at a rate close to 30% of its taxable income. Financial appraisal text books

¹ Davidson, S. (2014) *Mining Taxes and Subsidies: Official evidence*, A Minerals Council of Australia Background Paper.

and Government Guidelines recommend use of the full prevailing tax rate when estimating company tax from projects. Refer to Appendix 11 of the Economic Impact Assessment for a detailed consideration of company tax.

The NSW Government (2015) Guidelines include the provision to estimate company tax from the Project that is attributable to NSW and include it as a benefit of the Project. Gillespie Economics has correctly calculated the company tax associated with the Project based on the revenue and cost assumptions identified in the Economic Impact Assessment and estimation of a depreciation schedule. As identified by CIE, the coal price assumptions used to evaluate the Project are in the middle of the coal price range of AUD\$80 to AUD\$117 per tonne. It is therefore unclear how CIE can state that company tax estimate can be considered an upper bound estimate. It is a central estimate and should be included in the net benefits of the Project to NSW.

Greenhouse Gas Emissions

CIE reported the economic cost of GHG emissions from the Project as ranging between \$27 million and \$121 million. These are the numbers it uses in estimating the net benefits of the Project to NSW.

The economic costs of GHG emissions reported by CIE are calculated by multiplying GHG emissions of the Project and various estimates of the **global** social damage costs of carbon.

The NSW Government (2015) Guidelines are very clear that the CBA of mining projects should be undertaken from a NSW perspective "requiring benefits and costs to be estimated where possible as those that accrue to the NSW community" (NSW Government 2015, p. 9). Consequently, the Economic Impact Assessment prorates the estimated global damage costs to NSW damage costs using Australia's share of the global population (around 0.3%) and NSW's share of the Australian population (32%).

In contrast, CIE has attributed all of the global impacts of GHG emissions from the Project to households of NSW. CIE's justification for this that it is consistent with the 2015 draft guidelines, which require the attribution of the full global social damage cost of emissions to NSW. However, there are a number of problems with this approach:

- at the time that CIE prepared its report, the 2015 draft guidelines had been superseded by the final guidelines;
- the provisions of the draft guidelines referred to by CIE to justify its approach were not carried through into the final guidelines;
- the provisions in the draft guidelines were patently incorrect. A CBA at a NSW level, as required by the 2015 final guidelines, should only include costs and benefits that accrue to the NSW community; and
- production benefits of the Project such as the profits of the Project to the proponent are excluded from the CBA because while they are generated in NSW, they accrue outside of NSW to a foreign entity. There is no justification for treating the costs of greenhouse gas emissions differently to the production benefits of the Project.

Wages Benefit of the Project

CIE stated that the wage benefits to employment (reported by Gillespie Economics) were higher than can be expected.

The approach that CIE used to estimate the wage benefit of the Project is to take the difference between an average mine wage in the region before the Project and an average mine wage in the region after the

Project, by applying an income/mining employment elasticity. However, this approach assumes that all future workers at Wallarah 2 are already employed in the mining industry in the region and that the NSW economy is at full employment and so there are no job chain effects to lower wage workers. This is a highly conservative approach that does not represent the mining unemployment situation in NSW and therefore is likely to considerably understate wages' benefits.

The downturn in coal mining in NSW has resulted in considerable shedding of labour and hence it is reasonable to expect that some proportion of future workers will come from the unemployment pool or lower paying jobs. Gillespie Economics undertook two approaches to estimating the potential wages benefit of the Project under these employment conditions:

- the approach used by the Resource Assessment Commissions in its Inquiry into the forests of South Eastern Australia (Streeting and Hamilton 1991)² - assuming that 50% of the direct workforce of the Project³ (150 out of a total of 300 jobs) would otherwise be unemployed for three years and that the reservation wage for these people was \$52,000⁴ compared to a mining wage of \$134,000. Under this approach, the wage benefits of the Project would be \$25M present value, at a 7% discount rate.
- an approach identified in the premier Cost Benefit Analysis text by Boardman et al (2001) where it is assumed that labour for the Project is drawn from all points along the labour supply curve and that given the difficulties identifying the minimum reservation wage, the labour supply curve passes through the minimum market wage and the market wage for mining i.e. the average reservation wage is the average wage rate. This approach excludes any consideration of the use of unemployed labour and the search and retraining costs, scarring, stigma and physical and mental health effects of unemployment (Haveman and Weimer 2015), and hence is conservative. Under this approach the potential wage benefit to workers would be \$215M, present value at 7% discount rate.

Both of the above approaches are considered more valid than the method used by CIE. Gillespie Economics conservatively uses the lower estimate in the Economic Impact Assessment. The finding by CIE that the Gillespie Economics method is higher than can be expected is therefore highly questionable. CIE did not include any estimate of wage benefits, even its own estimate, in its calculation of the net benefits of the Project to NSW.

Residual Environmental Costs

With regard to residual environmental, social and cultural impacts, CIE identify that "for the purpose of our review, we have focused on the surface water and greenhouse gas emissions as these are expected to result in the largest cost item."

CIE identified the price assumption used by Gillespie Economics in relation to water impacts as "reasonable" and that the "the impact of the project on water supply and quality has been adequately mitigated through the collaborated creation of monitoring and management plans." CIE (p. 5) summarises the residual impacts in relation to water at \$1M - the same as Gillespie Economics.

² Streeting and Hamilton (1991) *An Economic Analysis of the Forests of South-Eastern Australia*, Resource Assessment Commission, Research Paper Number 5.

³ All sourced from NSW.

⁴ As estimated by the unemployment benefits plus income tax payable on a mining wage, following the reservation wage rate approach used by Streeting and Hamilton (1991).

Employment

Gillespie Economics identified that the Project will provide 450 direct construction jobs and 300 direct operational jobs. It is well recognised that mining projects have large flow-on impacts for regional economies as they have large operating costs (some of which is spent on suppliers in the local region) and they pay high wages (some of which is then spent in the local region). The only question is how large these indirect flow-on impacts are.

Gillespie Economics used IO analysis to estimate the potential magnitude of regional flow-on effects from the Project. For the construction phase, regional flow-on employment was estimated at up to 1,155. For the operational phase, regional flow-on employment was estimated at up to 553. The number referred to by the PAC in the above table relates to estimated operational phase flow-on effects for the NSW economy rather than the regional economy. The approach taken by the PAC is to question the internationally recognised and well established method used to calculate flow-ons and default to direct effects only. This default "method" has many more limitations than the IO method and will grossly understate the benefits of the Project to the region. Ignoring indirect effects downplays the importance of projects to regional economies.

CIE has misinterpreted the IO analysis and Local Effects Analysis. Refer to the Attachment 2.

Regional Economic Benefits

CIE identified that multipliers are likely to overstate the economic impacts of the Project, however it does not state that "thus the regional economic analysis should be used with caution" as claimed by the PAC. As identified by the CIE in its peer review of the Bylong Project "the IO methodology is reasonable but should be considered an upper bound of the regional effects". Nevertheless, if the area under study is a small open economy relative to the rest of the nation, where factors of production can easily move into and out of the region and local prices gravitate to external prices (subject to transport margins etc), the less likely that IO will overstate impacts. This is the situation with the IO analysis of the Project. In any case, IO analysis will provide a more accurate estimation of impacts than default to direct effects only.

IO analysis is a cost effective and simple method for estimating the gross market economic activity (i.e. financial transactions and employment, in a specified region that is associated with a project). As identified by World Bank economist Mustafa Dinc (2015), it is one of the most widely used models around the world for regional impact assessment and provides a solid framework to analyse the interdependence of industries in an economy. The methodology has been supported by numerous peer reviews of Economic Impact Assessments, the NSW Government (2015)⁵ Guidelines for the economic assessment of mining and coal seam gas proposals and the NSW Treasury (2009) Guidelines for estimating employment supported by the actions, programs and policies of the NSW Government.

Level of Capital Investment Value

The Commission's 2014 Review reported that for the purpose of assessment under cl.12AA of the Mining SEPP capital investment of the Project is considered significantly less than \$800m. The basis for this claim was that "there is little justification provided for this figure in the EIS. Given the Commission's concerns with the claimed benefits that are able to be examined, there can be no confidence in the

⁵ "A range of techniques are available for estimating second round or flow-on effects. These include CGE (computable general equilibrium) modelling, input-output (I-O) or multiplier analysis" (NSW Government, 2015, p. 23).

quantum claimed. However, there will obviously be some hundreds of millions of capital investment in a project of this size".

The concerns expressed in the Commission's 2014 Review on the claimed benefits of the Project, notably royalties, that led them to question the estimated CIV have subsequently been found to be incorrect and based on incorrect estimation for royalties supplied by Economists at Large. Refer to the detailed explanation in the Wallarah 2 Project Response to Submissions.

The inference from the Commission's 2014 Review questioning of the CIV seems to be that it has been inflated to suggest a greater economic benefit of the Project. However, capital costs are not an economic benefit of the Project they are a cost. If the CIV is not \$805M as included in the CBA but less than \$800M as suggested by the PAC, the net benefits of the Project, in particular company tax would increase significantly.

The capital cost of the Project included by Gillespie Economics in the Economic Impact Assessment comprised the \$805M CIV i.e. upfront capital costs, plus sustaining capital over the Project life. Together these amount to \$1.5B.

Capital Investment Value Unchanged

The Commission's 2017 Review questions the claim that the CIV remains unchanged from the amended application. However, the reason for this is the exact reason suggested by the Commission Review i.e. the cost of proposed new infrastructure of a conveyor system, transfer station and coal loading facility is balanced by the removal of the rail loop and the cost to use DLALC land for the rail spur. Notwithstanding, the CBA of the Project undertakes sensitivity testing of +/- 20% in capital costs (i.e. CIV plus sustaining capital) which is sufficient to capture substantial changes in capital costs.

Impact of Water Supply Compensatory System on CIV

The 2014 Economic Impact Assessment was amended prior to finalisation to include the following capital and operating costs:

- \$29.8M for water treatment and brine treatment plant, ponds and connection to augment the Central Coast Water Supply; and
- \$1.6M per annum in operating costs for water treatment plant.

These costs were carried through to the 2016 Economic Impact Assessment. The proposed Water Supply Compensatory System was therefore already included in the 2014 CIV estimate.

ATTACHMENT 2 - LOCAL EFFECTS ANALYSIS AND REGIONAL ECONOMIC IMPACT ASSESSMENT

Issue: CIE stated that typically, multipliers are estimated in terms such as the additional value-added, output and employment generated by a particular industry increasing its output by \$1 million. This approach does not appear to have been used here. Rather, the multipliers seem to have been calculated with respect to the wage bill or employment numbers. That is, and for example, the additional wages paid in the economy due to the (net) wage bill in the mining sector increasing by \$1 million.

Response: The multipliers used in the analysis are generated using the Generation of Regional Impacts method developed by the University of Queensland⁶ and recognised internationally. As identified on page 67 and Attachment 5 of the Economic Impact Assessment, there are many types of multipliers that can be generated from input-output analysis and those used in the Economic Impact Assessment are Type 11A **ratio** multipliers. Type 11A ratio multipliers summarise the total impact on all industries in an economy in relation to the initial own sector effect e.g. total income effect from an initial income effect and total employment effect from an initial employment effect, etc.

Issue: CIE stated that the logic of the FTE job increase of 72 (Table 5.1) is somewhat challenging to interpret. If employees working at the mine were already employed, and their now vacant former employment positions remain unfilled, then there must be no net increase in jobs. Rather, (a subset) of already employed persons in the region receive a higher income by virtue of working at the mine (construction and operation phases). On this later issue of net change in income, it would be better to replace the average net income in mining (item b) in Table 5.1 by the average labour income per employee for the Project. In this way, the contribution of the Project to the local income would be better measured. There is also a question mark over using 'Average net income in other industries' as the comparator. Doing so assumes that people employed elsewhere in the region, potentially doing different activities/roles, could gain employment in mine construction or operation. It is not immediately clear that this is a reasonable assumption. A better comparison, if the data were available, would be to use average incomes from other heavy construction/mining activities.

Response: Gillespie Economics has applied the prescribed method for undertaking a Local Effects Analysis identified in the NSW Government (2015) Guideline (i.e. summarised in Table 4.2: Analysis of net income increase). The use of average net income in mining, average net income in other industries and estimation of net increase in jobs, that is criticised by CIE, is all prescribed in the NSW Government (2015) Guideline.

As identified in Attachment 3 of the Economic Impact Assessment, the approach is based on a number of very restrictive and unrealistic assumptions. The prescribed method for examining direct local employment effects would not appear to have any basis in the peer reviewed literature and ignores contemporary literature on employment effects of projects and policies.

Issue: Separately estimating the impacts of construction equipment purchases on regional economy may present double-counting problems. Presumably, the \$163M of capital expenditure in the *heavy and civil engineers construction sector* and *construction services sector* must include intermediate inputs from the *specialised and other machinery and equipment manufacturing sector* in the local and NSW input-output tables. If so, the direct and production induced effect of output must already include the expenditure on the construction equipment purchase.

⁶ Jensen, R., Mandeville, T. and Karunaratne, N. (1979) *Regional Economic Planning: Generation of Regional Input-output Analysis*, Croom Helm, London.

Response: There is no double counting. The capital expenditure of \$163M is associated with different types of final equipment, the construction of which is found in different sectors of the economy. Expenditure in these different sectors of the economy on final equipment is then traced through the economy using input-output analysis.

Issue: According to Table 6.10, an income per employee for the Project of \$133 843 per annum can be derived (income of \$40 153 000 divided by 300 employees). This is significantly higher than the average income of mining as reported in Table 5.1 (\$96 473). There appears to be no justification for this higher income assumption.

Response: The justification for this higher income assumption is that income referred to input-output analysis (i.e. Table 6.10) is gross income while the income figure per employee in Table 5.1 is net income, as required by the NSW Government (2015) Guideline.

Appendix B
Consultation Materials June 2017



Wallarrah 2

COAL PROJECT

Wyang Coal is currently in the process of reviewing the recent recommendations made by the NSW Planning Assessment Commission to the proposed Wallarah 2 Coal project which can be found at <http://www.pac.nsw.gov.au/projects/2017/03/wallarrah-2-coal-project>

As part of its ongoing Community Consultation Program, Wyong Coal invites members of the community, and particularly those in the Blue Haven area to contact us to discuss matters which may be of concern to them, and to ask questions about issues which they feel require clarification.

Our team are flexible and happy to come to meet and discuss your issues.

Please contact our office direct on 4352 7500 or alternatively via email at info@wallarah.com.au

Kenny Barry
Project Manager

WALLARAH 2 COAL PROJECT

INFORMATION SESSIONS

Dear Resident, the NSW Planning Assessment Commission (PAC) recently completed its report into the Wallarah 2 Coal Project

The Management team at Wallarah 2 invite interested residents to Information Sessions at the nearby Doyalson RSL (See over for map)

Information sessions will cover the PAC recommendations and provide an opportunity to discuss individual issues and concerns and generally seek up to date information about the Project

All sessions will be held in the “Wentworth Room”, Pacific Highway, Doyalson NSW 2262 on the following dates:-

Wednesday 7th June 2017:

Commencing hourly from 10am - 1.00pm and 4.00pm - 7.00pm

Tuesday 13th June 2017:

Commencing hourly from 10am - 1.00pm and 4.00pm - 7.00pm

Friday 16th June 2017:

Commencing hourly from 10am - 1.00pm and 4.00pm - 7.00pm

To assist with catering of refreshments it would be appreciated if you could advise our Administration staff of your attendance on Ph: 4352 7500.

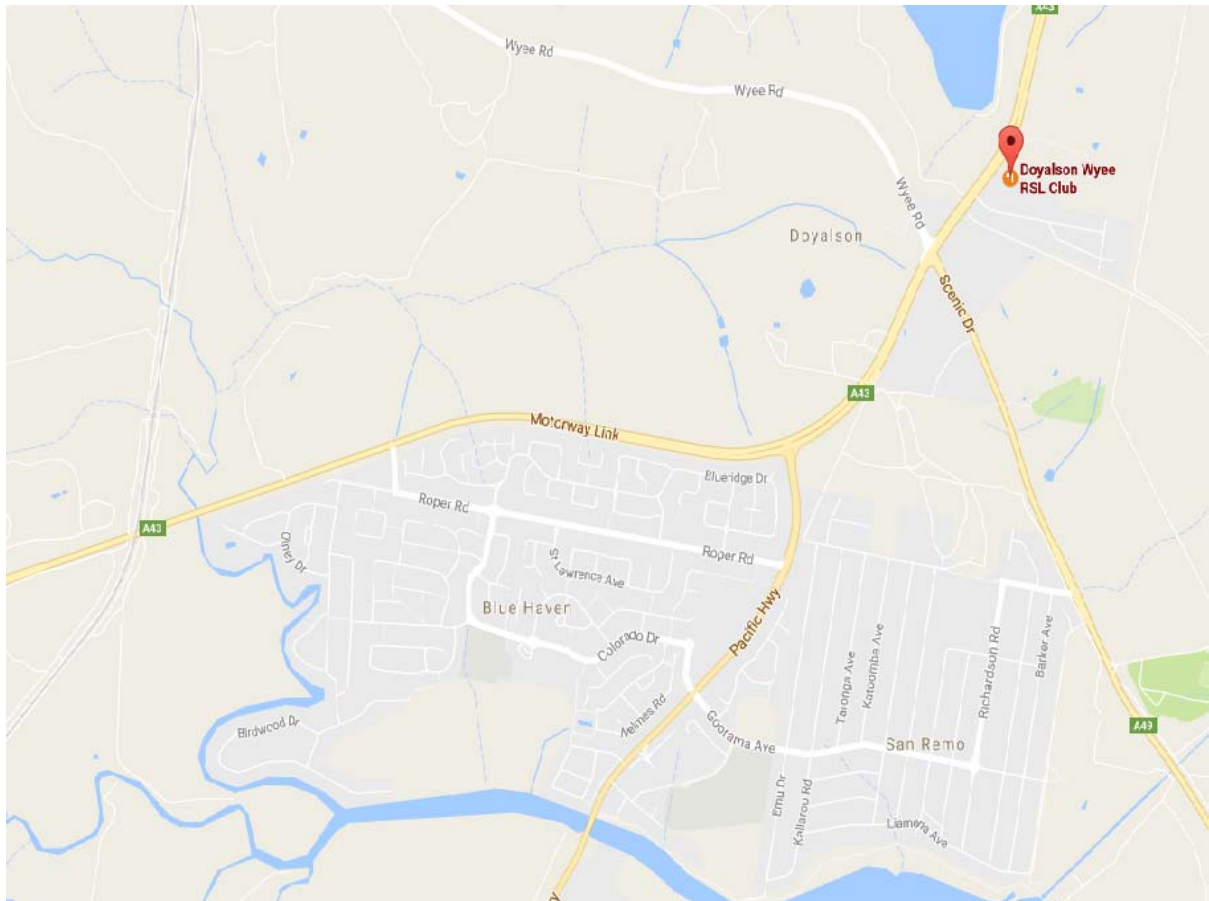
Regards

Kenny Barry

Project Manager

Wyang Coal Pty Limited





Doyalson RSL, “Wentworth Room” Pacific Highway Doyalson NSW 2262

Appendix C
Dr Holla Correspondence

A REPORT TO THE MINISTERIAL COMMITTEE

ON

MINING SUBSIDENCE AND URBAN DEVELOPMENT

**INVESTIGATION INTO THE TYPE OF
SURFACE DEVELOPMENT IN
HUE HUE MINE SUBSIDENCE DISTRICT**

BY

**DR. L. HOLLA
SUBSIDENCE ENGINEER
N.S.W. DEPARTMENT OF MINERAL RESOURCES**

7TH JULY, 1988.

EXECUTIVE SUMMARY

The report examines the effects of ground movement due to future longwall mining on the proposed residential development in the Hue Hue Mine Subsidence District.

Three mining options are considered, one option which results in the maximum recovery of coal and the other two options are the balanced options which allow the construction of single storey brick veneer dwellings at the expense of reduced coal recovery. The reduction in coal recovery varies between 7% and 13%.

Damage to dwellings due to longwall mining is no more than "negligible" as defined by the National Coal Board classification in the U.K.

TABLE OF CONTENTS

1.0	Introduction
2.0	Coal Resource Assessment
3.0	Subsidence Assessment
3.1	Mining Options
3.2	Subsidence Prediction
4.0	Acceptable Surface Development
5.0	Summary

Figures

1.0 INTRODUCTION

The Hue Hue Mine Subsidence District is located to the north-east of Wyong (Fig. 1). Being located within six kms of Wyong and its important community facilities, there is potential for major residential development to occur in the District. However, there are also in the District, proven coal reserves which are likely to be exploited in the distant future. Obviously, the underground mining of coal would have surface effects, which will have to be assessed before the type of surface development is decided.

This report is prepared at the request of the Ministerial Committee chaired by Mr. J.A. Clough, with a view to making an assessment of surface subsidence effect due to future longwall mining. The report also examines the type of surface development that may be permitted on the surface, which would not suffer unacceptable damage when undermined by longwall mining.

2. COAL RESOURCE ASSESSMENT

The information on coal resource within the District was obtained from Mr. R. Moffitt, Geologist, Coal Geology Branch of the Department, which is summarised below:-

- (i) The Fassifern Seam is high in ash content which varies between 30% and 35%. The seam thickness is between 1.5 m and 2 m.
- (ii) The Great Northern Seam occurs roughly to the east of the Hue Hue Road. The ash content varies between 35% and 40% and the thickness is around 1.5 m.
- (iii) The Wallarah Seam exists in the whole area as shown in Fig. 1. The ash content ranges from 15% to 20% and the thickness varies between 2.5 m and 6 m.

From the above, it appears that the only seam with economic potential is the Wallarah Seam. Therefore, for the purpose of subsidence assessment, only the Wallarah Seam is considered.

3.0 SUBSIDENCE ASSESSMENT

3.1 Mining Options

The District is divided into two areas by the split line between the Wallarah Seam and the Wallarah/Great Northern Seam (Fig. 1). The two areas are identified as A and B and the subsidence assessment in the two areas is made on the following coal seam details:

Area A:	Seam thickness	3.0 m
	Seam depth	350 m

Area B:	Seam thickness	5.0 m
	Seam depth	400 m

Three mining options are considered:

1. Longwall mining: 250 m face length, 35 m wide chain pillars (total extraction case).
2. Longwall mining: 150 m face length, 35 m wide chain pillars (partial extraction with unstable pillars).
3. Longwall mining: 150 m face length, 50 m wide chain pillars (partial extraction with stable pillars).

3.2 Subsidence Prediction

Table 1 lists the maximum subsidence, compressive strains and tilt due to the above three Options in the two areas A and B.

TABLE 1

Maximum Subsidence Parameters

A - Area A

B - Area B

Mining Option	Maximum Parameters						Coal Recovery %	
	Subsidence (m)		Comp. Strain (mm/m)		Tilt (mm/m)		A	B
	A	B	A	B	A	B		
1	1.4	2.1	2.4	3.1	7.2	9.3	88	86
2	0.9	1.15	1.5	1.7	4.6	5.2	81	79
3	0.25	0.35	1.2	1.5	0.4	1.0	75	75

In assessing the effects of ground movements on the proposed development in the District, the following considerations are to be taken into account.

- 1) Structural movements are much less than ground movements, the transfer of movements depending upon the behaviour at the soil-structure interface.
- 2) Tilt movements are rigid-body movements and generally do not cause structural damage, unless structures are very long or very heavy. Serviceability problems, however, could occur due to excessive tilts.
- 3) The maximum values occur over small areas only. In other areas, movements are much smaller.
- 4) All structures, including brick structures, can withstand movements without damage to a degree. This is supported by the research undertaken by the Coal Mining Engineering Branch.

4.0 ACCEPTABLE SURFACE DEVELOPMENT

Assuming the maximum average length of dwellings proposed in the District to be under 15 m, the subsidence damage to the undermined single storey brick veneer dwellings would be "negligible", if the ground strains were limited to under 2 mm/m. As seen from Table 1, both mining Options 2 and 3 are acceptable to single storey brick veneer dwellings. The loss in coal recovery varies between 7% and 13% compared with the maximum coal recovery from mining Option 1.

The acceptable tilt for dwellings from the point of view of maintaining serviceability varies between 3 mm/m and 5 mm/m. On this basis, again both mining Options 2 and 3 are acceptable to single storey brick veneer dwellings.

In summing up, within the Hue Hue Mine Subsidence District, single storey brick veneer dwellings can be built which may be undermined in the future by longwall mining with "negligible" damage. The "negligible" damage class also includes no damage cases.

In the foregoing analysis, the effect of strains on steep slopes is not considered. In Area B, the surface topography is rugged and mining induced strains may cause landslips. This aspect has to be looked into when mine plans are finalised in the future. Shorter face lengths than 150 m proposed in this study may be necessary, if land in the area is considered unstable.

p 1 - 4 mm
4 mm - 7 mm
> 7 mm

5.0 SUMMARY

1. On the basis of coal resource information supplied by the Coal Geology Branch, a subsidence assessment is made in the Hue Hue Mine Subsidence District.
2. The assessment indicates that single storey brick veneer dwellings can be built in the District which may be undermined in the future by longwall mining with "negligible" damage.

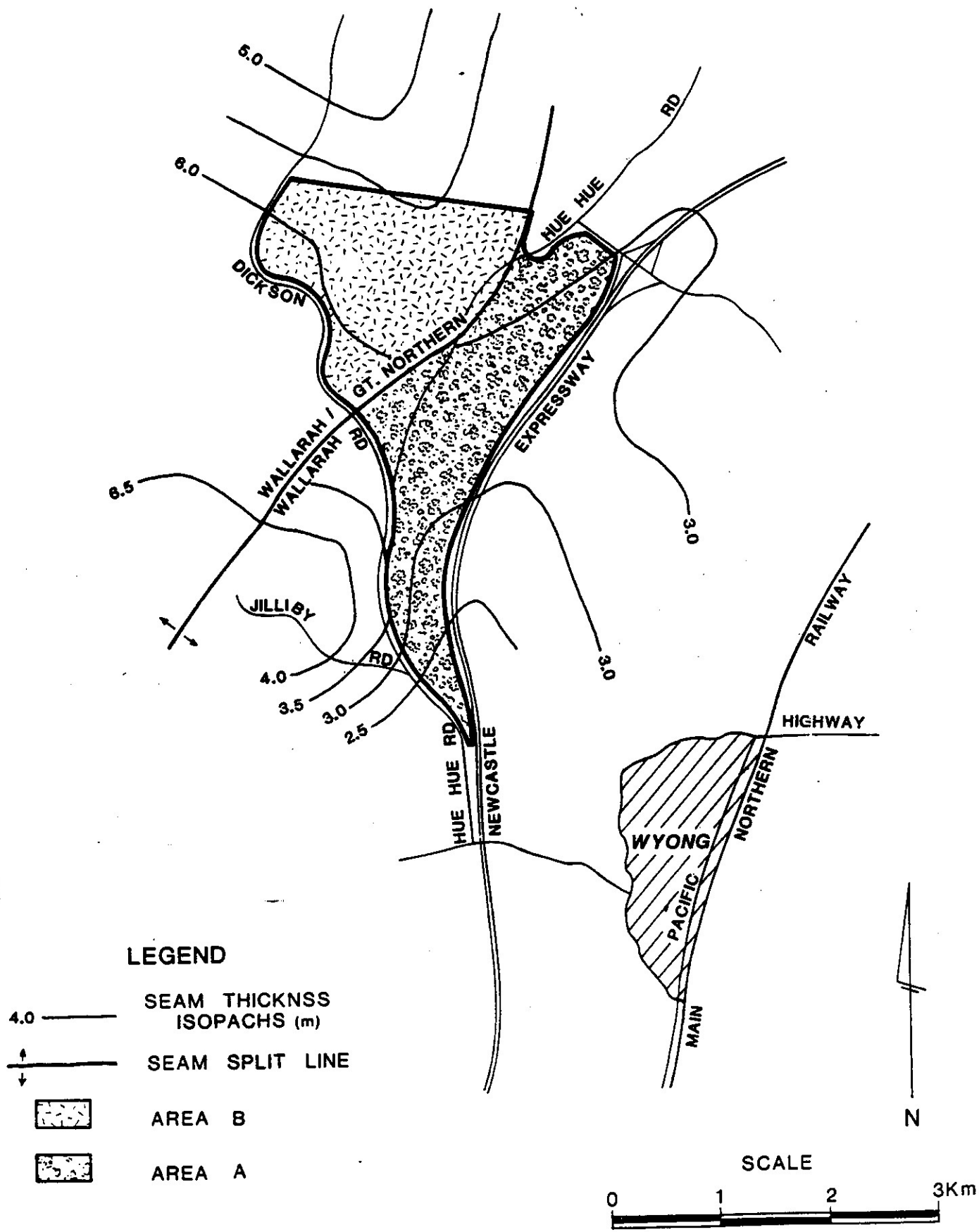


Fig 1: HUE HUE MINE SUBSIDENCE DISTRICT

Appendix D
WACJV Correspondence to
DLALC 22 June 2017

22nd June 2017

Lynne Hamilton
Darkinjung LALC
PO Box 401
WYONG NSW 2259



25 Bryant Drive (PO Box 3039)
TUGGERAH NSW 2259

Email: info@wallarah.com.au

Phone: (02) 4352 7500

Fax: (02) 4352 7599

Dear Lynne,

Re: Nikko Road Access, Business Synergies and Shared Infrastructure Opportunities

I refer to the meeting between Wyong Coal and Darkinjung LALC on the 5th of June 2017 and the multifaceted discussions regarding ongoing secured access to Nikko Road and shared development and infrastructure opportunities. I believe the outcomes will benefit and support both the Wallarah 2 Coal Project and Darkinjung LALCs proposed industrial and residential developments in the Bushells Ridge and Doyalson areas.

As per the outcomes of that meeting and subsequent discussions including the provision of plans from Darkinjung LALC identifying additional points of access required to Nikko Road, Wyong Coal has agreed to construct the following infrastructure on Nikko Road to ensure ongoing unencumbered access;

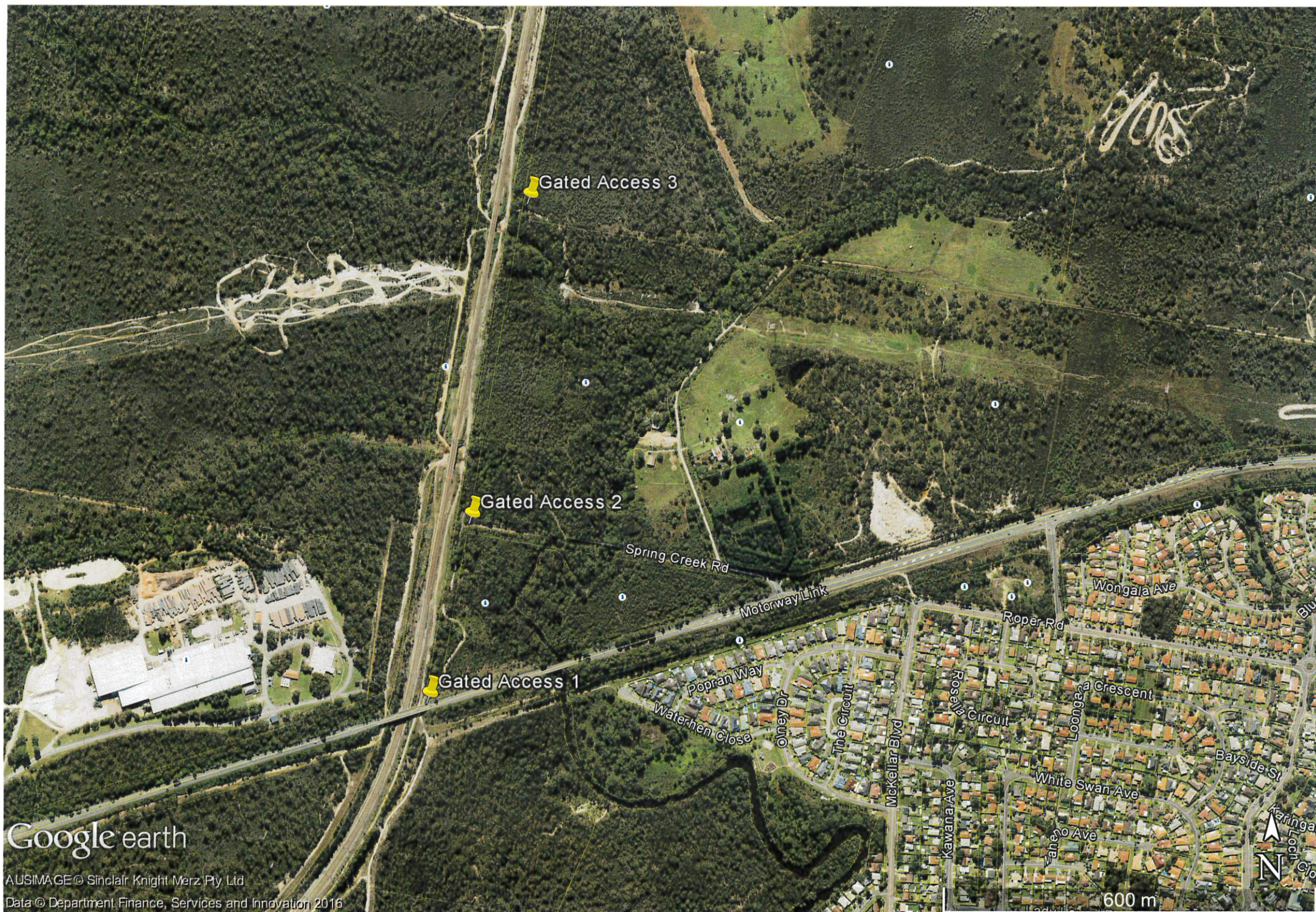
- Construction of a bi-directional ramp at the existing point of entry to Nikko Road as requested by Darkinjung LALC adjacent the Southern tributary of Spring Creek (Attachments - Drawings 22-17704-C350, 22-17704-C351, 22-17704-C352)
- Additional gated access point adjacent the Doyalson Link Road Bridge (Attachments - Drawing 22-17704-SK200, DALC Plan (Gated Access 1))
- Additional gated access point at the confluence of Nikko Road and Spring Creek Road adjacent Darkinjung LALCs Lot 16 DP1210468 (Attachments - Drawing 22-17704-SK200, DALC Plan (Gated Access 2))
- Additional gated access point from Darkinjung LALCs Lot 204 DP1117900 (Attachments - Drawing 22-17704-SK200, DALC Plan (Gated Access 3))

Wyong Coal also confirms it is willing to provide access to its land at Tooheys Rd (Lot 103 DP755245) to facilitate entry to Lot 195 DP1032847 owned by the Darkinjung LALC in support of its future development proposals.

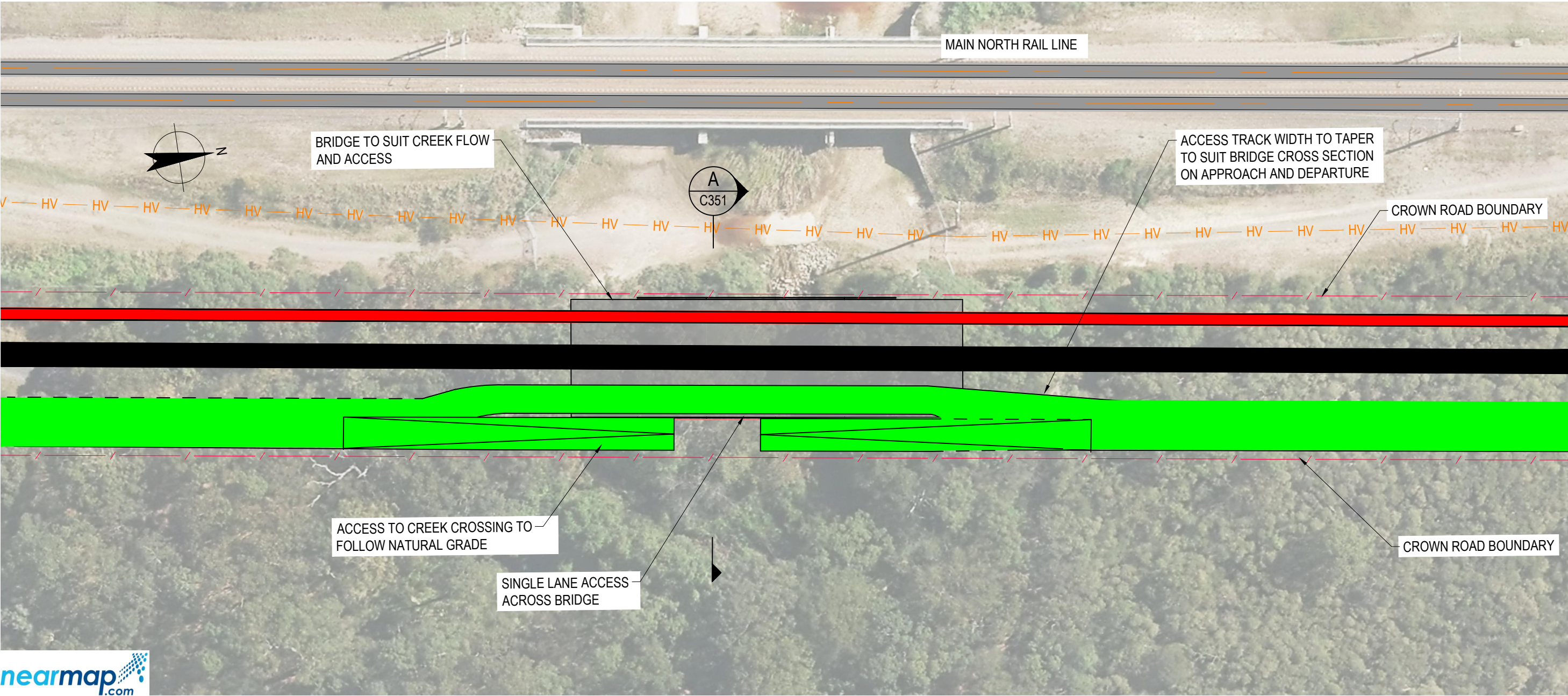
Regards,

A handwritten signature in blue ink, appearing to read "Kenny Barry", is written over a horizontal line.

Kenny Barry
Project Manager



Google earth



LEGEND

- EXISTING RAIL TRACK
- RAIL SPUR
- CONVEYOR
- ACCESS ROAD EASEMENT
- EXISTING OVERHEAD POWERLINES
- DARKINJUNG LAND

NOTES:

- DARKINJUNG ONLY CURRENTLY ACCESS NIKKO ROAD TOWARDS THE SOUTH
- THIS DRAWING IS FOR DEMONSTRATION ONLY FINAL ACCESS ARRANGEMENT TO BE FINALISED IN CONSULTATION WITH ADJOINING LANDHOLDERS AND AGENCIES

CONCEPT ONLY

B	ISSUED FOR COMMENT	J.J			11.04.17
A	ISSUED FOR COMMENT	J.J			10.04.17
No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director

Plot Date: 21 June 2017 - 3:09 PM

Plotted By: James Jennings

Cad File No: G:\22\17704\CADD\Drawings\22-17704-C350.dwg



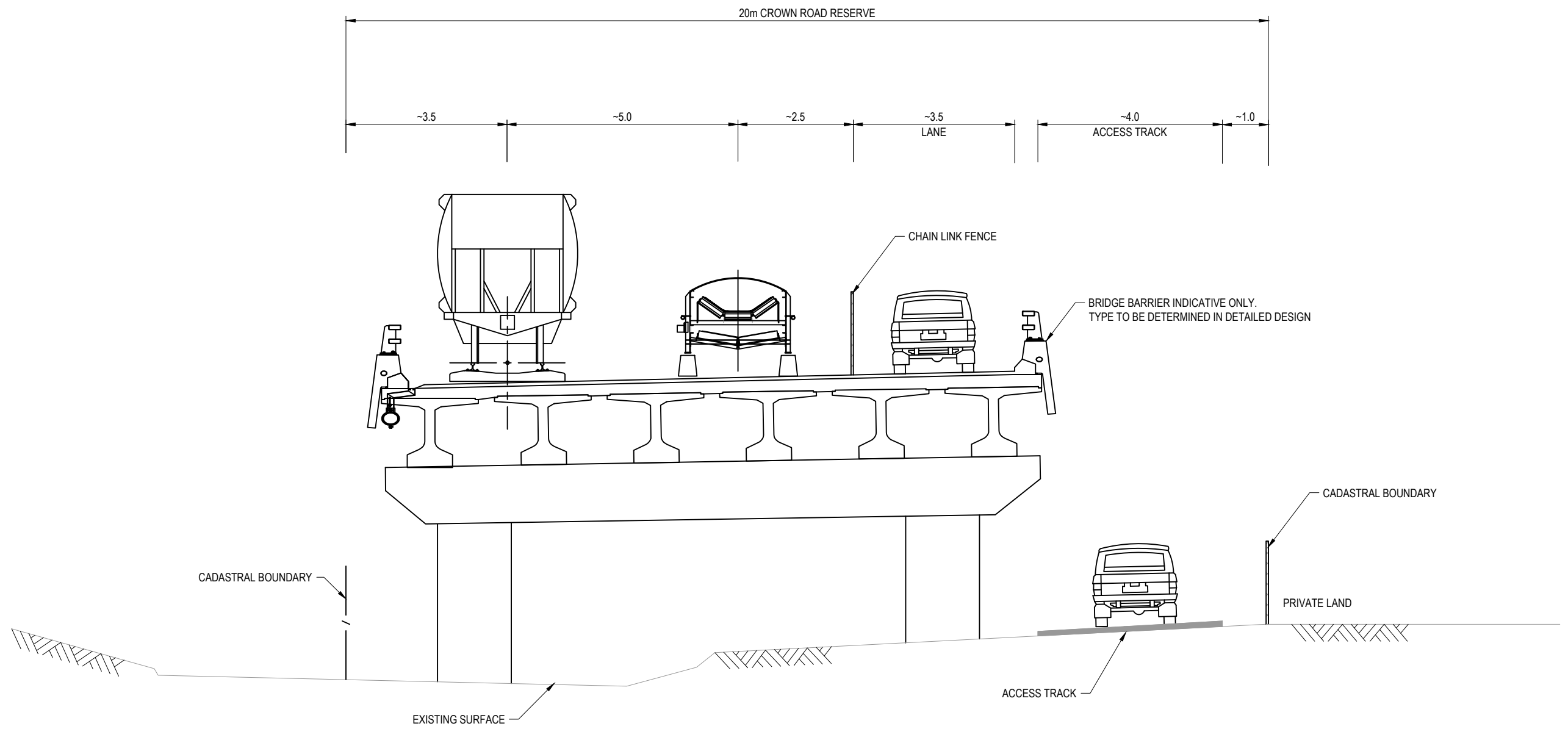
GHD Tower, Level 3
24 Honeysuckle Drive, Newcastle NSW 2300 Australia
PO Box 5403 Hunter Rgn Mail Cent, NSW 2310
T 61 2 4979 9999 F 61 2 4979 9988
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Drafting Check		Design Check	
Approved (Project Director)			
Date			
Scale	AS SHOWN	This Drawing must not be used for Construction unless signed as Approved	

Client	Project	Project	Project
WYONG COAL	WALLARAH 2		
	CREEK CROSSING BRIDGE		
	PLAN		
Original Size	A3	Drawing No:	22-17704-C350
		Rev:	B



SECTION 'A'
BRIDGE CROSS SECTION
SCALE 1:100

NOTES:

1. REFER TO DRAWING 22-17704-SK200 FOR PLAN
2. REFER TO 22-17704-C352 FOR ELEVATION

CONCEPT ONLY

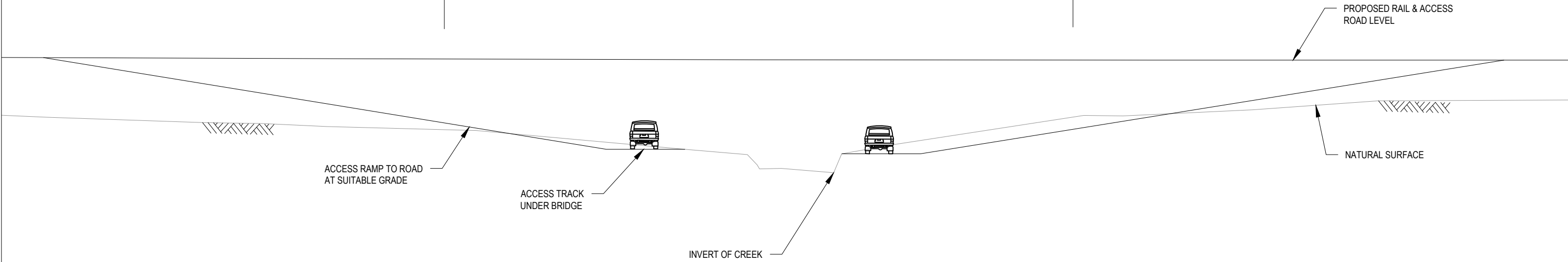
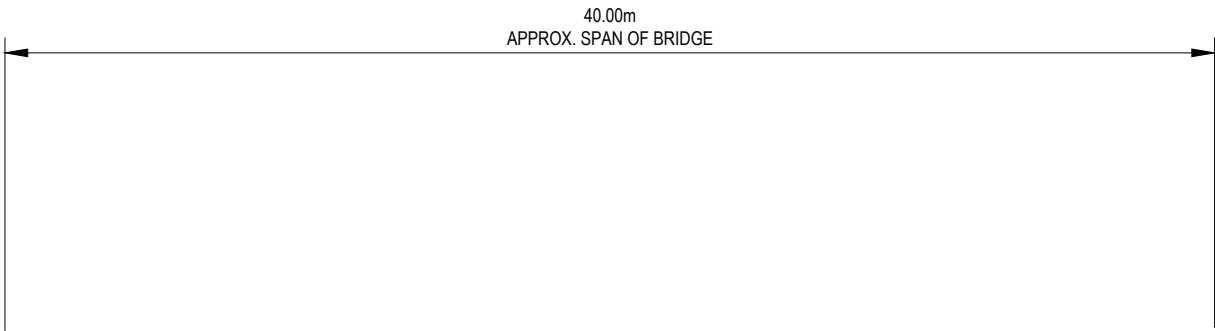
B	PRELIMINARY	J.J			21.06.17
A	ISSUED FOR COMMENT	J.J			10.04.17
No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director Date



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	Approved (Project Director) Date		
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Client	WYONG COAL WALLARAH 2		
Project	CREEK CROSSING BRIDGE		
Title	BRIDGE CROSS SECTION		
Original Size	A3	Drawing No: 22-17704-C351	Rev: B



SECTION 'A'
RAMP ELEVATION
SCALE 1:250

NOTES:

- REFER TO DRAWING 22-17704-SK200 FOR PLAN
- REFER TO DRAWING 22-17704-C351 FOR SECTION A

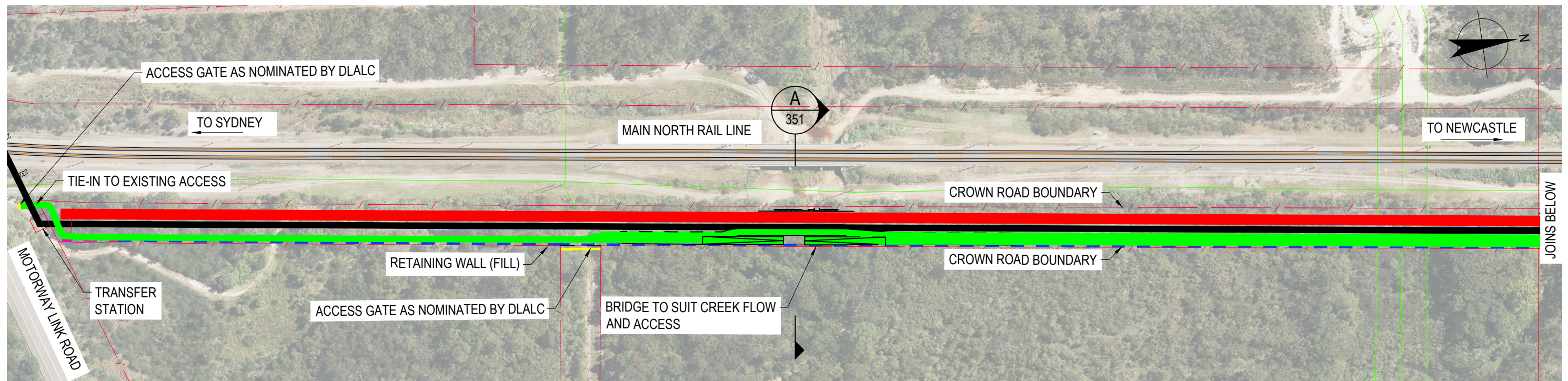
CONCEPT ONLY

A	PRELIMINARY	J.J			20.06.17
No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing			
		Drawn	Job Manager	Project Director	Date

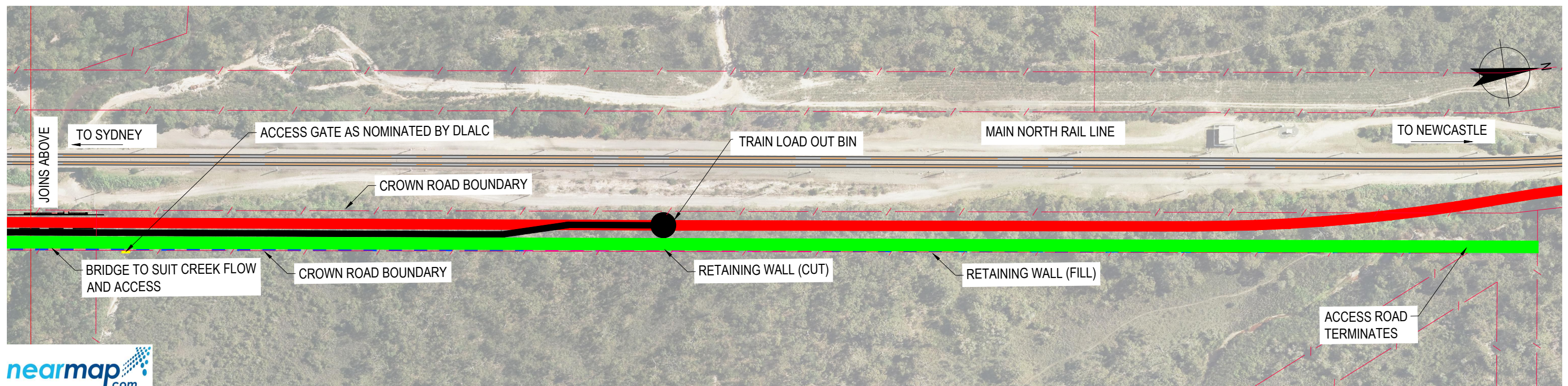


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T 61 2 4979 9999 F 61 2 4979 9988
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DO NOT SCALE		Drawn J.JENNINGS	Designer P.YOUMAN	Client	WYONG COAL	
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		Approved (Project Director) Date		Title	CREEK ACCESS RAMPS SECTION	
		Scale AS SHOWN	This Drawing must not be used for Construction unless signed as Approved	Original Size	A3	
Drawing No:		22-17704-C352				
				Rev:	A	



PLAN
N.T.S



PLAN
N.T.S

LEGEND

	EXISTING TRACK		RETAINING WALL (FILL)
	RAIL SLIDING		RETAINING WALL (CUT)
	CONVEYOR		
	ACCESS ROAD EASEMENT		
	EXISTING OVERHEAD POWERLINES		

CONCEPT ONLY

C	PRELIMINARY	J.J			21.06.17	
B	PRELIMINARY	T.S			20.06.17	
A	PRELIMINARY	S.R			06.01.16	
No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date

Plot Date: 21 June 2017 - 3:09 PM Plotted By: James Jennings Cad File No: G:\22\17704\CADD\Drawings\22-17704-SK200.dwg

GHD
GHD Tower, Level 3
24 Honeysuckle Drive, Newcastle NSW 2300 Australia
PO Box 5403 Hunter Rgn Mail Cent, NSW 2310
T 61 2 4979 9999 F 61 2 4979 9988
E ntlmail@ghd.com W www.ghd.com

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Drafting Check		Design Check	
Approved (Project Director)			
Date			
Scale	AS SHOWN		

This Drawing must not be used for Construction unless signed as Approved

Client	Project	Project	Project
WYONG COAL	WALLARAH 2	RAIL SIDING	
Original Size	A3	Drawing No:	22-17704-SK200
		Rev:	C

Appendix E
WACJV Correspondence
to Council 23 June 2017

23rd June 2017



Mike Dowling
Group Leader
Assets Infrastructure and Business
Central Coast Council
PO Box 20
Wyong NSW 2259

25 Bryant Drive (PO Box 3039)
TUGGERAH NSW 2259

Email: info@wallarah.com.au
Phone: (02) 4352 7500
Fax: (02) 4352 7599

Dear Mike,

Re: Consultation between Wyong Coal Pty Limited and Central Coast Council

I refer to the recent detailed consultative dialogue between Wyong Coal Pty Limited and Central Coast Council regarding recommendations made by the Planning Assessment Commission in its May 2017 Review Report on the Wallarah 2 Coal Project.

I confirm that as a result of that consultation, Wyong Coal supports Councils position and agrees that our organisations are fully aligned on the recommendation concerning the ***"No net impact on potential catchment yield and preferred compensation mechanism by return of sufficiently treated water to the catchment side of the water supply system"***.

I also confirm that:

- Wyong Coal and Central Coast Council whilst discussing the above matter in detail, have also held general discussions and agreed to work together to determine the most appropriate potential routes (including possible easement access) to facilitate the return of treated water to the Central Coast Water Supply.
- Wyong Coal and Central Coast Council agree that the intended purposed of the original recommendation as stated in the June 2014 Planning Assessment Commission Review Report (and supported by the May 2017 Planning Assessment Commission Review Report) is to facilitate the return of treated water to provide ***"Augmentation of the Central Coast Water Supply"*** to compensate for estimated losses during the life of mine.
- Wyong Coal and Central Coast Council have agreed to a process facilitating the transfer of ownership of Nikko Road (should Wyong Coal become owner) to Council at the end of mine life, thereby ensuring ongoing access.

Wyong Coal looks forward to further consultation on these matters as we move forward.

Regards,

A handwritten signature in black ink, appearing to read "Kenny Barry", written over a horizontal line.

Kenny Barry
Project Manager