Global Acoustics
Noise and Vibration Analysis and Solutions

BRIEFING NOTE

Project: 17246 – RCM

Date: 28 June 2017

This briefing note looks at the suitability of noise assessment groups (NAG's) and noise monitoring locations currently outlined in the Rix's Creek Noise Management Plan (NMP, 2016).

The purpose of this process is to determine if the monitoring locations detailed in the NMP are:

- representative of the NAG's for Rix's Creek North (RCN) and Rix's Creek South (RCS);
- representative of individual receivers within these NAG's;
- adequately address all receptors that may potentially be impacted by RCN and RCS; and
- optimise the number of monitoring locations without compromising the risk based compliance assessment methodology.

1 ASSESSMENT OF MONITORING LOCATION SUITABILITY

1.1 Land Ownership

Land ownership information sourced from Rix's Creek, the Rix's Creek Continuation of Mining Environmental Impact Assessment (2015) and Glendell Mine (via Rix's Creek).

As part of this process we reconciled monitoring locations for RCN and RCS NAGs, which by default associates them with all receptors in the relevant NAG. We then identified mine owned properties, those that are acquisition upon request (for any mine in the area) and from there excluded NAG's where monitoring is not required (no longer any unconditionally private ownership).

1.2 Monitoring Location Suitability

For each private receptor (there are hundreds), it was determined what prediction set applies (RCN or RCS). It is necessary to evaluate if compliance at a monitoring location (the residence nominally representative of it) means compliance at all other privately owned receptors as well. For any receptor where this is not the case it may be necessary to either allocate it to or associate it with another monitoring location, or, add more monitoring locations.

For both RCS and RCN multiple stages have been evaluated. Each stage is not necessarily going to be the worst case for all receptors, however, the relative relationship for predicted levels across the receptor group should be similar. For this reason, the likely worst case stage or scenario for both RCN and RCS has been identified.

It was also necessary to determine which set of results (RCN or RCS) would most impact each receptor/group of receptors. As expected, RCS was be the dominant/worst case for the southern NAGs, with RCN the dominant/worst case for the northern NAGs.

1.2.1 RCN

Predicted levels for RCN were sourced from AppendixFNoiseandBlasting.pdf (Heggies Integra report dated 18 June 2009, the RCN NIA).

For this assessment only the Full Pit, Year 6 results have been used to evaluate relative levels between receptors and monitoring locations as this is the likely worse case modelled scenario.

1.2.2 RCS

Predicted levels for RCS were sourced from the Rix's Creek Continuation of Mining Environmental Impact Assessment (2015), the relevant document being report 13319_R01_RevisionA.pdf, of which Appendix A has results for all receptors for all years modelled (2017, 2020, 2023 and 2026). R01 includes the comment (Section 4.2) that 'As for most NAG, the worst case results are forthe 2017 stage'. We therefore used 2017 results for this evaluation.

Scenario Night 1 (N1) is normal operations and has been used for this assessment as this is a worst case result.

2 RECOMMENDATIONS

2.1 RCN

From analysis the following has been determined:

- NM01 represents receptor 132 and should remain in the monitoring program;
- NM02 should be removed from the monitoring program as there are no longer any receptors in NAG 4 that are not mine owned or acquisition upon request;
- NM03 should be relocated from the front gate at 893A Middle Falbrook Road closer to the Moore residence at 893B Middle Falbrook Road; and
- NM04 and NM05 are suitably representative of receptors in NAGs 10 and 11 and should remain in the monitoring program.

2.2 RCS

From analysis the following has been determined:

- NM01 represents receptor 132 and should remain in the monitoring program;
- NM04 and NM05 work as per RCN and should remain in the monitoring program;
- NM06 represents both NAGs B and C for RCS and should remain in the monitoring program;
- NM07 represents NAGs D, E and F and should remain in the monitoring program;
- NM08 is suitable and should remain. This location is also representative of NAGs G and H;
- NM09 should be removed from the monitoring program as this area NAGs G, H and J are better represented by NM08; and
- NM10 should be relocated near to receptor 126 (265 Long Point Rd);
- NM11 should be added to represent Maison Dieu East with the location being near receptor 160 (320 Maison Dieu Road); and
- NM12 should be added to represent Maison Dieu West with the location being near receptor 168 (corner of Maison Dieu Road and Shearers Lane).

2.3 Summary

It is recommended that the following locations be **removed** from the monitoring program:

- NM02, as there are no longer any receptors in NAG 4 that are not mine owned or acquisition upon request; and
- NM09, as assessment of predicted levels indicate that NM08 is more representative of this area.

It is recommended that the following locations be **moved** to be more representative of the receptors in that NAG:

- NM03, from the front gate at 893A Middle Falbrook Road closer to the Moore residence at 893B Middle Falbrook Road; and
- NM10, from the end of Dights Crossing Road to near 265 Long Point Road.

It is recommended that the following locations be **added** to the monitoring program as they are not currently addressed:

- Maison Dieu East, near receptor 160, 320 Maison Dieu Road; and
- Maison Dieu West, near receptor 168, corner of Maison Dieu Road and Shearers Lane.

The following locations will remain unchanged: NM01, NM04, NM05, NM06, NM07 and NM08.

There would still be a total of 10 monitoring locations as there are currently which would represent individual and/or combined NAGs as required, those combinations known as Noise Monitoring Groups (NMG). As detailed in the NMP, attended noise monitoring will target locations where operational noise from RCM is likely to be highest (based on predicted meteorological enhancement), with monitoring at a minimum of 6 locations per night.

Proposed monitoring locations are shown on Figure 1 with coordinates provided in Table 1.

Table 1: MONITORING LOCATION COORDINATES

Location	Easting	Northing
NM01	319720	6403667
NM03	325528	6408420
NM04	328418	6406145
NM05	327907	6404030
NM06	327390	6400645
NM07	327114	6398857
NM08	324970	6397138
NM01	319720	6403667
NM03	325528	6408420

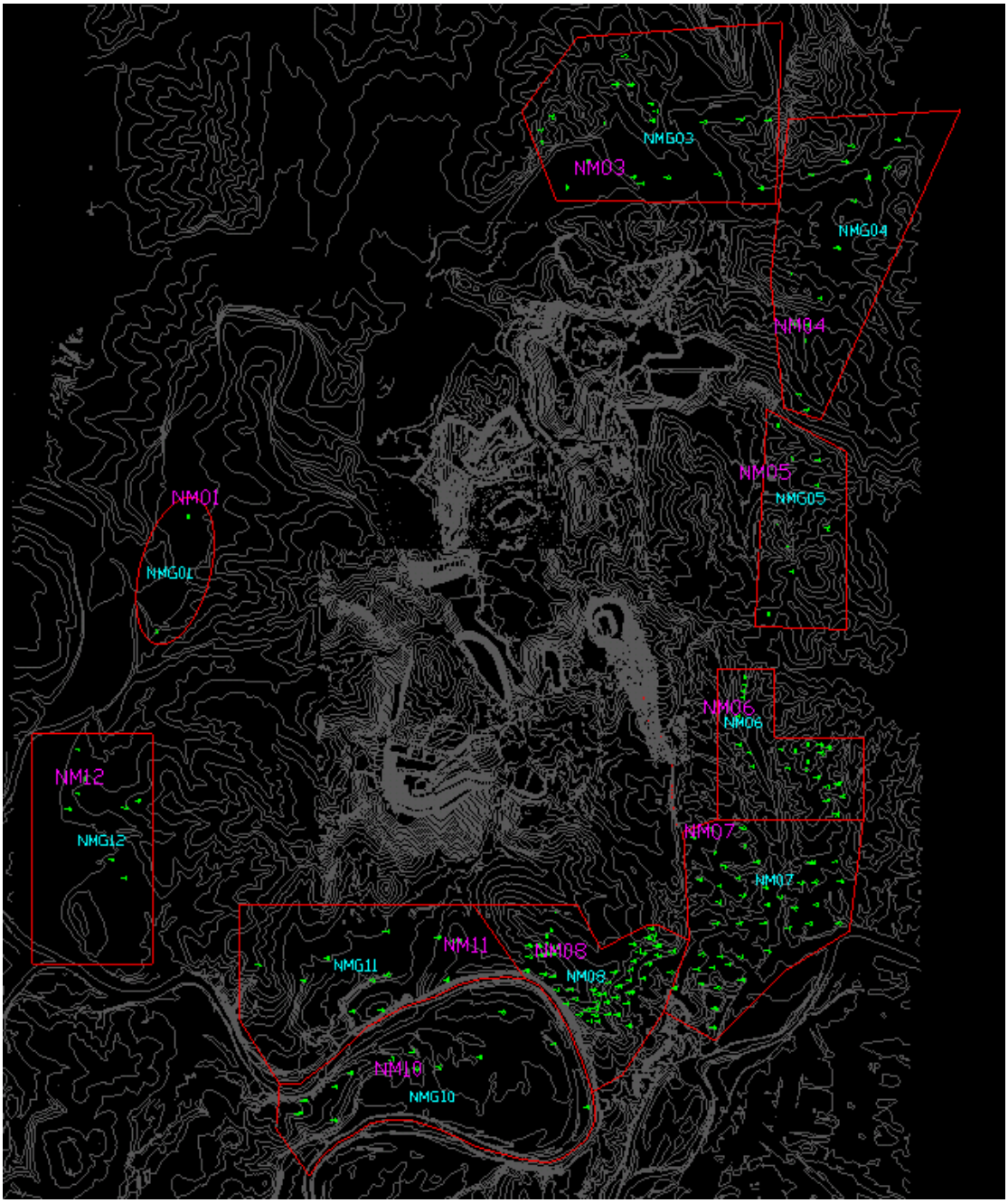

Figure 1: Proposed NMG and monitoring locations

If you have any further questions, please do not hesitate to contact us.

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