

27 February 2023

Allied Asphalt Limited  
C/- Cogito Consulting Ltd  
5A Wells Avenue  
Mount Maunganui 3116

**Attention: Craig Batchelar**

Dear Craig

## **ALLIED ASPHALT MOUNT MAUNGANUI PLANT REPLACEMENT: S92 RFI RESPONSE**

### **INTRODUCTION**

Marshall Day Acoustics carried out the acoustic assessment for the proposed replacement of the asphalt plant located at Allied Asphalt Limited's site, in Mount Manganui. The conclusion we reached in our assessment was that "...The character of noise generated by the new asphalt plant will be similar to the existing plant. At the closest residential receivers the level of noise will be suitably low as to not cause any adverse effects...Noise received in the adjacent industrial zoned properties is calculated to exceed the 65 dB  $L_{Aeq}$  limit by between 1 to 4dB. These are minor exceedances which will not cause adverse effects."

We understand that Ms Roper from Tauranga City Council has reviewed the assessment, and via Council's consultant planner 4Sight Consulting, has requested further information. The following sets out Council's questions and our responses.

### **QUESTIONS AND MDA RESPONSES**

*What is the frequency and duration that the predicted Leq noise limit exceedances, in particular the +4dB(A) exceedance are predicted to be received at 14 Harvard Way during the 1,000T per day production scenario. This information will assist in understanding the potential effects of these noise limit exceedances and whether any of the neighbouring land users should be notified of these predicted noise limit exceedances.*

*What production level is the noise exceedance is predicted and how often this is likely to occur.*

We have been advised that it will take between 20 and 24 hours to produce 1,000T of asphalt. We have also been advised that producing 1,000T per day will be an infrequent occurrence (currently 1-2 times per year). Our report therefore already assesses the worst possible case for noise effects.

Given the industrial zoning of the site and adjacent receivers, which inherently have low acoustic amenity expectations and the activities which currently occur or are permitted to occur by the district plan, our assessment concluded that the infrequent and minor 1-4 dBA exceedances will not cause adverse effects.

We understand that Allied Asphalt is seeking flexibility with the consent so that on busy days they can produce ~1,000T without undue restriction. For context, it is our opinion that even if this was to occur once per week this would not change our conclusion with respect to effects.

*Are the 250T production per day predicted noise levels compliant solely based on duration adjustment to noise levels, with the noise levels being only present for 5 hours of the day?*

We advise that 5 dB of averaging has been applied to the calculated results for the 250T scenario as permitted by Clause 6.4.3 of NZS 6802:2008. Rule 4E.2.3(h) of the Tauranga City Plan stipulates the use of NZS 6802:2008 and therefore permits the use of averaging.

The prescribed timeframe in this instance is 24 hours because Rule 4E.2.3(b) prescribes a 65 dB  $L_{Aeq}$  noise limit *at any time*. We understand that 250T production will take about five hours. This equates to 21% duration of the specific sound within the prescribed timeframe<sup>1</sup>. As sleep disturbance effects are not a consideration in industrial zones, a duration correction (averaging) is permitted to be applied at any time of the day. Irrespective, we are of the opinion that even without application of averaging (which is permitted as outlined above) no adverse effects will occur at any time of day.

*The noise assessment advises that the new plants noise levels will be acceptable due to them being similar or less than the existing plant noise levels. Can you provide noise monitoring to demonstrate that this is accurate/ true?*

We have not measured Allied Asphalt's currently operational plant. However, we have measured Fulton Hogan's existing plant located at their Higgins Road site in Hamilton which is similar and uses the same technology. This plant was first commissioned in 1950's and has had a number of significant upgrades over its 70+ years of operating life however is still considered to be old technology. Measurement results and commentary are provided below.

For comparative purposes we present measurement results of two modern asphalt plants. One is manufactured by Ammann and was measured whilst producing asphalt for the Waikato Expressway project (WEX). The other plant is manufactured by Marini and is operated out of Bulls by Fulton Hogan.

Comparing the results in Figure 1 (overleaf) we note that noise emission levels are no more than ~5 dB apart. What is not obvious from the results is that the two modern asphalt plants were powered by large generators. They are a significant noise source in and of themselves (this size of generator typically has a sound power level of ~100 dB  $L_{WA}$ ).

The replacement asphalt plant will be connected to mains electricity (like the Higgins Road plant) rather than being powered by a generator (like the WEX and Bulls plant). Therefore, we maintain that the noise emission levels from the new plant will be similar to or (more likely) less than the older existing plant when connected to mains electricity.

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<sup>1</sup> Even if it was five hours out of a typical 15-hour daytime period the adjustment would still be 5 dB

Figure 1: Asphalt plant noise at various measurement distances

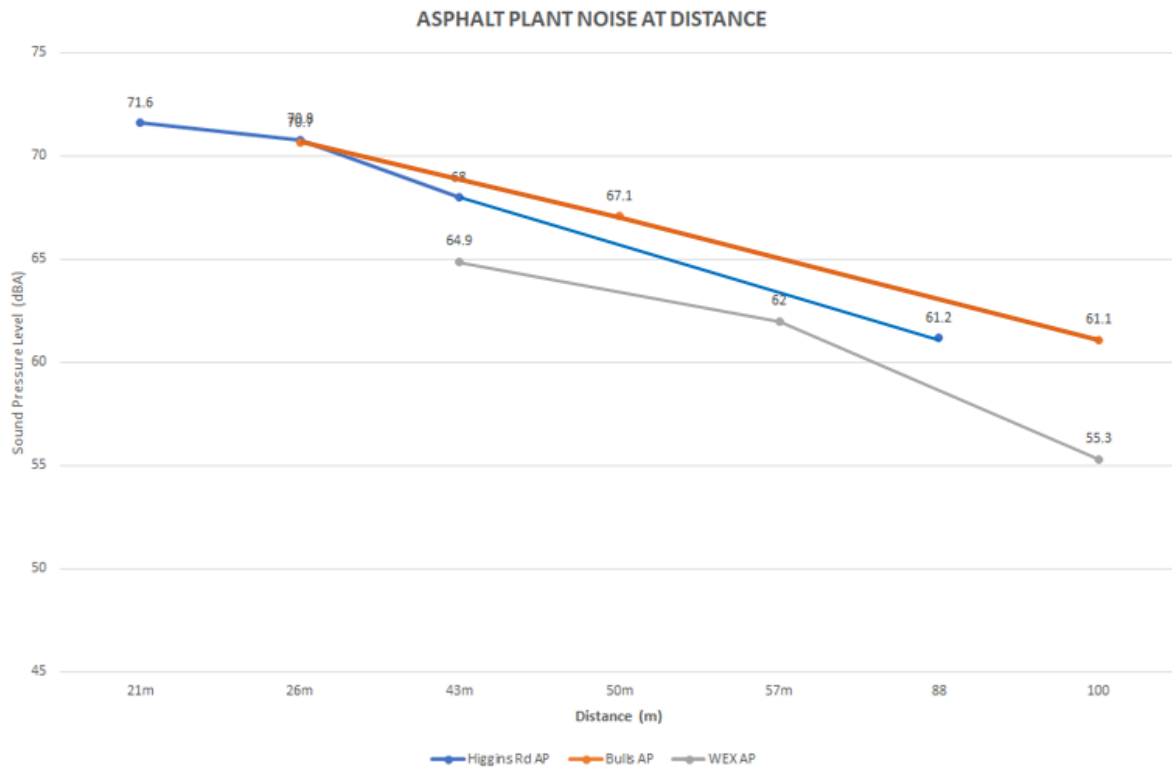
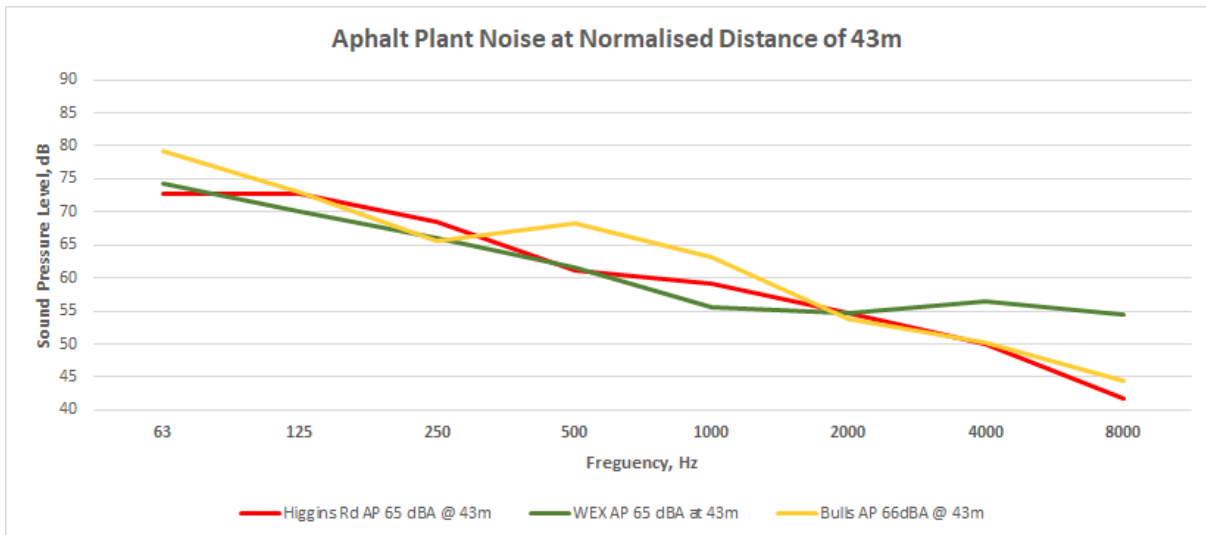


Figure 2 compares the measured octave band spectra for the same three generators normalised to a distance of 43m. Note the similarity in spectral shape which indicates that the noise character will be similar.

Figure 2: Normalised asphalt plant frequency spectra



We trust this information is satisfactory. If you have any further questions, please contact us.

Yours faithfully

**MARSHALL DAY ACOUSTICS LTD**

**Mathew Cottle**

**Associate**