



New South Wales Government
Independent Planning Commission

TRANSCRIPT OF PROCEEDINGS

RE: DEEP CREEK QUARRY

DEPARTMENT MEETING

COMMISSION PANEL: PROF SNOW BARLOW (Panel Chair)
 JANETT MILLIGAN
 KEN KANOFSKI

OFFICE OF THE IPC: PHOEBE JARVIS
 CALLUM FIRTH

DPE CLAY PRESHAW
REPRESENTATIVES: JESSIE EVANS
 JAMES MCDONOUGH

LOCATION: VIA ZOOM VIDEO CONFERENCE

DATE: 9.00AM ON WEDNESDAY, 6 DECEMBER 2023

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PROF. SNOW BARLOW: Before I begin, I'd like to acknowledge that I am speaking to you from the land of the Taungurung People, the stone dwellers of the Strathbogie Ranges in North-eastern Victoria and I acknowledge the owners - traditional owners of all the countries that we join the meeting today from and I'd like to pay my respects to their Elders past, present and emerging. Welcome to the meeting to discuss the Deep Creek Quarry currently before the Commission. The Applicant, the Ironstone Developments is seeking approval to develop a new hard rock quarry to extract, process and transform half a million tonnes per annum of rock material over 30 years.

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My name is Professor Snow Barlow and I am the Chair of this Commission Panel. I am joined today by my fellow Commissioners Janett Milligan and Ken Kanofski and also by Phoebe Jarvis and Callum Firth from the Office. Brad James who is also on this project is off doing other things today. In the interests of openness and transparency the - today's meeting is - of course, is being recorded and a full transcript of this meeting will be available on the Commission's website.

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As you know, this is - this meeting - stakeholder meeting is one of many matters that we go through in the consideration of this project before us. It's important that we are able to ask as many questions as we can to clarify the issues that we had noted and get a full understanding of them. So, however, as we know, please feel free to take any questions on notice if the answer is not immediately apparent and finally, and I think we all know each other, but please introduce yourself at the first time you speak and afterwards we'll be able to recognise you by your voice and also avoid, where possible, speaking over each other. So let's now begin and, I guess, the first thing we've to do is, Clay, do you have a presentation of the assessment report or the project?

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MR CLAY PRESHAW: Yes, we do, Chair, and we've tried to set it up to cover some of the items that were sent through as agenda items.

PROF. BARLOW: Yes. Good. Thank you. So can you proceed please.

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MR PRESHAW: Thank you. Yes. So good morning, my name's Clay Preshaw, I'm the Executive Director of Energy, Resources and Industry Assessments at the Department of Planning and Environment. Before I start I'd just like to thank the Commission for giving us the opportunity to come and brief you on the project and as I say, we've tried to cover off on the issues that appear to be of interest to the Commission. So I'm here today with my colleagues Jessie Evans, who's the Director of the Resource Assessments Team and James McDonough who should join shortly who's a Team Leader within the Resource Assessments Team.

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Jessie and James will provide the details on the key assessment issues before I provide an overview of our evaluation at the end and, in particular, the key reasons for the Department's recommendation to the Commission to approve the project but before I do that, just a few opening remarks. For the purposes of the presentation when any of us refer to the project we're referring, of course, to the Deep Creek Quarry Project and some comments just around the assessment report.

So the assessment report is not meant to be a full compilation of all the information that's been put before the Department throughout the assessment process. All the key

relevant information informing our assessment is publicly available at the Department's Major Projects Planning portal and can be accessed, if necessary. So our assessment report is - is really a distillation of all of that material and it's designed to give the decision-maker, which in this case is the Commission, sufficient information to make your determination and I'll say that we're confident that it does provide a very good summary of our views about the project but we also believe that this meeting and the upcoming public meeting and other meetings that you'll have with the stakeholders can be really important for fleshing out other key issues relating to the project, particularly from the community's perspective.

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So just a few comments about our approach to the report. We've tried really hard to be open and transparent about the issues that concerned us the most and if there's anything in our assessment that made us spend extra time or extra effort to look into then I'm sure that will be clear to the reader and that issue should be really emphasised and addressed with a lot of detail in the report and now just some high level comments about how that applies to this particular project.

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There are a few obvious aspects to this project which I really want to acknowledge and ensure that the Commission knows we have taken into account. So they are firstly, the project proposes clearing of about 30 hectares of remnant native vegetation which would impact habitat for several threatened flora and fauna species. It's also located adjacent to Deep Creek and a femoral water course that supports some important conservation and oyster aquaculture land uses further downstream in the - in the Karuah River.

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Secondly, the project would use 12 and a half kilometres of the Bucketts Way which is the road between Allworth and Twelve Mile Creek for road haulage of quarry projects - so for quarry products and the residents and other road users along this road would be subjected to traffic impacts from the project and the last one is - look, it's an extractive industry proposal which obviously involves drilling, blasting, excavation, it's in a relatively undeveloped rural setting so there will be impacts on the amenity of the area. So with that in mind the Department considers the key assessment issues are biodiversity, traffic, water and noise impacts.

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I'd also like to mention the social and air quality impacts including those related to the human health aspects of air quality impacts have also been carefully considered in our assessment of the project. So that's just some opening remarks. At this point of the meeting I'll step away for the most part and I can see, I think, James was close to joining but Jessie and James will work through a brief summary of the assessment process today and the key findings and the issues that are of most interest and I'll hand over to Jessie at this point.

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MS JESSIE EVANS: Thank you, Clay. Good morning, Chair and Commissioners. My name is Jessie Evans and as Clay mentioned, I'm the Director of Energy and Resource Assessments at the Department. So today I'm just going to cover the strategic context for the project and follow that by a brief outline of the engagement that the Department has undertaken for this project and then I'll hand over to James who will provide an overview of the assessment process, a breakdown of the key issues and he'll also provide a summary of the findings.

So let's start with the strategic context for this project. It is important to provide some context about this project in relation to the existing land use within the - within and surrounding the site. I'd also like to touch on the status of the hard rock quarry project market more broadly and expected future growth for this industry. I'm not sure if James has joined but when he does join I'll - we'll pop up some slides for you which shows the local context.

10 As you're likely aware, the project proposes the development of a new hard rock quarry on a relatively undisturbed site. The site is immediately to the west of the Bucketts Way and, as Clay mentioned, about 12.5 kilometres north of the Pacific Highway and this is within the boundaries of the localities of Limeburners Creek and Allworth and it sits within the Mid-Coast Local Government Area. The project is situated in a rural setting and within the setting we see vegetated hills and water courses and open grassland. There are several rural and residential - rural residential properties that also surround the project site, these are particularly to the south and east close to the Bucketts Way.

20 So the proposed quarry extraction area itself is about 100 metres to the west of Deep Creek. As Clay mentioned, this is an ephemeral water course and it does join up with the Karuah River about 20 kilometres downstream. The Karuah State Conservation Area and Karuah National Park are located about two kilometres to the south-east of the proposal extraction area. So products from this quarry would include manufactured sand, rail ballast, gabion and armour rock, general and select fill, road base and a range of aggregates for concrete and asphalt production, draining works and landscaping.

30 The primary target material for extraction is the rhyolite resource and this is aimed at satisfying demand for high friction road aggregates typically used in the construction of intersections and roundabouts and this where that you need a higher-grip material to improve road safety. The rhyolite material itself is also a lighter colour than general other quarry products that get used in road construction and this means that it gives it a high solar reflectance value that generates lower surface temperatures. So this can help to reduce road surface temperatures and help minimise the urban heat island effect in built-up areas.

40 So this proposed quarry would primarily supply hard rock products to the Hunter, Central Coast and Sydney construction markets. Owing to their relative proximity to these markets and the key transportation corridors including the Pacific Highway, Hunter Expressway and New England Highway there are at least seven other existing or proposed hard rock quarries within about 25 kilometres of this project. Of these, five State Significant Development Proposals for new quarries or extensions to existing quarries.

So while it is difficult to quantify the amount of hard rock material required over the next few years this recent influx that the Department has seen of applications for hard rock quarries in the region does point to a strong demand in the short to medium term for these products. The Department has also been briefed consistently over the last two years by several of the large quarry operators in New South Wales along with many of the other smaller ones. It's also been briefed by the peak industry body

which is Cement, Concrete and Aggregates Australia about the need for hard rock resources to supply the construction industry in New South Wales.

Another emerging trend that we are seeing is that renewable energy projects and the proponents that are trying to construct those projects are struggling to source quarry materials for construction and they're now coming to the Department to express their concern about being able to support - supply these construction materials and to explore various options that they could use.

- 10 So the construction sector itself is obviously a key contributor to economic growth in New South Wales. It employs about 370,000 workers and contributes 45 per cent of the New South Wales taxation revenue base. So, therefore, competitive and reliable supplies of quarry products are critical to the industry. Demand for these products itself is driven by government spending on public infrastructure as well as private investment in commercial, industrial and residential development.

- 20 The need for infrastructure investment in New South Wales including within the Hunter region where this project would be situated is identified in several key state and regional strategy documents. So just one example of this is the Hunter Regional Plan 2041 and that predicts that the Hunter region would require an additional 101,800 dwellings by 2041 and that's to meet the need for the growing population. The plan also recognises that the Hunter region is a leading regional economy and identifies the need for additional employment land, expanded freight and passenger rail networks that are interregional transport connections. Substantial quantities of high quality hard rock quarry products will be required to meet these needs.

- 30 So while the increased demand for construction materials could be partially met by the project, when you combine that with the surrounding rural and residential development and the recognised values of the region it does prompt the need for careful and balanced consideration of these potentially competing land uses.

- 40 So next I want to move onto the engagement that the Department has undertaken for the project. The project was publicly exhibited for 29 days from 19th of November, 2021 to the 17th of December, 2021 and during this time we received 59 public submissions, 95 percent of which did object to the project. So during that exhibition period the Department also carried out a site visit and held a community information centre at the Limeburners Creek Community Hall. Clay, James and myself also undertook a second site visit which included a visit to a local landowner's residence on the 19th of June this year.

These site visits and the community information sessions were very informative and valuable to the Department's assessment of the project. The community information session, in particular, provided us with an opportunity to explain the Department's public exhibition and assessment process to many of the local residences. We were also able to hear firsthand the community's concerns and get an understanding of what the project would mean for them. These concerns that we heard on the day were largely reflected in the submissions we received on the project.

- 50 The dominant issue raised in submissions was the potential traffic impacts of the project, particularly in relation to road safety impacts from heavy vehicles travelling

along the Bucketts Way. Closely following this were concerns about biodiversity, noise and vibration, air quality and water impacts. The potential health impacts of the project due to air quality impacts was also consistently raised as a concern. Other issues raised included economic, social, land use and blasting impacts. Concerns with Ironstone's community engagement program during preparation of the EIS was also raised as an issue in several submissions.

10 The Department consulted with, and received advice from key government agencies and public authorities including both Mid Coast Council and Port Stephens Council. The issues raised in submissions along with the advice received from government agencies and public authorities has been given detailed consideration in our assessment of the project. This also extends to our recommended conditions of consent which was developed largely based on feedback we received during agency consultation. I'm now going to hand over to James to further talk you through the project and the key issues.

PROF. BARLOW: Thank you, Jessie.

20 MS EVANS: He looks like he's having trouble coming off mute which is what happened to me at the start as well. Yeah.

MR JAMES McDONOUGH: Sorry, everybody, can you hear me now?

MS EVANS: Yes.

PROF. BARLOW: How long do you think it's going to take you to go through this, do you know?

30 MR McDONOUGH: Probably 20 to 25 minutes, I would say. I'll try to move through it fairly quickly if you like.

PROF. BARLOW: We're conscious of the - leaving ourselves some time for questions here.

MR McDONOUGH: Right.

40 PROF. BARLOW: So perhaps accelerate a bit because, you know, we're already 20 minutes in so perhaps finish it by at least 20 minutes to give us 20 minutes for questions.

MR McDONOUGH: O.K. I'll do my best.

PROF. BARLOW: Thank you.

50 MR McDONOUGH: O.K. So the project. On the 25th of November, 2021 Ironstone submitted their - their State Significant Development application and EIS for the Deep Creek Quarry project. The application sought approval to develop a new hard rock quarry to extract, process and transport up to 500,000 tonnes per annum of hard rock over a period of 30 years. The quarrying would be undertaken using open-cut extraction methods including excavating, drilling, blasting, loading and hauling of

quarry products and then there would also be some onsite crushing and screening of the extracted material.

Construction is proposed from - construction and quarrying operations is proposed from 7.00am to 5.00pm Monday to Friday and 8.00am to 1.00pm on Saturdays. I just wanted to also point out that this - these hours align with the standard daytime period set out in the Noise Policy for Industry and other government policy documents. There is a slight deviation when it comes to the loading and dispatch of trucks which is proposed from 6.00am to 6.00pm Monday to Friday and 6.00am to 1.00pm on Saturdays. So that's - that first hour between 6.00am and 7.00am each day is considered the night time period under the Noise Policy for Industry and similarly the period from 5.00pm to 6.00pm falls within the evening period. I guess this - I just want to make this point here because it becomes apparent when we start talking about the noise impacts of the project.

I hope you can see my slides there but I just wanted to point out some of the general features of the project. I guess there's three main areas, there's the main stockpile area, the quarry pit and the office and workshop area and the site would be accessed by the establishment of a dedicated quarry access road. There's no processing plant on this figure, that's because the - all the crushing and screen is proposed to be undertaken inside the quarry pit using mobile plant, that would be to minimise noise impacts basically.

There's also a few water management features you can see on this figure. The stockpile area, sediment dam and the workshop area sediment dam and the quarry dam. So the two sediment dams are dirty water management dams and the quarry pit is just a sump within the - within the extraction area.

So the road haulage would involve trucks travelling south for about 12 and a half kilometres along the Bucketts Way before reaching the intersection with the Pacific Highway. The majority of the trucks would then make a right turn onto the Pacific Highway and head south towards Newcastle, Central Coast and Sydney. Trucking would be undertaken at a maximum rate of 25 laden truck movements per hour.

I'll now provide a summary of the key assessment issues as flagged by Clay; namely, biodiversity, traffic, water and noise impacts. I'll also briefly summarise the Department's assessment of air quality and social impacts. It's also important to note at this point that we've undertaken an assessment of several other environmental matters all of which are documented in our assessment report but firstly, in relation to biodiversity impacts. Impacts to biodiversity were raised as an issue in 50 percent of objecting submissions. Key impacts to biodiversity are associated with the disturbance of about 30 hectares of native vegetation. None of this vegetation has been identified as constituting a threatened ecological community; however, it does provide habitat for a range of threatened flora and fauna species listed under both the New South Wales Biodiversity Conservation Act and the Commonwealth Environment Protection Biodiversity Conservation Act.

So more specifically, two threatened flora species, the Black-Eyed Susan and Netted Bottle Brush and habitat for three threatened fauna species, the Koala, Southern Myotis and Squirrel Glider would require offsetting by the retirement of species

credits and that's due to direct impacts to individuals or from the loss of breeding habitat. Further, 14 fauna species comprising four bird, eight microbat and two mammals would require offsetting by the retirement of ecosystem credits and that's due to the loss of foraging habitat.

10 An important point to make here is that the project would not result in any serious and irreversible impacts as defined under the Biodiversity Conservation Act. The project is also unlikely to have an adverse effect on aquatic biota within Deep Creek or on the oyster aquaculture industry located further downstream within the Karuah River estuary. To offset the biodiversity impacts Ironstone is committed to revegetating riparian areas with koala feed trees, replacing removed hollows with nest boxes in retained vegetation and establishing an onsite biodiversity stewardship site.

20 The onsite offset would include about 235 hectares within its own landholdings and potentially a further 125 hectares within an adjacent landholding. Biodiversity offset obligations would be satisfied in the following order of preference. The first option would be retirement of like for like credits generated within the onsite biodiversity offset areas followed by retirement of credits by purchasing from other existing biodiversity stewardship sites and then if those two options aren't able to meet all the credit requirements then payment into the Biodiversity Conservation Trust Fund would be the last resort. Ironstone has also proposed a staged approach for the retirement of the credit liabilities for the project.

30 The Department has accepted this staged approach and has recommended conditions requiring the retirement of credit liabilities prior to each stage of vegetation clearing. This also aligns with Mid Coast Council's recommendation that offsets be secured prior to disturbance. I'll also point out that BCD has not raised any objection to the proposed mitigation, management and offsetting of biodiversity. Overall, the Department considers the impacts of the project on biodiversity are acceptable subject to our recommended conditions.

I'll now move onto our assessment of traffic impacts. It's important I firstly acknowledge that impacts for the safety and efficiency of the local road network from the proposed road haulage of quarry products was a key issue for the community as Jessie mentioned and also a key issue for our assessment.

40 So the first 7.2 kilometres of the Bucketts Way heading south from the quarry access road is within the Mid Coast Local Government Area and the remaining 5.3 kilometres is within the Port Stephens Local Government Area. In terms of the assessed impacts, the traffic volumes generated by the project would not result in a change to the existing level of service for roads along the primary haulage route. While there would be some deterioration in intersection and road network performance predicted during the life of the project this would mostly result from broader regional traffic growth and would be expected to occur with or without the project.

50 While some road safety risks were identified along the primary haulage route most of these would be resolved prior to the commencement of trucking. Further, no major concerns regarding road safety have been raised by either of the local councils or by Transport for New South Wales. As you're probably aware, Ironstone has proposed a quarry access road and intersection with the Bucketts Way and several other measures

to minimise the project traffic impacts. This includes agreeing to pay road maintenance contributions to Mid Coast Council and Port Stephens Council in accordance with each Council's contributions plan but I think in total the contributions would equate to approximately \$11 million over the life of the project. It's also worth mentioning that neither Councils objected to the proposed contributions for the project.

10 The Department has recommended conditions requiring Ironstone to prepare a traffic management plan prior to the commencement of construction. The recommended conditions also require strict monitoring of road haulage rates. Subject to these conditions the Department considers that the traffic impacts of the project are acceptable.

Next I'll provide a summary of the Department's considerations of impacts of surface water and groundwater resources. Key issues related to water resources are associated with the discharge of site water and potential impacts on the water quality and hydrology of Deep Creek, water licencing and groundwater inflows and drawdowns potentially impacting water users.

20 The project has been designed to maximise the use of water on site, minimise the take of clean water from the catchment and minimise discharges to Deep Creek. The water management system generally comprises a dirty water management system which includes two sediment dams, the in-pit water storage dam and capped drains to intercept dirty water runoff from disturbed areas and direct it to one of the two sediment dams and a clean water system which includes diversion drains to divert runoff from undisturbed catchments upslope around the site and culverts and bridges to provide access over existing water courses.

30 Captured water from the sediment basins would be discharged via two licenced discharge points into tributaries of Deep Creek. These discharge points would be regulated by the EPA under an Environment Protection Licence. The EPA has also provided general terms of approval for such a - such a licence. The Department considers that the proposed water management system has been suitably designed to manage risks to hydrology, water quality and flooding and there are measures available to manage any water shortfalls or surpluses without adversely impacting the receiving environment.

40 Excavation of the quarry would result in some inflow of groundwater into the quarry pit, although this is expected to be relatively minor considering the low porosity of the strata within the extraction area. The quarry has been designed so that the base of the extraction area remains in the rhyolite limiting the interaction and possible future discharge of groundwater from the underlying and more porous shale units.

Importantly, the predicted impacts are less than the level 1 minimal impact considerations set out in the New South Wales Aquifer Interference Policy. Department Water has also not objected to these findings. Ironstone has demonstrated that it can obtain sufficient entitlement under its harvestable rights and water access licences to account for the expected water take from the project.

The Department has also recommended that Ironstone be required to prepare and implement a water management plan in consultation with DPE Water. The Department's recommended conditions also include a requirement for Ironstone to periodically validate the groundwater model for the project. This would require an update to the model after the first five years of quarrying operations and at least annual comparison of monitoring results with modelled predictions.

10 In summary, the Department considers that the risks of impact to surface water and groundwater resources are low and that the project could be suitably managed in accordance with the recommended conditions to avoid any unacceptable impacts. That's it for water.

I'll now move onto noise impacts. We're aware that noise was a key issue raised in public submissions. Concerns over noise impacts were raised about half of all objecting submissions. There are two key elements of the project that have the greatest potential for noise impacts.

- 20 (1) Noise from plant and equipment during extraction, processing and truck loading.
- (2) Noise from the hauling of quarry products.

The existing noise environment is typical of a rural and residential - rural residential land use setting, the key contributors to the acoustic environment of vehicles travelling along the Bucketts Way. The closest receiver to the quarry pit is about one kilometre to the south, that's receiver 19. The closest receiver to the access road is located about 280 metres to the north. This is receiver 30. As you can see in the figure I'm showing there's higher densities receivers located further to the south and south-east on either side of Forest Glen Road and along the Bucketts Way.

30 Just wanted to point out several features of the project design that have been adopted to minimise noise impacts. These include locating the extraction area in a natural amphitheatre formed by the surrounding ridge lines to provide a noise barrier for residents to the south and west of the site. Proposing to undertake quarrying from the east to west to make use of the noise barrier at the event and quarry face. Positioning the processing plant within the quarry pit to maximise noise screening. Retaining the eastern extent of the extraction area to maintain a four to five metre high barrier above the quarry floor, again to maximum noise - noise screening and positioning the quarry access road further to the south than its original location to maximise the separation
40 distance to receiver R30. Proposed daytime only quarrying and processing operations also removes key noise sources during the most sensitive night time and evening periods.

In terms of predicted impacts, the noise assessment indicates that daytime noise levels would be below the project noise trigger level of 40dBa and all receivers with the exception of receiver 25 which would experience a worse case noise level of 42dBa, that's two dB above the PNTL and receiver 32 which would experience a worse case noise level of 40dBa which is at the PNTL. According to the - - -

PROF. BARLOW: Sorry, James. That noise level is largely transport noise level on the intersection and Bucketts Way?

MR McDONOUGH: Yeah. For 32 absolutely, yeah, yeah. 25 is located to the north-west of the extraction area but certainly for receiver 32. I also should point out that there were other noise predictions - other receptors where noise levels were predicted to be higher but those receiver locations such as receiver 3 and 4A have a negotiated agreement with the Applicant to generate higher noise. So noise criteria would not apply at those locations with such an agreement.

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If we compare those noise level predictions to the Noise Policy for Industry and also the Voluntary Land Acquisition and Mitigation Policy a one to two dB exceedance of the project noise trigger levels represents a negligible noise impact which is indiscernible by the average listener. So that's the daytime impacts. When we move to night time impacts which are those occurring between 6.00am and 7.00am in this instance the PNTL of 35dBa would apply and noise levels would be below that PNTL at all but one receiver location which is R30 and R30 would experience a worse case noise level of 36dBa which is 1dB above the 35. Again this represented a negligible noise impact.

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I'll just also mention that there'd be no exceedances of the 52dBa maximum instantaneous noise level sleep disturbance criterion and during construction the worse case noise levels at all receivers would remain at least four dB below the noise affected management criterion of 45dBa. Again in terms of road noise the project would not result in an exceedance of the road noise criterion of 55dBa. So in summary, no residents or privately-owned land that is not under an existing negotiated agreement would be subject to voluntary mitigation or land acquisition rights in accordance with the government policy.

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The Department's recommended noise limits which are consistent with the EPA's recommendations have been set based on those PNTLs with the exception of the night time noise limit at receptor R30 which has been set based on the predicted noise level of 36dBa. The Department has also recommended a range of other conditions that would require Ironstone to operate a comprehensive noise management system to minimise the noise impact of the project. We consider that these recommended conditions strike a fair balance between protecting the amenity of the local community and providing for the operation of the project. Subject to these conditions, the Department considers the noise impacts of the project are acceptable.

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I'll also just quickly mention blasting impacts. In summary, there are no predicted exceedances of air blast over pressure or ground vibration criteria and the Department considers that blast impacts can be appropriately managed to avoid any impacts to sensitive receivers. That's it for noise. I'll now provide a summary of the Department's consideration of air quality.

MR PRESHAW: James, I might just jump in here. Perhaps just give a quick summary of the experts advice - - -

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MR McDONOUGH: Sure.

MR PRESHAW: - - - on that particular - maybe just stick to that part.

MR McDONOUGH: Sure.

MR PRESHAW: And then I think after that if - if the Commissioners are happy to ask questions we can - - -

MR McDONOUGH: Sure.

10 MR PRESHAW: I just think it's important to do that last little bit on air quality.

MR McDONOUGH: O.K.

PROF. BARLOW: Thank you, Clay.

MR McDONOUGH: Just briefly with air quality. There's no exceedances of assessment criteria. That's all I'll say on air quality. But there is one aspect of air quality that's important and it was a focus of our assessment and that is in relation to potential health impacts particularly in relation to receiver R30. So during our
20 engagement with the community we were made aware that receiver R30 suffers from a hypersensitivity to diesel particulates. So R30 is the dwelling located 200 metres to the north of the quarry access road on the Bucketts Way as shown on the figure. So to understand the risk of impact to this individual the Department engaged an independent expert Dr Jackie Wright of Environmental Risk Sciences to provide advice in relation to potential health impacts from diesel combustion emissions from the project.

Dr Wright confirmed that there are human health hazards associated with exposure to diesel particulates. She also indicated that hypersensitive reactions can be caused by
30 both acute and chronic exposure. She advised that the most health-protective guidelines values are 10 micrograms per cubic metre for acute exposure which typically relates to a one-hour exposure period and five micrograms per cubic metre for chronic exposure which relates to long term or annual average exposure. So Dr Wright assessed the potential health risks associated with not only diesel emissions from the project but also vehicles travelling along the Bucketts Way and additional vehicles associated with the proposed Hillview Hard Rock Quarry which is proposed seven kilometres to the north.

So she predicted that the project would result in incremental and cumulative maximum
40 one-hour average diesel particulate matter concentrations of .175 micrograms per cubic metre and 1.9 micrograms per cubic metre respectively which is well below the guideline value of 10 micrograms per cubic metre. In terms of chronic exposure she predicted incremental and cumulative concentrations of .02 and .6 micrograms per cubic metre respectively which again are well below the guideline value of five micrograms per cubic metre.

She ultimately concluded that exposure to diesel particulates in the project would be below guideline levels including for hypersensitive individuals. On this basis, the Department concluded that the risk of project-related adverse health impacts from

diesel particulates is very low. I did have a section on social. I'm happy to skip over that if you would like to ask some questions.

MR PRESHAW: Yeah, I'm happy to move straight to questions. That gives roughly 20 minutes.

MR McDONOUGH: O.K.

10 PROF. BARLOW: Thank you. Thank you collectively for the presentation. Perhaps we can - we flagged that traffic and transport - excuse me - were a major issue here and clearly they are. Just a question on - before Ken and Janett have a go as well, what is - do you know what is the sort of - the decay rate of diesel particulates in the air? You know, you mentioned what the guidelines are but if you have an hourly rate of exceeding that how long do they take to decay?

MR PRESHAW: James, do we have any information on that or do we need to take that one on notice?

20 MR McDONOUGH: I think we might have to take that on notice. All I would say that I think the dispersion of those particulates is also under consideration as to how long they would remain as a, you know, pollutant in a particular location. So - but that's probably a complex modelling question we'd have to come back to you on.

PROF. BARLOW: O.K. That would be - that would be good. Ken, do you have any questions on transport?

30 MR KEN KANOFSKI: Yes. Thanks, Snow. A couple of questions. Just in terms of the - I've read the model intersection performance and particularly the intersection of Bucketts Way and Pacific Highway with the right turn. Did - did you - did the Department or Transport actually do any observation of that performance of that intersection on any of your site visits, I guess, to confirm the sorts of delays that were outlined in the modelling?

40 MR PRESHAW: Yeah, look, I'll field that to start with. When we visited the site we did stop and, I guess, look at the intersection but in terms of doing any technical work we did not but we did - we did sit around sort of just having a look and trying to see what sorts of delays are typical in that - in that area and it did seem to align with the traffic impact assessment. As to - again that's not - that's by no means a technical analysis that we did but it was really just a confirmation, anecdotal sort of confirmation. In terms of what Transport did I might have to refer to Jessie and James but as James mentioned, Transport did not raise any particular concerns around that but I'm happy if James has got further comments to add.

50 MR McDONOUGH: Yeah. So as you will have seen, the traffic impact assessment included a road safety audit and it mentioned that Transport were doing upgrade work to the intersection. As part of our assessment we actually went back and asked the Applicant to confirm the status of those upgrades and they've effectively been completed now. Also just wanted to mention that we asked Transport, you know, whether they had any issues with the operation of that intersection due to the project and they did not raise any objections whatsoever to the project in terms of how that

intersection would operate. We actually went back to them a second time to confirm that that's what they were saying and they were well and truly comfortable with it.

MR PRESHAW: Perhaps to add some - add some context to that. It's often the case with quarry projects in New South Wales that the - I guess, the performance of the intersection becomes one of the crucial factors in whether the project can go ahead. We've actually got a set of projects in a not too distant location from here where the performance of the intersection with the highway has actually delayed those projects for a number of years and is now leading to what I would call is a very major upgrade that's going to be required and the cost is going to be shared across multiple projects, multiple proponents.

So that's, I guess, some context around why we're really - really careful in checking with Transport whether they have an issue like that and that - it's a very different situation in that case, the intersection of the highway is extremely complex and difficult for those projects.

MR KANOFSKI: And just - just - I mean, the traffic counts were all done outside of school holiday periods, did Transport comment at all on performance - I mean, the quarry operates 49 weeks of the year which means I presume, you know, it is going to operate during some holiday periods when the traffic numbers at that intersection are usually higher.

MR PRESHAW: Look, unless James has got comments on the specific time that they did that we may need to take that on notice.

MR KANOFSKI: The assessment was in a non-school holiday.

MR PRESHAW: Yeah, exactly. I mean, presumably what you're driving at there is that, you know, this is - this area's potentially busy during school holidays, tourism kind of a big - - -

MR KANOFSKI: Yes. Yes.

MR PRESHAW: - - - aspect in this particular area. That is something that, look, we can take on notice and see whether there's any sort of technical response to that but in terms of management that is potentially something that can be built in the traffic management plan and obviously that - the traffic management plan can be - can be established in a way that requires limits to apply during particular times of the year or particular times of the day and if we need to consider that for school holiday periods that's certainly something that could be built into either the conditions or the conditions around the traffic management plan.

PROF. BARLOW: Is there a way, Clay, there, you know, in the modelling to establish that that is a potential problem of what the Pacific Highway flow would be during, say, school holidays and the day before and day after major holidays like Easter, et cetera, et cetera.

MR PRESHAW: Yeah, yeah, yes, I think is the answer. We would need to - I mean, to the first question around sort of the technical aspect around how the modelling was

undertaken we'll have to check into that and come back to you but if we assume that - you know, there was not, you know, enough survey during that particular time that is something that can either be done, I guess, potentially quite quickly before determination or something that could be done after determination or something that could - could be managed through the conditions and that's certainly something that we've seen with other mining and quarry projects where the operations and the - the traffic management issues can be - can be managed post-approval.

10 MR KANOFSKI: O.K. I wanted to find, Snow ---

PROF. BARLOW: Yes.

MR KANOFSKI: Last one question. In terms of road safety - - -

PROF. BARLOW: Get close to your microphone, Ken.

20 MR KANOFSKI: Sorry, my apologies. In terms of road safety I read - I couldn't find a crash history. I mean, some of the submissions refer to the current - you know, the current crash history of the road but I actually couldn't find the crash history anywhere.

MR PRESHAW: I think we'll have to take that one on notice as well.

MR KANOFSKI: O.K.

PROF. BARLOW: O.K.

MR KANOFSKI: Thanks. Thanks, Snow.

30 PROF. BARLOW: Janett, do you have some questions about noise or amenity?

MS JANETT MILLIGAN: Can I ask a couple about traffic first, Snow?

PROF. BARLOW: Yes.

MS MILLIGAN: In relation to the road safety issue, you know, I note that a number of submitters talked about school buses, et cetera. I just wonder is there anything else to say about how that issue was considered or discussed?

40 MR McDONOUGH: I can answer this one, Clay, if you like.

MR PRESHAW: Please.

50 MR McDONOUGH: So I guess I'll start with the road safety audit again which was - which was provided as part of the traffic impact assessment, as part of the Environmental Impact Statement, it identified several moderate risks to the haulage route. We went back to - during the course of our assessment we went back to the Applicant to - given the timing of the EIS and, you know, given it's been a couple of years since that audit was undertaken to seek an update on, you know, the status of some of those issues because some of those issues were flagged by the Applicant as

having - were in the works program for the Council's upgrade of the Bucketts Way and also, as I mentioned, Transport for New South Wales upgrade to the intersection with the Pacific Highway.

10 So when we revisited those road safety risks most of them were lower risk items due to the upgrade works that have occurred along the Bucketts Way. In terms of buses and school buses, in particular, the - there aren't any dedicated bus stops that we're aware of along the Bucketts Way between the entry to the access road and the Pacific Highway along the Bucketts Way. There is a - there is a bus stop at Limeburners Creek but it is off the main alignment of the Bucketts Way.

We also - you'll see in our recommended conditions have asked Ironstone to consider mitigating, you know, impacts to buses as part of their traffic management plan as well. So, you know, we'll get an opportunity to, you know, look at how they propose to consider haulage during bus time, you know, key school times and things like that as part of their traffic management plan basically.

20 MS MILLIGAN: O.K. Thank you. Thank you. And just one other quick one about road condition. I note your assessment that the deterioration condition probably not going to be altered by this project and it wouldn't be much different to what would happen over time with increased population and traffic. That's - that's - and offset by the road contributions to Council. Is there any sort of nexus between the contributions, the road condition - I suppose I'm asking what - what will the community see in terms of a connection between those contributions and the maintenance of the road condition if it's not seen as being impacted specifically by the project?

30 MR PRESHAW: So will the money be spent maintaining that part of the road basically?

MS MILLIGAN: I suppose I'm just pointing out the fact that you don't think that the project will contribute in any significant way to the deterioration of the road but on the other hand we have contributions to maintain road quality. So can you just talk a little bit about that?

40 MR PRESHAW: If I could just jump in there. Yeah, we've had this discussion in our - during our assessment of the project. I guess it's our expectation that given the significant amount of money that would flow from this project, if approved, to Council that, as with other projects, some proportion of that would be spent in the local community and the obvious way to spend money with quarry and resource projects is to put it into road maintenance in the area and the like. So certainly my expectation is that some of the - I think it's \$11 million or somewhere near that amount would be spent in the local community, in particular, in relation to road but, James, I'm not sure if you have any specific insight into that? It might be something you need to take on notice.

50 MR McDONOUGH: Yeah, I think so. I mean, I guess, as has been our experience with other projects where there's been sort of disagreement between Council and the Applicant about how much money needs to be contributed, in this case the Applicant has agreed to pay the contributions that were set out in the Council Contributions Plan

and no other Councils raised any issues with that. So, I guess, it's also worth mentioning that it's been a fairly straightforward process in terms of how the contributions have gone for this project.

10 MR PRESHAW: It might be something that we could - you know, we could potentially speak to Council about. I mean, the conditions are quite clear, just having a look at them again, that the financial contributions go towards maintenance of roads, used for haulage of quarry products. So, yeah, we could - if the question is around a level of specificity about where - where that road maintenance goes happy to enquire further but it does need to be on - in relation to maintenance of roads used for haulage of quarry products so as opposed to, say, there are general road maintenance in the LGAs.

20 MS MILLIGAN: Thank you. And, Chair, not a question but just one comment if I could. The issue of noise and the noise standards and the fact that two hours of the operating - operation early morning and late afternoon technically come within the night time guidance. I just wondered if there was any other comment about that because what we have at least at one receiver is, you know, somebody flipping from day to night but still being under the required level because the night time standard goes up by, I think, five, three or five and we are talking about just one additional hour in the late afternoon. I just wonder if there's any comment on that.

MR McDONOUGH: Would you like me to answer that one, Clay or - - -

MR PRESHAW: Yeah, sorry, yep, yep.

30 MR McDONOUGH: Yep. So just to recap, the night time period is from 6.00am to 7.00am and that actually requires a more stringent or lower noise trigger level than the daytime period. So it's 5dB below the daytime and in some way, you know, whether the noise is acceptable is dictated by, you know, the Applicant being able to demonstrate that they can meet those - those levels and, you know, that's through, I guess, the, you know, various iterations of the project design to come up with a solution that - that can meet the trigger levels set out in the noise policy.

So, you know, it's not the first quarry that would propose early morning or evening activities. Like some quarries operate 24 hours a day, I think. So it's - it's - you know, whether - whether it's acceptable or not is largely dictated by, you know, what the noise levels are based on the predictions, I think.

40 PROF. BARLOW: One quick question before we're almost out of time and this is just moving down to water. Do you know if the modelling carried out by the proponent actually included extreme events modelling or in relation to climate change in relation to those two sediment accumulation dams because my - my interest in that is have they made adequate provision there for very high level rainfall events or intense rainfall events that could - you know, because those sediment dams are obviously on the floodplain could overwhelm those dams quite easily so you could dump a lot of sediment down Deep Creek if that event occurred. So do you know if that was taken into account?

MR PRESHAW: My understanding is that there was modelling for larger flood events. So both the one percent APN, the PMF, the probable maximum flood, which I believe is the - I guess the largest possible flood in any given year. Is that correct, James?

10 MR McDONOUGH: That is correct. Also just in relation to the sediment dams, they have been designed in accordance with the Managing Urban Stormwater Design Manual or which is termed the blue book, there's a specific manual there for mines and quarries and there's various categories of design criteria that can be applied to the
10 sizing of those dams and in this case the design category that has been applied is the highest design category for protecting sensitive environments. So what that means is that it's been designed to protect - to manage larger storm events, I guess, within the sort of band of different design criteria without being specific about the frequency of storms that it's been designed for but we can provide more specific detail on the design criteria if that - if - I know this document is in our assessment report but - - -

20 PROF. BARLOW: Yes. What I was looking for, James, if you could provide detail particularly how long since the blue book has been updated in relation to different climate conditions and rainfall intensities which is, in fact, impacted on a lot of state of
20 New South Wales in the last 10 years. So let's - so take that a question on notice.

MR McDONOUGH: Yep.

30 PROF. BARLOW: I think we're pretty well out of time. We have some questions on notice but otherwise thank you all very much for your forthcoming answers and openness and this process. Clearly this is the beginning of a process which we always like to talk to the Department first clearly but we will continue this through our stakeholder consultations and public meeting. So thank you all very much. So Phoebe, is there anything else we need to cover before we leave?

MS PHOEBE JARVIS: No, nothing from my end, thanks, Snow.

PROF. BARLOW: O.K. Thank you, Clay and thank you, Jessie and thank you, James and we'll be in touch. Thank you.

MEETING CONCLUDED