Appendix G – Acoustic Assessment prepared by Hegley Acoustics

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PROPOSED INDUSTRIAL PLAN CHANGE

194 TAURANGA ROAD, MATAMATA

ASSESSMENT OF NOISE EFFECTS

Report No 21192

Prepared for:

Veros
Hamilton
8 November 2021

Prepared by: .....

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CONTENTS

1. INTRODUCTION

It is proposed to rezone 194 Tauranga Road (State Highway 24) in the Matamata Piako District Plan from a Rural Zone to a General Industrial Zone as shown on Figure 1.

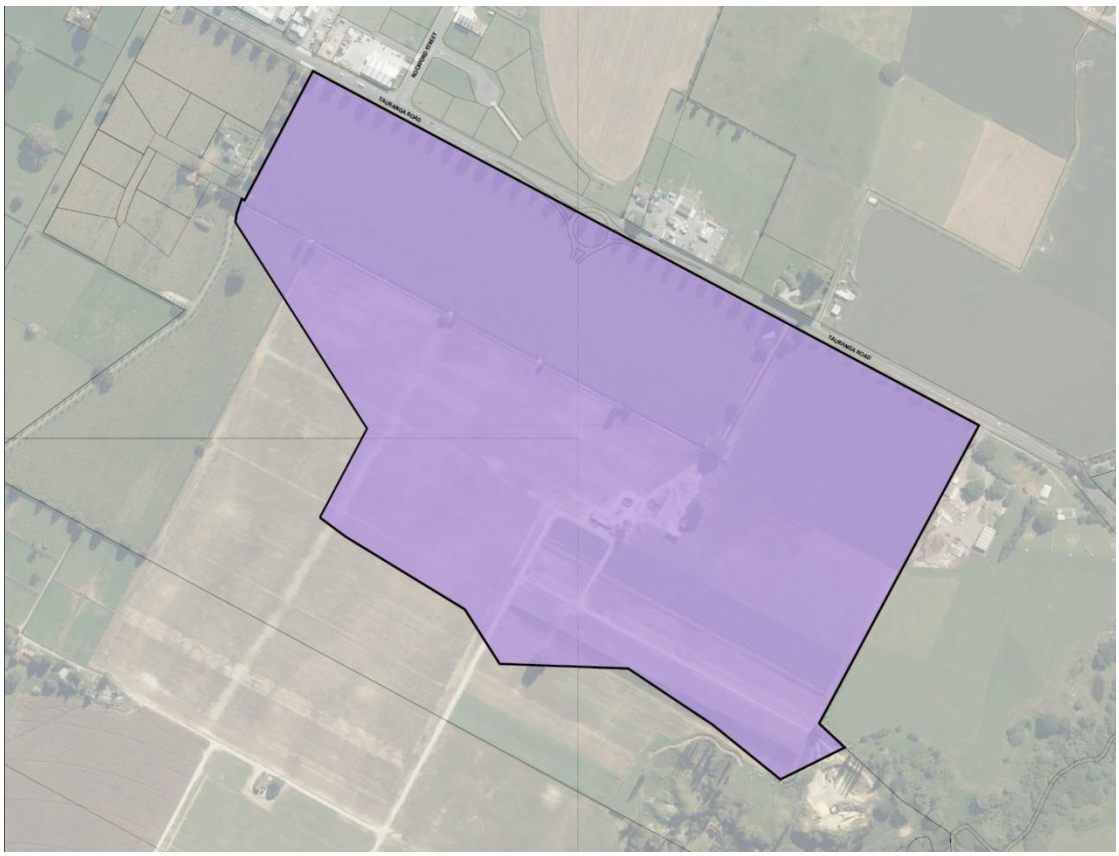

Figure 1. Location of proposed General Industrial Zone

This report assesses the effects of the proposed rezoning and how the development will be managed to ensure the noise of the rezoning will be less than minor in accordance with the requirements of the Resource Management Act.

2. EXISTING ZONING

As shown on Figure 2 the site is currently zoned Rural in the Matamata Piako District Plan with an existing Industrial Zone to the west of the site across Tauranga Road with a designation on the land to the immediate east of the site.

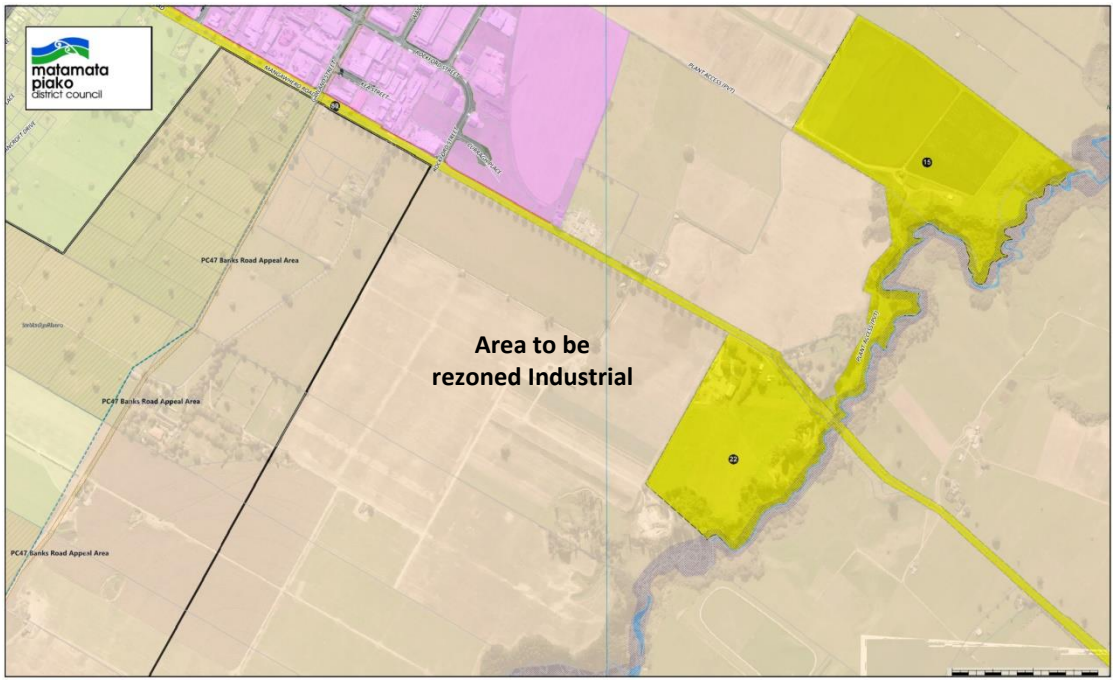

Figure 2. Zoning of the area

Rule 5.2.4 of the in the Matamata Piako District Plan sets the following noise limits for an Industrial Zone at:

a. *The noise level (L_{10}) as measured within the boundary of any land zoned residential, or the notional boundary of any rural dwelling shall not exceed the following:*

Monday to Saturday	*7.00am to 10.00pm*	*55dBA*
At all other times including Sundays and Public Holidays		*40dBA*
10.00pm to 7.00am. The L_{max} shall not exceed 65dBA.		

b. *The noise level (L_{10}) as measured within the boundary of any adjacent Industrial zone shall not exceed 65dBA.*

Rule 5.2.5 sets the noise level for a Scheduled site at:

i. Unless otherwise specified for a scheduled site and shown on the Development Concept Plan, the noise levels and noise control periods relating to scheduled sites shall be as follows:

a. The noise level (L_{10}) as measured within the boundary of any land zoned residential, the notional boundary of the rural dwelling, where shown on the DCP, or the noise emission control boundary shall not exceed the following

Monday to Saturday	*7.00am to 10.00pm*	*50dBA*
At all other times including Sundays and Public Holidays		*40dBA*
10.00pm to 7.00am. The L_{max} shall not exceed 65dBA.		

b. The noise level (L_{10}) as measured within the boundary of any adjacent Industrial zone shall not exceed 65dBA.

Rule 5.2.6 sets the noise level for a Rural Zone at:

i. The noise level (L_{10}) as measured within any residentially zoned boundary or within the notional boundary of any rural dwelling shall not exceed the following:

Monday to Saturday	*7.00am to 10.00pm*	*50dBA*
At all other times including Sundays and Public Holidays		*40dBA*
10.00pm to 7.00am. The L_{max} shall not exceed 65dBA.		

ii. Exclusions
Seasonal or temporarily intermittent noise resulting from agriculture and forestry activities (e.g. crop spraying, agriculture or forestry harvesting, frost control, etc) consistent with the predominant character of the Rural zone, are permitted provided that:

a. The activity is conducted in accordance with good management practice; and
b. Machinery is operated in accordance with manufacturers' specifications.

3. PROPOSED NOISE CONTROLS

Figure 3 shows the layout of the proposed General Industrial Zone that has been adopted for the noise assessment.

Figure 3. Site Layout

For the proposed General Industrial Zone the noise requirements of Rule 5.2.4 of the District Plan for an Industrial Zone has been adopted as the basic noise control although it is proposed to adopt L_{Aeq} rather than L_{10} as used in the District Plan to reflect the recommendations of the new national standards.

The effects on the noise level received when changing from L_{10} to L_{Aeq} have been considered. The L_{10} is slightly higher than the L_{Aeq} for many sounds when all other conditions are the same and depending on the type of noise will generally vary between 0 – 3dB. As set out in the District Plan (Rule 5.2.1(v)) the L_{10} is measured in accordance with the requirements of NZS6801:1991, which adopts neutral meteorological conditions. However, if adopting L_{Aeq} the requirements of

the more recent standard NZS6801:2008 are adopted and this standard uses a slightly positive meteorological effect.

For neutral meteorological conditions the wind and temperature inversions do not have any effect on the noise received. However, for slightly positive meteorological conditions the effect is to increase the assessed noise compared to neutral conditions. When close to the noise source (say within 30 - 50m) there is minimal meteorological effect to the transmission of noise so the difference between the L_{10} and L_{Aeq} is typically around 2dB. By 200 - 250m from the noise source the L_{Aeq} is slightly more restrictive than the L_{10} value and for greater distances the L_{Aeq} is a noticeably more restrictive control than L_{10}. Thus, a direct conversion with the number by changing from L_{10} to L_{Aeq} is considered representative of what is, on average, experienced and reflects the reaction of environmental effects based on worldwide research.

To avoid any reverse sensitivity effects in the long term at the interface of the proposed industrial zone and current rural zoned land to the west and south it is proposed the industrial zone noise limits comply with the residential boundary limits at the outside boundary of the stormwater and landscape buffer that goes around the interface boundary as shown on Figure 3.

The designated land at the eastern boundary of the proposed development is a "Former Landfill and Refuse Transfer Station and Works Depot" there will not be any noise sensitive activities on this land, so no change is proposed to the existing noise limits.

To control noise between the individual industrial sites within the proposed General Industrial Zone the existing industrial noise control of 65dB L_{Aeq} 24 hours will be adopted.

For the existing rural land to the north across Tauranga Road the current industrial noise control is 5dB L_{Aeq} less stringent than between rural sites during the daytime with the same night time noise level. This will not have any adverse noise effects for this rural land as it currently experiences noise from traffic on Tauranga Road. For the two dwellings close to Tauranga Road opposite the proposed development the existing traffic noise has been predicted using Waka Kotahi 2020 traffic flows at 63dB and 62dB $L_{Aeq(24hr)}$ respectively so these levels will mask any long term industrial noise at 55dBA $L_{Aeq.}$ For any new dwelling constructed on this land a level of 55dB $L_{Aeq(24hr)}$ from traffic noise will not be reached until approximately 100m from the road. In addition, Rule 5.2.9 of the District Plan requires any new dwelling located within 80m of a state highway that has a posted speed limit above 70km/h (the posted speed at this point is 100km/h), to be designed to achieve a level of 40dB $L_{Aeq(24hr)}$ inside any habitable room. Thus, any industrial noise will be controlled to well within a reasonable level and below the level currently experienced from traffic noise.

It is proposed to allow for residential accommodation within the proposed General Industrial Zone to cater for activities such as caretakers of where there is an industrial activity with living accommodation for the owner above the industrial activity. To ensure there is no reverse sensitivity from such a noise sensitive activity (as defined in the District Plan) it is proposed a new rule is used that requires the noise to any habitable space is controlled to 35dB L_{Aeq} in bedrooms and 40dB L_{Aeq} to all other habitable spaces.

When considering the above the following noise condition for the proposed General Industrial Zone is recommended:

i) The noise level (L_{Aeq}) as measured within the boundary of any land zoned residential, the notional boundary of any rural dwelling and at any point within the rural land to the south and west of the site, must not exceed the following:

Monday to Saturday	*7.00am to 10.00pm*	*55dB*
At all other times including Sundays and Public Holidays		*40dB*
10.00pm to 7.00am. The L_{AFmax} must not exceed 65dB.		

ii) The noise level (L_{Aeq}) as measured within the boundary of any adjacent Industrial Zone must not exceed 65dB.

iii) The noise must be measured in accordance with the requirements of NZS6801:2008 Acoustics - Measurement of Environmental Sound and assessed in accordance with the requirements of NZS6802:2008 Acoustics – Environmental Noise.

iv) New (including relocated) buildings to be used for a noise sensitive activity located within the zone must be designed, insulated or constructed and maintained to ensure that noise received must not exceed 35dB L_{Aeq} in bedrooms and 40dB L_{Aeq} to all other habitable spaces from noise not on the same site.

v) If windows are required to be closed to achieve the noise limits above, the building must be designed and constructed to provide an alternative means of ventilation in accordance with Clause G4 of the New Zealand Building Code.

vi) An acoustic design report prepared by an appropriately qualified practitioner confirming compliance with the limits above must be submitted to Council as part of any resource or building consent application.

4. CONCLUSIONS

With the proposed noise control adopted the chance of any reverse sensitivity effects from the development will be avoided and there will not be any existing activity that will experience more noise that currently permitted. In addition, the noise from the proposed industrial development will be controlled to within a reasonable level for all existing and future noise sensitive neighbours.

When considering the above, the noise effects will be less than minor when taking the requirements of the Resource Management Act into account.

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