14 November 2019

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Our ref: 2125774-49701
Your ref:

Dear Paul

Bell Quarry Rehabilitation Project
Response to Additional RMS Comments - DA294/18

1 Introduction

We understand that Lithgow Council has referred DA 294/18 for the proposed Rehabilitation of the Bell Quarry to NSW Roads and Maritime Services (Roads and Maritime) as part of the determination process. Roads and Maritime have provided two sets of comments on the proposal dated 8 February 2019 and 5 November 2019.

The initial Roads and Maritime submission outlined considerations to be considered as part of a consent. These included operational hours, provision of safe intersection site distances, management of dust during unloading and transport, implementing and driver code of conduct, scheduling to minimise convoy lengths and notifying the community about traffic related impacts.

The second submission was received by Council more than a year after the submission of the development application (DA) and accompanying Environmental Impact Statement (EIS). The submission notes that there are a number of sensitive and constrained areas between Sydney and the site and due to the volumes and duration of the proposal a haulage analysis is required. The haulage analysis is recommended to include specific details from source point(s) to quarry, average vehicles per day, timing, and likelihood of surge or pulse activities, any respite and mitigation measure and specific haulage route complaint management system. The submission also states that consideration of crash history may warrant an investigation into alternative modes of transport for transfer of fill to the site.

Given the length of time from submission of the DA and the nature of queries raised in the Roads and Maritime second submission, it appears the comments have not been made based upon a review of the original EIS or clarifications provided in the Submissions report. A detailed Traffic Impact Assessment was prepared as part of the EIS in accordance with the Roads and Maritime inputs to the Secretary's Environmental Assessment Requirements (SEARs) and RTA's *Guide to Traffic Generating Development* 2002. The assessment included a haulage analysis based upon the traffic predicted to be generated by the project including detailed modelling undertaken at the intersections likely to be most affected by the proposed development including the intersection of Sandham Road and Bells Line of Road and the intersection of Bells Line of Road and Darling Causeway in accordance with the requirements outlined in the SEARs.

The issues raised in the Roads and Maritime letter dated 5 November are considered to have been primarily addressed as part of the traffic impact assessment prepared as part of the original EIS, the response to submissions or can be incorporated as part of the proposed traffic management plan which would be prepared following determination of the project (as was recommended by Roads and Maritime in its initial submission). Specific comments to address matters raised in the second Roads and Maritime correspondence is provided in the following sections.

2 Submissions

2.1 Haulage analysis

The submission states that there are a number of sensitive and constrained areas between Sydney and the site and due to the volumes and duration of this proposal a haulage analysis is required.

The Project involves importation of clean emplacement material using truck and trailer combinations of up to 42.5 tonne capacity. The source of the material will be based upon availability of Excavated Natural Material (ENM) and Virgin Excavated Natural Material (VENM) from construction projects within the Sydney basin or the local region over the life of the project. Transport to the site will be via the existing haulage routes including Great Western Highway, Bells Line of Road / Chifley Road and Darling Causeway. The regional haulage network comprise designated heavy vehicle routes utilising major state and arterial roads whose primary purpose is the transport of people and freight between regions.

To ensure the haulage for the rehabilitation works are equivalent in scale to the former quarry operations approved under the existing consent it is proposed to limit haulage to a maximum rate of 140,000 tpa. It is estimated that haulage will occur for around 250 days per year accounting for wet days and reduced haulage on weekends with an average transport capacity of 30 tonne. The resulting traffic generated based on this assumption is an average of 19 truck deliveries per day (37 heavy vehicle movements) which is equivalent in scale to the extractive operations approved under the existing consent.

Due to the nature and scale of the proposed operations it is unlikely that surge or pulse activities will be experienced in the operations. However, it was recognised that haulage to site may occur in campaigns corresponding to generation of excess VENM and ENM from construction projects throughout the region. This has the potential to double the haulage movements for a restricted period of time and generate up to 38 truck deliveries or 74 vehicle movements per day. Any temporary increase in haulage during campaign operations would be followed by a period of reduced haulage to maintain the capacity of the site to accept 140,000 tpa.

To ensure a conservative assessment, two traffic generation scenarios were considered as part of the traffic impact assessment:

- An average haulage – 19 truck deliveries or 37 heavy vehicle movements per day; and
- A worst case haulage - 38 truck deliveries - 74 heavy vehicle movements per day.

The predicted peak hour traffic generation for each scenario considered in the EIS is included in Table 1.

Table 1 Predicted peak hour traffic generation

Traffic Scenario	Light Vehicles (veh/h)		Heavy Vehicles (veh/h)		Total vehicles (veh/h)	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
Average Haulage	2	2	2	2	4	4
Worst Case Haulage	2	2	4	4	6	6

The haulage traffic represents a relatively small proportional increase to background traffic on the wider regional road network which comprise designated heavy vehicle routes utilising major state and arterial roads. The average percentage increase of between 1 and 3% in comparison to existing vehicle numbers is not expected to impact upon the safety of capacity of the road network. A maximum of four truck deliveries per hour under the Worst Case Haulage scenario will not result in surge or pulse effects on the road network.

The Project is of a relatively small scale and involves considerably fewer truck movements than a similar State Significant Development Modification recently approved for transferring VENM and ENM from Sydney to the Wallerawang Ash Dam located to the west of Lithgow. The Roads and Maritime submission for the Wallerawang Ash Dam Mod 1 dated 11 April 2018 was based upon a maximum of 150 loaded vehicles and did not object to the proposal with recommendations for safety signage, avoiding school bus pick/up drop off times and implementing a driver code of conduct. The NSW Department of Planning Industry and Environment (DPI&E) Assessments report for Wallerawang Ash Dam notes that Roads and Maritime has confirmed that the proposed transport routes have sufficient capacity to handle the increase in traffic generated by the modification.

The worst case haulage scenario for the Bell Quarry Rehabilitation Project represents around a quarter of the maximum haulage proposed for the Wallerawang Ash Dam rehabilitation. It is noted that the maximum number of truck loads included Wallerawang Ash dam approval was reduced to 100 to alleviate concerns for truck movements through Lithgow. The proposed haulage will still represent a small proportion of the movements approved for Wallerawang and the road network is similarly predicted to have capacity to handle traffic generated by the proposal.

It is also noted that the proposed truck movements fall within the existing limits for extractive operations at the site and it is also the applicant's intention to maximise back-loading through use of haulage trucks from other local extractive industries involved in transport of product to the Sydney Market. These trucks would be otherwise be returning to the local region empty and back-loading with material (as defined above) as part of the project will not be adding trucks to the road network.

The performance of the regional road network is largely dependent on the operating performance of key intersections, which are critical capacity control points. SIDRA intersection modelling software was used to assess the proposed peak hour operating performance of intersections on the surrounding road

network at key intersections within proximity of the site including the intersection of Sandham Road / Bells Line of Road and the intersection of Darling Causeway / Bells Line of Road in accordance with the SEARs. The intersection modelling indicated there would be no change to the level of service of the most affected intersections with the average delay increasing by less than two seconds during AM and PM peak periods.

The proposed haulage is not anticipated to impact upon the capacity of the broader network. It is noted that any restrictions to the local road network near the site of the source material would be addressed as part of the respective consent process for construction at each site and it is not feasible to provide a specific analysis as part of this project.

It is acknowledged that the vehicle haulage will result in a higher proportional increase to traffic volumes on Sandham Road based upon vehicle counts undertaken following the completion of active extraction operations at the site.

The applicant is committed to develop a driver code of conduct as part of a Traffic Management Plan for the Project, to guide transport operations on all public roads including Sandham Road. This will include specific requirements such as limiting the speed limit to 40 km/hr for all trucks on Sandham Road and incorporate a haulage route complaint management system

2.2 Crash statistics

The submission queried the consideration of relevant crash history as part of the haulage analysis.

Crash statistics within the vicinity of the site was taken from the NSW Centre for Road Safety website. Crashes for a five year period were reviewed (2011 – 2016) and reported in the Traffic Impact Assessment as part of the EIS.

A total of seven crashes occurred within proximity to the local road network.

A summary of crashes are as follows:

- One fatal crash caused by a vehicle leaving left off the carriageway and hitting an object at the Darling Causeway / Chiefly Road intersection
- Two serious injury crashes caused by:
  - A vehicle coming off the road on a left bend on Sandham Road, about 3 km north west of the Sandham Road / Bells Line of Road intersection. (not shown Figure 2-1).
  - A vehicle leaving left off the carriageway and hitting an object at the southern approach of Darling Causeway / Chiefly Road intersection.
- Two moderate injury crashes caused by:
  - An animal strike on Bells Line of Road east of Sandham Road.
  - U-turn at the north approach to Bells Line of Road / Darling Causeway intersection.
- Two minor injury crashes caused by:
  - a vehicle leaving left off the carriageway and hitting an object on Bells Line of Road east of Sandham Road

– a head on collision at the Bells Line of Road / Darling Causeway intersection

The location of the crashes are shown in Figure 2-1.

Figure 2-1 Crashes map

Source: NSW Centre for Road Safety

As outlined above, the proposed haulage traffic represents a relatively small proportional increase to background traffic on the wider regional road network which comprise designated heavy vehicle routes. Traffic generation is not anticipated to result in significant effects on the safety of the regional road network.

2.3 Alternative modes of transport

The submission queried the investigation of alternative modes of transport to reduce the freight task on the road network.

The project is of relatively small scale and the haulage operations will operate on approved heavy vehicle roads and have minimal effect on the capacity of the road network.

Use of rail would require triple handling of emplacement material for transport from a source location to a rail hub and then subsequently from the nearest rail spur from the site. The nearest rail spur is a private rail loop operated by Centennial Coal for transfer of coal from Clarence Mine. The rail loop would likely require considerable modification to allow transfer of fill material from trains to trucks and would be economically prohibitive. There would also be an increased risk of noise and dust generation associated with handling, storing and transporting the fill material multiple times if a combination of road and rail transport was used.

It is also noted that there is no heavy vehicle haulage permissible on Sandham Road beyond the site towards the Clarence Rail loop so transport to the site would be economically prohibitive and unlikely to be viable.

3 Conclusion

Thank you for the opportunity to provide comment on the Roads and Maritime submissions. The primary issue raised in the recent submission is in relation to the need for a haulage analysis, which is considered to have been primarily completed as part of the original EIS.

The haulage network comprise designated heavy vehicle routes utilising major state and arterial roads whose primary purpose is the transport of people and freight between regions. The vehicle numbers generated by the project is minimal and is not considered to impact upon the safety or capacity of the regional road network.

Sincerely
GHD

Anthony Dixon **Karl Rosen**