

BEFORE THE HEARING PANEL

IN THE MATTER of the Resource
Management Act 1991

AND

IN THE MATTER of the applications by
HiRock Limited to the Palmerston North City
Council (LU 6962) and the Manawatū -
Whanganui Regional Council (APP-
2022203991.00) for resource consents
associated with the expansion and
operation of an existing quarry at 167-251
Kendall's Line, Palmerston North

REPORT TO THE COMMISSIONER

MR DAVID MCMAHON

SECTION 42A REPORT OF NATASHA CACILIA ADSETT – PLANNING

30 May 2023

A. INTRODUCTION

Qualifications and Experience

1. My name is Natasha Cacilia Adsett. I am employed by Evergreen Consulting Limited as a Senior Planner.
2. I hold a Bachelor of Resource Management and Environmental Planning (Hons) from Massey University. I am also certified under the Making Good Decisions programme.
3. I have approximately fifteen years resource management experience. I have been employed with Evergreen Consulting since 2020. My role includes providing planning services to various councils and private clients for strategic planning, policy development and consenting projects.
4. Prior to my employment with Evergreen Consulting, my experience included working for the Manawatū-Whanganui Regional Council, who trade as Horizons Regional Council, where I was employed as a Senior Consents Planner and previously as a Policy Planner. I have also had experience in the United Kingdom where I worked for a private firm providing planning advice.
5. In addition to the above I part own and operate a truck servicing workshop. I can confirm that I do not have any conflicts of interest in this regard with the applicant.
6. Both the Palmerston North City Council (PNCC) and the Horizons have engaged me to provide planning advice in respect of the assessment of resource consent applications LU 6962 and APP-2022203991.00 made by HiRock Ltd for the expansion of an existing quarry at 167 - 257 Kendalls Line, Palmerston North.
7. I am familiar with the quarry site having visited it on three separate occasions on the 4th of April 2022, 23rd of August 2022 and most recently on the 5th of May 2023. The first two visits involved being shown around the full extent of the site by Josua Grobler, General Manager at HiRock. The third visit had a focus on dust effects and onsite mitigation measures and was hosted by Dave Larsen, Quarry Supervisor.

8. I have read and agree to comply with the Code of Conduct for Expert Witnesses as contained in the Environment Court’s Consolidated Practice Note (2023). My qualifications are set out above. I confirm that the issues addressed in this brief of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

Introduction and Background

9. Good Earth Matters Ltd (GEM) has made an application, on behalf of HiRock Limited (the applicant), for resource consents to the Palmerston North City Council (PNCC) and Horizons for the expansion of an existing quarry at 167 - 257 Kendalls Line, Palmerston North.
10. **Table 1**, below, summarises the history of the application to date with the following paragraphs providing details of each stage. It will be noted that as the application has evolved (including re-lodgement) some of the technical reports refer to previous versions of the application. However, this planning assessment, and the accompanying technical assessments, are based on the most recent version (V5) dated 21 November 2022.

Table 1: Application history

Application version and lodge date	Comment
V1 – Lodged to PNCC only, on 5 March 2021.	Application for a variation under s127 to their existing land use consent. The application was returned under s88 on 12 March 2021
V2 - Lodged to PNCC only, on 19 March 2021.	Application for land use consent. The application was returned, under s88, on 1 April 2021.
V3 – Lodged to PNCC only, on 23 June 2021	Application for land use consent. A s92 request was made on 6 July 2021.

	<p>Partial responses were received on 7 July and 27 July 2021.</p> <p>A further update was provided on 2 November 2021. In this email it was advised the long-term viability of a group of nikau palms have been compromised. A further email was received on 25 November 2021 notifying PNCC of the intention to expand the quarry towards the south, below the location of the nikau palms and that it was intended to lodge an all-encompassing application to cover this.</p>
<p>V4 - Lodged to PNCC and Horizons Regional Council on 29th July 2022</p>	<p>Application for land use consent, earthworks, and discharge consents. A request for further information was made on 17 August 2022 and was partially responded to on 17 October 2022.</p>
<p>V5 - Lodged to PNCC and Horizons Regional Council on 21st November 2022</p>	<p>Application for land use consent, earthworks, and discharge consents. A request for further information was made on 29th November 2022. This request was formally responded to on 22 December 2022.</p> <p>This version of the application is the version which has been used to make the notification decision.</p>

11. GEM submitted an application on behalf of the applicant to vary the existing consent (202277) held by HiRock to PNCC on 5 March 2021. An initial review was undertaken by myself, and Mr Andrew Bashford of Evergreen Consulting Limited (Planning) on behalf of PNCC. PNCC were advised by Mrs Adsett and Mr Bashford:

The intensity, character and scale are significantly different from the original application and therefore not within the scope of what is considered to be a variation under s127 of the Resource Management Act 1991. It is considered instead that this consent should be lodged as a new consent for the reasons given above particularly when considering case law established in Body Corporate 970101 v Auckland City Council [2000] NZRMA 202 (HC).

12. On this basis PNCC returned the application on 12 March 2021 under s88 of the Resource Management Act 1991 (RMA).
13. GEM submitted a further application on 19 March 2021, this time seeking a renewal of the existing consent 202277. A review of this application was again undertaken by Mrs Adsett and Mr Bashford. Advice was provided to PNCC stating that the application was potentially incomplete due to a lack of assessment of Noise. Questions were also raised regarding the need for consents from the Horizons, the lifespan of the quarry, and the validity of affected party approvals already obtained on the basis that the approvals were for a variation rather than a new consent. On this basis the application was returned by PNCC, under s88, on 1 April 2021.
14. GEM submitted a further application on 23 June 2021 again seeking a renewal of the existing consent 202277. This application was formally accepted by PNCC. Initial reviews were carried out by Mr Shannon Bray of Wayfinder Limited (Landscape Architect), Mr Cameron Lines of Baseline Geotechnical Ltd (Engineering Geologist), Mr Harriet Fraser of Harriet Fraser Traffic Engineering & Transportation Planning (Traffic Engineer), Mr Nigel Lloyd of Acousafe (Acoustic Engineer), and Mrs Natasha Adsett of Evergreen Consulting Limited (Planning). The application was also sent to the local iwi being Rangitāne o Manawatū in accordance with the Rangitāne o Manawatū Claims Settlement Act 2016.

15. A request for further information was made under section 92 of the Resource Management Act 1991 (RMA) on 6 July 2021, in respect of traffic, noise and several planning related questions regarding the written approvals and request for feedback from iwi. It was also noted that questions would follow once Mr Lines had completed his review. Questions regarding geotechnical matters followed on 20 June 2021.
16. The applicant responded initially on 7 July 2021 to clarify several matters then responded formally on 27 July 2021 – noting that matters regarding iwi engagement, engagement with NZTA and geotechnical matters were still outstanding. As such the application remained on hold.
17. In an email dated 11 August 2021 it was advised a recent slip in the pit had resulted in damage to the two areas of native bush including the nikau palms. The applicant asked for clarification on the scope of the geotechnical report and what would be required given the work that had occurred.
18. A further update was provided on 2 November 2021 from the applicant. In this email it was advised the long-term viability of the nikau palms have been compromised. A further email was received on 25 November 2021 advising the Applicants intent to apply to expand the quarry towards the area where the nikau palms are situated which would necessitate their removal.
19. Following discussions with the applicant, a new consent application was lodged on 29th July 2022. This application encompassed both the PNCC consents and also consent required from Horizons Regional Council (HRC) for the earthworks and discharges associated with the expansion of the quarry including the disposal of overburden at various sites within the quarry boundaries. A request for further information was made on 17 August 2022 and was partially responded to on 17 October 2022.
20. The applicant provided an updated version of the application on 21 November 2022 to both PNCC and Horizons. It was agreed that due to the changes in the overburden disposal locations this would be a new application, and it was lodged as such. The current consent numbers are (PNCC) LU6962 and (Horizons) APP-2022203991.00 and is what is referred to as V5 in **Table 1** above.

21. Following the lodgement of the application on 21 November 2022 the applicant provided the written approval of Waka Kotahi, New Zealand Transport Agency (NZTA) in respect of the traffic movement to and from the quarry and the interaction with the State Highway network.
22. The application was notified on a limited basis on 20 February 2023 to the owners of twelve neighbouring properties, Rangitāne o Manawatū and the Palmerston North City Council – Roading Team (as the roading authority).
23. Following notification, a Memorandum of Understanding (MoU) was signed between the Palmerston North City Council – Roading Team and the applicant. An additional MoU, titled a Mana Enhancing Agreement, was also signed between Rangitāne o Manawatū and the applicant. The signing of these agreements is not considered to have a bearing on the notification process. However, I was provided with subsequent memorandums from the applicant, dated 27 April 2023, which provided conditions taken from the MoU and MEA being offered by the applicant on an Augier Basis.
24. Submissions closed on the 17th of March 2023 and four submissions were received. These are considered later in this report and have also been considered by the relevant technical experts in their attached assessments.

B. STRUCTURE OF EVIDENCE

25. My report is structured as follows:
 - A. Introduction and Background (previous section);
 - B. Structure of evidence (this section);
 - C. Description of the site and surrounding area;
 - D. Description of the proposed activities;
 - E. Assessment of consents required;
 - F. A summary of the notification process and submissions received;
 - G. An assessment of the submissions received;
 - H. A review of the actual and potential environmental effects;

- I. An assessment under the relevant planning/policy framework;
- J. Assessment of any other relevant matters;
- K. RMA Part 2 assessment; and
- L. Conclusions and recommendations.

C. THE SITE AND SURROUNDING AREA

- 26. The site is located at 167-251 Kendall's Line, Palmerston North, approximately 11km south of the city. Kendall's Line is a dead-end road and classified as a local road in the PNCC District Plan. The site is shown on the application plans included within Appendix B of the application and for brevity are not included here. The land is zoned Rural. The site itself is some 44ha in size. The quarry itself covers approximately 24.24ha. The remainder of the site is used as productive farmland.
- 27. There are two areas of native vegetation located on the site. An area of regenerated bush is located to the south of the quarry which is considered to be a Threatened Habitat type within the Schedule F of the One Plan. The applicant advises this area is fenced and pest trapping is actively carried out. There is also a stand of nikau palms which are protected under the existing land use consent. However, the stand of nikau palms is not considered to be a Rare, Threatened or At-Risk habitat type for the purposes of Schedule F.
- 28. The majority of the quarry site, as well as the unnamed tributary of Linton Drain which receives treated washwater and settlement pond overflow discharge, is located within the Coastal Manawatū surface water management zone (Mana_13) and the Lower Tokomaru (Mana_13c) surface water management subzone, set out in Schedule A of the One Plan.
- 29. The application identifies within section 3.2 the following zone wide values associated with Mana_13a:
 - Life Supporting Capacity - Lowland Mixed
 - Aesthetics

- Contact Recreation
 - Mauri
 - Industrial Abstraction
 - Irrigation
 - Stock Water
 - Existing Infrastructure
 - Capacity to Assimilate Pollution
30. No site-specific values are noted for this site.
31. The remainder of the quarry, including a small stream which is located within the native vegetation on the southern boundary, is located within the Manawatū surface water management zone (Mana_11) and the Kahuterawa (Mana_11c) surface water management subzone. The application identifies within section 3.2 the following zone wide values associated with Mana_11a and Mana_11c:
- Life Supporting Capacity – Upper Hard Sedimentary
 - Aesthetics
 - Contact Recreation
 - Mauri
 - Industrial Abstraction
 - Irrigation
 - Stock Water
 - Existing Infrastructure
 - Capacity to Assimilate Pollution
32. No site-specific values are noted for this site.
33. Much of the site is screened by existing bunds along the northern and western boundaries and along the eastern side of the pit. The purpose of these is to assist with noise and landscape effects.
34. The surrounding land is primarily rural in nature and consists of farmland with some pockets of native bush at the base of the Tararua Ranges. There are

several rural- residential dwellings in the surrounding area down both Kendall's Line and the adjacent Hewitt's Road to the north.

Existing environment

35. The existing environment is as outlined in the site description above. The current site used as both a quarry and productive farmland and will continue to be used as such.
36. In respect the operation exceeding its consented allowance regarding traffic and volumes of material extracted from the quarry I do not consider these exceedances form the existing environment. For example, I do not agree with, nor accept the argument that the exceedances of traffic movements (and consequential noise) are what forms the current environment, as these result from unconsented activities.

D. THE PROPOSED ACTIVITY

37. Section 2 of the application lodged to PNCC and Horizons generally outlines what the applicant is wanting to achieve. In summary, the applicant currently operates an established pit quarry on Kendalls Line, Palmerston North. The quarry has operated since the 1970's. The quarry operation (pit, stockpiles, processing areas and all other hardstand) is approximately 24.24 ha in area. The applicant has also supplied a site plan, as Figure 1 on page 7 of their application (and replicated in Appendix B of the application), which shows a good summary of what is proposed in a visual context.
38. The applicant currently holds a land use consent (202277) which allows for 105,000 tonnes of aggregate per year on average to be extracted, operating hours of 7.00am to 7.30pm Monday to Saturday (including public holidays) and an allowance of an average of 27 heavy truck movements per day. The consent decision is ambiguous in that it does not clarify if this is one-way or two-way movements. However, it is likely that this was intended to mean 27 truckloads with an associated 54 truck movements otherwise an odd number of movements that would occur (i.e., the 27th truck would be able to enter the quarry but not leave).

39. The Applicant also holds a number of other consents which are detailed in section 1.4 of its application. For ease of reading, I have summarised these below in **Table 2**. Consents which are no longer current or have been superseded are highlighted in red while current consents are shown in Green. Consents highlighted in yellow are to be replaced by this application.

Table 2: Consent History

Consent number	Purpose of consent	Status
H29/310-312/PLN	To establish and operate a quarry, including the works, machinery and plant used in connection with such quarrying operations and the onsite processing of quarried materials.	Replaced by PNCC consent 202277.
Horizons Consent 6806	Discharge settled stormwater to an unnamed tributary of the Kahuterawa Stream.	Expired. Settled stormwater is no longer discharged to Kahuterawa Stream. Discharge is to unnamed tributary of Linton Drain. This application seeks consent for this discharge.
Horizons Consent 6818	Diversion of water (ephemeral stream) around the quarry site.	Expired; Renewal not required as the ongoing diversion is a permitted activity under the One Plan.
Horizons Consent 6805	Discharge contaminants to air.	Expired; Renewal not required as site improvements are such that permitted activity criteria of the One Plan are now met.

Horizons Consent 6819	Land use consent to remove vegetative cover (grass) and excavate rock and overburden from class VIe1 land.	Land use consent with no expiry date.
PNCC Consent 2022277	<p>To expand the existing quarry to include:</p> <ul style="list-style-type: none"> - An additional 6.3 hectares of land (total quarry area 24.95ha). - Additional stockpiling areas. - Additional processing areas. - New 15-metre-high earth bunds along the northwest and eastern sides of the quarry site. - A new site office, weighbridge, truck wash, lunchroom, toilets and workshop area. - An average of 45,000 tonnes of riprap and 60,000 tonnes of other processed material produced per year. - An average of 27 heavy truck movements per day. 	<p>Active.</p> <p>This application seeks a new consent which will replace this consent when granted.</p>
PNCC Consent LU4946	To deposit new overburden within a gully adjacent to the existing quarry pit, and for an existing overburden deposition area on the south-eastern boundary of the site.	<p>Active. Land use consent without an expiry date.</p> <p>This application does not seek to vary this consent.</p>

<p>Horizons Consent ATH- 2019202514.01</p>	<p>Granted in 2019 as ATH-201902514.00 To undertake land disturbance and install a culvert within an ephemeral stream associated with the operation of a hard rock quarry.</p> <p>Varied in 2021 to ATH-201902514.01. Variation removed a discharge standard pertaining to total suspended solids concentration and allowed for 20,000m³ of cleanfill to be brought to the site.</p>	<p>Active. Expires 16 May 2024</p> <p>This application does not seek to vary this consent.</p>
<p>Horizons Consent ATH- 2019202598.01</p>	<p>Granted in 2019 as ATH-2019202598.00 Land disturbance and the discharge of cleanfill associated with the operation of a hard rock quarry.</p> <p>Varied in 2021 to ATH-2019202598.01 Variation removed a discharge standard pertaining to total suspended solids concentration and allowed for 20,000m³ of cleanfill to be brought to the site.</p>	<p>Active. Expires 16 May 2024</p> <p>This application does not seek to change this consent in any way</p>

40. The applicant acknowledges that its operation has changed from what is allowed in its existing consent with some parameters of the consent being exceeded. The application states the current operation sees approximately 250,000 - 300,000 tonnes of aggregates sold into the market per year. In addition, a traffic survey undertaken on 13 February 2020 by BECA (on behalf of the applicant) found that

73 trucks entered the site, and 74 trucks exited the site, with a total of 147 truck movements in a day. The application also states that Linton Quarry normally operates between 7:00am and 5:00pm, Monday to Friday and 7:00am to 3:00pm on Saturdays.

41. Consequently, the applicant is seeking a new consent which allows Hirock to produce up to 360,000 tonnes of aggregates per year noting this volume will comprise not only material newly extracted from the quarry pit but would also include existing stockpiles of aggregates and any imported fill. The applicant also seeks to increase truck movements to an average of 200 movements per day and a maximum of 250 per day (at a maximum rate of 40 movements per hour) and expand the overall footprint of the quarry including expansion of the pit to the south, an increase in height of the noise bunds which will result in an increase of up to 5m in height in some areas, and the creation of additional overburden sites. As part of the expansion the applicant also proposes to remove an area of nikau palms which have been compromised by earthworks and undertake 0.9ha of planting in and around the Kahuterawa Stream. The operation of the quarry will mirror their current actual operating hours 7:00am and 5:00pm, Monday to Friday and 7:00am to 3:00pm on Saturdays.
42. In addition to the changes for the operation of the quarry, the applicant also seeks consents from Horizons to authorise an existing discharge of treated wash water and stormwater to an unnamed tributary of the Linton Drain, land disturbance associated with the expansion of the site to the south and disposal of overburden (sourced both on and offsite) on the existing noise bunds (the discharge of cleanfill to land).

E. CONSENTS REQUIRED

43. The Palmerston North City District Plan provides for quarrying in the Rural Zone as a **Discretionary Activity** under Rule 9.8.3. The applicant has also noted that the proposal requires consent under rule R20.5.1 as vehicle movements exceed 100 car-equivalent movements per day. This is a Restricted Discretionary Activity. Overall, and taking into account the bundling approach, I am of the opinion the application should be processed on a Discretionary Activity basis.

44. The HRC One Plan has rules pertaining to the activities of large-scale land disturbance (associated with both the disposal of overburden soil and clean fill), expansion of the quarry and the discharge of treated wash water and stormwater.
45. The applicant has assessed the One Plan requirements within section 3.2.1 of the application. In summary the applicant has identified that the earthworks associated with the expansion of the quarry are a Controlled Activity under Rule 13-2. The ability to meet the discharge standard pertaining to visual clarity, contained within Standard (c) of Rule 13-2, was questioned within the further information request dated 30 November 2022. In its response dated 22 December 2022 the applicant confirmed that it would not be able to meet this standard and as such any earthworks should be processed as a **Discretionary Activity** under Rule 13-7. I agree with this assessment.
46. The application also identified that the discharge of clean fill and the consequential discharge of treated wash water and stormwater are a **Discretionary Activity** under Rule 14-30. Again, I agree with this assessment.
47. Lastly the Applicant has identified the presence of an induced wetland, created following the discharge of stormwater and wash water from the site to the unnamed tributary of the Linton Drain. The National Environmental Standards for Freshwater (NES-FW) have recently been updated and came into effect on 5 January 2023. In its s92 response dated 22 December 2022 the applicant notes that the definition of natural inland wetland excludes *“a wetland that has developed in or around a deliberately constructed water body, since the construction of the water body”*. As such it considers consent is not required under the NES-FW. I agree with this assessment.
48. For clarification, while the area of wetland discussed in the above paragraph is identified as such, this is only for the purposes of the NES-FW. It should also be noted that the area is not considered to be a wetland under Schedule F (and therefore does not require additional consents) under the One Plan.
49. Overall, the applicant considers the consents sought from Horizons should be bundled as a **Discretionary Activity**. I agree with this approach.

50. I agree with the applicant that no further consents are required under the One Plan or any relevant National Environmental Standards or Regulations for the operation of the quarry.
51. Overall, the consent will be processed as a Discretionary Activity under Rule 9.8.3 of the District Plan. Additionally, I consider the consents required under the One Plan should also be considered as a **Discretionary Activity** using the bundling approach.

F. NOTIFICATION AND SUBMISSIONS

52. The application was notified on a limited basis on 20 February 2023 with the submission period closing on 17 March 2023.
53. In total four (4) submissions were received and accepted. Three (3) submissions are opposed to the applications and one (1) submission is neutral. A summary of the submissions is included in **Table 3** below:

Table 3: Summary of Submissions

No.	Submitter	Address	Heard	Support/ Oppose
1	Christoffel Johannes and lize Bekker	[REDACTED]	Yes	Oppose
2	Richard and Donna Day	[REDACTED]	Yes	Oppose
3	Brent and Jude Vautier	[REDACTED]	Yes	Oppose
4	D and K Underwood	[REDACTED]	Yes	Neutral

To give context to the submitters concerns the below image shows the location of each of their addresses



Figure 1: Property location of each submitter.

54. The submissions are all from residential neighbours and all raise similar concerns with the proposal. The submitters are concerned with potential environmental effects such as noise levels, dust, truck numbers and effects of the trucks using the roading network. These matters are addressed below in Section G of this report and, where applicable, in the reports of the technical experts which are appended to this report.

G. SUMMARY OF SUBMISSIONS

55. I have read all of the submissions and undertaken an analysis which is shown in **Table 4** below and identify the key issues and points raised by submitters.

Table 4: Summary of issues raised:

Issue / points raised	Raised by submitter	Relevant report section:
Dust	1, 2, 3	See Paragraphs 113-120 of this report and the s42A report of Mr Curtis.
Noise from Trucks, including tyre noise, acceleration, deceleration,	1, 2, 3	See paragraphs 69-80 of this report and the s42A report of Mr Lloyd.
Road surface type resulting in noise concerns	1	See paragraphs 69-80 of this report and the s42A report of Mr Lloyd.
Compensation	1	See and paragraph 57 below, paragraphs 69-80, and the s42A report of Mr Lloyd.
Putting in place mitigations (eg. vegetation for properties located along the road, installation of double glazing)	1, 4	See and paragraph 57 below, paragraphs 69-80, and the s42A report of Mr Lloyd.
Hours of work / operation	2	See paragraph 125-126 below.
Number of truck movements	2, 3	See report of Ms Fraser and Mr Lloyd and Paragraphs 69-80 and 81 – 86 of this report.
Vibration from trucks	2	See sections 69-80 of this report and the s42A report of Mr Lloyd.
Road speed – reduction in first 400m of the road	2	See report of Ms Lloyd and paragraph 69-80 below.
Nikau Palms	3	See report of Mr Lambie.

Issue / points raised	Raised by submitter	Relevant report section:
Diesel fumes	3	See paragraph 58 of this report, Paragraphs 113-120 of this report and the s42A report of Mr Curtis.
Types of trucks used	3	See sections 58 of this report

56. Some of the issues raised within the submissions are outside the scope of what can be addressed through the resource consent process. In this instance I have identified compensation, physical mitigations (planting, replacement of windows with double glazing), diesel fumes and the types of trucks used, as being issues outside the scope of what can be addressed through a resource consent application process under the RMA.
57. Submissions 1 and 4 make comments and/or request compensation or mitigation including suggestions of physical measures paid for by the applicant such as planting of additional vegetation (submission 1) and installation of double glazing (submission 4). While the council is unable to force mitigation and/or compensation (and therefore this matter is often considered to be out of scope), it is noted that the applicant has offered noise mitigation where quarry traffic noise exceeds 55dBL at the house façade. This is discussed further below in regard to noise.
58. Submission 3 raises concerns around diesel fumes and the types of trucks used. So long as trucks have the appropriate certificate of fitness (CoF) then they may operate on the road. It is also my understanding that the applicant has limited ability to control the type (and condition) of trucks which enter the site due to a number of external companies also providing cartage to and from site. As such I consider this is a matter which is outside of this application, and I am unable to address it as part of this hearing process. With regards to diesel fumes Mr Curtis has addressed this within his report and below in paragraphs 113-120.

H. EFFECTS ON THE ENVIRONMENT

59. The proposed activities may result in actual or potential adverse on the environment in several different ways. Actual and potential effects of quarrying activities normally include noise, effects on landscape and visual amenity values, traffic effects, and erosion and sediment loss effects. The submitters have identified concerns with a number of different potential effects as outlined in **Table 4** above. I have addressed a number of effects in paragraphs 57 and 58 which I consider are beyond the scope of what can be considered under the RMA.
60. The actual and potential effects have been considered in the technical reports attached to this report, including a number of joint witness statements where the experts have caucused with the applicants' experts. I do not repeat all the detail from the technical reports and/or Joint witness Statements here but do provide a summary and identify the adverse effects likely to arise as a result of the proposed activities.
61. The following matters have been considered relevant and therefore canvassed in the assessment of effects on the environment:

District planning matters

- Landscape and Visual Amenity effects;
- Noise effects;
- Effects on the safe and efficient operation of the roading network;
- Effects on land stability; and
- Effects on the National Grid.

Regional planning matters

- Effects on biodiversity;
- Erosion and sediment control measures; and
- Water quality.

General matters which relate to both District and Regional Councils

- Air Quality and Dust effects;
- Cultural effects; and
- Other matters.

62. To inform my assessment, the following experts have been engaged to review the application:

- Mr Shannon Bray, Landscape Architect from Wayfinder Limited. Mr Bray has assessed matters relating to visual and landscape effects. Mr Bray has undertaken caucusing with the applicant's expert and provided a Joint Witness Statement. The Joint Witness Statement is attached as **Appendix B** and Mr Brays expert report is attached as **Appendix C**.
- Mr Nigel Lloyd, Noise Expert from Acousafe. Mr Lloyd has assessed matters relating to noise including noise generated by the quarry operations and truck movements to and from the site. Mr Lloyds expert report is attached as **Appendix D**.
- Ms Harriet Fraser, Transportation Expert from Harriet Fraser Traffic Engineering & Transportation Planning. Ms Fraser has undertaken caucusing with the applicant's expert and provided a Joint Witness Statement. The Joint Witness Statement is attached as **Appendix E** and Ms Frasers expert report is attached as **Appendix F**.
- Mr Cameron Lines, Geotechnical expert from Baseline Geotechnical. Mr Lines has undertaken caucusing with the applicant's expert and provided a Joint Witness Statement. The Joint Witness Statement is attached as **Appendix G**.
- Mr James Lambie, Ecologist. Mr Lambie has undertaken caucusing with the applicant's expert and provided a Joint Witness Statement. The Joint Witness Statement is attached as **Appendix H**.
- Mr Kerry Pearce, Erosion and Sediment Control Expert. Mr Pearce has provided a s42A report then subsequently undertaken caucusing with the applicant's expert and provided a Joint Witness Statement. The Joint

Witness Statement is attached as **Appendix I** and Mr Pearce's expert report is attached as **Appendix J**.

- Mr Eric Faanoi, Freshwater Advisor from Horizons Regional Council. Mr Faanoi has undertaken caucusing with the applicant's expert and provided a Joint Witness Statement. In addition, Mr Faanoi has provided a separate s42A, in relation to matters regarding the frequency of the discharge and DRP. The Joint Witness Statement is attached as **Appendix K** and Mr Faanoi's expert report is attached as **Appendix L**.
- Mr Andrew Curtis, Technical Director – Air Quality of Pattle Deamore Partners. Mr Curtis has provided technical expertise in regard to dust and air quality matters. Mr Curtis' expert report is attached as **Appendix M**.

63. Comments from the above experts, either via their technical reports or, where applicable, joint witness statements, have been incorporated into my effects assessment below, where relevant.

Landscape and visual amenity

64. Quarries can result in effects on landscape values and visual amenity that require mitigation. In this instance the site is not recognised as having any special amenity or landscape values. The site is what could be described as a terrace at the base of the Tararua Ranges that, combine with the fact it is a pit, is not particularly visible from a wide area.
65. The respective experts being Jesse Byrne of BECA on behalf of the Applicant and PNCC's consultant landscape architect, Mr Shannon Bray, have provided a joint witness statement, regarding potential landscape effects, which is attached to this report as **Appendix B**. Mr Bray has also provided a separate statement of evidence which is attached as **Appendix C**.
66. The joint witness statement summarises that both experts agree the correct methodology was used by the applicant to assess the landscape effects, that the landscape effects are low-moderate at the site, but low from a wider scale. Additionally, they agree visual effects are low. No points of disagreement are recorded.

67. A number of conditions are recommended by the experts in their statement. I agree with the recommended conditions and am of the opinion that they will ensure that visual amenity effects are mitigated appropriately including ensuring the close of the quarry is accompanied by an appropriate rehabilitation plan.
68. Should the commissioner be of a mind to grant consent there is a collated set of conditions included as **Appendix A**.

Noise

69. The application includes an acoustic report prepared by M Schmid of Marshal Day Acoustics (MDA), which concludes that the noise limits as a result of the day-to-day quarry operations (excluding traffic movements) will be at an acceptable noise level to nearby residents. PNCC has engaged Mr Nigel Lloyd (Acousafe Consulting and Engineering Ltd) to review the applicants acoustic report and provide subsequent feedback on the matters raised by the submission process. Mr Lloyds report is attached as **Appendix D**.

70. A point of contention relates to the ability to assess traffic movements on the road corridor, with the application noting:

“The District Plan does not contain noise performance standards for vehicles (including quarry truck and trailer units) travelling on existing public roads. The purpose of the road network is in part to facilitate primary production activities such as quarrying, particularly where a road feeds directly into the State Highway network. Therefore, traffic noise is anticipated on public roads and that is why it is exclude from consideration under the District Plan noise provisions. Nonetheless, quarrying is a Discretionary activity under the District Plan and a consideration of noise from the proposed expansion activities has been undertaken.”

71. I agree with this statement – noting that the traffic is generated as a result of the quarry being allowed to operate. Mr Lloyd has also commented on the matter noting that the District Plan section 6.2.4 states:

Where a specific noise source is outside the scope of the Standards then it will be excluded from assessment under the specific zonal noise controls rules within

the District Plan, and the Council may control any unreasonable emission of noise under s16 of the Act and the use of excessive noise directions (i.e. gunfire, stereo noise and dog barking) when it is considered appropriate and necessary to do so. However, there may be some cases where an activity is proposed that by its nature, will result in a source of noise that falls outside the scope of the Standards. Examples include an activity (such as a supermarket) that may generate significant truck volumes that would result in an increase in off-site road noise to the surrounding area, or a dog kennel that may result in significant noise from dogs barking. In both examples the specific source of noise falls outside the scope of the Standards and therefore cannot be assessed under the zonal controls, however the activity itself which generates the noise source is likely to require the submission of a resource consent application to enable the Council to assess the potential effects of the activity. In these cases, the effects from the noise source may be required to be included within an assessment of environmental effects. Where a noise assessment is required then this should be undertaken by a suitably qualified and experienced acoustical engineer. If consent is granted the noise source may be subject to control through conditions (i.e. restriction of hours of operations).

72. I note that the expansion of the quarry will naturally generate an increase in traffic as the applicant has applied for a significant increase in both extraction and consequently traffic volumes.
73. Mr Lloyd has addressed the concerns raised by submitters. I agree with his summation of the issues raised in particular that the road maintenance mitigations proposed will assist with the vibration effects experienced by local dwellings. Mr Lloyd also reflects on the desire for a lower speed limit (e.g., 30km/hr) at the first 400m section of the road. I agree with his observation that this will result in a shift in braking and acceleration noise further down the road.
74. Mr Lloyd has also reflected on the mitigations proposed by the applicant, specifically proposed condition 19 in regard to mitigations for dwellings which experience quarry traffic noise equals or exceeds an equivalent free field noise level of 55 dB LAeq(1h) [or other appropriate trigger limit to be determined] at the façade of the dwelling. Mr Lloyd has recommended that it would be more

appropriate to word this condition to state that any dwelling within 50m of the Kendall's Line centre line is able to receive the mitigation. I agree and consider that this would be easier to measure rather than relying on a dBL measurement. I also consider it would be good to alter the condition to place a time limit on when the mitigation needs to be offered by and the number of attempts to engage the applicant must make. This will make it clear for all parties the requirements. I have recommended some alterations to this effect.

75. A number of submitters raised concerns about vibration. Mr Lloyd expresses the opinion that the upgrade and maintenance of the road will assist with vibration effects. However, I am aware that the applicant is preparing a memo regarding vibration effects and will ask Mr Lloyd to comment on it when it is made available.
76. With regards to noise from the operation of the quarry, Mr Lloyd has reflected that the dwelling situated at 150 Kendall's Line will be affected. The owners of 150 had provided written approval to a previous version of the application but were notified when the new application was lodged.
77. However, it is considered that not a lot has changed within the application which would affect the house at 150, in terms of onsite quarry noise and the overall quarry movement. As such I have recommended that the condition be written so that they have their own noise limit with regards to noise limits for day to day quarry activities.
78. Mr Lloyd has also considered, and made recommendations, in regard to conditions regarding quarrying noise and ongoing noise monitoring. I largely accept these recommendations, although I have made some modifications for compliance purposes.
79. Overall, I consider there remains a potential minor effect on neighbouring properties because of noise from truck movement, I am of the opinion that the recommended conditions, including the reduced speed of the trucks, mitigations for houses within 50m of the centre line and restrictions on operating hours will mitigate the effects to a level where there is assurance that they remain minor.
80. Noting the outstanding evidence regarding vibration, I have prepared conditions which I consider will assist to mitigate the effects to the level that they remain as

minor and included them as a collated set within **Appendix A** should the commissioner be of a mind to grant consent.

Safe and Efficient Operation of the Roothing Network

81. Traffic has the potential to create effects on both the safety and efficiency of the roading network. As discussed above the existing consent allows for 27 truck movements, which is likely to mean 54 individual truck movements. It is proposed that this be increased to average 200 truck movements per day with a maximum of 250 truck movements per day.
82. The respective traffic experts being Joe Phillips, Principal – Transport Advisory of BECA on behalf of the Applicant and PNCC’s consultant Transport Engineer, Ms Harriet Fraser have provided a joint witness statement, regarding potential traffic effects, which is attached to this report as **Appendix F**. Ms Fraser has also provided a separate 42A report which is attached to this report as **Appendix E**.
83. The joint witness statement demonstrates agreement between the two experts on matters such as safety of other road users as a result of the increase in traffic, the proposed courtesy speed limit, proposed mitigations including acceptance of the conditions requested by Waka Kotahi (and offered by the applicant on an Augier basis) and the traffic management plan.
84. A number of conditions are offered by the applicant, and it agreed by the experts that these are reasonable, and they are supportive of them as proposed.
85. It is noted at line 17 of Appendix A of the Joint Witness Statement, and also in Ms Frasers 42A report, that an additional matter was raised by submitters regarding the turning of trucks from the north into Kendall’s Line (i.e., turning left) and the trucks cutting across the centre line. The experts agree that some initial work can be undertaken to assist with this situation such as trimming of vegetation and in the lower courtesy speed will assist. A meeting took place on the 18th of May 2022 between the council, applicant, and Waka Kotahi. I understand that the applicant intends to provide an update and/or proposal on how they will address this issue.

86. While noting the issue regarding the turning into Kendalls Line, I have prepared conditions and included them as a collated set within Appendix 1 should the commissioner be of a mind to grant consent.

Land stability

87. Quarrying has the potential to affect the stability of land. The respective geotechnical experts being Mr Cameron Line, Principal and Director of Baseline Geotechnical Ltd, on behalf of PNCC and Barry McDowell, Technical Director of Tonkin & Taylor Ltd, on behalf of the applicant, have provided a joint witness statement, regarding potential Land Stability effects, which is attached to this report as **Appendix G**.
88. The joint witness statement shows agreement between the two experts on matters such as the proposed design of the slopes of both the quarry and overburden and proposed consent conditions offered by the applicant.
89. It is noted at line 1G of the Joint Witness Statement, that there is disagreement in regard to the timeframe in which the slope next to the indigenous vegetation may fail. However, it is noted by Mr Lines that it isn't particularly relevant to the potential for environmental effects.
90. I agree noting that the applicant has also offered conditions to offset the potential failures and consequential loss of vegetation, as discussed in the Ecological section. It is also recommended by the experts to include conditions regarding closure of the quarry and ensuring a geotechnical rehabilitation report is included. I have recommended that this condition be incorporated into the conditions for the concept and Final Quarry Closure and Rehabilitation Plan conditions.
91. Based on the joint witness statement, I have prepared conditions and included them as a collated set within **Appendix A** should the commissioner be of a mind to grant consent.

National Grid

92. It is noted above that High voltage powerlines (Transpower National Grid Transmission lines) run through the middle of the site. Two towers are located within close proximity to Linton quarry as shown in figure 3.2 of the application.

93. The application advises:

“Rule 6.3.6.1 of the District Plan sets out a permitted activity requirement for earthworks activities in all zones. Whilst the Plan includes a specific definition of for 'quarrying' it is considered that the more broad term 'earthworks' also applies to some of the activities encompassed by this Application. Rule 6.3.6.2 specifically exempts "earthworks undertaken as part of quarrying or extraction activities in Section 9 (Rural Zone) of this Plan" and therefore any quarrying activities undertaken within the proposed expanded quarry area and within the National Grid Yard are exempt from the requirement of Rule 6.3.6.1.

The overburden disposal activity proposed within this Application is not exempt from Rule 6.3.6.1. However, the proposed new overburden areas are away from both the transmission line and the towers and not within the National Grid Yard.”

94. Despite the above reasoning put forward by the applicant, ‘quarrying’ is a Discretionary Activity in its own right, therefore effects on the Transpower assets should be considered. In this instance a pylon is located on the site with existing pit excavations within 50-60 metres from the pylon. Another pylon is located to the southwest of the site and pit excavations are proposed to extend to within 50-60 meters of that pylon. Whilst earthworks beyond 12 meters from pylons is generally permitted, earthworks generally do not involve such extensive excavations as a quarry.

95. Mr Lines has examined the risk of instability of the pylons and notes that when considering the geometry of the proposed cut back, the material exposed in the pit wall and the slope stability modelling submitted by the applicant, the risk of slow instability in the quarry slopes affecting the pylons is very low. I am satisfied that the conditions recommended within Appendix 1 will ensure effects are avoided or mitigated

Effects on Biodiversity

96. As discussed above, there are two areas of native vegetation located on the site. An area of regenerated bush is located to the south of the quarry. The applicant advises this area is fenced and pest trapping is actively carried out. There is also a stand of nikau palms which are protected under the existing land use consent.
97. The respective ecological experts being Mr James Lambie, Consultant Ecologist, on behalf of PNCC and Horizons Regional Council and Nyree Fea, Senior Ecologist with Wildland Consulting Limited, on behalf of the applicant, have provided a joint witness statement, regarding terrestrial and wetland ecology effects, which is attached to this report as **Appendix H**.
98. The joint witness statement shows agreement between the two experts on matters such as the identification of ecological values and effects on those values and management of those effects through conditions.
99. The joint witness statement does identify the need for further caucusing between the ecologists and planners in regard to long term monitoring of effects on the pukatea-tawa-māhoe-(tītoki)-(nīkau) forest. This occurred on the 22nd of May 2023 and an agreement was made to add an additional paragraph into proposed condition 24 (as referenced in the Joint witness statement) to address an Indigenous Vegetation Monitoring Plan.
100. Based on the joint witness statement and discussion that occurred on the 22nd of May 2023, I have prepared conditions and included them as a collated set within **Appendix A**, should the commissioner be of a mind to grant consent.

Erosion and Sediment Control Measures

101. The potential for soil erosion and sediment release can arise from several processes within the proposed quarry operation, including cleanfill discharges, earthworks to the open quarry pit and also the opening of additional quarrying land, construction of bunds, and the crushing of rock on site.

102. Mr Kerry Pearce has provided a 42A report which has subsequently been updated with a joint witness statement. These are attached to this report as **Appendix I and J**. The joint witness statement is between Mr Pearce on behalf of Horizons and Ms Annette Sweeney, Director and Principal of Good Earth Matters Consulting Ltd who has been engaged by the applicant to act on its behalf.
103. The Joint Witness Statement shows agreement between the two experts on matters such as the adequacy of existing erosion and sediment control measures, proposed measures and recommended conditions which essentially updates those recommended by Mr Pearce in his 42A. No matters of disagreement were recorded, although it is noted that standards for pH and Chloride would be deferred to the water quality experts.
104. Based on the joint witness statement, and recommended conditions provided, I have prepared conditions and included them as a collated set within **Appendix A**, should the commissioner be of a mind to grant consent.

Water Quality

105. Potential effects on water quality can arise from quarry discharges – particularly those associated with the discharge of sediment – resulting in turbidity and the deposition of sediment within waterways.
106. A joint witness statement has been prepared by Mr Eric Fa'anoi, Freshwater Advisor, Horizons Regional Council and Ms Marieke Soeter, Senior Water Professional at Good Earth Matters Consulting Ltd. This is attached as **Appendix K**. In addition, Mr Fa'anoi has prepared a brief 42A report which reflects on the outstanding matters of disagreement which is attached to this report as **Appendix L**.
107. The joint witness statement canvasses a wide range of matters relating to water quality including the scope, activity description and nature of the discharge, the values associated with the waterway where the discharge is to be located and specific matters such as the influence of farm run off.

108. While the statement shows that a number of matters are agreed upon there are still outstanding matters relating to the topics of discharge frequency and the magnitude of risk of Dissolved Reactive Phosphorus (DRP) on the environment.
109. With regards to discharge frequency, it is noted by Mr Fa'anoi that there is a potential risk that water could be discharged year-round depending on rainfall which is uncontrollable and pumping of excess water to the sediment retention pond, which is controllable. Ms Soeter is of the view that water is valuable to the quarry with the pit water being the only source of water on site, so they will not discharge unless necessary. While I accept both points of view, I do agree that there is nothing preventing the applicant discharging to the sediment retention pond and the quality and quantity of the discharge does come down to onsite management. In saying this, it is noted that both parties agree while there is a disagreement with discharge frequency the proposed monitoring conditions captures the assessment of the discharge caused when pumping occurs to SRP1. On this basis I am satisfied that the frequency of pumping is not an issue that needs to be canvassed further.
110. The other outstanding issue is the magnitude of risk that DRP poses to the environment. The experts have agreed that monitoring of DRP is required, and that this will occur for 2 years as part of the applicant's proposed monitoring plan. My understanding is that this monitoring will essentially form a picture of what level of DRP is being contributed to the catchment from the quarry. The experts agreed that following the two years of monitoring the applicant will then be required to compare the DRP contribution to the surrounding environment.
111. Following the completion of the JWS I raised concern that the condition would be difficult to enforce given the surrounding environment was not defined. It was agreed instead over email on 25 May 2023, that the standard set within the NES-FW, lower Band C should be used. Should it be found to exceed this it will trigger the requirement to review onsite ESCP practices and adjust if necessary. It is also noted that yearly reviews are recommended should the Regional Council find that additional effects, not anticipated at this stage, are present.
112. I have recommended a set of conditions which are attached as **Appendix A**, should the commissioner be of a mind to grant the consent.

Air Quality and Dust

113. Dust will potentially be generated from haul roads, processing of gravels and from gravel extraction. The applicant proposes to use water from the settling pond to suppress dust from the quarry during operation via a yard sprinkler. A water cart is also used in the wider area as necessary. Water is an effective mechanism to suppress dust, but the situation requires constant monitoring and management. The applicant has proposed a number of conditions of consent as mitigation.
114. Mr Andrew Curtis, Technical Director – Air Quality, PDP, has been engaged by Horizons and PNCC to review the effects and also respond to concerns raised by submissions. Mr Curtis' report is attached as **Appendix M**.
115. Mr Curtis has reviewed the application and undertaken a site visit. He reflects that the quarry itself appears to be well set up, with good dust mitigation measures in place combined with the fact that the material, being larger in nature, is unlikely to generate a lot of dust.
116. However, Mr Curtis has reflected on the concerns raised about dust on the road leading away from the quarry and noted that on the day of the visit a lot of mud was present on and near the weighbridge which would likely contribute to tracking along the road. Mr Curtis is of the opinion that this can be readily mitigated through the use of a Dust Management and Monitoring Plan requiring measures such as additional washing of the truck wheels, access road and sealing of the yard accessed by the public. Mr Curtis has also recommended a permanent monitoring station at the site entrance to demonstrate if the mitigations are effective.
117. The issue of dust is both a concern to the Regional and City Council. For the Regional Council it is the compliance or otherwise with Permitted Activity rule 15-14 (Miscellaneous discharges into air from trade an industrial premises) and the City Council is concerned with amenity and nuisance matters. The quarry operation itself is expected to comply with Rule 15-14 so long as it is able to mitigate the material tracked down to Kendalls line as disused above.

118. Mr Curtis also reflects on his site visit and notes that the combination of the resealing of the road, cleaning of the berms and substantial hedging will assist reducing dust nuisance.
119. Concerns have also been raised by submitters in regard to diesel fumes. Mr Curtis has reserved his opinion on the effects of this until monitoring data is provided. However, he notes that in his experience with traffic emissions at other locations, the volumes of traffic proposed are unlikely to result in any significant change in ambient air quality due to diesel vehicle emissions.
120. Noting the reserved point about vehicle emissions, I have recommended a set of conditions which are attached as **Appendix A**, should the commissioner be of a mind to grant the consent. It should be noted that the conditions are drafted to sit within the jurisdiction of PNCC, rather than HRC for the reasons discussed above in paragraph 117. However, I have recommended that the technical certification be led by PNCC in conjunction with HRC.

Cultural Effects

121. An unnamed tributary of the Kahuterawa stream, a tributary of the Manawatū River flows through the quarry site and treated stormwater and washwater is also discharged to a farm drain which flows into the Linton Drain. It is also noted that Rangitane o Manawatū' have previously identified the significance of the Nikau Palms on the site. Although I consider the loss of these palms is adequately compensated from an ecological perspective to the extent that the effect is minor, I still acknowledge the significance from a cultural perspective. The Manawatū River and its tributaries (of which this area, and the discharge location are part of) are included as a statutory acknowledgement area under the Rangitane o Manawatū Claims Settlement Act 2016.
122. Following notification of the consent a Mana Enhancement Agreement (MEA)¹ has been signed between Rangitane and the applicant. This MEA has resulted

¹ A memorandum dated 27 April 2023 has been supplied by the applicant outlining the Mana Enhancing Agreement, along with a request to amend the application to include a number of conditions.

in a number of conditions which the applicant has proposed to include within their application.

123. These conditions relate to the quarry closure plan, reporting on the meeting of water quality targets, final planting plan for the reforestation area along the unnamed tributary of the Kahuterawa Stream and the Indigenous Vegetation Monitoring Plan, involvement in the removal of the Nikau Palms and undertaking the work recommended in the Ecological Management Plan prepared by Wildlands. I have included these within my recommended conditions for the commissioner to consider, should they be of a mind to grant the consent.
124. I consider, based on the provision of the MEA, that there are adequate mitigations in place to address cultural concerns, given the MEA is essentially an agreement between the applicant and the local iwi.

Other matters

125. Submitters have also raised concerns about the hours of operation which are proposed to be:

“The quarry must not operate outside the hours of 07:00 to 17:00 hrs, Monday to Friday and 07:00 to 15:00 hrs on Saturdays. No quarry activity will take place on Sundays or public holidays. Quarry trucks must not use Kendalls Line outside of the core quarry hours. This restriction does not apply to staff arriving to the site, between 06:30 and 0700 hrs.”

126. In my opinion the hours are reasonable and coincide with hours generally accepted to be business hours.

Conclusions

127. Based on my assessment above I am confident that the potential or actual effects can be mitigated to levels where they can be considered to be minor. With appropriate conditions of consent and management plans in place it is considered that matters such as visual effects, noise, traffic, dust, sediment, and effects on freshwater ecology and cultural values can be adequately dealt with. To assist

submitters, I have repeated **Table 4** above and made reference to relevant conditions which I am of the opinion offer appropriate mitigation.

Table 5: Mitigation summary

Issue / points raised	Raised by submitter	Relevant conditions within Appendix A
Dust	1, 2, 3	See PNCC conditions 41-51 This suite of conditions require: - A dust management and mitigation plan to address dust being carted onto the Kendalls Line; - Ongoing monitoring of PM ₁₀ ; - Ensuring dust is not a nuisance beyond the property boundary; - Onsite dust mitigation measures including sprinklers
Noise from Trucks, including tyre noise, acceleration and deceleration.	1, 2, 3	See PNCC Conditions 4 regarding restricting road speed to 50km/hr and Condition 20 regarding a noise management plan.
Road surface type resulting in noise concerns	1	See PNCC conditions 4 – 11. This suite of conditions require: - Limiting truck speed to 50km/hr - Ongoing maintenance of the road on an annual basis
Compensation	1	See PNCC condition 18 which provides mitigation to houses within 50m of the road centreline.
Putting in place mitigations (eg. vegetation for properties located along the road, installation of double glazing)	1, 4	See PNCC condition 18 which provides mitigation to houses within 50m of the road centreline.
Hours of work / operation	2	-
Number of truck movements	2, 3	-
Vibration from trucks	2	See PNCC conditions 4 – 11. This suite of conditions require: - Limiting truck speed to 50km/hr - Ongoing maintenance of the road on an annual basis
Road speed – reduction in first 400m of the road	2	See PNCC condition 4. Trucks will be required to travel at 50km/hr along Kendalls Line.

Issue / points raised	Raised by submitter	Relevant conditions within Appendix A
Nikau Palms	3	See PNCC conditions 31 – 40. This suite of conditions require: - An ecological management plan to be adopted; - Removal of the Nikau Palms to be undertaken in conjunction with local iwi, Rangitāne o Manawatū including harvesting of Nikau seeds for replanting adjacent to the Kahuterawa Stream; - Planting of 0.9ha alongside the Kahuterawa Stream; - Protection of the stand of native forest at the southern face of the quarry.
Diesel fumes	3	-
Types of trucks used	3	-

128. In addition to the conditions discussed above the applicant has also offered mitigations in regard to road safety, particularly the installation of the lime chip footpath (PNCC condition 6) and a traffic management plan.
129. However, there are a couple of outstanding matters that need further work and discussion. These include:
- A. The outcome of the discussion with NZTA in regard to the additional road markings on State Highway 54 at the entrance to Kendall's Line, and
 - B. It is noted that the applicant intends to provide further information in regard to vibration effects. Any information provided will be assessed by Mr Lloyd and an update will be provided prior to or at the hearing.
 - C. It is noted that Mr Curtis will provide a further assessment following the provision of monitoring data to provide an opinion on what level of impact vehicle emissions have on the surrounding area.

I. PLANNING / POLICY FRAMEWORK

130. Section 104(1) (b) requires the consent authority to have regard to any relevant provisions of national environmental standards, national policy statements, the New Zealand coastal policy statement, regional policy statements and a plan or regional plan. The applicant has provided brief assessments of the Regional Policy Statement, Regional Plan and the District Plan in its applications.
131. The following sections outline the applicability of the above statutory documents and makes assessments against those documents as necessary.

National Environmental Standards

132. The following National Environmental Standards are currently in effect within New Zealand.
- National Environmental Standards for Plantation Forestry 2017
 - National Environmental Standards for Air Quality 2004
 - National Environmental Standard for Sources of Drinking Water 2007
 - National Environmental Standards for Telecommunications Facilities 2016
 - National Environmental Standards for Electricity Transmission Activities 2009
 - National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2011
 - National Environmental Standards for Freshwater 2020
 - National Environmental Standard for Marine Aquaculture 2020
 - National Environmental Standard for Storing Tyres Outdoors 2021
133. The applicant has stated that there are no applicable national environmental standards to consider. With regards to the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health, the applicant advises the site is not known to be a HAIL site beyond the quarrying activity which is currently taking place on it. I accept this and consider this standard is not applicable.

134. The National Environmental Standards for Freshwater has been canvassed above in paragraph 47. I agree that the application does not require any additional consents under this standard.
135. With regards to the National Environmental Standards for Sources of Drinking Water the applicant has noted that there is a water supply 3.3km away being the Turitea stream (Turitea Dam) which serves the population of Palmerston North. I note this is upstream of the site and also in an adjacent (different) catchment, therefore can be discounted as per regulation 8. The next closest supply is 4.1km away being a confined well servicing the Linton School with a population of 40. Again, given the type of supply and distance, along with the population being supplied I consider the regulations are not applicable.
136. The applicant discusses the NES-AQ in section 7.1.4 of their AEE. I agree with their statement that they are not within an airshed (as defined by the NES-AQ) and the activity of quarrying is not restricted. I also agree that the emission of dust, within a property boundary, is a Permitted activity under Rule 15-14 of the One Plan and note the applicant intends to have a dust management plan in place to continue management of the site.
137. On this basis I do not consider that the activity is restricted by the NES-AQ.
138. Overall, I agree with the applicant assessment that there are no relevant national environmental standards which require consideration as part of the consenting assessment.

National Policy Statements

139. The following National Policy Standards are currently in effect within New Zealand.
- National Policy Statement for Highly Productive Land 2022
 - National Policy Statement on Freshwater Management 2023
 - National Policy Statement on Urban Development 2020
 - National Policy Statement on Renewable Electricity Generation 2011
 - New Zealand Coastal Policy Statement 2010

- National Policy Statement on Electricity Transmission 2008
140. Of these I consider the National Policy Statement for Freshwater Management (NPSFM) to be relevant.
141. The NPSFM was originally introduced in 2011 and subsequently superseded in 2014, updated in 2017, replaced in August 2020 and updated again in February 2023. The 2020 and 2023 version of the NPSFM is similar to the previous versions in that it largely directs regional councils to prepare or make changes to their regional plans to give effect to Te Mana o te Wai, and all local councils to actively involve tangata whenua in freshwater management.
142. The NPSFM contains an overarching objective and a number of supporting policies. The objective states:
- The objective of this National Policy Statement is to ensure that natural and physical resources are managed in a way that prioritises:*
- a) *first, the health and well-being of water bodies and freshwater ecosystems*
- b) *second, the health needs of people (such as drinking water)*
- c) *third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.*
143. Fifteen supporting policies follow the objective seeking specific actions relating to the management of freshwater including giving effect to Te Mana o te Wai, the involvement of Tangata Whenua, considering a whole catchment approach and protection of specific habitats.
144. In relation to this proposal the key aspect is the discharges of stormwater and treated wastewater, to the unnamed stream from the erosion and sediment control devices.
145. In terms of the discharge the feedback from the joint witness statement between Mr Fa'anoi and Mrs Soeter indicates that there is agreement the proposed monitoring plan is generally sound. Likewise, the recommendations of Mr Pearce

for ensuring that all works are undertaken in accordance with the proposed soil and erosion control plans accords well with the NPSFM objective.

146. With conditions imposed on the consent requiring the works are undertaken and monitored as per the proposal, I consider that the application fits within the framework of the NPSFM particularly the requirement of putting the health and well-being of water bodies and freshwater ecosystems first.
147. I am satisfied that none of the other listed National Policy Statements are applicable to this application.

Horizons One Plan

148. The Horizons One Plan contains the Regional Policy Statement (RPS) in Part 1 and the Regional Plan in Part 2. Part 3 contains a series of schedules specifying things such as surface water management zones and water quality targets. The RPS and Regional Plan provisions are addressed below.

Regional Policy Statement

149. There are several sections of the RPS which are relevant to the applications. The applicant has identified these in section 7.4 of their AEE and this section is referred to below where appropriate. I agree with their analysis that sections 2, 3, 4, 5, 6 and 7 of the RPS, along with chapters 12-14 of the Regional Plan are relevant to the application
150. Chapter 2 contains provisions relating to Te Ao Maori, with Objective 2-1 stating:
- a) *To have regard to the mauri of natural and physical resources to enable hapu and iwi to provide for their social, economic and cultural wellbeing.*
 - b) *Kaitiakitanga must be given particular regard and the relationship of hapu and iwi with their ancestral lands, water, site, wahi tapu and other taonga (including wahi tupuna) must also be recognised and provided for through resource management processes.*
151. There are a number of supporting policies to this objective, although most of them place obligations on the Horizons at a higher level rather than on applicants at a

resource consent application level. Policy 2-1(i) encourages direct consultation with iwi and hapu to identify actual and potential adverse effects. Policy 2-2(a) sets out that wahi tapu, wahi tupuna and other sites of significance to Maori identified in the regional or district plans, as historic reserves, as Maori reserves, recorded on the New Zealand Archaeological Association site recording scheme or registered under the Historic Places Act must be protected. Policy 2-2(c) seeks that potential damage to sites of significance to Maori not identified under (a) above must be minimised by Horizons facilitating the compilation of databases by hapu and iwi to record locations which need to remain confidential.

152. In this instance there are no recorded sites of significance within the district plan nor on the Archaeological Association site recording scheme or registered under the Historic Places Act.
153. It is noted that the applicant has been undertaking active consultation with Rangitane o Manawatu (Rangitane). Rangitane has expressed a desire to be involved in the planned removal of the nikau palms and also the replanting proposed alongside the Kahuterawa Stream. Following notification of the consent I have been made aware that a Mana Enhancing Agreement (MEA)² has been signed between Rangitane and the applicant. This MEA has resulted in a number of conditions which the applicant has proposed to include within their application.
154. These conditions relate to the quarry closure plan, reporting on the meeting of water quality targets, final planting plan for the reforestation area along the unnamed tributary of the Kahuterawa Stream and the Indigenous Vegetation Monitoring Plan, involvement in the removal of the Nikau Palms and undertaking the work recommended in the Ecological Management Plan prepared by Wildlands. I have included these within my recommended conditions for the commissioner to consider, should he be of a mind to grant the consent.
155. In conclusion, I consider that the applicant has undertaken appropriate consultation in line with the objectives and policies of Chapter 2 of the RPS.

² A memorandum dated 27 April 2023 has been supplied by the applicant outlining the Mana Enhancing Agreement, along with a request to amend the application to include a number of conditions.

156. Chapter 3 of the RPS deals with infrastructure and waste. The applicant has identified Objective 3-1 and the supporting Policy 3-1. Objective 3-1 and Policy 3-1 relate to infrastructure and other physical resources of regional or national importance. The applicant notes that while the quarry is not considered to be within this category it does support several projects which are i.e., roading projects and existing flood protection schemes. I agree with this assessment noting that the rock from the quarry is fairly unique in nature with the application noting it is one of the few remaining rip-rap quarries in the lower north island³.
157. In addition to the applicant's assessment, I note policies regarding cleanfill are also relevant, particularly Policy 3-10. This policy seeks support for waste reduction activities including cleanfill. Within this proposal the applicant intends to accept cleanfill to site from external locations, alongside the deposition of overburden created on site. I consider this activity is consistent with Policy 3-10.
158. Chapter 4 of the RPS relates to land, and the avoidance and mitigation of erosion and sedimentation. The applicant has identified Objective 4-2 and Policy 4-2 as being relevant. I agree with this assessment. Policy 4-2 is particularly relevant as it seeks to manage large scale land disturbance, and disturbance on steep land.
159. In this instance the applicant has proposed an erosion and sediment control plan (ESCP) for the proposed works, that details how the site will comply with Greater Wellington Regional Council Guideline requirements. As discussed above Mr Pearce has assessed the ESCP and is confident that it is appropriate for the site. following completion of expert caucusing some amendments to the plan have been recommended to cover chemical management and dewatering. Overall, I consider the proposal is consistent with the relevant sections of chapter 4 of the RPS.
160. Chapter 5 deals with water resources. The applicant has identified a number of objectives and policies from this section as being relevant to the proposal and notes that the activities will not result in changes to water quality. I agree that if appropriate conditions are in place (specifically around soil and erosion control

³ Section 2.4.1 of the AEE

and ongoing monitoring of said controls) the activities will not result in the degradation of water quality (Objective 5-2 and Policy 5-3).

161. Policy 5-9 and 5-10 requires appropriate management of point source discharges to land and water, both of which will occur on site. The applicant notes that it intends to comply with the proposed ESCP to ensure effects on the receiving water body are less than minor. In addition, the applicant has provided a monitoring plan which Mr Faanoi and Mrs Soeter have agreed is appropriate. Overall, I consider the proposal is not contrary to the objectives and policies of chapter 5.
162. Chapter 6 relates to indigenous biological diversity which is supported by Objective 6-1 which seeks to protect areas of significant indigenous vegetation and enhancement where appropriate. Policy 6-1 which sets out the responsibilities for regional and territorial authorities in relation to this matter.
163. As discussed above there are two areas of native vegetation located on the site. An area of regenerated bush is located to the south of the quarry, which is considered, for the purposes of the One Plan, to be pukatea-tawa-mahoe-(titoki)-(nikau) forest and categorised as a threatened habitat. The other area is the stand of Nikau trees which is assessed as nikau-kaikomako-tawa tree land. This area is not considered to be a habitat type for the purposes of Schedule F.
164. The applicant intends to undertake a range of measures including ongoing monitoring of the remaining regenerated bush, alongside offset or compensation for the loss of the nikau palms.
165. Overall, I consider that the proposal is consistent with the relevant objectives and policies, particularly Objective 6-1 regarding protection and enhancement,
166. Chapter 7 relates to air. Objective 7-1 relates to ambient air quality and ensuring air quality is not detrimental to health and property. This is supported by Policy 7-3 Regulation of discharges to air and Policy 7-4 Incompatible land uses. The applicant has identified that dust is managed through rules in the Regional Plan, which I agree with. Discussion on this matter is given above where I consider appropriate mitigations are in place through the use of a quarry management

plan. Policy 7-4 relates to incompatible land uses and seeks to prevent incompatible land uses next to each other or allow them to establish near each other so long as provided no existing lawful activity operating in a manner that adopts best practicable options or which is otherwise environmental sound, is restricted or compromised. Often this policy is referred to for odour related activities (e.g., meat processing facilities) however it can also be relevant for other activities where discharges are generated to air.

167. In this case the quarry is existing but will be increasing production, with a larger open area. The applicant has provided a management plan for the management of dust on site. Offsite the applicant has proposed to undertake cleaning of the road edges to prevent build-up of material which could result in water not flowing away from the road, and also be dust inducing. While dust is a nuisance it is difficult to ascertain exactly what the source(s) are particularly given rural environments have many dust inducing activities (i.e., ploughing of paddocks and use of gravel drive and races).
168. Mr Curtis has reviewed the application and notes that the applicant is currently completing dust monitoring in and around the site. Regardless, Mr Curtis is of the opinion that the mitigation measures including the upgrade of the road, cleaning of the berms and use of a water cart will assist in mitigating the effects along with his recommendations for a dust monitoring plan.
169. Overall, I do not consider that the applicant is generally consistent with the relevant objective and policies of Chapter 7.
170. Chapter 12 contains general provisions some of which relate to consent duration. I address this under Section J of this report in conjunction with the lapse period.
171. Policy 12-6 outlines that review conditions will generally be imposed on resource consent decisions. I have recommended that review conditions be imposed on these consents allowing annual reviews.
172. Chapter 13 addresses land use activities, with Objective 13-1 and Policies 13-1 and 13-2 of relevance in relation to land disturbance. Objective 13-1 seeks the regulation of land disturbance activities that ensures increased sedimentation in water bodies is avoided as far as reasonably practicable, or otherwise mitigated.

173. Policy 13-2 relates to decision making for land disturbance activities, including excavation and deposition (i.e., cleanfill) and requires Horizons to make decisions on a case-by-case basis and set conditions having regard to a number of matters including requiring an ESCP. The applicant has provided a draft ESCP for the works and conditions are recommended to require a final ESCP to be provided prior to works taking place.
174. Chapter 13 also addresses indigenous biological diversity with the applicant in identifying Objective 13-2 as being relevant. As discussed above two areas of native vegetation located on the site. An area of regenerated bush is located to the south of the quarry, which is considered, for the purposes of the One Plan, to be pukatea-tawa-mahoe-(titoki)-(nikau) forest and categorised as a threatened habitat. The other area is the stand of Nikau trees which is assessed as nikau-kaikomako-tawa tree land. This area is not considered to be a habitat type for the purposes of Schedule F.
175. It has been noted that the area of pukatea-tawa-mahoe-(titoki)-(nikau) forest is being retained, but there is a risk of the quarry face below collapsing which could result in 5-10m of vegetative loss. The applicant proposes to further protect and enhance the pukatea-tawa-mahoe-(titoki)-(nikau) forest through buffer planting and active management including pest trapping and fencing.
176. The risk of this collapse occurring has been explored by the applicant and also Mr Lines. Mr Lines notes that predicting such collapses are fraught with difficulty and agrees with the applicant that imminent failure is unlikely to occur but will almost certainly occur at some point post quarry closure.
177. As such no consent is sought, or in my opinion, required. As such the policies and objectives of Chapter 13 as they relate to Indigenous Biodiversity do not need to be assessed further.
178. Overall, I consider the application consistent with the relevant objectives and policies of Chapter 13.
179. Chapter 14 deals with discharges to land and water. The applications propose a discharge of contaminants to water from the outset of the erosion and sediment

controls. This creates a risk of discharges of sediment, chloride and DRP from the site and to a lesser extent of fuels and oils.

180. Objective 14-1 seeks to manage discharges in a manner that safeguards the life supporting capacity of water and recognises the values outlined in Schedule B, provides for the provisions in Chapter 5 as they relate to surface and ground water and where the discharge is to land, avoids, remedies or mitigates adverse effects on surface water and groundwater. The recommended conditions will ensure that the life supporting capacity and the Schedule B values of nearby surface water bodies are maintained and that adverse effects are avoided. The provisions of Chapter 5 have been examined above.
181. Policies 14-1 and 14-2 relate to discharges to water and land respectively. They require Horizons to specifically consider Policies 5-1 to 5-5 and 5-9 of Chapter 5 when making decisions on resource consents and setting conditions and to have regard to avoiding discharges containing persistent contaminants, the appropriateness of adopting the best practicable option and other plan provisions. Policies 5-1 to 5-5 deal with water quality and as discussed above, it is considered that water quality can be maintained provided conditions are imposed requiring suitable erosion controls.
182. Policy 14-3 outlines that Horizons will examine relevant industry-based standards (including guidelines) and may accept compliance with those standards as being adequate to avoid remedy or mitigate adverse effects. In this instance the updated Erosion and Sediment Controls Guidelines for the Wellington Region 2021 are relevant and have been considered in the development of consent conditions.
183. Policy 14-9 was required to be inserted into the One Plan by the NPSFM 2014. That version of the NPSFM has been superseded by the NPSFM 2020, which has been assessed above. Policy 14-9 was consequently updated. The policy consists of three parts. The first part outlines that the policy applies to new discharges or changes/ increases in existing discharges. The second part requires Horizons to have regard to effects on life supporting capacity and ecosystems. This has been assessed above. The third part requires Horizons to have regard to effects on human health. As a treated discharge, effects on

human health and communities are expected to be less than minor. based on the assessment undertaken above and the supporting information supplied by Mr Faanoi, I am satsafied the discharge is consistent with and able to meet the above policy.

184. Overall, with regards to the relevant objectives and policies of the Regional Plan it is considered that the application and proposed mitigations allow the activity to be not consistent with the relevant, identified, objectives and policies.

Palmerston North City Plan

185. The District Plan has several sections that contain objectives and policies that are relevant to the applications. Section 2 contains the overarching “City View Objectives”, Section 3 contains provisions relating to tangata whenua, Section 9 contains provisions relating to the Rural Zone and Section 20 relates to transport. These are discussed in turn below.
186. The City View objectives in Section 2 represent broad outcomes that the District Plan seeks to achieve. The applicant has identified Objectives 6, 8, 10, 13, 15, 17, 22, 23 and 25. I agree with the applicant in that the proposed quarry does not affect LUC Class I or II land, that visually it does not result in adverse effects and it will provide necessary aggregates to the support other businesses and the city as a whole With respect to Objective 17, consultation has been undertaken with Rangitāne o Manawatū, as discussed above In relation to chapter 2 of the RPS. For brevity I will not repeat this here.
187. Objective 22 addresses noise and ensuring appropriate standards are in place to protect noise sensitive activities. As discussed above, it is considered that the noise of trucks will generate a level of noise which are a minor effect on neighbouring properties. However, the applicant has offered a number of mitigations which I consider appropriate and will assist in alleviating a level of the concern. Refer to **Table 5**, clause 127 for a summary of this.
188. Objectives 23 and 24 relate to other infrastructure. In this instance it includes the road network and high voltage power lines. In this instance it is considered there are appropriate mitigations in place to protect the roading network including the

MoU with Palmerston North City Council's Roading Team. With regards to the High Voltage Power Line, it is not expected these will be affected.

189. Overall, with regard to the city view objectives it is considered that the applicant is largely consistent with the identified matters aside from Objective 22. However, with the proposed mitigations in place I do not consider the applicant inconsistent with this objective.
190. Section 3 contains objectives and policies relevant to tangata whenua. Objective 1 and its associated policies are about acknowledging Rangitāne o Manawatū as Tangata Whenua within Palmerston North City. In this instance, Rangitāne o Manawatū has been notified of this application. Objective 2 and its policies address consultation. As discussed above following notification of the consent I have been made aware that a Mana Enhancing Agreement (MEA) has been signed between Rangitane and the applicant. This MEA has resulted in several conditions which the applicant has proposed to include within their application including mitigations regarding planting and involvement in the quarry's closure and rehabilitation plan. Overall, I consider that the application is consistent with the policies to the extent that consultation is required.
191. The site is located within the Rural Zone, the applicant has identified the relevant objectives and policies from the Rural Zone as being Objective 2 and Policies 2.2 and 2.3 and Objective 3 and Policies 3.3, Objective 4 and Policy 4.3.
192. I generally agree with the applicant's assessment of these provisions. I take note of the fact that the quarry is a unique source of rip-rap rock and supports several local important infrastructure projects. I consider this an efficient and effective use of resources in the rural area as per Objective 2.
193. Policies 2.2 and 2.3 focus on effects of the development of natural and physical resources, while Objective 4 and supporting Policy 4.3 seeks to recognise and enhance the diversity of the rural community, with Policy 4.3 allowing for a range of activities where the effects can be avoided or mitigated.
194. Here noise remains the main effect in contention. It is generally accepted that quarrying activities are best suited to a rural environment, due to the effects they generate such as noise, dust and traffic movements. In this case the applicant

has tried to balance their activity with the surrounding environment by proposing mitigations such as limiting their hours, managing traffic movements with reduced speeds and putting in place additional road safety measures. Overall, I consider the proposal is not inconsistent with these sets of objective and policies.

195. With regards to Objective 3 and the supporting Policy 3.3 I agree with the applicant that visual effects are appropriately managed.
196. In terms of section 20, Transport, the applicant has assessed the relevant objectives and policies. I generally agree with the applicant's assessment noting that there are a large number of mitigations proposed to ensure safety on the local and wider road environment. Overall, I consider the application to be consistent with the identified objectives and policies.

RMA Section 107

197. Section 107 of the RMA restricts the granting of discharge permits if it is likely to cause certain effects such as a conspicuous change in the colour or visual clarity or a significant adverse effect on aquatic life. In this instance, conditions are recommended that will ensure such effects do not arise. In my opinion s107 does not stand in the way of a grant of consent.

Conclusion

198. Overall, I consider that with the imposition of the recommended conditions the proposed activities are largely consistent with the policy framework of the NPSFM, Regional Policy Statement, Regional Plan and the District Plan where relevant.

J. OTHER MATTERS

Duration

199. With respect to the consent term for activities managed within the jurisdiction of the Regional Council, Chapter 12 of the One Plan contains general objectives and policies including those used to set a consent term. Objective 12-2 aims for the provisions of the RMA dealing with the duration of resource consents to be implemented in a manner that provides maximum reasonable certainty to

resource users, affected parties and submitters and that Horizons will provide user-friendly consents of appropriate duration.

200. Policy 12-5 outlines that consent durations for applications required under sections 13 and 14 of the RMA will generally be set at the next common catchment expiry date specified in Table 12.1 (for the Coastal Manawatū that is 1 July 2028) Expiry dates can be set longer than 10 years after consideration of certain factors including:

- A. The extent to which an activity is carried out in accordance with a recognised code of practice, environmental standards or good practice guideline.
- B. The most appropriate balance between environmental protection and investment by the applicant.
- C. The provision of s128 review opportunities.
- D. Whether the activity is one of several facilities listed, of which it is not.

201. In this instance the applicant has requested a term of 10 years for the discharge consent, being the discharge to land and water of treated washwater, discharge of cleanfill⁴, disturbance of land and the ancillary discharge to water from the sediment retention ponds. It is noted that section 9 land use consents often do not have an expiry date associated with them.

202. In this instance, while not in alignment with the common catchment expiry date, I am satisfied that the consent can be granted for 10 years noting the level of investment by the applicant, the fact that the activity will be supporting local infrastructure, and the mitigations proposed which are in accordance with best practice, particularly for erosion and sediment control. In addition, given the monitoring is intended to provide a level of baseline data I also consider it appropriate to recommend an annual review clause on the consent.

Recommended conditions

⁴ Section 1.6 of the AEE

203. As discussed above the technical experts have suggested and, in many cases, agreed upon conditions that would be appropriate should the commissioner be of a mind to grant consent. I have taken these and consolidated them as Appendix A. It will be noted that Appendix A is split in two and contains a condition schedule for PNCC and another for Horizons.
204. Horizons have a specific layout for their conditions, relating to their internal system, IRIS. It may be noted that to conform with this system some of the conditions have been altered slightly or even split. Some conditions have also been altered to allow them to be clear, and readily interpreted so the consent holder, the council and any layperson viewing the consent have no doubt about what is required by the conditions and the obligations upon the consent holder.

K. PART 2 ASSESSMENT

Davidson Approach

205. Part 2 of the Resource Management Act 1991 outlines the purpose and principles of the Act. Following the Davidson decision (RJ Davidson Family Trust v Marlborough District Council [2018] NZCA 316) the Court identified there is the ability to recourse to Part 2 when it is appropriate to do so. In this case, recourse to Part 2 is not required as it is not considered there is any illegality, uncertainty or incompleteness in the relevant parts of the PNCC District Plan or Horizons One Plan. Recourse to Part 2 would not provide any further guidance to the decision maker for this consent. That said, I have briefly addressed what I see to be the most relevant matters of Part 2 below.

Section 6: Matters of National Importance

206. Section 6 outlines the matters of national importance that shall be recognised and provided for when making decisions under the RMA. In this instance (c) and (e) are relevant. These are:
- (c) The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna.

- (e) The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.

207. As can be seen these matters have all been addressed in the relevant plans and in this report above. It is understood following discussions with Rangitāne o Manawatū a Mana Enhancing Agreement has been agreed to, and I am of the opinion that the resulting planting and mitigations in and around the area of native bush will assist in ensuring (c) and (e) are met.

Section 7: Other Matters

208. Section 7 sets out matters to which decision makers shall have particular regard. Almost all of the matters listed have some relevance to the proposal. One exception is (g) which is “any finite characteristics of natural and physical resources”. While quarries extract finite resources, the meaning of sustainable management under the RMA specifically excludes minerals. The finite characteristics of rock likely to be extracted should not be considered as a relevant matter in this instance.

209. The relevant matters in Section 7 have been assessed in the technical reports and above. Conditions have been recommended to ensure that amenity values and quality of the environment are maintained, and aquatic habitats protected.

Section 8: Treaty of Waitangi

210. Section 8 of the RMA requires the hearing panel to take into account the principles of the Treaty of Waitangi. The One Plan outlines the key principles as being:

- a. principle of active protection,
- b. duty to act in good faith,
- c. duty to make informed decisions through consultation,
- d. principle of redress and a duty not to create new grievances,
- e. principle of reciprocity, and
- f. principle of mutual benefit.

211. The applicant has engaged with Rangitāne o Manawatū through the process, as evidenced by section 4.3 of their AEE. Following notification this consultation continued and resulted in a man enhancing agreement which is discussed above. I consider that this agreement enables the application to be consistent with section 8.

Section 5: Purpose

212. The purpose of the RMA is expressed in Section 5 as being:

- 1) The purpose of this Act is to promote the sustainable management of natural and physical resources.
- 2) In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while—
 - a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and
 - b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and
 - c) avoiding, remedying, or mitigating any adverse effects of activities on the environment.

213. Overall, I consider that the proposed activities represent sustainable management of natural and physical resources. The quarry is able to operate while safeguarding the life supporting capacity of air, water, soil and ecosystems. In addition, the applicant has proposed conditions to mitigate adverse effects particularly on traffic, dust and visual effects. While I still consider noise may generate a minor effect, overall, I am of the opinion that with the imposition of appropriate conditions, the effects of the activities can be mitigated to acceptable levels.

L. CONCLUSION AND RECOMMENDATIONS

214. Quarrying and associated cleanfill operations have the potential to cause a number of adverse effects on the environment. These are generally associated with matters such as noise, dust, traffic, visual effects, and in this instance also effects on water quality and biodiversity.
215. The applicant has prepared technical assessments in respect of noise, landscape, biodiversity, air quality and traffic effects and has prepared draft erosion and sediment control plans and monitoring plans for water quality and biodiversity matters. These reports, along with additional information requested, have provided sufficient information so that the various Council experts can assess the level of effects and determine appropriate conditions to ensure the activities are carried out without causing significant adverse effects.
216. While noise and dust effects remain a matter of contention for submitters, I am satisfied they can be controlled through conditions as recommended and summarised in **Table 5** above. Some further work is required for these conditions to be refined as discussed below.
217. In respect of water quality, a suite of conditions is recommended dealing with soil and erosion control plans and works and defining what may be discharged as cleanfill.
218. As described throughout this report there are a couple of matters that have not been fully resolved. These include:
- A. The outcome of the discussion with NZTA in regard to the additional road markings on State Highway 54 at the entrance to Kendall's Line, and
 - B. It is noted that the applicant intends to provide further information in regard to vibration effects. Any information provided will be assessed by Mr Lloyd and an update will be provided prior to or at the hearing.
 - C. It is noted that Mr Curtis will provide a further assessment following the monitoring data to provide an opinion on what level of impact vehicle emissions have on the surrounding area.

219. It is noted these matters can be discussed and there are opportunities for an update to be provided to the commissioner either in evidence from the applicant or at the hearing itself.
220. I have assessed the applications against the relevant provisions of the NPSFM, Regional Policy Statement, Regional Plan and District Plan. I consider the proposed activities to be largely consistent with the overall direction of these documents.
221. On the assumption that the matters identified in Paragraph 218 can be resolved, and subject to the recommended conditions (**Appendix A**), I recommend that the following resource consent applications be granted to HiRock Limited:
- A. Section 9 land use consent for the operation and expansion of the existing quarry located at of a quarry at 971 Fitzherbert East Road;
 - B. Section 9 land use consent for land disturbance associated with the quarry activity;
 - C. Section 15 discharge permit for the discharge of cleanfill to the excavated quarry pits.
 - D. Section 15 discharge permit for the discharge of treated washwater to water.
 - E. Section 15 discharge permit for the discharge of treated stormwater to water.



Natasha Adsett

Consultant planner on behalf of Palmerston North City Council and the Manawatū-Whanganui Regional Council

29 May 2023

Appendices

Appendix A – Draft Proposed Conditions

Appendix B – Joint Witness Statement – Landscape

Appendix C – Expert Report Landscape

Appendix D – Expert Report – Noise

Appendix E - Joint Witness Statement – Traffic

Appendix F – Expert Report - Traffic

Appendix G – Joint Witness Statement - Geotechnical

Appendix H – Joint Witness Statement – Biodiversity

Appendix I – Joint Witness Statement – ESCP

Appendix J – Expert report - ESCP

Appendix K - Joint Witness Statement – Water Quality

Appendix L – Expert Report– Water Quality

Appendix M - Expert Report - Air Quality

PNCC RESOURCE CONSENT CONDITIONS

Application Details:

THE APPLICANT:	HIROCK LTD
LOCATION:	167-257 KENDALLS LINE, PALMERSTON NORTH
ZONING:	RURAL ZONE
ACTIVITY STATUS:	DISCRETIONARY ACTIVITY
PROPOSAL:	EXPANSION AND OPERATION OF AN EXISTING QUARRY
APPLICATION:	LU 6962

GENERAL ACCORDANCE

1. The consent holder must undertake the activity in general accordance with the consent application including all accompanying plans and documents first lodged with the Palmerston North City Council on 21 November 2022, and the information included in the following further information responses and plans:
 - A. Site plan titled Linton Quarry Expansion, drawn by Good Earth Matters, dated July 2022 and attached as Appendix B to the application.
 - B. Ecological Effects Assessment titled "ASSESSMENT OF ECOLOGICAL EFFECTS OF QUARRY EXPANSION AT LINTON QUARRY, PALMERSTON NORTH, prepared by Wildlands, dated October 2022 and updated December 2022, contract report number 6016
 - C. Traffic Management Plan prepared by HiRock Limited, titled "LINTON QUARRY SITE SPECIFIC TRAFFIC MANAGEMENT PLAN (SSTMP), Revised 06/05/2020 Version 5 JG
 - D. Quarry Management Plan prepared by HiRock, titled "LINTON QUARRY, QUARRY MANAGEMENT PLAN, dated 12/11/2020 Version: 2.0.
 - E. Water Monitoring Results and Monitoring Plan, prepared by Good Earth Matters, titled "Linton Quarry Monitoring Plan - Settlement Pond 1/SRP, HiRock Limited, Dated November 2022 and updated December 2022.
 - F. Linton Quarry Pit Expansion Erosion and Sediment Control Plan November 2022 Hirock Limited FOR RELODGE MENT". Prepared by Good Earth Matters Consulting Ltd and dated November 2022, including the plan 'Erosion and Sediment Control Overview Plan. Drawing Number 76506.002 Rev A'.
 - G. Ecological Management Plan, Titled ECOLOGICAL MANAGEMENT PLAN FOR HIROCK LINTON QUARRY, PALMERSTON NORTH, prepared by Wildlands, dated September 2022 and updated December, contract report number 6016b
 - H. Powelliphanta Snail Survey Titled POWELLIPHANTA SNAIL SURVEY AT HIROCK LINTON QUARRY, PALMERSTON NORTH, prepared by Wildlands, dated October 2022, contract report number 6016e
 - I. Further information response dated 22 December 2022 including Memo from Marshall Day Acoustics dated 21 December 2022, Alternative Overburden Disposal Areas - Noise, project number 20210382 and Memo from Good Earth Matters, dated

22 December 2022, Discharge Treatment and Expected Standards, Instream Effects and Discharge Volumes - Linton Quarry Expansion Joint Consent Application APP-2022203991.00 & RC-LU-6962

- J. Memo from Tonkin and Taylor, dated 22 December 2022 Linton Quarry Geotechnical Assessment of Proposed Overburden Disposal Areas, Job No: 1018486.1000 including design of proposed overburden areas.
- K. LIZARD SURVEY AND INCIDENTAL DISCOVERY PROTOCOL FOR HIROCK LINTON QUARRY, PALMERSTON NORTH, prepared by Wildlands, dated January 2023, contract report number 6016c
- L. BAT SURVEY REPORT FOR PROPOSED QUARRY EXPANSION AT LINTON QUARRY, PALMERSTON NORTH, prepared by Wildlands, dated February 2023, contract report number 6016d
- M. Memo regarding the Memorandum of Understanding with Rangitāne o Manawatū, dated 27 April 2023, from Good Earth Matters.
- N. Memo regarding the Memorandum of Understanding with PNCC for the on-going maintenance of Kendalls Line, dated 27 April 2023, from Good Earth Matters.
- O. Draft Dust Management and Monitoring Plan, prepared by K2 Environmental Limited. Report number Y0135, 23 May 2023, Draft 1.

Where there may be inconsistencies between the information provided by the Consent Holder and conditions of the resource consent, or the condition requires a specific plan to be updated, the conditions of the resource consent will apply.

- 2. The consent holder must be responsible for all contracted operations related to the exercise of this resource consent; and must ensure contractors are made aware of the conditions of this resource consent and ensure compliance with those conditions.
- 3. A copy of this consent must be kept onsite at all times that physical works authorised by this resource consent are being undertaken and must be produced without unreasonable delay upon request from a servant or agent of the Palmerston North City Council.

ACCESS AND TRAFFIC

- 4. Signs must be erected along Kendalls Line advising of a speed limit of 50 km/hr for all Quarry Traffic. At a minimum, signage must be located a minimum of 100m from the intersection of Kendalls Line and State Highway 54 and again at the entrance/ exit of the quarry.
- 5. A baseline road condition survey of Kendalls Line is to be undertaken by Hirock annually, the first baseline survey must take place **one (1) month** after the completion of upcoming summer 2022/2023 repairs and re-seal, and then annually thereafter.
 - (a) The first baseline survey after the completion of the summer 2022/2023 repairs and re-seal must use a laser profilometer to identify road pavement shape and condition and this will determine more accurately future pavement rutting and micro cracking caused by heavy commercial vehicles (HCV) wheel track loadings.
 - (b) Laser profiling baseline survey must be undertaken once every three (3) years. In other years, the annual baseline road condition survey may be a visual survey carried out by a suitably qualified roading contractor.

- (c) The annual baseline road condition survey is to be submitted to PNCC within **one (1) month** of being undertaken.

Advice Note: Condition 5 has been included on an Augier Basis, based on a Memorandum of Understanding between PNCC – Roading Team and the Applicant.

Advice Note: The report can be submitted to PNCC via email steve.mcnicholl@pncc.govt.nz and planning.services@pncc.govt.nz quoting reference LU 6962, Condition 5.

6. No later than **6 months** after the grant of consent, the consent holder must provide a separated 1.0 m (minimum) wide lime chip path, adjacent to the roading corridor of Kendalls Line, between 4 and 75 Kendalls Line to allow for safe movement of pedestrians and cyclists between the rural residential properties.

Advice Note: Condition 6 has been included on an Augier Basis, based on a Memorandum of Understanding between PNCC – Roading Team and the Applicant.

7. The consent holder must update the Traffic Management Plan:

- (a) To ensure all truck drivers are informed about safe vehicle speeds and the risk of children moving along the western end of Kendalls Line if school age children are being picked up and dropped off by school bus; and
- (b) Traffic control measures for vehicles turning right from State Highway 57 into Kendalls Line during peak traffic periods.

A copy of the updated Traffic Management Plan must be submitted to council no later than **1 month after the granting of consent**, for record keeping.

Advice Note: Condition 7 has been included on an Augier Basis, based on a Memorandum of Understanding between PNCC – Roading Team and the Applicant.

Advice Note: The report can be submitted to PNCC via email steve.mcnicholl@pncc.govt.nz and planning.services@pncc.govt.nz quoting reference LU 6962, Condition 7

8. Traffic generation to/from the site must comply with the following:

- (a) Average daily truck movements must not exceed 200 (averaged monthly, excluding Sundays and public holidays).
- (b) Total truck movements must not exceed:
- i. 250 per day; and
 - ii. 40 per hour.

For the avoidance of doubt, a truck movement is defined as single trip either inbound to, or outbound from the site and can be a truck with or without a trailer. A return trip to and from the site constitutes two truck movements.

9. Truck movements to the site which result in right-turn movements from State Highway 57 into Kendalls Line, must not exceed:

- (a) 40 per day (averaged monthly, excluding Sundays and public holidays); and
 - (b) 6 per hour
10. The consent holder must provide a record of the number and type of vehicles per day using the State Highway 57 and Kendalls Line intersection to Palmerston North City Council's compliance monitoring officer as part of an annual report to ensure that **Conditions 8 and 9** are complied with. The annual report for the previous calendar must be submitted no later than **31 January** the following year.

Advice Note: The report can be submitted to PNCC via email steve.mcnicholl@pncc.govt.nz and planning.services@pncc.govt.nz quoting reference LU 6962, Condition 10.

11. The annual report required by Condition 10 must be submitted to Waka Kotahi for its record keeping purposes. The annual report for the previous calendar must be submitted no later than **31 January** the following year.

Advice Note: The report can be sent to environmentalplanning@nzta.govt.nz quoting number 2021-0337.

NOISE

12. The Consent Holder must ensure that quarrying activities (other than the construction of noise bunds) are managed to ensure that noise does not exceed the following at or within any residentially zoned site, or at or within the notional boundary of any rural dwelling, aside from the dwelling located at 150 Kendalls Line:

- 7.00am to 7.00pm 50 dB $L_{Aeq(15min)}$
- 7.00pm to 10.00pm 45 dB $L_{Aeq(15min)}$
- 10.00pm to 7.00am 40 dB $L_{Aeq(15min)}$
- 10.00pm to 7.00am 70 dBA L_{max}

Sound levels must be measured in accordance with New Zealand Standard NZS 6801:2008 Acoustics – Measurement of environmental sound and assessed in accordance with NZS 6802:2008 Acoustics – Environmental noise.

Noise from the construction of noise bunds must be managed and controlled in accordance with NZS 6803:1999 Acoustics construction noise

The notional boundary is defined as a line **twenty (20) metres** from any side of a dwelling or the legal boundary where this is closer to the dwelling.

13. The Consent Holder must ensure that quarrying activities (other than the construction of noise bunds) must be managed to ensure that noise from the quarrying activity does not exceed the following within the notional boundary of the dwelling situated at 150 Kendalls Line:

- 7.00am to 7.00pm 50 dB $L_{Aeq(15min)}$
- 7.00pm to 10.00pm 45 dB $L_{Aeq(15min)}$
- 10.00pm to 7.00am 40 dB $L_{Aeq(15min)}$
- 10.00pm to 7.00am 70 dBA L_{max}

Sound levels must be measured in accordance with New Zealand Standard NZS 6801:2008 Acoustics – Measurement of environmental sound and assessed in accordance with NZS 6802:2008 Acoustics – Environmental noise.

Noise from the construction of noise bunds must be managed and controlled in accordance with NZS 6803:1999 Acoustics construction noise

The notional boundary is defined as a line **twenty (20) metres** from any side of a dwelling or the legal boundary where this is closer to the dwelling.

14. Quarrying activities (other than the construction of noise bunds) must be managed to ensure that noise does not exceed 60 dB LAeq(15min) at all times at or within the boundary of any other site.
15. Noise from the construction of noise bunds must be managed and controlled in accordance with NZS 6803:1999 Acoustics - Construction noise.
16. Blasting activities must be measured and assessed in accordance with Appendix J of Australian Standard AS 2187-2:2006 “Explosives – Storage and use Part 2: Use of explosives”.

Blasting vibration must not exceed the peak component particle velocity shown as Line 2 in Fig F.1 when measured at the base of any dwelling. Blasting must be managed to ensure that in any calendar year, 95% of airblast levels do not exceed 115 dBL, with a maximum of 120 dBL, when applied at or within any residentially zoned site or at or within the notional boundary of any rural dwelling.

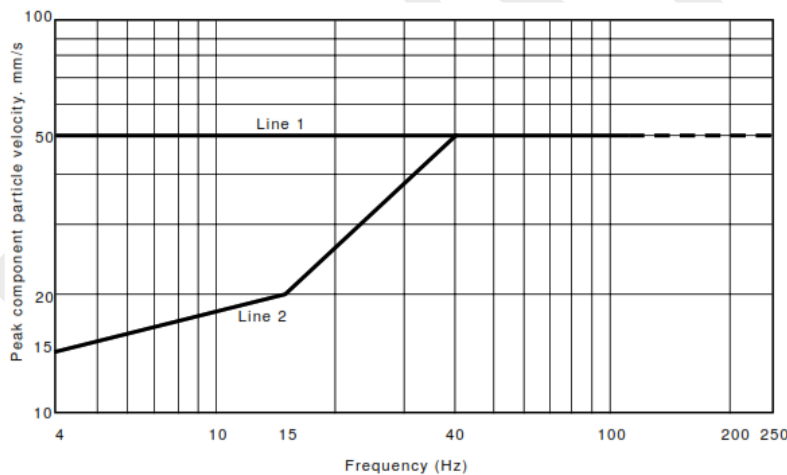


Figure F.1 Blasting Vibration Limits (Line 2)

17. Blasting must not occur more than 36 times per year and will only take place between 0900 and 1700 hrs Monday to Friday. All residents on Kendalls Line and within 1 km of the quarry must be alerted to any blasting through the use of a siren and written communication for any blasting outside of the hours of 1000 to 1030 hrs and 1400 to 1430 hrs Monday to Friday.
18. Within **6 months** of grant of consent, the consent holder must offer on at least three occasions to install noise mitigation for all dwellings with a façade within 50m of the road centreline as at **[date granted]**. The design and installation of the noise mitigation will be at the sole cost of the consent holder. Any ongoing maintenance of the mitigation will be at the cost of the landowner. The noise mitigation will be designed by a suitably qualified and experienced acoustic consultant in liaison with the property owner and must represent the best practicable option to reduce the noise.

Advice Note: If the Consent Holder has not had a response from the dwelling owner after three attempts, being either in person or via a letter, then it can be considered that this condition is satisfied in relation to that dwelling.

19. A report must be provided to council within **7 months** of consent being granted detailing
 - a) The property owners approached as per **Condition 18**,
 - b) A copy of the noise mitigation report prepared by the applicant; and
 - c) The mitigations installed or otherwise.
20. The Consent Holder must ensure that a Noise Management Plan (NMP) is prepared by a suitably qualified and experienced acoustic consultant. The objective of the NMP is to develop mechanisms and processes to ensure compliance with the noise level maximums specified in **Condition 12, 13, 14 and 16** and to specify methodologies for the monitoring of noise levels, including that required by **Condition 26**, training of staff and handling of complaints. The NMP must include but be not limited to:
 - d) The relevant noise limits,
 - e) the relevant blasting airblast and vibration limits,
 - f) noise mitigation and maintenance requirements for plant and machinery,
 - g) the size and location of noise bunds,
 - h) the use of quiet reversing alarms,
 - i) general operating procedures,
 - j) the speeds on haul roads,
 - k) haul road maintenance,
 - l) achieving vehicle speed limits on Kendalls Line
 - m) training of staff,
 - n) complaints handling and recording,
 - o) staging and minimising the impacts of bund construction, and
 - p) quarry noise & blasting (airblast and vibration) monitoring.
21. The NMP must be submitted to the Palmerston North City Council's Monitoring Officer for technical certification at least twenty (20) working days before works commence on the site.
22. Certification (or withholding certification) is based on whether the NMP meets the requirements of the conditions of this resource consent, with specific focus on **Conditions 12, 13, 14, 16 and 26**.
23. The Consent Holder must operate the quarry in compliance with the certified NMP at all times.
24. The NMP may be amended or updated without the need for certification where the amendment is an administrative change, including nominating personnel.
25. Except as provided for in **Condition 24**, amendments to the NMP 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 NMP relate.

26. Noise monitoring must be undertaken within 3 months of the issue of consent, and then annually for the life of the quarry. A copy of the results of each period of monitoring must be provided to the Palmerston North City Council within 6 weeks of undertaking the monitoring in a form that demonstrates whether compliance is being achieved with these conditions.

GEOTECHNICAL

27. Annual visual monitoring recording of any changes in slope stability in the pit walls must be recorded photographically (oblique and UAV photos) and assessed by a suitably qualified geotechnical engineer. Results from this monitoring must be provided to Palmerston North City Council.

Advice Note: The report can be submitted to PNCC via email steve.mcnicholl@pncc.govt.nz and planning.services@pncc.govt.nz quoting reference LU 6962, Condition 27.

28. An annual comparison of as built topography against the proposed 2(h):1(v) surface proposed for final design for the overburden sediments must be provided to the Palmerston North City Council by **31 January** each year.

Advice Note: The report can be submitted to PNCC via email steve.mcnicholl@pncc.govt.nz and planning.services@pncc.govt.nz quoting reference LU 6962, Condition 28.

29. There must be no further excavation within **15 metres** of the protected indigenous forest area as identified on the Site plan titled Linton Quarry Expansion, drawn by Good Earth Matters, dated July 2022 and attached as Appendix B to the application.

HOURS OF WORK

30. The quarry must not operate outside the hours of 07:00 to 17:00 hrs, Monday to Friday and 07:00 to 15:00 hrs on Saturdays. No quarry activity will take place on Sundays or public holidays. Quarry trucks must not use Kendalls Line outside of the core quarry hours. This restriction does not apply to staff arriving to the site, between 06:30 and 0700 hrs.

PROTECTION OF ECOLOGICAL AREAS

31. An Ecological Management Plan (EMP) must be submitted prior to the expansion of the quarry pit, for technical certification by PNCC, including a summary of consultation undertaken with Rangitāne o Manawatū in the development of the plan. As part of the certification PNCC may seek advice from the Manawatu-Wanganui Regional Council. The EMP must include but not be limited to:

- (a) Mapping the distribution and abundance of pest plant species.
- (b) Methods for the control of pest plant species.
- (c) A summary of active pest animal management and further recommendations (if required).
- (d) Indigenous revegetation recommendations, including planting schedules, and site preparation and monitoring requirements.

- (e) Recommendations for the protection of habitats, including fencing.
- (f) Incidental Discovery Protocol for lizard, bat and Powelliphanta sp.
- (g) Indigenous Vegetation Monitoring Plan to monitor and report on the health of existing trees on a five (5) yearly basis, in the pukatea-tawa-māhoe-(tītoki)-(nīkau) forest including how health is assessed, frequency of assessment and how to identify what level of deterioration is significant and how to attribute any losses to the quarry activity or unrelated events and recommendations for addressing adverse effects.

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.

- 32. All works must be undertaken in accordance with the approved EMP unless otherwise restricted by the conditions of this consent.
- 33. Within **six (6) months** of grant of consent a 15-metre setback fencing must be constructed around the indigenous forest remnant area as identified on the site plan titled Linton Quarry Expansion, drawn by Good Earth Matters, dated July 2022 and attached as Appendix B to the application.
- 34. Prior to removal of the nikau palms, Rangitāne o Manawatū must be invited to undertake any desired procedures and tikanga. Hirock must provide **two (2) weeks'** notice of their intention to remove the trees.

Advice Note: Condition 34 has been included on an Augier basis following a Mana Enhancing Agreement between the Applicant and Rangitāne o Manawatū.

- 35. Harvesting of nikau palm seeds from the existing trees on site must be undertaken by a suitably qualified person for planting in the reforestation area along the unnamed tributary of the Kahuterawa Stream.
- 36. Grass that is not grazed within the proposed quarry expansion zone must be mowed to maintain a continuous length of less than 150mm between **1st August to 31st March** annually, to discourage pipits from nesting.
- 37. Within **two (2) years** of grant of consent, planting of the reforestation area along the unnamed tributary of the Kahuterawa Stream as proposed in the EMP must be carried out. The reforestation area must be planted with nikau palms grown from the recovered seed pods and all other plants must be sourced locally from the Manawatū Plains Ecological District.
- 38. The final planting plan for the reforestation area along the unnamed tributary of the Kahuterawa Stream and the Indigenous Vegetation Monitoring Plan must be prepared in consultation with Whakapai Hauora, and feedback must be incorporated into the final documents prior to planting taking place under **Condition 37**.

Advice Note: Condition 38 has been included on an Augier basis following a Mana Enhancing Agreement between the Applicant and Rangitāne o Manawatū.

39. Pest control in accordance with the EMP must be undertaken in the indigenous forest area and the reforestation area along the unnamed tributary of the Kahuterawa Stream (once planted).
40. A QEII covenant, or similar scheme which protects the site in perpetuity, must be entered into within **ten (10) years** of the grant of consent for the reforested area along the unnamed tributary of the Kahuterawa Stream.

DUST

41. 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.
42. 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.
43. 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.
44. 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
45. 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.
46. 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 45**.
47. The Consent Holder must operate the quarry in compliance with the certified DMMP at all times.
48. The DMPP may be amended or updated without the need for certification where the amendment is an administrative change, including nominating personnel.
49. Except as provided for in **Condition 48**, 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.
50. 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.

51. The consent holder must undertake real time PM₁₀ monitoring at a location on the site boundary near Kendalls Line within **three (3) months** of consent being granted. The exact location of the monitor and the method of monitoring must be set out in the DMMP required by **Condition 44**.

SOIL AND EROSION CONTROL

52. The Consent Holder must provide a copy of the Erosion and Sediment Control Plan as certified by the Manawatū-Whanganui Regional Council to the Palmerston North City Council within **five (5) working days** of its technical certification.

Advice Note: the requirement for certification of the Erosion and Sediment Control Plan is within the conditions contained within the Manawatū-Whanganui Regional Council consents ATH-2022205663.00, ATH-2022205664.00 and ATH-2023205983.00

QUARRY MANAGEMENT PLAN

53. The consent holder must update the Quarry Management Plan **twelve (12) months** after the grant of this consent and submit it for Technical Certification by PNCC. The updates must include but not be limited to:

- (a) Updated description of site activities
- (b) Updated description of cultural values of the site
- (c) Reference to Ecological Management Plan
- (d) Reference to Traffic Management Plan
- (e) Reference to Memorandum of Understanding with Rangitāne o Manawatū
- (f) Reference to Memorandum of Understanding with PNCC for the on-going maintenance of Kendalls Line
- (g) Reference to the Dust Management and Monitoring Plan
- (h) Updated noise monitoring requirements
- (i) Updated Erosion and Sediment Control Plan requirements
- (j) Cleanfill record keeping procedures
- (k) Updated regulatory framework i.e., resource consents
- (l) Updated driver induction

Advice Note: the requirement for Technical Certification of the Quarry Management Plan is also contained within the Manawatū-Whanganui Regional Council consents ATH-2022205663.00, ATH-2022205664.00 and ATH-2023205983.00

SITE REHABILITATION

54. A Concept Quarry Closure and Rehabilitation Plan (CQCRP) must be submitted **two (2) years** after the grant of this consent for certification by PNCC, including a summary of consultation undertaken with Best Care (Whakapai Hauora) Charitable Trust in the development of the plan. The CQCRP must cover the entire quarry site and must include but not be limited to:
- (a) Measures to ensure long term slope stability
 - (b) Filling of pit and measures required to ensure water quality is suitable
 - (c) Riparian planting of pit areas where applicable
 - (d) Pest control and maintenance / protection of indigenous vegetation
 - (e) Measures to reduce the height of the overburden areas/bunds and integrate them with the surrounding landform
 - (f) Planting or grassing of the overburden areas/bunds

Advice Note: Condition 54 has been included on an Augier basis following a Mana Enhancing Agreement between the Applicant and Rangitāne o Manawatū.

Advice Note: the requirement for Technical Certification of the Quarry Management Plan is also contained within the Manawatū-Whanganui Regional Council consents ATH-2022205663.00, ATH-2022205664.00 and ATH-2023205983.00

55. A Final Quarry Closure and Rehabilitation Plan (FQCRP) must be submitted at least **twelve (12) months** prior to closure of the quarry to PNCC for certification, including a summary of consultation undertaken with Rangitāne o Manawatū in the development of the plan. The FQCRP must cover the entire quarry site and must include but not be limited to:
- (a) Geotechnical rehabilitation design report including measures to ensure long term slope stability
 - (b) Filling of pit and measures required to ensure water quality is suitable
 - (c) Riparian planting of pit areas where applicable
 - (d) Pest control and maintenance / protection of indigenous vegetation
 - (e) Measures to reduce the height of the overburden areas/bunds and integrate them with the surrounding landform
 - (f) Planting or grassing of overburden areas/bunds

Advice Note: Condition 55 has been included on an Augier basis following a Mana Enhancing Agreement between the Applicant and Rangitāne o Manawatū.

Advice Note: the requirement for Technical Certification of the Quarry Management Plan is also contained within the Manawatū-Whanganui Regional Council consents ATH-2022205663.00, ATH-2022205664.00 and ATH-2023205983.00

ACCIDENTIAL DISCOVERY

56. If at any time during the excavations or filling authorised by this consent, potential historic artefacts or cultural remains or koiwi items are discovered, then all work must stop and the Consent Holder must immediately advise the Palmerston North City Council's Monitoring Officer, Manawatu-Whanganui Regional Council, Tanenuiarangi Manawatū Inc, Heritage New Zealand – Pouhere Taonga and in the case of koiwi tangata remains, the New Zealand Police Nga Pirihimana o Aotearoa. Further excavations or at the site must be suspended should Tanenuiarangi Manawatū Inc wish to carry out their procedures and tikanga for removing taonga. Work at the site must not recommence until approval to do so has been given by the Palmerston North City Council and the Manawatu-Whanganui Regional Council.

REVIEW

57. The Palmerston North City Council, under s128 of the Resource Management Act, may once per year, during **July**, serve notice of its intention to review all conditions of this resource consent for the purpose of reviewing the effectiveness of these conditions in avoiding and mitigating any adverse effects on the environment. The review of conditions must allow for:
- a) deletion or amendments to any conditions of this resource consent to ensure adverse effects (including noise) are appropriately mitigated, and/or
 - b) addition of new conditions as necessary, to avoid, remedy or mitigate any unforeseen adverse effects on the environment.

MONITORING

58. The Consent Holder must pay a monitoring fee of \$724 (GST incl.) at the time the resource consent is granted for the monitoring associated with the development. Upon completion of the works required by these conditions, the consent holder must give written notice to the Monitoring Officer that the conditions have been complied with. On receipt of this notice, the Monitoring Officer or nominee shall carry out an inspection to ensure all conditions have been complied with.

The fees will be payable by the consent holder for any subsequent monitoring of the conditions of this consent. This fee is set in accordance with Section 36(1) (c) of the Resource Management Act 1991.

Advice Note: *The current fee for monitoring is set at \$181 per hour. This amount may alter in the future if fees are reviewed. The monitoring fee charged will be the fee applicable at the time of monitoring and will be charged on each additional inspection or hour of work undertaken until full compliance with consent conditions is achieved.*

59. A fee will be payable by the consent holder if any non-compliance with the conditions of this consent are discovered as a result of monitoring. This fee is set in accordance with Section

36(1)(c) of the Resource Management Act 1991 and Section 690A of the Local Government Act 1974.

LAPSE AND EXPIRY

60. This resource consent will lapse if the Consent Holder has not given effect to the consent within **five (5) years** of the date of granting.

DRAFT

MWRC RESOURCE CONSENT CONDITIONS

1. Discharge Permit, Cleanfill Discharge (to Land)

The following details the location, classifications and conditions associated with the activity.

Authorisation Number	ATH-2023205983.00
Activity Type	Discharge to Land
Activity Class	Discretionary Activity
Primary Activity Purpose	Industrial, Waste Management, Solid Waste, Cleanfill
Replaces Authorisation	<i>Not Applicable</i>

Location

The following summarises the authorised location for the consented activity.

Activity Location Description	310 KENDALLS LINE LINTON
Valuation Number	14450 351 01
Legal Description	LOT 1 DP 410502
Map References	LOC-2022101885 (Centroid: BM34:208-205)

Classifications

The following summarises the classifications associated with the application activity.

Groundwater Management Zone	Manawatū
Water Management Zone	Manawatu Catchment, Coastal Manawatu, Lower Tokomaru (Mana_11a)
Associated River	MANAWATU RIVER, Tokomaru River, Unnamed Tributary

Descriptive Specification

1. This consent authorises the discharge of cleanfill material onto and into land on the property legally described Lot 1 DP 410502 (hereafter referred to as the property), at approximate map reference BM34:208-205, as shown on the **Site Plan LOC-2022101885** attached to and forming part of this resource consent.

2. The consent holder must undertake the activity in general accordance with the consent application including all accompanying plans and documents first lodged with Manawātū-Whanganui Regional Council on 21 November 2022, and the information included in the following further information responses and plans:
 - A. Site plan titled Linton Quarry Expansion, drawn by Good Earth Matters, dated July 2022 and attached as Appendix B to the application.
 - B. Ecological Effects Assessment titled “ASSESSMENT OF ECOLOGICAL EFFECTS OF QUARRY EXPANSION AT LINTON QUARRY, PALMERSTON NORTH, written by Wildlands, dated October 2022 and updated December 2022, contract report number 6016
 - C. Traffic Management Plan written by HiRock Limited, titled “LINTON QUARRY SITE SPECIFIC TRAFFIC MANAGEMENT PLAN (SSTMP), Revised 06/05/2020 Version 5 JG
 - D. Quarry Management Plan written by HiRock, titled “LINTON QUARRY, QUARRY MANAGEMENT PLAN, dated 12/11/2020 Version: 2.0.
 - E. Water Monitoring Results and Monitoring Plan, written by Good Earth Matters, titled “Linton Quarry Monitoring Plan - Settlement Pond 1/SRP, HiRock Limited, Dated November 2022 and updated December 2022.
 - F. Linton Quarry Pit Expansion Erosion and Sediment Control Plan November 2022 Hirock Limited FOR RELODGE MENT". Prepared by Good Earth Matters Consulting Ltd and dated November 2022, including the plan ‘Erosion and Sediment Control Overview Plan. Drawing Number 76506.002 Rev A’.
 - G. Ecological Management Plan, Titled ECOLOGICAL MANAGEMENT PLAN FOR HIROCK LINTON QUARRY, PALMERSTON NORTH, written by Wildlands, dated September 2022 and updated December, contract report number 6016b
 - H. Powelliphanta Snail Survey Titled POWELLIPHANTA SNAIL SURVEY AT HIROCK LINTON QUARRY, PALMERSTON NORTH, written by Wildlands, dated October 2022, contract report number 6016e
 - I. Further information response dated 22 December 2022 including Memo from Marshall Day Acoustics dated 21 December 2022, Alternative Overburden Disposal Areas - Noise, project number 20210382 and Memo from Good Earth Matters, dated 22 December 2022, Discharge Treatment and Expected Standards, Instream Effects and Discharge Volumes - Linton Quarry Expansion Joint Consent Application APP-2022203991.00 & RC-LU-6962

- J. Memo from Tonkin and Taylor, dated 22 December 2022 Linton Quarry Geotechnical Assessment of Proposed Overburden Disposal Areas, Job No: 1018486.1000 including design of proposed overburden areas.
- K. LIZARD SURVEY AND INCIDENTAL DISCOVERY PROTOCOL FOR HIROCK LINTON QUARRY, PALMERSTON NORTH, written by Wildlands, dated January 2023, contract report number 6016c
- L. BAT SURVEY REPORT FOR PROPOSED QUARRY EXPANSION AT LINTON QUARRY, PALMERSTON NORTH, written by Wildlands, dated February 2023, contract report number 6016d
- M. Memo regarding the Memorandum of Understanding with Rangitāne o Manawatū, dated 27 April 2023, from Good Earth Matters.
- N. Memo regarding the Memorandum of Understanding with PNCC for the on-going maintenance of Kendalls Line, dated 27 April 2023, from Good Earth Matters.
- O. Draft Dust Management and Monitoring Plan, authored by K2 Environmental Limited. Report number Y0135, 23 May 2023, Draft 1.

Where there may be inconsistencies between information provided by the Applicant and conditions of the resource consent, the conditions of the resource consent will apply.

ADVICE NOTE: Any variance from the location, design concepts and parameters, implementation and / or operation may require a new resource consent or a change of consent conditions pursuant to section 127 of the Resource Management Act 1991.

- 3. The conditions in the attached General Condition Schedule apply to this consent.

Environmental Standards

- 4. The Consent Holder must ensure that all materials to be discharged is cleanfill material that when buried or placed will not breakdown, decay, give rise to gas or leachates, is not combustible, is not toxic or damaging to humans, animals or plants. Acceptable cleanfill material must consist of those materials listed within Table 4.1 of the MfE "Guide to the Management of Cleanfills" 2002 which includes: cured asphalt, bricks, ceramics, concrete (no exposed reinforcing), fibre cement products (non-asbestos), glass, road sub-base, tiles, gravels, rock, clay, sand and soil.
- 5. Natural timber (tree stumps, branches (over 80 mm diameter) and roots) may be disposed of at the cleanfill site provided it accounts for no more than 5% of the total cleanfill material used at the site. Such material must be evenly dispersed throughout the matrix of cleanfill material.

6. Building plastics (plumbing pipes and plastic sheeting) must be removed from cleanfill material where practicable. Any small quantities of building plastics remaining within the cleanfill materials may be disposed of at the site provided that it is dispersed throughout the matrix of cleanfill material.

ADVICE NOTE: In terms of this condition, 'small quantities' means any plastics remaining after each load of cleanfill material has been examined and visible plastics have been removed.

Operational Restrictions

7. The consent holder must ensure that only overburden material sourced from Lot 1 DP 410502, and a maximum of 50,000 cubic metres (m³) of fill from other external sources that complies with the criteria outlined above in **Condition 4, 5, and 6** is discharged onto the site.

ADVICE NOTE: Signage may be needed to advise the type of material that can be disposed of.

Monitoring Provision

8. The Consent Holder must keep records of the following:
 - i. The source, composition and volume of all material disposed of at the site
 - ii. The nature and volume of all materials removed from the cleanfill (i.e. prohibited materials and plastics) and/or rejected from the site.

This log must be maintained and provided to the Regulatory Manager, Manawatū-Whanganui Regional Council, by **31st May each year** and made available to the Manawatū-Whanganui Regional Council on request.

Review

9. The Manawatū-Whanganui Regional Council, under s128 of the Resource Management Act, may once per year, during July, serve notice of its intention to review all conditions of this resource consent (including those conditions contained in the general condition schedule) for the purpose of reviewing the effectiveness of these conditions in avoiding

and mitigating any adverse effects on the environment. The review of conditions shall allow for:

- a. deletion or amendments to any conditions of this resource consent to ensure adverse effects are appropriately mitigated; and / -OR-
- b. addition of new conditions as necessary, to avoid, remedy or mitigate any unforeseen adverse effects on the environment; and / -OR-
- c. if necessary and appropriate, the adoption of the best practicable options to avoid, remedy or mitigate any adverse effects on the environment.

Lapse and Duration

10. This resource consent will lapse if the Consent Holder has not given effect to the consent within five years of the date of the commencement of consent.
11. The resource consent will expire on **1 July 2033**

DRAFT

2. Land Use, Land Disturbance

The following details the location, classifications and conditions associated with the activity.

Authorisation Number	ATH-2022205663.00
Activity Type	Land Use, Land
Activity Class	Discretionary Activity
Primary Activity Purpose	Mining Gravel or Sand Aggregates

Location

The following summarises the authorised location for the consented activity.

Activity Location Description	310 KENDALLS LINE LINTON
Valuation Number	14450 351 01
Legal Description	LOT 1 DP 410502
Map References	LOC-2022101885 (Centroid: BM34:208-205), LOC-2022101885 (Centroid: BM34:208-205)

Classifications

The following summarises the classifications associated with the application activity.

Groundwater Management Zone	Manawatū
Water Management Zone	Manawatu Catchment, Coastal Manawatu, Lower Tokomaru (Mana_11a)
Associated River	MANAWATU RIVER, Tokomaru River, Unnamed Tributary

Descriptive Specification

1. This consent authorises the large-scale land disturbance and the associated discharge of sediment to water associated with the expansion and operation of Linton Quarry on the property legally described Lot 1 DP 410502 (hereafter referred to as the property), at approximate map reference BM34:208-205, as shown on the **Site Plan LOC-2022101885** attached to and forming part of this resource consent.

2. The consent holder must undertake the activity in general accordance with the consent application including all accompanying plans and documents first lodged with Manawātū-Whanganui Regional Council on 21 November 2022, and the information included in the following further information responses and plans:
 - A. Site plan titled Linton Quarry Expansion, drawn by Good Earth Matters, dated July 2022 and attached as Appendix B to the application.
 - B. Ecological Effects Assessment titled “ASSESSMENT OF ECOLOGICAL EFFECTS OF QUARRY EXPANSION AT LINTON QUARRY, PALMERSTON NORTH, written by Wildlands, dated October 2022 and updated December 2022, contract report number 6016
 - C. Traffic Management Plan written by HiRock Limited, titled “LINTON QUARRY SITE SPECIFIC TRAFFIC MANAGEMENT PLAN (SSTMP), Revised 06/05/2020 Version 5 JG
 - D. Quarry Management Plan written by HiRock, titled “LINTON QUARRY, QUARRY MANAGEMENT PLAN, dated 12/11/2020 Version: 2.0.
 - E. Water Monitoring Results and Monitoring Plan, written by Good Earth Matters, titled “Linton Quarry Monitoring Plan - Settlement Pond 1/SRP, HiRock Limited, Dated November 2022 and updated December 2022.
 - F. Linton Quarry Pit Expansion Erosion and Sediment Control Plan November 2022 Hirock Limited FOR RELODGE MENT". Prepared by Good Earth Matters Consulting Ltd and dated November 2022, including the plan ‘Erosion and Sediment Control Overview Plan. Drawing Number 76506.002 Rev A’.
 - G. Ecological Management Plan, Titled ECOLOGICAL MANAGEMENT PLAN FOR HIROCK LINTON QUARRY, PALMERSTON NORTH, written by Wildlands, dated September 2022 and updated December, contract report number 6016b
 - H. Powelliphanta Snail Survey Titled POWELLIPHANTA SNAIL SURVEY AT HIROCK LINTON QUARRY, PALMERSTON NORTH, written by Wildlands, dated October 2022, contract report number 6016e
 - I. Further information response dated 22 December 2022 including Memo from Marshall Day Acoustics dated 21 December 2022, Alternative Overburden Disposal Areas - Noise, project number 20210382 and Memo from Good Earth Matters, dated 22 December 2022, Discharge Treatment and Expected Standards, Instream Effects and Discharge Volumes - Linton Quarry Expansion Joint Consent Application APP-2022203991.00 & RC-LU-6962

- J. Memo from Tonkin and Taylor, dated 22 December 2022 Linton Quarry Geotechnical Assessment of Proposed Overburden Disposal Areas, Job No: 1018486.1000 including design of proposed overburden areas.
- K. LIZARD SURVEY AND INCIDENTAL DISCOVERY PROTOCOL FOR HIROCK LINTON QUARRY, PALMERSTON NORTH, written by Wildlands, dated January 2023, contract report number 6016c
- L. BAT SURVEY REPORT FOR PROPOSED QUARRY EXPANSION AT LINTON QUARRY, PALMERSTON NORTH, written by Wildlands, dated February 2023, contract report number 6016d
- M. Memo regarding the Memorandum of Understanding with Rangitāne o Manawatū, dated 27 April 2023, from Good Earth Matters.
- N. Memo regarding the Memorandum of Understanding with PNCC for the on-going maintenance of Kendalls Line, dated 27 April 2023, from Good Earth Matters.
- O. Draft Dust Management and Monitoring Plan, authored by K2 Environmental Limited. Report number Y0135, 23 May 2023, Draft 1.

Where there may be inconsistencies between information provided by the Applicant and conditions of the resource consent, the conditions of the resource consent will apply.

ADVICE NOTE: Any variance from the location, design concepts and parameters, implementation and / or operation may require a new resource consent or a change of consent conditions pursuant to section 127 of the Resource Management Act 1991.

- 3. The conditions in the General Condition Schedule apply to this consent.

Review

- 4. The Manawatū-Whanganui Regional Council, under s128 of the Resource Management Act, may once per year, during July, serve notice of its intention to review all conditions of this resource consent (including those conditions contained in the general condition schedule) for the purpose of reviewing the effectiveness of these conditions in avoiding and mitigating any adverse effects on the environment. The review of conditions shall allow for:
 - a. deletion or amendments to any conditions of this resource consent to ensure adverse effects are appropriately mitigated; and / -OR-
 - b. addition of new conditions as necessary, to avoid, remedy or mitigate any unforeseen adverse effects on the environment; and / -OR-
 - c. if necessary and appropriate, the adoption of the best practicable options to avoid, remedy or mitigate any adverse effects on the environment.

Duration

5. This resource consent will lapse if the Consent Holder has not given effect to the consent within five years of the date of the commencement of consent.
6. This resource consent will expire on **1 July 2033**.

DRAFT

3. Discharge Permit, to Water

The following details the location, classifications and conditions associated with the activity.

Authorisation Number	ATH-2022205664.00
Activity Type	Discharge to Water
Activity Class	Discretionary Activity
Activity Primary Industry	Mining
Activity Primary Purpose	Mining Gravel or Sand Aggregates

Location

The following summarises the authorised location for the consented activity.

Activity Location Description	310 KENDALLS LINE LINTON
Valuation Number	14450/351.01
Legal Description	LOT 1 DP 410502
Map References	LOC-2022101885 (Centroid: BM34:208-205), LOC-2022101885 (Centroid: BM34:208-205)

Classifications

The following summarises the classifications associated with the application activity.

Groundwater Management Zone	Manawatū
Water Management Zone	Manawatu Catchment, Coastal Manawatu, Lower Tokomaru (Mana_11a)
Estuary Management Zone	MANAWATU RIVER, Tokomaru River, Unnamed Tributary

Descriptive Specification

1. This consent authorises the discharge of washwater from the washing of rock and gravel and the associated discharge of sediment to water associated with the expansion and operation of Linton Quarry on the property legally described Lot 1 DP 410502 (hereafter referred to as the property), at approximate map reference BM34:208-205, as shown on the **Site Plan LOC-2022101885** attached to and forming part of this resource consent.

2. The consent holder must undertake the activity in general accordance with the consent application including all accompanying plans and documents first lodged with Manawātū-Whanganui Regional Council on 21 November 2022, and the information included in the following further information responses and plans:
 - A. Site plan titled Linton Quarry Expansion, drawn by Good Earth Matters, dated July 2022 and attached as Appendix B to the application.
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- O. Draft Dust Management and Monitoring Plan, authored by K2 Environmental Limited. Report number Y0135, 23 May 2023, Draft 1.

ADVICE NOTE: Any variance from the location, design concepts and parameters, implementation and / or operation may require a new resource consent or a change of consent conditions pursuant to section 127 of the Resource Management Act 1991.

- 3. The conditions in the General Condition Schedule apply to this consent.

Review

- 4. The Manawatū-Whanganui Regional Council, under s128 of the Resource Management Act, may once per year, during July, serve notice of its intention to review all conditions of this resource consent (including those conditions contained in the general condition schedule) for the purpose of reviewing the effectiveness of these conditions in avoiding and mitigating any adverse effects on the environment. The review of conditions shall allow for:
 - a. deletion or amendments to any conditions of this resource consent to ensure adverse effects are appropriately mitigated; and / -OR-
 - b. addition of new conditions as necessary, to avoid, remedy or mitigate any unforeseen adverse effects on the environment; and / -OR-
 - c. if necessary and appropriate, the adoption of the best practicable options to avoid, remedy or mitigate any adverse effects on the environment.

Duration

- 5. This resource consent will expire on **1 July 2033**.

Descriptive Specification

1. The consent holder must undertake the activity in general accordance with the consent application including all accompanying plans and documents first lodged with Manawātū-Whanganui Regional Council on 21 November 2022, and the information included in the following further information responses and plans:
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- O. Draft Dust Management and Monitoring Plan, authored by K2 Environmental Limited. Report number Y0135, 23 May 2023, Draft 1.

Where there may be inconsistencies between the information provided by the Consent Holder and conditions of the resource consent, or the condition require a specific plan to be updated, the conditions of the resource consent will apply.

ADVICE NOTE: Any variance from the location, design concepts and parameters, implementation and / or operation may require a new resource consent or a change of consent conditions pursuant to section 127 of the Resource Management Act 1991.

Pre-Development Assurance

- 2. The Consent Holder must be responsible for all contracted operations related to the exercise of these resource consents; and must ensure contractors are made aware of the conditions of these resource consents and ensure compliance with those conditions.
- 3. A copy of these consents must be kept onsite at all times that physical works authorised by these resource consents are being undertaken and must be produced without unreasonable delay upon request from a servant or agent of the Manawatū-Whanganui Regional Council.

ADVICE NOTE: An electronic version on a smartphone or electronic device is acceptable.

- 4. Within **10 working days** of commencement of consent the Consent Holder must appoint a representative(s) who shall be the Manawatū-Whanganui Council's principal contact person(s) in regard to matters relating to this resource consent. The consent holder must inform the Manawatū-Whanganui Regional Council of the representative's name and how they can be contacted. Should that person(s) change during the term of this resource consent, the consent holder must immediately inform the Manawatū-Whanganui

Regional Council and must also give written notice to the Manawatū-Whanganui Region Council of the new representatives' name and how they can be contacted.

5. The consent holder must, no later than **3 months** from the commencement of consent, install the ESCP measures as per those proposed in documents listed in **Condition 1** and as modified by the plans required under **Conditions 8, 9 and 10 below**.
6. The consent holder must inform the Manawatu-Whanganui Regional Council in writing at least **5 working days** prior to the commencement of construction of the ESCP measures required under **Condition 5**.
7. The consent holder must arrange and conduct a pre-construction site meeting and invite, with a minimum **of 5 working days'** notice, the Manawatu-Whanganui Regional Council, the site representative(s) nominated under **Condition 4** of this consent, the contractor, and any other party representing the consent holder prior to any work authorised by this consent commencing on site. The following information must be made available at the pre-start meeting:
 - (a) Timeframes for key stages of the works authorised under this consent
 - (b) Resource consent conditions
 - (c) Finalised Erosion and Sediment Control Plan
 - (d) Chemical Treatment Management Plan
 - (e) Dewatering Management Plan

Advice Note: In the case that any of the invited parties, other than the site representative does not attend this meeting, the consent holder will have complied with this condition, provided the invitation requirement is met.
8. Prior to the commencement of works required under **Condition 5**, a Finalised Erosion and Sediment Control Management Plan (ESCP) must be prepared in accordance with Greater Wellington Regional Council's *Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region* (February 2021) (GWRC Guidelines) and **Condition 9** below, and submitted to Council for technical certification.
9. The Finalised Erosion and Sediment Control Plan required by **Condition 8** must contain sufficient detail to address the following matters:
 - (a) Details of all principles, procedures and practices that will be implemented to undertake erosion and sediment control;

- (b) Methodologies for implementation of the activities with details of all non-structural erosion and sediment controls including staging and sequencing of works;
 - (c) timing and duration of construction and operation of control works (in relation to the staging and sequencing of earthworks)
 - (d) details relating to the management of exposed areas and stabilisation in accordance with GWRC Guidelines
 - (e) specific design of erosion and sediment control measures in accordance with GWRC Guidelines
 - (f) Maintenance, monitoring and reporting procedures;
 - (g) Rainfall response and contingency measures including procedures to minimise adverse effects in the event of extreme rainfall events, flood events and/or the failure of any key erosion and sediment control structures;
 - (h) Procedures and timing for review and/or amendment to the E&SCP;
 - (i) Identification and contact details of personnel responsible for the operation and maintenance of all key erosion and sediment control structures; and
 - (j) A site contour plan of a suitable scale to identify;
 - i. The extent of soil disturbance and vegetation removal;
 - ii. Locations of stockpiles;
 - iii. All key erosion and sediment control structures;
 - iv. The boundaries and area of catchments contributing to all erosion and sediment control devices;
 - v. The locations of all specific points of discharge to the environment; and
 - vi. Any other relevant site information
10. The ESCP must be certified in writing by the Manawatu-Whanganui Regional Council acting in a technical certification capacity prior to any activities authorised by this resource consent commencing. The consent holder must undertake all earthworks authorised by this consent in accordance with the certified ESCP.

ADVICE NOTE: Regarding Manawatū-Whanganui Regional Council Technical Certification – Several conditions require the technical certification of the Manawatū-Whanganui Regional Council. That technical certification (or withholding of approval) shall be based on the Manawatū-Whanganui Regional Council’s assessment of whether the matters being considered achieve the objective of minimising sediment discharges from the site to the extent practicable.

11. The ESCP may be amended or updated without the need for certification where the amendment is an administrative change, including nominating personnel.
12. Except as provided for in **Condition 11**, amendments to the ESCP and any appendices must be confirmed in writing by the Consent Holder and certified in writing by the Manawatū-Whanganui Regional Council acting in a technical certification capacity prior to the commencement of any works to which the amended ESCP relate.
13. The consent holder must ensure that a copy of the certified ESCP including any certified amendments, is kept onsite and this copy is updated within **five (5) working days** of any amendments being certified.
14. The consent holder must ensure that all sediment laden run-off from the site is treated by sediment retention structures. These structures must be fully operational before bulk earthworks commence (ie excavation of the quarry pit expansion area) and must be maintained to perform at least at 80% of their operational capacity.
15. Prior to excavation of the quarry pit expansion area or within four months of commencement of consent whichever is the earliest, a certificate signed by a suitably qualified and experienced person must be submitted to the Manawatu-Whanganui Regional Council, to certify that the erosion and sediment controls have been constructed in accordance with the certified ESCP required by **Conditions 8, 9 and 10**. Certified controls must include Sediment Retention Ponds, Dirty Water Diversions, and Clean Water Diversions. The certification for these subsequent measures must be supplied within **5 working days** upon completion of construction of those measures. Information supplied if applicable, must include:
 - (a) Confirmation of contributing catchment area;
 - (b) The location, capacity and design of each structure, including shape, volume and design of the structure (dimensions of structure);
 - (c) Position of inlets/outlets; and
 - (d) Stabilisation of the structure
 - (e) Measures to control erosion; and
 - (f) Any other relevant matter.

Advice Note: The format for certification is available on the Manawatu-Whanganui Regional Council website.

16. Prior to the commencement of works required under **Condition 5**, a Chemical Treatment Management Plan (CTMP) must be prepared by an appropriately qualified and experienced person and submitted to Council. No earthworks in the quarry pit expansion

area may commence until written certification is provided by Council that the CTMP meets the requirements of GWRC Guidelines, and the measures referred to in that plan have been put in place. The CTMP must include as a minimum:

- (a) Specific design details of a chemical treatment system based on a rainfall activated methodology for any impoundment devices (Sediment Retention Ponds) and any other approved impoundment devices;
 - (b) Monitoring, maintenance (including post storm) and contingency programme (including a record sheet);
 - (c) Details of optimum dosage (including assumptions);
 - (d) Results of initial chemical treatment trial;
 - (e) A spill contingency plan; and
 - (f) Details of the person or bodies that will hold responsibility for long term operation and maintenance of the chemical treatment system and the organisational structure which will support this system.
17. Sediment control devices that discharge off site must be chemically treated throughout the duration of earthworks in accordance with the approved Chemical Treatment Management Plan.
 18. Any changes proposed to the CTMP must be confirmed in writing by the consent holder and certified in writing by the Manawatu-Whanganui Regional Council acting in a technical certification capacity, prior to the implementation of any changes proposed.
 19. The CTMP may be amended or updated without the need for certification where the amendment is an administrative change, including nominating personnel.
 20. The consent holder must ensure that a copy of the certified CTMP including any certified amendments, is kept onsite and this copy is updated within **five (5) working days** of any amendments being certified.
 21. Prior to the commencement of any pumping activity to the sediment retention structures, and associated discharges from treatment devices on the subject site to the Unnamed stream which forms part of the Tokomaru River catchment, a Dewatering Management Plan must be prepared and submitted to Council for technical certification. No pumping activity or discharges at the subject site is to commence until confirmation from Council is provided that the final management plan meets the required standards set out below.

The Dewatering Management Plan must contain sufficient detail to address the following matters:

- (a) Details of how any water pumped from the quarry pit will not overload the sediment retention pond, including how pumping will be managed during rain events.
 - (b) Written records of all pumping operations, to include details of personnel managing the pumping operations.
22. The Dewatering Management Plan must be certified in writing by the Manawatu-Whanganui Regional Council acting in a technical certification capacity prior to any activities authorised by this resource consent commencing. The consent holder must undertake all earthworks authorised by this consent in accordance with the certified Dewatering Management Plan.
- ADVICE NOTE:** Regarding Manawatū-Whanganui Regional Council Technical Certification – Several conditions require the technical certification of the Manawatū-Whanganui Regional Council. That technical certification (or withholding of approval) shall be based on the Manawatū-Whanganui Regional Council’s assessment of whether the Dewatering Management Plan contains adequate details as described in **condition 22**.
23. Any changes proposed to the Dewatering Management Plan must be confirmed in writing by the consent holder and certified in writing by the Manawatu-Whanganui Regional Council acting in a technical certification capacity, prior to the implementation of any changes proposed.
24. The Dewatering Management Plan may be amended or updated without the need for certification where the amendment is an administrative change, including nominating personnel.
25. The consent holder must ensure that a copy of the certified Dewatering Management Plan including any certified amendments, is kept onsite and this copy is updated within **five (5) working days** of any amendments being certified.

Environmental Standards

26. The Consent Holder must always operate the site in compliance with the certified ESCP, certified through **Conditions 8, 9 and 10**.

27. Sediment retention devices must be designed and operated to achieve the following performance targets:
- (a) the pH of any discharge from sediment retention devices to any water body must not be less than 5.5 or greater than 8.5;
 - (b) the turbidity of any discharge from sediment retention devices to any water body must not be higher than 150 NTU; with a trigger value for investigation of 75 NTU;
 - (c) and a discharge clarity of greater than 100mm measured by clarity tube.
 - (d) the Consent Holder must ensure that the soluble chloride concentration must not exceed 230 mg/L at the reasonable mixing zone

ADVICE NOTE: The reasonable mixing zone is defined as being 7 times the bed width at median flow.

28. The consent holder must ensure that sediment losses to natural water arising from the exercise of this resource consent are minimised during the duration of the works and during the term of this consent. In this regard, erosion and sediment control measures must be established and maintained in accordance with Greater Wellington Regional Council's Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region (February 2021) and in accordance with **Condition 5**. The consent holder must also ensure the outfall(s) of these systems are protected against erosion.
29. All earthmoving machinery, pumps, generators and ancillary equipment must be operated in a manner, which ensures spillages of fuel, oil and similar contaminants are prevented, particularly during refuelling and machinery servicing and maintenance. Refuelling and lubrication activities must be carried out away from any water body, ephemeral water body, or overland flow path, such that any spillage can be contained so that it does not enter surface water.

Operational Restrictions

30. The quarry must not operate outside the hours of 07:00 to 17:00 hrs, Monday to Friday and 07:00 to 15:00 hrs on Saturdays. This restriction does not apply to staff arriving to the site, between 06:30 and 0700 hrs.
31. 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.

ADVICE NOTE: An odour will only be considered objectionable, after a warranted Manawatū-Whanganui Regional Council officer has considered the Frequency, Intensity, Duration, Offensiveness/Character and Location of Exposure of the discharge to determine whether the discharge is Offensive, Objectionable, Noxious and/or

Dangerous (i.e the FIDOL Factors). Definitions of these are provided in Chapter 15 of the One Plan (2018), or any superseding Regional Plan.

Post-Development Assurance

32. The removal of any erosion and sediment control measure from any area where soil has been disturbed as a result of the exercise of this resource consent must only occur after consultation and written approval has been obtained from the Manawatū-Whanganui Regional Council acting in a technical certification capacity. In this respect, the main issues that will be considered by the Manawatū-Whanganui Regional Council include:
 - (a) The adequacy of the soil stabilisation and/or covering vegetation;
 - (b) The quality of the water discharged from the rehabilitated land; and
 - (c) The quality of the receiving water.

33. The consent holder must ensure those areas of the site which have been completed must be progressively stabilised against erosion as soon as practically possible and within a period not exceeding **3 days** after completion of any works authorised by this resource consent. Stabilisation must be undertaken by providing adequate measures (vegetative and/or structural) that will minimise sediment runoff and erosion and in accordance with Greater Wellington Regional Council's Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region (February 2021). The consent holder must monitor and maintain the site until vegetation is established to such an extent that it prevents erosion and prevents sediment from entering any surface water.

34. Re-vegetation and/or stabilisation of all disturbed areas must be completed in accordance with the measures detailed in Greater Wellington Regional Council's Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region (February 2021).

Monitoring Provision

35. To monitor compliance with **Condition 27** the consent holder must monitor the following parameters:
 - (a) Once per Month;
 - i. pH
 - ii. Turbidity (NTU and clarity tube)
 - iii. Chloride

- iv. DRP
 - v. The time and date, and the weather and flow conditions at the time of monitoring must be recorded.
 - vi. Observations of any conspicuous oil or grease films, scums or foams, and any emission of objectionable odour.
- (b) During rain events and/or when water is pumped from the pond at the base of the quarry pit into the SRP1;
- i. pH;
 - ii. Turbidity (NTU and clarity tube);
 - iii. DRP
 - iv. The time and date, and the weather and flow conditions at the time of monitoring must be recorded;
 - v. Observations of any conspicuous oil or grease films, scums or foams, and any emission of objectionable odour.
- (c) When malfunctioning of the dosing equipment or malfunctioning of the sedimentation pond is suspected/confirmed;
- i. pH;
 - ii. Turbidity;
 - iii. Chloride;
 - iv. DRP
 - v. The time and date, and the weather and flow conditions at the time of monitoring must be recorded;
 - vi. Observations of any conspicuous oil or grease films, scums or foams, and any emission of objectionable odour.
- (d) Measurements and samples should be taken at the following locations:
- i. pH, NTU and Clarity and DRP: discharge on the quarry side of the bund
 - ii. NTU and visual clarity: discharge on the quarry side of the bund
 - iii. Chloride: just beyond the reasonable mixing zone as specified in the certified monitoring plan.
 - iv. Any measuring equipment used should be manufactured for the respective purpose and calibrated according to the manufacturer's guidelines.

Rainfall event is defined as being 3 millimetres of rainfall (within 24 hours) measured at a weather station agreed in the monitoring plan. Monitoring should be undertaken as soon as possible, and no later than 24 hours after each rainfall event begins.

ADVICE NOTE: The reasonable mixing zone is defined as being 7 times the bed width at median flow.

36. Where a performance target in **Condition 27 a, b, c or d** is not achieved, an investigation, including a written report, must be undertaken to:
- (a) confirm the reason why performance target has not been achieved, with reference to the relevant catchment; and
 - (b) develop and implement response measures to achieve the performance targets in the future including ensuring onsite management aligns with the current, certified, ESCP.
37. Following the completion of the investigation required by **Condition 36**, all recommended response measures must be implemented within with **fifteen (15) working days**, except where the Manawatū-Whanganui Regional Council and Whakapai Hauora agrees in writing to a longer timeframe for the implementation of response measures.
- Advice Note:** Condition 37 has been included on an Augier basis following a Mana Enhancing Agreement between the Applicant and Rangitāne o Manawatū.
38. A report that summarises the investigation and response measures required by **Condition 37** must be provided to the Manawatu-Wanganui Regional Council and Whakapai Hauora in writing within **fifteen (15) working days** of the performance target not being achieved.
- Advice Note:** Condition 38 has been included on an Augier basis following a Mana Enhancing Agreement between the Applicant and Rangitāne o Manawatū.
39. Monitoring data required by **Condition 27 and 35** must be recorded and made available to the Manawatu-Whanganui Regional Council on request and within five (5) working days.
40. Monitoring of parameters according to **Conditions 27 and 35** must be undertaken for a period of at least 24 months, at which point the monitoring plan must be reviewed and updated based on the results and submitted to the Manawatu-Wanganui Regional Council's Team Leader Consents Monitoring for Technical Certification. The report must be prepared by a suitably qualified person and cover:
- (a) The results of all monitoring undertaken in the previous 24 months;
 - (b) Any non-compliances and subsequent investigations;
 - (c) Discussion of any trends evident from the monitoring data;
 - (d) Recommendations for a future monitoring plan;
41. Following the report completed under **Condition 40**, any changes proposed to the monitoring under **Conditions 27 and 35**, in the form of an update to the monitoring

must be certified in writing by the Manawatu-Whanganui Regional Council acting in a technical certification capacity taking into account the requirements of **Conditions 42, 43 and 44**.

42. If the parameters within **Condition 27 a and b** are met following the completion of the 24-month reporting period, monitoring of pH and turbidity may be reduced to major rainfall events and if and when malfunctioning of the dosing equipment or malfunctioning of the sedimentation pond is suspected/confirmed, only.

ADVICE NOTE: Major rainfall event is defined as being 25 millimetres of rainfall (within 24 hours). Monitoring should be undertaken as soon as possible, and no later than 24 hours after each rainfall event begins.

43. If the parameter with **Condition 27 c and d** are met following the completion of the 24-month reporting period, monitoring of chloride may be reduced to quarterly and if and when malfunctioning of the dosing equipment or malfunctioning of the sedimentation pond is suspected/confirmed, only.

44. If DRP concentrations are at or below a median of > 0.018 mg/L after the 24-month reporting period, monitoring of DRP may be reduced to quarterly and if and when malfunctioning of the dosing equipment or malfunctioning of the sedimentation pond is suspected/confirmed, only. If DRP is found to above a median of > 0.018 mg/L then monitoring must continue as per **Condition 27 and 35** with reporting required under **Condition 45**.

ADVICE NOTE: Major rainfall event is defined as being 25 millimetres of rainfall (within 24 hours). Monitoring should be undertaken as soon as possible, and no later than 24 hours after each rainfall event begins.

45. The consent holder must, by **30 June 2026, 30 June 2029 and 30 June 2031**, undertake a review of the adequacy and effectiveness of the site erosion and sediment control measures over the previous three years, and identify
- (a) if there have been any changes in guidelines and best practice for erosion and sediment control measures since the last review;
 - (b) identify any changes required to the site erosion and sediment control measures to meet current best practice; and
 - (c) identify a timeframe for upgrading the site erosion and sediment control measures to meet best practice.
 - (d) Identify any changes that are required in relation to **Condition 44** and the monitoring of DRP, particularly if it is found that the DRP is found to be above a median of > 0.018 mg/L .

The outcomes of the review must be provided to the Consents Monitoring Team Leader, Manawatū-Whanganui Regional Council, no later than one month following the completion of the review.

46. The Consent Holder must ensure that all erosion and sediment control structures are inspected on a weekly basis and within **24 hours** of each rainstorm event that is likely to impair the function or performance of the controls and must maintain records detailing:
- (a) The date, time and results of the maintenance undertaken; and
 - (b) The erosion and sediment controls that required maintenance; and
 - (c) The date and time when the maintenance was completed.

These records must be provided to the Manawatū-Whanganui Regional Council at all reasonable times and within **72 hours** of a written request to do so.

47. If any complaints are received by the consent holder regarding the activities authorised by this resource consent, the consent holder must notify the Manawatū-Whanganui Regional Council of those complaints as soon as practicable and no longer than one working day after receiving the complaint. If complaints are received, the consent holder must record the following details in a Complaints Log:
- (a) Time and type of complaint, including details of the incident, e.g. duration, any effects noted;
 - (b) Name, address and contact phone number of the complainant (if provided);
 - (c) Location from which the complaint arose;
 - (d) The weather conditions and wind direction at the time of any dust complaint;
 - (e) The likely cause of the complaint;
 - (f) The response made by the consent holder including any corrective action undertaken by the consent holder in response to the complaint; and
 - (g) Futures actions proposed as a result of the complaint.

48. The consent holder must record the volume and number of truckloads of cleanfill deposited at the site for the duration of this consent. The consent holder must maintain an on-site register of each truck entering the site, including details of the day, date, time, truck identification, fill volume, composition and source. This register must be made available to the Manawatu-Whanganui Regional Council's Consents Monitoring Team within **one (1) working day** upon request.

ADVICE NOTE: For the purposes of this consent, the volume may be stated as the number of truck loads and the capacity of the truck.

49. The consent holder must update the Quarry Management Plan **twelve (12) months** after the grant of this consent and submit it for Technical Certification by PNCC. The updates must include but not be limited to:
- (a) Updated description of site activities
 - (b) Updated description of cultural values of the site
 - (c) Reference to Ecological Management Plan
 - (d) Reference to Traffic Management Plan
 - (e) Reference to Memorandum of Understanding with Rangitāne o Manawatū
 - (f) Reference to Memorandum of Understanding with PNCC for the on-going maintenance of Kendalls Line
 - (g) Reference to the Dust Management and Monitoring Plan
 - (h) Updated noise monitoring requirements
 - (i) Updated Erosion and Sediment Control Plan requirements
 - (j) Cleanfill record keeping procedures
 - (k) Updated regulatory framework i.e., resource consents
 - (l) Updated driver induction

Advice Note: the requirement for Technical Certification of the Quarry Management Plan is also contained within the Palmerston North City consents LU 6962.

50. A Concept Quarry Closure and Rehabilitation Plan (CQCRP) must be submitted **two (2) years** after the grant of this consent for certification by PNCC, including a summary of consultation undertaken with Best Care (Whakapai Hauora) Charitable Trust in the development of the plan. The CQCRP must cover the entire quarry site and must include but not be limited to:
- (a) Measures to ensure long term slope stability
 - (b) Filling of pit and measures required to ensure water quality is suitable
 - (c) Riparian planting of pit areas where applicable
 - (d) Pest control and maintenance / protection of indigenous vegetation
 - (e) Measures to reduce the height of the overburden areas/bunds and integrate them with the surrounding landform
 - (f) Planting or grassing of the overburden areas/bunds

Advice Note: Condition 50 has been included on an Augier basis following a Mana Enhancing Agreement between the Applicant and Rangitāne o Manawatū.

Advice Note: the requirement for Technical Certification of the Quarry Management Plan is also contained within the Palmerston North City consents LU 6962.

51. A Final Quarry Closure and Rehabilitation Plan (FQCRP) must be submitted at least **twelve (12) months** prior to closure of the quarry to PNCC for certification, including a summary of consultation undertaken with Rangitāne o Manawatū in the development of the plan. The FQCRP must cover the entire quarry site and must include but not be limited to:
- (a) Geotechnical rehabilitation design report including measures to ensure long term slope stability
 - (b) Filling of pit and measures required to ensure water quality is suitable
 - (c) Riparian planting of pit areas where applicable
 - (d) Pest control and maintenance / protection of indigenous vegetation
 - (e) Measures to reduce the height of the overburden areas/bunds and integrate them with the surrounding landform
 - (f) Planting or grassing of overburden areas/bunds

Advice Note: Condition 51 has been included on an Augier basis following a Mana Enhancing Agreement between the Applicant and Rangitāne o Manawatū.

Advice Note: the requirement for Technical Certification of the Quarry Management Plan is also contained within the Palmerston North City consents LU 6962.

BEFORE THE HEARING PANEL

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of the applications by Hirock Limited to the Palmerston North City Council (LU 6962) and the Manawatū -Whanganui Regional Council (APP-2022203991.00) for resource consents associated with the expansion and operation of an existing quarry at 167-257 Kendalls Line, Palmerston North

EXPERT CONFERENCING

JOINT WITNESS STATEMENT – LANDSCAPE AND VISUAL ASSESSMENT

8.05.2023

A. INTRODUCTION

1. This joint witness statement relates to expert conferencing on the topic of Landscape and visual assessment.
2. This joint witness statement relates to resource consent applications lodged by the Hirock Limited (Applicant) to Palmerston North City Council (PNCC) and Manawatu-Wanganui Regional Council (Horizons), to be processed jointly, for the for the expansion of an existing quarry at 167 - 257 Kendall’s Line, Palmerston North.
3. The expert conferencing was held by Teams meeting on 8th May 2023.
4. Attendees at the conference were:
 - a. Shannon Bray for Horizons/PNCC;
 - b. Jesse Byrne for the Applicant;

B. EXPERTISE

1. I, Jesse Byrne, am a NZILA registered Landscape Architect with 10 years practice experience. My involvement in application to date is as Landscape Architect for the applicant. While this consent is not before the Environment Court, I have read the Code of Conduct for Expert Witness, Section 9 of Practice Note 2023. Accordingly, I have complied with the Code in the preparation of this joint witness statement.
2. I, Shannon Bray, am a NZILA registered fellow Landscape Architect with 20 years practice experience. My involvement in application to date is as peer reviewer for Palmerston North City Council. While this consent is not before the Environment Court, I have read the Code of Conduct for Expert Witness, Section 9 of Practice Note 2023. Accordingly, I have complied with the Code in the preparation of this joint witness statement.

C. PURPOSE AND SCOPE OF CONFERENCING

5. The purpose of conferencing was to identify, discuss and highlight points where there is agreement or disagreement on matters pertaining to Landscape and Visual Assessment arising from the resource consent applications, the submissions on them and the joint (PNCC and Horizons) s42A reports.
6. The scope of the issues addressed at this conference included:
 - a. LVA methodology
 - b. Landscape effects

- c. Visual effects
- d. Conclusion

D. PRIMARY DATA RELIED ON

- 7. The following documents, data and information have been relied on in this expert conference:
 - a. Good Earth Matters Limited – Linton Quarry Expansion: Resource Consent Application and Assessment of Environmental Effects for Joint Application to Palmerston North City Council and Horizons Regional Council (the Application), November 2022;
 - b. HiRock Linton Quarry - Expansion Project Landscape and Visual Effects Assessment Report, Prepared by Beca Limited 2 March 2022
 - c. Letter from Good Earth Matters Ltd on behalf of Hirock to Natasha Adsett, Response to S92 Further Information Request, dated 21 November 2022;
 - d. Letter from Good Earth Matters Ltd on behalf of Hirock to Natasha Adsett, Response to S92 Further Information Request, dated 21 November 2022;
 - e. HiRock Quarry – Peer Review of Landscape and Visual Effects – Shannon Bray dated 31 January 2023
 - f. Linton quarry expansion proposed conditions of consent - Pre-hearing meeting, 5 may 2023

E. AGREED ISSUES

- 8. Refer to Annexure A

F. DISAGREEMENT AND REASONS

- 9. Refer to Annexure A

G. CHANGES FROM S42A REPORT

- 10. Refer to Annexure A

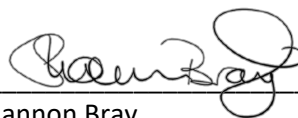
H. RESERVATIONS

- 11. Nil

Date: 8 May 2023



Jesse Byrne



Shannon Bray

ANNEXURE A

IN THE MATTER of applications by of the applications by Hirock Limited to the Palmerston North City Council (LU 6962) and the Manawatū -Whanganui Regional Council (APP-2022203991.00) for resource consents associated with the expansion and operation of an existing quarry at 167-257 Kendalls Line, Palmerston North.

Expert conferencing – Landscape and Visual Assessment

Participants: Jesse Byrne (JB), Shannon Bray (SB)

No	Topic/Issue	Statements	Agreed position	Disagreements and reasons	Change from s42A report
1	Methodology	<p>At the time of preparing the assessment the NZILA's most recent guidance document was used (Te tangi a te manu DRAFT)</p> <p>Shannon Bray provided a suggestion to incorporate an example to explain scale. Included in the final copy of the NZILA Guidance document (Te tangi a te manu), released following the completion of this assessment.</p>	<p>Fit for purpose approach to landscape assessment.</p> <p>Jesse Byrne agrees that the examples provided in the peer review report are a suitable baseline for assessing level of effects.</p>	Nil	Nil
2	Landscape effects	The existing 'Nikau tree land' (H - refer LVA figure 2) requires removal following a slip on site. (refer Wildlands Assessment of ecological effects of quarry expansion at Linton Quarry, Palmerston North. Oct 2022)		Nil	Nil

		<p>Shannon Bray suggests that a buffer be installed around the other area of native vegetation 'Indigenous forest' (I - refer LVA figure 2) to help prevent any future slips which could impact the indigenous forest.</p> <p>An increase in bund height to the existing overburden piles in the vicinity of area D (refer LVA figure 2) will have very limited landscape effects, given the nature of the existing activity and significant modification of the site already undertaken. Refer to Wildlands EMP</p> <p>Shannon Bray highlighted the benefits of saving the Nikau Palms, and that relocation to the proposed ecological mitigation area J (refer LVA figure 2) be considered.</p>	<p>Agreed, position is covered by proposed condition no. 27 and noting this is now included on the updated site plan (refer AEE figure 1.1)</p> <p>Both agree, landscape effects at site level will be low-moderate. And at the wider scale low overall.</p> <p>Agreed position is covered by proposed condition no. 35 and 36</p> <p>Agreed position is covered by proposed condition no. 28 and 29.</p> <p>Condition 27. <i>15 metre setback fencing to be constructed around the indigenous forest remnant area.</i></p> <p>Condition 35. <i>A Concept Quarry Closure and Rehabilitation Plan (CQCRP) shall be submitted two (2) years after the grant of this consent for approval by PNCC and Manawatu-Wanganui Regional Council, including a summary of consultation undertaken with Best Care (Whakapai Hauora) Charitable Trust in the development of the plan. The CQCRP shall cover the entire quarry site and shall include but not be limited to:</i></p> <ul style="list-style-type: none"> <i>a. Measures to ensure long term slope stability</i> <i>b. Filling of pit and measures required to ensure water quality is suitable</i> <i>c. Riparian planting of pit areas where applicable</i> 		
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			<p>d. <i>Pest control and maintenance / protection of indigenous vegetation</i></p> <p>e. <i>Measures to reduce the height of the overburden areas/bunds and integrate them with the surrounding landform</i></p> <p>f. <i>Planting or grassing of the overburden areas/bunds</i></p> <p>Condition 36. <i>A Final Quarry Closure and Rehabilitation Plan (FQCRP) shall be submitted at least 12 the months prior to closure of the quarry to PNCC and Manawatu-Wanganui Regional Council for approval, including a summary of consultation undertaken with Rangitāne o Manawatū in the development of the plan. The FQCRP shall cover the entire quarry site and shall include but not be limited to:</i></p> <p>a. <i>Measures to ensure long term slope stability</i></p> <p>b. <i>Filling of pit and measures required to ensure water quality is suitable</i></p> <p>c. <i>Riparian planting of pit areas where applicable</i></p> <p>d. <i>Pest control and maintenance / protection of indigenous vegetation</i></p> <p>e. <i>Measures to reduce the height of the overburden areas/bunds and integrate them with the surrounding landform</i></p> <p>f. <i>Planting or grassing of overburden areas/bunds</i></p> <p>Condition 28. <i>Prior to removal of the nikau palms, Rangitāne o Manawatū shall be invited to undertake any desired procedures and tikanga. Hirock shall provide two (2) weeks' notice of their intention to remove the trees.</i></p> <p>Condition 29. <i>Harvesting of nikau palm seeds from the existing trees on site shall be undertaken by a suitably qualified person for planting in the reforestation area along the unnamed tributary of the Kahuterawa Stream.</i></p>		
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3	Visual effects	There is a very limited visual catchment of the proposal and the visual effects have been assessed as low.	Both agree with the assessment of visual effects.	Nil	Nil
4	Conclusion	Landscape and visual effects of the proposal have been assessed as low.	<p>Both agree with the assessment of effects, and the proposed conditions.</p> <p>Relevant conditions not previously listed are recorded below.</p> <p>Condition 24 <i>An Ecological Management Plan (EMP) shall be submitted prior to the commencement of activities, for approval by PNCC and Manawatu-Wanganui Regional Council, including a summary of consultation undertaken with Rangitāne o Manawatū in the development of the plan. The EMP shall include but not be limited to:</i></p> <ul style="list-style-type: none"> <i>a. Mapping the distribution and abundance of pest plant species.</i> <i>b. Methods for the control of pest plant species.</i> <i>c. A summary of active pest animal management and further recommendations (if required).</i> <i>d. Indigenous revegetation recommendations, including planting schedules, and site preparation and monitoring requirements.</i> <i>e. Recommendations for the protection of habitats, including fencing.</i> <p>Condition 26 <i>All works are to be undertaken in accordance with the EMP and the Indigenous Vegetation Monitoring Plan unless otherwise restricted by the conditions of consent.</i></p> <p>Condition 30 <i>Within two (2) years of grant of consent, planting of the reforestation area along the unnamed tributary of the Kahuterawa Stream as proposed in the EMP. The reforestation area shall be planted with nikau palms grown from the recovered seed pods and all other plants shall be sourced locally from the Manawatū Plains Ecological District.</i></p>	Nil	Nil

			<p>Condition 31 <i>The final planting plan for the reforestation area along the unnamed tributary of the Kahuterawa Stream and the Indigenous Vegetation Monitoring Plan shall be prepared in consultation with Whakapai Hauora, and feedback shall be incorporated into the final documents.</i></p> <p>Condition 32 <i>Pest control in accordance with the EMP to be undertaken in the indigenous forest area and the reforestation area along the unnamed tributary of the Kahuterawa Stream (once planted).</i></p> <p>Condition 33 <i>A QEII covenant, or similar to be entered into within 10 years of the grant of consent for the reforested area along the unnamed tributary of the Kahuterawa Stream.</i></p> <p>Condition 34 <i>An Indigenous Vegetation Monitoring Plan be submitted prior to the commencement of activities, for approval by PNCC and Manawatu-Wanganui Regional Council.</i></p> <p>Condition 38 <i>The consent holder shall update the Quarry Management Plan 12 months after the grant of this consent and submit it for approval by PNCC and Manawatu-Wanganui Regional Council. The updates shall include but not be limited to:</i></p> <ul style="list-style-type: none"> <i>a. Updated description of site activities</i> <i>b. Updated description of cultural values of the site</i> <i>c. Reference to Ecological Management Plan</i> <i>d. Reference to Traffic Management Plan</i> <i>e. Reference to Memorandum of Understanding with Rangitāne o Manawatū (if required)</i> <i>f. Reference to Memorandum of Understanding with PNCC for the on-going maintenance of Kendalls Line</i> <i>g. Updated dust monitoring requirements</i> <i>h. Updated noise monitoring requirements</i> <i>i. Updated Erosion and Sediment Control Plan requirements</i> <i>j. Cleanfill record keeping procedures</i> <i>k. Updated regulatory framework i.e., resource consents</i> <i>l. Updated driver induction</i> 		
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BEFORE THE INDEPENDENT HEARING COMMISSIONER

IN THE MATTER section 104D and section 104 of the Resource management Act 1991 (the Act)

AND

IN THE MATTER of an application by HiRock Limited to the Palmerston North District Council for land use and subdivision resource consent to undertake further quarrying activity at 257 Kendalls Line, Linton

Landscape and Visual Effects Evidence
By Shannon Bray on behalf of Palmerston North City Council
Dated: 09 May 2023

INTRODUCTION

1. My name is Shannon Bray. I am a director and landscape architect at Wayfinder Landscape Planning & Strategy Ltd (**Wayfinder**).
2. I hold a Bachelor of Landscape Architecture with Honours from Lincoln University and a Bachelor of Forestry Science from Canterbury University. I am a registered fellow and past president of the New Zealand Institute of Landscape Architects (**NZILA**).
3. I have over 20 years' experience as a landscape architect, with a specialisation in landscape assessment. I have prepared landscape and visual effects assessments for various quarrying projects throughout New Zealand, including several in Waikato and others in Hawke's Bay, Auckland and Wellington. I have also worked on a wide variety of land development and energy generation proposals across the wider Palmerston North area.
4. I have previously presented expert evidence at council hearings, before the Environment Court, and at Boards of Inquiry. I am a registered Independent Commissioner.
5. I prepared various peer reviews of various iterations of the Landscape and Visual Effects Assessment that have been prepared by various authors from Beca. The latest report was prepared by Jesse Byrne and is titled Issue B – 2nd March 2022.
6. I also attended an online caucus with Mr Byrne and co-authored a Joint Witness Statement (**JWS**) covering potential landscape and visual effects of the proposal.

CODE OF CONDUCT

7. I confirm that I have read the Expert Witness Code of Conduct set out in the Environment Court's Practice Note 2014. I have complied with the Code of Conduct in preparing this evidence and will continue to comply with it while giving oral evidence. Except where I state that I am relying on the evidence of another person, this written evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

METHODOLOGY

8. I outlined in my report that the methodology and terminology used in my peer review was informed by the Aotearoa New Zealand Landscape Assessment Guidelines¹ (**Te Tangi a te Manu**). I also noted that this was the case for Mr Byrne. It is worth noting that during the development of the project, Te Tangi a te Manu was still in development by NZILA, which gave rise to the slight variations in the level of effects used between Mr Byrne and myself. I do not consider this has any impact on the outcome of either of our assessments, and is addressed in the JWS.
9. I noted in my report that it would be best practice to provide examples of the interpretation of the effects scale used, and that this had not been done by Mr Byrne. I discussed this with Mr Byrne in the caucusing, and we note in the JWS that Mr Byrne has accepted my examples as suitable for explaining his scale of effects also.
10. I undertook a locality visit on 25th November 2022. This was to the end of Kendalls Line only – I have not visited the site itself. However, I have utilised the photographic and graphical material provided by the applicant, publicly accessible imagery from Google Maps, Google Earth, Topo Online, and the Council online GIS portal. As identified, I am very familiar with the assessment of quarrying activities.

PROJECT DESCRIPTION & LANDSCAPE CONTEXT

11. My report outlines that I am comfortable that Mr Byrne understood both the landscape context and the project proposed within it. I concurred with the landscape description provided in Mr Byrne's report.

POTENTIAL LANDSCAPE EFFECTS

12. The proposed activity is to extend the size and operating life of an existing quarry located in Kendall's Line. The soils of the site are modified and, as the applicant notes, vegetation with the site is generally in poor condition. I do note that the nikau palms that are in declining health are probably in this situation because of historical, consented quarrying activity.
13. The applicant has indicated that they intend to protect other remnant vegetation, and provide a 15m setback of any earthwork or quarrying activity. This is now

¹ *'Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines', prepared by Tuia Pito Ora New Zealand Institute of Landscape Architects, July 2022.*

embedded in conditions. I also note the conditions in regard to the proposed future removal of the nikau. I consider these conditions are appropriate.

14. The most notable landscape effect will be the additional bunding. Although this will have a low-moderate landscape effect during the operational life of the quarry – the longer term plan would involve recontouring and naturalising the bunds (presumably the overburden material can be placed in the quarried area). This is covered by conditions that address the end-of-life following completion of the quarrying activity, and I consider this the most appropriate mitigation measure.
15. Overall, I consider that the landscape effects as experienced from the wider landscape will be low.

POTENTIAL VISUAL EFFECTS

16. My report notes that at 1.5km away to the nearest residence, any pit walls or exposed soil is unlikely to be immediately visible and not an uncommon sight in this part of the landscape. The increase in height of the bunding is also unlikely to be visible. Therefore, I consider that the visual effects of the proposal will be low.

RESPONSE TO SUBMISSIONS

17. There were no submissions on the proposal that raised concerns about landscape or visual effects.

RESPONSE TO S42A REPORT

18. My peer review and discussions with Ms Adsett informed her s42A report, and I consider that it provides an accurate account of the landscape and visual effects of the proposal.

CONCLUSION

19. I have undertaken an independent assessment of the proposed consent application and specifically the Landscape and Visual Effects Assessment prepared by Beca, including the latest addition prepared by Mr Byrne. I have also contributed and approved the JWS with Mr Byrne.
20. I am of the opinion that the landscape and visual effects of the proposed extension to quarrying activity at 257 Kendall's Line will be, at most, low-moderate at the local

scale, and low at the wider scale. The effects associated with the activity itself, including the increased height of the bunding, can be appropriately mitigated through an end of life plan. I consider that the conditions that have been proposed are appropriate to manage such effects and mitigation.

Shannon Bray
NZILA Registered Fellow
10 May 2023

BEFORE THE PALMERSTON NORTH CITY COUNCIL

UNDER The Resource Management Act 1991
(RMA)

AND

IN THE MATTER Linton Quarry, Kendalls Line

SECTION 42A EVIDENCE OF NIGEL ROBERT LLOYD

Dated: 16 May 2023

Introduction

- [1] My name is Nigel Robert Lloyd. I have been an acoustic consultant with Acousafe Consulting & Engineering Ltd since 1985. I hold a degree in Mechanical Engineering from the University of Wales, University College Cardiff received in 1976.
- [2] My previous work experience includes five years as the noise control engineer with the New Zealand Department of Labour and three years with the Industrial Acoustics Company in the United Kingdom. Including my time spent with Acousafe as an acoustical consultant this is a total of over forty-five years direct involvement with noise control and acoustical related work.
- [3] I have advised Council on a range of noise matters since the early-1990s and I gave advice at that time on noise issues for the Operative District Plan and I have advised Council on noise matters pertaining to their latest round of Sectional District Plan reviews.
- [4] I advised the Council on the land use consent application for this quarry in 1997 (which was superseded by the 2007 consent) and I visited Kendalls Line on 29 July 2021 in respect of this resource consent application, when I viewed the surrounding area from various locations on Kendalls Line.
- [5] I confirm that I have read and am familiar with the Code of Conduct for expert witnesses in the Environment Court Consolidated Practice Note (2023). I agree to comply with this Code. The evidence I give is within my area of expertise and I am not aware of any material facts that would alter or detract from my opinions.

Acousafe's Reviews of Provided Noise Information

- [6] I reviewed the noise assessment from Marshall Day Acoustics (**MDA**) dated 26 July 2022, Report Number Rp 001 R04 20210382 (**The MDA**

Report). I had reviewed the previous application (17 February 2022) and the MDA Report had been amended to incorporate Acousafe's comments and referred specifically to the recommendations made in the review for the previous application. A copy of Acousafe's original review had to be attached to the later review to understand the approach taken in the later MDA Report. Acousafe's later review was directed to the subsequent changes that had been made in the AEE and The MDA Report.

Scope of Evidence

[7] My evidence briefly considers the relevant District Plan noise provisions, the issues raised in the MDA Report particularly in respect of the recommended draft conditions and then concentrates on the matters raised in submissions.

[8] I have read the submissions from Christoffel & Ilze Bekker (01), Richard & Donna Day (02), Brent and Jude Vautier (03) and D & K Underwood (04) which cover various aspect of quarry truck noise on Kendalls Line, which I discuss below.

The Activity

[9] The site is an active quarry and has been for 50 years. The quarry extraction volumes and subsequent traffic movement have been significantly exceeding the 2007 consent conditions. The submitters have been experiencing the truck noise and, I anticipate, will be able to describe its impacts.

The District Plan

[10] The quarry is in the Rural Zone and the application is for a Discretionary Activity.

[11] The Rural Zone noise rule is (R9.11.1):

Sound emissions from any activity in the Rural Zone when measured at or within the boundary of any land zoned for residential purposes or at or within the boundary of any land in the Rural Zone (other than land from which the noise is emitted or a road) shall not exceed the following:

7.00 am – 7.00 pm	50 dB LAeq (15mins)
7.00 pm to 10.00 pm	45dB LAeq (15 mins)
10.00 pm – 7.00 am	40dB LAeq (15 mins)
Night-time Lmax 10.00pm – 7.00 am	70dBA Lmax

Explanation

Rural areas are in essence working environment within which there are pockets of residential activity. The rules are intended to provide for normal agricultural activities while controlling noise from a range of other activities which also exist in the rural area, e.g. home occupations. This control does not apply to specific rural activities in rural areas which should be managed by applying the Section 16 requirements of the RMA in the circumstances that they arise. Reference should be made to Section 6, Noise, for those rural activities that are excluded from the above controls and for further general information on noise.

- [12] Rule R6.2.6.2(d) excludes vehicles driven on a road from the noise control rules but states that they shall be controlled separately by reference to the application of relevant New Zealand Noise Standards, where these are applicable, and to Sections 16 and 17 of the RMA 1991¹.
- [13] There is a useful discussion in R6.2.4 about why different noise sources are excluded from the noise rules and there is specific discussion about off-site truck noise. I include this below because of a common misconception amongst applicants (and their advisors) that noise sources that are excluded from control using the District Plan noise limits should somehow have carte blanche to operate without an

¹ S.16 is the duty to avoid unreasonable noise and to adopt the best practicable option to ensure that the emission of noise does not exceed a reasonable level.

assessment of adverse effects being undertaken. An example is the statement made on page 46 of the Goodearthmatters report where it states “*traffic noise is anticipated on public roads and that is why it is excluded from consideration under the District Plan noise provisions*”. The RMA requires an assessment of any actual and potential effects on the environment of allowing the activity².

[14] The relevant section of R6.2.4 is as follows:

However, there may be some cases where an activity is proposed that by its nature, will result in a source of noise that falls outside the scope of the Standards. Examples include an activity (such as a supermarket) that may generate significant truck volumes that would result in an increase in off-site road noise to the surrounding area, or a dog kennel that may result in significant noise from dogs barking. In both examples the specific source of noise falls outside the scope of the Standards and therefore cannot be assessed under the zonal controls, however the activity itself which generates the noise source is likely to require the submission of a resource consent application to enable the Council to assess the potential effects of the activity. In these cases, the effects from the noise source may be required to be included within an assessment of environmental effects. Where a noise assessment is required then this should be undertaken by a suitably qualified and experienced acoustical engineer. If consent is granted the noise source may be subject to control through conditions (i.e. restriction of hours of operations).

Quarry Noise Assessment

[15] Section 4 of the MDA Report discusses the 2007 consent noise limits which were amended (from the 1997 conditions) to provide some (5dB) relaxation of the noise criteria at the site boundary. These limits are expressed using the LA10 metric which were based on the 1991 version of NZS 6801 and NZS 6802.

[16] An assessment of noise effects is undertaken which includes modelling of the processing plant noise using ISO9613 methods. I consider this to be the correct Standard to use. The modelling incorporates

² RMA 104(1)(a)

topographical data that was specifically collected for this project and includes meteorological conditions that provide for slightly positive propagation conditions.

- [17] The noise from the quarrying activity itself is predicted to impact on one dwelling at 150 Kendalls Line. I note that the owners of this property have provided written approval to previous versions of the application. However, given this was a new application I understand they were notified, but no submission was received from this property.

Truck Movements on Kendalls Line

- [18] I consider the MDA Report is correct to consider the noise impacts of quarry trucks on residents living on Kendalls Line and submissions are only concerned about truck noise.
- [19] I agree that the noise of cars and light vans visiting the quarry is minor in comparison to the quarry truck noise³ and does not need to be factored in. This also applies to light vehicular noise from local residents.
- [20] Section 4.3 of the MDA Report discusses acceptable noise limits for trucks on public roads and proposes to adopt 55 dB $L_{Aeq(1h)}$ and 50 dB $L_{Aeq(16h)}$ as guidelines at existing dwellings, where quarry traffic is dominating. I note from the MDA Report that 50 dB $L_{Aeq(16h)}$ causes moderate annoyance outside of dwellings⁴.
- [21] There is some inconsistency in the AEE/MDA Report regarding the number of truck movements that are being assessed. Proposed Condition 5 (and 2.4.2 of the AEE) sets average daily truck movements at 200 with a maximum of 250 truck movements per day.

³ 6.2 of the MDA Report

⁴ According to Table 4 of the MDA Report showing WHO Guideline Values for the onset of critical health effects of environmental noise.

- [22] The Table in paragraph 4.1.1 in the AEE proposes 100 truck movements per day and a peak of 125 movements per day (entering and leaving the site).
- [23] The MDA Report 5.1 states that modelling is undertaken of 265 heavy vehicle movements in a peak day whereas 5.3 states that the calculations are based on an average of 200 vpd. The MDA Report is consistent for the prediction of hourly noise which is based on a peak of 37 trucks per hour.
- [24] The MDA Report states that two dwellings will be adversely affected by the noise of passing trucks (150 and 33 Kendalls Line) because of the closeness of the dwellings to the road. Nos. 6, 11 and 15 Kendalls Line are identified as being exposed to noise levels at the onset of moderate annoyance although further calculations have been undertaken of SH57 noise at these three dwellings (6.2.2) which the MDA report considers will be greater than the quarry truck noise levels (on an averaged basis). However, the character of passing trucks on Kendalls Line for these dwellings will be significantly different from the more distant State highway noise.
- [25] Care needs to be taken (6.2.2) where it states that proposed truck noise *“will not noticeably affect existing residential amenity”* at these three dwellings. Passing truck noise will clearly be noticeable.
- [26] Other dwellings are identified as being set back far enough to not experience adverse noise from passing trucks although, obviously, passing truck noise will be clearly audible at these dwellings which will be at a higher level in outdoor areas which are closer to the road.

Submissions

[27] I have considered each submission below:

Christoffel Johannes and Ilze Bekker (01)

[28] These submitters reside at [REDACTED]. They state that they had been offered compensation towards noise (and dust) mitigation but that the offer had been withdrawn. Unfortunately, compensation is not a matter that I can comment on.

[29] The submitters' site borders Kendalls Line and the dwelling is shown in the MDA Report (Table 7) to be 79 metres from the centreline of Kendalls Line.

[30] The predicted quarry truck noise levels in Table 7 of the MDA Report for this dwelling are for 50 dB L_{Aeq} for the peak hour (based on 37 vehicles per hour) and 45 dB $L_{Aeq(16h)}$. The average over a 16-hour period seems to be based on 200 vehicles per day⁵ (which is ambiguous in the MDA Report). These levels are below the recommended criteria in the MDA Report and no mitigation would be provided.

[31] I would be interested to hear from this submitter regarding their experience with the quarry truck noise on Kendalls Line.

⁵ There are various peak and average truck volumes mentioned in the AEE but the recommended conditions of consent have accepted those requested by Waka Kotahi which are:

- a. Average daily truck movements must not exceed 200 (averaged monthly, excluding Sundays and public holidays).
- b. Total truck movements must not exceed:
 - i. 250 per day; and
 - ii. 40 per hour.

Richard & Donna Day (02)

- [32] These submitters reside at [REDACTED] and seek a limit on the hours of work to 7.00am to 5.00pm Monday to Friday and oppose any further increase in truck movements.
- [33] The submitters identify the acceleration from SH57 and deceleration of the trucks as issues as well as the vibration from laden trucks and trailers.
- [34] The dwelling is stated to be 33 metres from the centreline of Kendalls Line in the MDA Report but a check using Google maps indicates this distance is closer to 25 metres. As such the predicted noise levels would exceed 55 dB $L_{Aeq(1h)}$ for the peak hour and 50 dB $L_{Aeq(16h)}$ in the averaged situation.
- [35] These submitters are identified as being exposed to noise levels at the onset of moderate annoyance although the MDA Report considers that noise from SH57 also has an impact on this dwelling. The change of speed of the trucks will generate specific noise for the residents that would be different to SH57 noise.
- [36] These submitters seek a reduction of speed to 30 km/h for a 400 metre distance from the SH57 intersection (both ways). The submitters' dwelling is some 100 metres from the SH57 intersection and imposing this speed limit is likely to improve the situation for them although may worsen the situation for residents further along Kendalls Line on either side of the 400 metre speed restriction location (where trucks would then speed up and brake).
- [37] Recommended conditions 3 & 14 require an adherence to a speed limit of 50km/h on Kendalls Line at least for quarry heavy vehicles.
- [38] The submitters' express concerns about truck generated vibration. Higher levels of noise and vibration will be generated if Kendalls Line

has poor road conditions. Recommended conditions 4 to 7 inclusive provide for road condition surveys to be undertaken and I understand that there is a Memorandum of Understanding with the Council regarding the upkeep of Kendalls Line.

Brent and Jude Vautier (03)

- [39] These submitters reside at [REDACTED] They submit that the quarry truck noise over the 21/22 summer period “*had a huge impact on our health, safety and general wellbeing*”.
- [40] The submitters seek a substantial reduction in truck numbers and limits on the type of trucks used including a restriction on the use of “*exhaust brakes*”.
- [41] The submitters’ dwelling is stated to be 39 metres from the centre of Kendalls Line in the MDA Report, and predicted to be exposed to 54 dB L_{Aeq} for the peak hour (based on 37 vehicles per hour) and 49 dB $L_{Aeq(16h)}$. The dwelling is one decibel below the criterion for noise mitigation provided for by recommended condition 19.
- [42] The quarry has been operating well beyond its consent, so it is difficult to judge what level of noise these submitters were experiencing in the 21/22 summer when they were experiencing noise that they considered excessive and which they considered to be unsustainable⁶. The indications are though that the latest application provides for a similar level of operation as was being carried out, with some degree of expansion provided for.
- [43] The current consent is for 27 movements per day.

⁶ 4.1.1 of the AEE refers to a study by BECA undertaken in February 2020 when a total of 147 truck movements occurred in one day.

D & K Underwood (04)

- [44] These submitters reside at [REDACTED] and seek that their lounge windows are double glazed to mitigate the noise.
- [45] The dwelling is shown to be 45 metres from Kendalls Line and would miss out on any mitigation provided for by recommended condition 19 by 2 decibels.

Quarry Truck Noise Mitigation

- [46] The common thread to each submission is a concern about the quarry truck noise which is either currently annoying or is likely to become so if it increases.
- [47] Recommended condition 19 is offered by the consent holder to install noise mitigations for all dwellings where quarry traffic noise equals or exceeds an equivalent free field noise level of 55 dB LAeq(1h) [or other appropriate trigger limit to be determined] at the façade of the dwelling. This is following the completion of any remedial works identified in the Kendalls Line road condition survey as required by Condition 4⁷.
- [48] I have considered whether the noise mitigation measures can be better defined but there may be different opportunities to reduce noise at each dwelling. The best control measure would be to screen quarry traffic noise using bunds or barriers as this would also protect outdoor noise amenity.
- [49] A concern I have is that recommended condition 19 will only apply to dwellings located within about 35 metres of the centre line of the road with dwellings beyond that distance experiencing similar truck noise impacts (given 3 decibels difference is only just noticeable). There are

⁷ I note that Condition 4 does not require remedial road works to be undertaken but that a Memorandum of Understanding has been agreed with the Council for the upkeep of the road..

four dwellings in Table 7 of the MDA Report that are within two decibels of the 55 dB $L_{Aeq(1h)}$ cut-off but which will each experience similar noise truck noise levels. Two decibels is within the prediction uncertainty and could change depending on the maintenance of Kendalls Line itself.

[50] Having heard the concerns of submitters I now consider that the character of the truck noise may cause similar impacts further than 35 metres depending on the circumstances and as described by at least one submitter. It will be instructive to hear from submitters about their experience of the quarry truck noise (which they have already experienced) when deciding which dwellings should qualify for noise mitigation.

[51] In the circumstances of Table 7, I now recommend that the mitigation provided by Condition 19 should reasonably be applied to all dwellings within 50 metres of the centre of Kendalls Line.

Draft Recommended Consent Conditions

[52] There are several areas of disagreement between myself and the MDA Report which are set out in Acousafe's review dated 16th January 2023 (which the latest MDA Report disagrees with) which I summarise as follows:

[53] Recommended Condition 12 – The Palmerston North District Plan applies the rural noise limits beyond the immediate site boundary of the subject property (rather than at the notional boundary of a dwelling). The 1997 consent conditions (2) established a limit of 50 dBA L10 at or within the boundary of any other land and the 2007 consent conditions relaxed this to 60 dBA L10 with a second set of criteria applying the District Plan noise limits at the notional boundary of any dwelling. The applicant now seeks to delete any reference to a site boundary noise limit and to retain the notional boundary limits.

[54] The issue with this is that there is no protection to land adjacent to the quarry if there are no dwellings nearby.

[55] I recommend that an additional condition is included after recommended condition 12 which states:

Quarrying activities (other than the construction of noise bunds) must be managed to ensure that noise does not exceed 60 dB $L_{Aeq(15min)}$ at all times at or within the boundary of any other site except for those sites whose owners and occupiers have given consent to the application.

[56] The next area of disagreement is with the recommended condition 20. I recommended that noise monitoring be undertaken annually after the initial first 3 months of monitoring. This recommendation is because of poor compliance exhibited by the management of this quarry (while understanding that the quarry is under new management). I recommend that the following words be inserted in condition 20 after the words ... *issue of consent...* “*and then annually for the life of the quarry*”.

[57] I recommend that the mitigation provided by Condition 19 should reasonably be applied to all dwellings within 50 metres of the centre of Kendalls Line.

Conclusions

[58] Four submissions have been received from residents on Kendalls Line whose dwellings are various distances from the road. The submitters' concerns are solely with the noise (and other adverse effects) of quarry trucks on Kendalls Line which, except for the quarry activity, would be a quiet rural road.

[59] The submitters variously describe the impact of noise of quarry trucks on their amenity and wellbeing and seek various forms of mediation. According to the MDA Report only two dwellings would qualify for

noise mitigation if the criterion in recommended draft condition 12 is applied.

[60] The recommended draft condition proffered by the applicant only provides for noise mitigation for dwellings within about 35 metres of the centre of Kendalls Line and I recommend that it is reasonable to extend this to 50 metres.

[61] Amendments are recommended to the proposed draft conditions of consent.

Date: 16 May 2023



Nigel Robert Lloyd

BEFORE THE HEARING PANEL

IN THE MATTER of the Resource
Management Act 1991

AND

IN THE MATTER of the applications by Hirock
Limited to the Palmerston North City Council
(LU 6962) and the Manawatū -Whanganui
Regional Council (APP-2022203991.00) for
resource consents associated with the
expansion and operation of an existing
quarry at 167-257 Kendalls Line,
Palmerston North

EXPERT CONFERENCING

JOINT WITNESS STATEMENT – TRANSPORT

15 May 2023

A. INTRODUCTION

1. This joint witness statement relates to expert conferencing on the topic of transport.
2. This joint witness statement relates to resource consent applications lodged by the Hirock Limited (Applicant) to Palmerston North City Council (PNCC) and Manawatu-Wanganui Regional Council (Horizons), to be processed jointly, for the for the expansion of an existing quarry at 167 - 257 Kendall's Line, Palmerston North.
3. The expert conferencing involved online meetings on the following days as well as email correspondence:
 - a. Monday 8th May 2023
 - b. Thursday 11th May 2023
4. Attendees at the conference were:
 - a. Harriet Fraser for PNCC; and
 - b. Joe Phillips for the Applicant.

B. EXPERTISE

1. The expertise of both Ms Fraser and Mr Phillips will be set out in their respective statements of evidence. While this consent is not before the Environment Court, we have read the Code of Conduct for Expert Witness, Section 9 of Practice Note 2023 and have complied with the Code in the preparation of this joint witness statement.

C. PURPOSE AND SCOPE OF CONFERENCING

5. The purpose of conferencing was to identify, discuss and highlight points where there is agreement or disagreement on matters pertaining to transport arising from the resource consent applications, the submissions on them and the joint (PNCC and Horizons) s42A reports.
6. The scope of the issues addressed at this conference included:
 - a. Discussions regarding the draft consent conditions, as tabled at the pre-hearing meeting on 5th May 2023;

- b. The swept paths for trucks turning left into Kendalls Line in response to a concern raised by the submitters at the above pre-hearing meeting; and
- c. Transport effects arising from the proposal.

D. PRIMARY DATA RELIED ON

- 7. The following documents, data and information have been relied on in this expert conference:
 - a. Assessment of Environmental Effects dated November 2022, prepared by Good Earth Matters
 - b. Linton Quarry Traffic Impact Assessment dated 13 January 2021, prepared by Beca Limited
 - c. Response to Further Information Request dated 27 July 2021 (on earlier version of the application, but supported by the same version of the Traffic Impact Assessment), prepared by Good Earth Matters
 - d. Kendalls Line Road Condition Survey Report dated 5 August 2022
 - e. Letter of support from Waka Kotahi NZ Transport Agency (Waka Kotahi) dated 2 August 2022
 - f. Draft evidence of both Ms Fraser and Mr Phillips
 - g. Vehicle tracking drawings provided by Beca Limited, which are included in Annexure B.

E. AGREED ISSUES

- 8. Refer to Annexure A

F. DISAGREEMENT AND REASONS

- 9. Refer to Annexure A


G. CHANGES FROM S42A REPORT

- 10. We have shared our draft evidence with each other, but note that the JWS will be finalised ahead of the S42A report prepared by PNCC and our final statements of evidence. Comments on the JWS will be included in each of our final evidence.

H. RESERVATIONS

11. While we have shared our draft evidence, both statements have yet to be finalised.
12. During the pre-hearing meeting on 5th May 2023, the submitters raised concerns regarding trucks crossing the centreline, as they turn left to enter Kendalls Line from SH57. Routine maintenance has also occurred, since our previous site visits. Ms Fraser therefore plans to make a further site visit to examine the carriageway width on Kendalls Line at the intersection with SH57. Mr Phillips has visited the site on one occasion previously, as identified in his evidence, and will do so again, prior to the hearing. These site visits will occur after the timeframe for finalising the JWS. Any findings will either be discussed in evidence or commented on at the hearing.
13. Given the written approval from Waka Kotahi, representatives from the Agency have not been included in the JWS discussions. However, discussions with Waka Kotahi, in relation to the submitter concerns raised in the pre-hearing meeting on 5th May 2023, are ongoing and will be either be discussed in evidence or commented on at the hearing. .

Date: 15 May 2023



Harriet Barbara Fraser

Date: 15 May 2023



Joseph Adam Phillips

ANNEXURE A

IN THE MATTER of applications by of the applications by Hirock Limited to the Palmerston North City Council (LU 6962) and the Manawatū -Whanganui Regional Council (APP-2022203991.00) for resource consents associated with the expansion and operation of an existing quarry at 167-257 Kendalls Line, Palmerston North.

Expert conferencing – Transport

Participants: Harriet Fraser (HF), Joe Phillips (JP)

No	Topic/Issue	Statements	Agreed position	Disagreements and reasons
1	Existing traffic characteristics	Kendalls Line is a 1.6km long, no exit, Local Road, which connects with SH57. SH57 is reported as carrying around 5,000vpd. There is a 70kph courtesy speed limit for quarry traffic on Kendalls Line. Kendalls Line is straight, but has a number of dips that limit forward visibility. There are around 10 rural residential properties predominantly at the end closest to SH57. The Beca Traffic Impact Assessment identified that there has been one reported crash on Kendalls Line in the 10 year period reported. This was a non-injury crash involving a truck with the crash factor being a medical event for the truck driver.	Agree that this is an accurate statement of existing traffic characteristics.	-
2	Existing road cross-section and pavement condition	Routine maintenance activities have recently been completed along the length of Kendalls Line and the road resealed. Prior to the recent maintenance activities, the road had a sealed width of 5.5m to 6m.	Agree that this is an accurate statement of the existing road cross-section and pavement condition, which will be confirmed through additional site visits prior to the hearing.	-
3	Existing consented truck activity	The existing consented limit on truck activity is an average of 27 heavy vehicle movements per day.	It is agreed that, in fact, the limit is likely to be an average of 27 truck loads per day with 54 associated truck movements.	-
4	Existing operational truck activity	The application indicates that existing truck activity has been up to around 150 truck movements per day, based on surveys undertaken in February 2020, as reported in the Beca Traffic Impact Assessment.	Agree that this sample count provides an indication of existing operational truck activity.	-

No	Topic/Issue	Statements	Agreed position	Disagreements and reasons
5	Proposed truck activity	The application includes forecasts of on average 200 truck movements per day with a maximum of 250 truck movements per day.	Agreed that truck movements will be controlled to these levels by Proposed Condition 8.	-
6	Truck turning patterns at the SH57/ Kendalls Line intersection	Truck turning patterns at the intersection of Kendalls Line and SH57 will be entirely dependent on the site locations requiring material from the quarry.	Agree that this is an accurate statement of truck turning patterns at the SH57/ Kendalls Line intersection. Agreed that right turn movements from SH57 into Kendalls Line will be controlled, as set out in Proposed Condition 9.	-
7	Truck activity outside daylight hours	There is no existing lighting at the intersection of SH57/ Kendalls Line. Typically, lighting is provided at intersections based on a road safety audit and consideration of the intersection geometry. The crash record for the 10 year period reported in the Beca Traffic Impact Assessment identified that there were no turning crashes at the intersection. The current resource consent allows the quarry to operate from 7.00am to 7.30pm Monday to Saturday (including public holidays).	Proposed Condition 2 limits truck activity to no earlier than 7am and no later than 5pm. It is agreed this minimises truck activity outside daylight hours and it is therefore not considered necessary for lighting to be added at the SH57/ Kendalls Line intersection as a result of the application.	-
8	Speed limit on Kendalls Line	The speed limit on Kendalls Line is 100km/h with a courtesy speed limit for quarry traffic of 70km/h. It is proposed to reduce the courtesy speed limit to 50km/h to assist with addressing safety and noise concerns.	It is agreed Proposed Condition 3 provides for the reduced speed limit, which will be supported by requirements for changes to the Traffic Management Plan in Proposed Condition 7. It is agreed the wording should be amended to ' <i>A <u>courtesy</u> speed limit of 50km/h for trucks.....</i> '.	-
9	Effects of road condition	It is understood that heavy trucks can place greater loadings on the road pavement and combined with the 5.5 to 6m formed width, this has the potential for deterioration of the road edges. Should the road edges deteriorate the effective road width will be reduced, which would result in safety risks for passing vehicles. As noted in Item 2, routine maintenance activities have recently been completed along the length of Kendalls Line.	The ongoing need for the monitoring of the pavement condition and repair have been addressed by Proposed Condition 4, which requires baseline road condition surveys to be undertaken. Separately, a Memorandum of Understanding with regard to any necessary repairs to Kendalls Line has been entered into between PNCC and the Applicant. It is agreed that this will provide for ongoing road condition and operational carriageway width to be provided to address potential safety effects. Proposed Condition 3, which sets a courtesy speed limit of 50km/h for quarry traffic on Kendalls Line will also result in more controlled passing of oncoming vehicles and reduced likelihood of edge break.	-

No	Topic/Issue	Statements	Agreed position	Disagreements and reasons
10	Safe movement between rural-residential properties including by active modes	There are a cluster of rural-residential properties at the end of Kendalls Line towards SH57. It is reasonable to expect that the residents may wish to move between the properties by foot or bicycle. There are safety concerns with pedestrians and cyclists moving within the carriageway given the proposed truck activity. There is currently a 'Caution Children' warning sign installed 100m north of the SH57 intersection.	It is agreed Proposed Condition 5 provides for a separated lime chip path to facilitate the safe movement of pedestrians and cyclists between these properties.	-
13	Forecast performance of SH57/ Kendalls Line intersection (efficiency and safety)	The forecast performance of the intersection is described in Section 4.1 of the Beca Traffic Impact Assessment. This includes the turns all performing with a Level of Service of C or better, including allowance for traffic growth on SH57. The sight distances to oncoming through traffic on SH57 are assessed as meeting the Austroads requirements, as identified in Section 2.4.2 of the Beca Traffic Impact Assessment. There have been reported crashes in the vicinity of the intersection, but these are associated with loss of control on the curve rather than turning vehicles.	It is agreed the intersection will continue to operate safely and efficiently with the increased truck activity and the proposed mitigation provided for through the Proposed Conditions. As identified above, based on submitter concerns identified at the pre-hearing meeting, the safety of the Kendalls Line approach to the intersection is discussed later in this table.	-
14	Consent conditions proposed by Waka Kotahi	Waka Kotahi is the Road Controlling Authority for SH57 and have provided written approval to the Application and request a number of conditions of consent.	The Waka Kotahi conditions are included as Proposed Conditions 8 to 11. These are fully supported.	-
15	Traffic effects within the site	The traffic effects within the site are described at Section 4.2 in the Beca Traffic Impact Assessment. Parking for up to 20 cars is included and vehicle speeds within the site are reported to be 10 to 15km/h.	It is agreed that these effects have been appropriately assessed and are acceptable.	-
16	Amendments to the existing Traffic Management Plan	There is an existing Traffic Management Plan for the quarry, included in Appendix D of the AEE. The proposed increase in truck activity and associated mitigation of off-site traffic effects requires some amendments to the Traffic Management Plan.	Proposed Condition 7 provides for an update of the Traffic Management Plan and it is generally agreed that this is appropriate. It is agreed that 7b should be removed, as it is addressed by Proposed Condition 9. However, it is agreed that a point should be included in Proposed Condition 7 regarding the new reduced courtesy speed limit for quarry traffic being included in the Traffic Management Plan.	-

No	Topic/Issue	Statements	Agreed position	Disagreements and reasons
17	Submitter concerns regarding a truck turning left into Kendalls Line crossing the centreline on Kendalls Line into the path of an exiting vehicle.	<p>At the pre-hearing meeting on 5th May 2023, submitters raised these specific concerns. Beca has investigated this concern and proposed some additional mitigation and the relevant vehicle tracking analysis drawings are included in Annexure B.</p> <p>The Beca vehicle tracking confirms that ,at present, there is a risk that if an entering truck and trailer vehicle follows the SH57 edge line into Kendalls Line, the truck and trailer vehicle will cross into the oncoming traffic lane (i.e. for traffic exiting Kendalls Line). The sight lines between a truck driver and an exiting vehicle are restricted by vegetation, some of which is in the road reserve. There is also a historic stock trough and associated tank, as illustrated on the Beca drawings, which it is understood cannot be readily relocated.</p>	<p>The Beca drawings in Annexure B show that with some recommended changes to the road markings, an entering truck and trailer vehicle can be better guided onto a path with a reduced risk of crossing the Kendalls Road centreline into the oncoming traffic lane.</p> <p>It is also recommended to remove vegetation in the road reserve, particularly around the historic stock trough and associated tank to improve sight lines between vehicles, as illustrated on the Beca drawings in Annexure B..</p> <p>It is agreed that the reduction in the courtesy speed limit for quarry traffic will also assist in managing the potential safety conflict.</p> <p>Consideration could be given to including a condition of consent that the initial trimming is undertaken and that the Applicant then monitor the vegetation and the visibility of the road markings and advise PNCC, when maintenance activities need to be undertaken by PNCC.</p>	<p>Ms Fraser is concerned that the Kendalls Line carriageway is narrow on the approach to SH57 and there is no shoulder. This means that there is no escape path for an exiting driver in the event that a truck enters their traffic lane. Ms Fraser plans to make a site visit and undertake some further investigation. Any findings will be included in her statement of evidence or tabled at the hearing.</p>

ANNEXURE B

Vehicle Tracking prepared by Beca Limited

IN THE MATTER of the Resource Management Act
1991

AND

IN THE MATTER of a resource consent application for
the expansion of an existing quarry at
167-257 Kendalls Line, Palmerston
North.

STATEMENT OF EVIDENCE OF HARRIET BARBARA FRASER

SECTION 42A REPORT - TRANSPORTATION

1. INTRODUCTION

Qualifications

- 1.1 My full name is Harriet Barbara Fraser. I hold the qualification of Chartered Professional Engineer and Chartered Member of Engineering NZ. I hold a Bachelor of Civil Engineering degree from Imperial College, University of London and a Master's degree of Science in Transportation Planning and Engineering awarded with distinction by the University of Leeds.

Experience

- 1.2 My background of experience includes over 29 years consultancy experience in traffic and transportation matters, initially in the UK and Hong Kong. From August 1998 to August 2012, I worked as a Transportation Planner in Lower Hutt in the firm of Traffic Design Group Limited (now Stantec) practicing as a transportation planning and traffic engineering specialist throughout New Zealand. Since September 2012 I have been working as a sole practitioner in the field of transportation planning and traffic engineering.
- 1.3 I am a certified Hearing Commissioner, having completed the MfE Making Good Decisions training and most recently was a commissioner on the panel for the hearing of a private plan change application in Upper Hutt.

1.4 I have been engaged by Palmerston North City Council to provide transportation expertise in respect of the review of the resource consent application for the expansion of the existing quarry at 167-257 Kendalls Line, Palmerston North.

1.5 I have a number of site visits and examined the length of Kendalls Line from the quarry to the intersection with SH57, including a recent visit since the road has been resealed.

2. CODE OF CONDUCT

2.1 Although not necessary in respect of council hearings, I can confirm I have read the Expert Witness Code of Conduct set out in the Environment Court's Practice Note 2023. I have complied with the Code of Conduct in preparing this evidence and I agree to comply with it while giving any oral evidence before the hearing committee. Except where I state that I am relying on the evidence of another person, this written evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in this evidence.

3. BACKGROUND

3.1 I have undertaken reviews of the transportation matters associated with the previous (now superseded) version of the resource consent application for the expansion of the Linton Quarry. The most recent review, of the application lodged on 29 July 2022, is attached as Appendix 1. I note that the current application, lodged on 21 November 2022, includes the same Traffic Impact Assessment as attached to earlier versions of the application. As such much of my review included in Appendix 1 remains valid.

4. SUMMARY OF REVIEW OF THE TRAFFIC IMPACT ASSESSMENT

4.1 I have summarised my review findings as included in attached Appendix 1 as follows:

- (a) I have inspected the local roading and read the following documents:

- (i) Assessment of Environmental Effects dated July 2022 and more recently November 2022
 - (ii) Linton Quarry Traffic Impact Assessment dated 13 January 2021
 - (iii) Response to Further Information Request dated 27 July 2021 (on earlier version of the application but supported by the same Traffic Impact Assessment)
 - (iv) Kendalls Line Road Condition Survey Report dated 5 August 2022
 - (v) Letter of support from Waka Kotahi dated 2 August 2022
- (b) Given the production volumes and typical truck loadings, I consider it likely that the existing limit of on average 27 heavy truck movements per day in fact relates to truck loads and therefore 54 truck movements per day;
- (c) Truck turning patterns at the intersection of Kendalls Line and SH57 will be entirely dependent on the site locations requiring the material. For instance, trucks travelling from Levin will turn right into Kendalls Line;
- (d) I was concerned with the potential for trucks to be turning at the intersection in the dark and that the intersection is not lit currently. This has been addressed by proposed Condition 2 that restricts the hours of operation to daylight hours;
- (e) Based on the carriageway width and the forecast increase in truck activity, I recommended that there is an ongoing review of the road condition and a requirement for the Applicant to maintain the condition of the road. This has been addressed by proposed Condition 4. Proposed Condition 3 which sets a voluntary speed limit of 50km/h for quarry trucks on Kendalls Line will likely reduce the amount of edge break along the road;
- (f) I recommended that a path be provided along one side of Kendalls Line in the vicinity of the cluster of rural residential

properties at the western end to facilitate safe movement for pedestrians and cyclists between these properties. This is provided for by proposed Condition 5;

- (g) Waka Kotahi in their written approval dated 2 August 2022 and subsequent email dated 8 August 2022 request a number of conditions of consent. Proposed Conditions 8 to 11 have been drafted to address matters raised by Waka Kotahi and I fully support the inclusion of these conditions;
- (h) I agree with the range and scale of the assessed traffic effects within the site; and
- (i) I recommended that the Traffic Management Plan is updated to include that all truck drivers be informed about safe vehicle speeds and the risk of children moving along the western end of Kendalls Line, if there are school age children being picked up and dropped off by a school bus. This has been provided for through proposed Condition 7.

4.2 I note that Kendalls Line has been resealed since I completed my review of the Traffic Impact Assessment.

5. COMMENTS ON SUBMISSIONS

5.1 I have read the submissions and note that they include concerns regarding dust, noise, vibration and fumes associated with the truck movements. These effects are outside my area of expertise and have been addressed by the relevant experts.

6. JOINT WITNESS STATEMENT

6.1 A Joint Witness Statement on transport matters dated 15 May 2023 has been submitted. The expert conferencing involved online meetings on the following days as well as email correspondence:

- Monday 8th May 2023
- Thursday 11th May 2023

6.2 Attendees at the conference were:

- Harriet Fraser for PNCC; and
- Joe Phillips for the Applicant.

6.3 The only unresolved matter arising from the conferencing is associated with addressing the concern raised by submitters during the pre-hearing meeting on 5th May 2023, regarding trucks crossing the centreline, as they turn left to enter Kendalls Line from SH57. There have been ongoing discussions including with representatives from Waka Kotahi and an update is expected in the Applicant's transport evidence.

7. COMMENTS ON DRAFT CONDITIONS

7.1 The Applicant has been working on developing a comprehensive set of draft conditions of consent and these are included in Section 5.1 of the AEE. These include conditions to address matters raised by Waka Kotahi, PNCC and myself. I comment on the transport-related proposed conditions as follows:

7.2 **Condition 2** – this sets out the days and hours of operation for the quarry. The proposed hours of operation usefully minimise any risk of trucks moving through the intersection of SH57 and Kendalls Line during the hours of darkness. I no longer consider that the application triggers the need for lighting to be installed at the intersection.

7.3 **Condition 3** – provides for a 50km/h speed limit for trucks to minimise noise effects. This will also assist with trucks passing other vehicles, including oncoming trucks, at slower speeds with a reduced risk of damage to the edge of the seal. This should be referred to as a 'courtesy' speed limit as it applies on a voluntary basis.

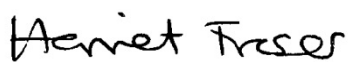
7.4 **Condition 4** – provides for annual road condition surveys to be undertaken. While I understand that an MoU between the Council and the Applicant is likely to address the detail of these surveys, I recommend that the desired requirement for the survey to be undertaken using a laser profilometer once every three years and the two annual surveys in between to be visual surveys, is specified in the conditions.

7.5 **Condition 5** – addresses my concerns regarding the pedestrians and cyclists moving between the cluster of residential properties on Kendalls Line towards SH57.

- 7.6 **Condition 6** – sets limits for truck movements and annual tonnage to be transported. Given that Condition 8 also sets limits on truck activity, I recommend that Condition 6 is simplified to only refer to the limit for annual tonnage to be transported.
- 7.7 **Condition 7** – includes matters to be added to the Traffic Management Plan. I consider that Condition 9 removes the need for traffic control measures for vehicles turning right into Kendalls Line from SH57. As a result of the expert conferencing, it was agreed that a point should be included in Proposed Condition 7 regarding the new reduced courtesy speed limit for quarry traffic being included in the Traffic Management Plan.
- 7.8 **Conditions 8 to 11** – these conditions have been drafted to address matters raised by Waka Kotahi. I fully support the inclusion of these conditions and request that Condition 11 is amended to include that the annual report is also submitted to Council.

8. CONCLUSION

- 8.1 With the above minor amendments to the proposed Conditions and safety improvements on Kendalls Line in the vicinity of the intersection with SH57, I am satisfied that the traffic effects associated with the application are suitably minimised and mitigated.



Harriet Barbara Fraser

29 May 2023

Appendix 1 – Harriet Fraser Review of Transportation Matters dated 15 August 2022.

Please find below a summary of my review of the transportation matters arising from a resource consent application to increase the extraction and transport activity at the Linton Quarry to match current demands and allow for future increases in demands.

I have inspected the local roading and read the following documents:

- Assessment of Environmental Effects dated July 2022
- Linton Quarry Traffic Impact Assessment dated 13 January 2021
- Response to Further Information Request dated 27 July 2021 (on earlier version of the application but supported by the same Traffic Impact Assessment)
- Kendalls Line Road Condition Survey Report dated 5 August 2022
- Letter of support from Waka Kotahi dated 2 August 2022

Existing Situation

The existing consent PNCC Consent 2022277 allows for the quarry to operate 7am to 7.30pm Monday to Saturday and produce 105,000 tonnes of material with an average of 27 heavy truck movements per day. By my calculation, based on 264 working days and an average truck load of 14 tonnes, allowing for a mix of single unit and truck and trailers, the 27 truck movements was most likely intended to be truck loads with an associated 54 truck movements.

Kendalls Line is a 1.6km long, no exit, Local Road which connects with SH57. In this location SH57 is reported as carrying around 5,000vpd. There is a 70kph courtesy speed limit for quarry traffic and the road has a sealed width of between 5.5m and 6m (confirmed during my site visit). The road is straight but has a number of dips that limit forward visibility. There are around 10 rural residential properties at the end closest to SH57. The AEE includes that there has been one reported crash on Kendalls Line in the last 10 years. This was a non-injury crash involving a truck with the crash factor being a medical event.

The existing operation produces 250,000 to 300,000 tonnes of material each year with an average of 150 truck movements per day recorded. The AEE notes that peak production can be up to double the average production. Staff numbers vary between 6 and 12.

In the AEE it is noted that little demand is expected for right turns into Kendalls Line. During my brief site visit, I observed a truck and trailer turning right into Kendalls Line. The necessary slow deceleration resulted in around ten vehicles slowed into a queue behind the truck, they then passed the truck at slow speeds on the inside of the curve. Truck turning patterns at the intersection will be entirely dependent on the site locations requiring the material. For instance, trucks travelling from Levin will turn right into Kendalls Line.

Proposed Activity

It is proposed to increase production to an average of 300,000 tonnes of aggregate per year (maximum 360,000 tonnes) and it is indicated in the AEE that this would result in an average of 200 truck movements per day with a maximum of 250 truck movements per day.

Within the site there is an area that can accommodate up to 20 cars with additional space if needed. Vehicle speeds within the site are reported to be 10-15km/h.

The existing consented hours of operation are 7am to 7.30pm Monday to Saturday (including public holidays). Hirock choose to operate between 7am and 5pm Monday to Friday and 7am to 3pm on Saturdays. With the potential for truck activity during the hours of darkness, I recommend that flag lighting is added at the Kendalls Line intersection with SH57.

Kendalls Line

The Application documents summarise the traffic effects on Kendalls Line as follows:

- The TIA includes that there are no concerns with the existing road condition of Kendalls Line. The more recent road condition survey has identified some damage to the road;
- With Local Roads anticipated to carry up to 3,000vpd, the traffic associated with quarry is less than 10% of this daily capacity;
- The width is sufficient for two vehicles to pass; and
- Kendalls Line will continue to operate with an appropriate level of safety.

Council has advised that Kendalls Line is scheduled for a reseal in the 2022/23 season.

I agree that in terms of total traffic flows Kendalls Line is and will continue to operate well within the notional 3,000vpd capacity. The key matter is that the majority of vehicle movements along Kendalls Line are trucks. Trucks are wider (up to 2.5m compared to 1.9m for an 85th percentile car), cause more damage to the road and increase the risk of the outcomes of crashes resulting in serious and fatal injuries.

In my view, the 5.5 to 6m measured seal width is very narrow for two trucks to pass, given that each truck could be up to 2.5m wide. The increased truck activity will increase the frequency that trucks pass each other, pushing the trucks onto the edge or off the seal with an increased risk of edge break and damage to the road. The existing sealed width is less than the 10.6m included in the Council's Engineering Standards for Land Development, 7.5m to 10.5m included in the Council's Street Design Manual and 6.5 to 7.5m included in NZS4404:2010. As such, I consider that there needs to be an ongoing review of the road condition and a requirement for the Applicant to maintain the condition of the road.

My main concern regarding the ongoing safety of Kendalls Line is the potential for pedestrians and possibly cyclists (including children) to want

to use the road to move between the rural residential properties at the western end of Kendalls Line. In a rural environment with low traffic flows there can typically be a shared use of the carriageway. Given the truck activity on Kendalls Line and the risk of serious or fatal injuries resulting from a crash between a truck and vulnerable road users, I consider that a separate pedestrian path should be provided along one side of Kendalls Line between No.s 4 and 75. It does not need to be wide, a 1m width might be sufficient, but it needs to be separate from the carriageway. This is less than the recommended provision in NZS4404:2010 of a 1.5m wide footpath on each side of a local rural road with a primary freight carrying function.

SH57/ Kendalls Line

The Application documents summarise the traffic effects at the intersection of Kendalls Line and SH57 as follows:

- The existing intersection has been observed by BECA to be in good condition;
- The intersection meets all the requirements with regard to sight distances;
- There is sufficient space for heavy vehicles to turn into and out of Kendalls Line;
- With little demand for right turns in from SH57 there is no need to provide a right turn bay;
- The intersection modelling is based on forecast turning truck movements of 264 truck movements per day with 37 (elsewhere suggest 34) truck movements per hour at peak times. An allowance was included for a 30% increase in through traffic on SH57 over the next 10 years. The modelling shows the level of service of each turn remaining at existing levels. Sensitivity testing with a further 30% of additional traffic for all movements showed all the turns achieving a level of service of C or better;
- There have been eight reported crashes over the most recent ten year period, on the curve close to and through the intersection. Loss of control on the curve is the main crash factor with one of the crashes resulting in serious injury. The assessment includes that any changes in traffic activity and delays are not expected to compromise safety at the intersection.

I agree with the sight distance assessment for trucks turning into and out of Kendalls Line with the key consideration being achieving the Safe Intersection Sight Distance of 289m and Minimum Gap Sight Distance of 298m (right to SH57) for trucks. The sight distance for a through vehicle on SH57 to a recently merged truck heading towards Palmerston North is restricted to approximately 110m.

Waka Kotahi in their written approval dated 2 August 2022, require the following conditions of consent be included to address their concerns about additional traffic activity through the SH57 intersection with Kendalls Line:

1. Traffic generation to/from the site must comply with the following:
 - a. Average daily truck movements shall not exceed 200 (averaged weekly).
 - b. Total truck movements shall not exceed 250 per day.
2. Average daily truck movements to the site which result from right-turn movements from State Highway 57 into Kendalls Line, shall not exceed 40 (averaged monthly), unless otherwise provided for in Condition 3 below.
3. Notwithstanding Condition 2 above, average daily truck movements to the site which result from right-turn movements from State Highway 57 into Kendalls Line may exceed 40 (averaged monthly), provided that:
 - a. Upgrades to the State Highway 57- Kendalls Line intersection are completed which are commensurate to the volume of daily traffic: and
 - b. The Waka Kotahi Network Manager confirms in writing that the identified upgrades are satisfactory.
4. The consent holder shall provide a record of the number and type of vehicles per day using the Kendalls Line-SH57 intersection to Council's compliance monitoring officer as part of an annual report to ensure that Conditions 1-3 are complied with. This report shall include, but is not limited to the following:
 - a. The average number of trucks using the site each day.
 - b. The number of trucks turning into Kendalls Line from State Highway 57 which use the site, and the direction from which they approach from.
 - c. Any complaints about the intersection made to Waka Kotahi or the Palmerston North City Council.
 - d. An assessment of the Waka Kotahi NZ Transport Agency's Crash Analysis System (CAS) to establish whether there is an identifiable increase of recorded crashes.
 - e. Any measures that have or will be implemented to address any issues identified as part of a), b), c) and d) above. Such measures may include (but are not limited to) one or more of the following:
 - i. Adjustments to the shape, size and formation of the intersection.
 - ii. Additional traffic lanes required, such as a right turn lane.
 - iii. Decreases in the number of vehicles using the State Highway 57 – Kendalls Line intersection to/from the site.
5. The annual report required by Condition 4 above shall be submitted to Waka Kotahi NZ Transport Agency for certification.
Advice note: The report can be sent to environmentalplanning@nzta.govt.nz quoting number 2021-0337

In an email dated 8 August 2022 from Damian Tang, Environmental Planner at Waka Kotahi, Waka Kotahi have advised a proposed amendment to Condition 4.e. above. It is proposed to replace the condition point with the following.

4.e. Any non-compliances or issues that are identified as part of a), b), c) or d) above.

The above recommended conditions from Waka Kotahi do not include a requirement for the applicant to undertake a road safety audit of the intersection. I consider that the proposed conditions provide for the monitoring of the safety of the intersection and that a road safety audit is not required on this occasion.

Within Site

The Application documents summarise the traffic effects within the site as follows:

- The site is large and can accommodate parking and loading activities as needed;
- The weighbridge is located away from other activities and operated in a manner to avoid queuing;
- The entrance way is fully chip sealed from Kendalls Line to the weighbridge/ carpark;
- Truck movements on site will not have any significant effects on the functionality or safety of the site;
- At present there is no mobility parking or accessible route. The TIA notes that provision should be made for a mobility parking space near the access to the facilities.

I agree with the range and scale of the assessed traffic effects within the site. I agree that a mobility parking space and accessible route should be provided near to the office.

Proposed Mitigation

I have summarised the transport-related proposed mitigation in the table below and provided comment on the measures. Many of these measures are already in place.

Proposed Mitigation Measure	Comment
Truck movements limited to an average of 200 per day, with a maximum of 250 per day. Right turning trucks from SH57 to be limited to 40 per day.	These limits are reflected in the conditions recommended by Waka Kotahi and I also consider them to be appropriate.
Road condition survey and maintenance of the road to a baseline condition.	I agree with this approach and suggest that the baseline should be established once the scheduled repairs and reseal have been undertaken.
Traffic Management Plan to be prepared and implemented.	I agree that the Traffic Management Plan can be expected to mitigate some of the traffic effects.
Proposed reduction from the existing 70km/h to 50km/h advisory speed limit for trucks on Kendalls Line, primarily to control noise effects.	This will help with both safety and minimising the damage to the edge of the road. Given that it is advisory only, it relies on the Applicant continuing to brief drivers on safe driver practices. The narrow width of the carriageway and the more frequent passing of trucks will assist with keeping speeds low.

Annual reporting to Waka Kotahi and Council.	This will assist with ensuring ongoing compliance and that any road safety issues are identified.
Reduction of voluntary speed limit for quarry trucks on Kendalls Line from 70km/h to 50km/h.	While the speed reduction is to assist with managing noise effects, it can be expected to also result in safer interactions between vehicles and other road users on Kendalls Line.
Road conditions are reviewed daily and discussed at a toolbox meeting before the start of work daily.	This usefully provides an opportunity to discuss driver behaviour and safe practices.
All truck drivers will be appropriately inducted, qualified and licensed.	Need to ensure that this applies to client truck drivers as well.
Driver training to ensure safety, minimise noise and dust are outlined in the Linton Quarry Management Plan.	Update the Plan to reflect proposed mitigation measures.
Existing warning signage on Kendalls Line including "Quarry Traffic" and "Caution Children".	With the additional truck activity, I consider that separate provision needs to be made for the occasional pedestrian or cyclist (including children) who may be moving between properties or to an existing or future school bus pick-up/ drop-off point.
Measures on site to minimise traffic movements where possible, including not sending trucks out with half loads.	Would expect load size to be determined by client instruction rather than on-site management.
Not undertaking normal quarrying activities outside of business hours.	From a traffic safety perspective, I consider that the key matter is that if trucks are accessing the site outside daylight hours that the intersection of SH57 and Kendalls Line should be lit.
Traffic onsite is limited to trucks for loading aggregate, quarry machinery, and staff vehicles for travel around the site.	This is good practice.
Personal cars for travel to and from site are parked in large, unsealed parking area which is provided on-site next to the office and workshop building near the entrance.	The scale of the site results in on-site parking being easily accommodated and managed.
Due to the open nature of the site, there is more space than required for all vehicles to access the site, parking and storage facilities without issues.	As above.
All loading and servicing are completed on-site from the stockpiles and within the quarry.	Given the no exit nature of the road and the size of the site there is no risk

	of trucks queuing at the quarry disrupting other traffic flows.
A recommendation is included in the TIA that a mobility parking space should be included.	A mobility parking space with a formed surface along with an accessible route should be provided to the office.

Alignment with District Plan Provisions

I have summarised below the assessed alignment with the transport-related District Plan provisions and separately include my comments.

Applicant Assessed Alignment with Transport Related District Plan Assessment Criteria, Objectives and Policies	Comment
<p>Rule 9.8.3 (a): The extent to which any adverse effects on the safe and efficient operation of the roading network from the traffic movements generated by activities are avoided, remedied or mitigated. <i>No direct comment included in the application documents.</i></p>	<p>I consider that additional mitigation is required to address adverse traffic effects for vulnerable road users at the western end of Kendalls Line, damage to the road pavement and especially the carriageway edges, and safety of the SH57/ Kendalls Line intersection if used outside daylight hours.</p>
<p>Rule 9.8.3 (b): To ensure the provision of adequate on-site parking, loading and manoeuvring and access space to avoid this taking place on roads. <i>No direct comment included in the application documents.</i></p>	<p>Good alignment with this rule.</p>
<p>Rule 9.8.3 (c): The extent to which the effects of noise, dust and other environmental disturbances on the amenity value of the area, particularly on adjacent residential uses can be avoided, remedied or mitigated. <i>No direct comment included in the application documents.</i></p>	<p>The assessment of noise and dust effects associated with traffic is beyond my area of expertise.</p>
<p>Rural Zone Policy 2.3: To control the actual or potential environmentally adverse effects of activities in the rural area, including the adverse effects of:</p> <ul style="list-style-type: none"> • Traffic <p><i>'There will be an increase in traffic along Kendalls Line, however, as demonstrated in the assessment this will have adverse effects which are no more than minor'.</i></p>	<p>As per my response to Rule 9.8.3 (a) above.</p>

Applicant Assessed Alignment with Transport Related District Plan Assessment Criteria, Objectives and Policies	Comment
<p>Rural Zone Policy 4.3: To allow a range of other activities where their adverse effects can be avoided or mitigated. <i>'It is considered that appropriate mitigation measures will be in place to ensure the proposal will have no more than minor effects in terms of traffic safety....'</i></p>	<p>I consider that additional mitigation is needed.</p>
<p>Land Transport Policy 1.8: Convenient, safe and accessible car parking, loading and manoeuvring facilities are available for residents, staff, visitors and customers for all activities without creating congestion or conflicts with moving vehicles, pedestrians or cyclists on adjacent roads. <i>'the site has sufficient car parking, loading and manoeuvring facilities to accommodate the proposed increase in on-site traffic without creating congestion or conflicts with moving vehicles.'</i></p>	<p>Agree with the Applicants assessment.</p>
<p>Land Transport Objective 2: The land transport network is safe, convenient and efficient while avoiding, remedying or mitigating adverse effects in a way that maintains the health and safety of people and communities, and the amenity values and character of the City's environment. <i>'The increase in traffic will not have any significant effects on the safety, convenience or efficiency of the transport network....The increase in traffic will not have significant adverse effects on the health and safety of people...'</i></p>	<p>I consider that additional mitigation is needed.</p>
<p>Land Transport Policy 2.1: To restrict the through movement of traffic where the movement has adverse visual, noise and safety effects on adjoining areas by using the roading hierarchy to direct higher volume and heavy traffic movements on identified arterial routes and discouraging this traffic from other areas, such as residential areas.</p>	<p>The relatively short length of Kendalls Line, its no exit nature and its direct connection to SH57 help with minimising the adverse traffic effects of through traffic. As per above comments I do however think that additional mitigation of safety effects for vulnerable road users is needed along the western end of Kendalls Line.</p>

Applicant Assessed Alignment with Transport Related District Plan Assessment Criteria, Objectives and Policies	Comment
<p><i>'It is not considered that the increase in traffic will have a significant adversesafety effect on adjoining areas...not considered that the increase in traffic is out of line with the purpose of the road which is in part to facilitate primary production activities such as quarrying, particularly where a road feeds directly into the State Highway network. The proposed traffic increase will not result in the roads capacity being breached..'</i></p>	
<p>Land Transport Objective 3: The safety and efficiency of the land transport network is protected from the adverse effects of land use, development and subdivision activities.</p> <p><i>'The land use activity (quarrying) that is causing the increase in traffic is a longstanding activity on-site....the increase volume of traffic will not have any significant adverse effects on the safety and efficiency of the transport network, including the state highway network...the transport network will be protected'.</i></p>	<p>I consider that the proposed mitigation measures along with the conditions proposed by Waka Kotahi will provide for the ongoing safety of the intersection of SH57 with Kendalls Line.</p>
<p>Land Transport Policy 3.1: Avoid, remedy or mitigate the adverse effects of increased traffic or changes in traffic type, which would compromise the safe and efficient operation of any road or level crossing, or the safe and convenient movement of pedestrians and cyclists on roads or at level crossings.</p> <p><i>'..the proposal will not have significant adverse effects on the safe and efficient operation of Kendalls Line or the Kendalls Line/ SH57 intersection. The increase in traffic is not expected to significantly affect pedestrians and cyclists'.</i></p>	<p>I consider that additional mitigation is required on Kendalls Line as per above comments.</p>
<p>Land Transport Policy 3.2: Require vehicle crossing places and vehicle entrances from public roads to be located, constructed, and maintained to standards appropriate to the expected traffic volume, pedestrian movement and speed environment of each road.</p>	<p>I consider the existing vehicle access off the end of Kendalls Line to be satisfactory.</p>

Applicant Assessed Alignment with Transport Related District Plan Assessment Criteria, Objectives and Policies	Comment
<i>'The site has existing vehicle access that is located, constructed, and maintained to standards appropriate for the expected traffic volume and speed environment of Kendalls Line. Pedestrian access to the quarry is discouraged for health and safety reasons.'</i>	
<p>Land Transport Policy 3.4: Ensure adequate on-site parking and manoeuvring space is provided for each type of activity in a safe and visually attractive manner.</p> <p><i>'..the site has appropriate space to provide for safe on-site parking and safe manoeuvring...'</i></p>	Agree with the Applicants assessment.

Proposed Conditions

In addition to the conditions proposed by Waka Kotahi, I recommend that **conditions** are included to provide for the following:

- Once the scheduled reseal of Kendalls Line is completed, the Applicant to undertake a road condition survey of the length of Kendalls Line to establish the baseline condition of the road and then for the survey to be repeated annually and the road to be returned to the baseline condition or better. The results of each survey need to be provided to Council and any identified works completed prior to the following survey;
- The Applicant to provide a separated 1m (minimum) wide path, most likely along the northern side of Kendalls Line between 4 and 75 Kendalls Line to allow for safe movement of pedestrians and cyclists between the rural residential properties. The design of the path needs to be approved by Council;
- Either restrict truck movement through the intersection of Kendalls Line and SH57 to daylight hours (later start in winter months) or require that a lighting pole is added to the intersection. I understand that Waka Kotahi are comfortable with the intersection being lit by a solar powered light if needed; and
- Require that there is a Traffic Management Plan that includes all truck drivers to be informed about safe vehicle speeds and the risk of children moving along the western end of Kendalls Line, if there are school age children being picked up and dropped off by a school bus.

Harriet Fraser

BEFORE THE HEARING PANEL

IN THE MATTER of the Resource
Management Act 1991

AND

IN THE MATTER of the applications by Hirock
Limited to the Palmerston North City Council
(LU 6962) and the Manawatū -Whanganui
Regional Council (APP-2022203991.00) for
resource consents associated with the
expansion and operation of an existing
quarry at 167-257 Kendalls Line,
Palmerston North

EXPERT CONFERENCING

JOINT WITNESS STATEMENT – GEOTECHNICAL

15 May 2023

A. INTRODUCTION

General

1. This joint witness statement relates to expert conferencing on the topic of geotechnical design.
2. This joint witness statement relates to resource consent applications lodged by the Hirock Limited (Applicant) to Palmerston North City Council (PNCC) and Manawatu-Wanganui Regional Council (Horizons), to be processed jointly, for the expansion of an existing quarry at 167 - 257 Kendall's Line, Palmerston North.
3. Specific expert conferencing was not held for this consent application. Rather, an agreed position has been developed between experts over the course of the review of the application and subsequent requests and additional information provided under S92 of the RMA. This is set out in the background section below.
4. The geotechnical experts involved with the development of this joint witness statement are:
 - a. Cameron John Lines for Horizons/PNCC.
 - b. Barry John McDowell for the Applicant.

Submissions

5. We have reviewed the summary of submissions and note that there are no submissions relating to our area of expertise.

Conflict of interest disclosure

6. While both experts have a previous working relationship, we do not consider that this presents a conflict of interest.

B. EXPERTISE

Cameron Lines

7. My full name is Cameron John Lines. I hold a Bachelor of Science (Geology) from the University of Auckland and Master of Science (Engineering Geology) from the University of Canterbury. I am a Chartered Member of Engineering New Zealand (Professional Engineering Geologist), a Member of the New Zealand Geotechnical Society (NZGS), the International Association for Engineering

Geology and the Environment (IAEG) and the Australian Institute of Mining and Metallurgy (AUSIMM).

8. I am a Principal and Director of Baseline Geotechnical Ltd a company I founded in July 2018 which provides mine/quarry development and geotechnical advice to the extractives sector. I spent the previous 15 years working at Tonkin & Taylor Ltd.
9. I have 24 years of post-graduate experience in mining/quarrying, land development, and large-scale infrastructure development. I specialise in cut slope design, overburden disposal design, geotechnical risk assessment, slope stability and natural hazard assessment. Roles I have undertaken include provision of geotechnical support for mining/quarry operations, slope designer and external peer reviewer.
10. While this consent is not before the Environment Court, I have read the Code of Conduct for Expert Witness, Section 9 of Practice Note 2023. Accordingly, I have complied with the Code in the preparation of this joint witness statement. This evidence is within my area of expertise, except where I state that I am relying upon the specified evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from the opinion expressed in this joint witness statement.

Barry McDowell

11. My full name is Barry John McDowell. I hold a Bachelor of Science (Geology) from the University of Canterbury and Master of Science (Engineering Geology) from the University of Canterbury. I am a Member of the New Zealand Geotechnical Society (NZGS).
12. I am a Technical Director of Tonkin & Taylor Ltd.
13. I have 35 years of post-graduate experience in engineering geological mapping; open cast and underground mine, and quarry geotechnical investigation and design; landslide investigation, analysis and remediation; corridor project investigation and cut and fill slope design; investigation and mitigation of liquefaction risk; expert witness for RMA applications and in support of High Court litigation; dam foundation investigation, embankment design and construction assessment; environmental investigation and remediation of contaminated sites I have undertaken roles ranging from investigation to design, to internal and external peer review across my field of experience.
14. While this consent is not before the Environment Court, I have read the Code of Conduct for Expert Witness, Section 9 of Practice Note 2023. Accordingly, I have complied with the Code in the preparation of this joint witness statement. This evidence is within my area of expertise, except where I state that I am relying upon the specified evidence of another person. I have not omitted to consider

material facts known to me that might alter or detract from the opinion expressed in this joint witness statement.

C. PURPOSE AND SCOPE OF CONFERENCING

15. The purpose of this joint witness statement is to provide guidance to the hearing commissioners with respect to geotechnical design, anticipated cut and fill slope performance, the potential for associated environmental effects and a summary of agreed slope instability risk mitigation measures.
16. The joint witness statement is based on the work undertaken by Mr McDowell and reviewed by Mr Lines, including requests for additional information and subsequent revisions to technical reports. The geotechnical issues were addressed and agreed in principle during the processing of the consent application and prior to the issue of the joint (PNCC and Horizons) s42A reports.
17. The scope of the issues covered during the technical review process included:
 - a. Instability risk for quarry batters both during excavation (operational case) and long term (quarry closure case).
 - b. Instability risk for proposed overburden disposal areas both during excavation (operational case) and long term (quarry closure case).
 - c. Monitoring and other mitigation measures to reduce or manage instability risks where instability may have an environmental effect or extend beyond the property boundary.
 - d. Recommended conditions of consent (geotechnical).

D. PRIMARY DATA RELIED ON

18. The following documents, data and information have been relied on in this expert conference:
 - a. Tonkin & Taylor Limited, 2022A, Geotechnical Assessment. Linton Quarry, Palmerston North, Draft v1.0 dated 2 March 2022. Ref: 1018486 vdraft1.
 - b. Baseline Geotechnical Limited, 2022A, Geotechnical Review – Proposed Linton Quarry Extension. Dated 7 March 2022. Ref: BGL000104.
 - c. Tonkin & Taylor Limited, 2022B, Geotechnical Assessment. Linton Quarry, Palmerston North, Draft v2.0 dated 14 April 2022. Ref: 1018486 v2 draft.

- d. Baseline Geotechnical Limited, 2022B, Geotechnical Review – Proposed Linton Quarry Extension. Dated 13 May 2022. V2.0 Ref: BGL000104.
- e. Tonkin & Taylor Limited, 2022C, Geotechnical Assessment. Linton Quarry, Palmerston North, v2.0 dated 8 July 2022. Ref: 1018486 v2.
- f. Tonkin & Taylor Limited, 2022D, Linton Quarry Geotechnical Assessment of Proposed Overburden Disposal Areas. Dated 22 December 2022. Ref: 1018486.1000.
- g. Baseline Geotechnical Limited, 2023, Geotechnical Review – Proposed Linton Quarry Extension. Dated 27 January 2023. V3 Ref: BGL000104.

E. BACKGROUND

- 19. Mr Lines was first engaged by PNCC in July 2021 to undertake technical review of an application by HiRock for consent to extend the quarry.
- 20. Mr Lines presented a preliminary geotechnical review by email on 19 July 2021, (Appendix A of BGL, 2023) which indicated that the geotechnical and geological information presented in the AEE and the QMP was not sufficiently detailed to allow him to adequately assess the potential environmental effects related to geotechnical performance as a result of the proposed extension. A S92 request for additional information was recommended.
- 21. Subsequently, changes were made to the extent of the proposed quarry expansion, and Tonkin & Taylor Limited was engaged to provide a geotechnical assessment to support the application and address the information requested under S92 of the RMA.
- 22. Mr McDowell authored that report (T+T 2022A) which was issued in draft on 2 March 2022.
- 23. Mr Lines reviewed the draft and considered that, subject to consent conditions, it adequately addressed the previously requested additional information under S92 of the RMA (BGL 2022A).
- 24. A range of minor changes to the report were made in April 2022 and a second draft was issued (T+T 2022B). The changes were addressed in version 2 of Mr Lines review document (BGL 2022B).
- 25. The second draft of Mr McDowell's reporting was finalised in July 2022 (T+T 2022C) and is incorporated as Appendix J of the AEE accompanying the consent application.

26. As part of re-lodgement of the consent in November 2022, overburden disposal areas were incorporated into the application that had not previously been the subject of geotechnical assessment and review.
27. A further S92 request was made for additional information relating to the performance of the overburden disposal areas (OBDA) and online meeting was held on 9 December 2023 to clarify the information required.
28. Mr McDowell prepared a geotechnical letter report relating to the OBDA's (T+T, 2022D) and Mr Lines incorporated that information into his final review document (BGL 2023).

F. AGREED ISSUES

29. Refer to Annexure A

G. DISAGREEMENT AND REASONS

30. Refer to Annexure A

H. CHANGES FROM ISSUED REPORTING

31. Refer to Annexure A

I. RESERVATIONS

32. No reservations have been raised.

Date: 15 May 2023



Cameron John Lines



Barry John McDowell

ANNEXURE A

IN THE MATTER of applications by of the applications by Hirock Limited to the Palmerston North City Council (LU 6962) and the Manawatū -Whanganui Regional Council (APP-2022203991.00) for resource consents associated with the expansion and operation of an existing quarry at 167-257 Kendalls Line, Palmerston North.

Expert conferencing – Geotechnical

Participants: Cameron Lines, Barry McDowell

No	Topic/Issue	Statements	Agreed position	Disagreements and reasons	Change from reporting
1A	Geotechnical Design – Quarry Slopes	Overall slope management (T+T 2022C) S4.1.1	Current slope management practices are adequate.	NA	NA
1B		Overburden sediment slopes (T+T 2022C) S4.1.2	Stability and maintenance of working batter slopes in the overburden sediments is satisfactory for interim (operational) cut batters, where risk is only operational (internal effects only).	NA	NA
1C		Overburden sediment slopes (T+T 2022C) S4.1.2	Stability of overall slopes in the overburden sediments is unlikely to be satisfactory for a long term (mine closure) case.	NA	NA
1D		Overburden sediment slopes (T+T 2022C) S4.1.2	Proposed long term redesign of overall overburden sediment slopes to 2H:1V is expected to provide acceptable levels of stability for a range of closure scenarios.	NA	NA
1E		Toppling movement in East Wall (T+T 2022C) S4.1.3	Toppling failures exist but widespread unravelling of the slope is low probability, unlikely to extend off site and can be expected to develop slowly. Risk can be managed with typical operation controls.	NA	NA
1F		Southwest wedge failure (T+T 2022C) S4.1.4	Wedge failure unlikely to extend beyond current headscarp in proposed pit extension.	NA	NA

1G		Risks to protected vegetation (T+T 2022C) S4.1.5	In the short-term failures may occur in the crest of the slopes abutting the protected vegetation. However, instability in operational slopes is unlikely to extend back past the long term (closure) pit slope crest. Some loss (5-10 m) of protected vegetation is expected either due to operational instability or eventual cut back of the slopes to 2H:1V in the long term (post quarry closure) case.	Mr Lines disagrees (S4, BGL 2023) with the characterisation of timings for short term (years to decades) and long term (decades to centuries). But notes it is not particularly relevant to the potential for environmental effects.	NA
1H		Proposed southwest pit extension (T+T 2022C) S4.2	Reduced bench heights and batter angles are expected to reduced instability risk both on an operational scale and on a whole slope scale.	NA	NA
1I		Pit slopes for quarry closure (T+T 2022C) S4.3.	Pit slopes are expected to perform acceptably where the overburden sediments are battered back to 2H:1V. All rehabilitation options are expected to improve on the long-term stability base case.	NA	NA
2A	Geotechnical Design – Overburden Slopes	Proposed Bunds 1 and 2 (T+T 2022D) S4.2	Bund 1 and Bund 2 present the only risk of offsite effects due to overburden placement.	NA	NA
2B		Proposed Bunds 1 and 2 (T+T 2022D) S4.2	Low to Moderate risk of instability developing in Bund 1 and Bund 2 front faces that could extend beyond a property boundary. Noting adjacent bunds have been built to greater heights than those proposed and performed acceptably.	NA	NA
2C		Proposed Bunds 1 and 2 (T+T 2022D) S4.2	Most significant trigger in potential instability is surface water and infiltration.	NA	NA
2D		Management controls (T+T 2022D) S5	Instability risk can be managed by adopting controls for site preparation, crowning and compacting upper surface, early rehabilitation and controlling surface water.	NA	NA
3A	Proposed conditions of consent	Monitoring extent of cut against long term profile. This will limit the risk of over excavation of the pit and associated instability which has occurred the past.	Annual comparison of as built topography against the proposed 2(h):1(v) surface proposed for final design for the overburden sediments to be provided to PNCC.	NA	NA
3B		Stability of final rehabilitation design.	Geotechnical rehabilitation design report to be provided to PNCC for certification prior to quarry closure and surrender of consents.	NA	NA

BEFORE THE HEARING PANEL

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of the applications by Hirock Limited to the Palmerston North City Council (LU 6962) and the Manawatū -Whanganui Regional Council (APP-2022203991.00) for resource consents associated with the expansion and operation of an existing quarry at 167-257 Kendalls Line, Palmerston North

EXPERT CONFERENCING

JOINT WITNESS STATEMENT – TERRESTRIAL AND WETLAND ECOLOGY

09 May 2023

A. INTRODUCTION

1. This joint witness statement relates to expert conferencing on the topic of Terrestrial and Wetland Ecology
2. This joint witness statement relates to resource consent applications lodged by the Hirock Limited (Applicant) to Palmerston North City Council (PNCC) and Manawatu-Wanganui Regional Council (Horizons), to be processed jointly, for the for the expansion of an existing quarry at 167 - 257 Kendall's Line, Palmerston North.
3. The expert conferencing was held via video-conferencing on 8 May 2023.
4. Attendees at the conference were:
 - a. James Lambie for Horizons/PNCC;
 - b. Nyree Fea for the Applicant;

B. EXPERTISE

5. I, James Stuart Lambie, hold the qualification of Bachelor of Science (Massey University) and a Master of Applied Science in Resource Management (Lincoln University). I am an independent ecologist and biosecurity policy advisor of 23 years' experience. My involvement to date in application is to review of the terrestrial and wetlands ecological aspects of the Application. While this consent is not before the Environment Court, I have read the Code of Conduct for Expert Witness, Section 9 of Practice Note 2023. Accordingly, I have complied with the Code in the preparation of this joint witness statement.
6. I, Nyree Fea, hold the qualification of Doctor of Philosophy from Victoria University of Wellington. I am a Senior Ecologist with Wildland Consulting Limited and have 2 years' experience as an ecological consultant and over 20 years' experience as a population biologist. My involvement to date is in project management of the ecological assessments undertaken by Wildland Consulting Limited for the Application. I authored the Ecological Assessment; I am co-authoring the Ecological Management Plan; and I oversaw the writing of the Lizard, Bat and Snail Survey Reports. While this consent is not before the Environment Court, I have read the Code of Conduct for Expert Witness, Section 9 of Practice Note 2023. Accordingly, I have complied with the Code in the preparation of this joint witness statement.

C. PURPOSE AND SCOPE OF CONFERENCING

7. The purpose of conferencing was to identify, discuss and highlight points where there is agreement or disagreement on matters pertaining to terrestrial land wetland ecology arising from the resource consent applications, the submissions on them and the joint (PNCC and Horizons) s42A reports.
8. The scope of the issues addressed at this conference included:
 - a. The identification of terrestrial and wetland ecological values and effects of the proposed activity on those values;
 - b. The appropriate management of those effects including proposed conditions of consent; and
 - c. Long-term monitoring of the health of the pukatea-tawa-māhoe-(tītoki)-(nīkau) forest with regard to the survivorship of old-growth trees adjacent to the quarrying activity.

D. PRIMARY DATA RELIED ON

9. The following documents, data and information have been relied on in this expert conference:
 - a. Good Earth Matters Limited – Linton Quarry Expansion: Resource Consent Application and Assessment of Environmental Effects for Joint Application to Palmerston North City Council and Horizons Regional Council (the Application);
 - b. Nyree Fea, Sarah Herbert, Paul Bell-Butler, Vikki Smith, Trent Bell, Tim Martin, and Des Smith – Assessment of Ecological Effects of Quarry Expansion at Linton Quarry, Palmerston North (Technical Assessment 6016);
 - c. Caitlyn Friedel, Lily Tidwell, Nyree Fea, Florence Kelly, and Des Smith – Lizard Survey and Incidental Discovery Protocol for Hirock Linton Quarry, Palmerston North (Technical Assessment 6016c);
 - d. Nyree Fea, Alexis Clark, and Des Smith – Bat Survey Report for Proposed quarry Expansion at Linton Quarry, Palmerston North (Technical Assessment 6016d);
 - e. Letter from Good Earth Matters Ltd on behalf of Hirock to Natasha Adsett, Response to S92 Further Information Request, dated 21 November 2022 which responds to questions in reference to terrestrial and wetlands ecological matters; and

- f. Letter from Good Earth Matters Ltd on behalf of Hirock to Natasha Adsett, Response to S92 Further Information Request, dated 22 December 2022 which includes a draft Ecological Management Plan for Hirock Linton Quarry, Palmerston North.
- g. Section 42A report by James Lambie, dated 4 May 2023.

E. AGREED ISSUES

- 10. Refer to Annexure A

F. DISAGREEMENT AND REASONS

- 11. Refer to Annexure A

G. CHANGES FROM S42A REPORT

- 12. Refer to Annexure A

H. RESERVATIONS

- 13. We have one reservation regarding the long-term monitoring of the edge of the pukatea-tawa-māhoe-(tītoki)-(nīkau) forest with respect to the wording of condition 33. We feel that implementation of Condition 33 (the design of a monitoring plan) can now be an element of Condition 24 (is a subject of the EMP) but there will need to be a review clause in the event that the monitoring identifies significant adverse impacts. The EMP should identify the thresholds and triggers of “significant adverse impact”.

Date: 09 May 2023



James Lambie



Nyree Fea

ANNEXURE A

IN THE MATTER of applications by of the applications by Hirock Limited to the Palmerston North City Council (LU 6962) and the Manawatū -Whanganui Regional Council (APP-2022203991.00) for resource consents associated with the expansion and operation of an existing quarry at 167-257 Kendalls Line, Palmerston North.

Expert conferencing – Terrestrial and Wetland Ecology

Participants: James Lambie and Nyree Fea

No	Topic/Issue	Statements	Agreed position	Disagreements and reasons	Change from s42A report
1	Identification of ecological values and effects on those values	The project will result in the loss of around 0.08 ha of nikau-kaikōmakotawa treeland of moderate ecological value.	We agree	There are no disagreements	none
		The project will result in increases in edge effect on a remnant of pukateatawa-māhoe-(tītoki)-(nīkau) forest of high ecological value.	We agree	There are no disagreements	none
		The potential for disturbance of nesting pipit exists. This can be mitigated through a condition that will ensure that the effects remain low to negligible.	We agree	There are no disagreements	none (save a change in opinion on a pragmatic condition)
		The potential for harm to lizards exists but can be mitigated so that the effects remain low to negligible.	We agree	There are no disagreements	none
		The potential for loss of rare invertebrates is negligible. Potential effects from habitat loss can be managed by reducing the edge effects on the remnant forest.	We agree	There are no disagreements	none

		The potential for disturbance of roosting bats is negligible. Potential for effects from habitat loss can be managed by reducing the edge effects on the remnant forest.	We agree	There are no disagreements	none
		Potential positive effects of continuing a discharge of water to raupō-dominated vegetation. This piece of vegetation does not meet the current NPS-FM definition for ‘natural inland wetland’.	We agree	There are no disagreements	This is an update to the Ecological Assessment 6016 statement (Section 5.3.2 – Wetland 1) where this is described as an “induced wetland”. Under the NPS-FM December 2022 amendment to definition 3.21 of ‘natural inland wetland’, we find that this system fits the exclusion clause.
		Negligible impacts on other wetlands identified as being adjacent to the works area. These wetlands are of low ecological value. The potential for quarrying activities to affect wetlands can be offset by restoration of 0.1 hectares of riparian margin to restore indigenous dominant wetland on the property.	We agree	There are no disagreements	none
2	Management of the effects including conditions of consent	The loss of nikau-kaikōmako-tawa treeland is adequately compensated for with the 10:1 replacement of any nikau removed. The replacement palms will be part of a planting of 0.9 hectares of nikau-dominated forest supported by other appropriate species. This area of forest is on the property and will be the subject of a QEII covenant to protect it in perpetuity. Conditions 24 (Ecological Management Plan or EMP), 25 (EMP implementation), 28 (seed harvest), 29 (planting), 31 (pest management), 32	We agree	There are no disagreements	none

	(covenanting) and 33 (monitoring) provide for this outcome.			
	The edge effects on the remnant of pukatea-tawa-māhoe-(tītoki)-(nīkau) forest can be managed using a 15m setback between the quarry activity and the forest, and planting of this buffer. While the specifics of these requirements are within the proposed EMP (and we are satisfied that this will deliver the environmental outcomes needed), we feel that Condition 26 needs to specifically identify the need for planting. Condition 26 also needs to provide for the limitation on the setback distance (less than 15m) encountered along the current quarry face. Condition 24 provides for the EMP. Condition 24 e should be amended to include the buffer planting. Condition 25 provides for EMP implementation.	We agree	There are no disagreements	Planting of the setback is identified in the ecological assessment 6016 section 9.2.3.
	Potential effects on fauna as a result of edge effects can be sufficiently mitigated through pest plant and pest animal management control within remnant of pukatea-tawa-māhoe-(tītoki)-(nīkau) forest. Conditions 24 (the EMP) 25 (EMP implementation) and 31 (pest control), along with the standards within the proposed EMP, provide for this.	We agree	There are no disagreements	none
	The potential for disturbance of nesting pipit can be mitigated by specifically conditioning for maintaining short grass to the effect that grass that is not grazed within the proposed quarry expansion zone must be mowed so that the grass is maintained to continuously achieve	We agree	There are no disagreements	The issue is identified in Ecological Assessment 6016 Section 9.5. Both the Ecological Assessment and Mr Lambie's Section 42A Report identify the need for specialist inspection of rank grass prior to clearance between August and

		a length of less than 150mm between the months of August to March inclusive.			February (inclusive). On reflection of the level of potential effect, we consider a simpler condition to maintain the length of the grass will suffice. We have extended the period to include March because pipit are known to nest this late in some years.
		The potential for harm to lizards can be sufficiently mitigated using The Incidental Discovery Protocol for lizard, bat, and <i>Powelliphanta</i> . Condition 24 provides for this (as an annexure to the EMP).	We agree	There are no disagreements	none
		The potential for harm to rare invertebrates can be sufficiently mitigated using Incidental Discovery Protocol for lizard, bat, and <i>Powelliphanta</i> . Condition 24 provides for this (as an annexure to the EMP).	We agree	There are no disagreements	none
		The potential for harm to bats can be sufficiently mitigated using Incidental Discovery Protocol for lizard, bat, and <i>Powelliphanta</i> . Condition 24 provides for this (as an annexure to the EMP).	We agree	There are no disagreements	none
		The continuing of a discharge of water to raupō-dominated vegetation is positive as long as conditions relating to turbidity, pH, and chloride concentrations meet water quality limits agreed to by aquatic ecologists.	We agree	There are no disagreements	none

		Effects on other wetlands adjacent to the operational area can (and must) be avoided.	We agree	There are no disagreements	none
3	Monitoring long-term effects on the pukatea-tawa-māhoe-(tītoki)-(nīkau) forest	Condition 33 (Indigenous Vegetation Monitoring Plan) is required to measure the short to long-term survival of old-growth trees in the part of the pukatea-tawa-māhoe-(tītoki)-(nīkau) forest edge that is exposed to quarrying activity. We feel that this plan could now be a section added to the EMP rather than a separate plan. The EMP should therefore capture the need for the monitoring and specifically include a definition of what a significant adverse effect on survivorship is and how it will be measured. Condition 33 (instead), needs to provide for the ability to review and respond to adverse effects identified through the monitoring.	We agree	There are no disagreements	<p>On reflection on the purpose and value of Condition 33 for measuring the long-term effect of the activity on the remnant forest, Mr Lambie has changed his position regarding the need for this this condition (previously regarded that there was no need).</p> <p>We feel that further caucusing between the ecologists and the planners is needed to design a workable set of conditions that provide for a suitable response should adverse effects on the pukatea-tawa-māhoe-(tītoki)-(nīkau) forest be identified.</p>

BEFORE THE HEARING PANEL

IN THE MATTER of the Resource
Management Act 1991

AND

IN THE MATTER of the applications by Hirock
Limited to the Palmerston North City Council
(LU 6962) and the Manawatū -Whanganui
Regional Council (APP-2022203991.00) for
resource consents associated with the
expansion and operation of an existing
quarry at 167-257 Kendalls Line,
Palmerston North

EXPERT CONFERENCING

JOINT WITNESS STATEMENT – EROSION AND SEDIMENT CONTROL

15 May 2023

A. INTRODUCTION

1. This joint witness statement relates to expert conferencing on the topic of Erosion and Sediment Control Measures.
2. This joint witness statement relates to resource consent applications lodged by the Hirock Limited (Applicant) to Palmerston North City Council (PNCC) and Manawatu-Wanganui Regional Council (Horizons), to be processed jointly, for the expansion of an existing quarry at 167 - 257 Kendall's Line, Palmerston North.
3. The expert conferencing was held by Microsoft Teams at 9:30 am Friday, 12th May 2023.
4. Attendees at the conference were:
 - a. Kerry Pearce, Bryant Environmental Solutions Ltd for Horizons/PNCC;
 - b. Annette Sweeney, Good Earth Matters Consulting Ltd for the Applicant;

B. EXPERTISE

5. I, Kerry Pearce, hold a Bachelor of Applied Science (Agriculture) degree from Massey University and am a member of the New Zealand Association of Resource Management. My role is as the s42A reporting officer in respect of Erosion and Sediment Control Measures. My experience is as detailed in section 1.0 of my s42A report and my involvement to date in the application is as s42A reporting officer on this subject matter. I am familiar with the site and visited the site on 23 August 2022. While this consent is not before the Environment Court, I have read the Code of Conduct for Expert Witness, Section 9 of Practice Note 2023. Accordingly, I have complied with the Code in the preparation of this joint witness statement.
6. I, Annette Sweeney, hold a Master of Science (Resource Management) from Lincoln University and Bachelor Degree of Engineering (Natural Resources, Hons I) from University of Canterbury. I am a Chartered Professional Engineer and a Fellow of Engineering New Zealand. I have worked in the Manawatū-Whanganui region as an environmental engineering and resource management professional for over 20 years. I am a Director and Principal of Good Earth Matters Consulting Ltd. I am familiar with the site and the surrounding area. The Erosion and Sediment Control Plan submitted as part of the application (November 2022) was prepared by my staff with myself providing technical guidance and undertaking the technical quality review of that document. While this consent is not before the Environment Court, I have read the Code of Conduct for Expert Witness, Section 9

of Practice Note 2023. Accordingly, I have complied with the Code in the preparation of this joint witness statement.

C. PURPOSE AND SCOPE OF CONFERENCING

7. The purpose of conferencing was to identify, discuss and highlight points where there is agreement or disagreement on matters pertaining to erosion and sediment control measures arising from the resource consent applications, the submissions on them and the joint (PNCC and Horizons) s42A reports.
8. The scope of the issues addressed at this conference included:
 - a. Adequacy of existing site erosion and sediment control measures
 - b. Proposed Erosion and Sediment Control measures as detailed in the Good Earth Matters Consulting Ltd document “Linton Quarry Pit Expansion – Erosion and Sediment Control Plan, November 2022, For Re-lodgement”
 - c. Recommended conditions of consent as detailed in Appendix A of the draft “s42A report of Kerry Pearce – Erosion and Sediment Control.”
 - d. Temporary or non-temporary nature of the proposed works.

D. PRIMARY DATA RELIED ON

9. The following documents, data and information have been relied on in this expert conference:
 - a. Resource consent application document “Linton Quarry Expansion Resource Consent Application and Assessment of Environmental Effects for Joint Application to Palmerston North City Council and Horizons Regional Council November 2022 Hirock Limited FOR RE-LODGE MENT” prepared by Good Earth Matters Consulting Ltd and dated November 2022
 - b. “Linton Quarry Pit Expansion Erosion and Sediment Control Plan November 2022 Hirock Limited FOR RE-LODGE MENT” prepared by Good Earth Matters Consulting Ltd and dated November 2022 including Erosion and Sediment Control Overview Plan Drawing No. 76506.002-Rev A.
 - c. **Draft** Section 42A report by Kerry Pearce -Erosion and Sediment Control

E. AGREED ISSUES

10. Refer to Annexure A

F. DISAGREEMENT AND REASONS

11. Refer to Annexure A

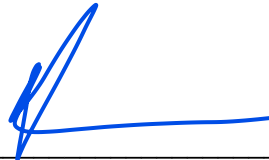
G. CHANGES FROM S42A REPORT

12. Refer to Annexure A

H. RESERVATIONS

13. It is understood that the matter of compliance limits for the quality of discharges from the sediment pond and site are to be addressed via the Joint Witness Statement and / or expert evidence from water quality experts. We have not addressed the question of appropriate compliance standards.

Date: 15 May 2023



Kerry Pearce



Annette Sweeney

ANNEXURE A

IN THE MATTER of applications by of the applications by Hirock Limited to the Palmerston North City Council (LU 6962) and the Manawatū -Whanganui Regional Council (APP-2022203991.00) for resource consents associated with the expansion and operation of an existing quarry at 167-257 Kendalls Line, Palmerston North.

Expert conferencing – Erosion and Sediment Control

Participants: Kerry Pearce (KP), Annette Sweeney (AS)

No	Topic/Issue	Statements	Agreed position	Disagreements and reasons	Change from s42A report
1	Adequacy of existing site erosion and sediment control measures	The current washwater and settlement pond systems implemented on site have been in operation for several years and are considered to comprise rudimentary ESC devices that do not meet current best practice or relevant guideline standards.	Agreed	None	None
2	Proposed Erosion and Sediment Control measures	The proposed Erosion and Sediment Control measures are as detailed in the Erosion and Sediment Control Plan prepared by Good Earth Matters Consulting Ltd, dated November 2022 (issue: Draft for Re-lodgement). This document details how the site erosion and sediment control measures will be upgraded to generally comply with current best practice and the Greater Wellington Regional Council's Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region (February 2021) requirements with the exception that it does not contain a Chemical Treatment Management Plan. A final ESCP including a Chemical Treatment Management Plan and Dewatering Management Plan which complies with	Agreed	None	None

		the GWRC guidelines is recommended as a condition of consent.			
3	Recommended conditions of consent as detailed in Appendix A of the draft "s42A report of Kerry Pearce – Erosion and Sediment Control."	<p>A suite of recommended conditions was provided with the draft s42A report. These are considered to be appropriate and adequate for ensuring the site's erosion and sediment control measures are upgraded to meet the current best practice guidelines (as per the GWRC guidelines adopted by Horizons Regional Council as per advice note to the One Plan Rule 13-2) subject to the following amendments:</p> <ul style="list-style-type: none"> • Addition of a condition specifying a timeframe (3 months) by which the existing ESC measures are required to be upgraded. • Amendment to conditions specifying actions required prior to commencement of activities authorised given that the site is an existing operational site with ongoing activities. Conditions to be amended to require actions to be undertaken within specified timeframe of commencement of consent. • Amendment of discharge compliance limits to reflect the proposed flocculant to be used. The draft conditions propose an aluminium standard. The applicant has advised they will use CAS 26062-79-3 which is not an aluminium flocculant. The appropriate parameter for which a compliance limit may be set is chloride. It is understood that the recommended compliance limit, if any, is to be addressed by the water quality experts. 	Agreed	None	Recommended conditions of consent to be amended as per Annexure B of this Joint Witness Statement

		<ul style="list-style-type: none"> • Removal of discharge compliance limits from the suite of erosion and sediment control conditions for these matters to be addressed by water quality experts. • Addition of a three yearly review condition to ensure consistency with best practice throughout term of consent. 			
4	Temporary or non-temporary nature of the proposed works	<p>The draft s42A report states that it does not identify any reasons to withhold consent for a number of reasons including “the temporary nature of the proposed works”. The applicant has sought a consent term of 10 years which may or may not be considered to be “temporary”.</p> <p>It is considered that the proposed measures as per the ESCP and recommended conditions, including the recommended three yearly review, are suitable for ensuring the effects of the activity on the receiving environment will be less than minor, and consistent with best practice, for the term of consent sought.</p>	Agreed	None	Recommended conditions of consent to be amended as per Annexure B of this Joint Witness Statement

ANNEXURE B
RECOMMENDED CONDITIONS OF CONSENT

IN THE MATTER of applications by of the applications by Hirock Limited to the Palmerston North City Council (LU 6962) and the Manawatū -Whanganui Regional Council (APP-2022203991.00) for resource consents associated with the expansion and operation of an existing quarry at 167-257 Kendalls Line, Palmerston North.

Expert conferencing – Erosion and Sediment Control

Participants: Kerry Pearce (KP), Annette Sweeney (AS)

Recommended Conditions
As per draft s42A report
and amended (as shown
in track changes) via Joint
Witness Statement

Earthworks Consent

The following conditions are recommended:

General Conditions

- X.1 The soil disturbance and construction related activities authorised by this resource consent must be undertaken in general accordance with the application for this resource consent, and all associated information submitted in relation to this application, except where otherwise required in the resource consent conditions below, titled:
- *“Linton Quarry Expansion Resource Consent Application and Assessment of Environmental Effects for Joint Application to Palmerston North City Council and Horizons Regional Council November 2022 Hirock Limited FOR RE-LODGEMENT”*. Prepared by Good Earth Matters Consulting Ltd and dated November 2022.
 - *“Linton Quarry Pit Expansion Erosion and Sediment Control Plan November 2022 Hirock Limited FOR RE-LODGEMENT”*. Prepared by Good Earth Matters Consulting Ltd and dated November 2022, including the following plans:
 - Erosion and Sediment Control Overview Plan. Drawing Number 76506.002 Rev A.

except where otherwise required in the resource consent conditions below in which case this higher standard must apply.

- X.2 The consent holder must be responsible for all contracted operations related to the exercise of this resource consent; and must ensure contractors are made aware of the conditions of this resource consent and ensure compliance with those conditions.
- X.3 A copy of this consent must be kept onsite at all times that physical works authorised by this resource consent are being undertaken and must be produced without unreasonable delay upon request from a servant or agent of the Manawatu-Whanganui Regional Council.

X.3a The consent holder must, no later than 3 months from the commencement of consent, install the ESCP measures as per those proposed in documents listed in Condition X.1 as modified by the plans required under Condition X.7, X.8 and X.12.

Pre-Start Requirements

- X.4 The consent holder must inform the Manawatu-Whanganui Regional Council in writing at least 5 working days prior to the commencement of construction of the ESCP measures required under Condition X.3a. ~~activities of the start date of the works authorised by this resource consent.~~
- X.5 ~~Prior to activities commencing as authorised by this resource consent,~~ Within 10 working

days of commencement of consent, the consent holder must appoint a representative(s) who must be the Manawatu-Whanganui Regional Council's principal contact person(s) in regard to matters relating to this resource consent. The consent holder must inform the Manawatu-Whanganui Regional Council of the representative's name and how they can be contacted, ~~prior to this resource consent being exercised~~. Should that person(s) change during the term of this resource consent, the consent holder must immediately inform the Manawatu-Whanganui Regional Council and must also give written notice to the Manawatu-Whanganui Regional Council of the new representatives' name and how they can be contacted.

- X.6 The consent holder must arrange and conduct a pre-construction site meeting for the works required under Condition X.3a and invite, with a minimum of 5 working days' notice, the Manawatu-Whanganui Regional Council, the site representative(s) nominated under condition X.5 of this consent, the contractor, and any other party representing the consent holder prior to any work authorised by this consent commencing on site.

The following information must be made available at the pre-start meeting:

- Timeframes for key stages of the works authorised under this consent
- Resource consent conditions
- Finalised Erosion and Sediment Control Plan
- Chemical Treatment Management Plan
- Dewatering Management Plan

An ~~pre-start annual review~~ meeting, to be conducted in the same manner as the pre-construction site meeting, must be held prior to the commencement of the earthworks activity once per year, in each period between October 1 and April 30 that this consent is exercised.

Advice Note: *In the case that any of the invited parties, other than the site representative does not attend this meeting, the consent holder will have complied with this condition, provided the invitation requirement is met.*

- X.7 Prior to the commencement of works required under Condition X.3a, earthworks authorised by this consent, a Finalised Erosion and Sediment Control Management Plan (ESCP) must be prepared in accordance with *Greater Wellington Regional Council's Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region (February 2021)* (GWRC Guidelines) and submitted to Council for certification. ~~No earthworks activity~~ Works required under Condition X.3a by this consent must not commence until the Council has certified that that the Finalised ESCP satisfactorily meets the requirements of GWRC Guidelines.

The Finalised Erosion and Sediment Control Plan required by Condition (X.7) must contain sufficient detail to address the following matters:

- specific design of erosion and sediment control measures in accordance with GWRC Guidelines
- supporting calculations and design drawings
- catchment boundaries and contour information
- details of construction methods
- timing and duration of construction and operation of control works (in relation to the staging and sequencing of earthworks)

- details relating to the management of exposed areas and stabilisation in accordance with GWRC Guidelines
- monitoring and maintenance requirements

X.8 Prior to the commencement of any pumping activity to the sediment retention structures and associated discharges from treatment devices on the subject site to the receiving environment, a Dewatering Management Plan must be prepared and submitted to Council. No pumping activity or discharges at the subject site is to commence until confirmation from Council is provided that the final management plan meets the required standards set out below.

The Dewatering Management Plan must contain sufficient detail to address the following matters:

- Details of how any water pumped from the quarry pit will not overload the sediment retention pond, including how pumping will be managed during rain events.
- Written records of all pumping operations, to include details of personnel managing the pumping operations.

Erosion and Sediment Control Plan

X.9 Any changes proposed to the ESCP provided as part of the application must be confirmed in writing by the consent holder and certified in writing by the Manawatu-Whanganui Regional Council acting in a technical certification capacity, prior to the implementation of any changes proposed.

X.10 The consent holder must ensure that a copy of the certified ESCP, including any certified amendments, is kept onsite and this copy is updated within 5 working days of any amendments being certified.

X.11 Prior to excavation of the quarry pit expansion area or within four months of commencement of consent whichever is the earliest, bulk earthworks commencing, a certificate signed by a suitably qualified and experienced person must be submitted to the Manawatu-Whanganui Regional Council, to certify that the erosion and sediment controls have been constructed in accordance with the erosion and sediment control plan.

Certified controls must include Sediment Retention Ponds, Dirty Water Diversions, and Clean Water Diversions. The certification for these subsequent measures must be supplied immediately upon completion of construction of those measures. Information supplied if applicable, must include:

- Contributing catchment area;
- Shape and volume of the structure (dimensions of structure);
- Position of inlets/outlets; and
- Stabilisation of the structure.

Advice Note: The format for certification is available on the Manawatu-Whanganui Regional Council website.

Flocculation

X.12 Prior to the commencement of works required under Condition X.3a, activities authorised by this consent, a Chemical Treatment Management Plan (CTMP) must be prepared by an

appropriately qualified and experienced person, and submitted to Council. No earthworks ~~in the quarry pit expansion area may activity authorised by this consent must~~ commence until written certification is provided by Council that the CTMP meets the requirements of GWRC Guidelines, and the measures referred to in that plan have been put in place.

The CTMP must include as a minimum:

- a. Specific design details of a chemical treatment system based on a rainfall activated methodology for any impoundment devices (Sediment Retention Ponds) and any other approved impoundment devices;
- b. Monitoring, maintenance (including post storm) and contingency programme (including a record sheet);
- c. Details of optimum dosage (including assumptions);
- d. Results of initial chemical treatment trial;
- e. A spill contingency plan; and
- f. Details of the person or bodies that will hold responsibility for long term operation and maintenance of the chemical treatment system and the organisational structure which will support this system.

Sediment control devices that discharge directly off site must be chemically treated throughout the duration of earthworks in accordance with the approved Chemical Treatment Management Plan.

X.13 Any changes proposed to the CTMP must be confirmed in writing by the consent holder and certified in writing by the Manawatu-Whanganui Regional Council acting in a technical certification capacity, prior to the implementation of any changes proposed.

~~X.14 Unless site specific analysis provides evidence to the contrary, as detailed in the CTMP, the consent holder must ensure that the soluble aluminium concentration of any discharge to the receiving environment must not exceed 0.2 grams per cubic metre.~~

~~X.15 Unless site specific analysis provides evidence to the contrary, as detailed in the CTMP, the consent holder must ensure that the pH of any discharge to the receiving environment must not be less than 5.5 or greater than 8.5 pH units.~~

Construction

X.16 The consent holder must ensure that sediment losses to natural water arising from the exercise of this resource consent are minimised during the duration of the works and during the term of this consent. In this regard, erosion and sediment control measures must be established and maintained in accordance with *Greater Wellington Regional Council's Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region (February 2021)* and in accordance with Condition X.3a.

Commented [AS1]: Explanatory note: Experts (KP and AS) agree this condition can be deleted. Applicant has advised that the flocculant to be used is CAS 26062-79-3 [Poly(diallyldimethylammonium chloride) solution] and the active ingredient requiring monitoring is chloride, not aluminium.

It is understood that the Water Quality Experts are considering the compliance limit for chloride in their Joint Witness Statement.

It is recommended that this condition either be replaced with a condition requiring compliance with a chloride limit as determined via the water quality JWS and / or evidence and hearing determination OR that the compliance limit condition be included with water quality monitoring conditions.

Commented [AS2]: Explanatory note: Experts (KP and AS) agree to condition, but suggest that this condition is best placed to be included with the suite of conditions arising from water quality conferencing

X.17 All earthmoving machinery, pumps, generators and ancillary equipment must be operated in a manner, which ensures spillages of fuel, oil and similar contaminants are prevented, particularly during refuelling and machinery servicing and maintenance. Refuelling and lubrication activities must be carried out away from any water body, ephemeral water body, or overland flow path, such that any spillage can be contained so that it does not enter surface water.

X.18 The consent holder must ensure that, as far as practicable, all clean water run-off from stabilised surfaces including catchment areas above the site must be diverted away from the exposed areas via a stabilised system to prevent erosion. The consent holder must also ensure the outfall(s) of these systems are protected against erosion.

Discharges

X.19 Sediment retention devices must be designed and operated to achieve the following targets when discharging:

- i. a discharge clarity of greater than 100mm measured by black disc.

Should these targets not be achieved, opportunities to improve the management of the site must be implemented to achieve the targets, including:

- Consideration of additional Erosion and Sediment Control;
- Refinement of chemical treatment systems;
- Progressive stabilisation in sub-catchments;
- Increased maintenance of controls; and
- Amendments to methodologies and sequencing of works and refinement of controls as necessary.

X.20 The consent holder must ensure that all sediment laden run-off from the site is treated by sediment retention structures. These structures must be fully operational before bulk earthworks commence ([ie excavation of the quarry pit expansion area](#)) and must be maintained to perform at least at 80% of their operational capacity.

X.21 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.

Commented [AS3]: Explanatory note: Experts (KP and AS) agree with this condition but suggest it may be better placed with conditions regarding dust management

Monitoring and Maintenance

X.22 The consent holder must ensure that all erosion and sediment control structures are inspected on a weekly basis and within 24 hours of each rainstorm event that is likely to impair the function or performance of the controls.

X.23 The consent holder must carry out monitoring and maintenance of erosion and sediment controls in accordance with the conditions of this resource consent and must maintain records detailing:

- a. The date, time and results of the monitoring undertaken; and
- b. The erosion and sediment controls that required maintenance; and
- c. The date and time when the maintenance was completed.

These records must be provided to the Manawatu-Whanganui Regional Council at all reasonable times and within 72 hours of a written request to do so.

Site Restoration

- X.24 The removal of any erosion and sediment control measure from any area where soil has been disturbed as a result of the exercise of this resource consent must only occur after ~~consultation and~~ written approval has been obtained from the Manawatu-Whanganui Regional Council acting in a technical certification capacity. In this respect, the main issues that will be considered by the Manawatu-Whanganui Regional Council include:
- The quality of the soil stabilisation and/or covering vegetation;
 - The quality of the water discharged from the rehabilitated land; and
 - The quality of the receiving water.
- X.25 The consent holder must ensure those areas of the site which have been completed must be progressively stabilised against erosion as soon as practically possible and within a period not exceeding 3 days after completion of any works authorised by this resource consent. Stabilisation must be undertaken by providing adequate measures (vegetative and/or structural) that will minimise sediment runoff and erosion and in accordance with *Greater Wellington Regional Council's Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region (February 2021)*. The consent holder must monitor and maintain the site until vegetation is established to such an extent that it prevents erosion and prevents sediment from entering any surface water.
- X.26 Re-vegetation and/or stabilisation of all disturbed areas must be completed in accordance with the measures detailed in *Greater Wellington Regional Council's Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region (February 2021)*.

Review

- X.27 The consent holder shall, by 30 June 2026, 30 June 2029 and 30 June 2031, undertake a review of the adequacy and effectiveness of the site erosion and sediment control measures which shall identify if there have been any changes in guidelines and best practice for erosion and sediment control measures since the last review; identify any changes required to the site erosion and sediment control measures to meet current best practice; and identify a timeframe for upgrading the site erosion and sediment control measures to meet best practice. The outcomes of the review shall be provided to the compliance manager, Horizons Regional Council, no later than one month following the completion of the review.

Commented [AS4]: Explanatory note: Experts (KP and AS) recommend this condition in order to ensure that the site erosion and sediment control measures remain consistent with best practice throughout the term of consent. A three yearly review is recommended.
The JWS contributing experts recommend that, if the overall suite of conditions include a regular reporting condition, this condition should be modified or incorporated into that condition / aligned with the reporting month as may be appropriate.

Report to the Commissioner Mr David McMahon

S42A Report of Kerry Pearce – Erosion and Sediment Control

Erosion and sediment control plan technical assessment for resource consent application: HiRock Linton Quarry Expansion, Manawatu-Whanganui Regional Council Application Number APP-2022203887.00.

1.0 SCOPE OF ASSESSMENT

My name is Kerry Stewart Pearce. I am Director of Environmental Land Management Limited, which is subcontracted to Bryant Environmental Solutions Limited. I have been in that position since May 2005.

My role involves providing technical advice on earthworks and erosion and sediment control components of resource consent applications for Waikato Regional Council, Auckland Council, and Horizons, along with monitoring the erosion and sediment control components of land use resource consents for those regional councils.

I hold the Bachelor of Applied Science (Agriculture) degree from Massey University. I am a member of the New Zealand Association of Resource Management.

I have specific experience in both preparing technical assessments to support RMA processes, as well as on-site monitoring experience with a number of large projects including:

- (a) Mighty River Power Puketoi Wind Farm;
- (b) New Zealand Steel Managed Landfill;
- (c) Waka Kotahi Upper Harbour Corridor;
- (d) Contact Energy Limited Te Mihi Power Station;
- (e) Waka Kotahi Atiamuri Bridge Replacement;
- (f) Mighty River Power Ngatamariki Power Station;
- (g) Transpower Wairakei to Whakamaru “C” Transmission Line; and
- (h) Mercury Turitea Wind Farm.

I am familiar with site and surrounding area. I visited the site along with other Horizons experts and the Applicant’s experts on 23 August 2022.

CODE OF CONDUCT

I confirm that I have read and agree to comply with the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023. I confirm that I have stated the reasons for my opinions I express in this report, considered all the material facts that I am aware of that might alter or detract from those opinions.

Statements expressed in this report are made within the scope of my expertise, except where I rely on the technical advice, I have referred to in paragraph 4 of this report.

I have all the information necessary to assess the application within the scope of my expertise and am not aware of any gaps in the information or my knowledge.

OUTLINE

This memorandum provides a technical assessment of the above application, specifically the erosion and sediment control practices and methodologies as they relate to the earthworks and stream works aspects of the proposal. This assessment identifies and assesses the character and scale of any related effects on the environment; considers whether the erosion and sediment control plans are consistent with current best practice and in particular the Greater Wellington Regional Council's Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region (February 2021) (GWRC Guidelines); and provides recommended consent conditions for Manawatu-Whanganui Regional Council.

The application is for earthworks associated with the expansion of Linton Quarry and the disposal of excess overburden. The proposed expansion will incorporate a new extraction area of approximately 2ha and disposal of approximately 200,000m³ of overburden on site.

This technical assessment does not extend to the long-term structural integrity of the proposed design, or the specific ecological or hydrological impacts as a result of the proposed construction works, or the long-term operation of the development. Note this assessment also does not assess current compliance on site associated with the current earthworks/quarrying and overburden disposal being undertaken under Horizons consent ATH-2019202514.01 and ATH-2019202598.01.

As part of this technical assessment, the following documents have been reviewed:

- *"Linton Quarry Expansion Resource Consent Application and Assessment of Environmental Effects for Joint Application to Palmerston North City Council and Horizons Regional Council November 2022 Hirock Limited FOR RE-LODGEMENT"*. **(AEE)**. Prepared by Good Earth Matters Consulting Ltd and dated November 2022.
- *"Linton Quarry Pit Expansion Erosion and Sediment Control Plan November 2022 Hirock Limited FOR RE-LODGEMENT"*. **(ESCP)**. Prepared by Good Earth Matters Consulting Ltd and dated November 2022, including the following plans:
 - Erosion and Sediment Control Overview Plan. Drawing Number 76506.002 Rev A.

2.0 TECHNICAL ASSESSMENT OF THE EARTHWORKS

2.1 Earthworks Methodology

The application is for earthworks associated with the expansion of Linton Quarry and the disposal of overburden material. The proposed expansion will incorporate a new extraction area of 2ha along with the disposal of approximately 200,000m³ of overburden within the existing quarry site.

A site visit was undertaken on 23 August 2022 as part of the review of the application and the Erosion and Sediment Control Plan, and associated plans and methodologies were updated as a result of discussions and recommendations from this site visit.

Current Works and Erosion and Sediment Control

The current washwater and settlement pond systems implemented on site have been in operation for several years. The current systems as observed during the site visit and described in the application comprise rudimentary ESC devices that do not meet current best practice or GWRC Guideline standards. Section 2.2 of the ESCP submitted with the application provides the following description of the current systems:

Stormwater within the quarry pit is pumped to a collection pond at the base of the quarry. Excess water from the base of the pit is directed to settlement pond 1. This is monitored manually by Hirock staff. Hirock notes water is usually only discharged from the stormwater collection pond to settlement pond 1 during heavy rainfall and usually once or twice during summer months. Settlement pond 1 also receives wash water from the ballast processing operation.

The treated washwater and stormwater is currently discharged from the quarry via three small settlement ponds to a farm drain that flows through intensively grazed farmland north of the quarry, which then flows into an unnamed tributary of Linton Drain. This discharge currently occurs during heavy rain events or during high water flows from the quarry pit.

The watercourse is essentially open farm drains that have been realigned and straightened with a pond where the drains intersect. The farm drain runs parallel to Kendalls Line and flows northwest through farmland where it connects to the Linton Drain, approximately 4 kilometres away. Linton Drain is a heavily modified farm drain and is a tributary of the Tokomaru River, which is itself a tributary of the Manawatu River.

Within the farm drain there are three stone dams (check dams) which provide protection to prevent against scour and erosion. As a high flow, high rainfall event discharge, the discharge is intermittent only. Hirock performs visual checks of the outlet to see if sediment is being discharged off site. The outlets and downstream condition of the farm drain is checked after and during heavy rain events. Hirock notes that natural scouring does occur in the farm drain due to the previous landowner re-directing the natural flow of the farm drain.

The quality of discharge of stormwater from settlement pond 1 is proposed to change as this area will be upgraded to improve the treatment of stormwater. Furthermore, the pipe from settlement pond 1 will be the only point of discharge and the other two pipes will be capped. This is discussed in the sections below.

None of the current ESC measures, and in particular the sediment retention ponds, meet what is considered current best practice or GWRC Guideline standards, and it was observed during the site visit that there was significant discolouration of the runoff discharged from site that can likely be attributed to the current ineffective ESC measures.

Proposed Works – ESC Measures

The applicant acknowledges that the current management and treatment of runoff on site is not consistent with current best practice guidelines and as such proposes changes to the current system. The changes proposed are intended to bring practices on site up to current best practice and meet GWRC Guideline requirements. These changes include:

- Installation of a new sediment retention pond (SRP) in place of the current settlement pond 1. The new SRP is proposed to be designed and constructed in accordance with GWRC Guidelines and will control an area of 7.2ha. Flocculation is proposed for this SRP.
- Directing all runoff from within the site to the new SRP for treatment. All proposed overburden disposal areas are within the sites bunded boundary and will be directed to the sediment retention pond for treatment.
- Providing an outlet for this SRP to the current existing culvert under the earth bund that surrounds the quarry. Provision will be made for an emergency spillway to this existing outlet.
- A new SRP is to be constructed on the western boundary of the site to capture runoff from the quarry access road.

Further details are required to ensure these measures meet best practice and GWRC Guideline requirements, and a Finalised ESCP is to be provided on granting of consent and prior to upgrade works being undertaken. A Chemical Treatment Management Plan will also be required to be submitted as part of this Finalised ESCP.

The ESCP submitted with the application includes monitoring and maintenance provisions for the ESC measures which are considered appropriate for this proposal. The ESCP includes a minimum of weekly routine monitoring of controls, in addition to before and after rainfall events. The standard conditions relating to monitoring and maintenance of controls have been recommended in Appendix A of this technical assessment.

The applicant has also proposed monitoring of the discharges from the site to ensure that the ESC measures implemented on site are not having an adverse effect on water quality when discharges are occurring. The application has proposed several standards for the discharges as part of the application, including turbidity and pH. The application has requested that a Finalised Monitoring Plan be provided to Horizons for certification.

Summary

The overall erosion and sediment control methodology for the quarry expansion proposes an erosion and sediment control methodology that improves on existing practices and procedures to bring them in line with current best practice and GWRC Guidelines to control runoff from earthworks areas. This is predominantly based on utilising SRPs designed and constructed in accordance with GWRC Guidelines. This will be an improvement on the current rudimentary ESC measures employed on site, and should result in a substantial improvement in the quality of discharges from the site.

The ESCP provided includes monitoring and maintenance provisions which are considered appropriate for this proposal. The ESCP includes a minimum of weekly routine monitoring of controls, in addition to before and after rainfall events. The ESCP also details maintenance requirements including the cleaning out of sediment control measures on a weekly or monthly basis. The standard conditions relating to monitoring and maintenance of controls have been recommended in Appendix A of this technical assessment.

2.2 Assessment Summary

- The applicant has stated that the erosion and sediment controls have been designed and will be constructed, as a minimum standard, in accordance with the principles of the *“Greater Wellington Regional Council’s Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region (February 2021)”*. It is considered that these guidelines can be considered current best practice for controlling discharges from earthworks activities, and will be a significant improvement on the current practices and measures installed on site.
- The applicant has provided an ESCP for the proposed works, that details how the site will comply with GWRC Guideline requirements. However, the ESCP does not contain specific detail on the design of the ESC measures, and does not contain a Chemical Treatment Management Plan for the proposed works. As such, a consent condition has been recommended requiring a Finalised ESCP and Chemical Treatment Management Plan in accordance with GWRC Guidelines be provided and certified on granting of consent.
- The key erosion and sediment controls proposed to retain sediment from the quarry expansion include the use of two sediment retention ponds. Although one sediment retention pond is greater than that recommended in GWRC Guidelines (7.2ha versus 5ha), the unique nature of the site where a large part of the site is contained within the quarry pit and runoff can be controlled by pumping means the proposed ESC measures are considered best practice for the site. However, a Dewatering Management Plan is recommended to ensure the management of the runoff contained within the quarry pit does not overwhelm the ESC measures during and after a rainfall event. Conditions have been recommended to this effect.
- It is considered that provided the above recommendations are implemented, that the erosion and sediment control practices are considered suitable and best practice for the site.

- The ESCP provides for chemical treatment of the proposed sediment control devices. Chemical treatment is now considered industry best practice on earthworks sites to improve the efficiency of sediment control devices, and as such should be implemented on site. As such, a consent condition requiring chemical treatment for any sediment controls is recommended.
- The applicant's assessment of the proposed earthworks does not include a Universal Soil Loss Equation (USLE) assessment which can be beneficial when reviewing the proposed erosion and sediment controls for earthworks sites. However, given this is a quarrying activity and provided sediment controls are constructed in accordance with GWRC Guidelines it is considered a USLE is not required in this instance.
- The applicant has proposed monitoring of discharges from the sediment control devices, and has proposed standards that are to be met through recommended consent conditions. To be consistent with other resource consents in the Horizons Region, standards imposed on sites such as TeAaT are recommended for this site in the consent conditions. However, Horizons Freshwater Team may have further comment on the proposed discharge standards as part of the final monitoring plan.

The applicant has proposed to undertake the works year-round and as a result will be undertaking works outside of the summer construction season. While earthworks outside of this period are considered more susceptible to sediment discharge, a seasonal restriction is not considered necessary due to the unique nature of quarrying activities and best practice GWRC Guideline measures being incorporated for the site.

Overall, the applicant's proposed erosion and sediment control methodology is considered to be appropriate for the scale of earthworks to be undertaken. Provided a Finalised ESCP incorporating the Chemical Treatment Management Plan and Dewatering Management Plan is provided on granting of consent, and that all erosion and sediment controls are constructed in general accordance with GWRC Guidelines, it is considered that sediment laden flows will be treated to an appropriate standard prior to being discharged off site.

It is also considered that provided the conditions of consent are complied with, the resulting effects on the environment from sediment discharges during the earthworks will be appropriately managed. Recommendations to ensure this is the case have been included in this memorandum.

In principle, the overall proposed earthworks and erosion and sediment control methodology is generally appropriate for this site.

Submissions

No submission points have been raised within my area of expertise. There have been submissions raised in regards to dust, and I defer to Horizons air expert Andrew Curtis on this matter.

3.0 RECOMMENDATIONS AND CONDITIONS

3.1 Adequacy of Information

The above assessment is based on the information submitted as part of the application and through the provision of further information. It is considered that the information submitted is sufficiently comprehensive to enable the consideration of the above matters on an informed basis:

- The level of information provides a reasonable understanding of the nature and scope of the proposed activity as it relates to the relevant planning documents; and
- The extent and scale of any adverse effects on the environment are able to be assessed.

3.2 Recommendation

The assessment in this memorandum does not identify any reasons to withhold consent, and the aspect of the proposal considered by this memorandum could be granted consent, subject to recommended conditions, for the following reasons:

- Subject to the imposition of recommended consent conditions and compliance with these on site, it is assessed that the effects on the receiving environment will be less than minor;
- The applicant has proposed best practice options in order to avoid, remedy and mitigate the potential effects of the earthworks and associated sediment yields; and
- It is considered that due to the temporary nature of the proposed works, a grant of consent is justified.

4.0 CONCLUSION

I consider that from a technical perspective, and with the confirmation of the relevant planning documents, that the proposed earthworks are appropriate and could be granted. Conditions of consent as outlined in Appendix A of this memorandum have been recommended to address any effects that may result.

5.0 APPLICABILITY

This memorandum has been prepared for the sole benefit of Manawatu-Whanganui Regional Council as Bryant Environmental Solutions Limited's client with respect to the brief. It is not to

be relied upon or used out of context by any other person without reference to Manawatu-Whanganui Regional Council. The reliance by other parties on the information or opinions contained in the memorandum shall, without prior review and agreement in writing, be at such party's sole risk.



Kerry Pearce
Bryant Environmental Solutions Limited

Appendix A

Recommended Conditions

Earthworks Consent

The following conditions are recommended:

General Conditions

X.1 The soil disturbance and construction related activities authorised by this resource consent must be undertaken in general accordance with the application for this resource consent, and all associated information submitted in relation to this application, except where otherwise required in the resource consent conditions below, titled:

- *“Linton Quarry Expansion Resource Consent Application and Assessment of Environmental Effects for Joint Application to Palmerston North City Council and Horizons Regional Council November 2022 Hirock Limited FOR RE-LODGEMENT”*. Prepared by Good Earth Matters Consulting Ltd and dated November 2022.
- *“Linton Quarry Pit Expansion Erosion and Sediment Control Plan November 2022 Hirock Limited FOR RE-LODGEMENT”*. Prepared by Good Earth Matters Consulting Ltd and dated November 2022, including the following plans:
 - Erosion and Sediment Control Overview Plan. Drawing Number 76506.002 Rev A.

except where otherwise required in the resource consent conditions below in which case this higher standard must apply.

X.2 The consent holder must be responsible for all contracted operations related to the exercise of this resource consent; and must ensure contractors are made aware of the conditions of this resource consent and ensure compliance with those conditions.

X.3 A copy of this consent must be kept onsite at all times that physical works authorised by this resource consent are being undertaken and must be produced without unreasonable delay upon request from a servant or agent of the Manawatu-Whanganui Regional Council.

Pre-Start Requirements

X.4 The consent holder must inform the Manawatu-Whanganui Regional Council in writing at least 5 working days prior to the commencement of activities of the start date of the works authorised by this resource consent.

X.5 Prior to activities commencing as authorised by this resource consent, the consent holder must appoint a representative(s) who must be the Manawatu-Whanganui Regional Council's principal contact person(s) in regard to matters relating to this resource consent. The consent holder must inform the Manawatu-Whanganui Regional Council of

the representative's name and how they can be contacted, prior to this resource consent being exercised. Should that person(s) change during the term of this resource consent, the consent holder must immediately inform the Manawatu-Whanganui Regional Council and must also give written notice to the Manawatu-Whanganui Region Council of the new representatives' name and how they can be contacted.

- X.6 The consent holder must arrange and conduct a pre-construction site meeting and invite, with a minimum of 5 working days' notice, the Manawatu-Whanganui Regional Council, the site representative(s) nominated under condition X.5 of this consent, the contractor, and any other party representing the consent holder prior to any work authorised by this consent commencing on site.

The following information must be made available at the pre-start meeting:

- Timeframes for key stages of the works authorised under this consent
- Resource consent conditions
- Finalised Erosion and Sediment Control Plan
- Chemical Treatment Management Plan
- Dewatering Management Plan

A pre-start meeting must be held prior to the commencement of the earthworks activity in each period between October 1 and April 30 that this consent is exercised.

Advice Note: *In the case that any of the invited parties, other than the site representative does not attend this meeting, the consent holder will have complied with this condition, provided the invitation requirement is met.*

- X.7 Prior to the commencement of earthworks authorised by this consent, a Finalised Erosion and Sediment Control Management Plan (ESCP) must be prepared in accordance with *Greater Wellington Regional Council's Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region (February 2021)* (GWRC Guidelines) and submitted to Council for certification. No earthworks activity authorised by this consent must commence until the Council has certified that that the Finalised ESCP satisfactorily meets the requirements of GWRC Guidelines.

The Finalised Erosion and Sediment Control Plan required by Condition (X.7) must contain sufficient detail to address the following matters:

- specific design of erosion and sediment control measures in accordance with GWRC Guidelines
- supporting calculations and design drawings
- catchment boundaries and contour information
- details of construction methods
- timing and duration of construction and operation of control works (in relation to the staging and sequencing of earthworks)
- details relating to the management of exposed areas and stabilisation in accordance with GWRC Guidelines
- monitoring and maintenance requirements

- X.8 Prior to the commencement of any pumping activity and associated discharges from treatment devices on the subject site to the receiving environment, a Dewatering Management Plan must be prepared and submitted to Council. No pumping activity or discharges at the subject site is to commence until confirmation from Council is provided that the final management plan meets the required standards set out below.

The Dewatering Management Plan must contain sufficient detail to address the following matters:

- a) Details of how any water pumped from the quarry pit will not overload the sediment retention pond, including how pumping will be managed during rain events.
- b) Written records of all pumping operations, to include details of personnel managing the pumping operations.

Erosion and Sediment Control Plan

- X.9 Any changes proposed to the ESCP provided as part of the application must be confirmed in writing by the consent holder and certified in writing by the Manawatu-Whanganui Regional Council acting in a technical certification capacity, prior to the implementation of any changes proposed.
- X.10 The consent holder must ensure that a copy of the certified ESCP, including any certified amendments, is kept onsite and this copy is updated within 5 working days of any amendments being certified.
- X.11 Prior to bulk earthworks commencing, a certificate signed by a suitably qualified and experienced person must be submitted to the Manawatu-Whanganui Regional Council, to certify that the erosion and sediment controls have been constructed in accordance with the erosion and sediment control plan.

Certified controls must include Sediment Retention Ponds, Dirty Water Diversions, and Clean Water Diversions. The certification for these subsequent measures must be supplied immediately upon completion of construction of those measures. Information supplied if applicable, must include:

- a) Contributing catchment area;
- b) Shape and volume of the structure (dimensions of structure);
- c) Position of inlets/outlets; and
- d) Stabilisation of the structure.

Advice Note: The format for certification is available on the Manawatu-Whanganui Regional Council website.

Flocculation

- X.12 Prior to the commencement of activities authorised by this consent, a Chemical Treatment Management Plan (CTMP) must be prepared by an appropriately qualified and

experienced person, and submitted to Council. No earthworks activity authorised by this consent must commence until written certification is provided by Council that the CTMP meets the requirements of GWRC Guidelines, and the measures referred to in that plan have been put in place.

The CTMP must include as a minimum:

- a. Specific design details of a chemical treatment system based on a rainfall activated methodology for any impoundment devices (Sediment Retention Ponds) and any other approved impoundment devices;
- b. Monitoring, maintenance (including post storm) and contingency programme (including a record sheet);
- c. Details of optimum dosage (including assumptions);
- d. Results of initial chemical treatment trial;
- e. A spill contingency plan; and
- f. Details of the person or bodies that will hold responsibility for long term operation and maintenance of the chemical treatment system and the organisational structure which will support this system.

Sediment control devices that discharge directly off site must be chemically treated throughout the duration of earthworks in accordance with the approved Chemical Treatment Management Plan.

- X.13 Any changes proposed to the CTMP must be confirmed in writing by the consent holder and certified in writing by the Manawatu-Whanganui Regional Council acting in a technical certification capacity, prior to the implementation of any changes proposed.
- X.14 Unless site specific analysis provides evidence to the contrary, as detailed in the CTMP, the consent holder must ensure that the soluble aluminium concentration of any discharge to the receiving environment must not exceed 0.2 grams per cubic metre.
- X.15 Unless site specific analysis provides evidence to the contrary, as detailed in the CTMP, the consent holder must ensure that the pH of any discharge to the receiving environment must not be less than 5.5 or greater than 8.5 pH units.

Construction

- X.16 The consent holder must ensure that sediment losses to natural water arising from the exercise of this resource consent are minimised during the duration of the works and during the term of this consent. In this regard, erosion and sediment control measures must be established and maintained in accordance with *Greater Wellington Regional Council's Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region (February 2021)*.

- X.17 All earthmoving machinery, pumps, generators and ancillary equipment must be operated in a manner, which ensures spillages of fuel, oil and similar contaminants are prevented, particularly during refuelling and machinery servicing and maintenance. Refuelling and lubrication activities must be carried out away from any water body, ephemeral water body, or overland flow path, such that any spillage can be contained so that it does not enter surface water.
- X.18 The consent holder must ensure that, as far as practicable, all clean water run-off from stabilised surfaces including catchment areas above the site must be diverted away from the exposed areas via a stabilised system to prevent erosion. The consent holder must also ensure the outfall(s) of these systems are protected against erosion.

Discharges

- X.19 Sediment retention devices must be designed and operated to achieve the following targets when discharging:
- i. a discharge clarity of greater than 100mm measured by black disc.

Should these targets not be achieved, opportunities to improve the management of the site must be implemented to achieve the targets, including:

- Consideration of additional Erosion and Sediment Control;
- Refinement of chemical treatment systems;
- Progressive stabilisation in sub-catchments;
- Increased maintenance of controls; and
- Amendments to methodologies and sequencing of works and refinement of controls as necessary.

- X.20 The consent holder must ensure that all sediment laden run-off from the site is treated by sediment retention structures. These structures must be fully operational before bulk earthworks commence and must be maintained to perform at least at 80% of their operational capacity.
- X.21 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.

Monitoring and Maintenance

- X.22 The consent holder must ensure that all erosion and sediment control structures are inspected on a weekly basis and within 24 hours of each rainstorm event that is likely to impair the function or performance of the controls.
- X.23 The consent holder must carry out monitoring and maintenance of erosion and sediment controls in accordance with the conditions of this resource consent and must maintain records detailing:
- a. The date, time and results of the monitoring undertaken; and
 - b. The erosion and sediment controls that required maintenance; and
 - c. The date and time when the maintenance was completed.

These records must be provided to the Manawatu-Whanganui Regional Council at all reasonable times and within 72 hours of a written request to do so.

Site Restoration

- X.24 The removal of any erosion and sediment control measure from any area where soil has been disturbed as a result of the exercise of this resource consent must only occur after consultation and written approval has been obtained from the Manawatu-Whanganui Regional Council acting in a technical certification capacity. In this respect, the main issues that will be considered by the Manawatu-Whanganui Regional Council include:
- a. The quality of the soil stabilisation and/or covering vegetation;
 - b. The quality of the water discharged from the rehabilitated land; and
 - c. The quality of the receiving water.
- X.25 The consent holder must ensure those areas of the site which have been completed must be progressively stabilised against erosion as soon as practically possible and within a period not exceeding 3 days after completion of any works authorised by this resource consent. Stabilisation must be undertaken by providing adequate measures (vegetative and/or structural) that will minimise sediment runoff and erosion and in accordance with *Greater Wellington Regional Council's Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region (February 2021)*. The consent holder must monitor and maintain the site until vegetation is established to such an extent that it prevents erosion and prevents sediment from entering any surface water.
- X.26 Re-vegetation and/or stabilisation of all disturbed areas must be completed in accordance with the measures detailed in *Greater Wellington Regional Council's Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region (February 2021)*.

BEFORE THE HEARING PANEL

IN THE MATTER of the Resource
Management Act 1991

AND

IN THE MATTER of the applications by
Hirock Limited to the Palmerston North City
Council (LU 6962) and the Manawatū -
Whanganui Regional Council (APP-
2022203991.00) for resource consents
associated with the expansion and
operation of an existing quarry at
167-257 Kendalls Line, Palmerston North

EXPERT CONFERENCING

JOINT WITNESS STATEMENT – WATER QUALITY AND AQUATIC ECOLOGY

17 MAY 2023

A. INTRODUCTION

1. This joint witness statement relates to expert conferencing on the topic of Water Quality and Aquatic Ecology.
2. This joint witness statement relates to resource consent applications lodged by the Hirock Limited (Applicant) to Palmerston North City Council (PNCC) and Manawatu-Wanganui Regional Council (Horizons), to be processed jointly, for the for the expansion of an existing quarry at 167 - 257 Kendall's Line, Palmerston North, noting that the topics of this Statement are within the jurisdiction of Horizons and are covered in the Application for regional consents.
3. The expert conferencing was held by TEAMS on 11, 12, 16 and 17 May 2023.
4. Attendees at the conference were:
 - a. Eric Fa'anoi for Horizons/PNCC;
 - b. Anne Marieke Soeter for the Applicant.

B. EXPERTISE

5. My name is Eric Fa'anoi. I have completed a Bachelor's of Science (BSc) at Massey University double majoring in Environmental Science and Chemistry. I am employed as a Research Assistant in the Fish Passage project funded by Jobs for Nature and a Freshwater Advisor for the Central Manawatū Catchment. My involvement with this consent has been assessing it from a freshwater perspective on behalf of the Manawatū-Whanganui Regional Council (MWRC) trading as Horizons Regional Council. While this consent is not before the Environment Court, I have read the Code of Conduct for Expert Witness, Section 9 of Practice Note 2023. Accordingly, I have complied with the Code in the preparation of this joint witness statement.
6. My name is Anne Marieke Soeter, I hold a Bachelor of Science (BSc) and Master of Science (MSc) degree from the University of Amsterdam in the field of Biology (Ecology and Evolution) and Biological Sciences (Limnology and Oceanography), respectively. I am a full member of EIANZ and have a professional affiliation with the NZ Rivers Group (Engineering NZ) and Water NZ. I have 10 years of experience in academics, government, and consultancy in the field of Ecotoxicology and Environmental Fate and related fields. I am employed as a Senior Water Professional at Good Earth Matters Consulting Ltd focussing on water quality and environmental matters. My involvement with this consent has been as an advisor to the applicant in regard to monitoring options and water quality impacts. While this consent is

not before the Environment Court, I have read the Code of Conduct for Expert Witness, Section 9 of Practice Note 2023. Accordingly, I have complied with the Code in the preparation of this joint witness statement.

C. PURPOSE AND SCOPE OF CONFERENCING

7. The purpose of conferencing was to identify, discuss and highlight points where there is agreement or disagreement on matters pertaining to water quality and aquatic ecology arising from the resource consent applications, the submissions on them and the joint (PNCC and Horizons) s42A reports.
8. The scope of the issues addressed at this conference included:
 - a. Scope, activity description and nature of the discharge
 - b. Scope of the discussion
 - c. Discharge frequency
 - d. Discharge contaminants
 - e. Farm runoff
 - f. Naming of waterways
 - g. One Plan values of waterway
 - h. Waterway definition
 - i. Monitoring parameters and frequency
 - j. Discharge Standards
 - k. Environmental standard for chloride
 - l. Iwi consultation
 - m. Review clause for discharge quality standards

D. PRIMARY DATA RELIED ON

9. The following documents, data and information have been relied on in this expert conference:
 - a. Good Earth Matters Consulting Limited – Linton Quarry Expansion: Resource Consent Application and Assessment of Environmental Effects for Joint Application to Palmerston North City Council and

Horizons Regional Council (the Application, November 2022); including all appendices.

- b. Section 42A LIVE DRAFT report by Mr Eric Fa'anoi (dated 9/5/2023).
- c. Letter from Good Earth Matters Consulting Ltd on behalf of Hirock to Natasha Adsett, Response to S92 Further Information Request, dated 22 December 2022 which includes the updated draft: Linton Quarry Monitoring Plan - Settlement Pond 1/Sediment Retention Pond – December 2022 and a memorandum regarding discharge treatment and expected standards, instream, effects and discharge volumes.
- d. A site visit undertaken by Mr Fa'anoi on the 23rd August 2022.

E. AGREED ISSUES

- 10. Refer to Annexure A and Annexure B.

F. DISAGREEMENT AND REASONS

- 11. Refer to Annexure A.


G. CHANGES FROM S42A REPORT


- 12. Refer to Annexure A.

H. RESERVATIONS

- 13. This conference has been held prior to the finalising and circulation of the S42A RMA Planner's report from the consent authority.

Date: 17 May 2023


Eric Fa'anoi


Anne Marieke Soeter

ANNEXURE A

IN THE MATTER of applications by of the applications by Hirock Limited to the Palmerston North City Council (LU 6962) and the Manawatū-Whanganui Regional Council (APP-2022203991.00) for resource consents associated with the expansion and operation of an existing quarry at 167-257 Kendalls Line, Palmerston North.

Expert conferencing – Water Quality and Aquatic Ecology

Participants: Eric Fa'anoi, Anne Marieke Soeter

No	Topic/Issue	Statements	Agreed position	Disagreements and reasons	Changes to Section 42A Report
1a	Scope, activity description and nature of the discharge	<p>The discharge to be assessed is from the proposed new sediment retention pond (SRP1) discussed in the application.</p> <p>Which will consolidate the three current discharge points into one discharge point. The discharge from this proposed sediment retention pond is captured within a catchment area of approximately 7.2 hectares which does not include the quarry pit. It is proposed that the quarry pit will store stormwater until the water storage pond or the sediment retention pond has capacity to accept water via pumping.</p> <p>SRP1 is designed, constructed and operated in accordance with best practise guidelines including a chemical treatment management plan to be certified by the consent authority¹.</p>	Both parties agree	Nil	Nil

¹ Greater Wellington Regional Council's Erosion and Sediment Control Guide for Land Disturbing Activities in the Wellington Region (February 2021)

No	Topic/Issue	Statements	Agreed position	Disagreements and reasons	Changes to Section 42A Report
1b	Scope of the discussion	The purpose of this discussion is to identify monitoring parameters as well as trigger and compliance values that adequately monitor for environmental effects.	Both parties agree	Nil	Nil
2	Discharge frequency	The discharge is intermittent and occurs during and immediately following rainfall events and when stormwater from the pit is pumped to SRP1 for operational reasons.	<p>Both parties agree that the discharge can occur during and immediately following rainfall events and can occur when stormwater from the pit is pumped to SRP1 for operational reasons.</p> <p>Both parties agree while there is a disagreement with discharge frequency the proposed monitoring conditions captures the assessment of the discharge caused when pumping occurs to SRP1.</p>	<p>Mr Fa'anoi & Mrs Soeter:</p> <p>Mr Fa'anoi and Mrs Soeter disagree on the frequency of the discharge.</p> <p>Mr Fa'anoi:</p> <p>Mr Fa'anoi is of the opinion the discharge is continuous as water is water is pumped from the quarry pit into the SRP1 at any time of the year. This could result in a discharge at any time of the year and is unrelated to rainfall events. Refer to S42A report.</p> <p>Mrs Soeter:</p> <p>Mrs Soeter understands that water is a valuable source in the quarry with no alternatives available. Particularly in summer water can be limited as a result the management would prefer to retain water as much as possible. As a result, Mrs. Soeter is of the opinion that the discharge is intermitted with dry periods, particular in summer.</p>	Nil

No	Topic/Issue	Statements	Agreed position	Disagreements and reasons	Changes to Section 42A Report
3	Discharge contaminates	<p>As the discharge is derived from a quarry operation, the contaminants of concern are:</p> <ul style="list-style-type: none"> • Sediment; • Nutrients that may be bound to sediment particles i.e. Dissolved Reactive Phosphorus (DRP) • Chloride <p>Other One Plan Water Quality parameters are not considered relevant.</p>	Both parties agree that sediment and chloride are considered the contaminants of concern.	<p>Parties do not agree on the magnitude of DRP risk to the receiving environment.</p> <p>Both parties have agreed on monitoring conditions regardless of this disagreement. Refer to S42A Report.</p>	Nil
4	Farm run-off	DRP is discharged from farmland into the unnamed tributary ("farm drain") potentially contaminating samples taken in the drain.	<p>Both parties agree that the farmland run-off contributes to the farm drain but disagree in regard to the extends it complicates the monitoring of DRP.</p> <p>During conferencing it was recommended and agreed by both parties that moving the discharge sampling to the quarry side of the bund would mitigate the concern of "farmland" DRP contamination of the sample.</p>	Nil	Nil
5	Naming of waterways	<p>The end of the culvert that is carrying the discharge: the discharge point</p> <p>Prior to discharge into the Nguturoa Stream ("Linton Drain") circa 4 km from site: unnamed tributary ("farm drain")</p> <p>Stream circa 4 km from the site: the Nguturoa Stream ("Linton Drain")</p>	<p>Agreed on naming convention.</p> <p>Mr Fa'anoi:</p> <p>Mr Fa'anoi notes that water pooling parallel to the bunding was functioning poorly as a drain and due to weather conditions resembled a pond during the site visit. This area was collecting water from the discharge points. Therefore, is also referred to as a Raupō pond in the draft S42A. Mr Fa'anoi is of the understanding that this will not occur after the proposed discharge points are consolidated as the discharge will be going directly into the farm drain and not be pooling in this area.</p>	Nil	Nil

No	Topic/Issue	Statements	Agreed position	Disagreements and reasons	Changes to Section 42A Report
6	One Plan values of waterway	<p>The One Plan recognises the following values in the unnamed tributary of the Nguturoa Stream (“farm drain”) that the discharge is proposed to enter:</p> <p>Schedule B Zone wide values for the Lower Tokomaru management sub-zone (Mana_13c) are:</p> <ul style="list-style-type: none"> • Life Supporting Capacity – Lowland Mixed; • Aesthetics; • Mauri; • Contact Recreation; • Industrial abstraction; • Irrigation abstraction; • Stock water; • Existing infrastructure; and • Capacity to assimilate pollution. <p>There are no site-specific Schedule B values that apply to this specific area or site.</p>	Both parties agree on this statement	Nil	Nil
7	Waterway definition	The unnamed tributary of the Nguturoa Stream (“farm drain”) that the discharge enters should be assessed as a modified intermittent watercourse (RMA river).	Both parties agree on this statement	Nil	Nil

No	Topic/Issue	Statements	Agreed position	Disagreements and reasons	Changes to Section 42A Report
8	Monitoring parameters and frequency	<p>The establishment of standards will be important to ensure that the values of the unnamed tributary are protected.</p> <p>Monitoring is required to ensure that these standards are complied with.</p> <p>Monitoring should include:</p> <ul style="list-style-type: none"> • Sediment (measured through NTU and clarity tube); • Phosphorus (DRP); • pH; • Chloride. 	<p>Both parties agree that the following parameters should be measured:</p> <ul style="list-style-type: none"> • Sediment (measured through NTU and clarity tube); • pH; • Chloride. • DRP <p>Monitoring should be according to condition 44.</p>	Nil	Nil
9	Discharge Standards	<ul style="list-style-type: none"> • Sediment should be monitored using NTU with a trigger value of 75 and a compliance NTU value of 150 at discharge. • Discharge clarity of greater than 100mm measured by clarity tube. • pH compliance value of 5.5 till 8.5 at discharge. 	<p>Both parties agree.</p> <p>Limits described in condition 42 should be applied.</p>	Nil	Nil
10	Environmental standard for chloride	<p>Chloride should be monitored using mg/L and a compliance value of 230 mg/L just beyond the mixing zone.</p>	<p>Both parties agree.</p> <p>Limit as described in condition 42 should be applied.</p>	Nil	Nil
11	lwi consultation	<p>lwi consultation is required in case of non-compliance (condition 42 e,f).</p>	<p>Both parties agree.</p>	Nil	Nil

No	Topic/Issue	Statements	Agreed position	Disagreements and reasons	Changes to Section 42A Report
12	Review clause for discharge quality standards	<p>Monitoring of parameters and frequency could be reviewed and adjusted after a 24-month time frame, in agreement with HRC:</p> <ul style="list-style-type: none"> • Chloride • NTU/Clarity • DRP 	Both parties agree on the review clause as described in condition 46.	Nil	Nil

ANNEXURE B

Discharge of Treated Washwater and Stormwater	
38.	The Consent Holder shall provide the Manawatu-Wanganui Regional Council with a Final Monitoring Plan.
39.	The final monitoring plan required by Condition 38 shall be certified in writing by the Manawatu-Wanganui Regional Council acting in a technical certification capacity prior to any activities authorised by this resource consent commencing and the Consent Holder shall undertake all monitoring authorised by this consent in accordance with the certified final monitoring plan.
40.	Any changes to the monitoring plan required by Condition 38 must be approved by the Manawatu-Wanganui Regional Council.
41.	Activities authorised by this consent shall not result in the discharge of contaminants that are toxic to aquatic ecosystems. ADVICE NOTE: This includes leakage of fuel, oil and other contaminants from machinery used for activities under this consent.
42.	<p>Sediment retention devices must be designed and operated to achieve the following performance targets:</p> <ul style="list-style-type: none"> a. the pH of any discharge from sediment retention devices to any water body must not be less than 5.5 or greater than 8.5; b. the turbidity of any discharge from sediment retention devices to any water body must not be higher than 150 NTU; with a trigger value for investigation of 75 NTU; and a discharge clarity of greater than 100mm measured by clarity tube. c. the Consent Holder must ensure that the soluble chloride concentration shall not exceed 230 mg/L just beyond the reasonable mixing zone d. Where a performance target in condition 42 a, b, c is not achieved, an investigation must be undertaken to: <ul style="list-style-type: none"> - confirm the reason why performance target has not been achieved, with reference to the relevant catchment; and - develop and implement response measures to achieve the performance targets in the future. e. Following the completion of the investigation required by condition 42 d, all recommended response measures must be implemented within with fifteen (15) working days, except where the Manawatu-Wanganui Regional Council and Whakapai Hauora agrees in writing to a longer timeframe for the implementation of response measures. f. A report that summarises the investigation and response measures required by condition 42 e. must be provided to the Manawatu-Wanganui Regional Council and Whakapai Hauora in writing within fifteen (15) working days of the performance target not being achieved. <p>ADVICE NOTE: The reasonable mixing zone is defined as being 7 times the bed width at median flow.</p>
43.	Monitoring data required by condition 44 should be recorded and made available to the Manawatu-Whanganui Regional Council on request within five (5) working days.

Discharge of Treated Washwater and Stormwater	
44.	<p>To monitor compliance with condition 43, the consent holder shall monitor the following parameters:</p> <ol style="list-style-type: none"> a. Once per Month; <ul style="list-style-type: none"> - pH; - Turbidity (NTU and clarity tube); - Chloride - DRP - The time and date, and the weather and flow conditions at the time of monitoring shall be recorded; - Observations of any conspicuous oil or grease films, scums or foams, and any emission of objectionable odour. b. During rain events and when water is pumped from the pond at the base of the quarry pit into the SRP1; <ul style="list-style-type: none"> - pH; - Turbidity (NTU and clarity tube); - DRP - The time and date, and the weather and flow conditions at the time of monitoring shall be recorded; - Observations of any conspicuous oil or grease films, scums or foams, and any emission of objectionable odour. c. When malfunctioning of the dosing equipment or malfunctioning of the sedimentation pond is suspected/confirmed; <ul style="list-style-type: none"> - pH; - Turbidity; - Chloride; - DRP - The time and date, and the weather and flow conditions at the time of monitoring shall be recorded; - Observations of any conspicuous oil or grease films, scums or foams, and any emission of objectionable odour. d. Measurements and samples should be taken at the following locations: <ul style="list-style-type: none"> - pH: the discharge point/ discharge on the quarry side of the bund - NTU and visual clarity: the discharge point/ discharge on the quarry side of the bund - Chloride: just beyond the mixing zone as specified in the certified monitoring plan. - DRP: discharge on the quarry side of the bund e. Any measuring equipment used should be manufactured for the respective purpose and calibrated according to the manufacturer's guidelines. <p>ADVICE NOTE: rainfall event is defined as being 3 millimetres of rainfall (within 24 hours) measured at a weather station agreed in the monitoring plan. Monitoring should be undertaken as soon as possible, and no later than 24 hours after each rainfall event begins.</p> <p>ADVICE NOTE: The reasonable mixing zone is defined as being 7 times the bed width at median flow.</p>
45.	<p>Monitoring of parameters according to conditions 42 and 44 should be undertaken for a period of at least 24 months, at which point the monitoring plan shall be reviewed and updated based on the results and in agreement with the Manawatu-Wanganui Regional Council's Team Leader Consents Monitoring.</p> <ol style="list-style-type: none"> a. The report shall be prepared by a suitably qualified person. b. This report shall cover; <ul style="list-style-type: none"> - The results of all monitoring undertaken in the previous 24 months; - Any non-compliances and subsequent investigations; - Discussion of any trends evident from the monitoring data; - Recommendations for a future monitoring plan;

Discharge of Treated Washwater and Stormwater	
46.	<p>a. If the parameter within condition 42 a and b are met following the completion of the 24-month reporting period, monitoring of pH and turbidity shall be reduced to major rainfall events and if and when malfunctioning of the dosing equipment or malfunctioning of the sedimentation pond is suspected/confirmed, only.</p> <p>b. If the parameter with condition 42 c are met following the completion of the 24-month reporting period, monitoring of chloride shall be reduced to quarterly and if and when malfunctioning of the dosing equipment or malfunctioning of the sedimentation pond is suspected/confirmed, only.</p> <p>c. If DRP concentrations are at or below levels that can be expected in the surrounding environment after the 24-month reporting period, monitoring of DRP shall be reduced to quarterly and if and when malfunctioning of the dosing equipment or malfunctioning of the sedimentation pond is suspected/confirmed, only.</p> <p>ADVICE NOTE: Major rainfall event is defined as being 25 millimetres of rainfall (within 24 hours). Monitoring should be undertaken as soon as possible, and no later than 24 hours after each rainfall event begins.</p>

BEFORE THE HEARING PANEL

IN THE MATTER of the Resource Management
Act 1991

AND

**IN THE MATTER OF APPLICATION APP-
2022203991.00 QUARRY EXTENSION WORKS
(HIROCK LTD.) WITH REGARD TO THE
PROPOSED STORMWATER DISCHARGE.**

**SECTION 42A REPORT OF ERIC FA'ANOI FRESHWATER ADVISOR FOR MANAWATŪ-
WHANGANUI REGIONAL COUNCIL**

22nd June 2023

1 QUALIFICATION AND EXPERIENCE

1. My name is Eric Fa’anoi. I am employed as a Research Assistant in the Fish Passage project (funded through Jobs for Nature, which is administered through the Ministry for the Environment) and a Freshwater Advisor for the Central Manawatū Catchment. I am providing evidence in these proceedings on behalf of the Manawatū-Whanganui Regional Council (MWRC) trading as Horizons Regional Council.
2. I have completed a Bachelor’s of Science (BSc) at Massey University double majoring in Environmental Science and Chemistry.
3. I have been in my role at MWRC since March 2021. The role requires me to assess instream structures and the potential for them to be barriers to native fish migration; carry out fish, kōura, and kākahi monitoring; and provide advice to undertake remediation of identified barriers. As part of my Freshwater Advisor role I assist landowners with navigating freshwater regulation, riparian fencing, planting and maintenance. In addition, to the above I undertake assessments of resource consent applications as to the potential and actual effects of the proposed activity on freshwater values.
4. I have read and agree to comply with the Code of Conduct for Expert Witness as contained in the Environment Court’s Consolidated Practice Note (2023). My qualifications are set out above. I confirm that the issues addressed in this brief of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from opinions expressed.

2 EXECUTIVE SUMMARY

5. I have assessed the application made by Hirock Ltd. for resource consent to enable the extension of their existing quarry works at Linton. This assessment has been informed by developing an understanding of the current state of the discharge of contaminated water. This understanding has been developed on the basis of a site visit, the catchment and monitoring data collected within it, and similar types of discharges. This is due to the application containing no information on the actual characteristics of the discharge. The assessment also considers how the current effects might change with the expansion of quarry works and considering the potential environmental effects of the proposed discharge. Again on the basis of no water quality information provided in the application.
6. This resource consent application is by Hirock Ltd who are proposing to expand operations and works at the Linton quarry. There is currently an existing discharge of wash water and storm water to an unnamed tributary “farm drain” of the Nguturoa Stream (also referred to as the Linton Drain within the application) which is part of the Tokomaru

River catchment. The Tokomaru River enters the Manawatū River North West of Shannon.

7. Hirock also currently hold a resource consent to discharge into an unnamed tributary of the Kahuterawa Stream which expires in 2024. This resource consent is not considered any further in this assessment as the applicant has not proposed any changes to this discharge. With regards to the discharge to the Nguturoa Catchment I understand that this has been occurring throughout the majority of the quarry's operation. It is noted within the application that the discharge is mentioned in previous renditions of the resource consent documentation for the quarrying activity at the site but has not previously been consented under the Regional Plan framework.
8. There is currently insufficient discharge data (both quantity and discharge characteristics i.e. quality) available to fully inform an assessment of effects. Therefore, the recommendations in this report are based around proposing conditions to understand the water quality parameters of the discharge during the term of the consent, and proposing water standards to protect the values within the unnamed tributary of the Nguturoa Stream. Additionally, I have considered whether the proposed upgrade of onsite mitigation methods such as flocculation and the sediment retention ponds will mitigate the potential effects of the proposed activity. This is to ensure that the effects on the receiving environment are managed to protect the values of the unnamed tributary adequately now and throughout the proposed expansion of operations.

3 OUTLINE OF EVIDENCE

9. This report is limited to assessing the effects of the storm water discharge on the unnamed tributary of the Nguturoa Stream, and the wider Tokomaru catchment as a result of the proposed expansion. This assessment is based on the information contained within the application and related documents, the information gathered from the site visit, and my studies and experience.

4 INTRODUCTION, THE SITE AND EXISTING ENVIRONMENT

10. I have read the information contained within the application dated November 2022, and undertaken a site visit to the quarry site on the 23rd August 2022. In addition, I participated in a meeting with the applicant and their water quality scientist Marieke Soeter on 15th December 2022 to discuss the Section 92 response. The outcome of this meeting was a memorandum which was attached to the further information response dated 22 December 2022. I have also participated in expert conferencing and the formation of the Joint Witness Statement (JWS) on water quality matters to assist the commissioner.

11. Based on the application, Section 92 response and the site visit, my understanding of the current discharge is that there are three discharge points (marked as red lines in Figure 1) through the north-western noise bund which discharge into a waterway that resembles a dam or pond marked with a yellow line (Ponding area in Figure 1). This “pond” appears to start at the most northern discharge point and runs parallel to this bund. This Raupō Pond at the time of the site visit appeared to be at capacity and the water highly turbid, based on my visual inspection (rather than formal measurements), and therefore, the discharge appeared to be poorly treated as can be seen in Figure 2. This pooled water in the ponding area appeared to be collecting all the discharge water from the site and poorly acting as a drain, flowing toward Kendall’s Line and through a small stand of Raupō which turns parallel to Kendall’s Line and flows through the farmland. This is the point at which I interpret the beginning of the unnamed tributary or “farm drain” as described by the applicant throughout the application. The waterway that flows parallel to Kendall’s Line is proposed to be the receiving environment. At the time of the site visit the discharge appeared to be flowing substantially due to the accumulation of discharged water in the ponded area. It is my understanding that the current discharge points will be consolidated into one sediment retention pond. This will mean there is no ponding effect, and the water will be discharged directly to the farm drain and can be monitored more effectively. Photos from the site visit of the waterway and the ponded area have been included below as figures.
12. A point of disagreement during expert conferencing was the nature of the discharge. In my opinion, the discharge has the potential to be more continuous than intermittent in nature. As outlined in the application this is due to the way the pit is utilised with the management of the storm water on site. In the Erosion Sediment Control Plan (ESCP) it states the quarry pit has not been included in the catchment area for the sediment retention pond (SRP1 in the JWS) design. In the ESCP, it proposes during rainfall events that the water run-off collected in the pit will not be pumped to the sediment retention pond and will be pumped to the water storage pond. Therefore, during these rainfall periods the sediment retention pond will be discharging from the water collected within the 7.2 hectare catchment it is designed for. During rainfall events we can expect the water storage pond will be receiving run-off from the clean water drain/diversion on the southern side of the quarry. In the ESCP it is proposed in order to manage the water in the pit area, *“the water is pumped into the sediment retention pond or the water storage pond whichever has capacity”*. The pumping of the water collected in the quarry pit to the sediment retention pond could result in a more continuous discharge flow or one not reflecting the intermittent nature of rainfall events as outlined in the application. I have not been provided with any evidence or monitoring results regarding the sediment retention pond discharge frequency and therefore, cannot agree that it will be intermittent as information contained within the application would suggest otherwise. Despite the difference in opinions if the monitoring conditions are prescribed and worded in such a way that when a discharge is occurring it will be monitored regardless of the cause i.e. pumping or rainfall events then the potential effects caused by the

discharge will be captured. Then with the implementation of the proposed discharge standards the potential effects will be managed.

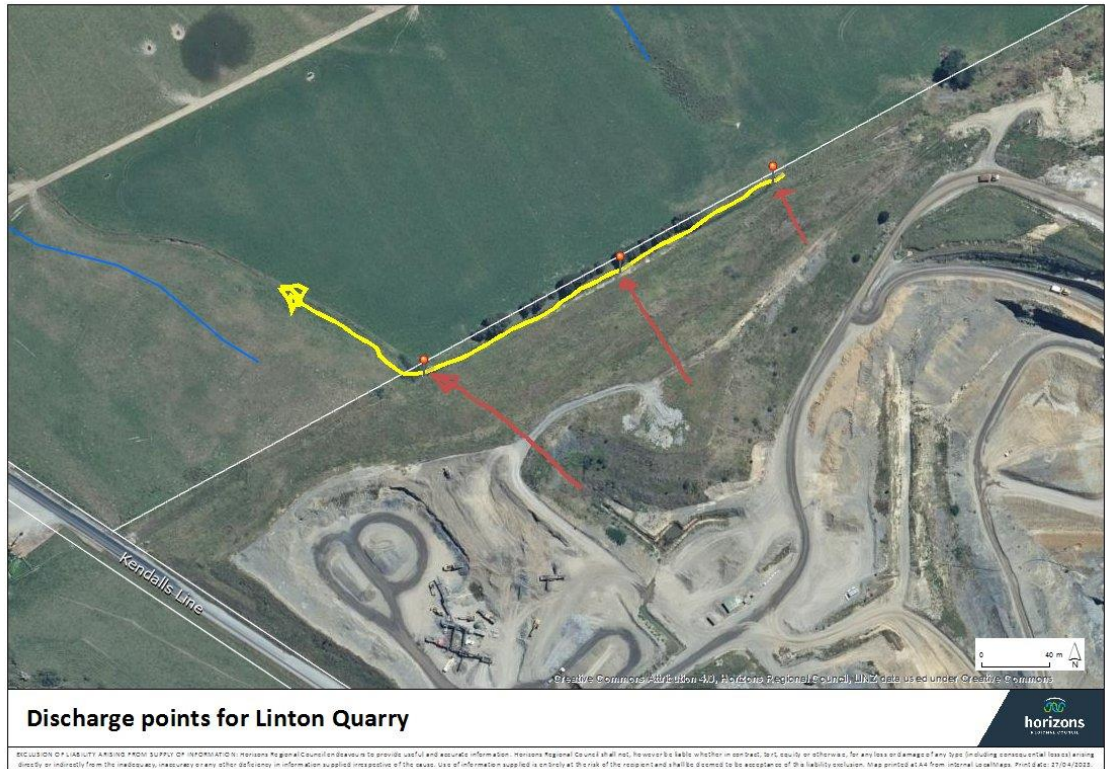


Figure 1: Figure showing my interpretation of the current discharge regime at the Linton Quarry.



Figure 2: This image shows the ponding area parallel to the bund. The assumption is that the pooled area is an accumulation of the storm water discharging off site through the three discharge points along the bund. The red arrow shows where the farm drain referred to in the application is flowing and the red circled area is the Raupō dominated area at the top of the Farm drain.



Figure 3: The red arrow in this image shows where the pooling area is relative to the Farm drain and Raupō dominated area.



Figure 4: This image shows the quarry split between the Kahuterawa and Tokomaru management sub-zones.

13. A site visit was undertaken on the 23rd of August 2022. During this site visit, it was clear that the land parcel and general proposal area has been and continues to be used for the purpose of quarrying activities with a discharge of water to the Tokomaru Catchment (refer Figure 4).
14. At the time of the site visit, the visual clarity of the discharge was low and the receiving area overall was noticeably wet underfoot. The receiving environment waterway was flowing substantially as a result of the discharge from the quarry site.



Figure 5: Image of the Farm drain looking upstream towards the Northwest bund.

15. The riparian margins of the unnamed tributary consisted of exotic grasses, sedges, raupo, toetoe and carex. The instream habitat/substrate consisted of exotic grasses and sediment along the extent of the bed of the waterway. There was the presence of grass on the bed of the waterway at the point of the discharge, with a channel then forming approximately 15 metres downstream into a highly modified flowing watercourse.



Figure 6: The unnamed tributary (Farm drain) from the same spot as Figure 3 looking downstream towards the farm. It has a clearly defined channel and visual inspection determined that the colour/clarity of the water was poor.

16. The current instream habitat, and state of the riparian margin suggest that the waterway at this location may provide limited year round habitat for fish species. During periods of wet weather and higher discharge volumes it may provide temporary refuge and/or feeding grounds for some of native fish species (likely to be short fin eels). There is no fish data available on the specific reach that the discharge is proposed to enter.
17. The data represented in Figure 7 shows two sites that have been monitored for fish within the Nguturoa catchment and for which data has been entered into the NIWA Freshwater Fish Database. The site marked in yellow is a wetland site where shortfin tuna were found. The other green triangle is where banded kokopu, koura, longfin tuna, and unidentified bully were found. I have also be involved in monitoring that found Kākahi on a dairy farm at 916 Tennent Drive. This site which is part of the Nguturoa catchment contained a substantial healthy population of Kākahi. Further monitoring was completed in the head water areas of the Nguturoa catchment, at the end of Millrick’s Line with unidentified galaxiids, Longfin tuna, Shortfin tuna and Koura being found.

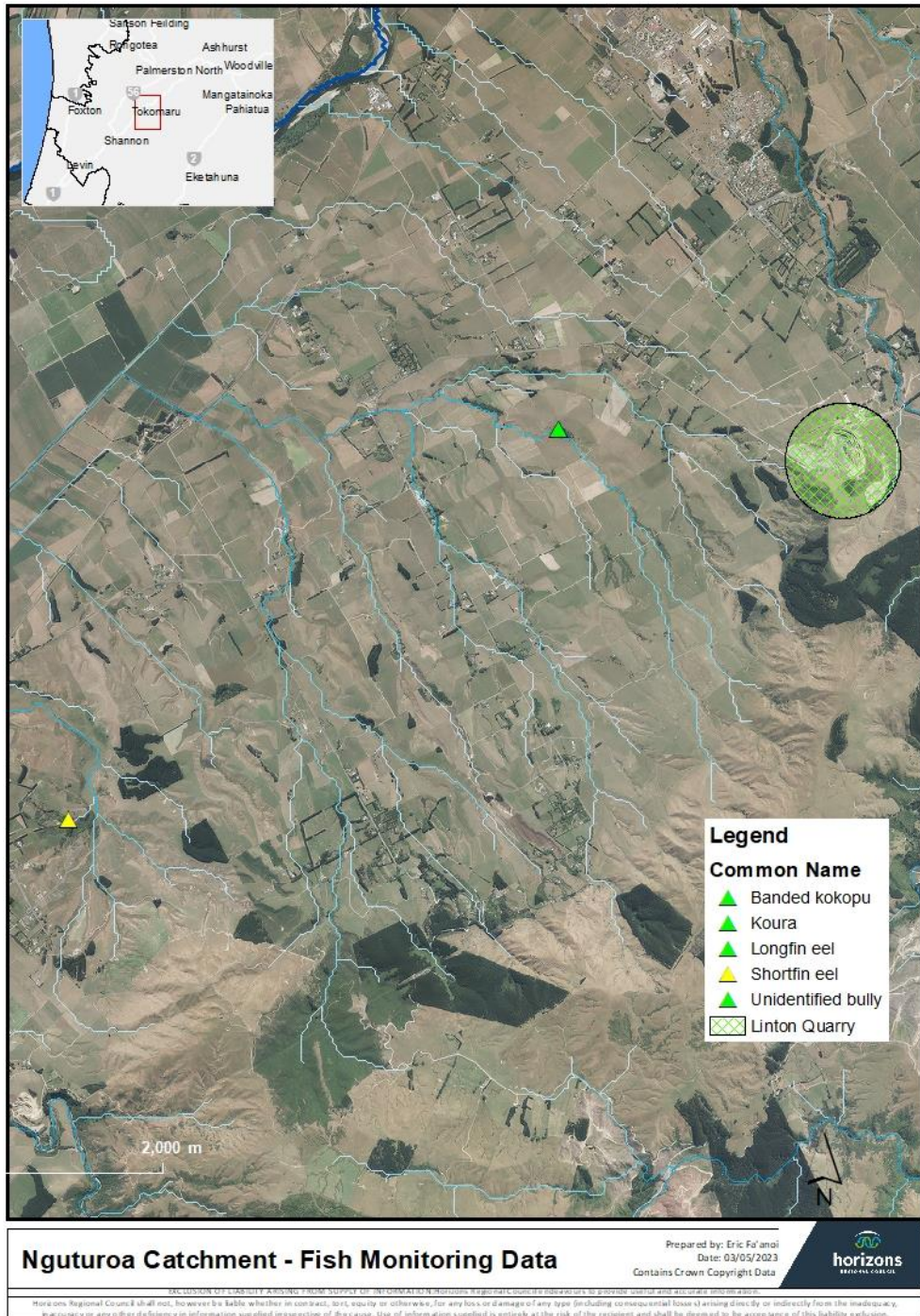


Figure 7: Map showing the two monitoring sites within the Nguturoa Catchment and the proximity of these to the quarry site.

- The stream is likely to be dry (intermittent) at some times of the year. However, it would meet the requirements of a RMA River in that it is intermittent rather than ephemeral. The water type assessment has been undertaken using the Auckland Unitary Plan

Practice and Guidance note for River/ Stream Classification. In addition, the waterway is modified in nature rather than artificial.

19. The Auckland Unitary Plan Practice and Guidance note for River/ Stream Classification classifies waterways as either permanent, intermittent or ephemeral. The intermittent classification requiring:

Stream reaches that cease to flow for periods of the year because the bed is periodically above the water table. This category is defined by those stream reaches that do not meet the definition of Permanent River or stream and meet at least three of the following criteria:

- a) it has natural pools
- b) it has a well-defined channel, such that the bed and banks can be distinguished
- c) it contains surface water more than 48 hours after a rain event which results in stream flow
- d) rooted terrestrial vegetation is not established across the entire cross sectional width of the channel
- e) organic debris resulting from flood can be seen on the floodplain or
- f) there is evidence of substrate sorting process, including scour and deposition.

The unnamed tributary is likely to meet the requirements that are highlighted above and therefore meet the intermittent classification.

5 POTENTIAL AND ACTUAL EFFECTS OF THE ACTIVITY

20. In order to assess the potential and actual effects of the storm water discharge occurring currently on site, I attempted to understand the state of the waterway prior to the quarry existing and then the current state with the discharge. In normal circumstances we would take the water quality measures upstream of the discharge location as the basis on which to assess the effects of a proposal. However, given the discharge is now effectively the headwaters of the catchment this option is not available.
21. There is a lack of empirical information and monitoring data for the waterway both pre-quarry and on the state of the current storm water discharge quality. Therefore, it was agreed by both parties during a Zoom meeting on the 15th of December 2022 that a conservative approach should be used when assessing this application and when forming conditions around treatment, standards and monitoring of the discharge.

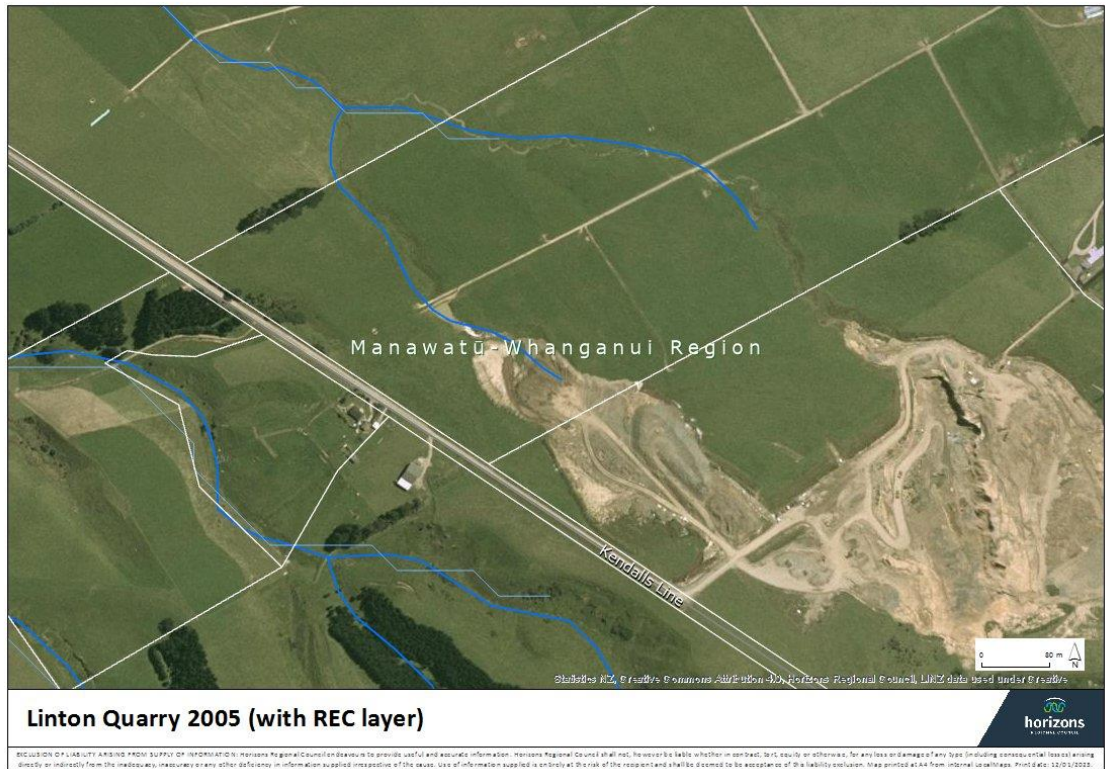


Figure 8: This map shows the quarry site in 2005 and the two channels are clearer. The channel flowing parallel to Kendall's Line has a significant amount of water pooled in behind the race.

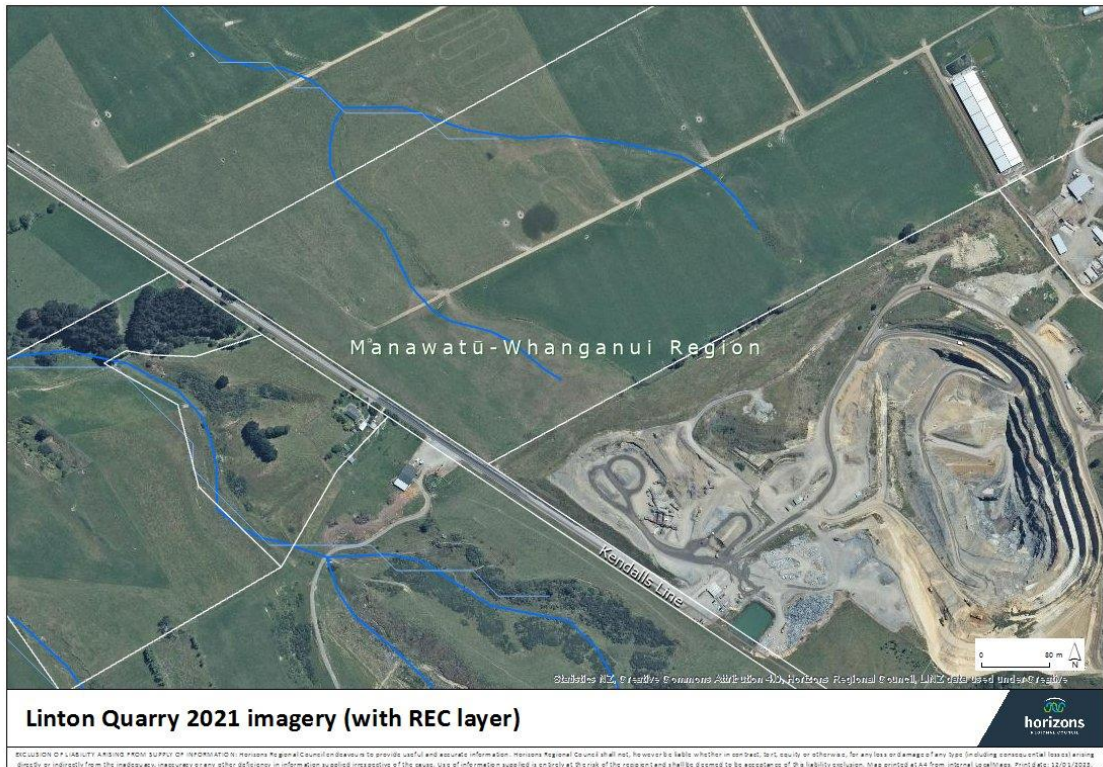


Figure 9: This map shows the quarry site and outlets in the current state where those flow paths and channels have been modified significantly.

22. It was agreed through the JWS that the main issue with this storm water discharge is the sediment concentrations (measured as turbidity) in the discharge. With the proposed activity involving a quarry site, the contaminant of most concern will be derived from erosion and sedimentation and therefore turbidity will to be the primary issue for this discharge. Although the focus is on sediment, this sediment will likely have phosphorus particles bound to it which have the potential to have instream effects if not managed appropriately.
23. Due to the lack of information on the effects of the current and proposed discharge any standards applied both to the discharge and the receiving environment should be conservative. In addition, a robust monitoring programme will be needed to monitor the efficiency of the treatment process and the management of instream effects.
24. In relation to sedimentation, the effects of deposited and suspended sediment on aquatic life are well documented in New Zealand with a number of publications and technical documents to establish thresholds at which above effects from sedimentation in waterways will be seen.
25. Documentation on the effects of deposited and suspended sediment show the following effects arise within the environment:

- a. The deposition of sediment which is largely mobile (unstable - as is the case here) generally leads to periphyton loss. Which in the correct types and amounts helps sustain aquatic organisms. Loss of periphyton is a result of the fine sediment covering larger substrate on which periphyton is normally able to grow on. In addition, the suspension of sediment in the water column reduces the amount of sunlight that reaches the streambed and reduces the ability for periphyton growth.
- b. Deposited sediment results in degradation of the macroinvertebrate communities that are present at a site. This degradation in the macroinvertebrate communities occurs for a range of reasons including,
 - (i) deposited sediment reducing the interstitial space (the empty area between rocks that macroinvertebrates use as refuge from predators or unsuitable instream conditions i.e. floods) that is available for macroinvertebrates to inhabit; and
 - (ii) Change in periphyton communities changing the food supply that is available for macroinvertebrates to consume.
- c. Deposited sediment leads to changes in the fish communities that are seen at a site for the following reasons:
 - (i) Suspended sediment reduces the ability of sight feeding fish to be able to detect their prey due to decreased water clarity making it difficult to see prey;
 - (ii) Suspended sediment has been shown to cause damage to the gills of fish through physical abrasion of the gills with the sediment particles.
 - (iii) Many native fish species use the interstitial spaces within rivers as cover during the day as they are nocturnal. The deposition of sediment effectively fills in these interstitial spaces which means they are unavailable for fish to use.

26. As a requirement of the discharge consent to the Kahuterawa catchment the applicant undertakes routine monitoring of an unnamed tributary of the Kahuterawa Stream which the quarry site discharges to. Monitoring within this unnamed tributary has shown NTU levels up to 98. However, the catchment upstream of this monitoring location has a significantly larger catchment area (approximately 86.85 hectares estimated using NIWA river environment classification) than the quarry site. It also has a larger range of contributing land use types such as farmland, exotic forest and native forest. Therefore, if we were setting a standard for that receiving environment an NTU of 98 could be deemed as acceptable. This information has been used to help inform the development of triggers and standards for this consent application.

27. For this application it is proposed that the monitoring results have both a trigger and compliance value. With the monitoring occurring and the trigger and compliance standard being applied directly to the discharge. This is due to the discharge originating from the site and the discharge effectively becoming the headwaters of the catchment for the farm drain. The proposed trigger values were 75 NTU and a compliance value of 150 NTU. This has been agreed through the JWS
28. Although the application lacks clarity on at what point the discharge enters the unnamed tributary and therefore what should be considered the discharge location i.e. at which point the applicant no longer has control of the discharge. It has been agreed that the monitoring for contaminants will occur at different locations depending on the contaminant being monitored as specified in the draft conditions in the JWS. .

Chloride

29. The proposed treatment regime to remove sediment prior to the discharge entering the unnamed tributary involves treatment through the addition of AQUAFIX PD-9000, a mixture of Poly (dimethyl diallyl ammonium chloride). The applicant has proposed monitoring for pH and chloride in discharge. I agree with this proposal.
30. It was agreed in the JWS that a compliance value of 230 mg/L is applied and that sampling occurs at the reasonable mixing zone as per the One Plan definition, in this case 7 times the bed width at half median flows. Based on the site visit the bed width is < 1 metre, giving a reasonable mixing zone of ≤ 7 metres.

Dissolved Reactive Phosphorus

31. With the quarrying activities there is a high possibility that Dissolved Reactive Phosphorus (DRP) is released from sediment and therefore becomes bioavailable for periphyton and macrophyte growth within the unnamed tributary and downstream in the Tokomaru catchment. . During expert conferencing there was disagreement on the magnitude of DRP risk to the receiving environment.
32. In my opinion, the quarrying activities proposed potentially present a risk of discharging DRP into the receiving environment. The washing activities onsite estimate that 70 m³ of silt per annum could be discharged as a result of the washing activities. The proposal involves the stripping and deposition of 200,000 m³ of overburden over 10 years. The washing activities and overburden has soil and sediments which if mobilised by water do present a risk of introducing DRP as a contaminant.
33. There was disagreement around the source of DRP in the discharge and the potential for surrounding activities to influence DRP concentrations in the samples. I initially proposed that the samples are taken at or as close to the discharge point as possible then the contamination caused by surrounding activities will be negligible and the DRP concentration will be due to the quarry operation and therefore an effect of the proposed activity. This is because the active quarry area as outlined in the application is

approximately 24.24 hectares and the proposed discharge only originates from that area. This means that DRP present in the discharge and present in any monitoring is more than likely a direct result of the quarrying activity. This monitoring will allow analysis to establish that the proposed treatment measures for sediment also mitigate the DRP concentrations in the discharge.

34. During the site visit the proposed area of farm land that may have run-off which would influence the results is negligible in size compared to the contributing effect of the quarry. In order to mitigate the potential influence of the surrounding farming activity it was agreed that sampling for DRP is to occur at the outlet of the SRP on the quarry side of the bund.
35. I supported and acknowledged the parameters proposed to be measured within the monitoring plan in Appendix G of the re-lodged application. The proposed monthly monitoring parameters by the applicant were pH, Temperature, Dissolved Oxygen, Turbidity, ScBOD5, POM, DRP, SIN, Ammonical Nitrogen. The parameters/contaminates proposed to be monitored in this monitoring plan are similar to State of the Environment (SOE) data collection done by MWRC. It was agreed that the need for some of these parameters was unnecessary due to the nature of the activity and proposed discharge and the proposed monitoring has been scaled to those contaminants which pose greatest risk as a result of the proposal.

6 MONITORING

36. The applicant proposes to monitor sediment levels within the discharge via NTU.
37. I agree with the proposed monitoring regime as contained in the JWS.
38. In relation to the monitoring this was agreed to include:
 - a. Turbidity (NTU);
 - b. Visual clarity (clarity tube);
 - c. pH;
 - d. Chloride; and
 - e. Dissolved Reactive Phosphorus (DRP).
39. Monitoring should be undertaken on at least a monthly basis when the discharge is occurring from the treatment devices, and be undertaken using accredited methods and laboratory analysis. As the main contaminate of concern is sediment the turbidity monitoring would be preferable however, during conferencing it was agreed that monitoring be undertaken when rainfall has been above a trigger level or when the quarry is pumping water to the SRP. A certain times of the year this may result in the daily collection of monitoring information. This allows for adaptive management approaches to be implemented within the site.
40. The use of NTU will allow for the collection of samples and monitoring to occur at the discharge location. In addition it has also been agreed to monitor visual clarity at the discharge location. This will allow the establishment of a relationship between NTU and visual clarity within the discharge.

41. Monitoring of DRP is proposed to occur monthly for a 24 month period. There has not been a proposed limit/discharge standard/environmental standard outlined for the DRP concentrations. This is because there is no data available on what the DRP concentrations are in the discharge or what the DRP concentrations are in the receiving environment independent of the discharge. Therefore I propose that for DRP the 24 month period is utilised to gather information on what the concentrations might be for the discharge. If throughout the monitoring period the discharge concentrations are greater than the upper limit of Band C for the attribute State for DRP in the National Policy Statement for Freshwater (NPS-FM) of 0.018 mg/L. then a review of onsite sediment management practices/treatment practices has to be undertaken and further monthly monitoring has to occur as per the initial proposed condition. 39.
42. As outlined the initial proposal was to sample DRP at the discharge point or downstream of the quarry site but during conferencing it was discussed and agreed that the sampling point be moved into the quarry side of the bund. On this basis we would know that the concentration of DRP found in the sample is a direct result of the activities occurring on the site. The One Plan values and NPS-FM values are used typically utilised as an environmental standard which would typically be applied after the reasonable mixing zone. However, as there is no traditional reasonable mixing zone, the discharge from the quarry site is effectively the headwaters of the catchment of the farm drain. For this reason using a figure like the NPS-FM bands may be considered more appropriate.
43. Deciding on a review clause for DRP concentrations is difficult until you understand what levels are expected in the discharge. I have recommended monitoring of DRP at the outset to better understand the scope of the issue and whether it is an issue. At this stage we do not know the scope of the issue so the initial monitoring is to evaluate whether or not it is an issue. Therefore, it was agreed during conferencing that applying a trigger or compliance value was not appropriate. The review of practices and management of treatment on site is planned to be informed from the DRP concentrations found after the initial monitoring period of the discharge itself. It is noted that following an email discussion on the 25th May 2023 that an agreed proposed condition was drafted in regard to DRP.
44. It should be noted that the band data and corresponding figures are typically based off a monthly monitoring regime where a site is visited on a regular basis regardless of weather and flow conditions over 5 years of consistent monitoring. In this case the proposed length for the monitoring review is 24 month which is an acceptable monitoring period for what the monitoring is trying to achieve. So while you cannot definitively assign a band to the discharge as per the NPS-FM in my opinion using the level as a guide to determine the outcome of a review of DRP monitoring is useful and will inform effects of the proposal.
45. Given the uncertainty within the application around discharge volumes, contaminate profile, monitoring locations, and sampling frequency I would recommend the development of a discharge monitoring plan that keeps this information in one place. At a minimum this plan shall include but not be limited to:

- a. The proposed monitoring locations (including a map);
- b. Parameters to monitored within the discharge including turbidity (via NTU), visual clarity (via clarity tube), pH, chloride and DRP;
- c. The monitoring frequency; and
- d. Standards/triggers for compliance and adaptive management purposes.

7 CONCLUSIONS

46. The proposal involves the discharge of contaminants from a quarry site with the main contaminants of concern being sediment, DRP, chloride, and changes to pH. Chloride and pH as a result of the proposed treatment process.
47. Due to a lack of information on the characteristics of the current and proposed discharge has meant this application has been difficult to assess.
48. The discharge from the quarry is the source of the water in this farm drain and there is no flow before the discharge which, combined with the lack of discharge monitoring data, makes assessment of the discharge effects difficult to establish.
49. This lack of information has formed the basis for the recommendation of proposed monitoring requirements and conditions as per the JWS.
50. The monitoring locations for the various contaminants and the appropriate standards/triggers have been agreed through the JWS. In ensure that all of the monitoring requirements and linkages between them are stored in one place I recommend that a discharge monitoring plan is prepared and implemented. This monitoring plan should include a map with the discharge point/points proposed, labelled with which discharges are occurring at each given point, the proposed sampling sites for the various parameters, and include photos of the locations at the time of monitoring.



24 May 2023

• Natasha Adsett
Consultant Planner
Palmerston North City Council
PALMERSTON NORTH

Dear Natasha

AIR QUALITY REVIEW OF LINTON QUARRY APPLICATION

1.0 Introduction

HiRock Limited (HiRock) has applied to the Palmerston North City Council (PNCC) for resource consents to operate its Linton Quarry. Pattle Delamore Partners Limited (PDP) has been engaged by PNCC to review the air quality related aspects of the application and to prepare this technical report to support the s42A report.

2.0 Reviewer Qualifications

This review has been undertaken by Andrew Curtis who is a Technical Director at PDP. Andrew has a Bachelors degree in Chemical and Materials Engineering, a Post Graduate Certificate In Environmental Management, and a Post Graduate Diploma in Toxicology with Distinction. He is a Certified Air Quality Professional and also a certified Independent Hearings Commissioner.

Andrew has over 35 years of engineering experience and has specialised in all aspects of air quality for over 25 years, including extensive experience in the assessment of dust from a wide range of quarries.

3.0 Code of Conduct

I have read and agree to comply with the Code of Conduct for Expert Witnesses as contained in the Environment Court's Consolidated Practice Note (2023). My qualifications are set out above. I confirm that the issues addressed in this brief of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

4.0 Information Reviewed

In making this review I have reviewed the following information:

- Good Earth Matters, Linton Quarry Expansion, September 2022 (the AEE)
- Good Earth Matters, s92 Response, December 2022
- Good Earth Matters, Dust Monitoring Assessment Proposal, March 2023
- Good Earth Matters, Response to Monitoring Questions, 4 May 2023
- K2 Environmental, Draft Dust Management and Monitoring Plan, 24 May 2023



5.0 Further Involvement

I attended a pre-hearing meeting on 5 May 2023, where the Applicant and submitters were present. This provided an opportunity to discuss matters including the concerns raised by the submitters in relation to dust.

Following the prehearing meeting, I undertook a site visit to the quarry, and also viewed the submitters residences on Kendalls Line.

At the time of the site visit, I observed staff from K2 Environmental Ltd installing dust monitoring equipment.

Finally, I reviewed a copy of the draft Dust Management and Monitoring Plan, prepared by K2 Environmental on behalf of HiRock, and provided some comments on the content to the Applicant on the 24 May 2022.

6.0 Proposal

The Applicant's proposal is set out in detail in the AEE, but in short, from an air quality perspective, it involves the expansion of the quarry footprint to allow the Applicant to extract more of the aggregate resource. There are no other changes to the processing on site. The Applicant is also seeking to increase the volume of material produced from approximately 105,000 tonnes to 360,000 tonnes. The majority of the product produced will remain as large rocks used for rip rap, armour and river protection rocking, with railway ballast being the main processed material.

The Applicant is also seeking an increased volume of truck movements into and out of the site to accommodate the increased production.

7.0 Receiving Environment

The receiving environment is described in the AEE, which I consider to be appropriate, therefore it is not described in detail here. The key points are summarised as:

- ∴ The quarry is located in a rural area and surrounded by rural activities.
- ∴ There are relatively few nearby residences, with the closest 140 metres to the northwest, and the next nearest 380 metres to the north-northeast.

While the Applicant has not provided any data on prevailing winds, from previous work on projects in the area, I am aware that the majority of the strongest winds which could generate and carry dust are from the northwestern quadrant, with winds from the southeastern quadrant the next most prevalent.

Based on this information, I consider that the closest residence to the northwest is at highest risk of experiencing dust nuisance effects, with little potential for dust effects to other residences from activities within the quarry.

8.0 Potential Dust Sources

The primary potential effect on air quality from quarries is generally nuisance dust from overburden removal, extraction, crushing, and stockpiling of finished material.

Other sources of air discharges on the site include combustion emissions from site vehicles and blasting. Fine particulate (less than 10 microns in size or PM₁₀) are also generated by crushing and processing of aggregate. Given the location of the site and the separation from potentially sensitive locations, together with the minimal quantities of these that are likely to be generated, I consider any air quality effects associated with combustion emissions or fine particulate generated by processing are likely to be negligible.

The potential for dust nuisance effects from various activities at the quarry are considered below.

8.1 Overburden removal and disposal

As stated in section 2.44 of the AEE, overburden is the rock or soil overlying a mineral deposit, which often does not have any value as a resource. The excavation and placement of this material has the potential to generate dust, particularly during warm dry weather conditions.

I consider that the proposed overburden disposal areas which are either inside the existing bunds or in the pit have a low potential to result in any off-site dust effects. This is on the basis of the distance to neighbouring residences, the fact that material will be placed on the inside of the existing bunds, and that after placement this material will be topsoiled and vegetated.

8.2 Material Extraction

Due to the nature of products produced on site and in particular the rip rap, the extraction process is less intensive than for other hard rock quarries. This means that smaller blasts occur, which produce larger rocks. In addition, the site does not sell any run of pit¹ which means that only quarry vehicles are entering the pit.

I consider that there is low potential for dust from material extraction to result in off-site nuisance effects.

8.3 Material Processing

Most of the material that is too small for rip rap, is processed into railway ballast. This material is processed through the main crushing and screening plant. The equipment is fitted with water sprays and sprinklers at various locations, with the final product washed prior to stockpiling. This plant also produces a GAP 65 product (that is all material is less than 65 mm in size).

The crushing and screening plant has water sprays that are used for dust control. I consider that water sprays are best practice, and it is unlikely that the processing plant will give rise to off-site nuisance dust.

There is also a small mobile crushing unit on site that produces rock suitable for gabion baskets. This crusher processes a relatively small amount of material and I consider that it is extremely unlikely that this activity would give rise to off-site dust nuisance. This is due to the small scale of the process and the distance from any sensitive locations (approximately 300 m) and the fact that the crusher is well sheltered by the bunds surrounding the processing yard.

8.4 Product storage

The majority of the product stored on site is the washed railway ballast. Storage and handling of this material has little potential to generate dust.

8.5 Site Access and haul roads

There is potential for dust to be generated by vehicle movements on the site access and the haul roads. As outlined in the AEE, and in particular Appendix F Quarry Management Plan and Appendix I Erosion and Sediment Control Plan, the movement of vehicles on the site has a significant potential to generate dust, and consequently the Applicant has implemented dust control measures to mitigate this source, which include:

- ∴ Use of a water tanker to control dust on haul roads;
- ∴ Installation of three sprinklers with the capacity to wet the area of yard and road near to the site office and weighbridge; and
- ∴ Sealing of the entranceway between the weighbridge and Kendalls Line.

¹ Run of pit is product that is loaded directly into customer trucks from the working face of a quarry and which has not undergone any processing.

I consider that the proposed dust control measures are appropriate, and they will minimise the potential for dust from the site.

I also understand, from talking with site staff, that the section of sealed road at the entranceway is regularly cleaned.

During the site visit, however, there was a significant quantity of mud visible on the weighbridge, and the sealed access road was covered in mud and not visible. I consider that the presence of the mud was in such quantities that it would lead to tracking of dirt out of the site, which will inevitably lead to dust effects when vehicles move over it after it dries out. There is also evidence, from aerial photography, of tracking along the entire length of Kendalls Line to State Highway 57 (SH57), which would potentially generate nuisance dust as it dries out and is disturbed by trucks or other vehicles moving over it.

Consequently, I consider that the Applicant should provide additional mitigation to reduce the potential for dust tracking to occur. This is discussed further in Sections 7 and 11, but could include measures such as:

- ∴ Using clean aggregate on the areas of the yard near the stockpiles and which will be traversed by vehicles collecting product;
- ∴ Installing a wheel wash prior to the weighbridge;
- ∴ Sealing the areas of the yard which have public access;
- ∴ More regular washing of the site access road; and
- ∴ Regular cleaning of areas of Kendalls Line near the Quarry.

9.0 Assessment

Section 4.27 of the AEE is titled Dust, and part of the assessment of effects section of the AEE. Section 4.27 does not contain a detailed assessment of the potential for dust effects, but rather contains an outline of the mitigation measures that are implemented on site to control dust.

I consider that a good practice assessment, should have been undertaken in accordance with the Ministry for the Environment's *Good Practice Guide for Assessing and Managing Dust*, which recommends a qualitative assessment of potential dust effects which considers the FIDOL factors.

While a formal dust assessment was not provided, based on the information reviewed, I consider that there is a low risk of off-site dust nuisance effects provided that there are additional controls at the site entrance to prevent material tracking off the site.

10.0 Regulatory Requirements

In section 3.4.1 of the AEE, the Applicant discussed the requirements of the Rule 15-14 of the Horizons One Plan, which is a permitted activity rule that covers:

"The extraction, processing in fixed plant (crushing and screening), storage or distribution of aggregates"

I agree that this is the appropriate rule to consider in relation to air quality discharges from the Linton Quarry. Provided that the operation meets the conditions of the permitted activity rule, then the air discharges are permitted under the One Plan.

Most of the conditions associated with Rule 15-14 are not relevant to discharges from a quarry and the AEE correctly focuses on the first three permitted activity conditions, which are:

The discharge must not cause a breach of any of the National Environmental Standards[^] for ambient air quality set out in Table 7.1 (in Chapter 7).

The discharge must not result in any offensive or objectionable odour, dust, smoke or water vapour beyond the boundary of the property.

The discharge must not result in any noxious or dangerous levels of gases or particulates beyond the boundary of the property.

The AEE has considered PM₁₀ under the provisions of an earlier discharge permits and states:

"The Air Discharge Permit that previously applied at the site allowed up to a limit of 120 µg/m³ over a 24-hour period. However, dust suppression measures have improved at the site since 1997 when that consent was granted, and the discharge is now able to meet this standard."

I consider that the above is not a relevant consideration, and that National Environment Standard for Air Quality (NESAQ) of 50 µg/m³ as a 24-hour average is the relevant standard.

While there is no information provided in the AEE which demonstrates that the standard is met, as noted above, I consider that, based on its experience at other larger quarries, that the site will be generating low quantities of PM₁₀ and will meet the NESAQ for PM₁₀ beyond the site boundary. The PM₁₀ monitoring that I have recommended will provide data on this once it is installed.

I consider that the AEE does not clearly demonstrate that the other two permitted activity conditions are being complied with. While I consider that it is unlikely that activities within the quarry will give rise to nuisance dust, as discussed previously, there was evidence, including on the day of the site visit that material is being tracked off-site. As discussed below in relation to the submissions, there is anecdotal evidence that this source of dust may have caused nuisance effects.

Based on information provided by HRC there is only one dust related complaint associated with the quarry. This complaint was made in June 2022 and raises concerns about dust effects being such that residents could not leave their windows open. In the context of the complaint this appears to be a concern in relation to dust generated by vehicles using Kendalls Line rather than dust specifically from activities within the quarry boundary. This issue has been raised in submissions, and I have discussed it further in Section 12.

The Applicant is undertaking some air quality monitoring, which is discussed in Section 11, that may provide further clarity in relation to whether concentrations of PM₁₀ are at levels² that could give rise to nuisance effects.

Based on the above I consider that while it is likely that the activity meets the permitted activity rule conditions.

² 150 µg/m³ as a 1 hour average based on guidance in the Good Practice Guide for assessing and managing dust effects.

11.0 Monitoring

In March 2023, the Applicant proposed undertaking some ambient monitoring of PM₁₀ near the quarry and the properties owned by some of the submitters to measure actual concentrations of this pollutant. I was asked to provide some comment on the monitoring program and did so in an email to Natasha Adsett on 5 May 2023. On the basis of my comments, the Applicant made some changes to the program which I consider were appropriate.

The monitoring program that is being undertaken involves monitoring at three locations (near the quarry boundary and adjacent to the residences of two of the submitters) for a period of approximately four weeks. The Applicant is collecting data on wind direction and collecting photographic images at times when high concentrations occur.

I consider that this short term monitoring campaign will provide a useful snapshot of ambient PM₁₀ concentrations, and will assist in providing information that may address some of the concerns raised by submitters.

I note, however, that the monitoring is not being undertaken over summer period, which is generally the time when worst case dust effects are likely to be experienced, or at a times when the quarry is operating with large volumes of traffic.

Therefore, I consider that the information provided by the monitoring campaign cannot be relied upon as a definitive demonstration as to the effects from the site or whether it has caused nuisance in the past.

I have recommended a condition requiring ongoing PM₁₀ monitoring to be undertaken by the Applicant if consent is granted.

12.0 Submissions

There were four submissions on the application, which raised two main air quality related issues being diesel fumes and the effects of dust. The submitters are all located at the SH57 end of Kendalls Line, which is more than 1.3 kilometres from the site.

12.1 Diesel Fumes

It is well known that significant exposure to diesel fumes can result in adverse human health effects. Given the distance from the quarry to the submitter's location, however, I consider that the emissions associated with activities within the quarry will have a negligible impact. In this case, therefore the effects of concern are most likely associated with the additional vehicle movements from the quarry operation along Kendalls Line, which is a public road.

While the Applicant has not assessed the effects of diesel fumes, based on my experience with traffic emissions at other locations, it is unlikely that the volume of traffic proposed will result in any significant change in ambient air quality due to diesel vehicle emissions.

The monitoring that is discussed above will be able to provide some information on what the existing concentrations of PM₁₀ are, which will include diesel particulate matter.

12.2 Nuisance Dust

As I have already stated it effects from dust from the quarry will be negligible at the submitter's properties. However as again already discussed, there is evidence that tracking has occurred that could result in some dust generation if the material is disturbed by vehicles. I also understand from the prehearing meeting that until recently there was a significant build-up of dusty material along there berm of Kendalls Line, that could also have been a source of dust if disturbed.

In general, the effects of dust that might give rise to nuisance effects from sealed roads are only experienced within a few metres of the road, as the dust is quite coarse and rapidly settles to the ground if disturbed. The presence of reasonably substantial hedges in front of most of the residences would also have potential to reduce dust impacts at the properties.

I consider based on discussions in the prehearing meeting, that it is likely that in the past there has been visible dust emissions caused by vehicle movements disturbing material on the road surface and the adjacent berms, and it is possible that some of the dust may have caused nuisance effects when the wind was strong enough to carry the dust to the residences. As the road has been repaved and any berm material removed, it is not possible to be definitive about this.

However if the additional mitigation measures that I have recommend in the proposed conditions are implemented then this should lead to less tracking of material on the road. In addition the installation of a permanent monitor near the site entrance will provide data to demonstrate whether the mitigation is being effective. If the tracking is controlled at the quarry entrance, then the potential for dust effects from vehicle movements associated with the quarry at the other end of Kendalls Line near the submitters should be minimal.

13.0 Proposed Conditions

I have reviewed the proposed consent conditions and has made the following comments on the air quality related conditions in Table 1. As outlined above I have also recommended some additional conditions that should be included in the consent if it were to be granted.

Table 1: Comments on Proposed Consent Conditions

Condition number	Comment
3	<p>While this condition is not intended as an air quality control condition, the potential for dust generation is directly proportional to vehicle speed. Therefore I support this condition. We have proposed a change to make it clear that this limit is for Kendalls Line.</p> <p>The consent holder shall put erect signs along Kendalls Line requesting that quarry traffic travel at 50 km/h.</p>
14	<p>This is a duplicate of condition 3 and could be deleted.</p>
37	<p>While the condition as proposed contains a requirement at (g) to update the “dust monitoring requirements”, I consider in light of the matters raised in its assessment that there should also be a requirement to update the dust mitigation section of the quarry management plan. This could be done by adding a new clause “m” as follows:</p> <p><i>m. Updated dust management requirements</i></p> <p>or by requiring the Applicant to develop a separate dust management plan via a new condition as proposed below, in which case the monitoring would become part of that plan and g could become:</p> <p><i>“ Reference to the Dust Management Plan”</i></p>

Table 1: Comments on Proposed Consent Conditions

Condition number	Comment
66	<p>Depending on which option is preferred by the Panel in relation to my recommendation for condition 37 this condition will need to be rewritten in one of two ways.</p> <p>If it is decided to not have a standalone dust management plan, then it should be rewritten as follows:</p> <p><i>The Consent Holder shall provide the Manawatu-Whanganui Regional Council with a Dust Monitoring Plan (DMP) for approval. The DMP shall include but not be limited to:</i></p> <ul style="list-style-type: none"> <i>a. A description of the PM₁₀ monitoring equipment that will be used.</i> <i>b. A description of the maintenance of the monitoring equipment.</i> <i>c. A description of the location of the monitoring equipment.</i> <i>d. A description of how data from the monitoring equipment will be reported to the Consent Holder and how information will be stored.</i> <i>e. A description of how monitoring data will be used to trigger dust control if concentrations exceed the limits specified in condition 67.</i> <i>f. A description of how monitoring data will be provided to the Manawatu-Whanganui Regional Council.</i> <p>If it is decided that the consent holder should have a standalone Dust Management Plan (DMP) then the condition should be rewritten as follows:</p> <p><i>The Consent Holder shall provide the Manawatu-Whanganui Regional Council with a Dust Monitoring Plan (DMP) for approval. The DMP shall include but not be limited to:</i></p> <ul style="list-style-type: none"> <i>a. A description of the activity including:</i> <ul style="list-style-type: none"> <i>i. site layout,</i> <i>ii. the nature of any earthworks, quarrying stages, and</i> <i>iii. location of overburden disposal.</i> <i>b. Identification of any residential dwellings or other sensitive receptors within 100 metres of the site boundary.</i> <i>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> <ul style="list-style-type: none"> <i>i. Use of water dust suppression on crushing and screening equipment;</i> <i>ii. Use of watercarts and/or pea gravel on unsealed haul roads and the area of the site accessible by the public;</i> <i>iii. On site speed limits;</i> <i>iv. Sealing of site accessways; and</i> <i>v. Use of a wheel wash.</i>

Table 1: Comments on Proposed Consent Conditions

Condition number	Comment
	<ul style="list-style-type: none"> <i>d. Dust management responsibilities for site staff.</i> <i>e. Dust complaint investigation and response procedures.</i> <i>f. Methods that will be used to monitor dust (as PM₁₀) and wind for dust management including but not limited to: <ul style="list-style-type: none"> <i>i. A description of the monitoring equipment</i> <i>ii. A description of the maintenance of the monitoring equipment</i> <i>iii. A description of the location of the monitoring equipment</i> <i>iv. A description of how monitoring data will be used to trigger dust control if concentrations exceed the limits specified in condition 67.</i> <i>v. A description of how data from the monitoring equipment will be reported to the Consent Holder and how information will be stored.</i> </i> <i>g. A description of the contingency measures that will be used to control dust if the monitoring data exceeds the concentration limits specified in condition 67.</i> <i>h. A description of how monitoring data will be provided to the Manawatu-Whanganui Regional Council.</i> <i>i. Processes for review and updating of the DMP, including provision of updates to the regulatory authority for its approval.</i>
New Condition	<p>To be consistent with the other proposed consent conditions there needs to be a requirement for the consent holder to operate the site either in accordance with the dust monitoring plan or the dust management plan and therefore I have proposed a new condition as follows:</p> <p>All works are to be carried out in accordance with the Dust [Management/Monitoring] Plan unless otherwise restricted by conditions of the consent.</p>
New Condition	<p>In light of the concerns about dust effects and the Applicant’s proposal of a particulate standard, it is appropriate to have a consent condition requiring that PM₁₀ monitoring is undertaken. Therefore I propose the following condition.</p> <p>The consent holder shall undertake real time PM₁₀ monitoring at a location on the site boundary near Kendalls Line within three (3) months of consent being granted. The exact location of the monitor and the method of monitoring shall be set out in the DMP required by condition 66.</p>
New Condition	<p>As discussed previously, I consider that the most significant air quality issue is the dust that is generated as a result of tracking material out of the site. Therefore I consider that there should be a specific investigation undertaken into this issue which sets out how it will be mitigated.</p> <p>The following condition is proposed to require this.</p>

Table 1: Comments on Proposed Consent Conditions

Condition number	Comment
	<p>Within three months of the grant of consent the consent holder shall provide to the Manawatu Whanganui Regional Council a report, prepared by a suitable qualified person, which investigates options for controlling the tracking of dust out of the site. This should include consideration of, but is not limited to:</p> <ul style="list-style-type: none"> a. Sealing or metalling of the publicly accessible yards b. Installation of a wheel wash c. Sweeping of sealed portions of the site roads and yards and Kendalls Line d. Maintenance requirements for any option selected <p>The Consent Holder shall implement the recommendations of the report within six months of the report being finalised.</p>
67	It would make more sense if this condition was renumbered so it occurred before the condition requiring a dust management/monitoring plan.
69	<p>I consider that the intent of this condition is OK, but again considers that it would make more sense that it was before condition 66. I also consider that the wording should be the standard wording used in other Horizons conditions as follows:</p> <p><i>There shall be no discharge of particulate matter that is objectionable to the extent that it causes an adverse effect at or beyond the site boundary.</i></p>

14.0 Overall Conclusion

I consider that in general, from an air quality perspective, that there is no reason why consent could not be granted for this activity. This is on the basis that there does not appear to be any specific air quality issues related to the operation of the quarry apart from dust associated with vehicle tracking. This is an issue that can be relatively easily controlled, and with the changes proposed to the consent this should be able to be implemented relatively easily.

Yours faithfully

PATTLE DELAMORE PARTNERS LIMITED

Prepared by



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Technical Director Air Quality

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