

MEMORANDUM

File: Palmerston North City Council LU 6962 and Manawatū -Whanganui Regional Council APP-2022203991.00

To: All parties for the hearing of consents LU 6962 and APP-2022203991.00

From: Emma Hilderink-Johnson – Consultant Planner for the Applicant, Hirock Limited.

Subject: **Applicant's response to vibration, dust and road safety matters raised at the Pre-hearing meeting.**

Date: 1 June 2023

In response to the matters raised by submitters at the pre-hearing meeting on 5 May 2023, the following further assessments and plans are provided:

- Draft Dust Management and Monitoring Report, prepare by K2 Environmental Limited
- Dust Monitoring Report, prepared by K2 Environmental Limited
- Truck Vibration Memorandum (ref. Mm 00), prepared by Marshall Day Acoustics
- 'Vehicle Tracking Truck and Trailer Existing Arrangement' plan and 'Kendalls Line/SH57 Intersection Proposed Improvements' plan, prepared by BECA

Dust/Air Quality

Hirock engaged K2 Environmental to undertake 4 weeks of dust monitoring at two of the submitter's properties at 11 and 39 Kendalls Line, to provide an understanding of background dust conditions. The results of the dust monitoring are provided in the Dust Monitoring Report.

In summary, monitoring by K2 Environmental showed that:

- peak concentrations of dust arose from other rural sources often unrelated to quarry activities (including quarry truck movements),
- there was no clear decrease in dust on Sundays when the quarry was not operating, and
- dust from quarry trucks was often below $50 \mu\text{g}/\text{m}^3$ (hourly average), MFE guideline for PM10 for one hour is $150 \mu\text{g}/\text{m}^3$.

It is expected therefore, that if the road is well-maintained, including annual shoulder flanking to remove build-up of dust, and the existing dust management practices are followed at the quarry, even with an increase in frequency of quarry vehicles along Kendalls Line, dust emissions are not expected to increase substantially. K2 Environmental recommended the expected low emission rates should be confirmed by one round of dust monitoring during the upcoming summer season will when there is a greater potential for dust disturbance.

K2 Environmental have also prepared a Draft Dust Monitoring and Maintenance Plan, enclosed. The DDMMP provides guidance on management and mitigation measures for quarry activities, including quarry traffic, to minimise the adverse impacts of potential dust discharges on the receiving environment.

To address the submitters concerns, Hirock offer the following consent conditions:

1. There must be no discharge of airborne particulate matter that is objectionable to the extent that it causes an adverse effect at or beyond the boundary of the subject property.

2. The Consent Holder must ensure that a water truck/tank, in serviceable condition and able to be used to dampen dust in accordance with their Dust Monitoring and Management Plan, is available on-site at all times.
3. The Consent Holder must ensure that dust producing plant (e.g. metal crushers and shaker screens) have sprinklers or other dust mitigating mechanisms in place at all times.
4. The Consent Holder must provide the Palmerston North City Council with a Dust Monitoring and Management Plan (DMMP) for technical certification. The DMMP must include but not be limited to:
 - a. A description of the activity including:
 - i. site layout,
 - ii. the nature of any earthworks, quarrying stages, and
 - iii. location of overburden disposal.
 - b. Identification of any residential dwellings or other sensitive receptors within 100 metres of the site boundary.
 - c. A description of the sources of dust and the dust management methods that will be applied, including any specific mitigation measures if sensitive receptors are located within 200 metres of the property boundary, including for example:
 - i. Use of water dust suppression on crushing and screening equipment;
 - ii. Use of watercarts and/or pea gravel on unsealed haul roads and the area of the site accessible by the public;
 - iii. On site speed limits;
 - iv. Sealing of site accessways; and
 - v. Use of a wheel wash.
 - d. Dust management responsibilities for site staff.
 - e. Dust complaint investigation and response procedures.
 - f. Methods that will be used to monitor dust (as PM10) and wind for dust management including but not limited to:
 - i. A description of the monitoring equipment
 - ii. A description of the maintenance of the monitoring equipment
 - iii. A description of the location of the monitoring equipment
 - iv. A description of how monitoring data will be used to trigger dust control if concentrations exceed the following limits:
 - Threshold Concentration: 50 µg/m³ (24-hour mean)
 - Permissible Excess: One 24-hour period in any 12-month period
 - v. A description of how data from the monitoring equipment will be reported to the Consent Holder and how information will be stored.
 - g. A description of the contingency measures that will be used to control dust if the monitoring data exceeds the concentration limits specified in (f)(iv) above.
 - h. A description of how monitoring data will be provided to the Manawatu-Whanganui Regional Council
 - i. Processes for review and updating of the DMMP, including provision of updates to the regulatory authority for its approval
5. The DMMP must be submitted to the Palmerston North City Council's Enforcement and Monitoring Officer for technical certification at least twenty (20) working days before works commence on the site. Palmerston North City Council may undertake the review in consultation with the Manawatu-Whanganui Regional Council in regards to the compliance, or otherwise, with the One Plan, particularly rule 15-14.

Advice Note: the intent of this condition is for PNCC to undertake the technical certification of the plan, and they may choose to seek advice or feedback from the Manawatu-Wanganui Regional Council as part of this process.

6. Certification (or withholding certification) is based on whether the DMMP meets the requirements of the conditions of this resource consent, with specific focus on Condition 4.
7. The Consent Holder must operate the quarry in compliance with the certified DMMP at all times.
8. The DMPP may be amended or updated without the need for certification where the amendment is an administrative change, including nominating personnel.
9. Except as provided for in Condition 8, amendments to the DMMP and any appendices must be certified in writing by the Palmerston North City Council acting in a technical certification capacity prior to the commencement of any works to which the amended DMMP relate.
10. Certification (or withholding certification) is based on the Palmerston North City Council's assessment of whether the amended DMMP meets the requirements of the conditions of this resource consent.
11. The Consent Holder must carry out real time PM10 monitoring after 1st November 2023 and before 31st March 2024, during the first "dry" summer season, following the grant of the consent to determine the extent of any nuisance dust effects from the quarry including quarry traffic along Kendalls Line. The exact location of the monitor and the method of monitoring must be set out in the DMMP required by Condition 4. Monitoring will be for at least two (2) months of dry weather. If rain events occur during the monitoring period, it shall be extended by the number of days where there was rain.
12. To monitor compliance with Condition 11, the consent holder shall measure the following parameters to obtain 1 hour and 24-hourly averages:
 - a. Particle Concentration -
 - i. PM1,
 - ii. PM2.5
 - iii. PM4,
 - iv. PM10 and
 - v. the total dust load,
 - b. Time lapse video.
 - c. Meteorological data (wind speed, wind direction and rainfall)

Note: PM10 and total dust load are required to be reported. The other parameters can be used for investigation purposes, only.

13. If the monitoring required by Condition 11 demonstrates there are no nuisance dust effects from quarry traffic along Kendalls Line, then dust monitoring need only be carried out in accordance with the approved Dust Management and Monitoring Plan, when two (2) or more substantiated complaints are received by the Consent Holder, Palmerston North City Council or Manawatu-Whanganui Regional Council within a 12-month period.
14. An annual report shall be provided to the Manawatu-Whanganui Regional Council with the results of the monitoring required by Conditions 11 and 13 and any remedial actions undertaken by the Consent Holder.

Vibration

In their memo, Marshall Day Acoustics have reviewed general information about vibration levels generated by trucks on roads. Vibration from trucks travelling on roads is typically generated when the truck encounters a pothole, corrugation or other irregularity. On a well-maintained road, Marshall Day Acoustics consider it likely that most measurements will be below 0.3 mm/s which is the level that vibration is generally considered as perceptible in residential environments.

All quarry trucks previously surveyed by Marshall Day Acoustics on local roads were below 1mm/s which is the threshold for complaint and substantially below 5 mm/s threshold for structural damage. On this basis, subject to Kendalls Line being well-maintained, vibration should not be a significant feature of the proposed increase in truck movements.

Road Safety

At the pre-hearing meeting, submitters raised concerns about trucks crossing the centre line as they turn left into Kendalls Line from SH57, due to narrowness of the carriage way on Kendalls Line. BECA had identified in their transport assessment the narrow entry to Kendalls Line. The crash record has not identified any particular crash issues, but BECA consider that submitters have identified a valid concern that is appropriate to address, given the potential for up to 250 truck movements per day.

Three options were identified for improvements:

- Widening on the inside (north side) of the left turn would be the first preference, but this is limited by an existing historic water trough and water tank in this location.
- Line marking along SH57. Waka Kotahi appropriately identified a potential risk line marking improvements, being that, if a truck and trailer stopped due to a potential conflict, then the trailer may be sticking out into the SH57 mainline.
- Widening on the southern side on Kendalls Line to provide additional area for drivers to pull to the side if there is on-coming truck traffic.

BECA, Waka Kotahi and PNCC's traffic consultant agree that widening on the southern side is the best alternative, without potential impacts on the safe operation of SH57.

The proposed widening is shown in the enclosed concept plans and will be up to approximately 1.5m from the existing edge of seal, at the widest point, tapering back to the driveway access for 4 and 6 Kendalls Line. An existing drainage swale will need to be realigned closer to the intersection and BECA have identified this is to be reinstated to current condition (no upgrade needed). The improvements also include trimming of vegetation around the water trough / tank and re-marking the line markings at the intersection.

To address the submitters concerns, Hirock offer the following consent conditions:

1. The Consent Holder shall submit for approval by PNCC a plan for proposed improvements to Kendalls Line, in accordance with the "Kendalls Line/SH57 Intersection Proposed Improvements" plan prepared by BECA Limited, drawing number 3823296-TA-1005, Rev. A, dated 30 May 2023.
2. The Consent Holder shall carryout intersection improvement works to Kendalls Line in accordance with the approved plan required by Condition 1, within 6 months of the consent being granted.