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OceanaGold: Martha Underground Mine: Proposed Conditions of Consent

Dear Joy

1 Introduction

The purpose of this letter is to provide you with my feedback regarding the proposed Transport Conditions that I understand were presented to the Applicant in relation to the consent sought for the Martha Underground Mine (and associated activities).

I understand that this letter may be appended to the evidence of Transport Agency representatives at the planning hearing before Hauraki District Council (HDC).

In this letter where I have stated that the Applicant does or does not accept conditions (or has proposed alternative conditions) I am basing my assignment of statements to the Applicant on information that has been provided to me. Therefore, I accept that some statements I have described as being made by the Applicant may not have been made by the Applicant.

In the following sections of this letter I have included comment on each of the conditions as follows.

2 Condition 100

The condition as worded is limited to the effects associated with the haulage of aggregate for cement aggregate fill, however, the haulage of other materials has the potential to create adverse effects on the road network, including the road pavement of those roads comprising the haulage route. I consider it desirable for the condition to refer to “[...] haulage of aggregate for the manufacture of cement aggregate fill for backfilling the Martha Underground Mine and haulage of other materials required for the consent holder’s activities, the consent holder shall [...]”

As noted below, in relation to Condition 101, it is not just Baxter Road that will be affected by the haulage of materials. Therefore, I consider it preferable that the road pavement condition rating applies to all roads that form part of a haulage route associated with the Martha Underground Mine.

Various references in the conditions will need to be amended so the conditions apply to all haulage activities, not just those associated with cement aggregate fill.

3 Condition 101

Further to the points raised in Section 2 of this letter, in relation to Condition 101, it is important to note that the activities associated with transporting loads to and / or from the Site require Baxter Road to be used. Therefore, the only predictable components of the haulage routes to and from the Site are Baxter Road and the State Highway 2 (SH2) / Baxter Road intersection. However, other portions of the journey followed for transporting materials to and / or from the Site will have an impact on other roads within the local and national roading network. In my opinion, simply because Baxter Road is the only predictable portion of the route, this should not mean that other portions of the route(s) that will be adversely affected by loads being transported to and / or from the Site should not be subject to conditions similar to those for Baxter Road.

4 Condition 102

The Applicant accepts that the maintenance costs for Baxter Road will be determined on a pro rata basis. However, as noted below, there may be some difficulties with determining the pro rata portions.

5 Condition 103

Depending on the present condition of the Baxter Road pavement (and the pavements of any other affected roads) it is likely to be more difficult to identify the effects of the Applicant's loads on the pavement if the road(s) are near the beginning of their design life than if they are near the end of their design life.

In relation to this condition, (notwithstanding my rusty pavement design skills) I consider the full design life of the pavement needs to be taken into account and the effect of the Applicant's loads on the design life (and associated maintenance costs) of the pavement determined based on the initial design life compared with the revised (shortened) design life attributable to the effects of those loads.

However, I understand that the Applicant does not consider that it should contribute to maintenance costs for Crean Road.

As noted in Section 3 of this letter, simply because Baxter Road is the most predictable portion of the route for transporting materials to and / or from the Site, this does not mean that those transported loads will only affect Baxter Road. From an effects perspective, provided we know the routes being followed by the vehicles, the loads being carried, and the change in design life attributable to those loads, it is practicable to determine the maintenance cost effects of the Applicant's incremental loads on those pavements. Therefore, I consider it desirable for the Applicant to contribute on a pro rata basis to the maintenance costs for the roads (including, but not limited to, Crean Road) affected by the Applicant's loads.

The effects of the Applicant's loads will not be limited to the performance of the pavements of the roads supporting those loads, but also to road safety on those roads and effects at any of the intersections through which the Applicant's loads are transported.

6 Condition 104

The Applicant proposes that if a route other than Baxter / SH2 / Crean is used for transporting materials to (and / or from) the Site the consent holder should not be required to demonstrate to HDC that the route can accommodate the vehicles the Applicant proposes to use.

In my opinion, if the Applicant is proposing to transport large volumes of materials along roads and through intersections, which have not been designed for the vehicles transporting those materials, there will be adverse effects in relation to safety and efficiency. Without specific information regarding location, geometry, and existing usage it is difficult to identify a precise traffic volume threshold at which the design shortcomings of an intersection or a road to adequately accommodate large vehicles will become an issue. However, if the number of vehicles using the substandard route is very low then the design shortcomings will not be as much of an issue as when the number of vehicles using the route is significantly higher.

The Transport Agency has proposed additional wording for Condition 104 that requires the consent holder to demonstrate the proposed haulage routes will accommodate the vehicles used for the haulage. I am concerned that the Applicant considers there does not need to be a condition requiring the consent holder to demonstrate that the haulage routes can accommodate the vehicles following those routes. In my opinion, irrespective of the route(s) being used, the adverse effects associated with the vehicles transporting materials to and / or from the Site should be appropriately mitigated. In some cases, no mitigation will be required, however, in some other cases the mitigation required may be extensive; it all depends on the route being followed and the roads and intersections affected.

7 Condition 104A

7.1 Condition 104A

The Transport Agency's text for Condition 104A is an extension of Condition 104. However, I understand that the Applicant proposes that the requirements of Conditions 100 to 103 should not apply if the route being used for the haulage of aggregate / backfill / other materials is not Baxter Road / SH2 / Crean Road.

As noted above, the route being used for the haulage must be suitable for the vehicles using that route. If the route is not suitable or will be adversely affected (in terms of pavement construction, carriageway width, and / or intersection design) the route needs to be made suitable and the adverse effects appropriately mitigated.

Unless the Applicant is able to provide HDC with certainty regarding the route(s) to be used for haulage, so that route specific conditions can be developed, I consider that the conditions should allow for mitigation along the range of routes that may be affected. However, if the Applicant is able to provide HDC with certainty regarding the haulage route, the mitigation required can be determined based on that specific route.

7.2 Condition 104A Advice Note

The Advice Note refers to a route from Crean Road onto SH2 and then into Baxter Road (and vice versa) being limited to 11 m rigid vehicles. However, potential adverse effects associated with turns from Crean Road onto SH2 and from SH2 onto Baxter Road (and vice versa) are not necessarily limited to journeys that follow Crean Road and SH2 and Baxter Road (and vice versa).

With reference to Condition 105, I consider that both intersections (SH2 / Crean Road and SH2 / Baxter Road) need to be designed to accommodate the movement of heavy vehicles larger than 11 m rigid trucks. Therefore, I consider it desirable that the Advice Note is amended to read as follows:

Advice note

Conditions 105 to 108 relate to the intersections of State Highway 2 with Baxter and Crean Roads. The proximity and configuration of these intersections (as at November 2018) make them unsuitable for heavy vehicles with a tracking curve wider than a an

11 m long rigid heavy vehicle (e.g. multi-unit) to manoeuvre safely between the two. The conditions ~~do not~~ apply to travel utilising ~~only one or both the other~~ of the intersections but rather utilising both (i.e. exiting Crean Road and turning directly into Baxter Road, and vice versa) and travelling in either direction through one or both of the intersections.

8 Condition 105

Commentary is not required in relation to this condition.

9 Condition 106

The upgrades of the intersections of SH2 with Baxter Road and Crean Road are only required if such upgrades are necessary. The Transport Agency is proposing to have works constructed along SH2 that will affect the configuration of the SH2 / Baxter Road and SH2 / Crean Road intersections. Therefore, the consent holder would only be required to upgrade the intersections if the Transport Agency's upgrade works will not adequately accommodate the vehicles used for transporting materials to and / or from the Site.

10 Condition 107

I largely agree with the proposed wording for Condition 107. However, I consider it is unclear whether the “[...] design of the proposed upgrade [...] that] shall be subject to an independent design safety audit and post construction audit.” refers to the Transport Agency's design or to the consent holder's design. My understanding is that it should apply to the consent holder's design, however, with reference to Condition 106, I do not consider that Condition 109 makes this clear.

11 Condition 108

I agree with the condition because it requires for the intersections associated with haulage routes (other than Baxter Road / SH2 / Crean Road) to be adequately designed to accommodate the largest heavy vehicle configuration associated with the consent holder's activities.

As noted previously, if the number of vehicle movements is very low it may be acceptable for a large vehicle to use intersections that do not adequately accommodate that large vehicle. However, if there are numerous vehicle movements and the intersections (and pavement and carriageway) associated with the haulage route cannot adequately accommodate those vehicles the adverse effects are likely to be more than minor. Therefore, I consider that those adverse effects should be mitigated as would be addressed through Condition 108.

12 Condition 109

The condition as worded requires a Traffic Management Plan¹ for the haulage of “Imported material [...]”. While this means the condition would apply to the haulage of all materials being imported to the Site it does not allow for the haulage of any materials being exported from the Site. My concern is that the transport of material to or from the Site has the potential to create adverse effects on the road network.

¹ In this regard, I understand that the Traffic Management Plan described is not a Traffic Management Plan in accordance with the Transport Agency Code of Practice for Temporary Traffic Management (CoPTTM).

As noted previously in this letter, occasional loads are unlikely to have significant adverse effects on the road network, therefore, the Traffic Management Plan associated with those occasional loads would be relatively easy to produce and is unlikely to require the Applicant to make significant other provisions for those movements other than provisions that already exist. However, including the Traffic Management Plan requirement for the range of vehicles and loads being transported to and / or from the Site allows the Applicant and the Council to ensure adequate provisions are in place so that the transport of those loads does not result in more than minor adverse effects.

In my opinion, the condition should be amended to include reference to material being exported from the Site as well as to material being imported to the Site.

13 Condition 109A

Commentary is not required in relation to this condition.

14 Condition 109B

The condition relates to the consent holder maintaining logs describing the movement of heavy vehicles travelling to and / or the Site.

Depending on the manner in which the monitoring condition is interpreted, the consent holder should be able to maintain a log of daily heavy vehicle movements associated with the Martha Underground Mine using digital means. For example, GPS monitoring of vehicles travelling to and / or from the Site would provide the consent holder with records of the routes taken and the times of day at which each journey was completed. The digital logs could be correlated with the consent holder's records of vehicles moving to and from the Baxter Road gate to the Site.

As noted elsewhere in this letter, occasional heavy vehicle movements are unlikely to have significant adverse effects on the transport network, however, movements associated with activities such as importing aggregate for the cemented aggregate fill are unlikely to be occasional. It may be appropriate for the condition to be reworded such that the monitoring is only required if heavy vehicle movements on Baxter Road are expected to be proportionally greater than existing base level heavy vehicle movements that occur without the Martha Underground Mine being active. From a transport engineering adverse effects perspective, we are interested in heavy vehicle movements if they create an issue for the safety and / or efficiency of vehicle movements and / or in relation to damage to the road pavement. I consider that for large-scale haulage operations it would not be particularly difficult for the consent holder to monitor the movement of each heavy vehicle travelling to and / or from the Site. There are mobile phone apps available that will record journey details; a method such as this may readily allow the consent holder to monitor the heavy vehicle movements and comply with the requirements of the proposed Condition 109B.

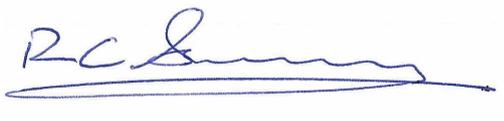
15 Condition 109C

As noted above, in relation to Condition 109B, the consent holder could record the movement of heavy vehicles travelling to and / or from the Site using digital methods. Provided the format of the log was acceptable to HDC, the information provided to the Council could consist of digital records of the heavy vehicle movements and correlated manual records from the controlled entry to the Site on Baxter Road.

In any case, I consider that monitoring of heavy vehicle movements will be required in order for some of the other conditions to be applied in the manner intended.

Please contact me if you have any questions or need further information regarding the matters raised in this letter.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'R Swears', is written over a horizontal blue line.

Robert Swears
Principal Road Safety/Transport Engineer