

26 August 2025

Kinetic Environmental Consulting Limited
PO Box 9413
Waikato Mail Centre
Hamilton 3240

Digitally Delivered

Dear Christian

Decision on an application for notified resource consent under the Resource Management Act 1991

APPLICANT'S NAME: R S Sand Limited

LOCATION: 77 Newcombe Road, R D 4, Cambridge

Application to Waipā District Council (WDC) – Reference LU/0077/23

Application to Waikato Regional Council (WRC) – Reference APP145695

AUTH145695.01.01	Discharge of treated water from the erosion and sediment control Structures to Karapiro Stream associated with the establishment and operation of a quarry
AUTH145695.02.01	Diversion and discharge of water associated with the establishment and operation of a quarry
AUTH145695.03.01	Soil disturbance, roading and tracking, and vegetation clearance activities associated with the establishment and operation of a quarry
AUTH145695.04.01	Discharge of overburden associated with the establishment and operation of a quarry
AUTH145695.05.01	Ground water take associated with the establishment and operation of a quarry

Independent Hearing Commissioners Richard Blakey (Chairperson), Ngaire Phillips and Tim Manukau (**the Panel**), have made a decision in respect of this application and notice of the decision and the reasons, are as detailed in the report available via Waipa District Council's website.

The following information provides you with some guidance on your rights and what to do next. It is recommended that you seek independent advice if you are in any doubt as to the processes to be followed.

Right of Appeal

You may lodge an appeal to The Registrar, Environment Court, PO Box 7147, Wellesley Street, Auckland 1141, within 15 working days of notice of this decision being received. The procedure for filing appeals is set out in Sections 120 and 121 and Form 7 of the Resource Management Act and Regulations respectively. A copy of this information is available to you on request.

Yours sincerely



Richard Blakey
CHAIRPERSON OF HEARING PANEL

RMA HEARINGS PANEL DECISION



DECISION OF THE HEARING PANEL ON A PUBLICLY NOTIFIED RESOURCE CONSENT APPLICATION TO OPERATE A SAND QUARRY AT 77 NEWCOMBE ROAD, CAMBRIDGE

DECISION

1. This decision is made on behalf of the Waipā District Council (**WDC**) and the Waikato Regional Council (**WRC**) by Independent Hearing Commissioners Richard Blakey (Chairperson), Ngaire Phillips and Tim Manukau (**the Panel**), appointed and acting under delegated authority under s.34A of the Resource Management Act 1991 (**the RMA**).
2. This decision contains the findings from our deliberations on the application for resource consent and has been prepared in accordance with s.113 of the RMA.

DETAILS OF THE APPLICATION

App Numbers:	<u>WDC:</u> LU/0077/23 – Land use <u>WRC:</u> AUTH145695.01.01 – Groundwater take AUTH145695.02.01 – Discharge of water AUTH145695.03.01 – Water diversion AUTH145695.04.01 – Land - disturbance AUTH145695.05.01 – Land - other
Applicant:	RS Sand Limited

Property Address:	77 Newcombe Road, Cambridge
Legal Descriptions:	(RT 841793) – Sec 41 SO 510550 and Sec 61 SO 510550 (RT 821177) – Lot 2 DP 520523 (RT 908965) – Lot 2 DP 541191 and Lot 4 DPS 86453
Site Area:	134.5 ha
Activity Status:	Discretionary activity (WDC); Discretionary activity (WRC)
Zoning:	Rural Zone
Policy Area(s):	• Formed Local Road • Cultural Landscape Area Alert • Biodiversity Corridor – Indigenous Forest Corridor • Biodiversity Corridor – 500m River Stream Corridor • High Voltage Electricity Transmission Lines and Structures
Designation(s):	N/a
Proposal:	Proposed sand quarry

THE SITE

3. The subject site is comprehensively described in the Assessment of Environmental Effects (AEE) prepared on behalf of RS Sand Ltd (**the Applicant**) as well as in the Landscape Assessments and other specialist reports. This material has been reviewed and adopted for the purpose of this decision. Key characteristics of the site are however summarised below, as adopted from the s.42A planning reports prepared for the WDC and WRC (together, **the Councils**).
4. The general location of the site is approximately 3km to the east of the Cambridge town centre, between the Waikato River and Karapiro Stream. State Highway 1, or Waikato Expressway (**SH1**), is located directly to the south of the site. Tirau Road heads towards Cambridge to the west off an interchange with SH1. Lockley Road runs to the south of SH1 servicing rural residential properties and the site fronts Newcombe Road along its southern boundary.
5. Most of the buildings on the properties within the site are located approximately 70-180m north of the main vehicle entrance from Newcombe Road, including a dwelling with attached garage, milking shed and several large farm buildings. The main vehicle

entrance to the site is located approximately halfway along its Newcombe Road frontage. There are also farm entrances from SH1/Tirau Road towards the south-eastern corner of the site.

6. The topography of the site is generally flat with areas dissected by gullies associated with the Karapiro Stream and its tributaries. The southern half of the site is at a similar level to Newcombe Road (approximately RL 75), while the banks of the Karapiro Stream and its tributaries are approximately 45m lower (RL 30). While most of the site is grazed by dairy cattle, portions of the gullies and slopes down to the streams contain exotic-dominated forest, scrub and forest, mixed exotic and native forest, and floodplain, gully basin and seepage wetlands.
7. The area of the site subject to the proposed activity (i.e., the project footprint) is located in the western portion of the property and involves 41ha of the available land, comprised of a 27ha quarry area and 14ha ecological restoration area. The site's northern boundary follows the alignment of the Karapiro Stream.
8. As noted above, the property is sited within the Rural Zone under the Waipā District Plan (**the District Plan**). There are no policy overlays or special features identified within the District Plan across the site other than the Policy Area notations described above.

THE PROPOSAL

9. A detailed description of the proposal is outlined in Section 3.3 of the WDC's Planning report (prepared by Todd Whittaker), which we set out below along with reference to those changes described during the hearing.
10. The Applicant has applied for land use consents from the WDC to establish and operate a sand quarry at 77 Newcombe Road, Cambridge. A series of associated regional plan and NES-Freshwater (**NES-F**) consent applications were lodged concurrently with the WRC.
11. The quarry is proposed to be comprised of a 23ha pit area towards the western boundary and a 4ha plant area (for processing and stockpiling) to the east of the pit. As originally described, the pit area was estimated to contain 7,409,700 tonnes (**T**) and 4,116,500m³ of sand resource, comprising a mixture of pit sand and concrete sand.
12. The proposed quarry is proposed to extract and process up to 400,000T of sand from the pit area per year (depending on demand) for up to 25 years from the western portion of

the site (approximately 22.6ha). The extraction rate (volume and timeframe) is described within the application to be across five stages.

13. The proposed processing plant (approximately 6m high and 20m wide) will be located in the middle of the plant area, and a water recycling pond towards the north. The plant building will use and discharge water to and from the recycling pond to grade the sand with spirals, screens, conveyors, and pumps on multiple levels. Graded sand will be stockpiled around the plant area. The south-western portion of the plant area will contain an office and breakroom building, maintenance workshop, car parking, weighbridge and wheel wash facility.
14. Access from Newcombe Road to the quarry will be provided via a new vehicle crossing approximately 150m to the west of the site's existing access and 660m from the intersection of Newcombe Road and Tirau Road.
15. As originally described, for Stages 1–4 (Years 1–20), a 20m-wide internal road will be constructed from the new vehicle crossing to the plant area. The road will initially be positioned over Stage 5 and along the existing fence line to limit the impact of the quarry on the existing dairy farm and dwelling on the site. For Stage 5 (Years 20–25), the internal road will be moved south to provide access to the sand resource beneath Stage 5.
16. The proposal will result in the loss of approximately 2.08ha of exotic plantation and dominated forest, 0.98ha of exotic dominated scrub, 3,090m² of seepage wetlands, 23.72ha of potential long-tail bat habitat (grass-land pasture) and 3.06ha of copper skink habitat. The Applicant proposes to undertake ecological measures to compensate for the loss of biodiversity values.
17. Progressive rehabilitation of the site (to productive/pasture use) is proposed on a staged basis.
18. Further particulars regarding the Proposal in terms of establishment, earthworks, sand processing and dust management and wetland compensation etc are described in the WRC's Planning report prepared by Stuart Penfold (Sections 3.2 – 3.9).
19. On the first day of the hearing the Applicant provided a plan indicating a change to the aforementioned staging of the proposed quarrying. In particular, part of the existing gully wall (facing the Karapiro Stream) would be retained through Stages 1 – 4, and not be removed until Stage 5. This change was further elaborated upon, including with revised plans, in the adjournment following the first three days of the hearing, as described later

in this decision. It was then further amended such that the gully wall would be retained in full through Stages 1 – 4.

STATUTORY FRAMEWORK

20. The application was considered under the provisions of the RMA in both the application documents and the Councils' respective s.42A Planning reports. The various assessments concluded that the application was to be assessed as a **discretionary activity** under the provisions of the District Plan and the Waikato Regional Plan (**Regional Plan**). The proposal is therefore required to be considered in accordance with ss.104, 104B and Part 2 of the RMA.

21. The various consents to which the applications are subject are specified as follows:

Waipā District Plan

Rule No.	Rule Name	Activity Status	Reason
Section 4 – Rural Zone			
4.4.1.4(h)	Discretionary Activity Status Table	Discretionary	The proposal is for a mineral extraction activity (sand quarry) that is not within 500m from the lakes identified under subsection (h).
Section 16 - Transportation			
16.4.2.5	Vehicle Entrance Separation from Intersections and Other Vehicle Entrances	Discretionary	While the proposed vehicle crossing is at least 600m from any intersection, it is approximately 160m from the nearest vehicle crossing to the east
16.4.2.14	Parking, Loading and Manoeuvring Area	Discretionary	As the surface of the proposed parking, loading and manoeuvring areas will be sand and metal, they will not provide a completely dust free environment.

16.4.2.23	Car Park Landscaping and Lighting	Restricted Discretionary	Given the proposed activity is a quarry, no trees are proposed in the parking area.
Section 26 – Lakes and Water Bodies			
26.4.2.1	23m Setback from Lakes and Water Bodies	Restricted Discretionary	As the northern extent of Stage 1 is 10-15m from the Karapiro Stream, earthworks and vegetation removal will be undertaken within 23m of the edge of the stream (amended to 55-60m as part of the changes discussed later in this decision).

Waikato Regional Plan

Reference Id	Activity Sub-type	Activity Description
AUTH145695.01.01	Groundwater take	Groundwater take associated with the establishment and operation of a quarry
AUTH145695.02.01	Discharge of water	Discharge of water to water and/or land associated with the establishment and operation of a quarry
AUTH145695.03.01	Water diversion	Diversion of water associated with the establishment and operation of a quarry
AUTH145695.04.01	Land-disturbance	Soil disturbance, roading and tracking, and vegetation clearance activities associated with the establishment and operation of a quarry
AUTH145695.05.01	Land-other	Discharge of overburden associated with the establishment and operation of a quarry

22. Overall, therefore, the land use application is deemed to be **Discretionary Activity**.
23. During the hearing there was discussion about whether a further regional consent was required in terms of air discharges, under Rule 6.1.16.1(e) of the Air Module of the Regional Plan (i.e., *“There shall be no discharges of hazardous substances to the air”*). This would be a discretionary activity, and so a determination that such a consent was required would not affect the activity classification as described above but left open the question as to whether a consent could be granted for something that has not been applied for. We heard detailed submissions on this point as we refer to later in this decision but note here our agreement with counsel for the Applicant and the Councils that no consent in this regard is required.

NOTIFICATION AND SUBMISSIONS

24. The Applicant’s land use application was publicly notified in a joint notification process with the application for regional consents. The original submission period was open for 20 working days from 20 September 2024 to 18 October 2024. Following requests from various community groups and parties interested in the proposal, the submission period was extended by an additional ten working days with the final closing date for submissions being 10 November 2024.
25. A total of 350 submissions were received, including two late submissions.¹ The WDC Planning report noted that the vast majority of submissions were in opposition to the application, with only 11 submissions in support (or neutral) of the applications. The WDC Planning report advised that the issue of truck movements through Cambridge and potential health effects of silica dust were two dominant themes. However, it was identified that there were nine submission topics overall, and the various sub-themes of those topics were set out at Section 5.2.3 of that report. A number of these topics and sub-themes were included in the evidence presented by various submitters at the hearing, and these are discussed in more detail below.

¹ The Panel resolved at the commencement of the hearing that the late submissions, by Hermene Krutzmann and Peter Spiller, be accepted in accordance with the recommendations set out in the WDC Planning report (at Section 5.2) and confirmation that this was not opposed by the Applicant (McDean EIC, at [3.2]).

SITE VISIT

26. The Panel undertook a site visit on 1 April 2025. In attendance with the Panel was Quentin Budd, the WDC's Manager District Plan & Growth. We visited the site itself, as well as its surrounding roading links and proposed truck routes through Cambridge, and was provided access to a submitters' property at 42 French Pass Road. The latter part of the site visit allowed us to gain an appreciation of views towards the subject site from this property, across the Karapiro Stream, and from within the environs of the stream itself.

RELEVANT STATUTORY CONSIDERATIONS

27. In accordance with s.104 of the RMA, we have had regard to the relevant statutory provisions including the relevant sections of Part 2 and ss.104B, 108 and 108AA.
28. In addition, and in accordance with s.104(1)(b)(i)-(vi) of the RMA, and in addition to the NES-F, we have had regard to the relevant policy statements and district and regional plan provisions identified at Section 8 of the WDC Planning report, being:
- National Policy Statement for Freshwater Management;
 - National Policy Statement on Highly Productive Land;
 - National Policy Statement for Indigenous Biodiversity;
 - National Environmental Standards for Air Quality;
 - Waikato Regional Policy Statement: Te Tauākī Kaupapahere Te-Rohe O Waikato;
 - Waikato Regional Plan; and
 - The Waipā District Plan, including section 4 (Rural Zone), section 16 (Transportation), section 20 (Health and General Amenity), section 18 (Financial Contributions) and section 26 (Lakes and Water bodies).
29. In accordance with s.104(1)(c), we have also had regard to other matters that may be relevant and reasonably necessary to determine the application (as set out at Section 9 of the WDC Planning report):

- Tai Tumu, Tai Pari, Tai Ao – Waikato Tainui Iwi Environmental Management Plan;
- Te Rautaki Tāmata Ao Turoa o Hauā — Ngāti Hauā Environmental Management Plan; and
- Te Rautaki Taiao a Raukawa — Raukawa Environmental Management Plan.

THE HEARING

30. The first hearing was held on 2 – 4 April 2025, in the Council Chambers (WDC) in Te Awamutu. The attendances are recorded below:

Role	Name
Hearing Panel	Richard Blakey (Chairperson) Ngaire Phillips (Commissioner) Tim Manukau (Commissioner)
Hearing Panel Assistance	Deb Holmes
Appearing for the Applicant	RS Sand Limited, represented by: • Bal Matheson (Legal Counsel) • Kurt Hine (Corporate) • Dave Mansergh (Landscape) • Andrew Curtis (Air quality) • Andrew Holland (Geotechnical) • Campbell Stewart (Erosion and sediment control) • Clare Houlbrooke (Hydrology) • Matt Baber (Ecology - excluding bats) • Gerry Kessels (Ecology - bats) • Jeremy Hunt (National policy statement for highly productive land) • Lawrence McIlrath (Economics) • Michael Hall (Transport) • Rhys Hegley (Acoustic) • Christian McDeane (Planning)

Role	Name
Appearing for the WDC	Anna McConachy (Legal Counsel) Todd Whittaker (Planner) Quentin Budd (Manager District Plan & Growth) Cameron Inder (Transport) Andrew Blayney (Ecology) Oliver May (Landscape) Matt Cottle (Noise - online)
Appearing for the WRC	Anna McConachy (Legal Counsel) Stuart Penfold (Planner) Hugh Keane (Team Leader) Brent Vyle (Consents Officer) Peter Stacey (Air Quality) Kaitlin Morrison (Wetlands) Glenn Pope (Erosion and sediment control) Josh Smith (Freshwater ecology) Sung Soo Koh / Cameron King (Groundwater)
Submitters in Opposition	Paul & Rahel Westlake Colin Bailey Cambridge Community Board, represented by: - Jo Davies-Colley and Elise Badger Barry Quayle Tania Elizabeth Smythe Cambridge Town Hall Community Trust, represented by: - Simon Brew and Kirsty Johnson Colin Bradley Richard Kennaway Carl Jason Miller Cambridge Chamber of Commerce, represented by: - Kelly Bouzaid

Role	Name
	• Tobias Ueckermann Royal Forest & Bird Protection Society of New Zealand, represented by: • Elvira van der Leden Brendan Kavanagh Vladimir Pachaeco Cueva Windsor Park Leasing Ltd, represented by: • Mark Chrisp (Planning) Wikitoria Jacobs Rhys & Antoinette Powell, represented by: • Jemma Hollis and Vanessa Hamm (Legal Counsel) • Hayden Green (Economics) • Lou Wickam (Air Quality) • Tony Chisnall (Geology) • Adrian Morton (Landscape)
Submitters in Support	Nil

31. The Panel issued three minutes prior to the commencement of the hearing, related primarily to administrative matters associated with the timeframes for the circulation of WDC's draft conditions, the evidence more generally, the approach to be taken in respect of expert evidence, and those witnesses whom we did not have any questions for.
32. The hearing was adjourned on the morning of the third day, following the end of the submitter presentations. This followed a representation by Anna McConachy, counsel for the Councils, who advised the Panel that as a result of the changes made to the application on the first day (and where updated plans had not yet been provided), that Council officers were not in a position to be able to provide a response to the evidence heard. Ms McConachy confirmed that this had been conveyed to counsel for the Applicant and the Powells. She proposed that a direction be issued by the Panel confirming a timetable for the provision of plans and revised conditions from the Applicant, and that the hearing be reconvened. Following further discussion with the parties the Panel agreed to this approach, and the hearing was adjourned.

33. We refer again to this matter and subsequent actions (via the Panel's Directions 1 and 2) later in this decision.

SUMMARY OF THE EVIDENCE HEARD - Section 113(1)(ad)

Introduction

34. We summarise the evidence considered and heard in respect of the application below, which is provided in order to address the requirements of s.113(1)(ad) of the RMA. We note that all the evidence has been uploaded to the Councils' respective websites (along with recordings of the hearing) where it can be read and/or viewed in full.²
35. This evidence summary is reasonably extensive and traverses the proposal as originally described and its evolution through the hearing process including the reconvened hearing. Some aspects of the evidence were inevitably superseded, however our summary below provides context for those changes and the reasons for them. We would also highlight the slight difficulty that arose from the order in which evidence was received and subsequently presented, where changes or updates were in some instances provided prior to the hearing of the evidence. We have endeavoured to provide our summary in a logical manner that identifies the key issues that remained through each stage of the presentations.

Evidence for the Councils

36. The WDC Planning report was prepared by Mr Whittaker in accordance with s.42A of the RMA, and addressed the resource management -related issues relevant to the land use application. While largely supportive of the application, Mr Whittaker considered that three primary issues remained for the Panel's consideration, relating to:
- *The ability to quantify traffic distribution effects and whether the proposed quarry will introduce unacceptable or inappropriate levels of truck movements through Cambridge*
 - *Whether the degree of biodiversity effects is acceptable taking into account the compensation planting and habitat restoration measures proposed by RS Sand*

² See WDC at <https://www.waipadc.govt.nz/our-services/planning-and-resource-consents/notified-resource-consents/77-newcombe-road-cambridge#toc-link-1>

- *Is the use of highly productive land for a quarry appropriate and are there regional benefits of the proposed quarry that satisfy the National Policy Statement – Highly Productive Land?*
37. Overall, Mr Whittaker concluded that if the transportation-related matters could be resolved, then the quarry would merit the grant of consent, subject to refinement of the proposed conditions to ensure that other adverse effects are appropriately mitigated and managed to an acceptable level.
 38. Mr Whittaker’s assessment drew upon specialist advice and assessments provided by Cameron Inder (Transport), Andrew Blayney (Ecology), Matt Cottle (Noise) and Oliver May (Landscape).
 39. The Planning report for the WRC was prepared by Mr Penfold, also in accordance with s.42A of the RMA, and addressed the regional consent aspects of the application. The report concluded that the proposal would not be inconsistent with the objectives and policies of relevant provisions of regulations, policy statements and plans, including iwi environmental plans, and would be consistent with the purpose and principles of the RMA, as set out in Part 2. Mr Penfold recommended that the application be granted consent, subject to the imposition of suitable conditions. He also noted that there remained some uncertainty regarding the method of implementing an agreed mitigation method (the Trigger Action Response Plan, or **TARP**) to address the impact of the proposal on the adjacent SH1 as a result of potential settlement. However, the wording of this condition was resolved with the New Zealand Transport Agency (**NZTA**) prior to the hearing and was presented as part of the rebuttal evidence of Christian McDean (the Applicant’s planner).
 40. Mr Penfold’s assessment drew upon specialist advice and assessments provided by Peter Stacey (Air Quality), Kaitlin Morrison (Wetlands), Glenn Pope (Erosion and Sediment Control), Josh Smith (Freshwater Ecology) and Sung Soo Koh / Cameron King (Groundwater).

Evidence for the Applicant

41. **Bal Matheson** provided opening legal submissions on behalf of the Applicant. He provided an overview of the proposal and the evidence to be called and proceeded to focus on the areas of contention raised by the Councils, and separately those matters of concern to submitters.

42. Mr Matheson highlighted the high level of agreement between the respective authors of the Councils' Planning reports and the Applicant, noting that the areas of disagreement between the Applicant and the WDC team related to:
- (a) The need for any additional works to provide for pedestrian or cycling safety on the old SH1 route through Cambridge, as a result of quarry truck movements associated with the Proposal;
 - (b) The nature and extent of the bund opposite the Miller property at 41 Newcombe Road; and
 - (c) The proposed term of consent.
43. To that summary we would also add that there was an unresolved matter relating to the alignment of the proposal with the National Policy Statement on Highly Productive Land (**NPS-HPL**), which was addressed later in Mr Matheson's submissions.
44. Mr Matheson noted that the outstanding matter in respect of the WRC was confined to the wording of the TARP, which as noted above was able to be resolved between the Applicant, the WRC and the NZTA prior to the hearing.
45. Issues of note in respect of submitter concerns were summarised under the topics of traffic, health/dust including the effects of respirable crystalline silica (**RCS**), stream ecology, the environment and sustainability generally, amenity effects, biodiversity and cultural effects. Overall, Mr Matheson characterised the contentious issues for the hearing as relating to the use of land protected by the NPS-HPL; the effects of quarry trucks through Cambridge; the effects of dust/RCS on adjacent neighbours; and the effects on landscape and visual amenity, particularly for 42 French Pass Road.
46. Mr Matheson also explained the statutory framework for assessing the application in the context of its overall discretionary activity status, and the guidance for the same from recent case law, particularly from three Supreme Court cases.
47. We discuss Mr Matheson's submissions on the primary matters of contention, and those provided within his reply submissions, later in this decision.
48. It is noted at this juncture that the Applicant's witnesses presented evidence-in-chief statements, rebuttal evidence and, for the hearing, summary statements (or evidence speaking notes). We refer to the latter evidence as part of our summary of that evidence, but draw upon those earlier statements as necessary in our discussion of the

matters in contention later in this decision, except as superseded by changes to the proposal.

49. **Kurt Hine** provided evidence on behalf the Applicant (as General Manager – Aggregates, at Stevenson Aggregates Ltd). Mr Hine highlighted the importance of aggregate to a wide range of construction and building types, and that demand for aggregate was expected to increase over the next 30 years (as illustrated within the Market Economics report prepared for the Applicant). He noted that sand is an essential ingredient in the concrete that society relies on for the construction of infrastructure and buildings, and the location of sand quarries capable of providing concrete sand is determined by the quality of the resource, distance to markets and land use. In his view, the expansion of aggregate processing capacity through the opportunity provided at Newcombe Road would provide additional aggregate resource, and cost savings for the same, to the Waikato/Bay of Plenty economies.
50. Mr Hine also emphasised that Stevenson’s operate a robust consent monitoring and compliance process, with an environmental advisor who supports the quarry manager to ensure that compliance with consent conditions is ongoing.
51. Mr Hine, in conjunction with Arthur Fulton, advised in response to questions that the percentage of trucks operated by Stevensons (as compared to independent contractors) would be in the range of 5-10%, and that the percentage of concrete sand extracted and sold from the site would be approximately 45%.
52. **David Mansergh** provided evidence in respect of landscape effects, and noted that from a landscape perspective, the proposed quarry would result in moderate to moderate-high effects during initial stages due to changes in landform and vegetation removal. He considered that this would reduce progressively over time as restoration occurs. In terms of the wider landscape, he noted that adverse effects would be low due to visual containment by topography and existing vegetation, and that there are no outstanding or sensitive landscape features that will be compromised by the proposal.
53. Mr Mansergh advised that agreement had been reached with the owners of 92 French Pass Road in terms of a proposed landscape solution for that property, which would involve planting within that site to screen views of the quarry. He further noted that he had recently had the opportunity to visit the property at 42 French Pass Road (the Powell property) and accordingly had amended his assessment of effects associated with that property. He considered that this property will experience the greatest visual effects from the quarry, especially from within the gully and along access tracks. In this

regard he referred to a new plan prepared for the Applicant that illustrated a review of the staging sequence to try to reduce adverse effects further, particularly by retaining more of the gully wall during early stages.

54. The Panel observed during the hearing with Mr Mansergh that his evidence was not specific to the amended staging sequence and therefore provided him with an opportunity to comment on that change. We also queried with Mr Mansergh about details of the landscape planting that he had referred to, which he confirmed was primarily a reference to the land rehabilitation and re-grassing of the site, and the way in which the stages would be rehabilitated notwithstanding the requirement to then work backwards across the stages to access the gully wall as part of Stage 5.
55. Mr Mansergh further confirmed that the amended proposal would reduce adverse effects to 'low and moderate' for the Powell property once it is removed, because the land behind will have been rehabilitated.
56. However, it was determined that it would be appropriate for Mr Mansergh to provide a supplementary statement in respect of this issue. We refer to this matter later in this decision.
57. **Campbell Stewart** provided evidence in respect of earthworks and erosion control. As with Mr Mansergh, the proposed change to the proposal had a significant change to the way in which the measures within the erosion and sediment control plans (**ESCPs**) would be implemented, and these were described as part of Mr Stewart's presentation to us.
58. Mr Campbell advised, through his summary statement, that the ESCP methodology has been prepared in general accordance with WRC guidelines. He explained that, in general, it would comprise of a stabilised construction entrance, compound and loadout areas, clean water diversion drains to direct off-site water away from the works area and progressive excavation and stabilisation. The proposed Sediment Retention Pond (**SRP**) would provide erosion management during the establishment of the processing area to then be enlarged and converted to a water storage and re-use pond post-establishment. He also referred to the function of perimeter bunds, a soakage basin and containment bunds, all designed to ensure that sediment would not be discharged to the Karapiro Stream.
59. Mr Stewart advised that the overall design of the ESCPs did not assume any on-site soakage. However, he highlighted that on the basis of percolation tests soakage is expected to exceed the rate of runoff anticipated in a 1-hour 100-year rainfall event.

Accordingly, the design is highly conservative and for most rain events, there would be little, if any, runoff entering the impoundment devices.

60. Mr Stewart addressed queries from the Panel regarding the proposed changes to the ESCP design, given that retention of the gully wall (to Stage 5) would function as a bund and make redundant the original ESCP designs for Stages 1 and 2. He noted that the revised proposal would take away some of the complications of that staged approach to be established from Stage 1.
61. As with Mr Mansergh, the Panel agreed that Mr Stewart would need to provide an updated ESCP plan(s) to address the significant change to the Stage 1 and 2 arrangements for the site. We address that updated information later in this decision.
62. **Jeremy Hunt** provided evidence in respect of rural productivity issues. This was in the context of the site being comprised of Land Use Capability (**LUC**) 2 soils on the flat pastoral land, and LUC 7 soils to the north incorporating the gully. He confirmed that the LUC 2 soils qualify as Highly Productive Land (**HPL**) and are subject to the NPS-HPL. His evidence focused on the minimisation and mitigation of actual or cumulative loss of the availability and productive capacity of HPL in the district associated with the proposal, and with reference to the requirements of the NPS-HPL.
63. Mr Hunt advised that during the staged process, dairy farming would continue across undeveloped or rehabilitated areas, and that baseline soil monitoring and benchmarking would ensure that restoration is completed to a standard that would allow continuation of land-based primary production.
64. Mr Hunt did not dispute that the soils will be altered and not authentically restored, as suggested by Tony Chisnall (for the Powells), but disagreed that the level of degradation would be more than minor if managed appropriately. In his view, it is common practice to reinstate land and soils following extensive earthworks and to return these disturbed soils back to a productive state. He also expressed a view that the soils are not unique to the site or the area more generally, and that the proposal would impact only 0.21% of HPL soils in the district.
65. In response to questions from the Panel, Mr Hunt referred to land rehabilitation examples, although this was primarily comprised of a cleanfill operation. He also explained that at the end of the rehabilitation stages for the present proposal there will be a mix of LUC 2 land and something that has low productive potential, and that will be because of that slope batter, which has now been removed from the other side of

the site. We sought to further clarify particular aspects of the rehabilitation associated with the amended proposal, being a matter that we will return to later.

66. **Matt Baber** provided evidence in respect of ecological matters and described the ecological characteristics of the site and surrounding area, and the conservation status of various local species. He also referred to the extent of habitat loss associated with the proposed quarry, and that potential effects would be avoided, minimised or remedied through the development and implementation of the Ecological Management Plan (**EMP**). This would include the way in which habitat restoration and enhancement measures would be implemented, and advised that, to ensure the proposed restoration was as close to an offset as feasibly possible, a Biodiversity Compensation Model was applied as a decision-support tool.
67. The proposed compensation would involve approximately 14ha of habitat restoration and enhancement to:
- Create additional habitat and ecological connectivity for bats and other native forest fauna, along 2km of riparian margin that links two Significant Natural Areas;
 - Provide buffering and connectivity for 3.7ha of gully basis floodplain and seepage wetlands; and
 - Improve the extent of native-dominated wetland through weed control and appropriate revegetation and enrichment planting.
68. Mr Baber also referred to proposed stock exclusion fencing, a 20-year weed control programme, 25 years of animal pest control, the covenanting of restoration and enhancement areas and bat-specific mitigation. It was his view that collectively these measures would achieve net positive outcomes for biodiversity values within ten years of commencement. The various actions would be managed, monitored and evaluated via the EMP, which is to be certified by the WDC and WRC. Overall, he concluded that the proposal would address potential adverse effects on ecological values in order to achieve net positive outcomes.
69. In response to questions from the Panel, Mr Baber advised that all the planting would be undertaken in the first available planting season, following a grant of consent, and then continue thereafter for the next five years (focusing on the mitigation planting first, followed by the compensation planting). He also addressed the Panel's queries as to the conceptual level of detail provided at this stage, and what is required by the

conditions, and when. In this regard Mr Baber acknowledged that the conditions do not provide appropriate performance standards at this stage, including as to plant density.

70. Mr Baber also confirmed that the changes to the proposal did not affect his assessment, other than to note that mitigation plantings would need to be set-back from the gully wall to avoid excavations within new dripline areas.
71. **Gerry Kessels** provided evidence in respect of ecological matters, with a primary emphasis on potential effects on bats and their habitat. He advised that the site represents a mid to lower end of the range for typical bat pass detection rates when compared to other similar sites in the area. He also noted that extent of habitat loss (comprised of terrestrial and wetland vegetation and pasture habitat), but that adverse effects would be avoided, minimised or remedied through use of DOC pre-felling protocols, the reduction of effects of artificial lighting, dust control, the installation of bat roost boxes and pre-felling roost checks.
72. Mr Kessels referred to the 14ha of proposed habitat restoration and enhancement measures within the terrestrial floodplain and gully habitat adjacent to the project footprint. It was his view that this proposed restoration would create additional habitat and ecological connectivity for bats and other native forest fauna along riparian margins, as well as foraging and roosting habitat. A targeted animal pest control programme would also reduce predation of locally roosting bats. Collectively, he considered that these measures would achieve net positive outcomes for bats within 15 years of commencement.
73. In response to questions, Mr Kessels confirmed that retention of the gully wall through the first four stages would likely be beneficial to bats in terms of their navigation and providing a shield from quarrying activities. He also clarified the timing for pest control, being 25 years for animal pests and 20 years for pest plants, reflecting the agreement reached with the Department of Conservation (**DOC**) that animal pests would be controlled for the life of the quarry.
74. Mr Kessels also acknowledged that there would need to be a strong link between the operational plan for the quarry and the fauna protection plans to ensure that these measures to address minimising harm on fauna and reducing adverse effects are integrated into the day-to-day operations on the ground.
75. **Rhys Hegley** provided evidence in respect of acoustic matters. In addressing the primary potential noise issue, being noise effects from the quarry in proximity to 41

Newcombe Road, he referred to the parameters of a proposed 2.5m-high earth bund that would be used along the western boundary, which would be built prior to the commencement of sand extraction in the adjacent area. Based on the use of noise propagation software, it was his view that noise from the quarrying, including operation of the processing plant, would be compliant with the relevant District Plan standard, as would the construction of the bund.

76. Mr Hegley made a further observation during his presentation in respect of traffic noise, which he noted would lead to an increase of only 1 dBA, because it is measured on a 24-hour basis. He also clarified that while the bund proposed for the quarry processing area would have a noise attenuation function (as described on the Bund Sequencing Plan attached to Mr McDean's evidence), that was not its primary purpose.
77. **Andrew Holland** provided evidence on geotechnical matters. His summary evidence noted the key findings from his geotechnical investigations of the site and assessments as to slope stability and potential settlement from groundwater drawdown, which were that:
- The ground conditions matched the mapped geology, with interbedded silt and sand soils extending to 15-17m below ground level (**bgl**), overlying dense sand soils.
 - Groundwater was found between 2.1 to 10.5m bgl and is perched within the near surface silt and silty sand soil layer across the site. The regional groundwater level is about 40m bgl.
 - The proposed final slopes will be stable, with safety factors above the minimum required.
 - There could be up to 10mm of settlement below the SH1 on-ramp, decreasing to less than 0.3mm below the expressway based on the drawdown assessment by WGA Ltd.
78. Overall, Mr Holland concluded that no significant geotechnical hazards would arise from the proposed quarry that cannot be managed or mitigated through further detailed assessment and design or during its operation. He noted that the TARP condition had been developed to specify pre-determined actions if settlement effects are greater than expected.

79. In response to questions, Mr Holland advised that the proposed change (i.e., the retention of the gully wall) would not have any implications from a geotechnical perspective, particularly with the gully wall being on the opposite side of the site from SH1.
80. **Clare Houlbrooke** provided evidence in respect of hydrology matters. She described the characteristics of the aquifers within the site, noting that the proposed excavation to RL 40 would remove the perched aquifer, but be some 7m above the unconfined aquifer. In this regard she highlighted that there are several locally incised gullies that would limit the drawdown effect of the quarry on the perched aquifer, and this would limit effects on the adjacent SH1.
81. Ms Houlbrooke advised that while most registered bores and existing water takes would not be affected by the excavations, there was potential for a significant effect on the unregistered water supply for the adjacent property at 41 Newcombe Road, and some potential for impacts on the spring at 143 Tirau Road.
82. Ms Houlbrooke also described the amount of groundwater to be drawn for dust suppression and sand processing (from the confined aquifer), and that this drawdown would have less than minor effects on nearby bores and surface water bodies. In addition, she referred to onsite soakage testing which has indicated that the floor of the pit should provide sufficient soakage capacity to enable the management of incipient rainfall without direct overflow to the stream. Due to the potential for ponding on the quarry floor, it was her recommendation that the quarry design should include a designated soakage area (basin) in an area of the pit floor characterised by higher permeability material.
83. Ms Houlbrooke also recommended some additional drilling and groundwater level monitoring to ensure groundwater levels respond as expected, and her EIC included recommended conditions to this effect. The Panel questioned whether these had been adopted into the conditions, and Ms Houlbrooke advised that they may not have been, but could be captured through a groundwater management plan which she agreed would need to be provided for through the conditions. Ms Houlbrooke also responded to questions about the application of conditions for neighbouring properties in terms of impacts on their water sources, and how these would be monitored to determine whether it was the quarry that was having an effect or not. She acknowledged there was some difficulty in that regard without having access to the properties in question.
84. **Lawrence McIlraith** provided evidence in respect of economic considerations. As with Mr Hine, he noted that sand is an essential input for concrete (with 400-450kg of sand

required to create a cubic metre of concrete), and as a result, it was essential for the construction sector, which in turn is a central part of economic growth and development. It is a high-volume, low-value commodity, that is costly to transport. Accordingly, he noted that the spatial relationship between where sand is sourced and where it is used is very important and that the transport of sand also incorporates environmental externalities of emissions and accidents, which emphasises the need for local sources of sand.

85. Mr McIlraith advised of population growth -derived increases in demand for concrete sand, to 950,000T by 2048. He noted that changes to the Auckland sand market, including in respect of declined consents for Pākiri sand and uncertainty about renewals for Kaipara sand, would provide further demand for sand resources elsewhere. He also highlighted the fact that sand is not a homogenous good, and that only certain types of sand are suitable for use in concrete manufacture.
86. He further advised that consented volumes for washed sand is estimated at approximately 530,000T per year and that the sand supply market is relatively concentrated, with a large share of consented volumes associated with a small number of operators or consents. He noted that this concentration means that if these consents expire and are not renewed, then a large portion of the supply is lost or is at risk, and would result in a drag on economic activity. He also highlighted that approximately 47% of consents are likely to expire in the near future. The Newcombe Road sand quarry would, in Mr McIlraith's opinion, partly address the shortfall in sand supply and help to avoid future shortfalls. Therefore, in terms of the cost and benefits, supporting regional economic activity is critical and sand is an essential input, and that a lack of sufficient sand would be a drag on economic activity.
87. Mr McIlraith also emphasised the need for sand to be located proximate to where it is needed in a way that avoids transport, environmental and social costs. He explained that these avoided costs are seen as benefits and were calculated for the proposal as approaching \$180 million over the life of the consent (representing the economic benefits in the form of avoided costs that accrue to the region's economy and ultimately households).
88. Mr McIlraith responded to submission points related to effects on tourism, the foregoing of agricultural land and increases in heavy traffic movements. In respect of the latter (which was a significant point raised by the submitters), he considered that such adverse effects should be viewed against the counterfactual – i.e., the traffic movements that would result if the sand were sourced from elsewhere.

89. He also responded to the evidence of Hayden Green on behalf of the Powells, relating to sufficiency analysis and the extent of approved quarries. In Mr McIlraith's view, there is limited certainty about the medium term regarding supply, but uncertainty would be reduced for the duration of the proposed quarry. He further noted that manufactured sand would still require natural sand, along with aggregate feedstock, as well as transportation to the point where it is produced and used. He further highlighted the differences in assessment of transport costs and the relevance of the Emissions Trading Scheme in terms of costs.
90. It was Mr McIlraith's conclusion that establishing the proposed quarry would support the regionally significant and essential sand industry to fulfil local demand while also supporting other regions. He considered that, without new resources being developed or the existing consents renewed or extended, the region will not have sufficient capacity to support infrastructure investment and meet the needs of other sand users.
91. **Michael Hall** provided evidence on traffic and transport matters. His summary evidence noted that he had undertaken further sensitivity testing of higher truck movement that the Newcombe Road/Tirau Road intersection to demonstrate that there was sufficient capacity for at least 200 trucks (400 movements) per day. He referred to conditions that would require upgrades to this intersection that had been developed in conjunction with the NZTA, including in respect of visibility improvements that had been one of the matters raised by Ray Talbot (submitter). More details in this respect were noted in his rebuttal evidence.
92. In terms of the movements of heavy commercial vehicle (**HCV**) traffic through Cambridge, Mr Hall noted further recommended conditions that would require a review of the road safety record for this area during operation of the quarry, and that following completion of the 'Cambridge to Piarere' (**C2P**) project (if consented), trucks would be encouraged to use the future Karapiro interchange to reduce movements through the Cambridge urban area.³
93. Overall, Mr Hall considered that the conditions, as agreed with both the NZTA and the WDC (as the relevant road controlling authorities), would sufficiently mitigate the transportation-related effects of the proposal.

³ Consideration of the 'State Highway 1 Cambridge to Piarere long-term improvements' project was being considered by an expert consenting panel under the fast-track provisions established by cl.22 Sch.10 of the Natural and Built Environment Act 2023.

94. In response to questions, Mr Hall advised that he did not consider that earthworks would be required to reintroduce compliant sightlines from the Newcombe Road intersection, and that the removal of vegetation should be sufficient. He also addressed other queries related to the number of traffic movements envisaged, and the calculation related to the condition relating to the heavy vehicle fee (as a financial contribution).
95. **Andrew Curtis** provided evidence on air quality matters. His summary evidence addressed the potential dispersal of dust to surrounding properties, including with PM₁₀ and RCS. He stated that the processes for managing dust (including wetting) were all standard processes for sand quarries in the Waikato, and so are well-proven and have been shown to be effective, and would also control dust at PM₁₀ concentrations. In his view, there was a low potential for nuisance effects to occur, including at the closest neighbour at 41 Newcombe Road.
96. Mr Curtis cited a monitoring study undertaken at a quarry in Yaldhurst (Christchurch), which had shown that PM₁₀ concentrations were in the order of 50% of the National Environmental Standard for PM₁₀. He also advised, with respect to a US EPA assessment methodology, that there was a low risk of health effects given the measured RCS concentration in the sand resource.
97. Mr Curtis responded to the evidence of Lou Wickham (on behalf of the Powells) in this regard, and highlighted that while monitoring of RCS emissions from the quarry is not yet possible, he noted that the Yaldhurst study had found RCS at concentrations well below the Californian guideline referred to by Mx Wickham. On this point he also advised that he was not aware of any other dust or RCS monitoring studies, including with respect to sand quarries in the North Island.
98. He also did not consider that there needs to be significant buffer distances established for the quarry such as those suggested by Mx Wickham. In his view, the Victorian guidelines referred to by them were primarily developed to control effects from large hard rock quarries in arid Australian conditions. He considered that those guidelines are not an appropriate or necessary option for a Waikato quarry where the resource has a 30% moisture content.
99. Mr Curtis also clarified that the 'FIDOL' tool and his assessment of it does not include health risk (such as that associated with RCS) in the context of an 'offensive' category, as the tool is intended to relate to amenity considerations.

100. **Christian McDean** provided evidence in respect of planning matters, and the proposed conditions of consent. He noted his general agreement with the Planning reports prepared for the Councils. In terms of the WRC, he advised of the agreed condition to provide for protection of the restoration area in perpetuity, as well as the revised TARP condition as agreed with the NZTA. For the WDC, he clarified the following matters:
- (a) That he opposed the imposition of a 25-year term of consent (which would reduce to 24 years based on the inclusion of a specific date in proposed condition 3).
 - (b) He agreed with Mr Whittaker's characterisation of 400 truck movements (through Cambridge) as a maximum number rather than typical.
 - (c) Addressed Mr Whittaker's concerns regarding the NPS-HPL and considered that the Applicant's legal submissions and evidence of Mr McIlraith would assist Mr Whittaker in presenting a final opinion to this Panel, while also highlighting that the NPS-HPL is one of a number of matters that we must have regard to under s.104(1).
 - (d) That other specific queries in relation to transport, vibration, pasture reestablishment and bunding had been responded to within the specific specialist's evidence as well as the Bund Sequencing Plan (**BSP**) attached to his rebuttal evidence.
101. Mr McDean also addressed matters arising from the expert evidence presented on behalf of the Powells as follows:
- (a) He described the previous efforts made to visit the Powell site, and considered that the grant of access on 31 March 2025 was a positive outcome that had allowed Mr Mansergh to 'ground-truth' his landscape assessment which resulted in a proposed amendment to the quarry staging to better manage off-site effects.
 - (b) In terms of Mx Wickham's evidence, he considered that the permitted activity standards for air quality could be met such that no additional consent would be required. In this regard, and on the basis of previous aggregate extraction proposals, he noted that he was not aware of any aggregate extraction applications that have resulted in the requirement for a discretionary activity air discharge consent. Nevertheless, he indicated that if the Panel did decide that a consent was required, no additional information would be necessary to inform the Panel's finding in respect of it.

- (c) With regard to Mark Chrisp's evidence (for Windsor Park Leasing Ltd), he acknowledged the benefits of north-facing ramps to SH1 for the proposal, and the Cambridge community more broadly. He noted, however, that the NZTA had made their position clear, and any further consideration of the ramps as part of the application is beyond the scope of what has been sought by the Applicant.
102. Mr McDeane concluded that, in his opinion, the proposal can be granted consent, with appropriate conditions.
103. In response to questions from the Panel, Mr McDeane clarified the purpose and timing of the BSP, and the time that it would be required with respect to works near 41 Newcombe Road (to ensure compliance with noise standards), as well as the matters arising from the Memorandum of Understanding (**MoU**) with mana whenua and how these would be captured by conditions. We also discussed the particular wording of some of the proposed conditions, and that these were agreed to be addressed through the Applicant's reply (and the subsequent steps that we describe below), including as to the differences between the WDC and WRC conditions.

Evidence for the Submitters

104. The submitters presented their statements and evidence on the second day of the hearing (and the start of the third day). Prior to hearing from the submitters, three statements were formally tabled:
- (a) **Luke Braithwaite**, Senior Planner for the NZTA, tabled a statement of evidence which advised that the NZTA and the Applicant (including their subject matter experts) have worked together constructively to address the matters raised in its submission. On that basis, he confirmed that the NZTA is satisfied that all its concerns raised within its submission have been adequately addressed or mitigated through providing further information or an agreed set of conditions.
- (b) **Ray Talbot** tabled a statement that set out his concerns with various transport-related aspects of the proposal, and in summary refuted the conclusions set out in the Applicant's Integrated Transportation Assessment that the proposed quarry traffic can be accommodated by the surrounding road network with less than minor traffic effects.
- (c) **Sharyn Flintoft** tabled a statement on behalf of the SJ Flintoft Family Trust (**Flintoft Trust**) which set out the reasons why the Flintoft Trust believed that the proposed quarry would have an adverse effect on its property and the wider

Cambridge community at a level that cannot be avoided or mitigated. The effects of concern were noted to be related to traffic, amenity, noise, ecological, dust and the loss of HPL. Ms Flintoft considered that the proposal would be contrary to the objectives and policies of the District Plan, and the relevant National Policy Statements and Te Ture Whaimana - Vision and Strategy for Waikato River. Ms Flintoft also considered that the proposal would not satisfy the requirements of the RMA and should not be approved.

105. **Rachel Westlake** (online) advised that she and her family live across the stream from the site, and she was concerned as to impacts associated with visual effects, noise and general pollution. She noted that they can see SH1 and that the quarry would be between that and their site. With prevailing winds from that location she was concerned that noise and dust would be directed towards their property.
106. Ms Westlake also noted the efforts undertaken to tidy up adjacent areas of the Karapiro Stream with planting and was concerned about that work being undone by impacts associated with the quarry. She clarified that this was work was associated with a Māori trust over the past four or five years, but she wasn't certain as to the extent of planting proposed by the Applicant in the stream area and whether that might have a beneficial effect. She highlighted that the stream banks are quite unstable, so that in flood events there can be some soil (and plant) loss.
107. **Colin Bailey** is a resident of French Pass Road and expressed concerns about the risks of the quarry activity to his family's health and that of the community, and the effect on their quality of life, given its proximity, including from RCS. He noted that even with the changes there will remain a visual impact from the quarry and certainly of the processing plant. He also cited effects on children playing within the lower area around the Karapiro Stream.
108. Mr Bailey highlighted the lack of comparable data on RCS, with the only reference point being one in the South Island, of a different mining type. For the present proposal, he noted that it would be exposed to the prevailing winds that are well known to locals and which were evident during the recent burning of felled pine trees at 42 French Pass Road that blew in a southerly direction across to his property. He emphasised that he did not want his family exposed to RCS. He considered that active monitoring was necessary to ensure that operations cease as soon as emissions exceed a certain standard, and that the trigger levels in this regard were too uncertain.
109. He also questioned the economic analysis, and the application documents which stated that sand from the quarry would go to the concrete industry, but that this had now

changed so that such sand only represents 35-42% of the total. In his view, that called into question the economic benefits as well as the likely traffic effects.

110. In respect of the latter point, Mr Bailey referred to the extent of peak traffic that is now experienced within Cambridge (a point that most submitters would go on to highlight for us). He considered that the introduction of further quarry-related traffic, including through the Victoria Road roundabouts, would create further congestion and increase the risk of accidents.
111. In summary, Mr Bailey was of the view that the health hazards associated with the quarry are too great to allow it to proceed, and the application should be rejected.
112. **Jo Davies-Colley** and **Elise Badger** presented on behalf of the Cambridge Community Board (as Chairperson and Deputy Chairperson respectively). Ms Davies-Colley noted that their submission had been 'neutral', as they understand and acknowledge the need for the sand and concrete in the continued development of the district. However, she noted that the quarry will be large with correspondingly high numbers of truck movements that would be likely to impact on the town centre, as well as Leamington Village.
113. Ms Badger described the transport-related characteristics of Cambridge, and queried how these would be affected by large number of heavy truck movements. She noted that adding more truck movements will intensify existing congestion problems, making it more difficult for people to move safely and efficiently through Cambridge and affect the qualities which she said makes the town a great place to live, work and play.
114. In response to questions Ms Davies-Colley and Ms Badger confirmed that the effects of concern would be experienced from any increase in traffic, and not necessarily from the suggestion that it could be up to 400 movements per day. They confirmed that the Community Board are seeking safeguards and solutions to ensure that the movements can be undertaken safely and without impacting on the qualities of the town.
115. **Barry Quayle** presented a wide-ranging statement in opposition to the proposed quarry, but also expressed concerns about the traffic effects associated with the scale of the proposal as well as the number of large vehicles likely to be generated by the proposal, and the effects of these on community facilities such as schools and residential areas and on the amenity values of the town and its increasing tourism-related economy.

116. Mr Quayle sought to emphasise that as a demand-driven business, traffic movements associated with the quarry will not be controlled by the operators, nor where trucks are likely to travel to. He also expressed a concern in respect of the management of dust, and that this should not be reliant on a separate management plan. Overall, he was concerned at the WDC approach to the application given the amenity values of Cambridge, and that in his view, the 'human corridors' of the town merit as much consideration as the attention given to other factors.
117. **Tania Elizabeth Smyth** spoke to the issues that she considered arose from the proposal as a neighbouring resident, albeit that she also noted her understanding of quarries from a financial perspective in her professional role as a chartered accountant (representing similar operators). She highlighted two distinct areas of concern, relating to the impacts of the quarry on her as a neighbour and the transport effects on adjacent roads.
118. In respect of the former, Ms Smyth was concerned about the impacts of an open-faced quarry on views from her property, and queried why the Applicant would want to remove the gully wall, being a significant part of the broader ecological environment, particularly given the extent of sand available within the main part of the site. She also highlighted the constraints placed upon her in terms of dust management through previous consenting processes and was surprised that an activity of the proposed scale could be undertaken and not constrained by retention of the gully wall. She also queried the location of the processing facility and why this was not located closer to the road frontage to reduce impacts on neighbouring properties.
119. On the transport issue, Ms Smyth was critical of the proposal to direct trucks onto the old state highway through Cambridge, which she noted was already at capacity, and that this was before new houses proposed down Victoria Road have been developed. She also noted potential issues for Cambridge as a cycling-friendly town, and for elderly motorists in the area. As with others, she highlighted the danger of traffic movements from Newcombe Road and the inability to slow down when trailing a horse float should a vehicle be exiting from that road.
120. Ms Smyth also questioned the economic case for quarrying for more sand and that in her view there was already an oversupply as quarries presently are not running to capacity.
121. **Kirsty Johnson** and **Simon Brew** spoke on behalf of the Cambridge Town Hall Community Trust. Ms Johnson explained the nature of the Cambridge Town Hall and its future uses, and its current redevelopment. She highlighted that the building is not

soundproof, having been built in 1909, and increased truck movements in the adjacent roadway would be quite disruptive for the types of events that are hosted within it.

122. Mr Brew elaborated on that key concern noting too that vibration effects are also a problem for events within the building. He advised us as to the increase in bookings for events of the Town Hall in recent years, and that these had also increased during the week, and not just on weekends. While he noted that this was a positive trend, it would increase the exposure of the building to increased truck movements. He advised that any impact on bookings as a result of increased traffic noise and vibration effects would have a direct effect on both the Town Hall's financial sustainability and, as a result, the district's economy.
123. **Colin Bradley** is a resident of French Pass Road. He spoke to the improvements to his family's property (in conjunction with Tania Elizabeth Smythe) since 1995 and the creation of a sanctuary and equine-focused lifestyle. His main concern and key question was why the subject site was selected when it has so many issues associated with it, and in particular the effects of traffic on Cambridge and SH1. Like Ms Smythe, he highlighted the difficulty of merging onto SH1 going south with a horse float attached. He was also concerned about ecological concerns and the risks for endangered species, as well as the health effects of RCS and general amenity impacts. He sought that the gully wall be left in-situ permanently, and that the processing plant be located further away from neighbours and that no more than 5ha be permitted to be in operation at any one time. He also requested planted bunds as well as proper dust and RCS mitigation and associated monitoring processes.
124. **Richard Kennaway** is a resident of Thornton Road and expressed his concerns about the application, including as to the inadequacy of the buffer zones and the overall design of the proposal generally. He queried the merits of a quarry in such close proximity to Cambridge, when there are other more suitable locations for such an activity. He was also worried about the control of RCS dust and how this would be effectively controlled, given how quickly the sand can dry out in summer conditions. He also noted that the Applicant's traffic assessment appeared to downplay the traffic effects of the proposal, noting that Cambridge is already experiencing traffic congestion, and the proposal would not be a positive addition to the town due to impacts on parks, school children and the elderly.

125. Additional information from Mr Kennaway was provided following his presentation and at the Panel's invitation, including documents addressing the characteristics and workplace hazards of RCS.⁴
126. **Carl Jason Miller**, as owner of 41 Newcombe Road, spoke to his and Ms Miller's concerns regarding the potential drawdown of water that he relies on for his house and farming activities, the health effects associated with the generation of dust and RCS, and traffic impacts on the Cambridge area. He noted that effects on farm water were of particular concern, as well as effects on the Karapiro Stream, which he advised had only recently returned to health following the reduction of farm run-off. In his view, it would only take one of the run-off ponds to discharge into the stream and "*it'll be back to square one*". In addition to traffic concerns, he also noted that the visibility of a large hole associated with the quarry would be a detractor from Cambridge's qualities as a currently beautiful town.
127. Mr Miller further clarified the location of their water bore (to the north of the house) and referred to the effects that the construction of the expressway had previously had on this. He also noted his observations of wind patterns in the area (from the south) and sought access to dust monitoring equipment and queried the impacts of dust on grass that is relied on by his livestock.
128. We note that in response to an offer from Mr Matheson during Mr Miller's presentation, a meeting was held separately to the hearing between Mr & Mrs Miller and the Applicant. The outcome of that meeting was referred to in the Applicant's reply further conditions provided on 6 May 2025 and Mr Matheson's reply submissions, as discussed below.
129. **Kelly Bouzaid** appeared on behalf of the Cambridge Chamber of Commerce (**Chamber**). She noted that the Chamber is not 'anti-quarry' and recognises the importance of sand mining. However, she noted the Chamber's duty of care in respect of the overall wellbeing of Cambridge, and the community's sensitivity to increased heavy traffic and associated impacts on the character of the town.
130. Ms Bouzaid noted that the SH1 bypass did initially improve traffic conditions, however the town's growth had now seen traffic counts exceed levels when it operated as SH1. She highlighted the transportation review for the WDC by Mr Inder and his statement

⁴ The further documents submitted were: a Worksafe document in respect of silica in the workplace; a silica dust travel table (distance v windspeed) and an associated weblink; and an AI precis of Mr Hall's traffic evidence.

that he is unable to state with confidence that the transport effects of the proposed sand quarry within the urban environment of the sand quarry would be minor or less, as had been suggested by Mr Hall. She advised of her support for Mr Inder's recommendation that if the consent is granted, that annual monitoring and reporting of actual travel patterns and a comparison of the actual and predicted truck volumes will be required as conditions of consent, together with a review condition that enables adverse effects resulting from greater truck volumes to be assessed by the consent holder.

131. Ms Bouzaid referenced the recent adoption of the Waipā Community Spatial Plan (Ahuaki), which in her view highlights the WDC's acknowledgement of the adverse impacts that heavy vehicle and haulage traffic have on the amenity and identity of towns across Waipā, reinforcing the need for rerouting such traffic away from community and commercial areas. Relevant in this regard was the issue of north-facing ramps to SH1, and the need for this to be reconsidered by the NZTA, as these would provide for quarry traffic to join SH1 directly and therefore avoid any through traffic into Cambridge.
132. Ms Bouzaid also referred to the provisions related to the proposed Quarry Management Plan (**QMP**) and noted changes to dust management, which she considered would ensure that dust emissions are kept to a minimum.
133. **Elvisa van der Leden** spoke on behalf of the Royal Forest and Bird Protection Society of New Zealand (**Forest & Bird**). She noted that Forest & Bird still have concerns regarding protections and monitoring of pekapeka (New Zealand bats), and the importance of maintaining habitat for this species. She advised that the status of pekapeka is nationally critical, with a high risk of national extinction, and that their transient roosting behaviour means that any potential roosting tree that is felled is a loss to their natural habitat and is one less option for them, further impacting on their natural behaviours. This would add to the pressures on available habitat in addition to those associated with growth and development along habitat corridors throughout the Waikato.
134. Ms van der Leden also highlighted concerns as to the effect of dust and RCS discharges on bats, and that while monitoring was proposed, the impacts of such effects on biodiversity were largely unknown. She further noted that while a condition requires an EMP, and reports from said plan, and includes appropriately detailed potential roosting tree felling protocols, Forest & Bird are concerned that this plan is not enforceable. While the plan must be certified before implementation, the Bat

Management Plan (**BMP**) component must be separate and enforceable by the WDC to ensure clarity as to how its conditions will be achieved.

135. With regard to the retention of the gully wall, Ms van der Leden advised of the strong support by Forest & Bird for leaving this intact, as this would avoid the majority of concerns regarding potential impacts on bats and other significant biodiversity in the area and nearby SNAs.
136. **Brendan Kavanagh** spoke to his concerns as a resident of Hickey Road, approximately 1.6-1.7km from the site, but which is elevated and has views down onto the proposed quarry location, as well as broader vistas around the Waipā area. He was concerned about the impact of the quarry on the landscape values of the site and area generally, and that excavating the wall down to the Karapiro Stream will open it up to everyone on its northern side.
137. Mr Kavanagh also referred to wind effects and was critical of Mr Curtis' reliance on a weather station at Karapiro, and described his experience of wind directions in the locality, and the predominance of southerly breezes, including those associated with the gales experienced in December 2024. He also sought independent testing of the silica content of the sand, which in his view would travel further in light winds and impact properties further afield than what has been assessed. He queried the efficacy of erosion and sediment control measures, given the proximity of the excavations to the Karapiro Stream.
138. As with many other submitters, Mr Kavanagh was also concerned about traffic effects, both those effects associated with heavy trucks travelling through Cambridge and the issues of restricted sightlines from Newcombe Road. He did not consider that the heavy vehicle fee of 4c/T would cover the potential damage on local roads from trucks, including those effects associated with use of the roundabouts, and that local ratepayers would end up paying the true costs.
139. **Vladimir Pacheco Cueva** spoke to his concerns about the proposal as a resident of Cambridge. He also outlined his view on traffic impacts and his impression that local roads were already at capacity. He considered that the proposal would lead to a cumulative increase in traffic effects and he was opposed to any increase that was not manageable.
140. Mr Cueva also considered that the proposal would have significant impacts on tourism to the area, and disagreed with the Applicant's assessment that tourism was not a significant component of the local economy. In his view, the beauty and amenity of

Cambridge could be impacted by changing from a tourism town to an industrial town, particularly when viewed in light of other quarries established in the area. Overall, he was concerned that the image of the town would be sacrificed for the benefit of construction sites, including sites in offshore locations.

141. **Mark Chrisp**, a consultant planner, spoke to his evidence on behalf of Windsor Park Leasing Limited, who own a site on the opposite side of Tirau Road. His primary evidence point, as expressed in his conclusion, was that the consent should not be granted until the traffic effects of the proposal have been adequately addressed. In his view, further discussions need to be held with the NZTA (including as part of the C2P extension to SH1, if not constructed sooner) to minimise the effects of heavy vehicle movements within Cambridge.
142. In particular, Mr Chrisp pointed to the need for north-bound ramps at the Tirau Road-SH1 interchange to address both the heavy truck movements from the proposed quarry, as well as from other activities and proposed developments in the area that make these on-ramps highly necessary. He acknowledged that while the Applicant, through engagement with the NZTA, had resulted in the NZTA no longer wishing to be heard, he remained of the view that the NZTA should revisit the provision of north-facing ramps to address traffic effects.
143. **Wikitoria Jacob** spoke to her concerns with the quarry as a local resident. Ms Jacob did not consider that the proposal would be of any benefit to the locality and would adversely impact on the safety of the local community, and including for her children. She referred to the points made in her written submission regarding ecological effects on the Karapiro Stream and onto the Waikato River, and impact on the rights to swim within this awa. As with others, Ms Jacob also highlighted the effects of the proposal on traffic within Cambridge, noting that she already had to time her visits into town, even during off-peak periods. She had bought into the area because of its amenity, safety and the eco-friendly nature of her suburb.
144. Ms Jacob acknowledged the need for sand and noted that if the proposal were to be considered for approval, then very strict conditions would be required to avoid the effects of sediment overflows into the stream in order to safeguard the quality of swimming areas downstream.
145. **Vanessa Hamm** and **Jemma Hollis** presented legal submissions on behalf of Rhys Powell and Antoinette Powell (42 French Pass Road), which addressed the relevant statutory tests under the RMA; landscape, amenity and character effects; air quality and health effects; and the planning pathway under the NPS-HPL; and in particular

whether the proposal provides a regional or national benefit that could not be obtained elsewhere in New Zealand.

146. The legal submissions drew attention to the difference in the assessments of the Applicant's landscape and air quality witnesses and those prepared on behalf of the Powells. It noted that, in terms of landscape effects and in reliance on the evidence of Adrian Morton, and even in its revised form, the proposal will create significant landscape, character and amenity effects, which cannot be mitigated. On that basis, it was submitted that the proposal is contrary to the policy framework for activities and mineral extraction within the Rural Zone.
147. In respect of air quality, it was submitted that the Applicant's assessments on which the impact on air quality have been based are incorrect (respirable crystalline silica levels) and/or incomplete (regarding wind speed and direction, and existing PM₁₀ levels). As a result, the proposal has the potential to degrade existing air quality and create serious health effects and would be contrary to the policy framework for air discharges.
148. The legal submissions also disagreed with Mr Matheson's position with respect to the NPS-HPL, and submitted that the application:⁵
- (a) Has not demonstrated that the sand at the 77 Newcombe Road site provides a benefit that cannot be achieved anywhere else in New Zealand. In fact, the evidence shows that benefit can be achieved elsewhere in New Zealand on non-HPL land and through alternative methods of production (i.e. manufactured sand).*
 - (b) Does not demonstrate that there is a functional or operational need for the HPL land at 77 Newcombe Road to be used as a sand quarry, including for the same reason as in (a).*
 - (c) Has not demonstrated that the sand quarry will provide a regional or national benefit. The supposed regional benefits in the economic analysis are based on flawed assumptions and incorrect calculations.*

149. Accordingly, it was submitted that:⁶

⁵ Powell Legal Submissions, at [81]

⁶ Ibid, at [82]

*The proposed sand quarry does not meet the requirements which allow aggregate extraction to occur on HPL, as set out in clause 3.9(2)(j)(iv). As such, the proposed activity is an inappropriate use which **must** be avoided under cl 3.9(1) NPS HPL. An 'avoid' interpretation is appropriate considering the facts of the proposed quarry, in line with King Salmon jurisprudence.*

150. The Panel raised queries with Ms Hamm and Ms Hollis regarding the suggested need for an air discharge consent, and the issue regarding the lack of information regarding the sand sampling and a record of where or how the samples were taken and processed. Ms Hollis also further elaborated on the effect of Supreme Court cases on the way in which the 'avoid' provisions in the NPS-HPL should be applied and interpreted.
151. **Hayden Green** presented evidence in respect of economic matters on behalf of Mr & Mrs Powell, and in response to the evidence of Mr McIlraith. He addressed the following key points:
- (a) The assumed percentage of concrete sand (90% vs 35-44%) – if 90% is the correct percentage of concrete sand from the Newcombe Road site then Mr McIlraith's modelling will have most of it going to the wrong places, which means every benefit estimate is incorrect.
 - (b) Demand and supply outlook (the 'deficit') – Mr McIlraith's forecast relies on an assumption that's objectively unreasonable; there *will* be other new sources of supply and some of the existing consents may be renewed – especially if there'd be a deficit without that additional supply.
 - (c) Manufactured sand may need to be blended with natural sand to make concrete and, its production cost characteristics may differ to natural sand. Neither of those things detracts from the key point, which is that it is clearly an additional source of supply – and there may be relevant offsetting environmental benefits.
 - (d) Transport cost saving estimates (destinations) – if 90% is the correct percentage of concrete sand, then the destinations assumed in the transport cost calculations are incorrect, as are the benefits themselves.
 - (e) Emissions claims – the operation of the ETS means that *all* the adverse costs of emissions would simply be shifted across to another sector – both the 'shadow price of carbon' *and* health externalities.

- (f) Social costs (road safety) – the probability of traffic accidents is influenced more by *where* a truck is driving than how far it travels. This has not been addressed in the Applicant’s rebuttal evidence.
 - (g) Omitted costs – Mr McIlraith has not included the opportunity costs associated with foregone agricultural use in his analysis because the area in question would account for less than 0.04% of the Waikato Region’s GDP generated by dairy farming. Assuming that’s a relevant metric, it is a significant number that should be included.
152. A further point raised by Mr Green was that the figures and assessments made by Mr McIlraith do not include sufficient detail for someone to pick those up and reproduce his figures. In his view, it is important to be able to interrogate the methodology underpinning the economic analysis to make sure it has been done properly and can be independently verified.
153. **Lou Wickham** presented evidence in respect of air quality matters on behalf of Mr & Mrs Powell, and in response to the evidence of Mr Curtis. Mx Wickham’s summary evidence was that:
- (a) The key discharges to air from the proposal will be particulate matter less than 10 micrometres in diameter (i.e., PM₁₀) and RCS measured in the respirable fraction, which is particulate less than 4 micrometres in diameter (**PM₄**). Nuisance dust is also a potential cause for concern.
 - (b) Mx Wickham’s indicative calculations show that PM₁₀ emissions from the proposal would be significant and in the order of *tonnes* of PM₁₀ per year, generated by the mechanical action of heavy vehicles grinding and crushing unsealed surfaces on haul roads.
 - (c) In reliance on the geological evidence of Mr Chisnall as to silica content, Mx Wickham was concerned that the Applicant’s air quality assessment, and the WRC’s review, significantly underestimate potential offsite effects of RCS (which they noted is a Group I carcinogen).
 - (d) They retained concerns that the National Environmental Standards for Air Quality (**NES-AQ**) for PM₁₀ could be breached beyond the site boundary, and particularly in respect of the neighbouring property at 41 Newcombe Road.

154. In response to the seriousness of potential adverse health effects from the discharge to air of both PM₁₀ and RCS, Mx Wickham recommended an alternative staging approach to extraction be considered (i.e., no large benched exposed open face on the northern boundary). While the revised proposal, to retain much of the gully wall through the first four stages, was acknowledged to go some way to reduce exposure to these particulates, they observed that an open topped wall would not stop the wind, and air discharges from the site will still be carried beyond the boundary.
155. Mx Wickham reiterated their recommended additional mitigation and monitoring as conditions of consent to assist with overall compliance with health-based air quality standards and guidelines. They have further investigated a suitable ambient RCS guideline and consider the TCEQ⁷ chronic (cancer) environmental screening level for RCS may be appropriate for comparison with boundary RCS monitoring (at 41 Newcombe Road).
156. Mx Wickham also responded in some detail to a range of questions from the Panel, and in particular noted the importance of buffer distances. In this regard they noted that while Mr Curtis pushed back against the PM₁₀ buffer distances developed in Victoria (Australia) it is beneficial to have space between industry and any house, irrespective of the industry. They noted that 250m (distance to the Powell property) is nothing for PM₁₀, as it's like a gas and can disperse for kilometres.
157. **Tony Chisnell** presented evidence in respect of geological matters on behalf of the Powells. Mr Chisnell advised that he had been engaged to provide independent sampling in response to questions on the background for the air monitoring results, with his samples having been analysed in a laboratory in Westport that showed 68-70 percent silica, although he acknowledged that the crystalline silica percentage was much less. Conversely, he noted that it was unclear where the samples for Mr Curtis' assessment were taken or how the sampling was undertaken.⁸
158. In terms of soil productivity, Mr Chisnell noted in Mr Hunt's rebuttal evidence that efforts would be made to minimise and mitigate soil productivity loss, but it did state that there will be loss. In Mr Chisnell's view, given the new profile and surface of the

⁷ Texas Commission on Environmental Quality

⁸ The Panel notes that additional evidence was subsequently provided on 4 April 2025 in respect of samples collected from the Applicant's property and analysis undertaken by GNS in 2022 using X-Ray Diffraction, this being the analysis referred to by Andrew Curtis in his Rebuttal evidence (at section 1.6, Footnote 1), and results from SGS Galson in 2021. These were incorporated into the WDC's website as part of the record of the Applicant's 'Rebuttal Evidence'.

landscape after quarrying operation was to cease, it will be very difficult to retain the soil, and that due to the steeper slopes and embankments, the whole area of HPL will be reduced.

159. **Adrian Morton** presented evidence in respect of landscape matters on behalf of Mr & Mrs Powell and responded to the evidence of Mr Mansergh. Mr Morton considered Mr Mansergh's site visit and the subsequent amendment to the proposal to be helpful. However, he did not agree that the revised proposal and retention of part of the gully wall would obscure most of the views of the quarry from the Powell property, as views will still be obtainable of the cut sand face and machinery within the quarry, and in his opinion will still result in a potential moderate to moderate-high visual effect (although he also noted that updated details are insufficient to accurately assess this).
160. Mr Morton referred to Mr Mansergh's statement that the quarry slopes would have 'finely cut faces to resemble the natural forms' and emulate the nature of the Karapiro Stream gully. However, in his view, the earthworks appear very 'engineered' and do not relate to the natural forms of the gully.
161. Mr Morton also reiterated his view that a comprehensive methodology in relation to the soil profile reinstatement should be provided to underpin the success of re-grassing, and visual mitigation outcomes being sought. Further, he considered that retaining the northern wall at its existing height would mitigate the quarry and heavy machinery effects for approximately 20 years.
162. Mr Morton further stated that in his opinion the permanent retention of the northern gully wall would provide a more enduring solution and allow the top of the bank to be planted to provide further mitigation and add to the ecological planting quantum. He also considered that retaining the bank would also be consistent with the majority of quarries that occur within the Waikato area (e.g., Kaipaki Road, SH1 Tumahere, etc).
163. **Antoinette Powell** spoke to the issues that she saw from the proposal and the way in which it would affect their property, and the family's enjoyment of it and by those visitors who use the equestrian facilities on offer. She outlined that she had a number of key concerns related to the proposal, related to landscape, visual amenity, health and wellbeing, and effects on her horses. The effects of the quarry would be experienced from all parts of the property, from the upper living and equestrian areas, all the way down to the Karapiro Stream, where she and her family spend a lot of time. She was concerned at the effects of quarry workers working in areas above the stream where her children may be playing, and the noise effects of machinery on horses.

164. Ms Powell also noted that wind often comes straight toward their property from the site, and that these winds don't stop just when staff would be expected to leave the site. She queried the ability to monitor dust effects at such times. This was noted to also be likely to affect the quality of collected rainwater. She was also concerned about RCS in this regard, and the exposure that she and her family would be subject.
165. She noted that they will be constantly looking down on the quarry, and that the proposal to retain part of the quarry wall will not make any significant difference. The traffic effects associated with heavy truck movements were also of concern, including with respect to movements within the Newcombe Road/Tirau Road intersection.
166. While Ms Powell sought that the quarry be declined, but that if it were approved then any consent should include retention of the riverbank in full and incorporate the planting of shelter belt trees.
167. **Rhys Powell** spoke to his concerns of the proposal on him and his family and on their property. He provided a critique of the Applicant's approach to consultation, and the reasons why there has been no engagement since 2021. He described the attraction of the site as a dedicated equestrian facility, and that it is now the number one horse arena for private use in New Zealand. These facilities extend to the lower part of the site which includes a dedicated cross-country course and jumping apparatus.
168. Mr Powell noted that the quarry would be of such a size that couldn't be planted out of view due to its scale, notwithstanding the efforts of the Applicant in terms of its landscape plans. Like Ms Powell, he also commented on the prevalence of winds that arrive from the direction of the site, and this was why the equestrian arena is clad on its southern end. He sought that live monitoring of dust and RCS effects be provided so that those affected could be aware of its extent, and as such provide transparency in respect of this issue. He described his issues of dust control in works on his own site, and how difficult this was due to the speed in which it dries out, and the way in which it is crushed to a fine powder by vehicles.
169. Mr Powell was also critical of the need to undertake the quarry on HPL soils, noting that from his research other quarries are not on such soils, as listed in his Appendix 1. He referenced his Appendix 2 to also demonstrate how other quarries retain their riverbanks (other than an older quarry known as Revital in Cambridge). In his view, not retaining the riverbank is not a typical approach. He considered that retaining the gully wall in full would assist in terms of bat habitat, erosion, landscape and visual, noise and most other externalities.

170. Mr Powell also confirmed, in response to questions, that he would prefer a bund be located above the gully wall to provide the screening that is created in other directions through implementation of the BSP.
171. The Panel notes that following the adjournment of the hearing (as described below), Ms Hollis provided, at the Panel's request, an example of decisions incorporating the type of conditions proposed by Mx Wickham.⁹ The examples cited were:
- (a) Conditions imposed on a quarry consent in Canterbury (CRC111748 Fulton Hogan, to discharge contaminants to air), requiring:
 - Maintenance of a 100m distance from the operational area of the site to any existing residences; and
 - Cease dust-generating activities in strong wind conditions (velocities greater than 7m/s over a 15-minute period).
 - (b) Conditions imposed on a mobile plant in Canterbury (CRC231350 Fulton Hogan), to extract up to 60,000m³ of river-based aggregates, including:
 - A restriction on discharges within 200m of a sensitive activity; and
 - Minimisation of dust discharges when wind speeds reach or exceed 10m/s for a one minute average during two consecutive 10-minute periods.
 - (c) Requirements imposed by the Environment Court on Plan Change 13 to the Bay of Plenty Regional Air Plan (and with respect to the Mt Maunganui airshed) with specific provisions relating to stop work requirements associated with a dust management plan, including:
 - Use of wind speed limits relating to the subject sit when operations must cease; and
 - Employment of a PM₁₀ trigger value within 'Part B' and the 'interim permitted activity rule':
 - (a) **150 micrograms per cubic metre (calculated as a rolling 1-hour average concentration under Schedule 1 NESAQ) recorded by the monitoring devices in the monitoring programme set out in clause 6;**

⁹ Via an email to Tracee Berry (WDC), dated 9 April 2025

OR

(b) **65 micrograms per cubic metre (calculated as a *rolling 12-hour average*) recorded by the monitoring devices in the monitoring programme set out in clause 6.**

172. A copy of the Court's decision on Plan Change 13 was also provided for the Panel's information.

Request for adjournment by the Councils

173. As noted previously, and following the completion of the submitter evidence and presentations, we heard from Ms McConachy who requested that the hearing be adjourned. This was for the reason that updated plans have been spoken about, including retention of the gully wall, at least until Stage 5, but had yet to be received.
174. Ms McConachy further advised that the reporting planners need to see the revised plans before responding to the evidence. She had liaised with Mr Matheson and Ms Hollis in this regard and advised that there were no issues raised with such an adjournment.
175. Following that advice, and confirmation from Mr Matheson and Ms Hollis regarding the requested approach, discussion then focused on establishing a timetable for the provision of further information, revised condition and reconvening the hearing.
176. The hearing was subsequently adjourned, and the next steps were set out in the Panel's Direction 1 that was issued on 7 April 2025. In particular, it sought the requirement of the following information (by 22 April 2025):
- (a) Updated staging and sequencing plans to reflect the changes referred to on the first day of the hearing, including 2D and 3D modelling of the Gully Wall Bund and Gully E (and supplementary evidence from Mr Mansergh in respect of landscape effects in respect of this change);
 - (b) Updated Vegetation Restoration Plans;
 - (c) Updated Erosion and Sediment Control Plans (including staging, duration and areas);
 - (d) Land remediation plans/proposals;
 - (e) Management Plan conditions, including a draft Groundwater Management Plan;
 - (f) Advice as to the outcome of further consultation with submitters at 41 Newcombe Road; and

- (g) Further commentary on the need or otherwise for a further consent in respect of air discharge.
177. Updated conditions were to be provided by 6 May 2025, and the hearing would be reconvened on 16 May 2025.
178. A further memorandum was received from the Applicant on 15 April 2025 advising of difficulties (as a result of witness availability) in the provision of the updated plans and other required information. Following consideration of this issue, the Panel issued Direction 2 on 16 April 2025 which directed that the information required in Direction 1 be provided in accordance with an amended timetable, and provided an allowance for expert caucusing in respect of landscape matters. In summary, the additional information was required by 13 May 2025; caucusing was required to be completed by 23 May; the revised conditions were required by 27 May; and the hearing would be reconvened on 13 June 2025.

Response to Direction 2

Applicant's Additional Information

179. The additional information required by Direction 2 was provided by the Applicant on 13 May 2025. This information comprised a Memorandum of Counsel (prepared by Mr Matheson) of the same date, which described the additional information as being comprised of the following:
- Updated staging and sequencing plans to reflect the changes referred to on the first day of the hearing, including 2D and 3D modelling of the Gully Wall Bund and Gully E (as part of Mr Mansergh's supplementary evidence);
 - Supplementary evidence from Mr Mansergh in respect of landscape effects in respect of this change (including cross-section amended staging plans);
 - Updated Vegetation Restoration Plans (forming part of an updated EMP);
 - Updated Erosion and Sediment Control Plans (including staging, duration and areas);
 - Land remediation plans/proposals (as part of Mr Mansergh's modelled visualisations);

- A draft Groundwater Management Plan (with associated conditions to be provided on 6 May 2025);
 - Advice as to the outcome of further consultation with submitters at 41 Newcombe Road; and
 - Further commentary on the need or otherwise for a further consent in respect of air discharge.¹⁰
180. The Memorandum also referred to the material provided by the Applicant in respect of the RCS component of the sand resource (included in the hearing record as part of the Applicant’s rebuttal evidence). This was comprised of:
- A letter from SGS Galson addressed to Mr Lambert, Fulton Hogan Ltd, dated 3 August 2021 (**Expert Letter**); and
 - “Quantitative XRD Analysis of Fulton Hogan Newcombe Road RS Sands Samples”, D.A Chappell, dated March 2022 (**Expert Report**), a copy of which was provided with the Memorandum, along with a borehole plan dated February 2022 (boreholes BH301 – 303).
181. The Memorandum noted that while the results from both documents are consistent, the samples analysed with the Expert Letter were collected informally on site, while those assessed in the Expert Report were collected from bores and provided to the laboratory as a composite sample (the locations of the latter set of samples are described in the borehole plan referred to above).
182. The Memorandum went on to request that, given the informal nature of the sample collection undertaken by SGS Galson, that the Expert Letter be withdrawn from the hearing record. It notes that Mr Curtis’s evidence referred to the Expert Report, and so that report, *“is sufficient to demonstrate the veracity of the figures relied upon by Mr Curtis in his evidence”*.¹¹ We have accepted the Applicant’s request for the Expert Letter to be withdrawn, and do not have further regard to that document.
183. This information will be referred to in more detail later in this decision as relevant to particular issues.

¹⁰ Letter to Ms Berry, also dated 13 May 2025, prepared by Mr Matheson.

¹¹ Memorandum of Counsel 13 May 2025, at [3.3]

Landscape Joint Witness Statement

184. The Joint Witness Statement (**JWS**) of the landscape witnesses was received on 26 May 2025.¹² The JWS addressed:
- Concern of landscape and visual effects resulting from the visibility of overburden storage areas from works relating to Stage 1 and Stage 2;
 - Ecological planting / screening;
 - Northern gully wall retention;
 - Visual effects ratings; and
 - Reinstatement of quarry.
185. The JWS provided a comprehensive account of the matters discussed during witness conferencing and noted points of agreement and/or disagreement as applicable. We summarise these as follows:
- (a) In terms of overburden, it was agreed that a potential solution to the risk associated with the visual effects of overburden stockpiling would be to ensure the QMP includes requirements that such stockpiles are not visible from the upper terrace areas of the Powell property.
 - (b) The experts understood that the orange area of the EMP had the potential for some degree of visual screening function, but that the ecological planting mitigation as depicted is not designed primarily to provide landscape planting for visual mitigation. Mr Morton also noted the requirements of the written approval from Transpower would conflict with the outcomes sought for both ecological planting and planting for visual mitigation purposes. The experts agreed that the 'Mitigation revegetation' area should be interpreted as a 10m-wide band of planting starting at RL40m and extend towards Karapiro Stream, and include planting comprising fast-growing native species to achieve a minimum 10m height.
 - (c) In respect of the northern gully wall, the experts agreed that the proposed amended design to retain the gully wall below RL 61.5 until removal at Stage 5

¹² Oliver May for the WDC; Dave Mansergh for the Applicant; and Adrian Morton for Rhys Powell. Hayley Thomas also attended as an observer and note-taker for the WDC.

reduces the visual effects outcome in comparison to that outlined in the original application, but acknowledged that some adverse visual effects will still occur. They also agreed that the removal of the gully wall at Stage 5 should occur in a south to north direction (as opposed to east to west) for screening purposes, and that this should be reflected in the QMP.

- (d) In terms of the visual effects ratings used by the experts, they agreed that the visual effects will come from a combination of the degree of open quarry face visible, as well as machinery and trucks throughout the quarry works over a 25-year duration of the quarrying activity. Effects will be more prominent from the upper terrace around the dwelling and arena on the Powell property. As noted above, they agreed that removal of the gully wall in a north to south direction would assist to reduce visual effects, and that the duration of works experienced from the upper terrace will be relatively short (1-2 years). Nevertheless, the experts reached different effects ratings in respect of these matters. In particular, Mr Morton considered that if the gully wall is retained at full height then the visual effects of Stages 1 to 4 are likely to be mainly avoided and result in a low negative effect, thereby limiting adverse effects to the final 1-2 years of Stage 5.
- (e) With respect to site reinstatement, concerns were raised by Mr Morton in respect of whether a natural landform would be achieved, and whether adequate topsoil would be available to reinstate the entire site. He considered that this could jeopardise the success of establishing pasture and growing media to mitigate the visual effects of the quarry. Mr Mansergh advised of his reliance on the evidence of Mr Hunt that pasture can be successfully established, and while he acknowledged that there is a risk, he was not as concerned as Mr Morton. He also considered that a grassed pastoral environment could be established with a potentially reduced soil depth, and would appear as such when viewed from the Powell property.

186. The JWS also included four appendices, comprised of a mitigation planting cross section; a plan depicting Transpower overlay restrictions; a cross-section mark-up plan; and effects rating tables.

Updated conditions

187. The updated conditions, in respect of both the land use and regional consents, were received by the Panel on 27 May 2025.

Waipā District Council

188. We were advised that the updated conditions for the WDC took into account the additional plans and material provided by the Applicant on 13 May 2025, as well as the JWS. In terms of the roading and operational conditions, additional notes were provided (in Appendix 1) that explained the recommended reduction in the maximum daily numbers of truck movements from 200 to 150. It was noted that while the condition amendments were discussed with the Applicant, the Applicant had not had the opportunity to review or input into the condition revisions.

Waikato Regional Council

189. The changes to the regional consent conditions were described by way of a covering memorandum by Mr Penfold. He noted in summary that there are minor changes required for conditions relating to groundwater take, the discharge of water and water diversion. More detailed changes were noted in respect of:
- Land disturbance conditions to account for the revised staging of the works and changes to erosion and sediment control plans; and
 - General conditions to account for evidence presented at the hearing, in particular regarding dust management/air quality, and ecological matters.
190. A set of track-changes outlining the recommended changes to the conditions was included with Mr Penfold's memorandum, as summarised in table format. Also included was a detailed memorandum by Peter Stacey, the WRC's air quality expert. Mr Stacey's memorandum provided comments on key points and condition amendments raised by Mx Wickham, in conjunction with Mr Curtis (as incorporated into Mr Penfold's revised conditions).
191. Mr Stacey also prepared a table that addresses the various conditions proposed by Mx Wickham, *"and attempts to reconcile these against the amended conditions I have redrafted in consultation with Mr Curtis"*.¹³ The purpose of the table was to identify areas of agreement and to help to focus attention on the remaining outstanding issues, which in his view related to the following:
- Whether 'Action' and 'stop-work' trigger values should be captured within the Dust Management Plan (**DMP**) or set as conditions of consent;

¹³ Stacey, Memorandum 27 May 2025, at p.2

- Annual average PM₁₀ consent limits;
 - Type of PM₁₀ monitoring equipment;
 - Requirement for real-time video monitoring; and
 - Duration of RCS monitoring.
192. In summary, Mr Stacey noted that in his view, *“the proposed monitoring and dust mitigation measures captured by conditions is appropriate and sufficiently precautionary, given the nature of the activity and the receiving environment”*.¹⁴
193. Mr Pope had also prepared a memorandum (dated 26 May 2025) for the WRC that addressed the changes to the proposal and provided an update to his original assessment. He noted that the proposal would have a total footprint of 23ha, with an effective maximum disturbed area of 6.7ha at peak production. He advised that the Applicant’s ESCP for site establishment and sand quarrying operations through Stages 1 to 5 reflects best practice and is in accordance with the WRC erosion and sediment control guidelines. He also noted that the primary method of treatment of sediment runoff through onsite soakage is supported by percolation testing that has been undertaken on soils at current surface, and quarry base, levels, and which confirms the assumptions relied on in the ESCP.
194. Mr Pope also advised that chemical treatment via flocculation of dirty water runoff may be incorporated into the water treatment approach for the establishment and processing area activities (i.e., the SRP catchment), should the required bench testing show an increased sediment treatment efficiency from this process.
195. Mr Pope referred to a number of recommendations that he had made to ensure that land disturbance activities are appropriately managed. This included the standard WRC conditions relating to sediment discharge levels to provide an enforceable limit on any discharges of suspended solids, should these occur.
196. Overall, Mr Pope confirmed that the proposal could be supported, subject to compliance with the ESCP and his recommended conditions.

¹⁴ Ibid, at p.7

Further Minutes and Directions

197. The Panel issued Minute 4 on 30 May 2025 to provide a revised order of proceedings for the reconvened hearing. This was responded to by counsel for the Applicant and Rhys Powell on 4 June 2025 with respect to timeframes sought for various parties and other procedural matters. The Panel issued Direction 3 on the same date to amend the timing for the response from the Councils, establish a due date for expert submitter evidence, and advise of an earlier start time for the hearing.
198. Direction 3 also referred to the technical review by Mr Pope in respect of erosion and sediment control matters (as referred to above). It was noted that the memorandum referred to an updated Erosion and Sediment Control report by Southern Skies dated April 2025 which had not yet been sighted by the Panel, nor included in the Applicant's information provided on 13 May 2025. This was requested to be provided to the Panel and was subsequently circulated to the parties on 6 June 2025, via Minute 5.

Reconvened hearing

Introduction

199. The evidence received for the reconvened hearing comprised of tabled statements from submitters, legal submissions and evidence statements on behalf of Mr Powell, and evidence on behalf of various individuals and organisations who had attended the original hearing.
200. While evidence for Mr Powell had been pre-circulated and had been prepared on the basis of the Applicant's most recent proposal, Mr Matheson submitted a memorandum on the day prior to the hearing which advised of an additional change. This involved retention of the whole of the northern gully wall for Stages 1 - 4. Mr Mansergh spoke to this change at the start of the reconvened hearing by way of a brief hearing statement (speaking notes) which addressed the proposed planting with respect to Transpower limitations and the issue of topsoil/overburden stockpiles raised by Mr Morton.
201. Mr Mansergh also addressed questions from the Panel in respect of the likely planting outcomes based on the species proposed within the updated EMP, and whether the performance of that planting should be subject to landscape certification prior to the commencement of Stage 5. He also commented that the ecological planting was not considered as a significant screening factor in his assessment (given that both the Panel and the Powells had assumed it was based on his supplementary evidence).

202. Mr Matheson and the Applicant team addressed the other changes incorporated in the 13 May 2025 response, including the Updated ESCPs (and need for a further update) and the draft Groundwater Management Plan. He responded to the Council's change to proposed truck movement restrictions, and advised that this proposed change was not accepted by the Applicant.
203. Presentations were received from submitters as summarised below:
- (a) Mr Brew, for the Cambridge Town Hall, noted that he was not opposed to the quarry per se, but remained concerned as to the effects of increased HCV traffic on the Town Hall and that these concerns were not addressed by the proposed conditions. He noted that the Journey Management Plan condition, in particular, was not specific nor enforceable, and would not be binding on the Applicant.
 - (b) Jo Davies-Colley, for the Cambridge Community Board, noted their general support for the quarry, but also highlighted concerns regarding HCV movements and, like Mr Brew, considered that proposed conditions were vague and unenforceable. She noted that the revised number of traffic movements would still be too high, and did not address adverse effects on Leamington Village. She also advised of concerns regarding the lack of mandated routes (to avoid use of residential streets) and dust management from trucks.
 - (c) Kelly Bouzaid, for the Cambridge Chamber of Commerce, also referred to concerns related to heavy traffic movements, and sought conditions that would more directly require traffic to avoid local roads. In her view, the direction of HCV traffic will be influenced by fuel efficiency and shorter routes, and relying on goodwill was not a credible strategy. In her view, the revised conditions were insufficient to address actual effects and required more mandatory mechanisms. She also endorsed the recommendations set out in Mr Talbot's statement (referred to below).
 - (d) **Tobias Ueckermann** presented traffic engineering evidence on behalf of the Chamber (which had also been pre-circulated). His evidence advised that he had been engaged by the Chamber to provide his professional opinion in respect of the updated conditions prepared by the WDC in order to mitigate against effects that may exacerbate the worsening operational traffic conditions and road safety in the central areas of Cambridge and Leamington. In terms of proposed Condition 19, he recommended that peak hour HCV movement restrictions be applied during the morning and afternoon school peak and general afternoon peak hour periods. He went on to explain the existing constraints within the local

road network, and lack of existing alternatives to these roads (with the 'Cambridge Connections' Business Case still underway).

Mr Ueckermann also commented on proposed Condition 28(c) which he supported but, *"maintained that the addition of the northern ramps at the Tirau Interchange will be more practical ..."*. He also noted the benefits of a full interchange in this area and the creation of an underpass beneath SH1.

While Mr Ueckermann referred to the need for changes to the conditions to reflect the above matters, he did not provide any specific wording of his own, and in response to questions acknowledged that the additional measures that he recommended did not form part of the application, nor matters that the Applicant would have any control over.

- (e) Mr Miller spoke at the hearing to confirm that while he was satisfied that the bore issue had been addressed by the Applicant, he remained concerned about the proximity of the quarry to his property and the effects on quality of life that he and his family would have to endure. He considered that traffic movements on Tirau Road would inevitably lead to accidents and was also concerned about erosion effects after the quarry activity was completed, due to the erodibility of local soils.

204. Evidence and legal submissions on behalf of Mr Powell had been pre-circulated and was presented during the hearing. This is summarised as follows:

- (a) Legal submissions prepared by Ms Hollis, noting that the case for Mr Powell in respect of the Applicant's additional information was that there remained a lack of information in respect of the Applicant's sampling for RCS (and the associated results); the accuracy of updated landscape images and lack of reference to Transpower requirements; and the visual impact of storing overburden. Ms Hollis also submitted that a resource consent for an air discharge was required in terms of the Air Module of the Regional Plan, and considered that any WRC consent granted should be limited to 25 years in line with the proposal, rather than the 35 years as sought by the Applicant. Ms Hollis concluded that:¹⁵

Despite the adjournment and the time allowed to address the concerns raised at the substantive hearing, key elements of the proposed quarry as outlined by the application material are still unclear. In our submission, the supplementary information provided by the Applicant does not address the

¹⁵ Rhys Powell, Response submissions, at [35]

questions raised during the substantive hearing. For this reason, and the reasons set out in our substantive submissions, consent should be declined.

- (b) Evidence from Mr Morton addressed landscape matters concerning the amended proposal, including the proposed landscape planting and updated visual landscape plans. Mr Morton was also concerned about the information available in respect of overburden storage, and the significant volumes proposed in this regard and the effects associated with its storage. He did not consider that proposed Condition 4(c) was sufficient to manage this effect, and that further information was necessary before the condition could be considered sufficient. He further noted issues with respect to quarry staging and rehabilitation. He remained of the opinion that a north-to-south extraction process should be followed, along with retention of the north gully wall for the duration of quarrying. In his view, the quarry should be refused consent as the existing details *“are insufficient to determine whether or not the landscape and visual effects can be successfully avoided, remedied or mitigated”*.¹⁶
- (c) Evidence from Mx Wickham responded to the Applicant’s silica testing results and Mr Stacey’s memorandum (and associated conditions), and the revised proposal as described by Mr Mansergh in terms of air quality effects. They noted that the new test report suggests that crystalline silica may comprise as much as 20% of the material at the site, and that the scale and significance of the proposal is such that controlling PM₁₀ air discharges will be a challenge because, *“[e]ven boundary compliance with the WHO 2021 guideline for long-term exposure to PM₁₀ would not provide assurance against adverse effects from long-term exposure to [RCS]”*. They noted that careful monitoring of RCS and PM₁₀ at multiple locations (including background levels) was supported, in order to *“adequately determine the contribution from the quarry to ambient levels of these carcinogens”*.¹⁷
- (d) A statement from Mr Powell was also critical of the Applicant’s additional information, and referenced the evidence of Mr Morton as to the viability of proposed landscape planting, and the likely difficulty that this planting would reach the heights suggested by Mr Mansergh, and which would fall foul of Transpower-related restrictions. He also provided photographs in this regard of recent flood levels of the Karapiro Stream, which were elevated over site fences. He was also concerned as to the storage of overburden and the lack of information as to the likely extent of stockpiles and their associated visibility. He

¹⁶ Ibid, at [38]

¹⁷ Wickham, Supplementary Statement, at [26]

also expressed disappointment at the late provision of RCS testing results. Overall, Mr Powell noted issues as to the accuracy of information provided and expressed deep concern as to the visual, environmental and operational impacts of the proposed quarry on his family and their property. He noted that they had proposed a solution to retain the gully wall (with the overburden stockpile on top) that would fully screen the quarry from their home, in a manner consistent with other quarries.

205. At the hearing itself Ms Hollis acknowledged the change to the proposal in respect of the gully wall but noted opposition to the proposal on behalf of Mr Powell overall. Mr Powells witnesses (Mr Morton and Mx Wickham) were available for questions in respect of their evidence. In this regard, Mr Morton remained opposed to the removal of the wall at Stage 5, which he considered would have a moderate to high adverse effect. He also referred to issues regarding the landscape outcomes to be achieved from a planting plan with an ecological purpose but supported the concept of a condition that required this planting to have achieved a certain outcome before Stage 5 could occur. He was concerned as to the effects of the removal of the gully wall on the integrity of the whole of the gully, as well as Mr Mansergh's assessment of overburden storage effects. He did not consider that the proposed storage of topsoil would meet relevant guidelines nor be sufficient for replanting the bunds.
206. Mx Wickham addressed questions including in respect of whether real-time monitoring should be required. They considered that this could be done, but would be for transparency purposes only, as it would not be calibrated and would need to be accompanied by access to reported results. They also noted in respect of silica content percentages that there remained a 'chain of custody' lapse in representations to date, albeit that the results were reasonably consistent. They also referred to the need for monitoring prior to commencement to provide baseline data and emphasised the need for the limit for PM₁₀ to be set at 15ug/m³ due to potential health effects above this level.
207. Mr Powell spoke to his statement, noting that screening bunds should be placed above the existing gully wall, being a matter of standard practice and which would screen the initial stages of earthworks and quarrying. Ms Powell also spoke at the hearing, expressing her concern about the likely audibility of earthworks, the effects of the gully wall removal on the banks of the Karapiro Stream, and that this eventual removal will be on her mind for many years.

208. Several tabled statements were also received prior to the reconvened hearing, as follows:

- (a) An email statement from Sharyn Flintoft (for the Flintoft Trust) emphasised her primary concern being the traffic out of Newcombe Road, and the speed of traffic off the Expressway. She noted that the trimming of ground and vegetation for visibility would not mitigate the issue of trucks being slow to get up to the speed of existing traffic on the road. She queried whether it would be possible to move the Newcombe Road access to a position closer to the bottom of the hill.
- (b) A tabled statement from Ian Hayton described four primary matters that he considered required clarification and further detail, being:
 - 1. **Traffic Management** – *Addressing the impact of approximately 400 planned heavy vehicle movements per 10-hour shift.*
 - 2. **Noise Abatement** – *Mitigating noise levels associated with the use of heavy industrial mining equipment.*
 - 3. **Water Usage** – *Evaluating the excessive use of water, with [WDC] proposing an allocation of 290 million litres per year.*
 - 4. **Dust and Particulates** – *Establishing acceptable PM2.5 and PM10 limits for the surrounding area.*

He also noted issues associated with respect to traffic management, including with respect to HCV movements from the site, and existing congestion within the northern entrance to Cambridge, which would be worsened in his view with slow-moving trucks “*grinding up and down Carters Flat Hill every few minutes*”, being an impact that “*is difficult to imagine*”.

- (c) An email statement from Ray Talbot commented on proposed Condition 35 of the WDC condition set, requesting that it be revised to include that an Independent Road Safety Audit must be carried out in accordance with the NZTA’s Safe System audit guidelines, as a measurable consent requirement. He stated that, “*[t]he mitigation of road user hazards are paramount for Newcombe/Tirau intersection, the focus on just sight lines is inadequate and a competent assessment of the hazards and mitigation is required before approving a design*”. He also sought that the appointment of an independent road safety auditor should be selected from a list provided by the NZTA, and not by the Applicant.

Council responses

Waikato Regional Council

209. Ms McConachy for the WRC provided legal submissions in respect of the air discharge consent issue. In summary, and with reference to a recent decision of the Environment Court in *Kaiuma Farm Ltd*,¹⁸ Ms McConachy submitted that *“the WRC’s position is that if a consent was required (which it does not consider is necessary), that would need to have been applied for. If the Panel consider an air discharge consent is necessary, WRC submits that it does not have jurisdiction to grant one”*.¹⁹
210. We have referred to Mr Stacey’s memorandum as provided with the Council’s conditions on 27 May 2025. Mr Stacey provided a further memorandum dated 12 June 2025 that responded to the evidence of Mx Wickham of 10 June 2025, and the tabled statement of Mr Hayton of 6 June 2025. The primary matters raised in his memorandum are summarised below:
- (a) In terms of the testing and uncertainty over levels of RCS, he considered that the values were generally consistent with Mr Curtis’ initial assessment, but that in his view it was more appropriate to emphasise the average crystalline silica content in quarried material, and that the calculated average content provides a more realistic basis for assessing long-term exposure risk.
 - (b) While he had advised that one year of monitoring for RCS would be sufficient, he considered that this could be strengthened by extending it to three years to provide further assurance to the local community. In terms of the most appropriate RCS value, he expressed caution about adopting the TCEQ value for regulatory purposes, which is a screening value, rather than the established guideline set out in the California OEHHA value.²⁰ In addition, and with respect to the respective ambient air quality guidelines (NZ Ambient Air Quality Guideline value of 20ug/m³ compared to the WHO 2021 value of 15ug/m³ recommended by Mx Wickham), he advised that while he had no fundamental issue with the use of these values as part of reporting, rather than consent limits, he was uncertain about whether monitoring results would trigger any specific actions or requirements (such as the need for a site-specific health risk assessment).

¹⁸ *Kaiuma Farm Limited v Marlborough District Council and Marberry Estate Limited* [2024] NZEnvC 150

¹⁹ WRC Submissions, 13 June 2025, at [13]

²⁰ Office of Environmental Health Hazard Assessment

- (c) He recommended the use of an adaptive management framework but one that incorporated enforceable consent parameters as to PM₁₀ limits and RCS monitoring to provide a clear level of protection for the community. In this regard, he recommended an amendment to proposed Condition 33 to require the DMP to be reviewed and certified by the WRC prior to the commencement of each stage in order to “*capture the outcomes of the monitoring and outline any updated operational requirements or additional mitigation measures*”.²¹
- (d) He did not agree with Mx Wickham that provision of real-time monitoring data was consistent with good practice at other quarries in New Zealand. He highlighted that air quality data requires expert input, validation, calibration and interpretation, so real-time public disclosure could be confusing and unhelpful.
- (e) In terms of the gully wall, he considered that its retention (in part, as at the time of his memorandum), would assist to contain entrained dust within the site. By the time of its full removal (at Years 23-25), “[he] would expect the operator to have well-established and effective dust control measures in place, informed by site monitoring”.²²
- (f) With regard to Mr Hayton’s statement, he noted that the handling and processing of quarried material is unlikely to generate any appreciable PM_{2.5} emissions, as these would be of coarser fractions. The potential for PM_{2.5} emissions from vehicles would be small relative to the volumes of traffic moving along SH1, and noted that neither Mr Curtis nor Mx Wickham had raised any concerns with respect to PM_{2.5} emissions.

211. Mr Penfold provided a supplementary statement to his s.42A report in response to the evidence of the Applicant and submitters. He noted from the outset that his overall recommendation, that consent could be granted to the application, had not changed. We summarise the key points from his statement as follows:

- (a) The implications for the regional consents in respect of the changes to the proposal related to erosion and sediment control, and to a lesser extent, the management of dust. He considered that erosion and sediment control can be appropriately managed by the conditions as recommended by Mr Pope (as previously referred to), and relevant changes had been made to the proposed conditions in this regard. The changes to the proposal noted at the reconvened

²¹ Stacey Memorandum 12 June 2025, at p.2

²² Ibid, at p.3

hearing were not substantive in terms of erosion and sediment control but should be reviewed by the Council's specialist as part of providing the WRC's updated conditions after the hearing. For air discharges, he noted the further memorandum from Mr Stacey and updates to proposed Conditions 33 and 47 (regarding the DMP and monitoring period), and on the basis of these was satisfied that dust effects could also be appropriately managed.

- (b) He agreed with Ms McConachy's legal submissions as to the reasons why an air discharge permit was not required. However, he advised that if the Panel reached a different view, the proposed conditions relating to dust management could be readily re-formatted into a separate consent certificate format.
- (c) The three matters of uncertainty raised in the hearing regarding groundwater take and discharge (i.e., a condition in respect of the Miller property at 41 Newcombe Road; a condition regarding water supply impacts at 143 Tirau Road; and the need for a groundwater monitoring plan) had been addressed through the information provided by the Applicant and the updated conditions. These had been further refined as a result of a specialist review undertaken by Baseline Geotechnical (11 June 2025) for the WRC. This review had recommended that:²³

...the information held in the HDGeo addendum report (specifically appendices B, C and D) be incorporated into the GWMP to form a GSMCP that addresses both groundwater and settlement effects.

The GSMCP should include an agreed variable monitoring frequency that is consistent with the trigger tiers proposed (green, amber, red)...

It would be appropriate for WRC's monitoring/compliance team to be notified if Amber or Red trigger levels are reached or exceeded.

- (d) Further changes to conditions were proposed, including as to the timing of the implementation of ecological planting and wetland enhancement. He noted that the certification of planting prior to Stage 5 would be addressed by the WDC, but that this could also be included in the WRC's requirements for the EMP.

212. Mr Penfold also addressed in some detail the question as to the 'significance of regional benefits', as a mandatory test in respect of the NES-F. He noted that he had not changed his opinion in this regard (i.e., that the proposal met this test), but referred to

²³ Baseline Geotechnical Technical Review, 11 June 2025, at section 4

the competing evidence of Messrs McIlrath and Green in this regard. He noted that Mr Green had not provided an alternative assessment as to the monetary value of benefits, but acknowledged that, *“the interrelationship with data provided by the Applicant and interpretation of that data by Mr Green led to considerable uncertainty and difficulty in deciphering the evidence”*,²⁴ and that this was anticipated to be responded to by the Applicant in their reply.

213. Mr Penfold also referred to the ‘functional need’ test of the NES-F (per Regulation 45A(6)(b)) and advised that he remained of the view that there is a functional need for the quarry in this location. He acknowledged the views of submitters to the contrary, albeit that the evidence in that regard had been presented in the context of the requirements of the NPS-HPL which are not the same as those for the NES-F.

Waipā District Council

Transport

214. A supplementary statement was provided by Mr Inder to address issues raised by Mr Hall for the Applicant and submitters (Mr Braithwaite for the NZTA, Mr Talbot, Ms Flintoft and Mr Chrisp for Windsor Park Leasing Ltd). This is summarised below.
215. As an initial point, we note that Mr Inder addressed the issue as to the potential for accelerated surface wear at the Newcombe Road and Tirau Road intersection, as well along Newcombe Road itself, in three different sections. We had some difficulty interpreting (post-hearing) his recommendations in this regard:
- (a) He referred to the surface wear effects at the Newcombe Road/Tirau Road intersection and, in respect of Mr Braithwaite’s evidence, he recommended the inclusion of a condition to require the Applicant to upgrade the intersection surface to a heavy duty asphalt concrete material sufficient to withstand stresses of turning HCVs.
 - (b) He noted that Mr Hall had accepted the surface upgrade as a condition of consent.²⁵ However, he went on to say that pavement strengthening work ahead of its failure may be an inefficient use of resources and that contributions towards future pavement rehabilitation is captured by the Heavy Vehicle Impact (HVI) fee calculation.²⁶

²⁴ Penfold Supplementary Statement, at [4.2]

²⁵ Ibid, at [19]

²⁶ Inder Supplementary Transport Review, at [31]

- (c) However, in terms of Newcombe Road itself, he did not agree that it would be inefficient to require upgrading prior to evidence of failure. He advised that, in consultation with WDC's Transportation Manager, Mr Hudson, three conditions were proposed to address this matter. He described the key difference with the monitoring plan suggested by Mr Hall as follows:

...the inclusion of an assessment of the existing, and required pavement strength for Newcombe Road. This is to be provided by the consent holder to WDC for review and a decision on whether pavement strengthening works are required before the quarry commences trading or if there is sufficient existing strength to justify delaying the work to a future date and/or until a level of deterioration acceptable to WDC.

My recommended conditions then outline the monitoring requirements in the event WDC agrees to delaying the pavement strengthening work.

216. For clarity at this juncture, we note that the conditions relating to upgrade works at the Newcombe Road and Tirau Road intersection were extensive (Conditions 31 – 41), and were presented as part of the Applicant's Reply. We have adopted those conditions as representing part of the application and find that they are appropriate and necessary. These also sit alongside a condition requiring payment of a HVI fee (of \$0.043/T, per Condition 30).
217. Mr Inder also addressed the access issues raised by Mr Talbot, and the suggested need for a central median island on Tirau Road to enable traffic to pass around a left-turning truck entering Newcombe Road. He noted his agreement with Mr Hall as to the low risk of occurrence of an overtaking vehicle hitting a vehicle turning right from the Tirau Road right-turn bay. He also agreed with Mr Hall's observation as to the potentially greater safety risk of a vehicle overtaking a slow left-turning truck and the visually shadowing effect of the left-turn truck. Mr Inder considered that this greater safety risk can be mitigated through "*provision of the 150mm high and 20m long central median island with RD6L signs installed on either end, between Newcombe Road and Lockley Road*",²⁷ and which would be subject to an independent safety audit, and associated decisions recorded by the WDC.
218. Mr Inder's memorandum set out his further analysis of the Newcombe Road and Tirau Road intersection safety concerns raised during the hearing. He advised in this regard that, on the basis of that analysis, "*it is unnecessary for an acceleration lane for trucks*

²⁷ Ibid, at [41]

to be added to the westbound lane to improve safety, especially since the [Minimum Sight Distance Gap – MSDG] to the rear of a vehicle exceeds the desirable minimum distance of 244 m for a westbound vehicle speed of 110 km/h”.²⁸ He also considered that the westbound shoulder, while not a full width lane, provides a useful buffer for a truck to partially occupy while being passed by a following vehicle.

219. Mr Inder also addressed the issue of increased heavy vehicle traffic on through-route roads within Cambridge, being a significant issue of concern to many submitters, and a particular concern noted within his original memorandum. He provided a detailed analysis of existing traffic volumes, and the likely increase associated with the proposal, and the reasons for his opinion that the maximum daily truck limit should be reduced from the Applicant’s proposed cap of 200, to 150. The rationale for associated two-monthly and 12-monthly average maximums was also explained. These amendments were to address the fact that he remained *“unconfident from the information provided that the potential effects of the increased heavy vehicle volumes using the Cambridge through-roads will be immaterial”*.²⁹
220. The associated monitoring and review conditions that he proposed in terms of these traffic movements would also *“address the potential for adverse traffic effects of the quarry to go unmitigated”* (and in this regard would appropriately respond to some of the matters raised by Mr Chrisp).
221. Mr Inder’s response to the Flintoft Trust encapsulated his overall views regarding traffic impacts on Cambridge and his differences with Mr Hall:³⁰

In contrast to the Trust’s view, the potential traffic effects of the quarry on Cambridge are somewhat disputed. Mr Hall considers them to be less than minor, while I am not confident that is apparent to me there is [sic] a reasonable level of uncertainty about the future heavy vehicle volume travelling through Cambridge and any associated effects in the urban area. I am confident the volume will not be 400 movements per day, but it could potentially be a lot more or less than the 8 trucks per hour that the applicant currently expects the volume will be. Hence my recommendation for a monitoring and review condition to gather reliable data from a limited period of quarry operation.

²⁸ Ibid, at [102]

²⁹ Ibid, at [59]

³⁰ Ibid, at [83]

I cannot agree at this time with the Trust that the traffic effects are significant in the absence of any evidence to support that claim. However, my position is the effects could be more than minor on pedestrians and cyclists (in particular) in Cambridge, depending on the actual volume of heavy truck and trailers using the main through route.

222. Mr Inder also referred to Mr Braithwaite’s evidence as to the reasons why the NZTA do not support the addition of north-facing on and off -ramps at the Cambridge Southern Interchange. This was to prevent this section of the expressway from being treated as a local road connection between Cambridge south and the Hautapu interchange. He understood this to be based on lessons learnt from older motorway examples, where “[t]he medium-term outcome of enabling short trips on motorways has proven to be congestion and delay, affecting economic productivity and bringing forward the need for expensive capacity upgrades”.³¹ For those reasons, he also disagreed with Mr Chrisp’s evidence that sought that these ramps need to be provided.
223. In terms of other matters raised during the hearing, Mr Inder provided an overview of proposed safety improvements along the main routes through Cambridge, including the ‘Cambridge Connections’ initiative. However, we understood from his memorandum that the business case for that initiative will not be complete for approximately 18 months. He notes the advice from Mr Hudson in this regard that although no specific funding is allocated in the WDC’s current draft Long Term Plan, “there is some general provision of funding in the 3-5 year window to pursue the priorities that will come from the Cambridge Connections programme (likely in the form of single stage business cases)”.³²
224. Overall, Mr Inder advised that he was satisfied that the transport effects of the proposed quarry can be sufficiently and appropriately mitigated through compliance with proposed conditions.

Landscape

225. Oliver May provided a supplementary memorandum on landscape matters, primarily in response to the supplementary statement of Mr Morton. In particular, and noting the change to the proposal regarding the northern gully wall, he considered that this would reduce the level of visual effects experienced from the Powell property. In respect of other matters, he advised:

³¹ Ibid, at [23]

³² Ibid, at [86]

- (a) Based on the Applicant's option to sell overburden and limit material storage to topsoil only, it would be *"possible to manage the overburden in the site to an extent which will not result in additional adverse visual effects from the Powell Property"*.³³
- (b) Any restrictions on the height of the proposed vegetation along the gully wall will not change the potential visual effects of the quarrying activity from the upper terrace of the Powell property, and retention of the gully wall will further reduce the level of effects experienced in that regard. He did agree, however, with Mr Morton that additional planting information and detailed plans are required for all planting, as Mr May had advised in his original peer review.
- (c) In terms of site reinstatement, he agreed with Mr Morton that there is a lack of information in respect of final soil depths throughout the site. Nevertheless, he referred to the JWS where he had expressed the opinion that from a visual effects perspective, a grassed pastoral environment could be established with a potentially reduced soil depth.

226. Overall, Mr May confirmed his opinion that the proposal will *"adequately minimise potential adverse landscape and visual effects and is in general alignment with the outcomes sought by Mr Morton in [para 37] of his [evidence]"*.³⁴

Planning

227. Mr Whittaker provided a memorandum at the hearing, advising that his overall recommendation remained that the application merits the grant of consent, subject to appropriate conditions. In respect of these, he qualified his statement by saying that, *"[g]iven the nature and potential for off-site effects, these conditions will need to be robust and transparent with the opportunity for ongoing review given the nature of the staging and management plan methods proposed"*.³⁵ He went on to provide a detailed consideration of the various topics in contention which we summarise as follows:

- (a) In terms of economic effects and regional/national benefits, Mr Whittaker noted the significant disparity between the opinions of the two experts, and noted that this was an important issue to resolve in terms of the NPS-HPL, which was relevant to the land use consents, while also being relevant to the regional consents in respect of the NES-F. His conclusion advised that he was not satisfied

³³ May Supplementary Statement, at [6.7]

³⁴ Ibid, at [7.1]

³⁵ Whittaker Planning Statement, at [3]

as to the realisation of regional or nation benefits as an individual quarry, but that the relevant threshold and exemption criteria of the NPS-HPL would be difficult for any quarry to meet. While noting the difficulties of reaching a firm conclusion in respect of this matter, he reiterated the view set out in his Planning report that if a regional or national benefit cannot be demonstrated (in order to satisfy cl.3.9(2)(j)(iv) of the NPS-HPL), this would not be fatal to a consent being granted under s.104. In his opinion, *“granting consent to the proposed quarry will not cause a substantive or inappropriate reduction in [HPL] and there are enabling policies within the regional and district plans that support quarry activities within rural areas”*.³⁶

- (b) From the perspective of land rehabilitation, he noted that he was satisfied with the evidence of Mr Hunt as to references to other rehabilitation projects, and that *“at least pastoral farming activities can be re-established, if not to the full extent and profile that would re-establish Class LUC 1 – 3 soil”*.³⁷ He further advised that specific conditions were recommended in terms of the rehabilitation process, including the stockpiling of topsoil.
- (c) With respect to HCV traffic through Cambridge, he referred to the evidence of Mr Hall and Mr Inder’s supplementary statement, acknowledging the difficulties in defining traffic generation movements or a quarry where those effects will be highly variable and largely driven by resource and project demand. Overall, and in his opinion, it is both necessary and appropriate to establish a framework for maximum and average traffic movements for the proposal. Accordingly, he supported Mr Inder’s assessment in this regard, *“particularly given that the Applicant has not offered any alternative”*.³⁸ He noted however, that there will continue to be a difference with the Applicant in respect of this matter.
- (d) As to the amenity effects of increased HCV traffic, he noted the need for caution in the consideration of amenity effects associated with the use of public roads, based on their assigned function and operating environment within the roading network. He referred, however, to Policy 16.3.2.4 under the District Plan which he considered provided some scope for taking amenity issues into account as part of a discretionary activity. The policy is as follows:

³⁶ Ibid, at [18]

³⁷ Ibid, at [57]

³⁸ Ibid, at [27]

Development, subdivision and transport infrastructure shall be located, designed and managed to:

- a. Avoid, remedy or mitigate adverse effects of transport on character and amenity; and*
- b. Facilitate opportunities to enhance character and amenity; and*
- c. Ensure that the outcomes sought in the Waipa Growth Strategy, Town Concept Plan 2010 Plans, and the Character Precinct statements in Section 6 – Commercial Zone of this Plan are achieved.*

It was his opinion that concerns from the community over HCV movements is understandable, and the lack of certainty over the extent of such traffic is not reassuring for those persons concerned about such effects. Overall, however, he did not consider *“that the traffic effects are inappropriate and/or of such a degree that consent should be declined subject to an appropriate framing of the traffic generation”*³⁹ (the latter aspect was noted to form part of a condition of consent).

- (e) In terms of community calls for a north-bound on-ramp to be constructed, he drew attention to the evidence of Mr Braithwaite for the NZTA, noting that there is no proposal for such infrastructure, nor any proposal from the Applicant to include or fund such works as part of its application. The decision on the proposal will therefore need to be based on the nature and effects of the proposed level of traffic generation and distribution, without such a facility being in place.
- (f) With regard to landscape effects, he advised that his opinion was guided by the common view and expert assessments of Messrs Mansergh and May, and that *“the development of the quarry will have a degree of effect on the landscape values and views from the Powell property however I consider that these effects can be appropriately mitigated”*.⁴⁰ In response to the matters arising during the reconvened hearing, he noted his support for some additional performance-based conditions in terms of the landscape planting outcomes presented by the Applicant, and that *“there should be an objective measure and certification of the planting through the stages of the quarry development”*.⁴¹

³⁹ Ibid, at [34]

⁴⁰ Ibid, at [48]

⁴¹ Ibid, at [60]

- (g) For the bund adjacent to 41 Newcombe Road, he noted the evidence of Mr Hegley that a height of 2.5m would be acceptable to address noise effects, and would not be required along all of the shared boundary, but that Mr Miller would prefer a higher bund. He advised of his recommendation for conditions to incorporate the requirement for a full bund along the common boundary, with provision for further engagement with the Millers as part of the bund's final design.

228. Overall, while acknowledging that the proposal would have off-site adverse effects, including traffic effects, these would not be of a scale that would justify the refusal of the application.

Summary

229. The Panel wishes to acknowledge the comprehensive nature of the supplementary statements from the Councils and the manner in which they also included responses to updates that had been made at a late stage, and their careful consideration of required changes to the wording of proposed conditions.

Post-hearing information and Reply

230. Prior to the adjournment of the reconvened hearing a timetable was noted for the provision of updated ESCPs and associated cross-sections for the revised proposal from the Applicant; revised proposed conditions from the Councils; and the Applicant's right of reply.
231. The updated ESCP plans⁴² and cross-sections were received on 27 June 2025. The ESCP described the revised staging process and areas/volumes involved. In general terms, it noted that:⁴³

Excavations of the pit area will begin 55-60m from the Karapiro Stream and move towards Newcombe Road. The stages will excavate approximately 40m below the existing ground level of the existing terrace. The floor of the pit area will be approximately 10m above the level of the Karapiro Stream bank. An internal pit road will link the pit and plant areas.

232. The ESCP also describes that for Stage 5 (at Years 20.8 - 25, with an area of 3.2ha), excavations will be completed from the quarry side of the wall to ensure that there is

⁴² Prepared by Southern Skies dated 25 June 2025, with reference to staging plans prepared by Stevenson, dated 24 June 2025.

⁴³ ESCP, 25 June 2025, at p.7

always a stabilised face to the Karapiro Stream side. As the works near completion, it notes that a minimum 1.5m bund would be retained (i.e., the insitu embankment would be retained 1.5m proud) to ensure that the remaining exposed pit floor is still fully contained.

233. The cross-section diagram was prepared by Mr Mansergh. It showed the quarry sightline from the land plateau on the opposite (northern) side of Karapiro Stream that is largely in-line with the existing level of the site, such that the quarry activities during Stages 1 - 4 would be almost wholly screened from that location. It also depicts the extent of the various stages, including the excavated level of Stage 5, the 100-year flood level of Karapiro Stream, and the height of vegetation where it is affected by the Transpower height reduction corridor.
234. The Council's revised proposed conditions were received on 27 May 2025 (WDC) and 7 July 2025 (WRC).
235. The Applicant's closing submissions in reply (**Reply**) were received on 14 July 2025. These were comprehensive and in summary addressed the following principal matters in contention, namely:
- whether consent should be granted;
 - whether the "Gully Wall" should be removed at Stage 5;
 - whether there should be an additional bund on top of the Gully Wall;
 - what HCV restrictions should apply;
 - what monitoring of RCS should be required;
 - what monitoring of PM₁₀ should be required;
 - whether the required NPS-HPL exceptions pathway has been satisfied, and what are the implications if it has not; and
 - whether an air discharge permit is required, and whether the Panel is required to make a finding on this point in its decision.
236. Mr Matheson also responded to legal submissions for the Powells, in particular as they relate to the relevant planning provisions. He disagreed with the submissions of Ms

Hollis that the proposal would be inconsistent with the various objectives and policies of the relevant plans.

237. Mr Matheson also responded to the supplementary material filed by submitters prior to the reconvened hearing. In particular, Mr Matheson noted that Mr Ueckermann did not propose specific wording in respect of proposed conditions to restrict HCV movements at certain times, nor did he provide details of other options proposed. It was Mr Matheson's submission that none of these options can be given any weight.
238. Mr Matheson then briefly traversed the supplementary statement of Mr Morton (for the Powells) focusing on his concerns regarding the visibility of overburden piles (from the Powells' property). He noted that:⁴⁴

...the Applicant has been clear that the original strippings and overburden will be used to create the bunds, the topsoil is required to be stored on site, and the remainder of overburden will be sold off site as "pit sand" or will be used to remediate earlier stages.

239. Mr Matheson considered there is no basis in planning documents that would require overburden to be store out of site during Stage 1, as proposed by Mr Morton.
240. In support of matters raised in the reply, Mr Matheson also attached a copy of Table 7 of the TECQ Study; a map of sand quarries and concrete batching plants in the Waikato/Tauranga area; a map of sand quarries and development proposals around Cambridge; a map of sand quarries around Cambridge with an LUC overlay; and copies of relevant court decisions. Also attached to the Reply was a final set of conditions responding to those circulated by the Councils.
241. Mr Matheson also provided a postscript submission, which we understood to be in response to a memorandum from Ms Hollis,⁴⁵ and which sought to clarify the definition of 'Gully Wall' as being 'Stage 5'. Ms Powell's concern was that the Applicant wouldn't be retaining the entire gully wall until Stage 5, whereas the Applicant defines the gully wall as the Stage 5 area only. We record here, by reference to the relevant ESCP plans, that by combining Stages 1 and 2 the Applicant has changed the shape of the excavated area in the western section of the quarry. However, we are satisfied, by reference to those plans, that there was always the Applicant's intention to remove that part of the western section of the gully wall which sits above the vegetated part of the gully.

⁴⁴ Reply, at [8.7(c)]

⁴⁵ Memorandum of Counsel on behalf of Powells, 3 July 2025, at [4]

242. The Reply also included edited versions of the conditions circulated by the Councils. Key changes or concerns in respect of the WDC conditions are summarised as follows:

- (a) A requirement for the QMP (Condition 4(c)) to require excess overburden to be stored in areas not visible from the Powell property was strongly opposed, noting that 'excess overburden' and 'visibility' are not defined and the clause is unenforceable.
- (b) Performance targets for planting (Condition 8(c), as presented in the Reply) should be extended from three to five years (with consequential changes to subsequent clauses).
- (c) A requirement to complete the rehabilitation of Stage 4 prior to commencing Stage 5 (Condition 27(b)) is opposed (as discussed in the Reply), noting in summary that *"[w]hile the rehabilitation of Stage 4 will still occur prior to Stage 5, there may be some small overlap and in particular the grass would not have fully grown. It is disproportionate for the quarry operations to have to effectively cease while the grass grows on Stage 4 prior to starting Stage 5. As can be seen on the Staging Plans, the area of Stage 4 is relatively small"*.
- (d) A requirement for establishment of the ecological planting along the stream gully to a certain standard prior to Stage 5 (Condition 27(c)) is opposed, because *"[t]he restoration planting is a significant environmental commitment that will have very large long term ecological benefits, and it comes at a significant cost to the Applicant. This planting provides no meaningful screening benefit and any landscape concerns are addressed by the requirement for Stage 3 to be rehabilitated prior to commencing Stage 5"*.
- (e) The daily and other limitations to HCV movements proposed by the Council (Conditions 29 and 43) are opposed, for the reasons set out in the Reply and because *"[t]hey are disproportionate to the nature of the activity - being an HCV on an arterial road. Furthermore, average daily percentage isn't required because % are meaningless in terms of mitigating effect. They are based on traffic numbers which if were very low would have a very low effect e.g. 1 truck per day from site going through Cambridge is 100%"*.

243. The amendments recommended by Mr Penfold for the WRC conditions were largely agreed, apart from some matters of clarification and a matter of contention in respect of the timing of provision of a water measuring system for the groundwater consent

(the WRC sought that this be within three months of the date of consent, with the Applicant seeking this be prior to utilisation of the groundwater bore).

244. We discuss in more detail specific parts of the Reply, including in respect of the conditions, in subsequent sections and as they relate to matters in contention.

Reply Rebuttal Evidence

245. Mr Hall provided rebuttal evidence as part of the Reply. He responded to Mr Inder's supplementary statement of evidence, along with relevant WDC draft conditions.⁴⁶ We discuss this later in regard to the outstanding matters.
246. Mr Hall also helpfully provided a figure illustrating the growth cells around Cambridge and nearby quarries, and the proximity of the proposed quarry site, noting that options for quarry resource within close proximity to these growth areas are limited.
247. Mr Hall also addressed concerns raised by submitters about increased HCV movements through the Cambridge urban area and proposed additional monitoring of HCV movements in proposed Condition 43, along with several other amendments to traffic conditions, which he considered would address these concerns.
248. Mr Hall provided a detailed response to Mr Uekermann's statement and overall he concluded that, *"I do not believe that Mr Uekermann's statement would result in changes to the conditions and that my commentary and suggested wording for the conditions as outlined previously in this document are still valid"*.⁴⁷
249. Mr Hall also addressed the further submission of Mr Talbot, noting general agreement with respect to the terms of an independent road safety audit, but disagreed with the requirement for an auditor to be selected from a NZTA-approved list rather than by the Applicant. He considered the inclusion in the condition of the audit guidelines (as recommended by Mr Talbot) identifies the skills and qualifications required within the audit team. As such he did not consider that the condition requires rewording.

Close of hearing

250. Following the completion of the hearing and its review of the Applicant's closing submissions in reply (**Reply**), the Panel was satisfied that it had sufficient information on which to prepare its decision on the application. We therefore determined that the

⁴⁶ Dated 27 May 2025

⁴⁷ Hall, Reply Evidence, at [3.9]

hearing could be closed, and advice of the same was conveyed to the parties on 5 August 2025.

Cambridge to Piarere Long Term Improvements Project

251. As referred to in some of the evidence before the Panel, the NZTA was progressing its notices of requirement and resource consents in respect of its C2P project. Commissioner Manukau was also a member of the Expert Consenting Panel (**ECP**) in respect of that matter, which enabled this Panel to remain abreast of progress as to decision-making steps associated with C2P.
252. Significantly, we understand that issues in respect of the Newcombe Road/Tirau Road intersection were canvassed in the course of the C2P application, with reference to the transportation-related submissions and evidence presented to the ECP for C2P. We refer to that in respect of Issues 8 and 9 below, primarily to demonstrate that appropriate regard has been given to the analysis and assessment provided in respect of both projects and the area where they appear to have some potential overlap (save for any appeals that may be made in respect of the eventual decision in C2P).

THE PRINCIPAL ISSUES THAT WERE IN CONTENTION - Section 113(1)(ac)

253. The principal issues that the Panel determined to be in contention are as follows:
- Landscape effects, particularly as viewed from 42 French Pass Road;
 - Ecological effects;
 - Economic benefits;
 - Effect on HPL and alignment with the NPS-HPL and NES-F;
 - Traffic safety effects at the Newcombe Road and Tirau Road intersection;
 - Traffic and associated safety and amenity effects on the Cambridge town centre;
 - The need or otherwise for HCV restrictions;
 - The need for north-bound on-ramps;
 - Effects of dust and RCS; and
 - Consent duration.

254. These issue topics are in no particular order but are grouped together where there is an obvious connection between them (e.g., where findings on economic matters assists to inform our findings in respect of the NPS-HPL), while also noting there are a number of inter-relationships between the issues notwithstanding our efforts to distinguish them. We have also addressed the matter of whether an additional consent is required (air discharge) at the outset, as it appeared to be an issue raised during the hearing that was able to be readily determined by reference to the Councils' hearing response and the Applicant's Reply submissions.

THE MAIN FINDINGS OF FACT & REASONS FOR DECISION – Section 113(1)(a) & (ae)

Introduction

255. The Hearing Panel have considered the application, submissions, the planning assessment report prepared by the planners for the Councils (and supporting analyses), the evidence presented on behalf of the Applicant and submitters at the hearing, the relevant statutory and planning provisions, and the principal issues that were in contention. The main findings of fact in respect of these issues as determined by the Hearing Panel are discussed below.
256. In reaching those findings, we note that, broadly speaking, the key changes to the proposal relative to what was described in the Councils' Planning reports include:
- The amended staging plans, including the combining of Stages 1 and 2;
 - Retention of the gully wall until Stage 5;
 - Amended erosion and sediment control measures; and
 - More detail in respect of land rehabilitation and ecological planting.
257. By way of further summary, the timing of the revised stages is set out below based on the updated ESCP (25 June 2025) and what we understand to be the associated area and extraction volumes (based on section 2 of the April 2025 version of the ESCP, and combining the Stages 1 and 2 areas and volumes), as follows:

Stages 1/2	Years 1 to 9.5	11.9ha	3,345,300 T
Stage 3	Years 9.5 to 16	6.3ha	2,112,084 T

Stage 4	Years 16 to 20.8	3.0ha	1,302,696 T
Stage 5	Years 20.8 to 25	3.2ha	649,620 T

258. We also note that the proposed conditions as developed by the Councils in the first instance incorporated some not insignificant evolution alongside the above changes, and in response to matters arising during the hearing. These included the requirement for more detail in respect of planting performance and landscape staging; site rehabilitation; road pavement improvements; and improved provisions related to the monitoring of HCV movements. In addition, and in respect of the regional consents, changes were proposed to water discharge quality from the SRPs; groundwater and settlement monitoring (including provision of a detailed TARP requirement); measures to address potential changes to local water supplies; more detailed requirements for dust and RCS management and monitoring; more details in respect of the EMP and habitat protection; and improved record-keeping for monitoring purposes.

Issue 1 – Requirement or otherwise for an air discharge consent

259. As previously noted, an issue arose during the hearing as to whether the application also required an air discharge consent from the WRC. The WRC Planning report advised that discharges to air are an ‘otherwise authorised activity’ under the Air Module of the Regional Plan, subject to the Applicant meeting the requirements of the permitted activity rule. Mx Wickham noted in her evidence that the proposed quarry activity will involve discharge of PM₁₀ and RCS which are hazardous substances, and as a result, condition (e) of the authorised activity standard (Rule 6.1.16.1 of the Regional Plan) cannot be met, as it requires that “[t]here shall be no discharges of hazardous substances into the air”, which would require consent as a discretionary activity.
260. This matter was addressed in some detail in a legal opinion provided in a separate letter from Mr Matheson and provided with its further information on 13 May 2025. This noted that “*there is no probative evidence before the Commissioners that there will be any ‘discharges of hazardous substances into air’ and accordingly the permitted activity standard is complied with*”. As previously referred to, we also received a memorandum from Ms McConaghy on behalf of the WRC which set out the position that if a consent was required (which the WRC does not consider is necessary), then that would need to have been applied for. She cited the recent case of *Kaiuma Farm v Marlborough District Council*,⁴⁸ where the Environment Court found that the relevant commissioner was

⁴⁸ *Kaiuma Farm Ltd v Marlborough District Council* [2024] NZEnvC 150, at [95]

wrong to have concluded that he had jurisdiction to allow an amendment to a land use consent to include a s.15 discharge permit.

261. Mr Matheson's Reply submitted that there was no need for the Panel to determine the issue as part of this hearing. He referred to authorities that confirmed that where an applicant has committed to complying with a permitted activity standard, then no resource consent is required (and in fact legally could not be sought). He noted, however, that such an applicant is at risk of enforcement action if they subsequently do not continue to comply with those permitted standards throughout the course of the activity.⁴⁹ He went on to say:⁵⁰

If any party considers that an air discharge permit is required, then the appropriate course of action is to bring enforcement action. In that regard, it is appropriate to record that none of the air quality experts considered that there would need to be any additional conditions of consent imposed to manage the effects, even if a consent were to be required – it is simply an administrative issue.

262. Mr Matheson also noted the *Kaiuma Farm* case put forward by Ms McConaghy, which he acknowledged did not support a number of the arguments he had put forward in his letter of 13 May 2025. However, while he considered that that decision can be distinguished, *"the position now taken by the Applicant is that the Commissioners do not need to decide on the need for an air discharge permit"*.⁵¹

Finding

263. We have adopted the position as advanced by both the WRC and the Applicant. Simply put, the Applicant, and the WRC as the relevant regulatory authority, have advised us that the proposal is able to comply with the relevant permitted activity standards. Further, because an application for consent (even on a conservative or precautionary basis) has not been made, we do not have jurisdiction to grant an approval. Our decision therefore does not include any consent in respect Rule 6.1.16.1 of the Regional Plan. Should one prove to be necessary, that will be a matter for the Applicant to address by way of a separate application to the WRC.

⁴⁹ With reference, for example, to *Omaka Valley Group v Marlborough District Council* [2012] NZEnvC 237, at [33]

⁵⁰ Reply submissions, at [4.13]

⁵¹ Ibid, at [4.14]

Issue 2 – Landscape effects

264. The proposed quarrying activity would result in a significant change to the landform of much of the site, as the quarry pit would extend into the site to an approximate depth of 35m from its existing level. As clarified during the hearing adjournment, this extraction would be staged so that excavation would occur in a broadly north-south direction, behind the northern gully wall up to Stage 4, with the gully wall not subsequently excavated until the commencement of Stage 5.
265. Overall, the quarry activities would also require the removal of 3.4ha of terrestrial and wetland vegetation and 23ha of pasture. An on-site processing area would be developed on an eastern spur of the site, with internal access roads.
266. The key issue that we heard in respect of landscape effects was the way in which the excavated site would be visible to those properties to the north – from 42 French Pass Road in particular, but also from other properties further along that road with views towards the site. Those effects had been assessed by Mr Mansergh in his evidence, but just prior to the commencement of the hearing he visited the site at 42 French Pass Road. As a result of that site visit, and his advice to the Applicant, the proposal was initially changed to provide for the gully wall to be largely maintained (albeit reduced in height by 10m) and then not removed until Stage 5.
267. Due to the timing of that change the evidence from Mr Mansergh that we heard on the point did not appear to be well developed, and as noted previously, has been the subject of further evidence and joint witness conferencing. As noted above, the Applicant's proposal was further amended so that the gully wall would be retained in full until Stage 5.
268. Mr Mansergh's Supplementary Evidence (undated, but received on 13 May 2025) addressed both the amended staging proposal, and his assessment of the effects of that proposal, with updated plans that depicted proposed visual mitigation planting within that part of the gully wall to be retained. In his view, the change to the staging plan would substantially reduce the level of effects likely to be experienced from the properties to the north. He concluded that:⁵²

*While the works associated with the early stages of the quarry will still be observable and will initially have a **moderate** (more than minor but not significant) effect on existing landscape amenity from some locations, in general,*

⁵² Mansergh, Supplementary (13 May 2025), at [7.2]

*the amended extraction sequence will result in a lower level of effect (**very low – low-moderate**) on the Powell property and adjacent properties on the northern side of the Karapiro Stream Gully (i.e. a minor or less than minor effect). This is primarily due to the remnant gully wall being retained long enough to allow the ecological planting to establish and eventually take over its screening function. For comparison, before the change in the proposed extraction sequencing, I assessed the effect of the old stage 1 to be moderate-high (temporary effect, before the temporary bund was constructed and grassed), reducing to moderate for the later part of stage 1 and stages 2 and 3, and low-moderate for stages 4 and 5 before attaining a very low effect rating upon completion of all restoration works. (Mansergh emphasis)*

269. His evidence on the day of the reconvened hearing was that these effects would be reduced through retention of the gully wall for Stages 1-4. The proposed planting would be established over that period and thereby provide some screening of the lower gully wall by the time that its removal would occur during Stage 5.
270. In terms of the request for retention of the gully wall, Mr Mansergh stated in his Supplementary Evidence that, *“from a landscape perspective, leaving the gully wall in place permanently would result in the creation of what is termed a ‘redundant landform’, that is a remnant landform that does not integrate cohesively with the surrounding natural landforms and serves no beneficial purpose beyond the life of the quarry”*.⁵³ At the reconvened hearing, the Panel queried Mr Mansergh in respect of his reference to retaining the gully wall in perpetuity as resulting in a ‘redundant landform’. In response, Mr Mansergh set out his view that removing the gully wall would create a more natural landform, consistent with the series of terraces in the wider landscape. Mr Mansergh agreed, however, that the gully wall would be continuous within the wider landscape when viewed from a location within the Karapiro Stream gully.
271. Mr Mansergh’s supplementary evidence included detailed 3D and 2D modelling that was comprised of two “overview” photopoints – one looking north across the site (O1) and one looking south across the site (O2) – and then seven separate photopoints from within the Powell property. These depicted the various views with mitigation planting at various intervals up to 25 years, and indicated that new planting would reach a sufficient height and density so as to replace the screening function of the gully wall (in its reduced height to be established as part of Stage 1). A set of updated cross-sections

⁵³ Ibid, at [6.13]

were provided with the information received on 27 June 2025 to show the level of visibility of the quarry during the respective stages.

272. The supplementary evidence of Mr Morton prior to the reconvened hearing queried the ability of the proposed mitigation buffer planting to provide an effective visual screen, and that this undermined Mr Mansergh's assumptions on plant growth and screening within his montages and evidence.
273. The Panel held similar concerns, but at the reconvened hearing, where the change to the timing of the gully wall removal at Stage 5 was presented, Mr Mansergh stated that he did not rely on the planting to provide screening by itself. He noted that the ecological species mix has a secondary function of providing some landscape amenity value and some screening value, but that this is not critical to the visual mitigation or screening of the application itself. He emphasised that the visualisations were intended to be indicative of height and cover rather than representative of particular species or to accurately reflect what the ecological planting is proposed to achieve. Further amendments were made to the visual model at the hearing to acknowledge the effect of Transpower-related height restrictions.
274. Mr Morton remained opposed to the removal of the wall at Stage 5, which he considered would have a moderate to high adverse effect on the integrity of the whole of the gully. He also referred to issues regarding the landscape outcomes to be achieved from a planting plan with an ecological purpose but supported the concept of a condition that required this planting to have achieved a certain outcome before Stage 5 could occur.
275. The Panel notes that the height of the proposed landscaping became of lesser significance following the change to the proposal to retain all of the gully wall until Stage 5. This is because the majority of the works will be screened for their duration by the gully wall. Further, as explained by Mr Matheson in his Reply submissions:⁵⁴

When the Gully Wall is removed, the works will be undertaken from south to north direction and will remain largely hidden for almost their entire duration. (The streamside vegetation may provide some very limited screening from the Powells' property for a very short period of time.) To the extent that the works are visible, they will be a very minor component of the view and not unexpected in a working rural environment. They will certainly not give rise to significant adverse visual amenity effects as asserted.

⁵⁴ Reply submissions, at [3.8]

276. Mr Powell also sought that a bund be constructed along the top of the gully wall and that, as with Mr Morton, the proposal should avoid all adverse effects. However, in our consideration of this matter, we accept Mr Matheson's submission that a proposal is not required to reach the 'avoid' threshold in respect of adverse effects, and that the revised proposal is appropriate for the reasons that it:⁵⁵

- (a) will not generate any adverse landscape effects on the wider landscape (confirmed by Mr May) and is a preferable outcome to leaving the Gully Wall as a "remnant" landform (Mr Mansergh);*
- (b) will not generate adverse sedimentation effects on the Karapiro Stream;*
- (c) will not generate any unacceptable offsite noise or dust effects on any sensitive receivers;*
- (d) is not contrary to any relevant objectives and policies, and in fact is entirely consistent with objectives and policies, such as WDP's Policy 4.3.5.5;*
- (e) is consistent with the NPS-HPL because it will allow an additional 4ha ha to be reinstated as productive land – the corollary is also true, requiring its retention would be contrary to the NPS-HPL; and*
- (f) will allow an additional to 1.44 million tonnes of regionally significant sand resource being obtained. This arises from not only the sand within the Gully Wall itself, but also the increased batter that would be required if the Gully Wall is to remain permanently in place.*

277. While we address items (c) (dust effects), (e) and (f) (as a NPS-HPL matter) later in this decision, we accept that the above points do weigh in favour of the Applicant's approach to maintain the gully wall until the final stage. As noted above, we also accept that the height of the proposed landscaping is of lesser importance and that the planting, both on the lower part of the gully wall and elsewhere within the site, will be substantial and give rise to both landscape and ecological benefits (as described later).

278. Notwithstanding that point, during the hearing there was some discussion as to the need for the expected landscape (or ecological planting) outcomes to have been achieved at Stage 4, before the Applicant would be able to commence Stage 5 and remove the gully wall. This reflects the fact that the largest effect in this final stage is likely to arise from the opening up of views from the Powell property into the excavated

⁵⁵ Ibid, at [3.5]

quarry area as the gully wall is lowered as part of Stage 5 (from Year 21). Through the Reply, the Applicant proposed that the relevant condition in this regard would require that it is the rehabilitation of Stage 3 that needs to be completed prior to the commencement of removal of the gully wall. This is because approximately four years would elapse between the completion of Stages 3 and 4, which would allow sufficient time for pasture to be re-established within Stage 3.

279. The Reply advises of the Applicant's opposition to a requirement for the rehabilitation of Stage 4, and a specific clause relating to the ecological rehabilitation planting. In respect of the former, that is because:⁵⁶

...the Stage 4 area is barely (if at all) visible to the Powells, and even if it were visible there is no requirement for a neighbour's view in a rural area to be protected from all change (particularly given that aggregate extraction in the rural zone is enabled by the relevant provisions). It would, I respectfully submit, be inappropriate and disproportionate to require the sand extraction to effectively cease after Stage 4 so as to allow the grass to grow, prior to commencing the Stage 5 works. This is particularly because of the requirement for this excavation to proceed from South to North, and accordingly it will still be some time before the Stage 4 area is even potentially visible to the Powells.

280. The Panel notes the reference in the above excerpt, and that previous, to District Plan policy provisions relating to quarry activities, and rural activities more generally. We have read those policies carefully, and consider that the submission that these are necessarily enabling of quarrying activities requires some qualification. As a starting point, quarrying is a discretionary activity in the Rural Zone, and Policy 4.3.5.4(b) for example, requires that the scale of mineral extraction activities "not adversely affect rural character". Objective 4.3.7 seeks that "rural character and amenity is maintained". This apparent tension within the objective and policy framework was addressed in Mr Whittaker's Planning report, on the basis of the proposal as originally presented, as follows:

289. Sub-clause 4.3.5.4(b) refers to extraction activities not adversely affecting rural character. In my opinion, the proposed quarry will have a degree of effect on the local catchment of surrounding properties including along the immediate interface with 41 Newcombe Road. Taking into account the expert landscape assessment and the limited nature of these effects in terms of a viewing audience, I consider there are no adverse effects which

⁵⁶ Ibid, at [3.14]

are inappropriate on the broader rural character and values. As discussed in Section 7, I consider that the design and alignment of the bund along 41 Newcombe Road requires further discussion and refinement, including any input from the adjacent owners.

290. As the sub-clause does not envisage any degree of adverse effect, I consider that the RS Sand proposal causes some tension with this policy direction. Policy 4.3.5.5 then goes on to recognise that mineral extraction activities are constrained by location and the importance of maintaining a supply of minerals. When these policy provisions are read in conjunction with each other, I do not consider that the proposal is inconsistent or misaligned with the policy provisions.

291. In my opinion the granting consent to the sand quarry will be consistent with the policy direction in terms of reverse sensitivity effects and noise and vibration subject to appropriate conditions.

281. While an overall appraisal of the objectives and policies is a broader s.104 task (but which we address below), we set out Mr Whittaker's analysis here as we think it is necessary to highlight that an interpretation of those provisions as being enabling of quarries is only reached when considered as a whole, and with reference to a quarry's inevitable locational constraints. That said, we also accept that the deferral of the removal of the gully wall, to a point when the rehabilitation of Stage 3 is complete, represents an appropriate way in which to minimise adverse landscape effects consistent with the outcomes sought by the relevant policy provisions.

282. The Council's amendments to the conditions included the following further requirement at Condition 27(c) prior to Stage 5 (i.e., in addition to the rehabilitation of Stage 3 (or 4)):

The ecological planting along the stream gully must be established with at least 10 years of established growth and with at least 40% of the certified ecological planting in accordance with Condition 8 and perimeter bund Condition 20 achieving a height of approximately 6m, prior to the commencement of Stage 5 activities. The consent holder must provide a landscape report for the ecological planting to Waipā District Council's Consents Team Leader for review and approval.

283. This was opposed by the Applicant for the reason that:⁵⁷

The restoration planting is a significant environmental commitment that will have very large long term ecological benefits, and it comes at a significant cost to the Applicant. This planting provides no meaningful screening benefit and any landscape concerns are addressed by the requirement for Stage 3 to be rehabilitated prior to commencing Stage 5.

284. It is necessary in this regard to refer also to Condition 8 (as to the timing and performance targets for works associated with implementation of the EMP). Here the Applicant made some amendments to the version of that condition as proposed by the Council, including a requirement that the planting be completed in the fifth planting season following commencement of the consent, rather than three years, given the very large area of planting involved. The Applicant also comments that, while it is intended to undertake the planting in one ‘campaign’, but if delayed for weather or other reasons, *“then it will simply not be practicable to be able to complete it all within 3 planting seasons of the consent commencing”*. This has resulted in consequential amendments to the subsequent clauses relating to canopy closure requirements to 10 and 15 years.

285. The Council’s proposed condition reflected the general focus of the Panel’s questions during the hearing and responded to our observations that removal of the gully wall should not occur until the objectives of the proposed landscaping (whether for screening or ecological purposes) is achieved to the point where it is capable of meeting a measurable ‘performance standard’. This also reflected the aforementioned doubt that we expressed as to the landscape outcomes depicted in Mr Mansergh’s photo representations, but also an acceptance (as expressed above) that a well-conceived ecological response and planted area on the lower part of the gully wall would provide appropriate mitigation for the activity and the eventual removal of the upper part of the gully wall.

286. The Panel also considers that the Council’s clause broadly reflects the requirements set out in Condition 8, and the timing of each stage as described by the Applicant.⁵⁸ We say ‘broadly’ because we did not understand the reference to *“at least 40% of the certified ecological planting in accordance with Condition 8 and perimeter bund Condition 20 achieving a height of approximately 6m perimeter bund Condition 20 achieving a height*

⁵⁷ Ref: Applicant notes on the conditions.

⁵⁸ We also consider that this condition precedent aligns with the principles established by the High Court in *Westfield (New Zealand) Ltd v Hamilton City Council* (2004) 10 ELRNZ 254

of approximately 6m”, as these measures were not inherent in the standards of Condition 8, nor within the Condition 19 (ex-20) relating to the Perimeter Bund and Gully Wall Plan (**PB&GW Plan**). We consider that the requirements for this condition should better relate (and effectively cross-reference) to the ecological planting standards to be achieved under that condition for the relevant period (i.e., 15 years growth to align with the expected timing for Stage 5 to commence), with inclusion of a specific height and proportion standard to be specified in the PB&GW Plan (with the latter also relating to the purpose statement for that plan).

287. We have therefore concluded that it is appropriate to include the following changes to Conditions 19 and Condition 27(c):⁵⁹

Condition 19(c) (Requirements for the PB&GW Plan):

(vi) At least 40% of the certified ecological planting in accordance with Condition 8 for the gully wall shall be capable of achieving a height of approximately 6m within 15 years.

Condition 27(c) (Stage 5 – Landscape and Staging Restrictions)

(c) The ecological planting along the stream gully must be established with at least ~~10~~15 years of established growth with at least 90% canopy closure in accordance with Condition 8C(b)(iii), and with at least 40% of the certified ecological planting having achieved a height of 6m in accordance with Condition 8 and perimeter bund Condition 20 achieving a height of approximately 6m Condition 19(c)(vi), prior to the commencement of Stage 5 activities. The consent holder must provide a landscape report for the ecological planting to the WDC’s Consents Team Leader for review and approval.

288. Finally, we also note that the Reply addressed two further landscape-related aspects of concern to the Powells, relating to the implementation of landscape screen planting on their own property, and the issue of storage of overburden.
289. In respect of the first matter, Mr Matheson makes the submission that it is not accurate to say that mitigation of the views from the property is not possible, and “it is absolutely practicable to mitigate the views from the house through planting hedges”. The Reply cites Figure 1 of Mr Mansergh’s supplementary evidence, where such landscaping “will

⁵⁹ This reflects the amended numbering within Condition 8 as described at Issue 3.

provide screening after a very short period of time of views from the rear of the house". That figure prepared by Mr Mansergh is observed to show a newly established hedge of 1m planted between the house and the upper edge of northern side of gully which would completely screen the view by time it reached 2m high and the gaps between plants closed up. Mr Matheson also notes that the Powells could also screen views from their arena with hedging.

290. The Panel agrees that the level ground around the upper living level of the Powell property could readily be screened with typical hedge plants, and that these could be well-established by the time that Stage 5 works would be expected to commence, although that will be solely for the Powells to undertake at their discretion. We recognise that the effects of the quarry are also of concern to the Powells in terms of the way in which it will be experienced from the lower parts of their property. However, we are satisfied that those effects will effectively be avoided during the period up to Stage 4, and the implementation of the ecological planting prior to Stage 5, and rehabilitation of Stage 3 (and subsequently Stages 4 and 5) will appropriately mitigate adverse landscape and visual effects when the quarry is viewed from those lower locations.
291. A second issue related to material stockpiles was raised by Mr Morton, who was concerned as to the visual effects of such stockpiles being present for 2-3 years. Mr Matheson submitted in the Reply that:⁶⁰

With respect, this is a rural environment, and stockpiling of natural materials is not unexpected and certainly not such as to warrant genuine concern. (In any event any material removed is to either be used for bunding around the site, approximately 2-3m in height, that will essentially be indiscernible from the Powells' house and arena or will be sold off site (eg as pit sand). All topsoil must be retained on site.) In other words, this concern about very large stockpiles of material on site simply will not eventuate, and any concern must be significantly limited now that the Gully Wall is proposed to be retained until Stage 5.

292. It was further noted that the closest point within the pit where a temporary stockpile could be established is more than 500m from the area, and would be hidden behind the gully wall (it being approximately 680m from the house to the closest part of the processing area).

⁶⁰ Reply, at [3.11]

293. Mr Matheson further submitted that a condition requiring that temporary stockpiles of overburden not be visible from the upper terrace areas surrounding the dwelling and arena on the Powell property “*is completely unwarranted*”,⁶¹ and would create a debate about what a ‘visible stockpile’ might comprise.
294. Having regard to Mr May’s supplementary statement, the Panel acknowledges and agrees with those submission points, and does not consider the potential storage of overburden to be a matter that would give rise to more than minor adverse effects in terms of any potential visibility from the Powell property.
295. We also address here the competing legal submissions with respect to the objectives and policies as relevant to consideration of landscape character effects. We did not receive any planning evidence that would counter the analysis set out in Mr Whittaker’s Planning report, but in terms of Mr Morton’s evidence, the legal submissions for the Powells highlighted some provisions of the Regional Policy Statement and the District Plan and disagreed with the assessments of the Councils’ planners and Mr McDean.⁶² It submitted that “[e]ven in its revised form, the proposal will create significant landscape, character and amenity effects, which cannot be mitigated. This means the proposal is contrary to the policy framework for activities and mineral extraction within the Rural Zone”.⁶³
296. These were responded to by Mr Matheson in his Reply submissions, albeit on the basis of the proposal in its further amended form (i.e., that presented at the reconvened hearing). He submitted that:⁶⁴
- (a) *In respect of RPS Objective 3.2.1 and Policy 12.3, the attempted linkage between the gully wall providing a high level of visual amenity and its identification in the WDP as a cultural landscape alert layer is peculiar. There is no obvious or identified connection between those two statements. It has never been my understanding that the cultural importance of a location was linked to the “visual amenity” enjoyed by an adjacent landowner. (This is not an area that has been identified as an “Amenity Area” and these provisions are not relevant.)*
 - (b) *WDP Objective 4.3.7 and Policy 4.3.7.1 has been interpreted and Applied in the Powells’ legal submissions as effectively applying to a single outlook*

⁶¹ Ibid, at [3.12]

⁶² Powell Legal Submissions, at [20]

⁶³ Ibid, at [21]

⁶⁴ Reply submissions, at [7.4]

from a single property. If this policy were to be interpreted in this way, then there could never be any change to any rural landscape. That is a nonsensical outcome. A wider perspective must be taken, otherwise, in the words of the Supreme Court, this policy would lead to perverse outcomes and would undermine the purpose of the Act. (This is particularly given that the WDP itself recognises that infrequent mineral and aggregate extraction activities are part of the recognised “rural character”).)

(c) *In terms of WDP Policy 4.3.5.1 and 4.3.5.4, I do not agree that the proposed adverse effects of this proposal can be considered “significant” for the purposes of that policy. The reference to “significant” must be considered in the round, and that assessment must also be made after considering the ameliorating effect of conditions that avoid, mitigate or offset for any adverse effects.*

(d) *Furthermore, the legal submissions do not engage with the question of “rural character”, despite that being the key component of Policy 4.3.5.(b). That phrase is described in 4.1.12 of WDP (Introduction to Rural Zone) as including a range of matters that might interfere with the Powells’ currently undisturbed outlook:*

[including land uses of a predominantly production or rural working nature; infrequent rural based industry sites “as well as infrequent mineral and aggregate extraction sites”, intensive farming operations and rural service providers such as agricultural contractors; and infrequent tourism or traveller accommodation based facilities, etc]

(e) *Even if one focusses just on the adverse effects on landscape and amenity values on the Powell property (which I say is inappropriate because Policy 4.3.5.4(b) refers to not adversely affecting “rural character” – not rural amenity), in my submission this threshold of significant effect is not made out on the evidence.*

297. The Panel prefers the submissions of Mr Matheson in this regard, as these align with the expert evidence that we had received, and because they reflect the amended form of the proposal and the acknowledgment of Mr Morton as to the lesser scale of landscape-related effects arising from that change.

Finding

298. Overall, and having regard to final change to the proposal and imposition of the amended conditions that we have discussed above, the Panel finds in line with the Council's landscape peer reviewer Mr May that the proposal will adequately minimise potential adverse landscape and visual effects. We also find that the proposal is consistent with the relevant objectives and policies that address landscape character issues.

Issue 3 – Ecological effects

299. While ecological effects were not a primary matter of contention, it is related to the way in which landscape effects will be addressed, in part, and the Panel also heard concerns about effects on long tailed bats/pekapeka, and concerns regarding planting in an area subject to flooding.
300. The proposal is expected to result in the permanent loss of 7.89 ha of terrestrial and wetland habitat.⁶⁵ This loss is comprised of 4.09 ha of pasture, 2.22 ha of exotic-dominated scrub, 1.04 ha of pine plantation, 0.37 ha of mature exotic-dominated forest, and 0.174 ha of native-dominated gully seepage wetland (of which 0.1 ha was not detected but is conservatively estimated).
301. The subject site also includes or potentially includes habitat for several species classified as nationally 'Threatened' or 'At Risk' under the NZ Threat Classification System, most notably the long-tailed bat/pekapeka. The Karapiro Stream also supports a diverse range of fish species, five of which are 'At-Risk declining'.
302. The effect of the proposal on most ecological values was assessed by the Applicant as being either 'Low' or 'Very Low'. These effects are proposed to be avoided, minimised or remedied through the development and implementation of an EMP, as referred to previously. The condition(s) requiring an EMP includes the implementation and maintenance approach, methodology and timing, and monitoring and reporting requirements. Specific management plans for vegetation, avifauna, lizards and long-tailed bats are also included. The EMP is to be certified by both Councils, as set out in the conditions as provided to us as part of the Reply.
303. Residual levels of adverse effects were identified for long-tailed bats/pekapeka (high), gully seepage wetland habitat (moderate) and copper skink (also moderate). Moderate or higher levels of residual effect require offsetting or compensation. Compensation for residual effects was determined in lieu of offsetting, which was deemed not to be

⁶⁵ Baber, Statement of Primary Evidence, at [1.6]

possible due to difficulties accurately quantifying impacts and benefits (in the case of bats and skinks). For wetlands, like-for-like offsetting was not possible as it is not possible to re-create gully seepage habitats elsewhere due to the sandy soils. A Biological Compensation Model (**BCM**) was applied as a decision-support tool to ensure the proposed habitat restoration and enhancement was as close as feasibly possible to an offset.

304. The compensation will be implemented over a three or five-year period⁶⁶ commencing in the first winter planting season following consent approval proposed and includes approximately 14.38ha of habitat restoration within terrestrial floodplain and gully habitat along the northern boundary of the site (on the true left bank of the Karapiro Stream). In addition to planting, the restoration and enhancement will also include stock exclusion fencing, a 20-year weed control programme, 25 years of mammalian pest control, covenanting of all restoration and habitat enhancement areas, and provision of bat-roost boxes upon commencement of restoration and enhancement action. These biodiversity compensation actions are proposed to be managed, monitored and evaluated via a Habitat Restoration and Enhancement Plan (**HREP**), which is required as part of the EMP.
305. The WRC Planning report reported that a large number of submissions identified the loss of ecological values and habitat as a key issue, noting that *“these submissions have been lodged with some insight and local knowledge on the type of habitat and species that will be lost”*.⁶⁷
306. The Department of Conservation (**DOC**) submitted in opposition to the proposal, with concerns regarding the adverse effects associated with the permanent loss of terrestrial and freshwater habitats, lack of consideration for alternatives, lack of information on the extent of significant ecological values within the site (including insufficient baseline) and inconsistency with related plan provisions.
307. In response, the Applicant provided further information regarding the proposed ecological restoration and habitat enhancement of 3.69 ha of gully basin, floodplain and seepage wetlands (the latter being a total of 0.307 ha).⁶⁸ It was further noted that the inclusion of 10.7ha of terrestrial native revegetation surrounding the wetland margins would provide a significant benefit to the wetland biodiversity values. Further details were also provided regarding wetland planting and terrestrial revegetation

⁶⁶ Noting this timeframe is a matter of contention.

⁶⁷ WDC Planning report, at [156]

⁶⁸ Ecology Memo, dated 18 February 2025

specifications and mammalian pest management. We note these details have been included in the draft EMP. The Applicant also stated that “*all ecological restoration and habitat enhancement sites will be legally protected in perpetuity*”, although no details of the mechanism for this legal protection were provided.

308. DOC subsequently withdrew their request to be heard at the hearing, advising that:

We are now comfortable that the wetland restoration, if implemented as stated in the updated Ecology Memo, will provide a gain for the restoration sites. The plant choices and plans for weed management, planting, livestock exclusion are appropriate. The pest control provisions are adequate.”⁶⁹

309. As referred to previously, Forest and Bird also raised a number of concerns in respect of effects on long-tailed bat/pekapeka, including with respect to dust and RCS effects, and sought appropriate conditions should consent be granted.

310. Ecological experts for the Councils provided peer reviews of the application and proposed conditions. In relation to effects on wetlands, Ms Morrison (for the WRC) advised that she considered that the benefits of the wetland restoration would outweigh the effects of the loss of wetland, and that:⁷⁰

...[p]rovided best practice and proposed approaches are followed I believe the overall impact on the site will be positive. As the loss is relatively minor, and is mitigated by wetland restoration, I believe the proposal is not inconsistent with Policy 6 of the NPS-FM.

311. Similarly, in relation to freshwater matters, Josh Smith (also for the WRC) concluded that “[t]he compensation package (retirement and restoration of >14 ha of land stretching over a 2 km length of the Karapiro Stream’s true left bank) will result in a net gain in ecological value and functioning to the Karapiro Stream, gully basin wetland and associated floodplain and seepage wetlands”.⁷¹ Mr Smith also considered that:⁷²

Any failures in controls or retentions could impact stream water quality and ecology. If there is a risk of discharge, then upstream and downstream suspended and deposited sediment monitoring is recommended.

⁶⁹ DOC letter dated 5 March 2025

⁷⁰ WRC Planning report, Appendix D

⁷¹ Ibid

⁷² Ibid

312. In his initial peer review, Mr Blayney (for the WDC) identified several concerns and reservations about the methodology undertaken to identify the terrestrial ecological and habitat values of the site and in particular, how the compensation planting/bat habitat was modelled and presented as a mitigation method. While some of these reservations were retained following receipt of further information, Mr Blayney reached the view that the adverse effects on terrestrial ecology are likely to be able to be appropriately managed subject to robust conditions and management plans. At the hearing, Mr Blayney confirmed that the updates to the EMP and conditions, including planting details, assisted in confirming his original assessment. Mr Blayney also advised that he now had confidence that the ecological outcomes would achieve those that had been modelled by the Applicant. He agreed, in terms of proposed monitoring, that there is a reliance on planting being a proxy for these ecological outcomes, particularly for bats where site-specific monitoring is unlikely to yield useful information. Mr Blayney also commented that the requirement to allow for Transpower lines in terms of planting heights is unlikely to affect the ability to achieve predicted ecological outcomes through the compensation package.

313. Mr Penfold also addressed ecological effects from a regional perspective. He noted the need for further clarity with respect of the EMP as sought by the Panel during the hearing, and recommended changes to the relevant requirements set out in Conditions 65-72. In particular, he advised with respect to Condition 68:

...the timing of habitat restoration and enhancement relating to wetland loss is required to be commenced prior to Stage 2 commencing. Upon further review of the updated staging proposed by the Applicant, Stage 2 is now proposed to be at Year 4. The original intent of the Condition was to ensure the wetland restoration was commenced early in the quarry operations (originally 1.7 years). Hence, I recommend a further amendment to revert back to that timeframe...

314. The Panel notes at this juncture that there are two different requirements regarding timing as between the two sets of conditions:

- The WDC conditions require that the planting be completed no later than the third planting season following the commencement of this consent (Condition 8C(b)⁷³); and
- The WRC conditions require implementation of the EMP “no later than two years after the commencement of Stage 1” (Condition 69).

⁷³ Adopting the Panel’s amended numbering for this condition.

315. The Applicant seeks an extension to the WDC condition to the fifth planting season, and to three years to the WRC condition. Reasons provided in this regard were that while the planting is intended to be undertaken in 'one campaign', if delayed due to weather then it will not be practicable to complete the planting in three seasons from the date of commencement. Other constraints include plant supply, Council certification, planting season, tendering of contract to plant, site preparation and that the size of the contract means that there will need to be a full tender process for this work.⁷⁴
316. The Panel considers that the difference in the conditions as to completion and implementation timeframes and reference to planting seasons, and the commencement of the consent as compared to the commencement of quarrying activities, has the potential to result in some confusion at the compliance and monitoring stage. This is particularly so given the intent, as set out in an advice note to the WDC conditions that one EMP is required to address both the district and regional consents. We recognise the timing constraints referred to by the Applicant but do not consider that these support a completion date of more than three planting seasons beyond the commencement of the consent.⁷⁵ Accordingly, we have amended the WRC conditions to be aligned with the WDC requirements, and be based on common milestones, such that implementation of the EMP is required to be implemented no later than three planting seasons following the commencement of the consent(s).
317. The Panel otherwise accepts the conclusions and recommendations of the Councils' ecological experts. We note that there remained some issues in contention between the Councils and the Applicant in respect of the staging requirements associated with the implementation of the planting associated with the EMP. As set out in respect of Issue 2, we have retained the clause that requires this planting to be established prior to the commencement of Stage 5, and we have related that to the requirements for 'Year 15' as set out in the 'Timing and Performance Targets for Works' set out in Condition 8C(b)(iii). This is to provide a measurable and certain method of determining that those ecological (and, by association, landscape) outcomes are being achieved prior to commencement of the Stage 5 works and the removal of the gully wall.

⁷⁴ Another consideration in this regard is that Stages 1 and 2 have now been combined, and so the conditions must relate to either the commencement of activities and/or relate to Stage 1/2, rather than these stages separately.

⁷⁵ Noting for completeness that there is precedent within the WRC conditions for actions to be tied to the commencement of the consent (see Conditions 34 and 35).

318. The Panel also notes that Mr Powell presented an image of the Karapiro Stream in a flood condition (taken just prior to the re-convened hearing). While of interest, we accept Mr Matheson's reply submission which included advice from Mr Kessels that:⁷⁶

I would also add I have been involved in numerous restoration projects for landowners in this catchment for 20 plus years, many of which involved replanting of pasture areas within floodplains. The bulk of native species we have selected are hardy and naturally adapted to withstand periodic flooding. The greatest risk to the project are weeds and the fences being damaged by flooding. The maintenance plan and the type of fencing proposed (wire but no battens to let flood waters and associated debris pass through then), are designed to address these risks to ensure successful restoration to self-sustaining representations of the vegetation types we have envisaged.

319. We acknowledge that flood conditions would not be untypical within a stream and wetland environment like the Karapiro Stream, and as outlined by Mr Kessels, we accept that replanting schemes within such areas are not unique and with appropriate management can be successfully implemented. This will be further ensured through the monitoring provisions incorporated into the EMP requirements, as well as the general monitoring responsibilities of the Councils themselves, and the need to demonstrate that planting performance targets have been achieved prior to the Stage 5 works.

Finding

320. In summary, the Panel finds that implementation of the EMP, and the requirements for its implementation to be confirmed, will ensure that adverse effects on ecology values within the site and surrounding environment are likely to be able to be appropriately mitigated and compensated for.
321. As part of our consideration of this matter, we have resolved to make further amendments to Condition 8. In particular:
- (a) The condition is restructured in terms of sub-clauses and to set out upfront that further management plans are incorporated into the EMP (to provide a clear link between the EMP as a whole and its sub-parts). This includes a 'Vegetation Management Plan' that then includes the original clauses relating to planting schedules and fencing, timing and performance targets and monitoring.

⁷⁶ Reply, at [3.9]

- (b) Inclusion of '90%' canopy closure as part of the monitoring report (Condition 8C(c)).
 - (c) Removal of reference to 'Project Works' as this is not a defined term (and is changed to 'quarry activities').
 - (d) The inclusion of 'restoration' in the HREP and the addition of 'monitoring and compliance' to the HREP reporting requirements.
322. We consider that these changes will improve the clarity of the EMP requirements and ensure greater consistency with other conditions.

Issue 4 – Economic effects

323. The issue in respect of economic effects was the extent to which the proposed quarry would give rise to positive economic impacts, through the operation of the quarry itself, and secondly from a regional perspective to assist with supporting the economy in terms of construction and infrastructure development. The latter would also inform in part the alignment (or not) of the proposal with the NPS-HPL exclusion provisions (refer Issue 5 below).
324. The WDC Planning report noted the following positive effects of the proposal, which in general terms were not contested:
- (a) Local employment generation (14 jobs associated with stripping campaigns)*
 - (b) \$5m in operating costs that will support local business and economic activity*
 - (c) \$5m - \$10m annual business activity for transport operators*
 - (d) Local and economic and business generation*
 - (e) Local supply of sand aggregate for construction and civil projects, as well as for supply to concrete batching plants.*
325. The WDC Planning report referred to the Applicant's Economic Assessment which provided detailed analysis of the demand and supply of sand and the direct economic costs of not having local supply. On that basis, Mr Whittaker concluded that a grant of consent will give rise to positive effects in terms of the provision of an additional source and cost-effective supply of sand aggregate that results in increased economic activity and employment opportunities.

326. As we have noted earlier, Mr McIlraith also provided evidence that highlighted the need for an additional sand resource to support the regionally significant and essential sand industry to fulfil local demand while also supporting other regions. It was his view that without new resources being developed or existing consents being renewed or extended, the region will not have sufficient capacity to support infrastructure investment and meet the needs of other sand users.
327. One issue that arose in the course of the hearing was the difference between figures for expected levels of sand extraction as between that which could be used for concrete, and that which would be lower quality 'fill sand'. This was highlighted by Mr Green in his hearing statement when he advised that he had been working on the assumption that 90% of the sand from the site would be concrete sand, which would then be destined for batching plants, the closest of which are located in Hamilton. This was on the basis of Slide 9 to Appendix C of the application ('Summary and Staging Plans'), as also reproduced within the WDC Planning report,⁷⁷ and identified that 6,705,000T of the 7,409,700T to be extracted would be concrete sand (i.e., 90.49%).
328. He was therefore 'puzzled' by Mr McIlraith's identification of sand destinations, which did not seem to be logical for concrete sand (some of which were 80km away). He stated that the percentages of concrete and pit sand produced at Newcombe Road will depend on the attributes of the sand being mined *at that site*, being 90% as per the application material.
329. Mr McIlraith noted in his rebuttal statement that only 35-44% of the sand will be concrete sand, with other products going further afield. He went on to say:

4.2 ...I am unsure what his source is, but using this ratio to drive his spatial allocation of sand is inaccurate. Concrete sand is only between 35% and 44% of the anticipated use. Using a 90% rate understates the spatial patterns associated with fill and pit sand, and will distort his analysis.

4.3 Mr Green's focus on concrete batching plants and the associated location of those plants means that the location of other sub-markets is excluded from his analysis. His interpretation misses important distributional considerations.

⁷⁷ WDC Planning report, at [44]

330. Mr Green advised that the only reference that he could find to the 35-44% figure cited by Mr McIlrath is in the Economic Assessment (provided with the application), which as Mr Green observes, appeared to be the proportion of total sand used in the Waikato/Bay of Plenty region that is concrete sand.
331. The Panel notes that the 90% figure was further indicated by reference to the updated Southern Skies ESCP report of April 2025 (per Table 1). During the reconvened hearing Mr Matheson sought to clarify the distinction in percentage figures and provided the following explanation in his Reply:⁷⁸

In his oral comments made at the hearing, Mr Green confirmed that he has been operating under the assumption that 90% of the product would be concrete sand (his Oral outline, para (1), 3 bullet point). He then says at the 6th bullet point of his Oral Outline that he took these figures from Appendix C to the application – he says: “There’s a table summarizing the tonnages that’ll be produced throughout the consent.” What that table actually shows is the resource available, not the saleable product. Through the processing of the ‘concrete sand’ you end up with less saleable concrete sand than was pulled out of the ground, with the remaining material either sold as pebbles, turf sand or where possible mixed back into the fill/pit sand product. The evidence in this regard was consistent – Mr Hine’s evidence stated: ‘The estimated market for products produced at the proposed quarry can be divided into 3 streams: concrete sand (45%), fill sand (40%) and turf sand and pebbles (15%)’. Mr McIlrath’s analysis appropriately reflects these proportions, and he factors in the relevant conversion rates (i.e., volumes quarries, processed and then available as saleable product). (Applicant emphasis)

332. More broadly, Mr Green expressed doubt as to the need for the proposed quarry. He noted Mr McIlrath’s sufficiency analysis that concluded that without new resources or the renewal of existing consents, the region would not have sufficient capacity to supply sand. This potential supply deficit was considered by Mr McIlrath to result in significant economic costs. Mr Green stated that in his view, “shortages only emerge in the 2030s if none of the existing consents are renewed (these total more than 1.8m tonnes per year) and no other sources are consented...”.⁷⁹ He considered that a reduction in supply over such a short timeframe was implausible.
333. The Councils’ planners returned to the issue as to the extent of economic benefit as part of their supplementary statements. Mr Whittaker provided a helpful analysis of

⁷⁸ Reply submissions, at [6.13]

⁷⁹ Green, Oral Outline Evidence, at [2]

the difference between the two experts, noting that while Mr McIlrath had maintained his opinion that the quarry would provide economic benefits, his final conclusion had framed this “*more towards the benefits of an aggregate supply industry/sector rather than asserting the regional benefit of the RS Sand proposal as an individual entity*”.⁸⁰

334. Mr Matheson’s Reply submissions referred to Mr Green’s evidence, and for present purposes highlighted the extent to which sand materials are transported within the region, the urgency of obtaining sources of sand such as that proposed, and the relevance of alternative supplies. In summary, he submitted that:

- (a) Urgency is a valid concern, given the time required to locate, consent and establish a quarry (citing for example the present proposal where the consent preparation process commenced in 2021).
- (b) That alternative supplies have not been overlooked. Aside from the assumptions that other existing sand quarries can be reconsented, there is the practical issue that quarrying is not a sustainable exercise, and the sand resource will eventually run out. Further, many of the alternative sites identified by Mr Green produce pit sand rather than the more valuable concrete sand. Further:⁸¹

It is also, with respect, illogical to say that this development should not proceed because a new sand quarry “could” be established elsewhere. Or as Mr Green puts it in his Oral Outline: “I think the most reasonable assumption from an economic perspective is that some – but not all – of those existing and potential new sources of sand would be supplying into the market in the future, and there’d be enough to ensure there’s no deficit.” Every new sand quarry seeking to address a potential deficit would face that exact same argument. Every location of every new sand quarry will have neighbouring landowners. There has been no evidence put forward identifying a new commercially viable sand resource on non-LUC1-3 land.... Even if one could be identified, there are other hurdles that are just as significant, including other consenting constraints (eg wetlands, biodiversity etc) and landownership constraints (eg, you must be able to buy or lease the land).

- (c) In response to Mr Green’s suggestion that the majority of the Newcombe Road volumes would be trucked to concrete batching plants in Hamilton, Mr Matheson

⁸⁰ Whittaker Planning Statement, at [12] (by reference to McIlrath Summary statement at [7.1])

⁸¹ Reply submissions, at [6.9]

highlighted that this ignores the spatial extent and distribution of concrete batching plants throughout the Waikato, and Bay of Plenty.

335. Mr Matheson's Reply submissions also provided some detail about existing quarries and the location of certain sand processing plants and included at his Appendix C a map that identifies nearby quarries and the nature of the sand resource contained within them. In terms of specific quarries referred to by Mr Green, he advised that:⁸²

- The Gordonton Quarry has just been lodged and legally cannot be assumed to be 'in play'.
- Rukuhia Sand is currently a pit sand operation rather than concrete sand. While it is understood that there may be plans for a consented wash plant and screens to trial concrete sand, the status of these plans is unknown.
- Kaipaki Road is also a pit sand quarry and does not produce concrete sand.

336. From a purely economic benefits perspective, we accept the submissions from Mr Matheson, and consider that the proposal will contribute to the maintenance of an aggregate sector within the Waikato region that, as Mr Whittaker put it, "*can provide a reliable and local supply of aggregate, with logistical and financial benefits that serve construction and infrastructure projects*".⁸³ It is also relevant to note in this regard that the C2P project, which is in close proximity to the subject site and is expected to be approved in the near future, is expected to require a not insignificant quantity of the type of sand able to be supplied from the proposed quarry.

Finding

337. In summary, the Panel finds that there are supply uncertainties in the provision of concrete-grade sand in the Waikato region, and that the proposal will contribute to the security of such supply over the medium term and thereby support economic growth. Accordingly, we conclude that the proposal will provide economic benefits to the district and region associated with the provision of both pit and concrete sand over a sustained period and in support of construction and infrastructure projects.

338. As part of Issue 5 below, we consider that finding with respect to the requirements of the NPS-HPL.

⁸² Ibid, at [6.10]

⁸³ Whittaker Planning Statement, at [17]

Issue 5 – Effect on HPL and alignment with the NPS-HPL

Extent of effect on Highly Productive Lane (and rehabilitation)

339. The proposed quarry will affect a 23ha area of existing HPL, which has a LCU-2(s) classification (as depicted in Figure 10 of the WDC Planning report), with LCU-7 land to the north incorporating the gully area. It was the Applicant's case that this would be a temporary effect, as those parts of the site not subject to quarrying activity will be able to remain in productive use, and the affected land would be rehabilitated (i.e., returned to having productive capacity) following each stage of extraction and as part of the overall decommissioning of the quarry. This was described in the WDC Planning report as representing, at worst, a loss of 8ha.
340. The requirement for detailing how the land would be rehabilitated was proposed to be set out in a Rehabilitation Management Plan, the details of which were not provided in the application.⁸⁴ The WDC Planning report suggested that *"it would be helpful for RS Sand to present further discussion on how highly productive land can be reestablished within the quarry pit and whether this methodology has already been successfully implemented at other mine or project sites"*.⁸⁵ The Panel was also concerned to understand how excavated soils could be stored and then relocated within each staged area, and how those areas would then be protected from works (e.g., machinery movements, stormwater runoff etc).
341. In this regard, Mr Hunt had indicated some experience of large scale rehabilitation projects, but was not able to point to any similar projects where land had been rehabilitated in the manner proposed in the present application, or yet completed, beyond some excess land associated with NZTA projects.
342. This matter became an aspect that was addressed through the landscape evidence, including as part of the landscape witnesses' JWS. There it was recorded that:⁸⁶

Mr May and Mr Mansergh acknowledge the concerns of Mr Morton regarding the depth of soil available for reestablishment grassing. However, he also considered that the from [sic] a visual effects perspective a grassed pastoral environment could be established within the site with a potentially reduced soil depth, and would appear as such when viewed from the Powell property.

⁸⁴ Appendix H of the Application (Landscape and Visual Assessment Report, Burge and Mansergh, December 2023) includes a brief description under the heading Rehabilitation and Mitigation Plan on page 5 of the report.

⁸⁵ WDC Planning report, at [183]

⁸⁶ JWS, at [7.6]

343. As previously noted, Mr Whittaker provided a helpful appraisal of the difference in evidence that we heard on this matter. He concluded, with reference to the evidence of Messrs Hunt and Mansergh, and as appeared to be supported by Mr May, that rehabilitation works can be achieved such that at least pastoral farming activities can be re-established, albeit not to the full extent and profile that would re-establish Class LUC 1 – 3 soils. This indicated that (1) the site would not be rehabilitated to the extent of its original area, and (2) it would not be rehabilitated to its existing ‘highly productive’ classification. He noted that specific conditions were recommended in terms of the rehabilitation process, including as to the stockpiling of topsoil for the rehabilitation stage.
344. The final form of these conditions (i.e., those titled ‘Progressive Site Rehabilitation Management Plan’ (**PSRMP**)) conditions were provided on 7 July 2025, and included the following:
- Condition 23 requires submission for certification of a PSRMP at least 40 days prior to completion of each stage;
 - Clause a) defines the purpose of the PSRMP;
 - Clause b) specifies the application plans to which the PSRMP must generally be in accordance with;
 - Clause c) requires provision of specific details relating to staging and closure; and
 - Clause d) requires details and methods to be provided on how the future productive rural land use of the rehabilitation areas will be achieved.
345. We set out the clause (d) requirements in full (‘Future Rural Productive Land use’) below:

The PSRMP must include details and methods on how the future productive rural land use of the rehabilitation areas will be achieved. These details must be prepared by a suitably qualified and experienced person (‘SQEP’) and include, but not be limited to a report prepared for each stage of the rehabilitation addressing:

- (i) *The topsoil and soil structure across of all rehabilitated areas required to ensure that productive rural land use can be established upon the rehabilitation of each stage and at the final site closure;*
- (ii) *The location, quantity and access route for all topsoil piles to achieve the full site rehabilitation and if required, details of what topsoil might be required*

to be imported to the site to ensure the reinstatement of an appropriate soil profile; and

(iii) How any previously rehabilitated stages have been successfully returned to productive uses and, if not, what steps are to be taken to ensure that occurs.

346. The Panel has some reservations about the fact that the details of what a PSRMP might actually look like in the context of the subject site, including as to the scale of the rehabilitation that is required in this case. As with Mr Whittaker, we consider that further detail and reference to real-world examples would have been of assistance and given the Panel greater confidence that what is proposed can indeed be successfully implemented. We say that with due regard to Mr Matheson's highlighting of our obligation to assume that consent conditions will be complied with. He further submitted in this regard that "[t]here is no reasonable evidential basis to conclude that compliance with the condition is either fanciful or an impossibility", and that "[m]ere allegations from unqualified individuals that 'there won't be enough topsoil' is completely inadequate in that regard".⁸⁷
347. Nevertheless, we observe that what is being proposed here goes somewhat beyond an issue of mere 'compliance', and to the need for the Applicant to actively undertake the creation of productive land to a not insignificant scale, and largely within the confines of further stages of a working quarry, and without any known precedent (or at least, no equivalent examples were presented to us).
348. We have, however, elected to proceed on the assumption on reliance of Mr Hunt's description of the way in which soil rehabilitation can be undertaken in his view, and which was not the subject of any expert evidence that would suggest that his approach could not be implemented (notwithstanding comments by Messrs May and Morton as to the potential effects on productivity associated with a lack of topsoil depth):⁸⁸
- (a) A baseline assessment will ensure that the land is being reinstated to a similar standard as prior to the quarry operation and following best management practices; and
 - (b) Key elements of the management plan include minimising soil compaction and damage; effective soil stripping; best practice topsoil storage; and reinstatement of soil profiles through the replacement of the subsoil and topsoil layers post quarry completion.

⁸⁷ Reply submissions, at [6.3]

⁸⁸ Hunt, Summary Evidence, at [1.10] – [1.11]

349. Mr Hunt did not dispute that the soils will be altered (i.e., as a result of quarrying) and would not be authentically restored, but disagreed that the level of degradation would be more than minor if managed appropriately. He did advise that *“it is common practice to reinstate land and soils following extensive earthworks and return these disturbed soils back to a productive state”*.⁸⁹ Further:⁹⁰

The soil identified on the Site is defined as having a mosaic of well drained and imperfectly drained Allophanic soils. While all efforts will be made to separate the top-soil layers from the sub-soils, the unavoidable mixing that does occur during their removal and subsequent replace will, in my opinion, have minimal effect on their productive capacity.

350. As noted above, that evidence is accepted, albeit that examples of this ‘common practice’ would have been beneficial. In that light, we note that proposed Condition 24 requires the PSRMP to be certified *“by the WDC prior to the rehabilitation works for Stage 1 commencing”*.
351. Accordingly, the Panel has reached a view that Conditions 23 and 24 require amendment to incorporate a provision for certification of rehabilitation procedures prior to the commencement of the quarry (i.e., prior to Stage 1):

23. The Consent Holder must submit to the WDC’s Consents Team Leader for certification a Progressive Site Rehabilitation Management Plan (‘PSRMP’) at least 40 days prior to the commencement of each stage of quarry activities ~~and completion of each stage for the progressive rehabilitation of the site back to pasture through the respective stages of the quarry....~~

24. The PSRMP must be certified in writing by the WDC prior to the commencement of Stage 1 quarry activities ~~any rehabilitation works for Stage 1 commencing~~. The WDC’s certification will be based on its assessment as to whether the PRSRP addresses the matters required by Condition 23.

352. The Panel has a residual concern about whether certification of the successful implementation of the rehabilitation undertaken for each stage should also be required prior to commencement of the following stage. At present, the conditions only include a specific certification requirement as part of Condition 27(d)(iii), which requires (per the Applicant’s amended version):

⁸⁹ Ibid, at [1.14]

⁹⁰ Ibid, at [1.15]

All rehabilitation works for Stage 3 and the previous stages must be completed with stabilisation of topsoil and sowing of rehabilitation grass seed prior to the commencement of Stage 5 activities.

353. In other words, the success or otherwise of the rehabilitation would only be confirmed prior to commencing Stage 5, which is programmed for Years 20-21. While we acknowledge the unworkability (and inherent delays) of requiring a prior stage to be certified prior to the subsequent stage (due to the time required to establish the rehabilitation measures), there is a concern that rehabilitation for Stages 1-3 may not be certified until prior to the commencement of Stage 5.⁹¹
354. Furthermore, there is no requirement to specifically monitor rehabilitation success and the PSRMP relies on the supplementary evidence and visuals provided in Mr Mansergh's supplementary evidence (Condition 23(b)). The Panel notes that the only details on rehabilitation planting are those two graphics – the original landscape report refers to a Rehabilitation and Mitigation Plan. We have therefore determined that it is necessary to include a further sub-clause ('Monitoring Requirements') to Condition 23 that requires annual monitoring and reporting on sites that have been subject to rehabilitation in order to ensure regular updates to the WDC on the success of the rehabilitation. Our condition in this regard is as follows:

(e) Monitoring Requirements

The Consent Holder must provide a report by a SQEP to the WDC by 31 March of each year for a minimum of three years following the commencement of the rehabilitation required for each stage to describe the outcomes associated with that rehabilitation.

Finding

355. Overall, we proceed to consider the proposal against the NPS-HPL on the basis that the subject land will be able to be rehabilitated, in accordance with a separate PSRMP for each stage, and subject to the requirement for details of that rehabilitation to be provided to a certifiable level of detail prior to the commencement of quarrying activities.

Alignment with the NPS-HPL

356. The NPS-HPL is a matter to which regard must be had in any assessment of a resource consent per s.104(1)(b) of the RMA, and was the primary NPS that was a matter of

⁹¹ We note here that the reference to "Stage 3 and the previous stages" in Condition 27 can simply be recast as "Stages 1-3".

contention in this case and of some significance to the proposal. Mr Matheson highlighted in this regard that there is no obligation on a consent authority to ‘give effect to’ an NPS. He also noted that the NPS-HPL has a directive objective and many relatively directive policies, and in respect of this application these include:

Objective: *Highly productive land is protected for use in land-based primary production, both now and for future generations.*

Policy 1: *Highly productive land is recognised as a resource with finite characteristics and long-term values for land-based primary production.*

Policy 8: *Highly productive land is protected from inappropriate use and development.*

357. It was Mr Matheson’s opening submission that the proposal would not be contrary to these provisions because:⁹²

(a) *The Proposal involves the rehabilitation of the land back to pastoral land use on a staged basis throughout the extraction operation. Once re-established, the land will be returned to its status as highly productive land – to that extent it will be protected (if not in the short term during the quarrying operation, then certainly in the medium and the long term).*

(b) *In rehabilitating the land in this way, at some considerable cost, the land unit has been recognised as a finite resource with a long term value for primary production (Policy 1).*

(c) *The temporary use of the land to extract its aggregate resource (sand), combined with the obligation to remediate the land (including re-establishing its soil profile), is not, when viewed in its totality, an “inappropriate” use of the land (Policy 8).*

358. Much turned in this regard on the provisions contained in cl.3.9 of the NPS-HPL, which were referred to as an ‘exceptions pathway’ for aggregate extraction activities. The key aspects of this clause are as follows (with emphasis as included in Mr Matheson’s reference to the same):

3.9 Protecting highly productive land from inappropriate use and development

⁹² Opening submissions, at [6.2]

(1) *Territorial authorities must avoid the inappropriate use or development of highly productive land that is not land-based primary production.*

(2) *A use or development of highly productive land is inappropriate except where at least one of the following applies to the use or development, and the measures in subclause (3) are applied:*

[...]

(j) *it is associated with one of the following, and there is a functional or operational need for the use or development to be on the highly productive land: ...*

(iv) *aggregate extraction that provides significant national or regional public benefit that could not otherwise be achieved using resources within New Zealand.*

359. Mr Matheson submitted that sub-clauses (3) and (4), and other parts of cl.3.9, make it clear that the primary purpose of this clause is to direct what provisions territorial authorities should include within their district plan to give effect to the Implementation section of the NPS-HPL (by reference to cl.3.1(1)).

360. Mr Matheson also highlighted the relevance of a temporary loss of HPL which he said is supported by reference to the Implementation Guide for the NPS-HPL, with emphasis added:

Table 2: Examples of activities that may be appropriate on HPL under Clause 3.9(2)

The intention of this clause is to recognise situations where the use or development of specified infrastructure, defence facilities or mineral or aggregate extraction may occur on HPL. The key test is to demonstrate that the use and development has a ‘functional need’ and ‘operational need’ to be on HPL. These terms are defined in the National Planning Standards (as discussed in Specified infrastructure above, in relation to Clause 3.8) and fits into one of the categories listed. ...

c. **Mineral or aggregate extraction** – *there are two tests for determining whether mineral or aggregate extraction can occur on HPL: there must be a significant national public benefit for mineral extraction and a significant national or regional benefit for aggregate extraction. It must also be proven that the same benefit could not be achieved elsewhere in Aotearoa New*

*Zealand on non-HPL land. The national test is intentionally high, as the activity of extracting minerals or aggregate from land can, in some cases, result in land never being able to be used for land-based primary production again. **Extraction activities that result in the permanent loss of HPL are envisaged to only be appropriate where the mineral or aggregate being extracted cannot be supplied domestically from another source on non-HPL land. The degree to which land is able to be restored to support land-based primary production is a relevant consideration.** Note that Clauses 3.9(j)(iii) and (iv) are intended to apply to larger commercial-scale mineral and aggregate extraction and there is a potential pathway for small-scale farm quarries as “supporting activities” under Clause (a).*

361. The issue to be determined in this regard is then two-fold, being (1) whether there is a functional (or operational) need for the use to be on the subject land and where the proposed extraction provides significant national or regional public benefit that could not otherwise be achieved using resources within New Zealand; and (2) the extent to which the land is able to be restored to support future productive use.
362. The requirements of cl.3.9(3) are relevant to this second test:⁹³

Territorial authorities must take measures to ensure that any use or development on highly productive land:

- i. minimises or mitigates any actual loss or potential cumulative loss of the availability and productive capacity of highly productive land in their district; and ...*

363. We have addressed this second test previously, and have concluded, subject to the amendments we have determined to be necessary to the relevant conditions, that the site can be appropriately rehabilitated. We do not envisage that this will be to the same ‘degree’ of productivity as at present, but we take note in this regard of Mr Matheson’s Reply submission that in terms of cl.3.9(3):⁹⁴

The proposal is consistent with this clause because it has minimised or mitigated the loss of availability and productive capacity of highly productive land through the progressive rehabilitation proposal. Important to note the use of the words “minimised” or “mitigated” – there is no requirement to avoid the loss of

⁹³ We have excluded reference to clause (b) here which relates to reverse sensitivity effects, which were not matters raised during this hearing.

⁹⁴ Reply submissions, at [6.6]

availability or productive capacity, and accordingly if the rehabilitated pasture is not quite as productive, then that outcome nonetheless remains consistent with this direction. No reverse sensitivity effects on land-based primary production will occur.

364. Returning to the first test, Mr Matheson highlighted in his opening submissions the way in which its provisions had been referred to in recent decisions by the Environment Court, where it has concluded that the wording of cl.3.9 does not, despite its relatively direct wording, determine the outcome of any application to undertake an activity on HPL. He cited *Hopkins v Waikato District Council* and *Gray v Dunedin City Council* as providing authority for the position that the NPS-HPL is one of a number of matters to be given regard to, and that the NPS-HPL was problematic to apply to a consent decision. This was referred to in *Gray* where it stated that cl.3.9 “*is problematic in a consenting context, particularly due to the nature of the direction in cl 3.9(2) which refers to measures in sub clause (3) that are required to be undertaken by the Council*”.
365. Mr Matheson concluded on this matter in his opening submissions that (in summary):
- (a) There is clearly a functional need for a sand quarry to be located in the same place as an existing and accessible sand resource. It is a *functional* need in the sense that it is not possible to extract sand if sand is not present.
 - (b) That if a functional need is not accepted, there remains an operational need for a sand quarry in this location.
 - (c) The ‘significant regional public benefit’ is demonstrated through Mr McIlraith’s evidence, noting that the size of the quarry is regionally significant, and that a ‘regional public benefit’ cannot be so narrowly construed as to exclude commercial resource users.
 - (d) While the test for regional public benefit to not otherwise be able to be achieved using resources within New Zealand is ‘bizarre’, the proposal would meet this test because:
 - Concrete requires sand and in that sense sand is non-substitutable with some other “resource available within New Zealand”;
 - The regional public benefit of providing sand could not therefore be obtained by using a material, available in New Zealand, other than sand; and
 - To provide a regional public benefit, there must be enough sand available to meet market demands, and it must be able to be provided to the relevant

market for a cost-effective price (i.e., locally-sourced due to the costs of transport).

366. Legal submissions on behalf of the Powells expressed a different view of the way in which the ‘avoid’ policies of the NPS-HPL are to be interpreted, and did not agree that recent Supreme Court decisions had softened *King Salmon* or the bottom line of ‘avoid’ policies. Ms Hollis disagreed with Mr Matheson’s submission, in terms of the exclusion provisions, that there was a functional need for the proposal, and that the Applicant’s position in this regard ignores the many other sand extraction and production activities occurring on non-HPL land, or not utilising the HPL resource (as identified within Mr Powell’s evidence at his Appendix 1).
367. In response to this matter, Mr Matheson’s Reply submissions included a map showing the location of those quarries that are located on such land (five, with one further quarry having been lodged but not yet approved). Mr Matheson noted that only three of the quarries referred to by Mr Powell were in the Waikato. Further, he referred to the Applicant’s evidence as to its extensive search for a suitable site (i.e., containing a sand resource) over many years, and that “[n]othing in Mr Powell’s Appendix 1 contradicts that evidence”.⁹⁵
368. Mr Whittaker addressed the issue of the NPS-HPL in his concluding statement, noting the more enabling provisions of the District Plan for aggregate activities (subject to the mitigation and management of adverse effects) and the interpretative challenges of the NPS-HPL. In particular, he highlighted the difficulties of assessing an individual quarry from the perspective of regional or national benefits, and that *“it would be difficult in my opinion for any quarry proposal to meet the exemption criteria”*.
369. Mr Matheson’s Reply submissions drew attention to the competing evidence on economic matters between Messrs McIlrath and Green (at [6.9]), and we have referred to those matters in Issue 4, noting our finding that the proposal will give rise to positive economic effects. Mr Matheson highlights (as a key matter in respect of the present issue) Mr Green’s statement that *“[f]or this consent to be approved, RS Sand must demonstrate a significant national or regional public benefit that cannot be achieved through other means”*.⁹⁶ He submits that this statement is legally incorrect, because the NPS-HPL *“is merely one factor in decision making – it is not in the nature of a mandatory threshold requirement”*.⁹⁷

⁹⁵ Reply submissions, at [6.12]

⁹⁶ Green EIC, at [16]

⁹⁷ Reply submissions, at [6.9(d)]

370. Further, Mr Matheson submits in his Reply that the economic evidence presented to the Panel has *“highlighted the inappropriateness of trying to apply clause 3.9 in the context of a resource consent application, and the difficulties associated with trying to ‘prove’ a ‘significant regional public benefit that could not otherwise be achieved using resources within New Zealand’.*” As a result, it is not surprising in his view that the Government has recently indicated that this clause is proposed to be deleted, through Package 2 of its Resource Management reforms. Page 42 of those reforms includes the following proposed changes:

- ...
- *removes “could not otherwise be achieved using resources in New Zealand, for consistency with the NPS-FM and NES-F*
- *Removes the requirement for the benefit to be “public” (ie, allowing any benefits to be considered removes the requirement for the benefit to be ‘public (ie, allowing any benefits to be considered)*
- *Adds consideration of “regional benefits” to the mining consent pathway.*

371. As acknowledged by Mr Matheson, the Panel must apply the NPS-HPL as it is currently worded. Nevertheless, he submitted that there is no requirement to ‘give effect to’ the NPS-HPL and there is a degree of discretion as to the weight given to the NPS-HPL under s.104(1)(b)(iii). This approach is supported in his view by the two recent cases referred to in his opening submissions, and which we have discussed earlier. The Reply submissions also addressed a more recent decision (26 June 2025) of the Environment Court in *CJ Industries Ltd v Tasman District Council* that was relevant to the consideration of the NPS-HPL and was raised in a memorandum of counsel filed by Ms Hollis on 3 July 2025.⁹⁸ In particular, Ms Hollis noted that the Court in that case:

- found that the progressive reinstatement of the site throughout works meant that reinstated soils would retain the productive capacity of the site, and cl.3.9(3)(a) NPS HPL was not offended; and
- referred to the applicant’s proposal to retain, stockpile, and reinstate both topsoil and subsoil, relying on a detailed draft Soil Management Plan which the Court described as “fit for purpose”.

⁹⁸ *CJ Industries Ltd v Tasman District Council* [2025] NZEnvC 213

372. Conversely, Ms Hollis submitted that the Applicant’s proposal to sell the subsoil (overburden) means that the site cannot be effectively remediated back to HPL.
373. In terms of future supply, Ms Hollis referred to Mr Green’s conclusion that a reasonable assumption was that some, but not all, existing and potential new sources of sand would supply the market in the future, such that there would be no supply deficit. She submitted that the Applicant’s approach to exclude consideration of indicated developments and renewals is not a real-world approach and is not in accordance with *CJ Industries*. Furthermore, “[a]bsent a deficit in supply to be addressed, it is difficult to see how the proposed sand quarry provides a “regional benefit” in line with the assessment for this outlined in *CJ Industries*”.⁹⁹
374. Ms Hollis compared the theme within *CJ Industries* as to the need for detailed and suitable information and contended that the present application does not have an equivalent level of evidence to enable similar findings to be made.
375. Mr Matheson provided a detailed response to Ms Hollis’ memorandum. In considering those submissions we have reviewed the *CJ Industries* decision and accept the following submissions that he makes in this regard, and relative to the factors in that case:¹⁰⁰
- (a) *The objectives and policies of the district plan are far more supportive of quarrying.*
 - (b) *The findings as to application of the NPS-HPL are directly applicable, as are the findings about there not being a need to reinstate the land to the same level of productivity as previously, and in a more general sense, the need to adopt a realistic approach to the exceptions pathway focusing on the need to avoid material harm.*
 - (c) *The findings in relation to the functional need for the aggregate extraction to apply are directly applicable.*
 - (d) *The findings in relation to how significant regional benefit are to be assessed are directly applicable, and if the Peach Island Quarry was held to provide significant regional benefits, if not national benefits, then so too should this proposal.*

⁹⁹ Powell Memorandum (3 July 2025), at [19]

¹⁰⁰ Reply submissions, at [10.5]

- (e) *In comparison to the 1.3 ha of indigenous vegetation in the CJ Industries case, which was referred to favourably by the Environment Court, in this case the extent of restoration planting is about 14 ha.*
- (f) *The findings about the RMA not being a “no effects” statute, and the need to consider avoid policies through the lens of avoiding material harm, are directly applicable. They go the heart of the Applicant’s response to the Powells’ concerns in particular, but also those who raised issues about quarry trucks using the arterial route through the Cambridge urban area.*

376. We further note the support of the District Plan highlighted at item (a), through Policy 4.3.5.5 (as referred to by Mr Matheson in his Reply submissions),¹⁰¹ being:

To recognise:

- a. *That mineral extraction activities are constrained by the location of the resource; and*
- b. *The importance of maintaining a supply of extracted minerals; and*
- c. *The need to identify other significant mineral resources as required, in conjunction with the Waikato Regional Council, and to provide for their future extraction and use.*

377. Two further key points are raised in the Reply submissions, by reference to the decision of the High Court in *Te Runanga o Ngāti Whatua v Auckland Council*. These address the reservations that we have expressed about the deferment of detail to be provided in the PSRMP, and the extent of productive loss that has been acknowledged to arise from the proposal:

- There is no requirement in cl.3.9(3)(a) to avoid any loss of HPL altogether, but rather to reduce the extent of loss. It would be too rigid an interpretation to require no loss of availability or productive capacity occur. A commonsense interpretation of cl.3.9(3)(a) clearly contemplates some loss of productivity.
- Neither a short-term loss of capacity for productive use, nor a longer-term reduction or narrowing of the types of productive uses to which that land could support over the long term, will be contrary to cl.3.9(3).

¹⁰¹ Reply submissions, at [7.3]

378. Overall, we are satisfied that our amendments to the conditions suitably address those matters, and as a result that the proposal accords with the direction provided by the courts.

Finding

379. The Panel therefore concludes that the proposal has appropriate regard to the requirements of the NPS-HPL, and will be generally aligned with cl.3.9, and in terms of sub-clause (3) that the proposed conditions contain sufficient safeguards to ensure that the loss of productive land is able to be appropriately minimised.

Issue 6 - Effect on HPL and alignment with the NES-F

380. Mr Penfold's Planning report for the WRC had addressed the requirements under cl.45A(6) of the NES-F in terms of the proposal, whereby the consent authority must satisfy itself that:

- the quarrying activity will provide significant national or regional benefits; and
- there is a functional need for the quarrying activity in that location; and
- it has applied the effects management hierarchy.

381. It was Mr Penfold's conclusion that those tests had been satisfied by the proposal. As part of his response memorandum, he confirmed that his position had not changed in this regard, but noted the following with respect to the evidence presented by Mr Green:

- (a) While that evidence was comprehensive, it provided limited assistance as to the question of significant regional benefits, and no alternative assessment was provided as to monetary or other values.
- (b) The interrelationship between the data provided by the Applicant and the interpretation by Mr Green leads to considerable uncertainty and difficulty in deciphering the evidence. As a result, he adopted a 'sliding scale' approach to the evidence, such that even if realised benefits are only 50% of the Applicant's assessment, that still represents a significant regional benefit of approximately \$90m (and if the sliding scale is in the positive, then the realised gains may be greater than estimated).

382. In terms of the mandatory ‘functional need’ requirement, Mr Penfold acknowledged that there has been evidence presented by submitters that suggested that there are alternative locations, and alternative methods available to the Applicant, such that there is no functional need for the quarry to be located at this location. Mr Green, in particular, stated that “[i]t seems more likely that total demand for sand in the Waikato region would be met through alternative sources, including those outside of HPL”.¹⁰² However, Mr Penfold noted in this regard that the NPS-HPL requirements are not the same as those of the NES-F, and that:

4.5 *...the functional need test applies at the site scale, and does not and does not require an Applicant to avoid an entire location due to the potential of alternative locations being available to it elsewhere. In this case, the Applicant had identified the location as being suitable for its needs, and the functional need test applies to where the wetland environment is located.*

4.6 *In this case, in the course of the quarrying activity, there is no alternative to extract the resource without impacting the wetlands due to the presence of an aquifer within the proposed resource area and the site being constrained by the Karapiro River to the north, SH1 to the south and private property to the east and west. Removing the resource further inland (south) from these wetlands would cut-off the groundwater source and would result in the in the drainage of these wetlands and would ultimately have the same effect as destroying them.*

383. Mr Penfold was therefore satisfied that the mandatory functional need test was met. We note in this regard the approach of the Court of Appeal in *Te Rūnanga o Ngāti Awa v Bay of Plenty Regional Council*, as cited in Mr Matheson’s Reply submissions which, while understood to be in respect of the NPS-HPL, would appear to also address the point in respect of the NES-F. There, the Court stated:¹⁰³

The activity in this case relies both on the productive capacity of the land and has a functional need for a rural location because that is where the water is found. The Environment Court had found, on the evidence before it, that the requirement of “functional need” was established. This was essentially a determination of fact. We do not see the District Plan as requiring that the particular rural location be the only place where the resource is found, and there is no need in our view for

¹⁰² Green EIC, at [28]

¹⁰³ *Te Rūnanga o Ngāti Awa v Bay of Plenty Regional Council* [2022] NZCA 598, at [152]

that to be addressed or established for the purposes of Creswell's application.
(Applicant emphasis)

384. Mr Matheson went on to say that in this light, the Applicant has demonstrated an operational (functional) need for the proposed sand quarry to be located within “*this particular environment*”. His submissions also highlighted the specific locational attributes of the sand within this site, and the constraints applicable to any such resource, as follows:

- (a) *the availability of a sufficient volume of high-quality resource (ie concrete sand) close to the surface*
- (b) *being able to obtain access to the land through an appropriate property right*
- (c) *an appropriate zoning, and the absence of significant sensitive overlays*
- (d) *sufficient setback from the main production area to sensitive receivers*
- (e) *the proposed quarry's very close proximity to an arterial road network*
- (f) *the absence of waterways requiring diversion or reclamation*
- (g) *the absence of significant areas of significant ecological vegetation.*

385. The Panel also takes note in this regard of the evidence of Mr Hine, and his description of the process and associated difficulties of locating suitable sites since 2017; the identification of the Newcombe Road site in mid-2019; and the two-year process involved in determining whether to proceed with resource consent. Having regard to that evidence in particular, we are satisfied that sites such as this could not be described as commonplace, and that there is both a functional and operational need to consider the relevant statutory provisions in light of this geographical constraint.

Finding

386. The Panel therefore agrees with the approach and conclusions of Mr Penfold and Mr Matheson, and concludes that the proposal is in accordance with the relevant tests under cl.45A(6) of the NES-F.

Issue 7 – Traffic safety effects at the Newcombe Road / Tirau Road intersection

387. The Panel heard from a number of submitters about concerns in respect of the safety of truck movements from Newcombe Road onto Tirau Road. This was due to the limited visibility available to the east due to the embankment along the side of Tirau Road and the growth of vegetation in that location, as well as concerns as to the need for separate truck acceleration lanes.
388. The review by Mr Inder advised that the intersection is administered by the NZTA who, along with Mr Talbot, made submissions that raised various safety and operational concerns with the present form of the intersection. He addressed the issues of access to and from Tirau Road in his review report, noting his understanding that the Applicant was working through various matters with the NZTA. As we have set out previously, the tabled evidence on behalf of the NZTA confirmed that they were satisfied with the proposal and the manner by which various identified matters were to be resolved.
389. In terms of Mr Talbot's concerns, Mr Inder advised that:
- (a) The desirable safe intersection sight distance of 285m for 110km/h operating speed of Tirau Road is agreed to not be provided for drivers exiting Newcombe Road looking west. He considered that providing the required sight distance would be achievable through earthworks and replanting of appropriate low-level vegetation on the bank immediately to the west of Newcombe Road. He highlighted that providing this safety improvement is paramount given that large laden truck and trailers will not be able to exit quickly from Newcombe Road and therefore recommended that a condition is included to require this mitigation be implemented prior to the quarry commencing trading.
 - (b) He also agreed with Mr Hall for the Applicant that the sight distance to the east can be improved to the required standards with vegetation trimming or removal, but that this will need to be a permanent solution. He therefore recommended a similarly-cast condition to that referred to above.
 - (c) He considered that a suggested eastbound acceleration lane would be desirable but not critical for safety of the intersection and would be unlikely to be practically achievable due to the structural overbridge pillars 200m east of Newcombe Road, which constrains the available space for widening. This was subject to achieving the required sight distance to the west.

- (d) He agreed with Mr Hall that a left-turn deceleration lane would likely be less safe in this location due to the potential for a vehicle following the left-turning truck to be hidden from view of a right-turning driver from Newcombe Road, worsened by the left-hand curvature of Tirau Road at this location. However, in his view a solid central splitter island with wire rope barrier is recommended to ensure following vehicles cannot overtake a left-turn entering truck using the existing hatched central median. Therefore, and subject to the island and the appropriate Approach Sight Distance to the rear of a left-turning truck is provided (likely if the 285m sight distance looking east is provided), he considered that the safety risk and potential risk and the potential inconvenience to following vehicles as a truck turns left (into the site) would be minor to negligible. He therefore recommended that a condition be included to ensure this mitigation is implemented prior to commencement of the quarry.

390. Mr Hall also addressed these matters in detail in his evidence in chief, including the issues raised by Mr Talbot and noting that he agreed with Mr Inder's analysis, and that all matters within the NZTA submission have been resolved and conditions have been agreed. This was further confirmed by Mr Inder in his response memorandum presented during the reconvened hearing, including with regard to the evidence of submitters.
391. The conditions related to the management of this intersection are addressed within the WDC set, being the aforementioned Condition 30 (HVI fee) and Conditions 31-41 that address intersection surface upgrades, sight distance improvements, installation of a splitter island, upgrading of the Newcombe Road pavement and vehicle crossing requirements. There were no matters of contention in respect of these conditions as between the Applicant and the Council.
392. Of further relevance to these conditions, Mr Hall commented in his reply evidence in respect of the further submission by Mr Talbot seeking that (in respect of Condition 35, regarding the splitter island requirement) that this should stipulate that an independent road safety audit should be undertaken. The condition requires in this regard that:

...The design must undergo an independent road safety audit (RSA) and any Road Controlling Authority decisions in the audit are to be adopted in the final design which, along with the completed RSA must be submitted for acceptance by the Manager prior to construction.

393. Mr Hall observes therefore that the condition already aligns with Mr Talbot’s request in this regard. Mr Talbot also sought that the condition reference the NZTA Safe System Audit Guidelines. Mr Hall advised that use of these guidelines is common practice when undertaking audits and has no objection to an advice note or similar to refer to these guidelines. This aspect was subsequently included in the conditions presented as part of the Reply, and we have adopted this amendment accordingly.
394. Mr Hall disagreed, however, with Mr Talbot’s request that the auditor should be selected from a list provided by the NZTA and not the Applicant. This was for the reason that *“the audit guidelines identify the skills and qualifications that people should have within the audit team, it is my opinion that the applicant is able to select an appropriate auditor that is appropriately independent of RS Sand, Council, NZTA, designers and contractors”*.¹⁰⁴ We accept that evidence and do not consider that a change to the relevant condition is necessary in this regard.
395. The Panel also notes that during the hearing reference was made to the concurrent C2P consent process, but which had not been completed at the time that the hearing was closed. Of relevance to this issue, we understand that there has been some consideration of transport effects by the ECP on the Newcombe Road and Tirau Road intersection, including recommendations by WDC’s appointed traffic expert that this be reconstructed as a roundabout. This was opposed by the NZTA. Based on the evidence and modelling presented to it, this recommendation by the WDC was not upheld by the ECP as reflected in the release of its draft conditions that were issued on 15 August 2025.¹⁰⁵ This Panel is therefore satisfied that the C2P project will not impact on the final form of the intersection as provided for within the conditions to be attached to the present consent.

Finding

396. The Panel finds in accordance with the expert evidence presented on behalf of the Applicant, the WDC and the NZTA that the measures required to be implemented at the Newcombe Road and Tirau Road intersection will provide for an improved level of safety that is appropriate for the additional heavy traffic movements to which it will be subject.

¹⁰⁴ Hall, Reply evidence, at [4.4]

¹⁰⁵ <https://www.epa.govt.nz/fast-track-consenting/nbea-fast-track-projects/sh1-cambridge-to-piarere/draft-conditions>

Issue 8 – Traffic and associated safety and amenity effects on the Cambridge Town Centre

397. The Panel heard from numerous submitters (as summarised previously) about the effect of heavy vehicles traversing roads within the Cambridge Town Centre. This related to the number of movements that would head in a northern direction along Tirau Road and, with no direct access to SH1, would then travel along Albert Street to Queen Street before turning right along Victoria Street. The volume of increase was estimated by Mr Inder to be in the order of an additional eight trucks per hour (four in each direction). Submitters explained that these roads were now as busy, if not more so, than they were before the SH1 bypass was constructed. They were concerned that additional heavy vehicles would impact existing levels of congestion in the town centre, as well as impacting the amenity and safety of these roads.
398. The review by Mr Inder noted that, although the Hydro Road turn-around is no longer promoted for use by the Applicant, no assessment has been provided as to any potential worsening of road safety in the Cambridge urban environment due to the expected additional HCV movements associated with the quarry. Nor were any mitigation measures offered to offset potential adverse safety effects for pedestrians and cyclists using or crossing the roads of the main thoroughfare route in Cambridge. He was therefore unable to state with confidence that the transport effects of the proposed sand quarry, within the urban environment of Cambridge, will be minor or less as had been suggested by Mr Hall.
399. Mr Hall responded in his evidence by saying that, in his opinion:¹⁰⁶

... the addition of only 8 truck movements per hour is not a significant increase in traffic volume and would not perceivably change the existing traffic environment. This is based on the routes followed by trucks are classified as arterial road and provide the primary link between the industrial area at Carter's Flat and SH1 to the north of Cambridge. As such, I do not consider that the quarry would have a material effect on pedestrians or cyclists within the Cambridge area.

400. Mr Hall's evidence included a map of the Cambridge route that incorporated the location of seven pedestrian crossings (on Queen Street, Victoria Street and Hamilton Road). He concluded in this regard that the existing environment provides a number of locations where pedestrian and cyclists can cross the road, and that in his opinion additional crossing points are not required. He also noted that the number of trucks

¹⁰⁶ Hall EIC, at [5.5]

would equate to one every 15 minutes in either direction, and that this volume of truck movements “would not have a material effect on the cycling environment”.¹⁰⁷

401. In his rebuttal evidence, Mr Hall provided further comment in respect of this matter:¹⁰⁸

In relation to additional trucks passing through the urban area of Cambridge, Mr Inder has noted that while eight trucks per hour may not have a significant effect, the calculations are based on market estimates and that it is possible that the actual traffic volumes may be higher than the market estimates. Therefore conditions #34-37 have been proposed to monitor whether trucks are having an adverse effect on pedestrians or cyclists within the urban area. If an adverse effect is identified, then additional safety measures would be recommended to be implemented to mitigate this effect.

402. Mr Inder addressed this matter in some detail in his response memorandum, and Mr Whittaker provided a helpful precis of the issue as well as a summary of Mr Inder’s position and basis for his recommended conditions.

403. As a preliminary observation, Mr Whittaker highlighted that the traffic modelling and distribution evidence is complex and has evolved over the course of the application process and may also be heavily affected by any future consenting and development of the C2P project. As previously noted, the hearing proceeded concurrently with the C2P fast-track process, but closed prior to the decision on C2P was known. The final decision is to be issued on or before 12 September 2025. Relevantly, and as noted above, the ECP for C2P has recorded its preliminary approval of the C2P project through the release of its draft conditions for comment on 15 August 2025. Further, the expected approval of C2P gives some greater weight and emphasis to Mr Hall’s comments in this evidence in chief that:¹⁰⁹

This project is likely to require sand products that could be generated from the proposed quarry. This would notably reduce the traffic effects of the quarry on the wider road network given the proximity of the site to the C2P project. I agree with Mr Inder that this project is likely to proceed given its status as a Road of National Significance and this project would minimise potential pavement deterioration on the surrounding district roads. However, my assessment has considered the worst- case scenario which does not include the C2P project.

¹⁰⁷ Ibid, at [5.7]

¹⁰⁸ Hall, Reply evidence, at [4.4]

¹⁰⁹ Hall EIC, at [5.2]

404. We nevertheless continue to consider this matter on the basis of the evidence before us, but recognise that, as noted by Mr Hall, this would now very much represent a worst-case scenario in light of the likely (and imminent) approval for C2P.
405. As noted by Mr Whittaker, the proposal will result in additional quarry traffic travelling into and through Cambridge, and because the Hydro Road turnaround facility is no longer promoted as an alternative route for north-bound traffic, then all quarry traffic will travel through Cambridge unless the travel destination/project site is south to the south. He comments, however, that *“if sand is required for building sites in Cambridge and the wider catchment, then this demand will create demand for cartage trucks regardless of whether they originate from the RS Sand site or another quarry site”*.¹¹⁰
406. Mr Inder’s supplementary statement concludes that the traffic generation and distribution effects have been appropriately identified by the Applicant and that conditions of consent can manage and mitigate the effects of the additional quarry traffic. Mr Inder has recommended specific conditions in terms of HCV limitations which we discuss separately as part of Issue 9, noting that these were opposed by the Applicant. In terms of amenity and safety effects, we note Mr Inder’s response to the issues raised by the Flintoft Trust, which reflected the evidence we heard from a number of submitters. In this regard he stated (as relevant to traffic and safety generally):¹¹¹
- *I am satisfied that daily traffic volume generated by the proposed quarry is very unlikely to reach 400 vehicle movements per day, for the reasons I set out in my original Statement. It is incorrect to suggest that this will be the volume on a daily basis.*
 - *I disagree that the traffic associated with the quarry will cause “significant” traffic safety effects for the Trust, provided the conditioned safety improvements at the Newcombe Road / Tirau Road intersection are undertaken.*
- ...
- *In contrast to the Trust’s view, the potential traffic effects of the quarry on Cambridge are somewhat disputed. Mr Hall considers them to be less than minor, while I am not confident that is apparent to me there is a reasonable*

¹¹⁰ Whittaker Planning Statement, at [23]

¹¹¹ Inder Supplementary Transport Review, at [83]

level of uncertainty about the future heavy vehicle volume travelling through Cambridge and any associated effects in the urban area. I am confident the volume will not be 400 vehicle movements per day, but it could potentially be a lot more or less than the 8 trucks per hour that the applicant currently expects the volume will be. Hence my recommendation for a monitoring and review condition to gather reliable data from a limited period of quarry operation.

- *I cannot agree at this time with the Trust that the traffic effects are significant in the absence of any evidence to support that claim. However, my position is the effects could be more than minor on pedestrians and cyclists (in particular) in Cambridge depending on the actual volume of heavy truck and trailers using the main through route.*

407. The latter point noted by Mr Inder was addressed by Mr Hall in his evidence in chief regarding cyclist (and we suggest, pedestrian) safety:¹¹²

...In my opinion, the addition of only 8 truck movements per hour is not a significant increase in traffic volume and would not perceptibly change the existing traffic environment. This is based on the routes followed by trucks are classified as arterial road and provide the primary link between the industrial area at Carter's Flat and SH1 to the north of Cambridge. As such, I do not consider that the quarry would have a material effect on pedestrians or cyclists within the Cambridge area.

408. With reference to his map of pedestrian crossings, he went on to say that the existing environment provides a number of locations where pedestrian and cyclists can cross the road, and in his opinion additional crossing points are not required. This evidence was not the subject of any specific evidence to the contrary, and while additional HCV vehicles would not serve to make the environment any safer for cyclists or pedestrians, we consider that a high level of care and awareness would be required now and into the future for any persons using this arterial road network using active modes.

409. While Mr Hall's reply evidence was focused on the issue of HCV movement limitations, he noted in respect of HCV movements within Cambridge that a new condition (Condition 43, and an amended version of Condition 44) includes additional monitoring of HCV movements to ensure that safety effects are managed and restricts the number of HCV movements through the Cambridge urban area. In his view, that will address

¹¹² Hall EIC, at [5.5]

the concern expressed in this regard (and that a change in the overall number of HCV movements is not necessary).

410. We note here the elements of Conditions 42 and 43 (that were not in dispute) to address this matter are as follows:

42 For the first 18 months of sand sales from the quarry, the consent holder must keep a record of the date, time of departure, and whether an HCV exiting the site intends to travel north via the “Cambridge through route”.

43 Within 1 month following the first-year anniversary date of sales commencing at the quarry, and again after the 18-month anniversary of sand sales, the consent holder must submit to the Manager an analysis of the HCV movement data recorded in accordance with Condition 42. Each analysis must be performed by an independent and suitably qualified expert (traffic engineer or transport planner) excluding public holidays and Sundays, and each analysis must identify as a minimum:

(a) The total (cumulative) number of HCV movements (two-way) recorded for the most recent 6-month data period compared to the previous 6-month period.

(b) For the most recent 6-month data period:

i. The maximum number of HCV movements per day including comparison with the Condition 29(a) maximum criteria.

...

ii. The weekday average daily volume of HCV movements using the Cambridge through route compared to the estimated daily volume referenced in the quarry consent application (68 per day).

411. The Panel considers that this information will provide useful ‘real world’ information on which the WDC could then base any subsequent s.128 review (per Condition 55) should it determine that the level of HCV movements are resulting in significant adverse safety and associated amenity effects. That said, we acknowledge that the latter effect may be difficult to reliably determine or quantify against what we were advised to be already busy, if not congested, conditions within the arterial road network (and which the Panel also observed during its site visit).

412. In this regard, we are again assisted by Mr Whittaker's analysis set out within this response memorandum, and his opinion that care is needed in terms of how any amenity effects are taken into account. This is because public roads are not generally subject to restrictions as to the types of vehicles on the roading network, and roading authorities need to determine the function and operating environment for each class and section of its roading network.
413. Mr Whittaker highlights that, as a discretionary activity, and having regard to Policy 16.3.2.4, there is scope to consider the adverse effects of transport on character and amenity. He makes the following points in this regard:
- (a) That the nature of traffic effects and distribution is particularly complex in this case. Future traffic generation and distribution will be dependent on project site and demand and there is also likely to be a change to the local roading network with the C2P project to be determined later this year.¹¹³ In addition, local project demand for sand will require and generate additional traffic movements regardless of whether the sand is sourced from the RS Sand proposed site or another quarry.
 - (b) That there are likely to be effects resulting from additional traffic entering and travelling through Cambridge, particularly if the higher traffic generation levels are sustained for prolonged periods. Mr Whittaker anticipates that the community is likely to perceive and experience additional quarry trucks if the proposal is granted and that this may well lead to concerns regarding traffic safety and congestion. He notes in this respect that there are already growing concerns over traffic congestion increasing in Cambridge, as expressed by various submitters.
414. Mr Whittaker acknowledged that the community's concern over HCV movements is understandable and that the lack of a definition around traffic generation levels is not reassuring for those persons who are concerned about traffic effects. However, in his opinion, the traffic effects are not inappropriate nor of such a degree that consent should be declined, subject to an appropriate framing of the level of traffic generation to be enabled through any consent decision. Further, and related in part to Issue 9 that follows, he was of the view that:¹¹⁴

¹¹³ Noting that draft conditions have now been issued.

¹¹⁴ Whittaker Planning Statement, at [35]

...the proposed conditions in terms of the maximum and average truck movements and the provision for future monitoring of traffic numbers and a review condition provide an appropriate framework to manage traffic effects and provide assurance on the nature and intensity of truck movements that may be generated should consent be granted.

415. As a final observation, the Panel queries the likely enforceability and utility of Condition 28, requiring preparation of a Journey Management Plan (**JMP**) insofar as it requires “subcontractor and customer education evenings to encourage transport suppliers and customers” to implement safe and courteous driving practices. However, as this condition was proffered by the Applicant we have determined that its intent is better left within the condition framework rather than deleted. We have relied upon the more measurable aspects of the condition framework relating to HCV traffic. We also consider that the ‘update’ condition (at 47) which requires the JMP to be updated in response to the C2P route becoming operational (as is now somewhat more likely) now has greater relevance and the new Karapiro Interchange would be expected to moderate traffic flows within Cambridge in the medium term.

Finding

416. The Panel agrees with and adopts Mr Whittaker’s observations and assessment. In particular, we agree that a grant of consent to the proposal would reinforce submitter concerns as to the prospect of additional HCV movements through the Cambridge township. However, we also agree that this is an arterial road network for which movements of this type, including from other commercial or industrial activities within the district, can be expected. It is also important in the Panel’s view to acknowledge the likely fact that HCV movements of aggregate through Cambridge will currently exist and can be anticipated to continue as a result of future development and construction activity, whether that aggregate is sourced from the subject site or elsewhere.
417. Overall, the Panel is satisfied that the proposed conditions established to monitor the traffic movements that eventuate from the activity will provide a measurable basis on which to determine whether further constraints (to the daily HVC limit) are necessary (as discussed in Issue 9 below). However, we agree that on the basis of the information before us that the traffic effects as assessed are acceptable and will represent a minor level of additional effect on the local road network.

Issue 9 – Additional HCV Restrictions

418. In his supplementary evidence, Mr Inder concludes that the traffic generation and distribution effects have been appropriately identified and that conditions of consent can manage and mitigate the effects of the additional quarry traffic. He has, however, recommended specific conditions in terms of the traffic generation to ensure that prolonged periods of peak truck movements are not enabled which would be outside the scope of the quarry activity proposed. In particular, he recommends a reduction in the proposed daily cap of 200 truckloads per day, to 150.

419. These are as follows:

The maximum and average level of traffic movements shall be restricted to the following:

- (a) Daily maximum of 300 HCV movements per day; and*
- (b) Two-monthly average maximum of 200 HCV movements per day; and*
- (c) 12-month average daily maximum of 156 truck movements per day*

Advice Notes:

Trucks are referred to as Heavy Commercial Vehicles and abbreviated as HCV. For the purposes of this consent, a HCV includes all class 4 and higher vehicles as defined by the TNZ 1999 classification system.

An HCV entering and departing the site equals two movements. For ease of recording, the number of HCV departures from the site per day can be multiplied by two to determine the daily HCV movements.

420. The reasons for this approach were described in Mr Inder's response memorandum as follows:¹¹⁵

- a. The hearings panel heard from Mr Hall that the figure of 200 truckloads per day (400 movements) was an arbitrary number based on approximately 2.5 times the predicted average daily truck loads (78 per day), to "stress test" the capacity assessment of the Newcombe Road / Tirau Road intersection.*
- b. The effects of 400 truck movements per day with no limitation on frequency (other than the annual sand extraction cap) has not been assessed by the applicant concerning the Cambridge through route roads.*

¹¹⁵ Inder Supplementary Transport Review, at [62]

- c. *Accordingly, as it stands with no monthly or weekly limit, the quarry would be permitted to generate 400 truck movement per day every day until the annual sand extraction cap is reached.*
- d. *For comparison, a limit of 300 truck movements per day translates to approximately 132 movements using the Cambridge through roads (adopting the applicant's predicted 44% trip distribution). 132 movements is 94% more than Mr Hall's predicted average daily volume of 68 truck movements using these roads. Averaged over 10 hours = 13 truck movements per hour on peak days compared to approximately 7 movements per hour for average days.*
- e. *In my opinion, almost doubling the average daily movements is a reasonable maximum limit per day for individual days, subject to a frequency cap. This is in the context that the recommended monitoring and assessment condition trigger is adopted requiring an independent traffic impact assessment if the quarry's operational data shows the average weekday truck movements using the Cambridge through route is 50% or more than the predicted daily average.*

421. Mr Whittaker noted that in his opinion, *"it is both necessary and appropriate to establish a framework for the maximum and average traffic movements and I support the assessment of Mr Inder, particularly given that the Applicant has not offered any alternative"*.¹¹⁶ He also noted that the Applicant verbally advised that they are opposed to any restriction on traffic limits apart from a maximum daily cap. This was subsequently confirmed during the hearing and in the Reply, where Mr Matheson submitted that:¹¹⁷

There was no contrary expert evidence on traffic and transport from submitters at the primary hearing. The only competing expert evidence at that time was between Mr Hall for the Applicant and Mr Inder, an expert from WDC. There had been significant discussion between the traffic experts in the application processing stage and in the lead up to the hearing. At the hearing of submissions in April, there was very little disagreement between the experts. However, following the hearing, Mr Inder apparently changed his mind on certain aspects of his evidence, and, in response, the WDC's reporting planner has recommended changes to the proposed consent conditions restricting the number of vehicle movements from the site.

¹¹⁶ Whittaker, Concluding statement of evidence (Planning), 13 June 2025 at [27]

¹¹⁷ Reply, at [5.2]

422. Mr Matheson went on to discuss whether the proposed conditions meet the basic principles of law regarding consent conditions, namely that they not be more onerous than necessary to respond to an identified adverse effect, and there must be probative evidential basis supporting the existence of such an effect. Mr Matheson submitted that Mr Inder's proposed conditions are likely to be overly onerous and that he has not provided an evidential basis for how the proposed restrictions would address identified effects. He submitted further that:
- (a) There is no basis for more stringent two and 12 monthly limits on truck movements, including the lack of an adverse effect that such restrictions seek to address. He highlighted that it would not be possible for the quarry to operate every working day at 400 movements per day, because it would reach the annual extraction limit (in approximately 96 days). In that eventuality, however, there would be a positive effect of no truck movements for the remainder of the year.
 - (b) The only result of the additional restrictions proposed would be to reduce flexibility on quarry operations, and to impose a potentially significant financial burden on the quarry (by reducing its peak movements by 25%), which cannot be justified.
 - (c) Operationally, the two and 12 monthly limits would be impractical to measure and enforce.
423. Mr Matheson makes the further submission that if the control of heavy vehicles on roads is needed, then that is the function of the road controlling authority (i.e., the WDC), which may make bylaws controlling that use (per s.22AB(1)(c) of the Land Transport Act 1998).
424. Mr Hall also provided rebuttal evidence as part of the Reply. He responded to Mr Inder's supplementary statement of evidence, along with relevant WDC draft conditions.¹¹⁸ In particular, Mr Hall discussed the proposed reduction in the maximum number of HCV trips per day (from 400 to 300) and the introduction of HCV thresholds on a two-monthly and annual basis. It was Mr Hall's view that Mr Inder had not provided adequate justification for these changes and considered that the Applicant's proposed conditions are appropriate.
425. Mr Hall noted Mr Inder's uncertainty as to the likely number of truck movements that would be generated by the quarry, which, in his opinion, appears to be the primary

¹¹⁸ Dated 27 May 2025

reason for the changes proposed by Mr Inder. Mr Hall pointed out that there will always be a degree of uncertainty with any activity in terms of traffic generated and that his assessment was undertaken based on expected market demand, which he considered to be the best available information to estimate trip generation and distribution rates.

426. The Panel does not consider that the additional two and 12 monthly HCV limitations are sufficiently justified or are necessary, and would be difficult to administer. We accept the submission by Mr Matheson that HCV movements from a quarry would be unpredictable, given inevitable peaks in demand, and will be dependent on any contracts held by quarry operators. Mr Matheson expresses the workability issue as follows:¹¹⁹

On that basis how could a 2-monthly average be complied with? If you are 1 month into a 2-month compliance period, how will you know what the demand will be and therefore whether you will “comply” with the 2-month average. It is not sensible to refuse to supply sand because you need to “keep traffic movements for some weeks in the future. (The same issue arises with the 12-monthly limit, but it is even more problematic.)

427. Mr Hall also addresses the Council’s wording of Conditions 43 and 44. For Condition 43, and in addition to the uncontested excerpt shown in the Issue 8 discussion above, requires:

(b) *For the most recent 6-month data period:*

- i. *The maximum number of HCV movements per day including comparison with the Condition 29(a) maximum criteria.*
- ii. *The rolling 2-month average maximum number of HCV movements per day including comparison with Condition 30(b) criteria.*
- iii. *The average number of HCV movements per day and a comparison with Condition 30(c) criteria.*
- iv. *The average daily percentage distribution of total HCV movements (two-way) associated with the quarry using the Cambridge through route* compared to the estimated trip distribution referenced in the quarry consent application (44% of trip generation).*

¹¹⁹ Reply submissions, at [5.11]

- v. *The weekday average daily volume of HCV movements using the Cambridge through route compared to the estimated daily volume referenced in the quarry consent application (68 per day).*

(NB: underlining denotes those clauses in contention)

428. Condition 44 is as follows:¹²⁰

If either analysis under Condition 43 identifies a breach of the respective criteria in Condition 29(a), the Consent Holder must identify the actions to be undertaken by the quarry to remedy the breach, within the analysis report submitted to the Manager.

429. Mr Matheson's notations on the conditions advises of the Applicant's opposition to the underlined clauses in Condition 43 because:¹²¹

They are disproportionate to the nature of the activity - being an HCV on an arterial road. Furthermore, average daily percentage isn't required because % are meaningless in terms of mitigating effect. They are based on traffic numbers which if were very low would have a very low effect e.g. 1 truck per day from site going through Cambridge is 100%.

430. Mr Hall's reply evidence also did not agree with these conditions in combination. He stated:

From the wording of Conditions 43 and 44, the percentage of where HCVs travel has no bearing on any outcomes and that the key metric is total number of HCV movements. In my view, this condition can be simplified to be based purely on the number of HCV movements rather than adding unnecessary monitoring of percentages. For example, if the C2P project proceeds and relies on a high volume of product from the subject site, this may lead to a low percentage of HCV movements through Cambridge. Conversely, if there is low overall demand of product from the site, then the percentage of HCV movements through the Cambridge urban area may be high if there are high demands for product within the C2 growth cell. In either scenario, the percentage itself would not [create] a traffic effect but rather it would be the volume of HCV movements.

¹²⁰ Condition 29(a) as presented refers to the daily limit, and the Council's two and 12-monthly limits

¹²¹ Hall reply evidence, at [2.14]

431. Mr Hall provided an amended version of Conditions 43 and 44 (combined to one) along with an advice note to enable an understanding of how the figures were derived, as follows:

Within 3 months of the two-year anniversary of sand sales commencing at the quarry, the consent holder shall commission a suitably qualified expert (traffic engineer or transport planner) to analyse the data recorded under the above condition. If the highest 30 weeks of data shows that the weekday average daily volume of HCV movements using the “Cambridge through route” equals or exceeds 102 HCV movements per day, then a suitably qualified expert shall undertake a traffic impact assessment (TIA) that considers the safety and accessibility effects of the HCV movements from the quarry on pedestrians and cyclists using/crossing the “Cambridge through route” roads. The TIA must include recommendations (if any) for mitigation of quarry traffic effects, limited to walking and cycling related safety improvements on the identified Cambridge through route roads.

Advice Note: The 102 HCV movements [have] been calculated as 150% of 68 HCV movements which is 44% of the expected 156 average HCV movements per day.

432. Mr Matheson noted that Mr Hall’s condition amendments had been incorporated into the conditions attached to the Reply. However, that did not seem to be the case, with Conditions 43 (with amendments as described previously) and 44 being retained, and Mr Hall’s additional condition above provided as Condition 45. However, the Panel considers that retaining the two sets of traffic thresholds is appropriate, insofar as they require confirmation of compliance with the daily HCV limit (unless sand is being delivered to the C2P project), being the contribution of the quarry to HCV movements on the road network generally; and compliance with a derived limit for the Cambridge through-route.
433. The Panel’s reservations with the second set of conditions are in respect of the limitation of the condition to issues of walking and cycling safety, where any potential changes to the road reserve to address an identified issue (e.g., speed humps, additional crossings, cycle lanes or footpath extensions) would need to be undertaken by the WDC, as the road controlling authority. The only matter within the Applicant’s control would appear to be in respect of the number of HCV movements (i.e., the excess in movements that generated the need for the review in the first place).
434. The Panel note that Condition 46 limits the scope of changes to “the recommended mitigation measures that are the responsibility of the Consent Holder to implement as

their cost". Given the apparent lack of any potential physical measures (for the reasons set out above) that would be the responsibility of the Consent Holder, we have amended Conditions 45 and 46 to incorporate the potential for reductions in quarry-related HCV movements through the Cambridge through-route either in total, or at specific periods of the day.

435. We also consider that Condition 45 requires an amendment to make reference to 'HCV movements attributable to the Consent Holder's quarry operations', rather than to 'HCV movements' generally. Further, because any failure to implement the mitigation measures that may be confirmed by the WDC Manager will only trigger a s.128 review, we have shortened the timeframe for those measures from six to three months. This is to avoid any undue and further delay in the undertaking of any such review. The changes are set out below:

45. *If either analysis under Condition 43 shows that the weekday average daily volume of HCV movements attributable to the Consent Holder's quarry operations using the Cambridge through route equals or exceeds 102 movements per day (i.e., 150% of the predicted average daily volume of 68 movements per day, or more), then a suitably qualified expert must undertake a traffic impact assessment ('TIA') that considers the safety and accessibility effects of the quarry traffic on pedestrians and cyclists using/crossing the Cambridge through route roads. The TIA must include recommendations (if any) for mitigation of quarry traffic effects ~~but limited~~, including ~~to any~~ walking and cycling -related safety improvements on the identified Cambridge through-route roads, and changes to HCV movements (numbers and/or timing) attributable to the Consent Holder's quarry operations. The TIA must be submitted to the Manager for review and acceptance within three (3) months of the Consent Holder commissioning the data analysis under Condition 43.*
46. *The Consent Holder may challenge any of the recommended effects mitigation in the TIA by including a written submission to the Manager advising the reasons why the effects are not attributable to quarry traffic. The Manager will review and confirm in writing the recommended mitigation measures that are the responsibility of the Consent Holder to implement at their cost. If the Consent Holder fails to implement any of the confirmed mitigation measures for which they have responsibility within ~~six (6)~~ three (3) months of the Manager's written confirmation, then the WDC may review the consent under section 128 of the RMA (see Condition 56).*

Finding

436. The Panel considers that the aforementioned condition framework, subject to the amendments that we have determined to be necessary, will provide for appropriate limits around the operation of the quarry that enable it to operate in an efficient manner, while ensuring that any adverse effects on the safety of pedestrians and cyclists within the Cambridge through-routes can be the subject of assessment and review should they exceed a specific threshold. We find that the Applicant's version of these conditions (subject to our aforementioned amendments) are a more suitable manner by which to ensure these outcomes.

Issue 10 – SH1 North-bound on-ramp

437. Associated with the issue of the effects of heavy vehicle traffic within Cambridge was the request from many for the inclusion of a north-bound on-ramp near Newcombe Road. This was expressed in more detail within the evidence of Mr Chrisp, and which would provide an alternate route for such traffic when heading northwards. In particular, he considered that the various traffic issues highlighted by Mr Inder would be able to be resolved through the construction of north-facing ramps at the Tirau Road Interchange at the southern end of the Waikato Expressway (on and off Newcombe Road). In his view, this could potentially be achieved through the assistance of a financial contribution from the Applicant, that would otherwise have been paid to the WDC as a roading impact levy.
438. Mr Chrisp considered that the addition of a sand quarry in the vicinity would increase the need for, and benefits of, such north-facing ramps, and that these *"could form part of the C2P extension to the Waikato Expressway which is currently being advanced under the Fast Track Approval consenting process"*.¹²²
439. In Mr Chrisp's opinion, the refusal by the NZTA to play its part, and prevent the obvious solution to the concerns raised by the Cambridge community (as expressed through submissions), needs further consideration. He supported Mr Whittaker's commentary on the matter from the WDC Planning report that:¹²³

While RS Sand has acknowledged this as an option for consideration, it is understood that NZTA has essentially dismissed any consideration of this option given potential effects on the function of the expressway. NZTA has not discussed

¹²² Chrisp, at [6.6]

¹²³ WDC Planning report, at section 7.3.4

the north-bound on-ramp in their submission and it would be useful for some further discussion on this to be presented to the hearing given the significant call for this from the community.”

440. The Panel acknowledges the NZTA’s response to Mr Whittaker’s request for further discussion.¹²⁴

NZTA’s position continues to be:

- a) When designing and planning for the expressway, it was determined that north facing ramps would not be included. When the interchange was designed it was done so with longer trips in mind (i.e. on at the Southern Interchange, off at the SH1B Interchange). It was considered that there would be sufficient capacity on the old SH1 through Cambridge to provide for growth on the local network (which is managed by Waipā District Council).*
- b) NZTA’s main reason for this was that the existing interchange at Tirau Road was specifically designed so that the expressway would not be used for short trips (i.e. on at the Southern Interchange, off at the SH1B Interchange) and such a proposal would undermine the intent of this arrangement.*
- c) That said, any requests for these ramps to be formally considered will be passed onto the project team. It should be noted that NZTA does not have funding to investigate, design or construct north facing ramps within the current National Land Transport Plan 2024-2027.*
- d) At this stage, NZTA is not supportive of a north facing ramps and does not believe they are required. Any modifications that may need to be made to facilitate a potential quarry would be at the applicant’s cost.*

441. The NZTA’s position was referred to in the response by Mr Inder, who also noted that the existing design of the Cambridge Southern Interchange, and lack of ramps, is to prevent this section of the expressway from being treated as a local road connection between southern Cambridge and the Hautapu interchange, with consequential effects on the motorway itself. He disagreed with Mr Chrisp’s evidence that sought that these ramps need to be provided as part of the present proposal.

Finding

¹²⁴ Braithwaite, at [15]

442. The Panel agrees and accepts the position expressed by Messrs Braithwaite and Inder. More particularly, a proposal for such ramps (and any associated notice of requirement, outline plan of works or resource consent application) is not before this Panel. We must therefore consider the proposal, and its associated effects on the roading network as it presently exists and subject to the amendments proposed by the Applicant, in the absence of such ramps. As set out in respect of Issue 8 above, we are satisfied that the proposed activity can be carried out without adverse effects of a more than minor nature, including in the absence of such ramps.

Issue 11 – Effects of dust and RCS

443. As a sand quarry, the proposal has the potential to generate dust. This would arise from activities such as:
- earthworks associated with excavation and processing overburden and the sand resource;
 - vehicles transporting the sand operating on haul roads and across the site;
 - the screening and processing of sand;
 - wind erosion on areas being worked and stockpiles; and
 - the transportation of finished product off-site.
444. The application incorporated a draft DMP which sets out the potential dust sources, and proposed mitigation measures. These mitigation measures would include minimising exposed surfaces and stabilising and rehabilitating worked areas as soon as practical, avoiding undertaking dusty activities in dry and windy weather, maintaining low truck speeds and ensuring truck loads are covered or dampened down, and maintaining contingencies for dust management, including back-up water carts and/or shutting down equipment if required.
445. The proposal includes the taking of up to 600m³ per day of groundwater for dust suppression purposes, with that take having been calculated based on anticipated open areas and peak evaporation rate, and which was described as conservative.
446. A key issue in this regard was the proximity of the property and residence at 41 Newcombe Road (relative to the western boundary) and concerns from residents within French Pass Road regarding dust effects during southerly winds. However, associated with the potential discharge of dust, were somewhat more strongly cast

concerns as to the extent of RCS that might form part of such discharges, or which may have its own characteristics as to the extent of any airborne 'plume' of such materials.

447. As set out previously, Mr Curtis addressed this issue on behalf of the Applicant, and explained the processes for managing dust that would also be effective for RCS. He addressed the evidence of Mx Wickham for the Powells and did not agree that the changes sought by them to the conditions, or yard setbacks, were necessary in the context of the site where the resource would have a 30% moisture content.
448. There was some difference between the parties as to the quantity of RCS within the Newcombe Road site, and whether the silica within the sand would be crystalline or amorphous. It was the Powells' case that they considered the Applicant has greatly underestimated the levels of crystalline silica in the soil. Mx Wickham's position remained that the Applicant appears to have significantly underestimated the potential effects of RCS offsite, and the potential for serious health effects as a result. They recommended that leaving the gully wall of the quarry in situ would go some way to mitigating this risk, as bunding the quarry on four sides would avoid the presence of a large, exposed open face between the quarry and the Powell property. Particular conditions recommended by Mx Wickham were:
- additional boundary monitoring for PM₁₀ with supporting monitoring and proactive management against short-term (1-hour) trigger limits;
 - robust meteorological monitoring and live streaming of data; and
 - additional monitoring for RCS at the northern boundary.
449. The concerns of submitters and Mx Wickham were addressed at least in part through changes to the physical parameters of the proposal (i.e., to maintain the gully wall in full up to the end of Stage 4) and through Mr Stacey as we have set out previously. The differences in terms of conditions were helpfully described by Mr Stacey in his response memorandum. He advised in summary that:¹²⁵
- (a) The proposed conditions have primarily been updated to provide greater specificity regarding the monitoring requirements, as opposed to this detail being contained within the DMP. This approach is intended to provide greater certainty and transparency for the public and relevant stakeholders by clearly outlining the expectations and requirements within the consent conditions, rather than this

¹²⁵ Stacey memorandum (27 May 2025), at p.7

information being confirmed through a later certification process between the Applicant and the WRC.

- (b) The exception in this regard is that both Mr Curtis and Mr Stacey consider that some of the relevant monitoring (trigger values) are better detailed in the DMP to provide flexibility should these need to be changed in the future (e.g., to account for the results of monitoring). However, the key health-based limits intended to protect human health are specified as enforceable consent conditions.
450. Appendix A to Mr Stacey's memorandum provides a detailed response to the matters raised by Mx Wickham, including the basis of their position with respect to the number and type of monitoring instruments (including reference and non-reference monitors).
451. Mr Matheson's Reply submissions highlighted the key aspects related to air quality that were agreed between Messrs Curtis and Stacey as follows:¹²⁶
- (a) *The likely maximum proportion of silica that is respirable crystalline silica is up to 20% - not 69%. (This effectively responds to virtually all of Mx Wickham's earlier assessment, which was premised on the latter percentage, and to Mr Powell's evidence at his [39].)*
 - (b) *Adopting conservative assumptions, the actual off-site RCS concentration will be below the annual average guideline of 3µg/m³.*
 - (c) *The proposed condition limiting annual PM10 concentrations to 20 µg/m³ will satisfactorily cover off the risk of both PM10 and RCS. If this limit is met at the boundary, the effects further afield will be even less.*
452. In general terms, related to air quality, Mr Matheson noted that the effects of dust will be appropriately monitored and controlled by a robust set of consent conditions, as agreed by Messrs Curtis and Stacey. In terms of Mr Powell's evidence, he submitted that:¹²⁷

Given the distance, and the conditions in place, there is no realistic prospect of the Powells dwelling being impacted by dust from the operation. The Applicant does not consider it reasonable to suggest that the Applicants pay to clean the Powells'

¹²⁶ Reply submissions, at [4.2]

¹²⁷ Ibid, at [4.3]

buildings or provide filter changes or contribute to other infrastructure on their property...

453. Mr Matheson's Reply submissions also summarised Mr Curtis' response to Mx Wickham's evidence and supplementary regarding RCS risk, and the relevance of the TCEQ report, in some detail. By the end of the hearing, the differences between Mx Wickham and Messrs Curtis and Stacey appeared to have been substantially narrowed to particular conditions of consent related to monitoring provisions. Conditions 46 – 48, as presented in the Reply, are as follows:

- 46. *The Consent Holder shall install and maintain an RCS monitor at a location to be determined through the preparation of the RCS monitoring programme as part of the Dust Management Plan required under Condition 31 o).*
- 47. *The details of the RCS monitoring programme shall be included in the Dust Management Plan required under Condition 31. The purpose of the RCS monitoring programme is to determine whether the quarry activities are generating quantities of RCS that are significantly greater than background levels. As a minimum, the RCS monitoring programme must:*
 - a) *Include a minimum of 3 months of monitoring prior to the commencement of works to provide baseline data;*
 - b) *Include at least 36 continuous months of monitoring once works have commenced;*
 - c) *Be designed to assess the annual average concentration of RCS at the two PM₁₀ monitoring locations;*
 - d) *RCS monitoring can be stopped after 36 months providing concentrations are found to be below 3 µg/m³ as an annual average; and*
 - e) *Should the 3 µg/m³ limit be exceeded as a result of activities undertaken by the Consent Holder, an investigation report shall be completed by a SQEP to determine the cause of the exceedance and identify actions or further mitigation measures to avoid further exceedances. Any recommendations shall be included in a revised DMP.*

Advice Note: For the purposes of Condition 47, the commencement of works is either ground disturbance associated with the establishment of the processing area, or the ground disturbance associated with the first stage of overburden stripping, whichever is the earliest.

48. *The results of the RCS monitoring required under Conditions 46 and 47 must be made included in the Annual Report required under Condition 65.*
454. It is noted that Condition 47(e) included clarification by the Applicant (as underlined above) *“to create a link between the quarry activities and any potential breach of the standard”*.
455. The differences were outlined in paragraph 1.1 of the Reply submissions, which went on at paragraph 4.7 to set out in summary form the way in which the proposed conditions would address the matters at issue and provide for an appropriate monitoring framework, as follows:
- (a) *It represents a fair balance between cost of monitoring and demonstrating no offsite adverse health effect.*
 - (b) *The proposed “screening” level of 0.27 µg/m³ is below the detection limit, further highlighting its inappropriately conservative nature. Furthermore, all results of RCS will be available and reported to the WRC, and accordingly all results lower than the proposed compliance limit of 3 µg/m³ will be collected. In those circumstances including a “screening value” provides no RMA-benefit that warrants its inclusion in a consent condition. All it would do is create confusion between the compliance limit and the so-called “screening limit” (which as noted is itself below the detection limit).*
 - (c) *A background of period [sic] of 3 months monitoring will allow a suitable period of monitoring, but not risk holding up the commencement of quarrying.*
 - (d) *In terms of the proposed “screening limit” of 15 µg/m³, the Applicant’s advice is that nowhere anywhere in the world has this new WHO guidelines been adopted. The limit is aspirational, and for many countries (particularly in areas near the coastline), this figure may never be able to be [met].*
456. Further matters were addressed in respect of monitoring provisions and the provision of monitoring data and the permanence of the same, and are summarised as follows:

- (a) The Applicant proposes to establish one permanent reference monitor on the western boundary which will cost up to \$100,000 and may need to be replaced several times over the time of the quarry. A non-reference monitor, as proposed for the northern boundary¹²⁸ until the end of Stage 2, is expected to cost about \$25,000. The non-reference monitor can be calibrated against the reference monitor on site. In this regard, the Reply states that “[i]t would not be reasonable or appropriate to require 2 reference monitors on the site”.¹²⁹
 - (b) There is no utility in requiring permanent and costly monitoring for RCS. It is proposed that monitoring occur for a minimum of three months of background, followed by three years of monitoring. If the compliance limit is not exceeded, then monitoring can cease.
 - (c) A requirement for the livestreaming of monitoring data from the site is not agreed, as such information without verification can cause unnecessary confusion in the community. Should visible dust emissions arise, then this would be obvious without such livestreaming. The Applicant agrees, however, to provide a copy of the monitoring report to the Cambridge Community Board and to the Millers and the Powells.
457. In respect of the latter point, the Reply notes that “[a] proposed condition to his effect has been included in the final set”.¹³⁰ However, the Panel notes that the conditions did not include such a provision. The Panel considers that this requirement is most logically included as an addition to the annual reporting requirements under Condition 65, as new Condition 65A, as follows:

The collated results of the PM₁₀ and RCS monitoring required under Conditions 42, 43, 47 and 48 must be provided to the owners and occupiers of 41 Newcombe Road and 42 French Pass Road, by 31 March for each year that the monitoring is required in compliance with these conditions.

458. The Panel also considers that the following further changes to other PM₁₀ or RCS conditions were necessary:
- (a) Condition 44 (second sentence) is amended to state: “Any recommendations arising from the investigation shall be ~~included~~ incorporated into a revised DMP”.

¹²⁸ We have amended Conditions 36 and 37 to refer to “adjacent to” 41 Newcombe Road in respect of this boundary location.

¹²⁹ Reply submissions, at [4.7]

¹³⁰ Reply submissions, at [4.10]

- (b) Condition 45: We have added a requirement “for certification”.
- (c) Condition 47(e): We have amended the final part of this clause as follows:

Any recommendations arising from the investigation shall be included in a revised DMP. The investigation report and, if required, a revision of the DMP required by Condition 30 shall be provided to the WRC within 60 days of the exceedance occurring.

- (d) Condition 51: A basis for a potentially ‘objectionable’ finding was required to this condition, and we have added “(e.g., by way of a complaint to the WRC and/or the Consent Holder)”.

459. The Panel also notes that Condition 65 requires amending to include reference to the qualifier “each year that this consent is exercised (or the period for which monitoring is required)” (as included in Condition 65A), as in these instances the monitoring under clauses (h) and (i) is not required for each year that the consent is exercised.

Finding

460. The Panel adopts the approach set out by the Council and Applicant’s experts and the summary of the changes to the conditions set out by Mr Matheson, subject to the additional condition amendments referred to above. In particular, we find that these conditions will establish appropriate standards for both dust generation and RCS exposure at the relevant locations, and provide for a comprehensive and proportionate monitoring arrangement to ensure that the defined standards are met.

Issue 12 - Consent Term

461. The Powells’ legal submissions for the reconvened hearing included reference to the 35-year term for the regional consents, with no limit on the works duration. The submissions noted that while Mr Powell accepts that it can take some time for actual works to commence on a site (considering off-site preparation requirements, etc), the actual works period should be limited to 25 years, in line with the proposals specified in the application documents.¹³¹
462. We have assumed the submission in support of a 25-year duration to be in respect of the WDC land use consent. In this regard, we note that the original form of the WDC’s condition included the following condition:

¹³¹ Powell submissions, 12 June 2025, at [34]

3. *The duration of this resource consent is limited to 25 years with the consent expiring on 1 July 2049.*

463. The edited version of the conditions attached to Mr McDean's EIC opposed this condition on the basis that:

There is no basis explained as to why 25 year term (actually much less given that it is 24 years from this July) is proposed. This is a demand driven business and a 25 year life was based on a static demand/output. We would expect this land use consent to be enduring.

464. This deletion was subsequently agreed by the WDC. We note that there is no provision under the RMA for inclusion of a duration limit (refer s.123(b)), and so we consider that in the absence of such a limit being proffered by the Applicant, its deletion was appropriate.
465. To the extent that the Powells may have considered that there was a basis for applying duration limits to the regional consents that were less than those provided for under s.123(d), then any reasons in support for that position were not developed. We understand that this could arise from a concern that the activities could continue beyond the indicated 25 years due to reduced extraction rates associated with slower than anticipated demand, for example. However, we note that the consents define the total amount of extraction, such that any delays would not lead to additional quarrying beyond that which is contemplated by the consents and their associated conditions. We have therefore not changed the consent duration periods as set out in the regional consents.
466. The Panel notes that the WDC conditions do not include a s.125 lapse condition. While this would result in the default provisions under s.125(1)(a) applying (i.e., five years), we consider that it is preferable for this to be specified. While other conditions anticipate the consent being exercised in the near future (e.g., including in respect of implementing the EMP requirements) we have relied upon the standard five-year period. This is provided for by a new Condition 56.

Conclusion

467. Overall, the Panel is satisfied that the various matters of contention as between the Applicant, Councils and submitters have been addressed through changes to the proposal and the development of a comprehensive and considered framework of conditions. In particular, the conditions provide for specific standards to be achieved

along with monitoring of various elements of the activity (including ecological enhancement, site rehabilitation, traffic movements and dust/RCS discharges), and provision for review of those conditions should that be necessary. We therefore consider that the actual and potential adverse effects of the proposal will be acceptable and not more than minor, and will be able to be undertaken in a manner that has appropriate regard to the relevant statutory provisions (as discussed further below).

OVERALL EVALUATION – Section 104

468. We now exercise our discretion in respect of our findings set out above, and in this regard we are required to have regard to such matters listed in s.104 of the RMA as are relevant. The exercise of our discretion also requires us to make a determination in terms of s.104B to grant or refuse consent, in a manner that will achieve the purpose and principles of the RMA set out in Part 2.
469. In terms of s.104(1)(a), and based on our previous findings in respect of the proposal's potential effects in respect of ecological and landscape values and associated potential effects on highly productive land, human health and safety and the transportation network, we find that any adverse effects on the environment will be minor overall and acceptable. This finding is of course subject to the conditions that were presented with the Applicant's Reply, and the amendments that we consider to be necessary as described elsewhere in this decision. In this regard, and as noted by Mr Penfold, the proposal can generally be described as a large-scale earthworks operation *"that can be managed by well understood processes and management regimes that avoid discharges to the Karapiro Stream"*.
470. We also find that in a s.104(1)(a) sense the proposal will also have positive effects. These primarily relate to the economic benefits associated with the extraction and processing of a high-quality sand resource that provides for regionally significant benefit.
471. In terms of s.104(1)(b), we have previously highlighted those parts of the relevant plans as related to particular issues of contention that arise in this case, including with reference to competing legal submissions in regard to landscape matters. We also note the assessment of the relevant plans and policy statements/environmental standards provided in the Councils' Planning reports, noting that no expert planning evidence was presented that challenged the conclusions set out therein, and was aligned with the

assessment provided in the Applicant's AEE and Appendix B of Mr McDean's EIC. We summarise those conclusions as follows:

- (a) Mr Whittaker advised that there are no substantive matters that are outstanding in terms of his assessment that would undermine the granting of the land use consent, and we note that his reservations with respect to the alignment with cl.3.9(2)(iv) of the NPS-HPL have been addressed earlier in this decision. In any event, he advised that even if there are some doubts with respect to the NPS-HPL criteria, he did not consider that this would be a defining reason by which to refuse consent. He noted that s.104(1) includes specific reference to any national policy statement along with reference to other relevant planning instruments, and this includes the provisions of the District Plan which provides enabling provisions for aggregate and mineral extraction.
- (b) Mr Penfold's report set out an assessment against the Waikato Regional Policy Statement, including the Vision and Strategy for the Waikato River, the Waikato Regional Plan, the National Environmental Standards for Human Drinking Water and Freshwater, the NPS-F, the NPS on Indigenous Biodiversity, the Waikato-Tainui Environmental Plan, the Ngati Haua Environmental Plan and the Raukawa Environmental Management Plan. It was his opinion that the proposal is not contrary or inconsistent with those policy documents, and that *"the issues raised by submitters have been appropriately considered, and where necessary have been addressed via specific management of the proposed activities and recommended conditions of consent"*.¹³²

- 456. Our conclusions in respect of the objectives and policies and other criteria within the relevant plans therefore informs our findings under s.104(1)(b)(vi), and our overall findings under this section generally, given the lack of direct relevance, or contention, in respect of other clauses.
- 457. In terms of other matters of relevance under s.104(1)(c), we have had regard to the submissions on the application and are satisfied that the proposal has suitably addressed its potential effects on the matters of concern raised therein, including on issues related to the roading network and on nearby or neighbouring properties.
- 458. Overall, it is our finding that the proposal has appropriate regard to the provisions of the relevant plans, including the district and regional plans in particular. This finding informs our overall evaluation under s.104 as to its overall merits.

¹³² WDC Planning report, at section 9

459. We also note the advice within Mr Penfold's Planning report that the proposal would not give rise to any issues in respect of compliance with ss.105 and 107 of the RMA.

CONDITIONS

460. Because our decision is to grant consent, we have undertaken a careful review of the conditions as proposed in the first instance by the Council and as further amended by the Applicant, most recently through its Reply. We have previously addressed some of the key changes that we consider are necessary to ensure that the overall effects of the proposal will not be more than minor and are acceptable, and to address certain matters in contention between the Council and the Applicant in respect of them.

461. Other more notable changes made to the conditions not previously referenced are summarised as follows:

LU/0077/23 Conditions

- (a) Condition 1: Inclusion of reference to the updated 2D & 3D Quarry Staging plans dated 11 July 2025 as provided with the Reply, to the extent that these amend the drawings contained within the 24 June 2025 ESCP.
- (b) Condition 19(c): Inclusion of a requirement for "[t]he PB&GW Plan to include final vegetation and planting details including planting and maintenance schedules for all bunds", to distinguish this from the planting associated with the EMP.

AUTH145695.01.01 Conditions

- (c) Conditions 9 and 11 (water measuring system): The Applicant sought the following change to wording within these conditions, "Prior to the groundwater bore being utilised ~~Within one three months of the grant of this consent...~~". This was for the reason that:

Although the bore has been drilled, it is very unlikely for it to be "used" within 3 months of the grant of the consent, and accordingly this proposed amendment is requested. It is inappropriate and disproportionate to require water measuring devices to be installed and certified prior to the bore intending to be used for the first time.

Noting that the water measuring system is to be verified before its use, we can see no difficulty with the amendment sought by the Applicant and have worded the conditions accordingly.

AUTH145695.04.01 Conditions

- (d) Condition 3: This was worded by the WRC to account for the pre-works certification for each stage, and was amended by the Applicant to align with the QMP and also to reflect that Stages 1 and 2 are now combined. We have adopted the Applicant's wording in that regard.
- (e) Conditions 10-11: The structure of these conditions relating to flocculation (chemical treatment of sediment ponds) was somewhat problematic, with Condition 10 enabling flocculation to be undertaken prior to the requirements of Condition 11 (Flocculation Management Plan, **FMP**) taking effect. These conditions have been amended to clarify the order in which the FMP is required, the commencement of relevant activities and use references to a single pond (i.e., SRP-1).
- (f) Condition 22: to change 'Complaints Log' to Complaints Register to align with WDC Condition 53.

AUTH145695.04.01 Conditions

- (g) Condition 1: Deletion of the second reference to s.116 of the RMA.

WRC – Schedule 1 General Conditions

- (h) Condition 8 (Quarry Management Plan): Deletion of the reference to 'construction phase', noting that the QMP applies to all stages of the activity (per Conditions 11 and 14).
- (i) Condition 10(a) of the General Conditions is retained to refer to "*3H:1V, or as otherwise designed and certified*". While Mr Matheson has noted that "*because Stage 5 is not a 'final' batter slope, the slope of this interim batter shall be 1.5H:1V*". The condition does not specify an interim batter, so we have left the condition as is, noting the provision for "*or as otherwise designed and certified*".
- (j) Condition 22: An amendment has been made to clause (a) so that the second sentence better reads as a qualifier in terms of whether the actions at clauses (b) and (c) need to be undertaken.

- (k) Conditions 59 and 60 (Progressive Site Rehabilitation Management Plan): We have made amendments to these conditions to provide closer alignment with the equivalent wording set out at Condition 23 of the WDC conditions, as follows:

59. The Consent Holder shall rehabilitate all disturbed land. To this end, the Consent Holder shall develop and implement a Progressive Site Rehabilitation Management Plan ('PSRMP') for each stage of site operations. The PSRMP must include the following:

- (a) detail on the design and sequencing of works including recontouring of the excavated areas to resemble a natural river terrace following the completion of extraction activities; and*
- (b) provision for appropriate re-grassing and replanting to ensure that the quarry floor and works site is rehabilitated on a progressive basis throughout the life of the quarry to provide for productive rural land use and landscape mitigation.*

60. No later than two (2) years prior to the Consent Holder giving notice to the WRC that the quarry will be closed permanently, a Site Closure Plan shall be provided to the WRC for approval – acting in a technical certification capacity. As a minimum, the Site Closure Plan shall address the following:

- (a) detail of rehabilitation completed for previous stages of the quarry activities as per the PSRMPs required under Condition 59;*
- (b) future landforms including site stabilisation following completion of all quarry activities at the site;*
- (c) future groundcover following completion of all quarry activities at the site;*
- (d) The location of dedicated access tracks through or around rehabilitated areas to ensure that rehabilitated areas are not disturbed by quarry vehicles;*
- (e) reporting procedures; and*
- (f) review procedures to ensure that the progressively rehabilitated areas are productive.*

- (l) Condition 64(a) includes “*volumes and grades of sand exported from the site*”, as the WRC considers that this would “*provide consistency with the Waipa DC conditions (4C) and provides information on resource extraction for the Regional Council purposes*”. The Applicant seeks that reference to ‘grades’ is deleted, because:

The Applicant is happy to record the total volumes of sand removed from the site, but is not prepared to separately identify any different grades of sand. That would be administratively more difficult, the information is commercially sensitive, and the provision of that information does not address a relevant RMA effect.

We have also not been able to discern a relevant matter to be addressed by this condition, and the WDC condition similarly only requires the recording of sand volumes. We have removed ‘grades’ from the condition.

- (m) Condition 70: Clause (b) is amended to include reference to the 80% canopy closure requirement for the EMP related to regional activities.
- (n) Condition 70: We have added an equivalent advice note to that included in the WDC version of the EMP conditions (at Condition 9), to read:

Advice Note:

It is anticipated that the Consent Holder will prepare one EMP which will address the requirements of the WDC consent as well as the matters addressed in Conditions 66 - 70. Where there are mitigation and rehabilitation methods to address the loss of ecological habitats and values which are common to both the regional and district council conditions, then certification will be required from both Councils.

462. We have also removed the advice note references regarding the option to apply for a change of conditions under s.127 of the RMA (that option is of course available, but does not need to be explicitly stated in the Panel’s view).
463. Other changes that the Panel have made to the conditions are of a relatively minor editorial nature.
464. The conditions are otherwise considered appropriate to ensure that the effects of the proposed events will be acceptable and not more than minor.

PART 2

465. Following the guidance established in *RJ Davidson*,¹³³ it is the Panel’s understanding that the extent to which reference to Part 2 may be required when considering an application for resource consent will depend on whether the relevant plan(s) have been prepared having regard to Part 2 and with a coherent set of policies designed to achieve clear environmental outcomes. If not, or if in doubt, it will be appropriate and necessary to refer to Part 2, that being the implication of the phrase “*subject to Part 2*” at the outset of s.104.
466. No parties contended that Part 2 considerations were engaged, and no aspects of it were addressed by any expert witness submitting in opposition to the proposal. Nevertheless, we provide some comments in respect of this part of the RMA below, primarily by reference to the Planning reports prepared for the Councils.
467. Mr Whittaker noted in his report that while he did not consider that there are any substantive issues with the relevant plans being competently prepared, he noted a disparity in the approach to aggregate mining and extraction activities between the District Plan and the NPS-HPL. The latter, he said, “*sets a high threshold on the development of highly productive land with a very narrow exemption criteria to define what constitutes an appropriate aggregate activity*”, while “[t]he WDP on the other hand recognises the need for local aggregate supply and sets enabling policies that seek to manage the effects of such activities”.¹³⁴ Mr Whittaker made the point that the District Plan is yet to be reviewed in terms of giving effect to the NPS-HPL. However, he was satisfied that granting consent to the proposal would not cause adverse effects on the productive land resource.¹³⁵ Therefore, to the extent that a Part 2 assessment is required, he was also satisfied that granting consent will be consistent with the sustainable management purpose of the RMA and the associated principles as set out in ss.6–8.
468. Mr Penfold also addressed Part 2 matters in his Planning report. He also considered that due to the age of the Regional Plan it was arguable that the policies had not been recently reviewed and do not cover the relevant matters comprehensively. It was his

¹³³ *RJ Davidson v Marlborough District Council* [2018] NZCA 316

¹³⁴ WDC Planning report, at [330]

¹³⁵ Noting that this position was qualified in Mr Whittaker’s Planning Statement as “*not causing a substantive or inappropriate reduction in [HPL] and there are enabling policies within the regional and district plans that support quarry activities in rural areas*”, at [18]

overall broad judgement that the proposal would be consistent with Part 2 for the reasons that:

- (a) In terms of s.5, the proposal would enable significant regional benefits to be realised, while safeguarding the life supporting capacity of air, water, soil and ecosystems. The proposal would also avoid discharges to the Karapiro Stream and mitigation of the potential effect of dust via a DMP. He further noted that “[w]hile the loss of 0.174ha of seepage wetlands cannot be avoided, the 0.307ha of wetland habitat compensation (included in a wider 14ha area of restoration) is considered appropriate”.¹³⁶
- (b) With respect to s.6, the proposal would recognise and provide for matters of national importance, including:
- providing for suitable compensation for the loss of seepage wetland habitat along with a wider enhancement and restoration programme;
 - enabling the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga via the cultural impact assessment and MoU, and through the EMP;
 - the national grid is specifically recognised and provided for via the imposition of recommended conditions for the management of site works; and
 - management provisions to address the risks of natural hazards, in particular via ensuring erosion and sediment control devices are subject to specific design and certification.
- (c) With regard to s.7, the proposal:
- has particular regard to: Kaitiakitanga and the ethic of stewardship via enabling mana whenua participation in the process, including site visits, the provision of a Cultural Impact Assessment and a MoU being entered into;
 - is considered to be an efficient use of natural and physical resources as it enables the extraction of an important resource, while accounting for natural resources; and

¹³⁶ WRC Planning report, at section 9

- would maintain amenity values via the implementation of a DMP and through the restoration and enhancement of wetland and riparian margins.
- (d) Section 8 matters (i.e., the principles of the Treaty of Waitangi/Te Tiriti o Waitangi) were considered to have been addressed via meaningful engagement with Mana whenua, with an enduring relationship in place via an MoU and engagement in the implementation of the EMP.
469. Overall, and for the reasons set out earlier, we find that the proposal will not give rise to adverse effects of a more than minor nature, taking into account the amendments to the conditions that we have determined to be necessary. Accordingly it is our finding that the sustainable management purpose of the RMA will be better served by a grant of consent rather than a decline.

SECTION 104B

470. For the reasons previously described, we have determined that the proposal is to be considered as a discretionary activity. Our decision is subject to s.104B, whereby we may grant or refuse the application, and, if granted, we may impose conditions under s.108. The Panel has determined that consent is able to be granted, and we have imposed conditions under s.108 in accordance with those provided to us by the Councils and the Applicant and subject to the amendments that we have described earlier in this decision.

DECISION

Acting under delegated authority from the Waipā District Council and the Waikato Regional Council and in consideration of section 104, and pursuant to sections 104B, 108 and 108AA of the Resource Management Act 1991 and the Operative Waipā District Plan and Operative Waikato Regional Plan, consent is **granted** to RS Sand Limited for the establishment of a sand quarry at 77 Newcombe Road, Cambridge (legally described as Sec 41 SO 510550, Sec 61 SO 510550 and Lot 2 DP 520523, and Lot 2 DP 541191 and Lot 4 DPS 86453), subject to the conditions enclosed in **Appendix 1** (district) and **Appendix 2** (regional) and for the reasons outlined in this decision.

Signed:



Richard Blakey
CHAIRPERSON OF HEARING PANEL

Dated: 20 August 2025

Appendix 1

Conditions of Consent (Waipa District Council)

RS Sand - Proposed Quarry - Newcombe Road

CONDITIONS OF CONSENT - LU/0077/23

General

1. The quarry activity must be constructed, operated and decommissioned in accordance with the following reports and technical information:
 - The Kinetic Environmental Resource Consent Application dated 17 May 2023 and all associated appendices;
 - Fulton Hogan Erosion and Sediment Control Plans – Project RS Sand:
 - Sheet 1 Processing Area and Site Establishment Rev B dated 05.07.23,
 - Sheet 2 Stage 1/2 (Combined) dated Rev C 24.06.25,
 - Sheet 3 Stage 1/2 cross sections Rev B dated 24.06.25,
 - Sheet 4 Stage 3 Rev C dated 24.06.25,
 - Sheet 5 Stage 4 Rev C dated 24.06.25,
 - Sheet 6 Stage 5 Rev B dated 24.06.25,
 - Except as updated by the updated 2D & 3D Quarry Staging Plans dated 11 July 2025,
 - Alliance Ecology - Draft Ecological Management Plan dated May 2025; and
 - Updated Cross Section Plan – Full Gully Wall Retained - Mansergh Graham Rev 6 dated 25/06/2025.

Where there is any inconsistency between the resource consent application documentation, the details in any approved Management Plan or the conditions, the consent conditions must prevail.

2. The maximum capacity of production must be no more than 400,000 tonnes of sand per calendar year.

Advice Note:

For the purpose and implementation of this consent, sand refers to all sand aggregate which is quarried, processed and/or sold off site including overburden sand, pit sand and processed sand.

Cultural Values and Sites

3. The Consent Holder must give effect to the content and recommendations set out in the Cultural Impact Assessment - Newcombe Road Quarry, prepared by Te Hira Consultant Ltd. This must include, but not be limited to;
 - (a) Invitation for pre-start site blessing;
 - (b) Invitation to provide staff cultural induction prior to the commencement of activities;
 - (c) Provision of pre-start information and proposed works schedule;
 - (d) Adoption and implementation of specified accidental *Taonga Tuku Iho* discovery protocols; and
 - (e) Adoption and implementation of specified accidental *Kooiwi* discovery protocols.

Quarry Management Plan

4. The Consent Holder must submit to Waipā District Council's ('WDC') Consents Team Leader for certification a finalised "Quarry Management Plan" ('QMP'), at least twenty (20) working days prior to the commencement of activities authorised by this consent. The content of the QMP must fulfil the following requirements;

(a) Purpose of QMP

The purpose of the QMP is to provide a clear framework and methodology for the Consent Holder to follow in terms of the management of site works in accordance with the application material and the conditions of this consent.

(b) Regional Council QMP

The QMP must include all details and methods for managing site works in accordance with Condition 8 of the WRC Authority 145695 01 to 05 Schedule 1 General Conditions.

(c) Additional District Council Requirements

The QMP must also include the following requirements:

- (i) a description of operational procedures and monitoring that will be implemented to:
 - a. record truck movements and sand volumes leaving the site; and
 - b. record sand volumes extracted,
- (ii) procedures for recording and responding to complaints (refer Condition 52 below);
- (iii) details of noise mitigation measures that will be implemented to achieve compliance with the conditions of this consent;

- (iv) provision for dampening or coverage of all truck and trailer loads of sand on all vehicles before exiting the site;
- (v) traffic management protocols including monitoring procedures for HCVs exiting the site and recording of certain HCV routes in accordance with Condition 42;
- (vi) Provision for the storage and stockpiling of sufficient topsoil and, if necessary, importing additional topsoil to fulfil the requirements of the Progressive Site Rehabilitation Management Plan in accordance with Condition 23; and
- (vii) the south to north staging of the extraction of Stage 5 must be reflected in the QMP, in order to reduce visibility of the extraction works from the property at 42 French Pass Road.

Advice Notes:

- (i) *Condition 4 specifically recognises and has been imposed to align with the associated Waikato Regional Council ('WRC') consent for land disturbance. It is intended to enable the Consent Holder to submit one QMP to fulfil the requirements of both the regional and district councils and to avoid any unnecessary duplication.*
- (ii) *Any costs incurred by the WDC associated with the technical review of the QMP or reviewing any subsequent changes to the QMP, will be recovered from the Consent Holder in accordance with the provisions of section 36 of the Resource Management Act 1991 ('RMA').*

5. The QMP must be certified in writing by the WDC prior to any works authorised by this consent commencing. The WDC's certification will be based on its assessment as to whether the QMP addresses the matters required by Condition 4.

Advice Note:

For any requirements of the QMP that have been certified by the WRC, a separate certification from the WDC will not be necessary.

6. The Consent Holder must undertake all activities authorised by this consent in accordance with the certified QMP.
7. Any changes proposed to the QMP (and/or its contingent parts) must be confirmed in writing by the Consent Holder and the WDC, prior to the implementation of any changes proposed.

Ecological Management Plan

8. The Consent Holder must submit to WDC's Consents Team Leader for certification a final Ecological Management Plan ('EMP'), at least 40 working days prior to the commencement of activities authorised by this consent. The content of the EMP must generally align with the Alliance Ecology (May 2025) Draft Ecological Management Plan and fulfil the following requirements:

A. Purpose of EMP

The purpose of the EMP is to provide a clear framework and methodology for the mitigation and environmental compensation works that are necessary to manage the ecological effects resulting from the establishment, operation and decommissioning of the quarry.

B. Management Plans

The EMP must include the following management plans:

- (a) Vegetation Management Plan;
- (b) Avifauna Management Plan;
- (c) Lizard Management Plan;
- (d) Long tailed Bat Management Plan; and
- (e) Habitat Restoration and Enhancement Plan.

C. Vegetation Management Plan

(a) Planting Schedules and Fencing

- (i) All ecological areas must be fenced and then maintained with a stock-proof fence.
- (ii) The EMP must include maintenance specifications, including weed control and pest plant control and animal control necessary to ensure the successful establishment of the plants.
- (iii) Proposed plant spacings/densities for each habitat type must be in general accordance with the species lists and relative abundance to that presented in Tables 5.4-5.9 of the Alliance Ecology (2025) draft Ecological Management Plan and at the following minimum densities:
 - a. Podocarp/broadleaved forest revegetation on slopes and on mitigation buffer plantings at 1m spacings;
 - b. Floodplain forest terrestrial revegetation in non-hydric soils at 1.5m spacings;
 - c. Floodplain forest wetland revegetation in hydric soils at 1.5m spacings;
 - d. Sedgeland wetland revegetation at 1m spacings – areas within sedgeland wetlands that already include native revegetation will be enriched as required;
 - e. Seepage wetland revegetation at 0.5m spacings within seepage wetlands that already include native revegetation will be enriched as required; and
 - f. Raupō wetland at 1m spacings.

Advice Note:

If plant availability constraints dictate alternative species and/or spacings, the EMP shall confirm the suitability of the alternatives in terms of the ecological outcomes that would otherwise be achieved by compliance with the above standards.

- (iv) For indigenous plants, all plantings must be eco-sourced (Waipā Ecological District or a neighbouring ecological district) plant species appropriate to the locality, and the ecosystem type being restored (i.e., the ecosystem type would have occurred at the locality under natural conditions). These indigenous species must be represented in appropriate diversity, proportions, cover, and configuration as would be expected for natural examples of the same ecosystem types within the Waipā Ecological District or a neighbouring ecological district.

(b) Timing and Performance Targets for Works

- (i) The planting must be completed no later than the third planting season following the commencement of this consent.
- (ii) At the end of the 10th year from commencement of this consent the canopy cover closure, as monitored on a horizontal plain, must be no less than 80% indigenous plant species and no more than 1% cover of weed species identified on the Department of Conservation List of environmental weeds in New Zealand 2024 (K.G.McAlpine, Howell,C.J. (2024)) has been achieved.
- (iii) At the end of the 15th year from commencement of this consent canopy cover closure, as monitored on a horizontal plain, must be no less than 90% indigenous plant species and no more than 1% cover of weed species identified on the Department of Conservation List of environmental weeds in New Zealand 2024 (K.G.McAlpine, Howell,C.J. (2024)) has been achieved.

(c) Monitoring

- (i) If monitoring shows that a density and diversity of species has not been achieved in accordance with the certified Habitat Restoration and Enhancement Plan (see Condition 8F) after five (5) years, then the maintenance period must be extended until such time as it is achieved.
- (ii) The Consent Holder must submit a Planting Monitoring Report to the WDC's Consents Team Leader from the first stage of planting and thereafter every second year from the initial planting establishment until closure - i.e., once all plantings are a minimum of ten (10) years in age and native canopy closure targets have been met. The monitoring report must include:
 - a. Representative photos showing progress of terrestrial, riparian and wetland revegetation, including photos of sites where plantings are 5 years in age and 80% canopy closure has been achieved (where applicable);
 - b. Information/data on plant survival, infill planting, and progress towards 80% and 90% canopy closure;

- c. Reduction targets and requirements for weed management and control of browsers (e.g. rabbits, possums and pukeko); and
- d. Information on incidents and adaptive management responses.

D. Avifauna Management Plan

- (a) The EMP must include an Avifauna Management Plan ('AMP'). The purpose of the AMP is to detail how effects during the quarry activity on native avifauna are to be managed.
- (b) The AMP must include but not be limited to:
 - (i) Identification of avifauna habitats and avifauna species impacted by project works and areas where avifauna management must apply;
 - (ii) Nesting and sensitive timing periods of identified avifauna in (i);
 - (iii) Requirements for avoidance of, or restrictions of works, within the time periods identified within (ii);
 - (iv) Pre-clearance nesting bird survey protocols (and resulting outcomes if the presence of resident or nesting birds are present);
 - (v) Protocols if injury or death of avifauna occurs;
 - (vi) Incidental discovery protocols for at-risk and threatened species not otherwise anticipated and identified in (i); and
 - (vii) Compliance monitoring and reporting.

E. Lizard Management Plan

- (a) The EMP must include a Lizard Management Plan ('LMP'). The purpose of the LMP is to detail how effects during the quarry activity on native heptofauna are to be managed.
- (b) The LMP must include but not be limited to:
 - (i) Identification of herpetofauna habitats and herpetofauna species impacted by project works and areas where herpetofauna management must apply;
 - (ii) Vegetation clearance protocols and salvage methods to avoid and minimise potential for lizard injury or death;
 - (iii) Protocols if injury or death of herpetofauna occurs;
 - (iv) Release site establishment; location, enhancement, and protection;
 - (v) Incidental discovery protocols for at-risk and threatened species not otherwise anticipated and identified in (i); and

- (vi) Compliance monitoring and reporting.

E. Long-tailed Bat Management Plan

- (a) The EMP must include a Long-tailed Bat Management Plan ('BMP'). The purpose of the BMP is to detail how effects during the Project Works on long-tailed bats are to be managed.
- (b) The BMP must include but not be limited to;
 - (i) Vegetation clearance protocols to avoid and minimise potential for long-tailed bat injury or death (tree fell protocols);
 - (ii) Protocols if injury or death of long-tailed bats occurs;
 - (iii) Construction disturbance minimisation requirements;
 - (iv) Operational quarry disturbance minimisation requirements including any controls on lighting;
 - (v) Annual bio-acoustic survey methods and performance standards; and
 - (vi) Compliance monitoring and reporting.

F. Habitat Restoration and Enhancement Plan

- (a) The EMP must include a Habitat Restoration and Enhancement Plan ('HREP'). The purpose of the HREP is to detail how significant residual effects on terrestrial and wetland biodiversity values are addressed.
- (b) The HREP must include but not be limited to:
 - (i) Monitoring of density and diversity of species as required by Condition 8C;
 - (ii) Pest plant control requirements and methods;
 - (iii) Specific habitat enhancement and restoration for native fauna to manage for the loss of habitat;
 - (iv) Details of twenty artificial bat roosts that must be installed outside of the project footprint prior to the loss of potential roost features within the site. Details must include:
 - roost location
 - design
 - protection from predators

- maintenance for the operational life of the quarry
- monitoring

(v) Details of pest animal control including:

- target species
- methods of control
- methods and frequency of monitoring
- performance standards
- annual review process for assessing efficacy of pest control methods
- monitoring and compliance reporting requirements

9. The EMP must be certified in writing by the WDC prior to any works authorised by this consent commencing. The WDC's certification will be based on its assessment as to whether the EMP addresses the matters required by Condition 8.

Advice Note:

It is anticipated that the Consent Holder will prepare one EMP which will address the requirements of the WRC consents as well as the matters addressed in Conditions 8 and 9. Where there are mitigation and rehabilitation methods to address the loss of ecological habitats and values which are common to both the regional and district council conditions, then certification will be required from both Councils.

10. The Consent Holder must undertake all activities authorised by this consent in accordance with the certified EMP.
11. Any changes proposed to the EMP (and/or its contingent parts) must be confirmed in writing by the Consent Holder and the WDC, prior to the implementation of any changes proposed.
12. The Consent Holder must within 12 months of the commencement of the ecological mitigation, enhancement works (not including maintenance or pest control), establish and register on the record of titles being Record of Titles 841793, 821177 and 908965 a legal mechanism (hereinafter referred to as a "covenant") in favour of the WDC containing appropriate requirements in order to legally protect in perpetuity the ecological mitigation, enhancement and compensation sites (the covenant area) as identified within RS Sand Newcombe Road Quarry – Mitigation and Compensation Areas Map comprising an area of approximately 14 hectares in area (subject to survey) and to prohibit the clearance of indigenous vegetation by any means, the undertaking of earthworks or grazing of stock within the covenant area.

Advice Note:

The Covenant Area shall be based on 'Proposed compensation area' on Figure 2, contained in Appendix A of the EMP.

13. The Consent Holder must engage a suitably qualified professional to prepare a Covenant Plan required in order to satisfy Condition 12 with reference to the conditions of this consent.

Operational Conditions and Standards

Top spoil

14. No topsoil from the quarry works area can be removed from the site without the written approval of the WDC's Enforcement Officer.

Hours of operation

15. All quarry activities involving extraction, processing, and cartage and/or the use of external plant and machinery must be restricted to the following hours:
 - Monday to Friday – 7.00 am to 5.00pm
 - Saturday – 7.00am to 12 midday
 - Sunday and public holidays – No activities/Closed.

Advice Note:

The above condition recognises that there may be some administrative and/or maintenance activities that can occur outside these operating hours.

Construction Noise

16. Construction noise (site and quarry pit establishment) must be measured and assessed in accordance with the provisions of New Zealand Standard NZS 6803:1999 Acoustics - Construction Noise and must comply with the limits contained in that Standard as set forth in the following table:

Time of week	Time period	Typical duration (dBA)		Short-term duration (dBA)		Long-term duration (dBA)	
		Leq	Lmax	Leq	Lmax	Leq	Lmax
Weekdays	0630-0730	60	75	65	75	55	75
	0730-1800	75	90	80	95	70	85
	1800-2000	70	85	75	90	65	80
	2000-0630	45	75	45	75	45	75
Saturdays	0630-0730	45	75	45	75	45	75
	0730-1800	75	90	80	95	70	85
	1800-2000	45	75	45	75	45	75
	2000-0630	45	75	45	75	45	75
Sundays and public holidays	0630-0730	45	75	45	75	45	75
	0730-1800	55	85	55	85	55	85
	1800-2000	45	75	45	75	45	75
	2000-0630	45	75	45	75	45	75

Operational Noise

17. The rating sound level from the operational quarry must meet the following District Plan noise limits when measured within the notional boundary of another site in the Rural zone:

- (a) 50 dB L_{Aeq} from 7:00 am to 10:00 pm
- (b) 40 dB L_{Aeq} and 70 dB L_{AFmax} from 10:00 pm to 7:00 am
- (c) 70dBA (L_{max}) from 10:00 pm to 7:00 am

Advice Note:

Noise levels must be measured and assessed in accordance with NZS 6801:2008 Acoustics – Measurement of Environmental Sound and NZS 6802:2008 Acoustics – Environmental Noise (or any subsequent replacement standard). The notional boundary is located at a point that is 20m from the façade of any dwelling on an adjacent site, or where a dwelling is within 20m of the site boundary, then the notional boundary is the site boundary.

Signage

18. Site signage to Newcombe Road must be located within the site and limited to a maximum of one sign with a maximum of 2.4m² and must be of a static design with no internal illumination.

Perimeter Bund and Gully Wall Plan

19. The Consent Holder must submit to the WDC's Consents Team Leader for certification a final plan and sequencing timetable for the perimeter bund and gully wall ('PB&GW Plan') to provide for noise attenuation and visual screening at least twenty (20) working days prior to the

commencement of activities authorised by this consent. The content of the PB&GW Plan must fulfil the following requirements:

(a) Purpose of PB&GW Plan

The purpose of the PB&GW Plan is to provide a final detail on the design and sequencing of works to establish and maintain the perimeter bunds. The perimeter bunds are proposed to provide both acoustic and landscape mitigation for adjacent landowners and for broader landscape values. In addition, the gully wall is to provide landscape screening and mitigation for the properties north of the site with planting to achieve sufficient height to maintain appropriate visual screening mitigation prior to the removal of the gully wall.

(b) Application Plans

- (i) The design and sequencing of the perimeter bunds must be in general accordance with the plans specified in Condition 1 unless otherwise modified by the following requirements.
- (ii) The design and sequencing of the gully wall must be in general accordance with the Mansergh Graham Cross Section Full Gully Wall Retained Rev 6 dated 25 June 2025 unless otherwise modified by the following requirements stated in (c) below.

(c) Requirements for the PB&GW Plan

- (i) The maximum height of the bund adjacent to the boundary with 41 Newcombe Road is 2.5m, or otherwise be at a height agreed with the owners of 41 Newcombe Road.
- (ii) The bund and any associated planting must ensure that the maximum construction and operational noise (Conditions 16 and 17) are complied with at all times.
- (iii) The landscaping and planting schedule must be consistent with the EMP required by Condition 8.
- (iv) The PB&GW Plan must include final vegetation and planting details including planting and maintenance schedules for all bunds.
- (v) The PB&GW Plan must include details of engagement and any outcomes agreed with the owner of 41 Newcombe Road.
- (vi) At least 40% of the certified ecological planting in accordance with Condition 8 for the gully wall shall be capable of achieving a height of approximately 6m within 15 years.

20. The PB&GW Plan must be certified in writing by the WDC prior to any works authorised by this consent commencing. The Council's certification will be based on its assessment as to whether the PB&GW Plan addresses the matters required by Condition 19.

21. The Consent Holder must construct the bund and complete the approved planting and must thereafter maintain the bund and planting in accordance with the PB&GW Plan.
22. Any changes proposed to the PB&GW Plan (and/or its contingent parts) must be confirmed in writing by the Consent Holder and the WDC, prior to the implementation of any changes proposed.

Progressive Site Rehabilitation Management Plan

23. The Consent Holder must submit to the WDC's Consents Team Leader for certification a Progressive Site Rehabilitation Management Plan ('PSRMP') at least 40 days prior to the commencement of each stage of quarrying activities. The content of each PSRMP must fulfil the following requirements:

(a) Purpose of PSRMP Plan

The purpose of the PSRMP is to provide the final detail on the design and sequencing of works including the recontouring of the excavated areas to resemble a natural river terrace and provision for appropriate re-grassing and replanting to ensure that the quarry floor and works site is rehabilitated on a progressive basis throughout the life of the quarry to provide for productive rural land use and landscape mitigation.

(b) Application Plans

The PSRMP shall be in general accordance with the illustrations dated 30 April 2025 attached as Appendix 3 to the Statement of Supplementary Evidence from David Mansergh including visual simulations of planting stages and mitigation, and incorporating the following supplementary updates and amendments:

- (i) Mansergh Graham Photo Point P7 Pylon Year 18 – Stage 3 Complete dated 12 June 2025;
- (ii) Mansergh Graham Photo Point P7 Pylon Year 22 – Stage 4 Complete dated 12 June 2025;
- (iii) Mansergh Graham Photo Point P7 Pylon Year 25 – Stage 5B Complete dated 12 June 2025; and
- (iv) Mansergh Graham Cross Section Full Gully Wall Retained Rev 6 Dated 25 June 2025.

(c) Staging and Site Closure Details

The PSRMP must provide the following details for each stage and for the final site closure:

- (i) Future landform including site stabilisation;
- (ii) Future groundcover following completion of all quarry activities at the site;
- (iii) Reporting procedures;

- (iv) The location of dedicated access tracks through or around rehabilitated areas to ensure that rehabilitated areas are not disturbed by quarry vehicles; and
- (v) Review procedures to ensure that the progressively rehabilitated areas are productive.

(d) Future Rural Productive Land use

The PSRMP must include details and methods on how the future productive rural land use of the rehabilitation areas will be achieved. These details must be prepared by a suitably qualified and experienced person ('SQEP') and include, but not be limited to a report prepared for each stage of the rehabilitation addressing:

- (iv) The topsoil and soil structure across of all rehabilitated areas required to ensure that productive rural land use can be established upon the rehabilitation of each stage and at the final site closure;
- (v) The location, quantity and access route for all topsoil piles to achieve the full site rehabilitation and if required, details of what topsoil might be required to be imported to the site to ensure the reinstatement of an appropriate soil profile; and
- (vi) How any previously rehabilitated stages have been successfully returned to productive uses and, if not, what steps are to be taken to ensure that occurs.

(e) Monitoring Requirements

The Consent Holder must provide a report by a SQEP to the WDC by 31 March of each year for a minimum of three years following the commencement of the rehabilitation required for each stage to describe the outcomes associated with that rehabilitation.

- 24. The PSRMP must be certified in writing by the WDC prior to the commencement of Stage 1 quarrying activities. The WDC's certification will be based on its assessment as to whether the PSRMP addresses the matters required by Condition 23.
- 25. The Consent Holder must undertake all activities authorised by this consent in accordance with the certified PSRMP.
- 26. Any changes proposed to the PSRMP (and/or its contingent parts) must be confirmed in writing by the Consent Holder and the WDC, prior to the implementation of any changes proposed.

Stage 5 – Landscape and Staging Restrictions

- 27. The following restrictions and standards must be complied with prior to any quarry development or quarry activities in Stage 5:
 - (a) All Stage 5 quarry activities must be carried out in a south to north direction to maintain the gully wall for as long as possible, as detailed in the QMP.

- (b) All rehabilitation works for Stages 1-3 must be completed with stabilisation of topsoil and sowing of rehabilitation grass seed prior to the commencement of Stage 5 activities. The Consent Holder must provide a completion report for the rehabilitation works to WDC's Consents Team Leader for review and approval.
- (c) The ecological planting along the stream gully must be established with at least 15 years of established growth with at least 90% canopy closure in accordance with Condition 8C(b)(iii), and with at least 40% of planting having achieved a height of 6m in accordance with Condition 19(c)(vi), prior to the commencement of Stage 5 activities. The Consent Holder must provide a landscape report for the ecological planting to the WDC's Consents Team Leader for review and approval.
- (d) Stage 5 works must only commence once written approval from the WDC has been provided confirming that the above requirements have been satisfied.

Transportation and Roading Network

Journey Management Plan

- 28. A Journey Management Plan to assist in the ongoing safe performance of the surrounding road network must be provided and maintained by the quarry operator. The following must be included in the Journey Management Plan:
 - (a) Subcontractor and customer education evenings to encourage transport suppliers and customers to be respectful of the Cambridge community, taking measures including safe and courteous driving practices including speed management, avoidance of engine braking within the Cambridge township, and an awareness of cyclists and other vulnerable road-users.
 - (b) Driver education flyers handed out at weighbridge to new customers, drivers to reinforce the subcontractor and customer evenings.
 - (c) When the Karapiro interchange (proposed as part of the Cambridge to Piarere section of the Waikato Expressway ['C2P']) is operational, procedures to encourage any HCV carrying sand from the Site to destinations north of Cambridge to travel south to the Karapiro Interchange and then travel north to their destination along the Waikato Expressway rather than travelling through roads within the Cambridge urban area (e.g., Tirau Road – Queen Street – Victoria Street).
- 29. The Consent Holder must operate a system to accurately record the number of HCV movements generated by the quarry per day, and must comply with the daily movement limits below except where sand is supplied direct to the C2P expressway project:
 - (a) Daily maximum of 400 HCV movements per day.

Advice Notes:

- Trucks are referred to as Heavy Commercial Vehicles and abbreviated as HCV. For the purposes of this consent, a HCV includes all class 4 and higher vehicles as defined by the TNZ 1999 classification system.
- An HCV entering and departing the site equals two movements. For ease of recording, the number of HCV departures from the site per day can be multiplied by two to determine the daily HCV movements.

Heavy Vehicle Impact Fee

30. A HCV impact fee must be paid on an annual basis to the WDC for the total annual tonnage of sand transported from site. The annual payable fee will be calculated at the rate of \$0.043/tonne multiplied by the total accumulated tonnes recorded on sales dockets. The rate is subject to annual CPI adjustment from base year 2024.

Newcombe Road / Tirau Road Intersection

31. The following Conditions 32–35 and 39-40 must be implemented prior to the quarry commencing trading/operation.
32. The Consent Holder must upgrade the surfacing at Newcombe Road / Tirau Road intersection prior to quarrying activities commencing (including overburden removal) to an appropriate heavy duty asphalt concrete material designed to withstand the high turning stresses associated with HCV's turning at the intersection. The following must be undertaken:
 - (a) The extent of the surface upgrade must be sufficient to mitigate premature surface failure on all HCV turning paths to and from Newcombe Road.
 - (b) The asphalt surface must also extend 65m into Newcombe Road to mitigate surface damage from high turning stresses through the tight curve.
 - (c) The asphalt design, proposed extent of work and tie-in details must be submitted to the WDC Transportation Manager ('the Manager') for review and approval before construction.
 - (d) Road line markings must be reinstated and must comply with the requirements of the Regional Infrastructure Specification ('RITS') 3.5.2.
 - (e) All work must be completed at the Consent Holder's expense and to the satisfaction of the Manager. The Consent Holder must provide all required Quality Assurance records of the completed work in accordance with the requirements of the RITS, to the satisfaction of the Manager.
33. Sight distance at the Newcombe Road intersection with Tirau Road must be improved through vegetation removal/trimming and any necessary earthworks to achieve no less than 282m from HCV-driver eye height looking to the east and west along Tirau Road. The sightlines must be

checked and maintained on a six (6) monthly basis from the date that excavation works commence until the quarry is closed and rehabilitated. No work must occur within the road reserve until an approved Corridor Access Request and Traffic Management Plan has been obtained from the New Zealand Transport Agency ('NZTA') and the WDC.

34. Prior to the removal of vegetation or undertaking earthworks within the road reserve to achieve sightlines of 282m, the Consent Holder must provide to the Manager for review and approval:
- (a) Design details (plan and cross-sections) for the proposed sightline work west of the intersection, including planting reinstatement species and density, and the proposed maintenance and defect liability periods; and
 - (b) Evidence that the proposed sightline work east of the intersection including any planting reinstatement and the proposed maintenance and defect liability periods, have been assessed and approved by the NZTA's Network Manager.
35. A 150mm high concrete splitter island must be installed in the central flush median of Tirau Road, between Newcombe Road and Lockley Road prior to quarrying activities commencing (including overburden removal). The island must be approximately 20m long and 1m wide, with RD6L (Keep Left) signs mounted at either end. The position and final length of the island must be determined through the use of appropriate HCV design vehicle swept paths to ensure the right turn movements from Newcombe Road and Lockley Road are accommodated. The design must undergo an independent road safety audit (RSA) in accordance with the NZTA Safe System Audit Guidelines and any Road Controlling Authority decisions in the audit are to be adopted in the final design which, along with the completed RSA must be submitted for acceptance by the Manager prior to construction.

Advice Note:

The purpose of this condition is to ensure vehicles following a left turning HCV into Newcombe Road do not use the short section of flush median to pass around the turning truck and risk being unseen by a driver turning right out of Newcombe Road.

Newcombe Road Pavement

36. The Consent Holder shall undertake an upgrade of the pavement of Newcombe Road between the quarry entrance and Tirau Road in accordance with the timing dictated by this condition. The Consent Holder must provide an assessment of the existing and required pavement strength on Newcombe Road between the sand quarry access and Tirau Road. The assessment must be undertaken at the Consent Holder's cost by an appropriately qualified and experienced road pavement engineer. The existing and required pavement strength, compositions and depths must be assessed and submitted (along with supporting test information) to the Manager for review and a decision on whether pavement strengthening works must be completed before the quarry commences trading or delayed to a future date and/or level of deterioration acceptable to the WDC.

37. If the Newcombe Road pavement upgrade is agreed with the WDC to be delayed, the Consent Holder must provide to the Manager on an annual basis high-speed data for rutting, roughness, cracking, and texture for Newcombe Road between Tirau Road and the quarry entrance, or use WDC supplied data if the WDC has completed a survey in the time period to report on the condition and deterioration of the pavement and to plan for maintenance and eventual reconstruction.
38. All upgrade work undertaken in accordance with Condition 37 must be completed to the satisfaction of the Manager and at the Consent Holder's expense.

Advice Note:

Future reconstruction of Newcombe Road must ensure existing pavement levels are retained to match kerb levels, barriers and bridge structure clearances.

Site Access

39. A new vehicle crossing must be constructed from Newcombe Road to the site in general accordance with the location shown in Figure 1 of the RS Sand Transportation Assessment, 16 May 2023. The vehicle crossing design must:
- (a) Meet or exceed the requirements of the Regional Infrastructure Technical Specification clause 3.3.19.4 and design standard Drawing 3.3.4 for Rural Heavy Commercial entranceways.
 - (b) Include a heavy-duty asphalt surface to the property boundary and on Newcombe Road at the entrance, to resist the high turning stresses of HCVs.
 - (c) Include physical features that promote left-in / right-out movements, but allow for right-in / left-out movements should a delivery being made to the south-east on Newcombe Road.
 - (d) Include a road sign installed on the site exit banning left out movements unless deliveries are being made to the south-east on Newcombe Road.
 - (e) Be submitted to the WDC's Development Engineering Team Leader for review and approval prior to construction commencing.
40. A vehicle wheel wash facility must be provided within the quarry site at a location that ensures all vehicles departing the site use the wheel wash and do not track dust and debris on to Newcombe Road. The access surface between the wheel wash and Newcombe Road must be sealed with asphalt or a durable chip seal surface and maintained to a standard that ensures the tracking of dust, mud and loose chips to Newcombe Road is prevented.

41. All work to construct the quarry entrance is to be completed at the Consent Holder's expense, to the approved standard and certified by the WDC's Development Engineering Team Leader.

Cambridge Through Traffic

42. For the first 18 months of sand sales from the quarry, the Consent Holder must keep a record of the date, time of departure, and whether an HCV exiting the site intends to travel north via the "Cambridge through-route".
43. Within 1 month following the first-year anniversary date of sales commencing at the quarry, and again after the 18-month anniversary of sand sales, the Consent Holder must submit to the Manager an analysis of the HCV movement data recorded in accordance with Condition 42. Each analysis must be performed by an independent and suitably qualified expert (traffic engineer or transport planner) excluding public holidays and Sundays, and each analysis must identify as a minimum:
- (a) The total (cumulative) number of HCV movements (two-way) recorded for the most recent 6-month data period compared to the previous 6-month period.
 - (b) For the most recent 6-month data period:
 - i. The maximum number of HCV movements per day including comparison with the Condition 29(a) maximum criteria.
 - ii. The weekday average daily volume of HCV movements using the Cambridge through route compared to the estimated daily volume referenced in the quarry consent application (68 per day)

Advice Note:

The "Cambridge through route" roads are Albert Street (Queen Street to Duke Street), Queen Street (Lakewood Lane to Victoria Street) and Victoria Street (Queen Street to Taylor Street).

44. If either analysis under Condition 43 identifies a breach of the respective criteria in Condition 29(a), the Consent Holder must identify the actions to be undertaken by the quarry to remedy the breach, within the analysis report submitted to the Manager.
45. If either analysis under Condition 43 shows that the weekday average daily volume of HCV movements attributable to the Consent Holder's quarry operations using the Cambridge through route equals or exceeds 102 movements per day (i.e., 150% of the predicted average daily volume of 68 movements per day, or more), then a suitably qualified expert must undertake a traffic impact assessment ('TIA') that considers the safety and accessibility effects of the quarry traffic on pedestrians and cyclists using/crossing the Cambridge through route roads. The TIA must include recommendations (if any) for mitigation of quarry traffic effects, including any walking and cycling -related safety improvements on the identified Cambridge through-route roads, and changes to HCV movements (numbers and/or timing) attributable to

the Consent Holder's quarry operations. The TIA must be submitted to the Manager for review and acceptance within three (3) months of the Consent Holder commissioning the data analysis under Condition 43.

46. The Consent Holder may challenge any of the recommended effects mitigation in the TIA by including a written submission to the Manager advising the reasons why the effects are not attributable to quarry traffic. The Manager will review and confirm in writing the recommended mitigation measures that are the responsibility of the Consent Holder to implement at their cost. If the Consent Holder fails to implement any of the confirmed mitigation measures for which they have responsibility within three (3) months of the Manager's written confirmation, then the WDC may review the consent under section 128 of the RMA (see Condition 55).

Journey Management Plan update

47. The Consent Holder must update the Journey Management Plan and use its best endeavours to ensure that, upon the Karapiro interchange (proposed as part of the Cambridge to Piarere section of the Waikato Expressway) being operational, any HCVs carrying sand from the Site to destinations north of Cambridge travel south to the Karapiro Interchange and then travel north to their destination along the Waikato Expressway to avoid travelling through Cambridge. The specific procedures representing best endeavours must be described in the updated Journey Management Plan.

Consent Holder Representative

48. The Consent Holder must appoint a representative prior to the commencement of any physical works associated with this resource consent that must be the WDC's principal contact person in regard to matters relating to the conditions of this resource consent. The Consent Holder must inform the WDC enforcement team and the owners of 42 French Pass Road and 41 Newcombe Road, of the representative's name and contact details prior to the exercise of this consent. Should that person change during the term of this resource consent, the Consent Holder must immediately inform the WDC's Enforcement Team Leader in writing of the new representative's name and how they can be contacted.

Consent Compliance and Administration

49. The Consent Holder must inform the WDC's Enforcement Team Leader in writing at least ten (10) working days prior to the commencement of activities of the start date of the works authorised by this consent.
50. The Consent Holder must arrange and conduct a pre-construction site meeting and invite, with a minimum of five (5) working days' notice, the WDC's Enforcement Team Leader, 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.

51. The Consent Holder must be responsible for all sub-contracted operations relating to the exercise of this resource consent and must ensure staff and sub-contractors are made aware of the conditions of this resource consent and ensure compliance with those conditions.
52. A copy of this consent and the approved Management Plans must be kept on-site at all times the consented activities are being undertaken and must be produced without unreasonable delay upon request from any authorised officer of the WDC.

Complaints Register

53. The Consent Holder must maintain and keep a Complaints Register regarding all aspects of operation at the site related to the exercise of this consent. The Complaints Register must record:
 - (a) the date, time and duration of the event/incident that has resulted in a complaint;
 - (b) the location of the complainant when the event/incident (if possible, specify nature of incident - e.g., dust nuisance) was detected;
 - (c) the possible cause of the event/incident;
 - (d) the weather conditions and wind direction at the site when the event/incident allegedly occurred;
 - (e) any corrective action undertaken by the Consent Holder in response to the complaint; and
 - (f) any other relevant information.

The Complaints Register must be made available to the WDC's Enforcement Team Leader or other authorised officer at all reasonable times. Complaints received by the Consent Holder that may indicate non-compliance with the conditions of this resource consent must be forwarded to the WDC's Enforcement Officer within five (5) working days of the complaint being received.

Annual Reporting

54. The Consent Holder must provide an annual compliance report to WDC's Enforcement Officer (in the calendar month on the anniversary of the commencement of the consent) with copies provided to the Cambridge Community Board, and to the owners of each of 41 Newcombe Road and 42 French Pass Road, setting out the following matters:
 - (a) A monthly record of sand volumes leaving the quarry including daily traffic movements;

- (b) Reporting on compliance with management plans and any remedial works and/or corrective operations required to maintain compliance with the respective plans and conditions of this consent;
- (c) Any matters arising from the complaints register;
- (d) Any other matters requested by WDC's Enforcement Officer which are reasonably required to determine compliance with the consent conditions.

Section 128 Review

55. Pursuant to sections 128 to 131 of the RMA, the WDC may, within the two calendar months after the first year of the commencement of this consent, and during the same calendar months every year thereafter (so long as the consent is current), serve notice on the Consent Holder to review any or all of the conditions of this consent for the following purposes:
- (a) The review the effectiveness of the conditions of this consent in avoiding, remedying or mitigating any adverse effect on the environment that may arise from the exercise of this consent and, if necessary, avoid, remedy or mitigate such effects by way of further or amended conditions;
 - (b) To review any changes to the traffic generation and distribution modelling following any consenting and construction of NZTA's Cambridge to Piarere (C2P) project;
 - (c) To review the adequacy of, and necessity for, any monitoring programmes or the QMP that are part of the conditions of this consent; and
 - (d) To require the Consent Holder, if necessary and where appropriate, to adopt the best practicable option(s) to avoid, remedy or mitigate any adverse effects on the surrounding environment.

The WDC will undertake the review in consultation with the Consent Holder and the Consent Holder must pay the actual and reasonable costs of the review pursuant to section 36 of the RMA.

Section 125 Lapse

56. Pursuant to section 125 of the RMA, this consent lapses five years after the date it is granted unless:
- (a) The consent is given effect to; or
 - (b) The WDC extends the period after which the consent lapses.

General Advice Notes

1. *The Consent Holder will need to ensure that any activities granted consent through the land use consent and conditions also satisfy and are consistent with all associated regional council consents.*
2. *The Consent Holder has advised that they will apply for a general archaeological authority to Heritage New Zealand Pouhere Taonga (‘HNZPT’) to enable better management of archaeological risk prior to the commencement of works. The authority must cover, as a minimum, the gully edge to within 40m of the gully. The Consent Holder will be responsible for implementing all terms and conditions of any general archaeological authority from the commencement of works and through the development and operation of the quarry.*
3. *The Consent Holder will need to liaise with Transpower in terms of the transmission corridor (HAM- KPO-A National Grid transmission line) and any restrictions on works that apply along this corridor. Refer also the specific conditions set out in the Schedule 1 conditions of the Waikato Regional Council – Authority 145695.*

Appendix 2

Conditions of Consents (Waikato Regional Council)

RESOURCE CONSENT CERTIFICATE

Resource Consent: AUTH145695.01.01

File Number: 61 79 97A

*Pursuant to the Resource Management Act 1991, the Waikato
Regional Council hereby grants consent to:*

RS Sand Limited
PO Box 5503
Frankton
Hamilton 3242

(hereinafter referred to as the Consent Holder)

Consent Type: Water Permit

Consent Subtype: Ground water take

Activity authorised: Ground water take associated with the establishment and operation of a quarry

Location: 77 Newcombe Road, Cambridge

Map reference: NZTM 1820529 E 5803144 N

Consent duration: This consent will commence in accordance with section 116 of the Resource Management Act 1991 and will expire on 20 August 2060.

Subject to the conditions overleaf:

General

1. The Consent Holder shall ensure that the works and activities authorised by this resource consent are carried out in accordance with the conditions as set out in Schedule 1 – General Conditions.

Water Take

2. The activity authorised by this consent must be undertaken in general accordance with the application stored in the Waikato Regional Council ('WRC') document management system,

reference Discover ID 26312170. Where there is any discrepancy between the application and the consent conditions, then the conditions below must prevail.

3. Groundwater must only be taken via the bore identified by WRC as Located bore number 72_10873.

Advice Note:

Located numbers are a WRC identifier which refer to a specific bore at a specific location.

4. Groundwater taken must only be used at the sand quarry at 77 Newcombe Road, Cambridge for dust suppression and processing purposes.
5. The daily net take volume must not exceed 1,100 cubic metres.
6. The annual net take volume for the year ending 31 December must not exceed 290,000 cubic metres.
7. The daily use volume for:
 - (a) dust suppression must not exceed 500 cubic metres;
 - (b) processing must not exceed 600 cubic metres.
8. The annual use volume for the year ending 31 December for:
 - (a) dust suppression must not exceed 110,000 cubic metres;
 - (b) processing must not exceed 180,000 cubic metres.
9. A water measuring system must quantify the volume of water taken via 72_10873 on a continuous basis. The system must have a reliable calibration and must be maintained to an accuracy of +/-5%. Prior to the groundwater bore being utilised, the Consent Holder must provide to WRC evidence from a suitably qualified person showing that the water measuring system is verified as accurate to +/-5%.
10. The Consent Holder must engage a suitably qualified person to undertake additional verification of the water measuring system accuracy:
 - (a) At the written request of the WRC;
 - (b) At a frequency of no less than five yearly from the date of the first verification required by Condition 9;
 - (c) To the satisfaction of the WRC.

Evidence documenting each respective additional verification must be forwarded to the WRC within one month of the verification being completed.
11. The Consent Holder must provide to WRC an 'as-built' plan of the water measuring system prior to the ground water bore being utilised.

Advice Note: This can be a drawn diagram or photograph of the system set-up, and must include information on water meters, all pipe diameters, the length of straight pipe before and after any water meter, any filters, outlets or chemical injection points.

12. Access to Located bore 72_10873 to perform pumping tests, and for the measurement of static water levels and water quality sampling, must be provided to the staff and agents of the WRC at all times.
13. The Consent Holder must telemeter – via a telemetry system that is compatible with WRC telemetry system standards and data protocols – continuous 15 minute values of net take volume. These data – in units of cubic metres – must be reported once daily to WRC via the telemetry system and there must be 96 values per daily report. When no groundwater is being taken the data must specify the net take volume as zero.
14. The Consent Holder must develop and operate a system to accurately and continuously quantify at daily resolution the respective volumes used for dust suppression and processing purposes.
15. The Consent Holder must maintain a continuous daily resolution record in electronic spreadsheet format of the respective volumes used for dust suppression and processing on any given day. The record must specify zero values for days when no groundwater is used for dust suppression. The record must specify zero values for days when no groundwater is used for processing. The record for the immediately preceding year ending 31 December must be reported to WRC via email by 1 March each year.
16. At any time during the period July through September, inclusive, WRC may, following service of notice on the Consent Holder, commence a review of the conditions of this consent pursuant to section 128(1) of the Resource Management Act 1991 ('RMA') for one or more of the following purposes:
 - (a) To review the effectiveness of the conditions of this consent in avoiding or mitigating any adverse effects on the environment from the exercise of this consent and if necessary, to avoid, remedy, or mitigate such effects by way of further or amended consent conditions;
 - (b) To review the adequacy of and the necessity for monitoring undertaken by the Consent Holder and, if necessary, to address any inadequacy by way of further or amended conditions; and
 - (c) To review the appropriateness of any volume specified within this consent and, if necessary, to address any inappropriateness of any volume by way of reducing any volume.
17. At any time during the 12-month periods starting 1 July 2034 and 1 July 2049 the WRC may, following service of notice on the Consent Holder, commence a review of the conditions of this consent pursuant to section 128(1) of the RMA to take account of any change to the Waikato Regional Plan being made operative as a result of any catchment investigation undertaken by WRC.
18. The Consent Holder must pay to WRC any administrative charge fixed in accordance with section 36 of the RMA, or any charge prescribed in accordance with regulations made under section 360 of the RMA.

Advice Notes - General

1. *In accordance with section 125 of the RMA, this consent shall lapse five (5) years after the date on which it was granted unless it has been given effect to before the end of that period.*
2. *This resource consent does not give any right of access over private or public property. Arrangements for access must be made between the Consent Holder and the property owner.*
3. *This resource consent is transferable to another owner or occupier of the land concerned, upon written notice to the WRC, on the same conditions and for the same use as originally granted (sections 134-137 of the RMA). The transfer of water, including changes of location, may occur as provided for in Chapter 3.4 of the Waikato Regional Plan, subject to the requirements of those rules.*
4. *The reasonable costs incurred by the WRC arising from supervision and monitoring of this/these consents will be charged to the Consent Holder. This may include but not be limited to routine inspection of the site by WRC officers or agents, liaison with the Consent Holder, responding to complaints or enquiries relating to the site, and review and assessment of compliance with the conditions of consents.*
5. *Note that pursuant to section 332 of the RMA, enforcement officers may at all reasonable times go onto the property that is the subject of this consent, for the purpose of carrying out inspections, surveys, investigations, tests, measurements or taking samples.*
6. *If the Consent Holder intends to replace this consent upon its expiry, please note that an application for a new consent made at least six (6) months prior to this consent's expiry gives the Consent Holder the right to continue exercising this consent after it expires in the event that the application is not processed prior to this consent's expiry.*

RESOURCE CONSENT CERTIFICATE

Resource Consent: AUTH145695.02.01

File Number: 61 79 97A

*Pursuant to the Resource Management Act 1991, the Waikato
Regional Council hereby grants consent to:*

RS Sand Limited
PO Box 5503
Frankton
Hamilton 3242

(hereinafter referred to as the Consent Holder)

Consent Type: Discharge Permit

Consent Subtype: Water - other

Activity authorised: Discharge of water to water and/or land associated with the establishment and operation of a quarry

Location: 77 Newcombe Road, Cambridge

Map reference: NZTM 1820529 E 5803144 N

Consent duration: This consent will commence in accordance with section 116 of the Resource Management Act 1991 and will expire on 20 August 2060.

Subject to the conditions overleaf:

General

1. The Consent Holder shall ensure that the works and activities authorised by this resource consent are carried out in accordance with the conditions as set out in Schedule 1 – General Conditions.

Advice Notes - General

1. *In accordance with section 125 of the RMA, this consent shall lapse five (5) years after the date on which it was granted unless it has been given effect to before the end of that period.*
2. *This resource consent does not give any right of access over private or public property. Arrangements for access must be made between the Consent Holder and the property owner.*

3. *This resource consent is transferable to another owner or occupier of the land concerned, upon written notice to Waikato Regional Council ('WRC'), on the same conditions and for the same use as originally granted (s.134-137 RMA). The transfer of water, including changes of location, may occur as provided for in Chapter 3.4 of the Waikato Regional Plan, subject to the requirements of those rules.*
4. *The reasonable costs incurred by the WRC arising from supervision and monitoring of this/these consents will be charged to the Consent Holder. This may include but not be limited to routine inspection of the site by Waikato Regional Council officers or agents, liaison with the Consent Holder, responding to complaints or enquiries relating to the site, and review and assessment of compliance with the conditions of consents.*
5. *Note that pursuant to section 332 of the RMA, enforcement officers may at all reasonable times go onto the property that is the subject of this consent, for the purpose of carrying out inspections, surveys, investigations, tests, measurements or taking samples.*
6. *If the Consent Holder intends to replace this consent upon its expiry, please note that an application for a new consent made at least six (6) months prior to this consent's expiry gives the Consent Holder the right to continue exercising this consent after it expires in the event that the application is not processed prior to this consent's expiry.*

RESOURCE CONSENT CERTIFICATE

Resource Consent: AUTH145695.03.01

File Number: 61 79 97A

*Pursuant to the Resource Management Act 1991, the Waikato
Regional Council hereby grants consent to:*

RS Sand Limited
PO Box 5503
Frankton
Hamilton 3242

(hereinafter referred to as the Consent Holder)

Consent Type: Water Permit

Consent Subtype: Diversion

Activity authorised: Diversion of water associated with the establishment and operation of a quarry

Location: 77 Newcombe Road, Cambridge

Map reference: NZTM 1820529 E 5803144 N

Consent duration: This consent will commence in accordance with section 116 of
the Resource Management Act 1991 and will expire on 20 August 2060.

Subject to the conditions overleaf:

General

1. The Consent Holder shall ensure that the works and activities authorised by this resource consent are carried out in accordance with the conditions as set out in Schedule 1 – General Conditions.

Advice Notes - General

1. *In accordance with section 125 of the RMA, this consent shall lapse five (5) years after the date on which it was granted unless it has been given effect to before the end of that period.*

2. *This resource consent does not give any right of access over private or public property. Arrangements for access must be made between the Consent Holder and the property owner.*
3. *This resource consent is transferable to another owner or occupier of the land concerned, upon written notice to Waikato Regional Council ('WRC'), on the same conditions and for the same use as originally granted (sections 134-137 RMA). The transfer of water, including changes of location, may occur as provided for in Chapter 3.4 of the Waikato Regional Plan, subject to the requirements of those rules.*
4. *The reasonable costs incurred by the WRC arising from supervision and monitoring of this/these consents will be charged to the Consent Holder. This may include but not be limited to routine inspection of the site by WRC officers or agents, liaison with the Consent Holder, responding to complaints or enquiries relating to the site, and review and assessment of compliance with the conditions of consents.*
5. *Note that pursuant to section 332 of the RMA, enforcement officers may at all reasonable times go onto the property that is the subject of this consent, for the purpose of carrying out inspections, surveys, investigations, tests, measurements or taking samples.*
6. *If the Consent Holder intends to replace this consent upon its expiry, please note that an application for a new consent made at least six (6) months prior to this consent's expiry gives the Consent Holder the right to continue exercising this consent after it expires in the event that the application is not processed prior to this consent's expiry.*

RESOURCE CONSENT CERTIFICATE

Resource Consent: AUTH145695.04.01

File Number: 61 79 97A

*Pursuant to the Resource Management Act 1991, the Waikato
Regional Council hereby grants consent to:*

RS Sand Limited
PO Box 5503
Frankton
Hamilton 3242

(hereinafter referred to as the Consent Holder)

Consent Type: Land Use Consent

Consent Subtype: Land - disturbance

Activity authorised: Soil disturbance, roading and tracking, and vegetation clearance activities associated with the establishment and operation of a quarry

Location: 77 Newcombe Road, Cambridge

Map reference: NZTM 1820529 E 5803144 N

Consent duration: This consent will commence in accordance with section 116 of the Resource Management Act 1991 and will expire on 20 August 2060.

Subject to the conditions overleaf:

General

1. The Consent Holder shall ensure that the works and activities authorised by this resource consent are carried out in accordance with the conditions as set out in Schedule 1 – General Conditions.

Design, Construction and Maintenance

2. The Consent Holder shall be responsible for the design, structural integrity and maintenance of the works authorised by this resource consent.

Erosion and Sediment Control Plan

3. Prior to works commencing for each stage of works as described in the Quarry Management Plan, the Consent Holder shall provide the Waikato Regional Council ('WRC') with an updated Erosion and Sediment Control Plan ('E&SCP'), at least 10 working days prior to the commencement of activities authorised by this consent (noting that Stages 1 & 2 are a combined stage). The objective of the E&SCPs shall be to minimise sediment discharge from the site to the greatest extent practicable.
4. The E&SCP shall as a minimum be based upon the E&SCP prepared by Southern Skies Environmental titled '*Erosion and sediment control plan, 77 Newcombe Road Cambridge, Prepared for RS Sands Limited*' dated 25 June 2025 (WRC reference # 32489352) and incorporate those specific principles and practices which are appropriate for the activity authorised by this consent and contained within the WRC document titled "*Erosion and Sediment Control – Guidelines for Soil Disturbing Activities*" (Technical Report No. 2009/02 – dated January 2009), and shall include at least the following:
 - (a) Details of all principles, procedures and practices that will be implemented to undertake erosion and sediment control to minimise the potential for sediment discharge from the site, including flocculation if required;
 - (b) The design criteria and dimensions of all key erosion and sediment control structures;
 - (c) A site plan of a suitable scale to identify;
 - (i) The locations of waterways;
 - (ii) The extent of soil disturbance and vegetation removal;
 - (iii) Any "no go" and/or buffer areas to be maintained undisturbed adjacent to watercourses;
 - (iv) Areas of cut and fill;
 - (v) Locations of topsoil stockpiles;
 - (vi) All key erosion and sediment control structures;
 - (vii) The boundaries and area of catchments contributing to all stormwater impoundment structures;
 - (viii) The locations of all specific points of discharge to the environment; and
 - (ix) Any other relevant site information.
 - (d) Construction timetable for the erosion and sediment control works and the bulk earthworks proposed;
 - (e) Timetable and nature of progressive site rehabilitation and re-vegetation proposed;
 - (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 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; and
 - (i) Identification and contact details of personnel responsible for the operation and maintenance of all key erosion and sediment control structures.

The E&SCP must be certified in writing by the WRC acting in a technical certification capacity prior to any works authorised by this consent commencing. The Council's certification will be based on its assessment of whether the E&SCP addresses the matters required by Condition 4 and is in general accordance with the WRC document titled "*Erosion and Sediment Control – Guidelines for Soil Disturbing Activities*" (Technical Report No. 2009/02 – dated January 2009, including 2014

factsheets). The Consent Holder shall undertake all earthworks authorised by this consent in accordance with the certified E&SCP.

5. Any changes proposed to the approved E&SCPs for each stage of works (noting that Stages 1 & 2 are combined), shall be confirmed in writing by the Consent Holder and the WRC acting in a technical certification capacity, prior to the implementation of any changes proposed.
6. The Consent Holder shall ensure that a copy of the certified E&SCPs, including any confirmed amendments, is kept onsite and this copy is updated within five (5) working days of any amendments being confirmed.

Certification of Erosion and Sediment Control Structures

7. Prior to earthworks and/or sand extraction and processing commencing on any area, the Consent Holder shall submit to the WRC 'As Built Certification Statements', signed by an appropriately qualified and experienced person to certify that erosion and sediment controls have been constructed in accordance with the certified E&SCP. Certified controls shall include sediment retention ponds, decanting earth bunds, silt fences and diversion channels/bunds. The 'As Built Certification Statement' must include all information as specified in the 'As Built Certification Sheets' located on the WRC website www.waikatoregion.govt.nz/earthworks and shall be provided to the WRC within five (5) working days of the completion of the construction of those controls.
8. In addition to the requirements of Condition 7 and prior to works commencing for the perimeter bund for Stages 1, 2 and 5, the Consent Holder shall submit to the WRC a design memorandum confirming ground conditions and detailed design of the bunding signed by an appropriately qualified and experienced geotechnical engineer.
9. Prior to earthworks and or sand extraction commencing in the Stage 1 pit area, the Consent Holder shall submit to the WRC an 'As Built Certification Statement', signed by an appropriately qualified and experienced geotechnical engineer, to certify that the perimeter bund has been constructed in accordance with the design required as per Condition 8.

Flocculation

10. Prior to the commencement of activities on site, the Consent Holder shall undertake flocculant bench testing to determine the reactivity of soils in the catchment to chemical treatment. If bench testing undertaken on site soils from the contributing catchment confirms significant benefit from flocculation, the requirements of Condition 11 shall apply.
11. If bench testing undertaken for Condition 10 shows significant benefits of flocculation, the Consent Holder shall provide the WRC with a Flocculation Management Plan ('FMP'), at least ten (10) working days prior to the commissioning of any flocculation treatment system.

The objective of the FMP is to document how the need for flocculation will be identified, the design of the flocculation system, and how it will be used, monitored, and optimised. The FMP shall include as a minimum:

- (a) An analysis taking into account:
 - (i) The soils reactivity to flocculants based on soil tests;

- (ii) The size of the contributing catchment that the pond is treating; and
- (iii) The likely duration of the pond's use,
- (b) Specific design details of the flocculation system;
- (c) Monitoring (including pH and any other testing procedures and parameters), maintenance (including post-storm) and including a record system;
- (d) Details of optimum dosage (including assumptions);
- (e) Results of any initial flocculation trial(s);
- (f) A spill contingency plan; and
- (g) Contact details of the person responsible for the operation and maintenance of the flocculation treatment system and the organisational structure to which this person shall report.

The FMP shall be certified in writing by the WRC acting in a technical certification capacity. The WRC's certification will be based on its assessment as to whether the FMP addresses the matters required by parts (a) to (g) of this condition.

12. Any changes proposed to the FMP shall be confirmed in writing by the Consent Holder and the WRC, acting in a technical certification capacity, prior to the implementation of any changes proposed.
13. If a FMP is implemented on site, the Consent Holder shall ensure that the pH of any sediment retention pond discharge shall not be less than 6.5 or greater than 8.0 pH units.

Monitoring and Maintenance

14. The Consent Holder shall 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. Any maintenance required of the devices is to be undertaken as soon as practicable.
15. The inspections and maintenance required under Condition 14 shall include confirming the integrity of any bunding, and the infiltration rates of the quarry pit for each stage to ensure that the assumed infiltration rates are being achieved in the quarry pit.
16. The Consent Holder shall carry out monitoring and maintenance of erosion and sediment controls in accordance with the conditions of this consent and shall 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 shall be provided to the Waikato Regional Council at all reasonable times and within 72 hours of a written request to do so.

17. As a result of the exercise of this consent, discharges from sediment retention pond 1 ('SRP-1') must not cause a conspicuous change in water colour or clarity in the Karapiro Stream after reasonable mixing at a point 25m downstream of any point of discharge to the Karapiro Stream.

18. The concentration of suspended solids in the Karapiro Stream shall not exceed 25 grams per cubic metre suspended solids concentration as a result of any discharges from SRP-1 during the exercise of this consent.

This standard shall apply, except where the suspended solids concentration in the named water body, unaffected by the activity, is greater than the standard specified. When the concentration of suspended solids in the named water body, unaffected by the activity, exceeds 25 grams per cubic metre then there shall not be any increase in the suspended solids concentration in the named water body as a result of activities authorised by this consent.

Advice Note:

When assessing compliance with Condition 18, a minimum of three water samples should be collected: (a) upstream and unaffected by the activities authorised by this consent; (b) the point source discharge from the activities authorised by this consent; and (c) downstream after reasonable mixing.

Site Restoration

19. The removal of any erosion and sediment control measures from any area where soil has been disturbed as a result of the exercise of this consent shall only occur after consultation and written approval has been obtained from the WRC acting in a technical certification capacity. In this respect, the main issues that will be considered by the WRC 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.
20. Re-vegetation and/or stabilisation of all disturbed areas is to be completed in accordance with the measures detailed in the document titled “*Erosion and Sediment Control – Guidelines for Soil Disturbing Activities*” (Technical Report No. 2009/02 – dated January 2009).
21. The Consent Holder shall ensure those areas of the site where earthworks have been completed shall be stabilised against erosion as soon as practicable and within a period not exceeding 30 days after completion of any works authorised by this consent. Stabilisation shall be undertaken by providing adequate measures (vegetative and/or structural) that will minimise sediment runoff and erosion. The Consent Holder shall monitor and maintain the site until vegetation is established to such an extent that it prevents erosion and prevents sediment from entering any water body.

Complaints

22. If any complaints are received by the Consent Holder regarding the effects of activities authorised by this consent, the Consent Holder shall notify the WRC of those complaints as soon as practicable and within no longer than one working day. When complaints are received, the Consent Holder shall record the following details in a Complaints Register:
- (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) Future actions proposed as a result of the complaint.

RESOURCE CONSENT CERTIFICATE

Resource Consent: AUTH145695.05.01

File Number: 61 79 97A

*Pursuant to the Resource Management Act 1991, the Waikato
Regional Council hereby grants consent to:*

RS Sand Limited
PO Box 5503
Frankton
Hamilton 3242

(hereinafter referred to as the Consent Holder)

Consent Type: Land Use Consent

Consent Subtype: Land - other

Activity authorised: Discharge of overburden associated with the establishment and operation of a
quarry

Location: 77 Newcombe Road, Cambridge

Map reference: NZTM 1820529 E 5803144 N

Consent duration: This consent will commence in accordance with section 116 of
the Resource Management Act 1991 and will expire on 20 August 2060.

Subject to the conditions overleaf:

General

1. The Consent Holder shall ensure that the works and activities authorised by this resource consent are carried out in accordance with the conditions as set out in Schedule 1 – General Conditions.

Advice Notes - General

1. *In accordance with section 125 of the RMA, this consent shall lapse five (5) years after the date on which it was granted unless it has been given effect to before the end of that period.*
2. *This resource consent does not give any right of access over private or public property. Arrangements for access must be made between the Consent Holder and the property owner.*
3. *This resource consent is transferable to another owner or occupier of the land concerned, upon written notice to Waikato Regional Council ('WRC'), on the same conditions and for the same use as originally granted (sections 134-137 of the RMA). The transfer of water, including changes of location, may occur as provided for in Chapter 3.4 of the Waikato Regional Plan, subject to the requirements of those rules.*
4. *The reasonable costs incurred by the WRC arising from supervision and monitoring of this/these consents will be charged to the Consent Holder. This may include but not be limited to routine inspection of the site by WRC officers or agents, liaison with the Consent Holder, responding to complaints or enquiries relating to the site, and review and assessment of compliance with the conditions of consents.*
5. *Note that pursuant to section 332 of the RMA, enforcement officers may at all reasonable times go onto the property that is the subject of this consent, for the purpose of carrying out inspections, surveys, investigations, tests, measurements or taking samples.*
6. *If the Consent Holder intends to replace this consent upon its expiry, please note that an application for a new consent made at least six (6) months prior to this consent's expiry gives the Consent Holder the right to continue exercising this consent after it expires in the event that the application is not processed prior to this consent's expiry.*

SCHEDULE 1 – GENERAL CONDITIONS

TO BE ATTACHED TO CONSENTS AUTH AUTH145695.01.01, AUTH145695.02.01, AUTH145695.03.01, AUTH145695.04.01 and AUTH145695.05.01

CONDITIONS

General

1. Except as modified by the conditions below, the activities authorised by this consent shall be undertaken in general accordance with the information provided by the applicant in the resource consent application *RS Sand Limited – Resource Consent Applications Sand Quarry at 77 Newcombe Road, Cambridge, prepared by Kinetic Environmental Limited*, dated 17 May 2023 (WRC doc. no. # 26312170) and subsequent information submitted via the section 92 process, the hearing, and subject to the following resource consent conditions, and supporting documents.
2. Where there may be differences or apparent conflict between the general conditions and conditions contained in either the individual consents contained within this suite, or any other consent referred to below, the conditions contained in the respective individual consents shall prevail.
3. The Consent Holder shall be responsible for all contracted operations relating to the exercise of this resource consent and shall ensure contractors are made aware of the conditions of this consent and ensure compliance with those conditions.
4. A copy of this resource consent shall be kept onsite at all times that the works authorised by this consent are being undertaken and shall be produced without unreasonable delay upon request from a servant or agent of the Waikato Regional Council ('WRC').

Pre-Start

5. The Consent Holder shall appoint a representative(s) prior to commencement of any works authorised by this resource consent, who shall be the WRC's principal contact person in regard to matters relating to this consent. The Consent Holder shall inform the WRC of the representative's name and how they can be contacted prior to this consent being exercised. Should that person(s) change during the term of this resource consent, the Consent Holder shall immediately inform the WRC and shall also give written notice to the WRC of the new representative's name and how they can be contacted.
6. The Consent Holder shall inform the WRC in writing at least ten (10) working days prior to the commencement of activities of the start date of the works authorised by each of the resource consents AUTH145695.01.01, AUTH145695.02.01, AUTH145695.03.01, AUTH145695.03.01 and AUTH145695.05.01.

7. The Consent Holder shall arrange and conduct a pre-construction site meeting and invite with a minimum of ten (10) working days' notice, the WRC, the site representative nominated under Condition 5 of this consent, the contractor, and any other party representing the Consent Holder prior to any works authorised by this consent commencing on the site.

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.

Quarry Management Plan

8. The Consent Holder shall prepare and provide the WRC with a Quarry Management Plan ('QMP'), at least 20 working days prior to the proposed commencement of activities authorised by this consent.

The objective of the QMP is to document the measures by which the Consent Holder intends to comply with all conditions of resource consent during the throughout the proposed quarrying activities and shall include at least the following:

- (a) The name, experience and qualifications of the person/s nominated by the Consent Holder to supervise the implementation of, and adherence to the QMP.
- (b) The proposed start date of the works authorised by this resource consent.
- (c) Location of proposed works and/or structures.
- (d) Type and description of the proposed works.
- (e) Construction and design details.
- (f) A schedule of construction activities.
- (g) The commencement date and expected duration of the major cut and fill operations.
- (h) The location of the major cut and fill operations.
- (i) The location of topsoil stockpiles.
- (j) The proposed construction methodology, including staging of earthworks.
- (k) Proposed erosion and sediment control methodologies and practices as set out in the E&SCP required as per Condition 3 of resource consent AUTH145695.04.01.
- (l) Proposed dust management and mitigation measures as set out in the Dust Management Plan required as per Condition 30.
- (m) Proposed spill prevention and response measures as set out in the Hazardous Substances Spill Prevention and Response Plan required under Condition 52.
- (n) Monitoring procedures and responsibilities, including as required for the water recycling pond.
- (o) Construction drawings, plans, procedures, methods and measures to demonstrate that all quarrying and filling activities undertaken on the site will meet the safe distances within the New Zealand Electrical Code of Practice for Electrical Safe Distances 2001 (NZECP 34: 2001) or any subsequent revision of the code, including (but not limited to) those relating to:
 - (i) Excavation and Construction near Towers (Section 2);
 - (ii) Building to conductor clearances (Section 3);
 - (iii) Ground to conductor clearances (Section 4);
 - (iv) Mobile Plant to conductor clearances (Section 5); and
 - (v) People to conductor clearances (Section 9).

- (p) Details of any areas that are “out of bounds” within which additional management measures are required, such as fencing off, entry and exit hurdles, maximum height limits, or where a safety observer may be required (a safety observer will be at the Consent Holder’s cost.
 - (q) Demonstrate how the existing transmission lines and support structures will remain accessible during and after quarrying activities.
 - (r) Demonstrate how changes to the drainage patterns, runoff characteristics and stormwater will avoid adverse effects on the foundations of any support structure.
 - (s) Demonstrate how construction activities that could result in ground vibrations and/or ground instability will be managed to avoid causing damage to the transmission lines, including support structures.
 - (t) Details of proposed contractor training for those working near the transmission lines.
9. The Consent Holder shall provide evidence that the QMP has been prepared accounting for the protection of the HAM-KPO-A National Grid transmission lines and that Transpower NZ Limited was provided a copy of the QMP.
 10. The Consent Holder shall provide evidence that the QMP has been prepared accounting for the recommendations of geotechnical advice contained within the Preliminary Geotechnical Report prepared by HD Geo dated 8 August 2022 regarding:
 - (a) Final batter slopes are constructed at 3H:1V, or as otherwise designed and certified;
 - (b) The water recycling pond shall be lined with an impermeable layer; and
 - (c) The processing plant and bund shall be located at least 10m from the adjacent slope, or as otherwise designed and certified.
 11. The QMP shall be certified in writing by the WRC acting in a technical certification capacity prior to any works authorised by this consent commencing. The WRC's certification will be based on its assessment as to whether the QMP addresses the matters required by Conditions 8-10. The Consent Holder shall undertake all activities authorised by this consent in accordance with the certified QMP.
 12. Any changes proposed to the QMP (and/or its contingent parts) to account for each stage of works, shall be confirmed in writing by the Consent Holder and the WRC, acting in a technical certification capacity, prior to the implementation of any changes proposed.
 13. The Consent Holder shall ensure that a copy of the certified QMP, including any confirmed amendments, is kept onsite and this copy is updated within five (5) working days of any amendments being confirmed.
 14. All activities are to be undertaken in accordance with the approved QMP.

Groundwater and Settlement Monitoring Contingency Plan

15. The Consent Holder shall prepare and provide the WRC with a Groundwater and Settlement Monitoring Contingency Plan (‘GSMCP’), at least ten (10) working days prior to the commencement of activities authorised by this consent. The objective of the GSMCP shall be to confirm whether the actual groundwater drawdown arising from the project is consistent with the drawdown and settlement effects as assessed. In achieving this objective, the GSMCP shall be based on the draft

'RS Sand Quarry Groundwater Monitoring and Contingency Plan', prepared by WGA Limited, dated May 2025 (WRC Doc ref # 32121578) and shall integrate Appendices B and C of the Groundwater Drawdown and Settlement Assessment, prepared by HD Geo, dated 7 December 2023 (WRC Doc # 28353693) and the Trigger Action Response Plan ('TARP') required by Condition 17. The GSMCP shall also identify and implement the necessary steps to remedy or mitigate groundwater drawdown (and environmental effects from that drawdown) if the predicted effects are exceeded, inclusive of a variable monitoring frequency that is consistent with the TARP trigger tiers proposed (green, amber and red).

Advice Note:

A fixed monitoring schedule is inappropriate for groundwater and settlement monitoring of this nature. A variable monitoring frequency based on risk in relation to the TARP is required, for example monthly or fortnightly monitoring when drawdown is not large, through to daily monitoring as drawdown approaches modelled levels.

16. The GSMCP must be certified in writing by the WRC acting in a technical certification capacity prior to the commencement of physical works. The WRC's certification will be based on its assessment as to whether the GSMCP addresses the matters required by Condition 15. The Consent Holder shall undertake all activities authorised by this consent in accordance with the certified GSMCP.

Trigger Action Response Plan

17. The Consent Holder shall prepare and provide the WRC with a Trigger Action Response Plan ('TARP'), at least ten (10) working days prior to the commencement of activities authorised by this consent. The objective of the TARP must be to monitor, measure and respond with actions at defined trigger levels to any land settlement in the vicinity of State Highway 1 ('SH1') related to the activities authorised by this consent.
18. The TARP required by Condition 17 must be written by suitably qualified person(s) in the field of geotechnical engineering and/or hydrogeology and must address the following matters in sufficient detail for the purpose of achieving its objective:
 - (a) Identification of the number and location of groundwater and settlement monitoring sites (identified as "P" and "SP" points respectively) on a plan based on *WGA Figure 1, 'Cambridge Sand Quarry' (Waikato Regional Council document # 31718037)* to effectively monitor land settlement. The monitoring sites must be located to the extent as practicable to maximise detection of groundwater level change and ground settlement respectively related to the activities authorised by this consent that may affect the settlement or stability of SH1.
 - (b) Monitoring frequency for each of the monitoring sites.
 - (c) Confirmation of the Trigger Action Response "green", "amber" and "red" levels for groundwater drawdown and settlement triggers in relation to the site and for each monitoring point identified in Condition 18(a), as determined by a suitably qualified geotechnical engineer and/ or hydrogeologist. For the purposes of the TARP the definition of "green", "amber" and "red" levels must reflect:
 - (i) For groundwater triggers:
 - Green – drawdown (below baseline) that is within the predicted range.
 - Amber – drawdown at the upper end of the predicted range.
 - Red – drawdown exceeding the predicted range, and/or potentially triggering damaging settlement.

- (ii) For settlement triggers:
 - Green – settlement (below baseline) that is within predicted range and below the threshold for expected damage or loss of service.
 - Amber – settlement at the upper end of the predicted range.
 - Red – settlement exceeding the predicted range, and/or reaching potentially damaging magnitudes.
 - (d) Actions to be taken when each Trigger Action Response “green,” “amber” or “red” level is detected. As a minimum this shall include the following responses for both groundwater and settlement triggers:
 - (i) Amber groundwater or settlement trigger, minimum actions required:
 - Inspect for damage, review models, trends and forecast, increase monitoring (if required).
 - (ii) Red groundwater or settlement trigger, minimum actions required:
 - Immediate halt of works while at red trigger level, inspect for damage, review models, trends and forecast, increase monitoring.
 - (e) The frequency at which groundwater level and settlement monitoring will be reported to the WRC and the New Zealand Transport Agency (‘NZTA’), including reporting within five (5) working days when an “amber” trigger level is detected, and within 24 hours when a “red” trigger level is detected, including reporting on actions being undertaken under the TARP in response to these triggers.
 - (f) Evidence that the TARP has been written in consultation with the NZTA including evidence of:
 - (i) If required, landowner approval for any monitoring points located within the SH1 corridor;
 - (ii) That the draft TARP has been provided to the NZTA for their review and comment at least ten (10) working days before being submitted for certification;
 - (iii) The comments and recommendations received from the NZTA (if any) on the draft TARP; and
 - (iv) Changes to the TARP to address the NZTA’s comments and recommendations.
 - (g) Identification and contact details of personnel responsible for the implementation of the monitoring and response system and the organisational structure which will support this system.
19. The TARP must be certified in writing by the WRC acting in a technical certification capacity prior to the commencement of physical works. The WRC’s certification will be based on its assessment of whether the TARP addresses the matters required by Condition 18(a) to (g).
20. Any proposed amendments to the certified TARP must be provided to the WRC for certification, after following the requirements of Condition 18(f), and in accordance with Condition 17, prior to the implementation of any proposed amendments.
21. The Consent Holder must ensure that a copy of the certified TARP, including any certified amendments, is kept on-site at all times that physical works authorised by this consent are being undertaken and must be produced without unreasonable delay upon request from an agent of the WRC.

Water Supply

22. If the owner or occupier of the land at 41 Newcombe Road (Record of Title 864239) advises the Consent Holder; and/or the WRC, that the owner or occupier considers that its water supply is being adversely affected by the development or operation of the quarry, the Consent Holder must, subject to the agreement of the owner or occupier:
- (a) Undertake a site visit with appropriately qualified specialists to view the water supply and its infrastructure to determine whether this is an onsite issue only (should a site inspection determine that this is a water supply infrastructure issue (pumps/pipes etc), no further action shall be taken in respect of (b) or (c)).
 - (b) Consult with the owner or occupier regarding remediation options to address the adversely affected water supply.
 - (c) Provide remediation to the owner or occupier via either an:
 - (i) alternative water supply that is equivalent to or exceeds (with respect to quantity and quality considerations), the water supply that the owner or occupier of the land has advised is being adversely affected (with no ongoing operational or maintenance liability for the Consent Holder following commissioning); or
 - (ii) any alternative arrangement with the agreement of both parties.
23. If the owner or occupier of the land at 143 Tirau Road (Record of Title 656682) advises the Consent Holder that they believe that their water supply is being adversely affected by the development or operation of the quarry, the Consent Holder must, subject to the agreement of the owner or occupier, undertake a site inspection with a suitably qualified and experienced specialist to view the water supply and its infrastructure. Should a site inspection determine either:
- (a) that this is a water supply infrastructure issue (pumps/pipes etc) then no further action shall be taken in respect of Condition 24; or
 - (b) that the existing infrastructure is not the cause of the water supply issue, the Consent Holder must engage a suitably qualified and experienced specialist to undertake a hydrological assessment of the subject water supply and the possible impact on it from the development or operation of the quarry.
24. Should the hydrological assessment undertaken under Condition 23 determine that the development or operation of the quarry is likely the cause of the adverse effect(s) on the subject water supply, the Consent Holder must, subject to the agreement of the owner or occupier:
- (a) Consult with the owner or occupier regarding remediation options to address the adversely affected water supply.
 - (b) Provide remediation to the owner or occupier via either an:
 - (i) alternative water supply that is at least equivalent to (with respect to quantity and quality considerations) the water supply that the owner of the land has advised is being adversely affected (with no ongoing operational or maintenance liability for the Consent Holder following commissioning); or
 - (ii) any alternative arrangement with the agreement of both parties.

National Grid

25. All land use activities, including the construction of new buildings/structures, earthworks, fences, any operation of mobile plant and/or persons working near exposed line parts shall comply with the New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001) or any subsequent revision of the code.

26. All machinery and mobile plant operated in association with the works shall maintain a minimum clearance distance of 4 metres from the conductors (wires) of the HAM-KPO-A National Grid transmission lines at all times.
27. No fill or material shall be stockpiled or deposited within 12m either side of the centreline of the HAM-KPO-A National Grid transmission lines without Transpower's prior written approval.
28. No excavation or disturbance of the land around the HAM-KPO-A National Grid Towers HAM-KPO-A0012 and HAM-KPO-A0013 shall:
 - (a) exceed a depth greater than 300mm within 6m of the outer edge of the visible foundations of the tower; or
 - (b) exceed a depth greater than 3 metres between 6m and 12m of the outer edge of the visible foundation of the tower; or
 - (c) create unstable batter.
29. The maximum height of the perimeter bund around the Quarry Processing Area shall be limited to 4m where the bund is located within 12m either side of the centreline of the HAM-KPO-A National Grid transmission lines.

Dust Management Plan

30. The Consent Holder shall prepare and provide the WRC with a Dust Management Plan ('DMP'), prepared or reviewed by a Suitably Qualified and Experienced Person ('SQEP'), at least ten (10) working days prior to the commencement of activities authorised by this consent.
31. The DMP shall be prepared in general accordance with the MfE document 'Good Practice Guide for Assessing and Managing Dust' dated November 2016, and based on the 'Draft Newcombe Road Sand Quarry DMP' provided by RS Sand, dated 30 June 2023, and as a minimum addresses the following items:
 - (a) Confirmation of the persons responsible for dust management throughout the works;
 - (b) Detailed monitoring methods for weather/soil conditions to ensure that any periods of elevated dust risk are appropriately anticipated and managed;
 - (c) Identification of sensitive receivers to potential dust effects and specific works methodologies for undertaking works in proximity to these parties;
 - (d) Finalised works staging plan to ensure exposed surfaces at any one time are minimised;
 - (e) Proposed dust control methods including confirmation of an adequate water supply with sufficient capacity to ensure damp ground conditions can be maintained within the site during high dust risk periods, and appropriate site speed limits;
 - (f) Procedures for managing dust emissions from bulk haulage vehicles leaving the site (e.g., but not limited to, covering trucks and trailers and/or wetting product);
 - (g) Demonstrate how the effects of dust (including any other material potentially resulting from construction activities able to cause material damage beyond normal wear and tear) on the transmission lines will be managed;
 - (h) Procedures for managing dust risk outside of standard working hours - e.g., weekends, including having water carts on-hand and/or sprinklers;

- (i) Contingency methods for controlling any identified dust effects - e.g., cease works/site stabilisation;
 - (j) Protocols for responding to and addressing any complaints received from neighbours;
 - (k) Management of on-site dust monitors, including maintenance, data capture and data validation;
 - (l) Procedures for establishing suitable k-factor(s) for non-reference PM₁₀ monitor(s);
 - (m) Trigger levels for PM₁₀ and wind for triggering contingency dust mitigation measures;
 - (n) Short-term stop-work trigger levels for PM₁₀ concentrations and wind conditions which dust-generating activities (excluding dust suppression measures) must cease; and
 - (o) Preparation of an ambient RCS monitoring programme.
32. The DMP shall be certified in writing by the WRC acting in a technical certification capacity prior to any works authorised by this consent commencing. The WRC's certification will be based on its assessment as to whether the DMP addresses the matters in (a) to (o) of Condition 31. The Consent Holder must undertake all activities authorised by this consent in accordance with the approved DMP.
33. For each subsequent stage of works (beyond Stage 1), the DMP shall be updated to reflect any changes in the location and details of the sand quarry operations and results of monitoring required under Conditions 35-41 and Conditions 46-47. The updated DMP shall be submitted for certification by the WRC acting in a technical certification capacity prior to any works authorised by this consent in the relevant Stage commencing.

Meteorological Monitoring

34. Within six (6) months of the commencement of this consent, a meteorological station shall be installed onsite that measures wind speed and wind direction, temperature, relative humidity and rainfall. The site shall be sited in accordance with AS/NZS 3580:14-2014 (Methods for sampling and analysis of ambient air – Part 14: Meteorological monitoring for ambient air quality monitoring applications) and:
- (a) The anemometer shall have a minimum height of 5m above natural ground level and be appropriately sited in accordance with AS/NZS 3580:14-2014.
 - (b) The weather station data management system shall log data at a maximum of 10-minute intervals and be capable of sending text message alerts if trigger values set out in the DMP are exceeded.
 - (c) As far as practicable, comply with the following minimum specifications:
 - a. For wind speed:
 - 1. operating range 0.5 to 30 m/s;
 - 2. Stall speed <0.5 m/s;
 - 3. accuracy +/-0.2m/s;
 - 4. resolution <0.2m/s;
 - 5. data sampling frequency 5s.
 - b. For wind direction:
 - 1. operating range 0 to 360 degrees;
 - 2. accuracy +/- 3 degrees;
 - 3. minimum number of data samples >60 for scalar/vector means; >360 for sigma theta.

(d) Data shall be stored for a minimum period of three years.

Dust Monitoring

35. Continuous monitoring of air quality shall be undertaken for the duration of the Consent, shall commence within six months of the commencement of the consent, and include PM₁₀ monitoring at the following locations:
- a) On the western boundary adjacent to the dwelling located on 41 Newcombe Road; and
 - b) On the bund at the northern boundary of the quarry pit between extraction activities and 42 French Pass Road or be roving to suit the sand extraction programme and pit location.
36. The PM₁₀ monitor adjacent to 41 Newcombe Road shall use an Approved Method compliant with Schedule 2 of the National Environmental Standards for Air Quality (NESAQ), or an equivalent method as demonstrated through compliance with AS 3580.9.17:2018 or EN 12341:2014, or any updated or superseding standard that ensures equivalent data quality.
37. The second northern boundary monitor may either be of the same specification as the monitor adjacent to 41 Newcombe Road or be a non-reference monitor, providing the requirements of Conditions 38 and 39 are met.
38. If non-reference PM₁₀ monitoring equipment is proposed, the equipment shall be calibrated against a reference monitor over the period of at least 12 months to establish an appropriate k-factor.

Advice Note:

For the purposes of this Condition, an appropriate non-reference PM₁₀ would need to be fitted with a heated inlet to minimise the potential for water droplets to interfere with particulate measurement.

39. Continuous PM₁₀ monitors shall be installed, commissioned, operated, serviced and maintained in accordance with the manufacturer's instructions and any appropriate standards including relevant Ministry for the Environment Good Practice Guides.
40. Continuous PM₁₀ monitors shall provide a minimum of 75% validated data.
41. The dust monitoring equipment shall be capable of sending text message alerts if the trigger values set out in the DMP are exceeded. Data shall be stored for a minimum period of three years.

PM₁₀ Limits

42. The 12-hour rolling average (updated every hour) PM₁₀ concentration shall not exceed 65 µg/m³.
43. The annual average PM₁₀ concentration shall not exceed 20 µg/m³.

PM₁₀ Exceedance Investigations

44. Should the limits set out by Conditions 42 and 43 be exceeded, an investigation report shall be completed by a SQEP to determine the cause of the exceedance and identify actions or further

mitigation measures to avoid further exceedances. Any recommendations arising from the investigation shall be incorporated into a revised DMP.

45. The investigation report required by Condition 44 and if required, a revision of the DMP required by Condition 30 shall be provided to the WRC for certification within 60 days of the exceedance being recorded.

RCS Monitoring

46. The Consent Holder shall install and maintain an RCS monitor at a location to be determined through the preparation of the RCS monitoring programme as part of the DMP required under Condition 31(o).
47. The details of the RCS monitoring programme shall be included in the DMP required under Condition 31. The purpose of the RCS monitoring programme is to determine whether the quarry activities are generating quantities of RCS that are significantly greater than background levels. As a minimum, the RCS monitoring programme must:
- a) Include a minimum of 3 months of monitoring prior to the commencement of works to provide baseline data;
 - b) Include at least 36 continuous months of monitoring once works have commenced;
 - c) Be designed to assess the annual average concentration of RCS at the two PM₁₀ monitoring locations;
 - d) RCS monitoring can be stopped after 36 months providing concentrations are found to be below 3 µg/m³ as an annual average; and
 - e) Should the 3 µg/m³ limit be exceeded as a result of activities undertaken by the consent holder, an investigation report shall be completed by a SQEP to determine the cause of the exceedance and identify actions or further mitigation measures to avoid further exceedances. Any recommendations arising from the investigation shall be included in a revised DMP. The investigation report and, if required, a revision of the DMP required by Condition 30 shall be provided to the WRC within 60 days of the exceedance occurring.

Advice Note:

For the purposes of Condition 47, the commencement of works is either ground disturbance associated with the establishment of the processing area, or the ground disturbance associated with the first stage of overburden stripping, whichever is the earliest.

48. The results of the RCS monitoring required under Conditions 46 and 47 must be included in the Annual Report required under Condition 65.

General Dust Management Conditions

49. There shall 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.

50. The Consent Holder must ensure that the discharge of dust and/or particulate matter from the activities authorised by this consent do not create any dust hazard or nuisance to the HAM-KPO-A National Grid transmission lines, including support structures. A dust hazard or nuisance will occur if:
- (a) There is visible evidence of suspended solids in the air; and/or
 - (b) There is visible evidence of suspended solids traceable from a dust source (from the site works) settling on the transmission lines and/or support structures.
51. If dust effects are considered objectionable beyond the boundary (e.g., by way of a complaint to the WRC and/or the Consent Holder), and a request in writing is made by the WRC, the Consent Holder shall carry out immediate dust suppression or control measures on any problematic dust generating surfaces within the site. This shall be achieved by using hydro-seed/hydro-mulch, polymer soil stabilisers or a similar dust control or suppression product to provide instant remediation of dust effects to the extent that there are no dust discharges beyond the boundary of the site that cause an objectionable effect.

Spill Prevention and Response Plan

52. The Consent Holder shall provide the WRC with a Hazardous Substances Spill Prevention and Response Plan ('SPRP') at least 10 working days prior to the commencement of activities authorised by this consent. The SPRP shall be submitted to the WRC for their written certification, acting in a technical certification capacity. The WRC's certification will be based on its assessment as to whether the plan addresses the matters required by (a) to (g) of this condition. The aim of the SPRP shall be to minimise the possibility of contamination of water and the Plan shall address at least the following matters:
- (a) a list of the hazardous materials and their quantities kept on site and their storage details;
 - (b) the prevention measures that will be undertaken on site in order to avoid a spill of hazardous materials;
 - (c) the equipment available to contain and/or remove spills of hazardous materials;
 - (d) specific procedures and measures that will be undertaken when machinery is operating within close proximity to water bodies that are designed to minimise the risk of any spillages or significant leakages of hazardous materials entering the waterbody;
 - (e) the training staff will receive in the use of hazardous materials spill prevention, containment and clean-up measures and associated equipment;
 - (f) how the disposal of any contaminated materials arising from spills or leakages of hazardous materials will be undertaken; and
 - (g) the procedures involved in reporting of any such incidents to the WRC.
53. The Consent Holder shall exercise this consent in accordance with the certified SPRP. Any subsequent changes to the SPRP shall only be made with the written agreement of the WRC, acting in a technical certification capacity.
54. The Consent Holder shall notify the WRC as soon as is practicable, and as a minimum requirement within 12 hours, of the Consent Holder becoming aware of any spill of hazardous materials, fuel, oil, hydraulic fluid or other similar contaminants. The Consent Holder shall, within seven (7) days

of the incident occurring, provide a written report to the WRC identifying the possible causes, steps undertaken to remedy the effects of the incident and any additional measures that will be undertaken to avoid future spills.

55. All earthmoving machinery, pumps, generators and ancillary equipment shall 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 shall 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.

Construction Management

56. The Consent Holder shall ensure that all machinery used in the exercising of this consent is cleaned prior to being transported to/from the site to ensure that all seed and/or plant matter has been removed and documented in accordance with the National Pest Control Agencies A series, best practice (Code A16) guidelines, available to download from [Keep it clean - machinery cleaning guidelines and handbook | Waikato Regional Council](#)
57. There shall be no vehicles or earthmoving machinery in the bed of any flowing water body at any time.
58. All disturbed or cut vegetation, soil or debris shall be deposited or placed in a position where it will not enter any water body or cause diversion, damming or erosion of any waterway.

Progressive Site Rehabilitation Management Plan

59. The Consent Holder shall rehabilitate all disturbed land. To this end, the Consent Holder shall develop and implement a Progressive Site Rehabilitation Management Plan ('PSRMP') for each stage of site operations. The PSRMP must include the following:
- a) detail on the design and sequencing of works including recontouring of the excavated areas to resemble a natural river terrace following the completion of extraction activities; and
 - b) provision for appropriate re-grassing and replanting to ensure that the quarry floor and works site is rehabilitated on a progressive basis throughout the life of the quarry to provide for productive rural land use and landscape mitigation.
60. No later than two (2) years prior to the Consent Holder giving notice to the WRC that the quarry will be closed permanently, a Site Closure Plan shall be provided to the WRC for approval (acting in a technical certification capacity). As a minimum, the Site Closure Plan shall address the following:
- (g) detail of rehabilitation completed for previous stages of the quarry activities as per the PSRMPs required under Condition 59;
 - (h) future landforms including site stabilisation following completion of all quarry activities at the site;
 - (i) future groundcover following completion of all quarry activities at the site;
 - (j) the location of dedicated access tracks through or around rehabilitated areas to ensure that rehabilitated areas are not disturbed by quarry vehicles;
 - (k) reporting procedures; and
 - (l) review procedures to ensure that the progressively rehabilitated areas are productive.

61. Prior to rehabilitation of the Sand Quarry, the Consent Holder shall provide details of the proposed rehabilitation methodology required under Condition 59 to Transpower for review. The methodology shall include the following (but is not limited to):

- (a) Drawings and methods to demonstrate that rehabilitation activities undertaken on the site meet the safe distances within the New Zealand Electrical Code of Practice for Electrical Safe Distances 2001 (NZECP 34: 2001) or any subsequent revision of the code.
- (b) Details of how the quarry face will be reinstated with overburden.
- (c) Details of the reinstatement of the Quarry Processing Area, including final batter slopes.
- (d) Details of the planting or grassing of the Quarry.

The proposed rehabilitation methodology may be provided to Transpower on a staged basis prior to the commencement of rehabilitation within the respective Quarry Stages and may form part of the QMP.

62. Any proposed new trees or vegetation within 12m either side of the centreline of Span 0013 to 0014 (473m) of the HAM-KPO-A National Grid transmission line must not exceed (when measured at mature height):

- (a) 12m - if within 30m of structure 13;
- (b) 20m - if between 30m to 85m of structure 13;
- (c) 2m – if between 85m to 155m of structure 13; and
- (d) 25m – if between 155m to 365m of structure 13,

and must comply with the Electricity (Hazards from Trees) Regulations 2003, and any subsequent amendments to the Regulations (including no trees within 110m of structure 14).

63. Any proposed new trees or vegetation outside of 12m either side of the centreline of the HAM-KPO-A National Grid transmission line, must be setback sufficiently to ensure the tree cannot fall within 4m of the National Grid transmission lines and must comply with the Electricity (Hazards from Trees) Regulations 2003, or any subsequent amendments to the regulations.

Record Keeping and Annual Report

64. The Consent Holder shall record the following in a daily log:

- (a) volumes of sand exported from the site;
- (b) 24 hour average Total Suspended Particulate (TSP) monitoring data;
- (c) wind direction;
- (d) details on any dust control equipment malfunctions, trigger value exceedances and any remedial actions;
- (e) details on any visible emission of dust and the source; and
- (f) the volume of water used for dust suppression.

Records shall also be made available to the WRC within five (5) working days upon request.

Advice Note:

For the purposes of Condition 64, data can be collected and recorded electronically, however must be available to be interpreted on request.

65. The Consent Holder shall provide the WRC with an Annual Report, by 31 March, for each year that this consent is exercised (or the period for which monitoring is required). The Annual Report shall include but not be limited to:

- (a) an assessment of the Consent Holder's compliance with the conditions of resource consents AUTH145695.01.01, AUTH145695.02.01, AUTH145695.03.01, AUTH145695.04.01 and AUTH145695.05.01 for the previous 12 months and any recommendations to address any identified non-compliances;
- (b) summary of rehabilitation completed over the previous 12 months;
- (c) plans for topsoil and subsoil stripping and sand extraction over the next 12 months;
- (d) the location and areas of land to be rehabilitated over the next 12 months;
- (e) water take records as required by Condition 15 of AUTH145695.01.01;
- (f) outcomes from the TARP monitoring as set out by Condition 18(e);
- (g) a copy of the complaints register for the previous 12 months required by Condition 22 of AUTH145695.04.01;
- (h) collated results of the PM₁₀ monitoring required under Conditions 35 to 41;
- (i) collated results of the RCS monitoring undertaken as per Conditions 46 and 47; and
- (j) the results of any DMP review undertaken by Condition 33.

65A. The collated results of the PM₁₀ and RCS monitoring required under Conditions 35 to 41, 47 and 48 must be provided to the owners and occupiers of 41 Newcombe Road and 42 French Pass Road, by 31 March for each year that the monitoring is required in compliance with these conditions.

Ecological Management Plan

66. An Ecological Management Plan ('EMP') shall be prepared and be based on, but not limited to, the Ecological Management Plan submitted to the WRC dated May 2025 (Alliance Ecology, 'Draft Ecological Management Plan', Newcombe Road Sand Quarry, WRC doc reference # 32122330) and the Alliance Ecology response to DOC site visit letter, dated 18 February 2025 (WRC doc reference 31403724).

67. The EMP shall include as a minimum:

- (a) Shall set out that the overriding purpose of the EMP is to adequately address the effects of the sand quarry on wetland habitat ecological values via mitigation, enhancement and compensation.
- (b) Include a Habitat Restoration and Enhancement Plan ('HREP') that identifies areas and timeframes for establishment of restoration/mitigation works and planting for the seepage wetland restoration areas.
- (c) The HREP shall set out procedures for how the sand quarry will compensate for residual adverse effects on wetland values and associated species, and include as a minimum:
 - (i) Confirmation that plantings include:
 - a) Sedgeland wetland revegetation at 1m spacings – areas within sedgeland wetlands that already include native revegetation will be enriched as required;
 - b) Seepage wetland revegetation shall be at 0.5m spacings and seepage wetlands that already include native revegetation will be enriched as required;
 - c) Raupō wetland shall be planted at 1m spacings; and

- d) Comprise an area, as a minimum of 3.69ha of vegetation and habitat enhancement.
 - (ii) All plantings shall be eco-sourced (Waipā Ecological District or a neighbouring ecological district) plant species appropriate to the locality, and the ecosystem type being restored (i.e., the ecosystem type would have occurred at the locality under natural conditions).
 - (iii) If plant availability constraints dictate alternative species and/or spacings, the HREP shall confirm the suitability of the alternatives to the requirements of Condition 67(c) (i) above.
 - (d) The nature of any weed and/or pest control considered appropriate (timing, extent and location) in enhancement/mitigation planting areas for the purposes of ensuring successful establishment of the planting.
 - (e) The nature and extent of stock proof or other protective fencing (if required) that is to be established around the boundaries of restoration/mitigation planting areas.
 - (f) Procedures and protocols for managing Threatened and At Risk species in case they are discovered.
 - (g) Confirmation that Mana whenua have been afforded the opportunity to participate in the preparation and implementation of the EMP.
 - (h) Biosecurity management to minimise the spread and invasion of pathogens, plant pests and animal pests during the quarry operations.
68. The EMP shall be prepared by appropriately qualified and experienced ecologists and submitted to the WRC for certification at least 40 working days prior to the commencement of activities authorised by this consent. The WRC's certification will be based on its assessment of whether the EMP addresses the matters required by Condition 67(a) – (h) and that it is in general accordance with the documents referenced in Condition 66.
69. The implementation of the EMP, including the restoration and enhancement of seepage wetlands on site as required under Conditions 66 and 67 shall be commenced no later than three planting seasons following the commencement of the consent.
70. The Consent Holder shall submit a Planting Monitoring Report to the WRC from the commencement of planting and thereafter every second year from the initial planting establishment until plantings are a minimum of five (5) years in age. The monitoring report shall include:
- a) Representative photos showing progress of riparian and wetland revegetation, including photos of sites where plantings are a minimum of five (5) years in age and 80% canopy closure has been achieved (where applicable);
 - b) Information/data on plant survival, and infill planting and progress towards 80% canopy closure;
 - c) Reduction targets and requirements for weed management and control of browsers (e.g., rabbits, possums and pukeko); and
 - d) Information on incidents and adaptive management responses.

Advice Note:

It is anticipated that the Consent Holder will prepare one EMP which will address the requirements of the WDC consent as well as the matters addressed in Conditions 66 -

70. Where there are mitigation and rehabilitation methods to address the loss of ecological habitats and values which are be common to both the regional and district council conditions, then certification will be required from both Councils.

Ongoing Protection of Habitat

71. The Consent Holder shall within 12 months of the completion of the ecological mitigation, enhancement and compensation sites (not including maintenance or pest control), establish and register on the record of titles being Record of Titles 841793, 821177 and 908695 a legal mechanism (hereinafter referred to as a “Covenant”) containing appropriate requirements in order to legally protect in perpetuity the ecological mitigation, enhancement and compensation sites (the ‘Covenant Area’) as identified within Newcombe Road Sand Quarry – Restoration and Habitat Enhancement plan (WRC reference # 32122330) comprising an area as a minimum of 14 hectares in area (subject to survey) and to prohibit within the covenanted area the clearance of indigenous vegetation by any means, and the undertaking of earthworks or grazing of stock within the covenant area.

Advice Note:

The Covenant Area shall be based on ‘Proposed compensation area’ on Figure 2, contained in Appendix A of the EMP.

72. The Consent Holder shall engage a suitably qualified professional to prepare a Covenant Plan required in order to satisfy Condition 71. The Covenant Plan shall provide detail on the management and protection of the area in perpetuity identified as “Covenant Area” and shall include as a minimum, but may not be limited to, the following:

- (a) Procedures for implementing, monitoring and review of the Covenant Area including regular fencing inspections.

73. The Consent Holder shall provide draft covenant documents to satisfy the requirements of Conditions 71 and 72 for the consideration and written approval of the WRC prior to registration of the covenant on the property titles.

Machinery

74. The Consent Holder shall ensure that all machinery used in the exercising of this consent is cleaned prior to being transported to/from the site to ensure that all seed and/or plant matter has been removed and documented in accordance with the National Pest Control Agencies A series, best practice (Code A16) guidelines, available to download from <https://waikatoregion.govt.nz/assets/WRC/Services/...pests/Keepitclean.pdf>

75. The Consent Holder shall ensure that all machinery shall be maintained and operated in a manner which ensures that spillages of fuel, oil and similar contaminants are prevented. Particular care shall be taken during refuelling and machinery servicing and maintenance. Such activities shall be carried out away from any water body and in such a manner that any spillage can be contained so it does not enter any water body.

Tangata Whenua

76. The Consent Holder shall ensure that the exercise of this resource consent does not disturb any sites of archaeological value or of cultural significance to Tangata Whenua. In the event of any archaeological artefacts being discovered the works shall, in the vicinity of the discovery, cease immediately and the Waikato Regional Council, Heritage New Zealand Pouhere Taonga and representatives of local iwi (where artefacts are of Māori origin) shall be notified within 24 hours. Works may recommence on the written approval of the WRC after considering:

- (a) Tangata Whenua interests and values;
- (b) Protocols agreed upon by Tangata Whenua and the Consent Holder;
- (c) The Consent Holders' interests;
- (d) Any Heritage New Zealand Pouhere Taonga authorisations;
- (e) Any archaeological or scientific evidence; and
- (f) The assessment of the discovery by the registered archaeologist.

Archaeological

77. The Consent Holder shall provide a copy of the approved Heritage New Zealand Pouhere Taonga archaeological authority to the WRC prior to the commencement of works.

Administration

78. The Consent Holder shall pay the WRC any administrative charge fixed in accordance with section 36 of the RMA, or any charge prescribed in accordance with regulations made under section 360 of the RMA.

Review

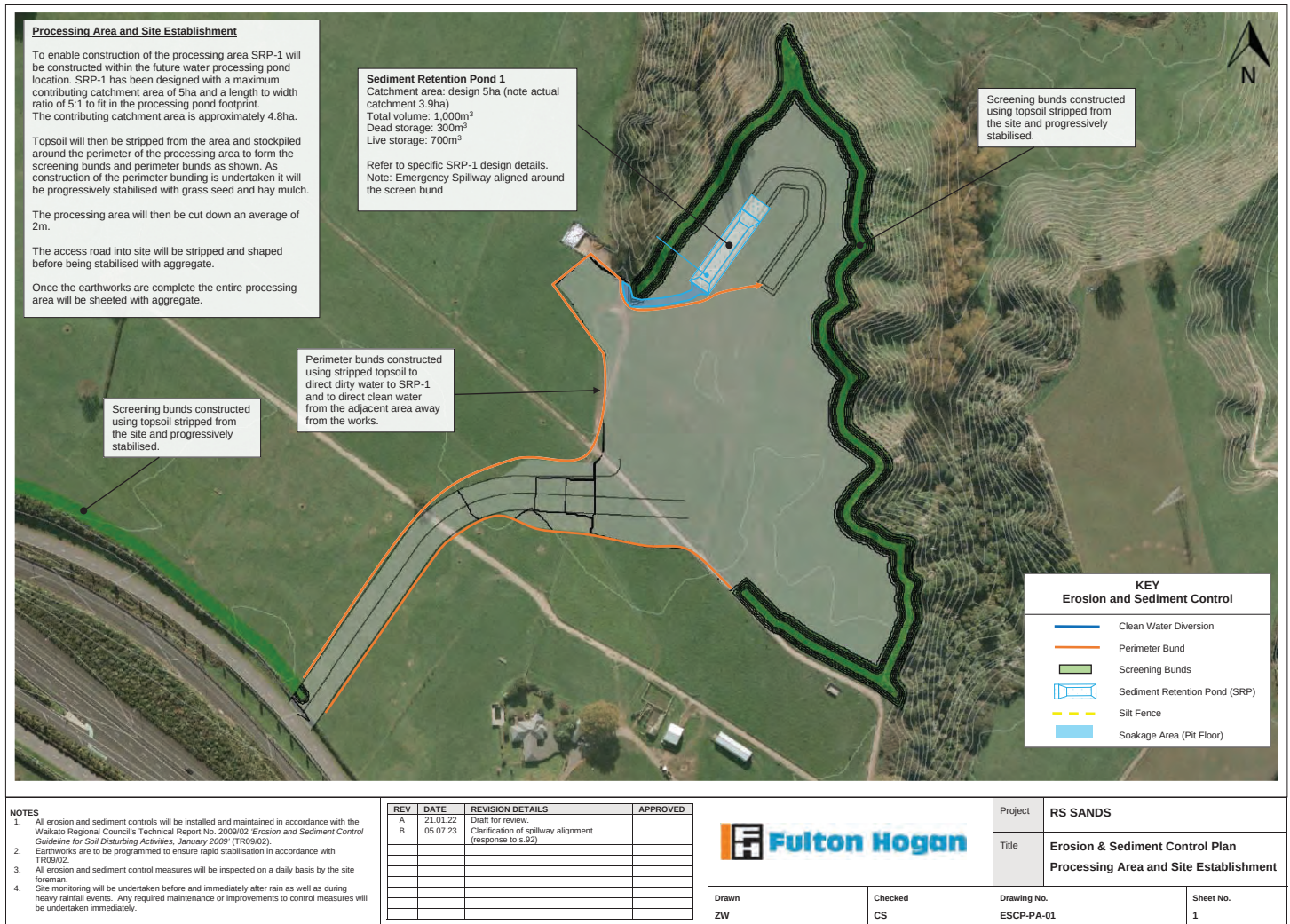
79. At any time during the period June through August in 2030, 2035, 2040, 2045, 2050 and 2055 for the term of the consent, the WRC may, following service of notice on the Consent Holder, commence a review of the conditions of this consent pursuant to section 128(1) of the RMA for the following purposes:

- (a) to review the effectiveness of the conditions of these resource consents in avoiding or mitigating any adverse effects on the environment and if necessary to avoid, remedy or mitigate such effects by way of further or amended conditions; and/or
- (b) to review the adequacy of monitoring undertaken by the Consent Holder; and/or
- (c) if necessary and appropriate, to require the holder of this resource consent to adopt the best practicable option to remove or reduce adverse effects on the surrounding environment.

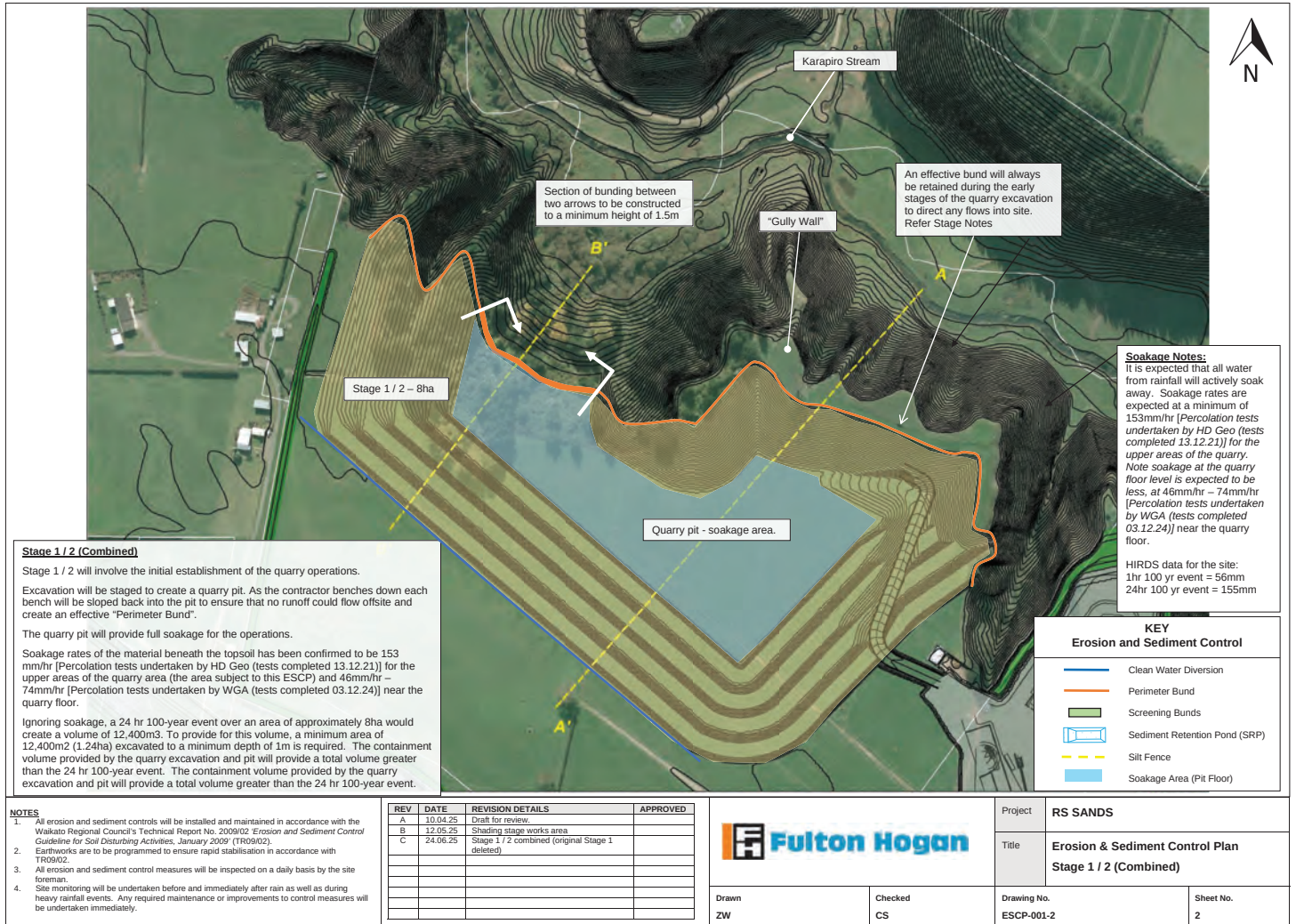
Advice Note:

Costs associated with any review of the conditions of this resource consent will be recovered from the Consent Holder in accordance with the provisions of section 36 of the RMA.

APPROVED
Waipa District Council
Subject to the conditions of the
resource consent LU/0077/23

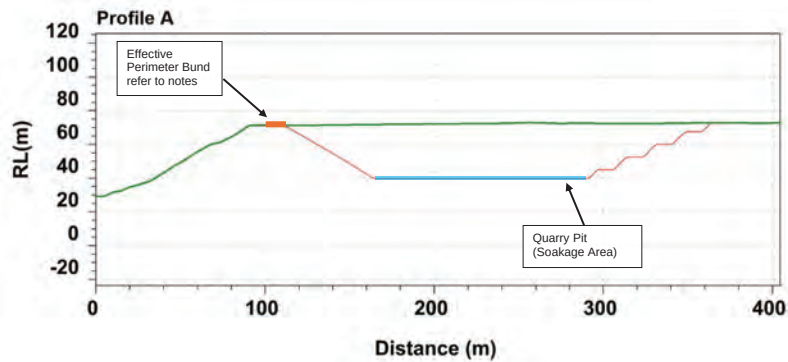


APPROVED
Waipa District Council
Subject to the conditions of the
resource consent LU/0077/23



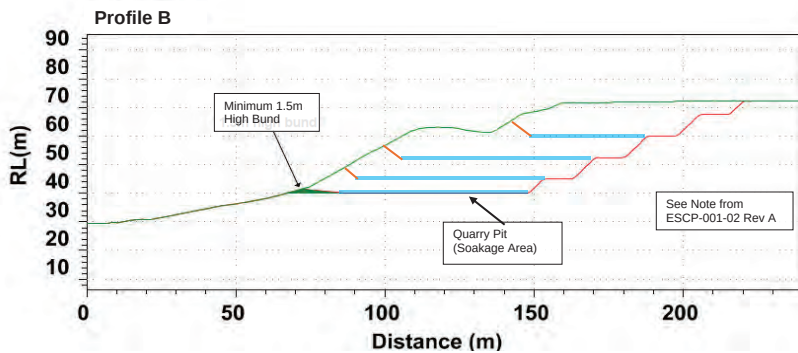
APPROVED
Waipa District Council
Subject to the conditions of the
resource consent LU/0077/23

Cross Section A-A



KEY Erosion and Sediment Control	
—	Clean Water Diversion
—	Perimeter Bund
—	Screening Bunds
	Sediment Retention Pond (SRP)
---	Silt Fence
	Soakage Area (Pit Floor)

Cross Section B-B



NOTES

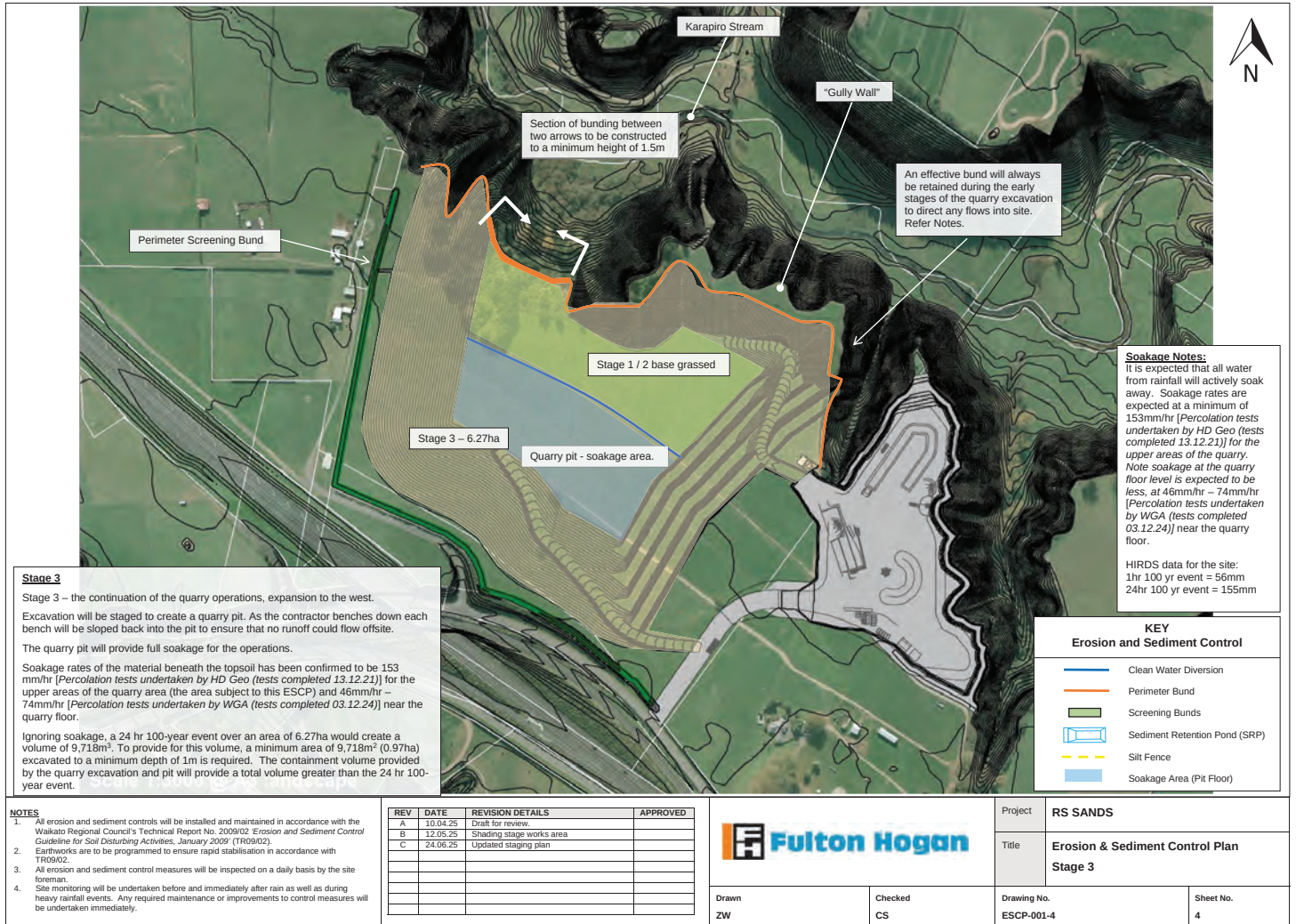
- All erosion and sediment controls will be installed and maintained in accordance with the Waikato Regional Council's Technical Report No. 2009/02 'Erosion and Sediment Control Guideline for Soil Disturbing Activities, January 2009' (TR09/02).
- Earthworks are to be programmed to ensure rapid stabilisation in accordance with TR09/02.
- All erosion and sediment control measures will be inspected on a daily basis by the site foreman.
- Site monitoring will be undertaken before and immediately after rain as well as during heavy rainfall events. Any required maintenance or improvements to control measures will be undertaken immediately.

REV	DATE	REVISION DETAILS	APPROVED
A	10.04.25	Draft for review.	
B	24.06.25	Updated A-A profile	

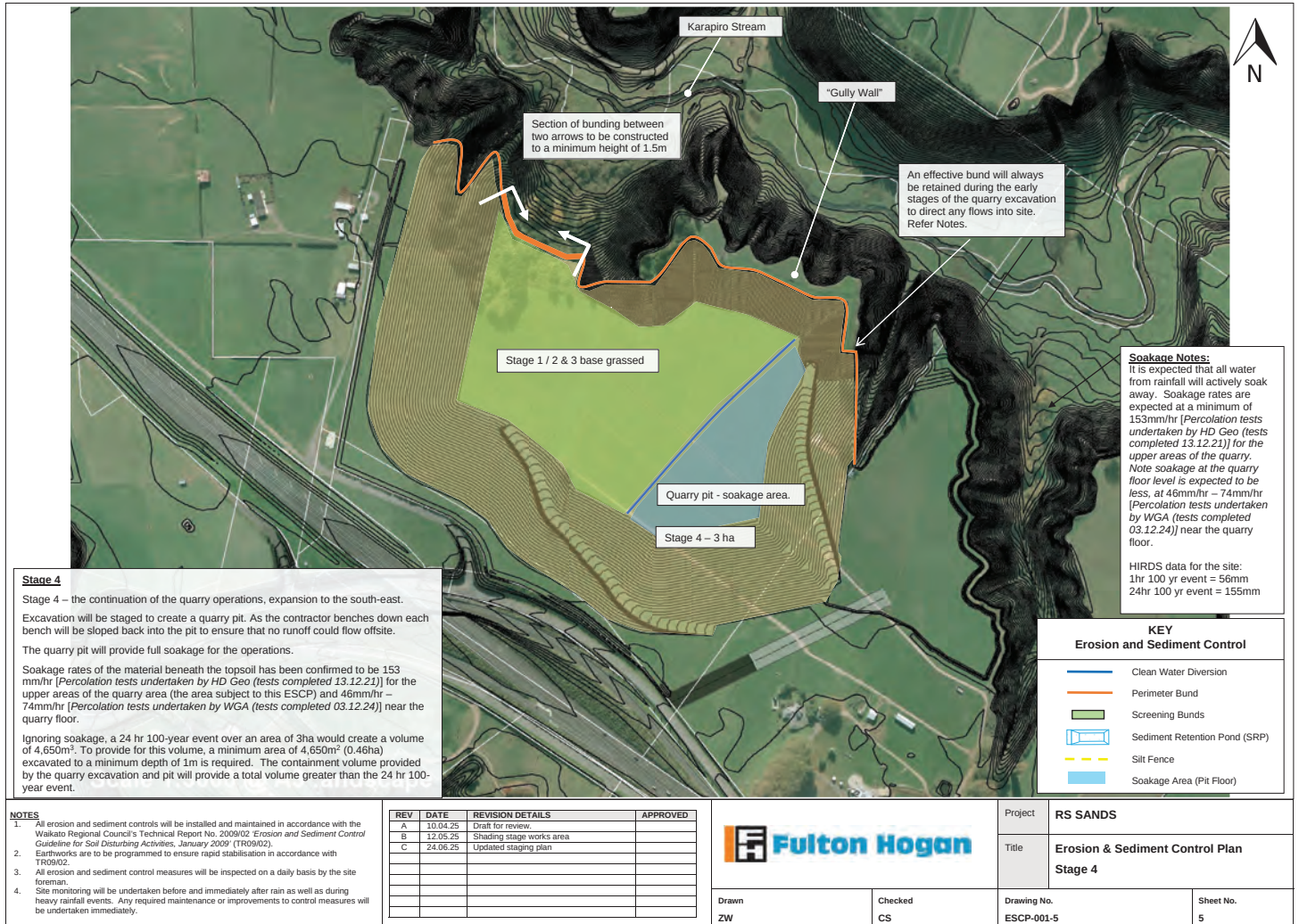


Project	RS SANDS		
Title	Erosion & Sediment Control Plan Stage 1 / 2 – Cross Sections		
Drawing No. ESCP-001-3			Sheet No. 3

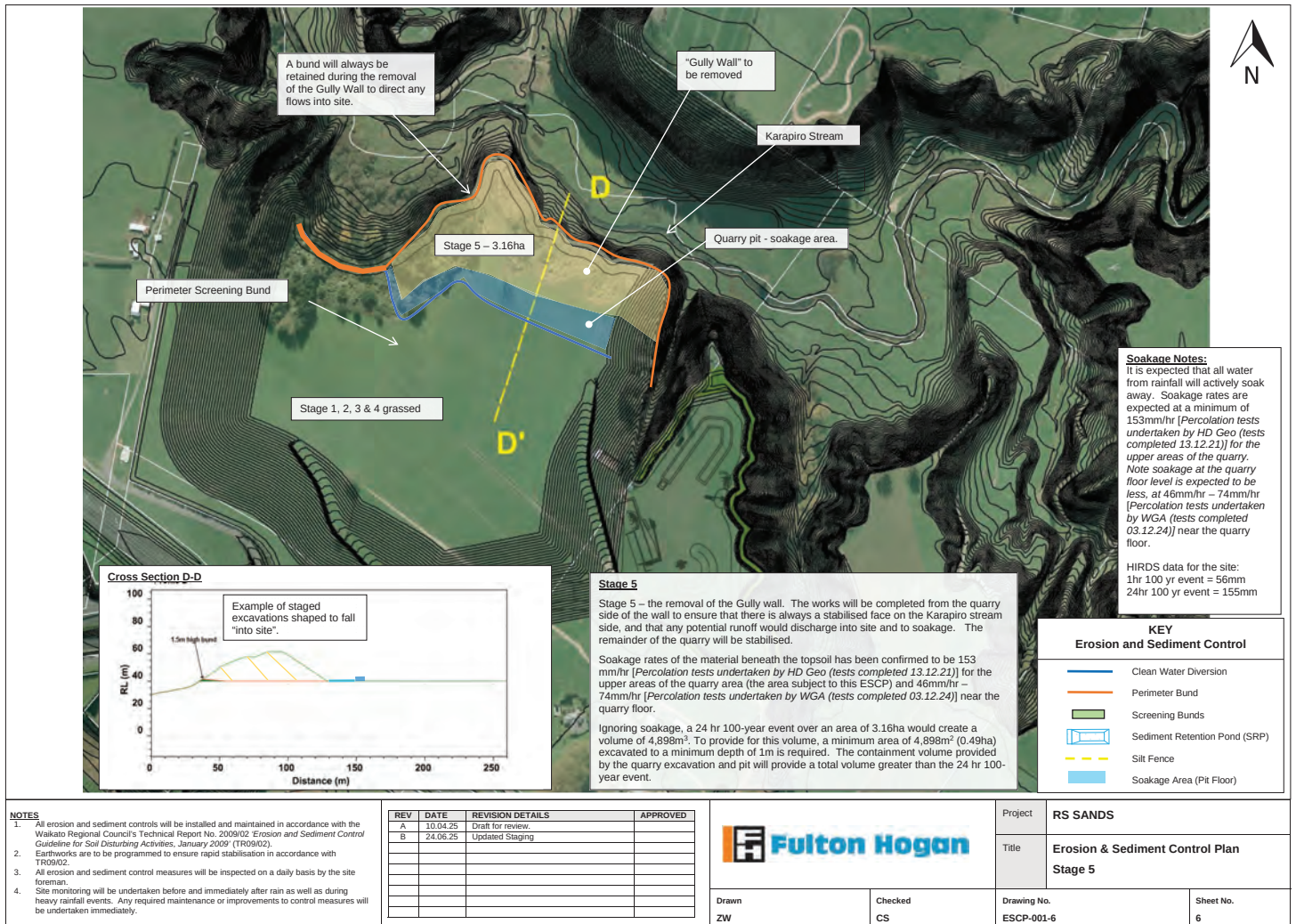
APPROVED
Waipa District Council
Subject to the conditions of the
resource consent LU/0077/23



APPROVED
Waipa District Council
Subject to the conditions of the
resource consent LU/0077/23

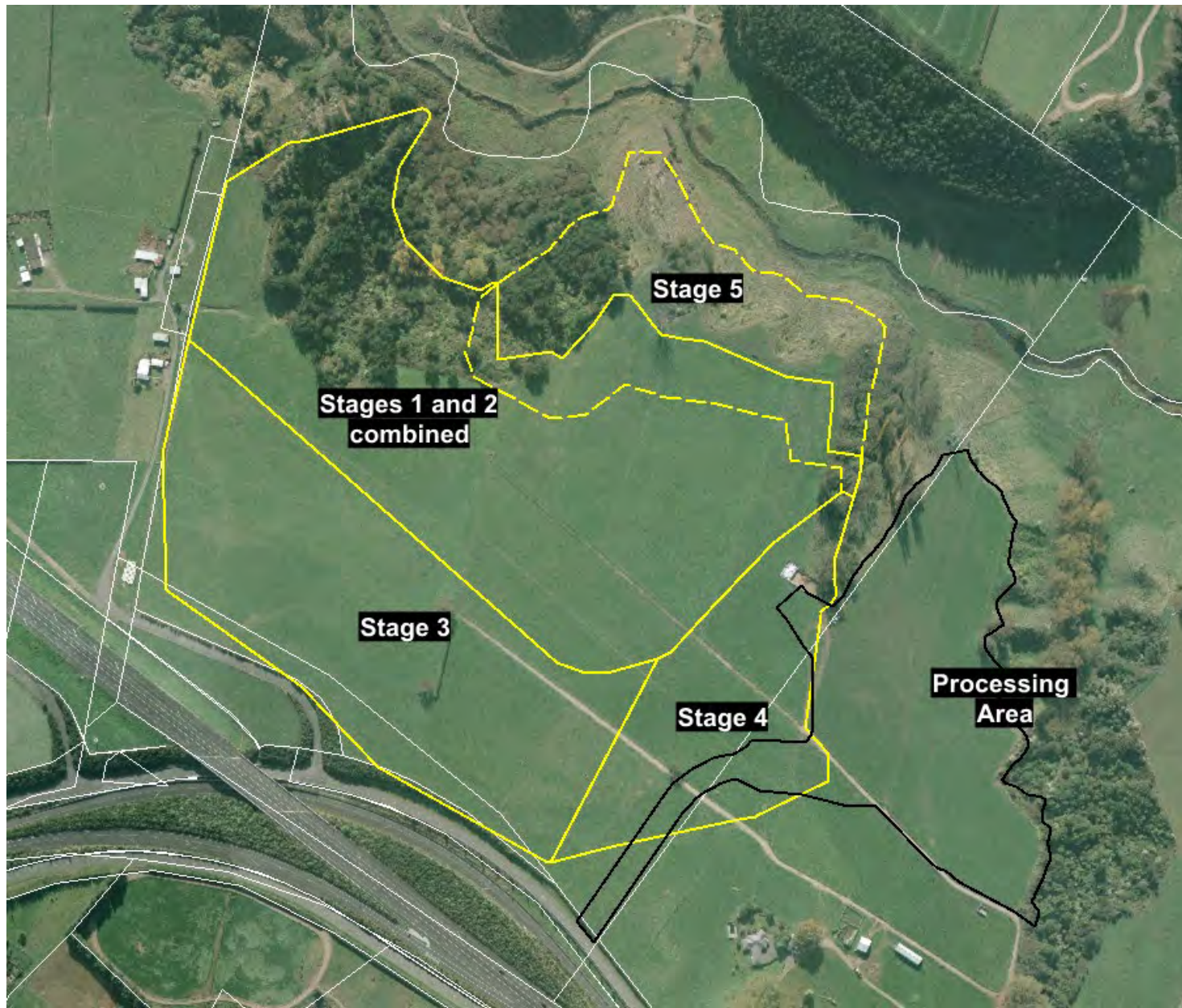


APPROVED
Waipa District Council
Subject to the conditions of the
resource consent LU/0077/23



APPROVED
Waipa District Council
Subject to the conditions of the
resource consent LU/0077/23

Newcombe Road Sand Quarry Staging Plans (2D & 3D)



- Quarry area
- Rehab Area
- Stage 1-4 outlines
- Stage 5 outline
- Boundary

APPROVED
Waipa District Council
 Subject to the conditions of the
 resource consent LU/0077/23

Prepared by : P. Houben
 Date : 11th July 2025

Newcombe Road Sand Quarry 2D Staging Plan June 2025

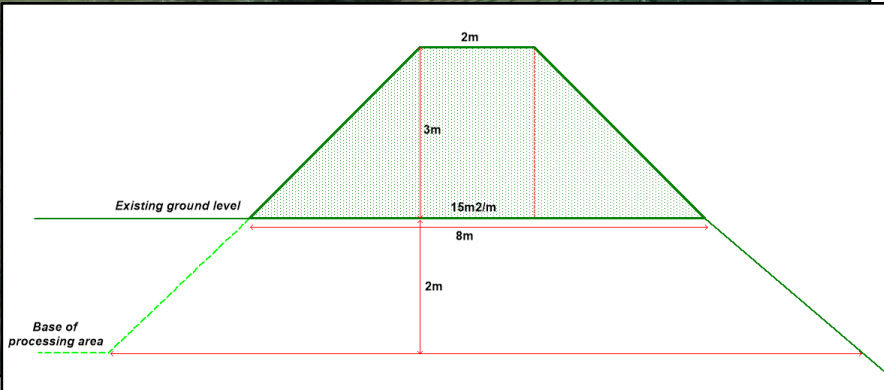
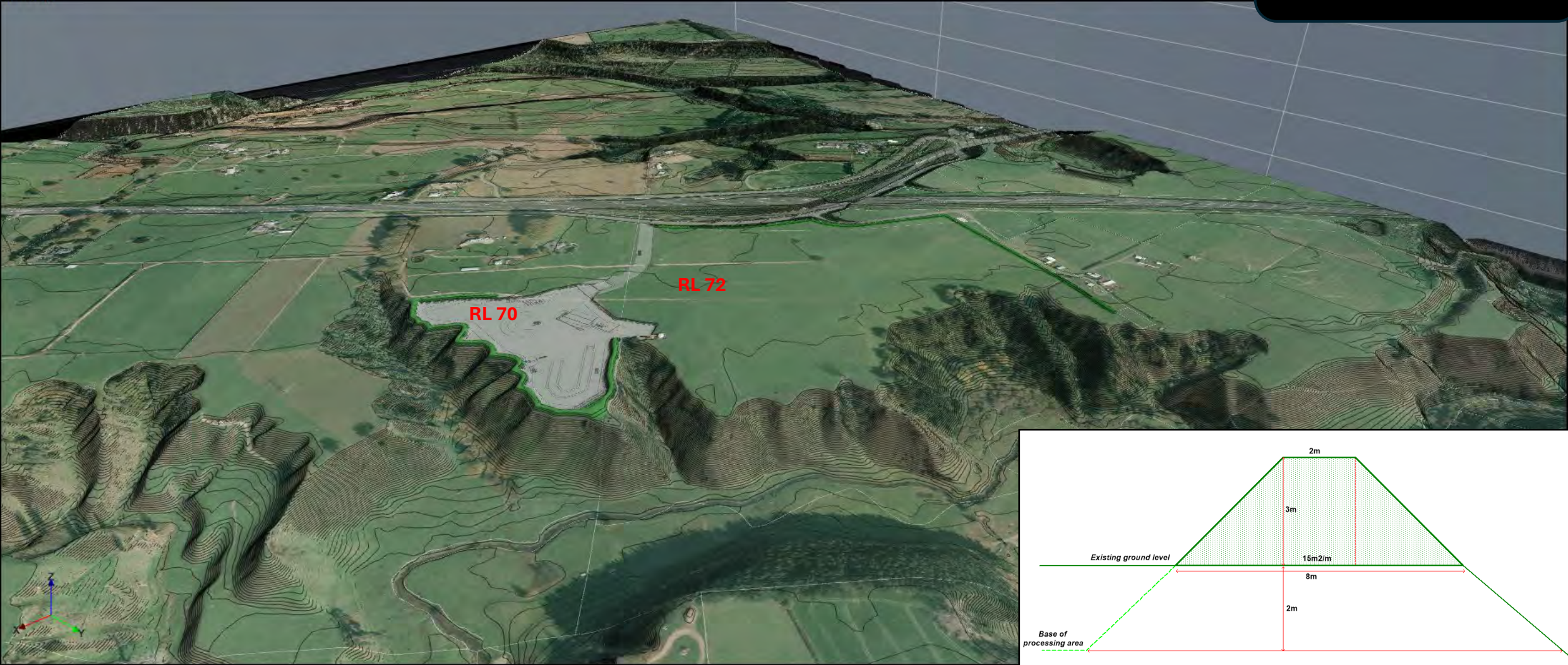


APPROVED
Waipa District Council
Subject to the conditions of the
resource consent LU/0077/23

3D Map

Quarry Area

Rehab Area



Prepared by : P. Houben
Date : 11th July 2025

Newcombe Road Sand Quarry
New Entrance & Processing Area



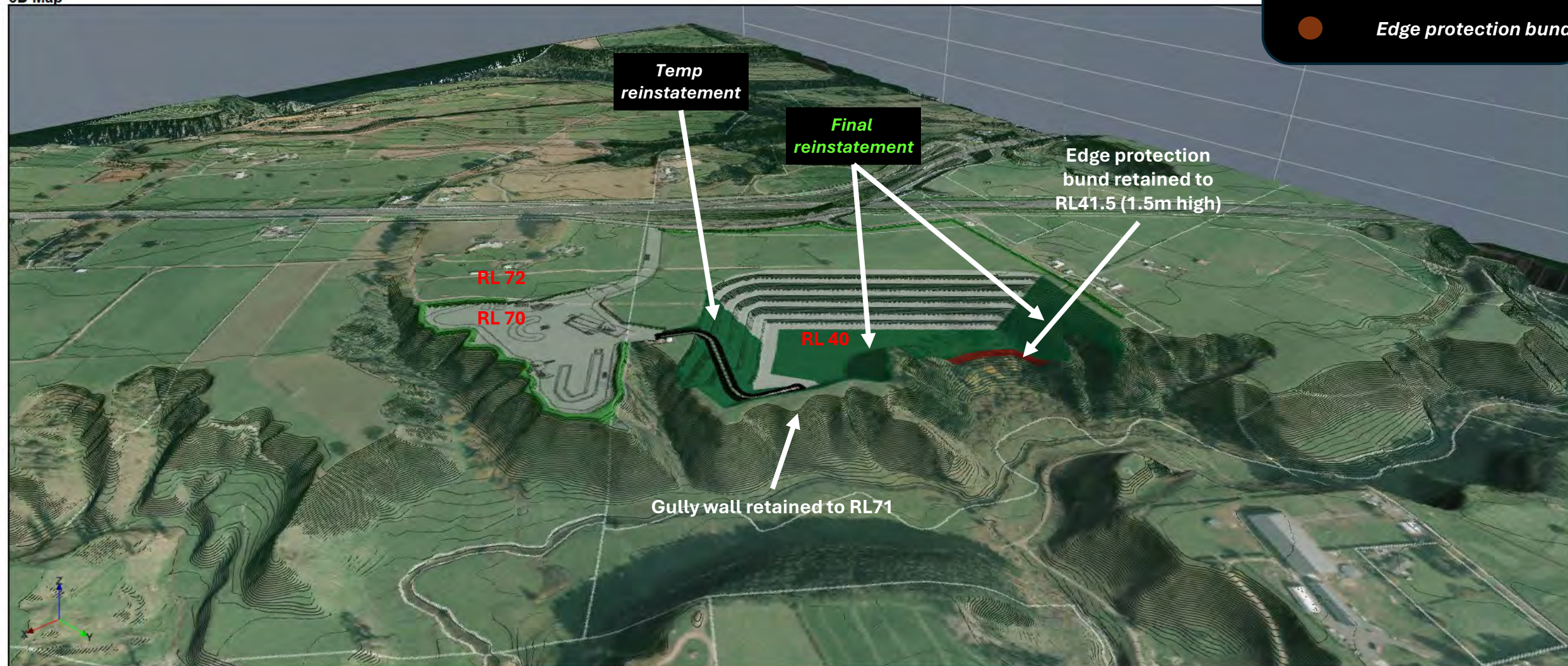
APPROVED

Waipa District Council

Subject to the conditions of the
resource consent LU/0077/23

3D Map

- Quarry Area
- Rehab Area
- Edge protection bund

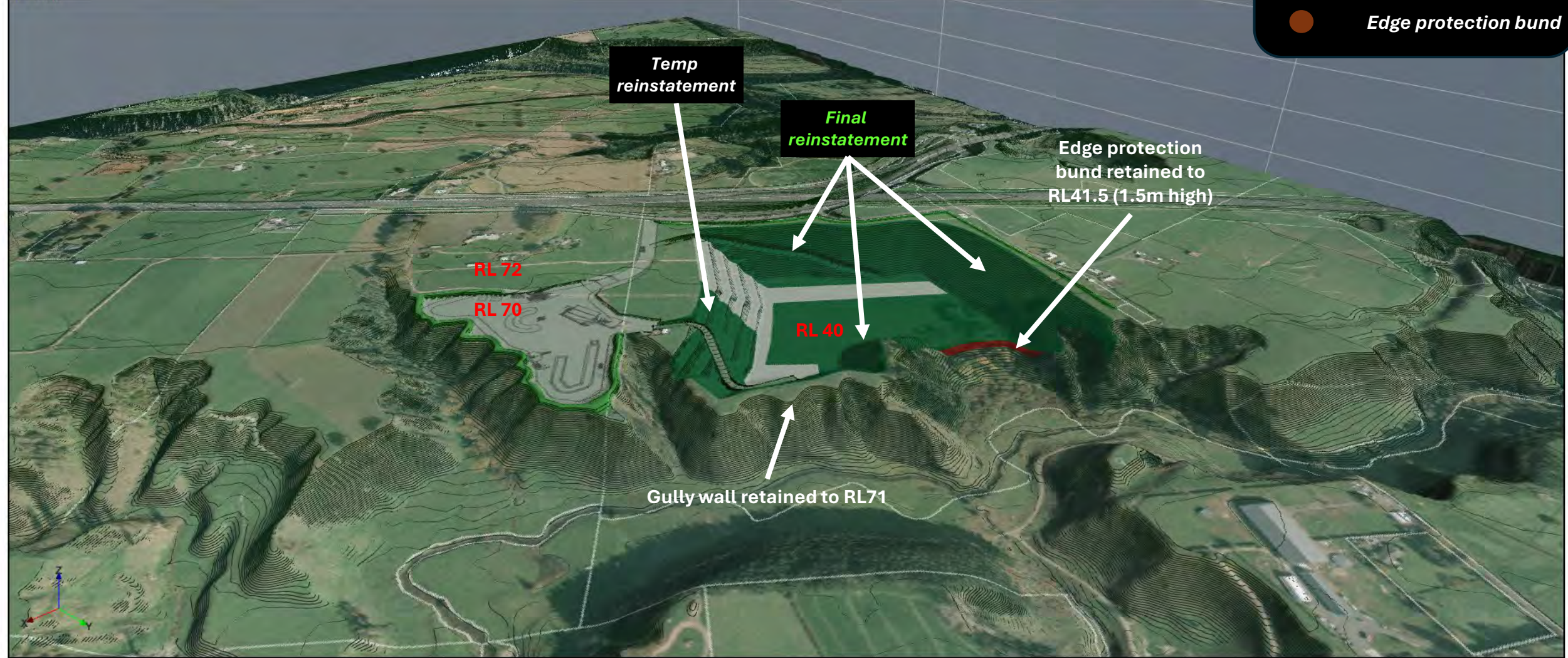


Prepared by : P. Houben
Date : 11th July 2025

Newcombe Road Sand Quarry
End of Stages 1 & 2 combined – (Year 9.5)

STEVENSON

3D Map



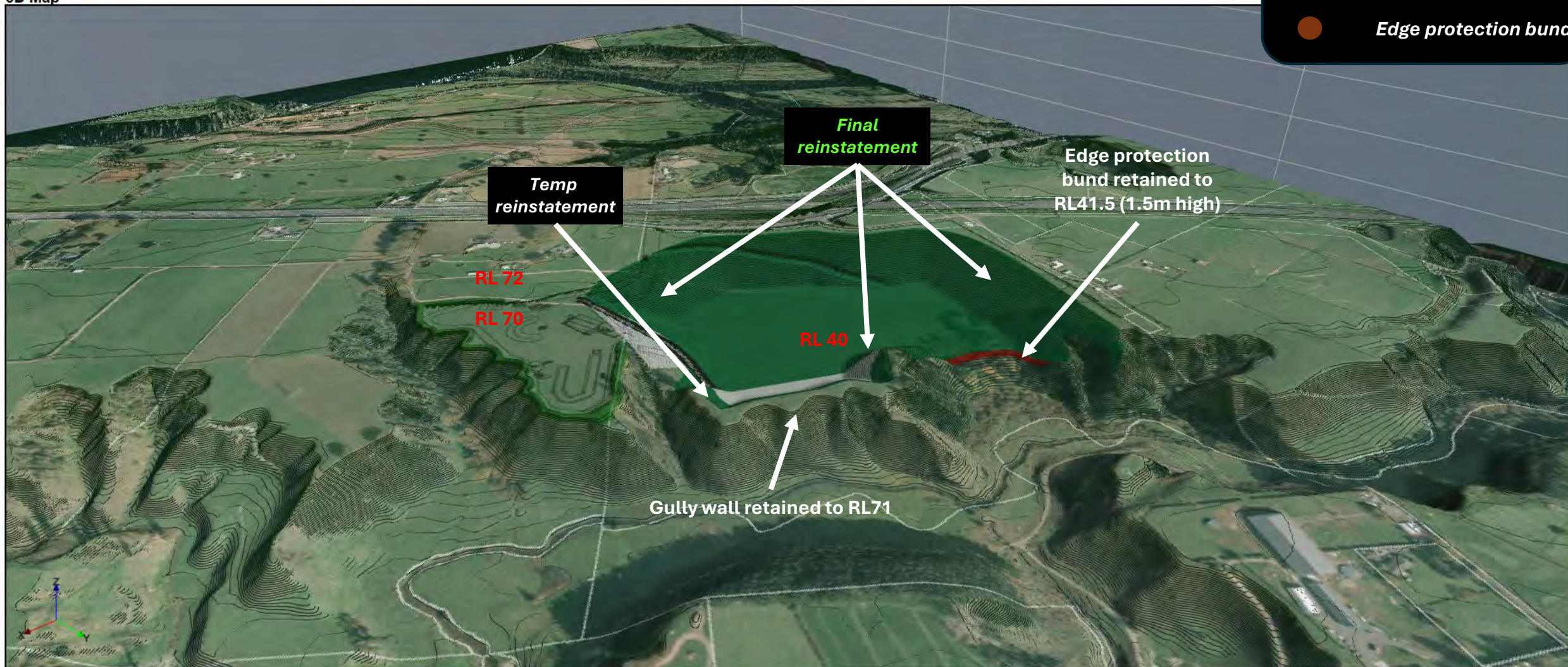
APPROVED

Waipa District Council

Subject to the conditions of the
resource consent LU/0077/23

3D Map

- Quarry Area
- Rehab Area
- Edge protection bund



Prepared by : P. Houben
Date : 11th July 2025

Newcombe Road Sand Quarry
End of Stage 4 – (Year 20.8)

STEVENSON

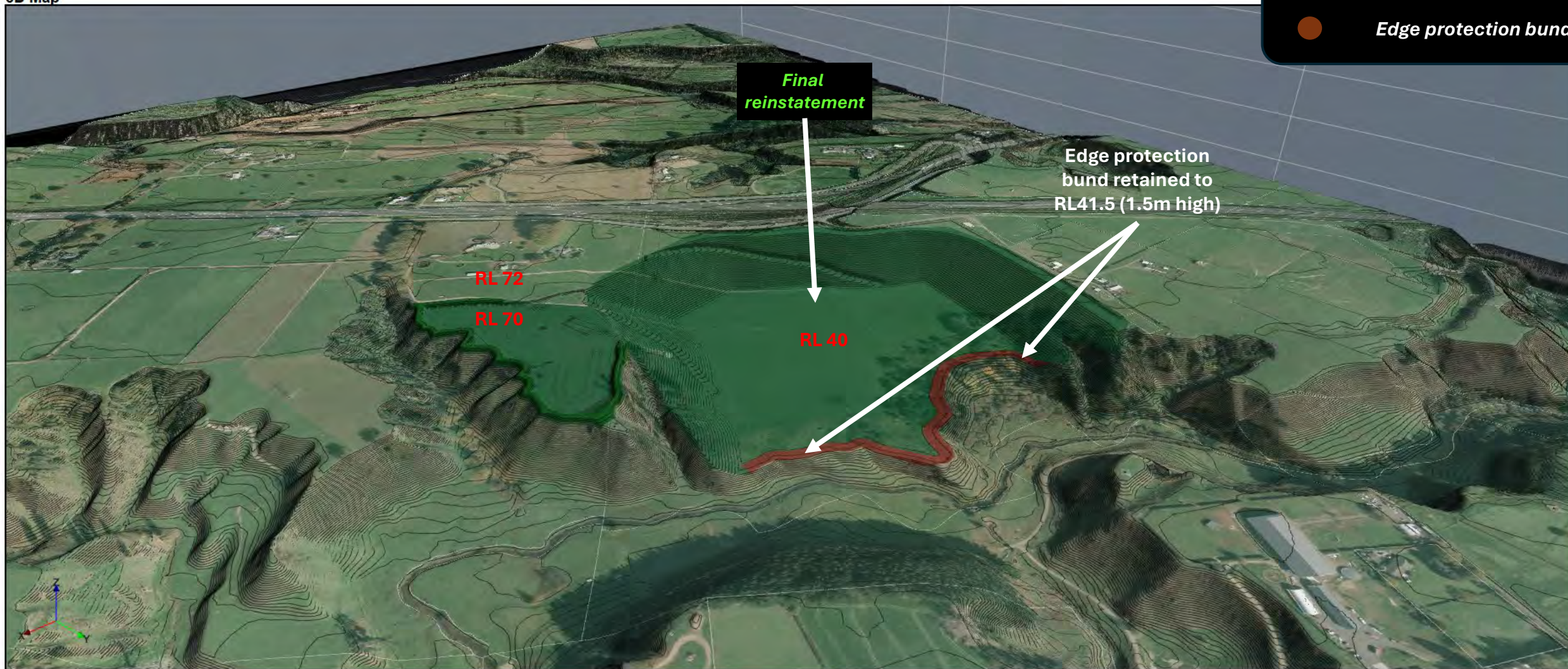
APPROVED

Waipa District Council

Subject to the conditions of the
resource consent LU/0077/23

3D Map

- Rehab Area
- Edge protection bund



Prepared by : P. Houben
Date : 11th July 2025

Newcombe Road Sand Quarry
End of Stage 5 – (Year 25)

STEVENSON



Draft Ecological Management Plan

Newcombe Road Sand Quarry

Prepared for RS Sand

May 2025

DRAFT

Document control

Note: This Draft Management Plan is a working version of the document and will be further developed in consultation with Mana Whenua, the Department of Conservation, Waipā District Council (Waipā DC) and Waikato Regional Council (WRC). This plan will be subject to updates prior to construction commencement and Council certification.

DRAFT

Table of contents

1	Introduction	1
1.1	Status of the EMP	2
1.2	Purpose and objectives of the EMP	3
1.3	Responsibilities and competencies [TBC]	3
1.4	EMP structure	3
1.5	Wildlife Act Authority requirements	3
1.6	Mana whenua /cultural matters	3
1.7	Relationship with other plans	4
2	Vegetation Management Plan	4
2.1	Introduction	4
2.1.1	Plan purpose	4
2.1.2	Consent Condition Scope	5
2.1.3	Responsibilities and competencies	5
2.1.4	Plan structure	6
2.2.1	Effects on vegetation/habitat	6
2.2.2	Effects management	7
2.3	Protocols for managing effects of vegetation clearance	7
2.3.3	Post-clearance protocol	10
2.4	Compliance monitoring and reporting	11
3	Avifauna Management Plan	12
3.1	Introduction	12
3.1.1	Plan purpose	12
3.1.2	Consent condition scope	13
3.1.3	Wildlife Act Authority Requirements	13
3.1.4	Responsibilities and competencies	13
3.1.5	Plan structure	14
3.2	Summary of effects on avifauna and effects management	14
3.2.1	Effects on avifauna	14
3.2.2	Proposed effects management	15
3.3	Protocols for managing vegetation clearance effects on avifauna	16
3.3.1	Avoidance of vegetation clearance during peak breeding season	16
3.3.2	Nest surveys during late breeding season	16
3.4	Bird Injury and Mortality Protocols	17
3.5	Accidental discovery protocol (threatened species)	17
3.6	Compliance monitoring and reporting	17
4	Lizard Management Plan	19
4.1	Introduction	19
4.1.1	Plan purpose	19
4.1.2	Consent condition scope	20
4.1.3	Wildlife Act Authority Requirements	20
4.1.4	Responsibilities and competencies	20
4.1.5	Plan Structure	21
4.2	Effects and effects management summary	21
4.3	Protocols for effects avoidance and minimisation	22
4.3.1	Salvaging protocol	22
4.3.2	Data collection	24
4.3.3	Relocation protocol	24
4.4	Inadvertent lizard injury or death	25

4.5	Accidental discovery protocol (threatened species)	26
4.6	Compliance reporting	26
4.6.1	Compliance monitoring report	26
4.6.2	Triggers for post-translocation monitoring (TBC)	27
4.6.3	Wildlife Act Authority Monitoring	27
5	Habitat restoration and enhancement plan	27
5.1	Introduction	27
5.1.1	Plan Purpose	27
5.1.2	Consent condition scope	28
5.1.3	Responsibilities and competencies	29
5.1.4	Plan structure	30
5.2	Residual effects and effects management summary	30
5.3	Habitat restoration and enhancement measures	31
5.3.1	Approach	31
5.3.2	Site preparation	32
5.3.3	Planting specifications (native revegetation and/or enrichment planting)	35
5.3.4	Post-planting maintenance	39
5.3.5	Artificial bat roosts	40
5.3.6	Programme	40
5.4	Compliance reporting	44
5.4.1	Compliance confirmation report	44
5.4.2	Incident reporting	44
5.4.3	Compliance monitoring report	44

Appendix A **Site maps**

Appendix B **Long-tailed Bat Management Plan (Bluewattle Ecology, 2023)**

Glossary

Specific terms	
ABM	Acoustic Bat Monitor
ACO	Artificial Cover Objects
AEcE	Assessment of Ecological Effects Report
AMP	Avifauna Management Plan
BRP	Bat Roost Protocols
DOC	Department of Conservation
EIANZ	The Environment Institute of Australia and New Zealand
ESC	Erosion and Sediment Control
ESCP	Erosion and Sediment Control Plan
HREP	Habitat Restoration and Enhancement Plan
LBMP	Long-tailed Bat Management Plan
LMP	Lizard Management Plan
NITOW	Ngā Iwi Tōpū O Waipā
NZTCS	National Threat Classification System
PB	Plant bag
QMP	Quarry Management Plan

RMA	Resource Management Act
VMP	Vegetation Management Plan
WRC	Waikato Regional Council
General terms	
Biodiversity	The variety of life on Earth at all its levels, from genes to ecosystems, and can encompass the evolutionary, ecological, and cultural processes that sustain life
Ecology	The study of the relationships between living organisms, including humans, and their physical environment.
Site description	
Project area	An area of approximately 41ha of the available land at 77 Newcombe Road, comprising of a 27ha quarry area and 14ha ecological restoration area.

DRAFT

1 Introduction

This draft Ecological Management Plan (EMP) has been prepared for the proposed Newcombe Road Sand Quarry on behalf of RS Sands.

The EMP encompasses a suite of management plans that will come into effect, assuming that RS Sands obtains resource consents for the construction and operation of the proposed quarry at 77 Newcombe Road

The Site is located on three records of title which have a total area of 134.67 hectares. The quarry is proposed on approximately 27.09 hectares in the western portion of the properties (Appendix A, Figure 1 and 2). The quarry is made up of a 23 hectare pit area towards the western boundary and a 4 hectare plant area (for processing and stockpiling) to the east of the pit. A 14ha proposed ecological restoration area is located on the northern boundary of the Site.

The quarry is proposed to extract and process up to 400,000 tonnes of sand from the pit area per year (depending on demand) for approximately 25 years. The proposed plant area includes a processing plant (approximately 6m high and 20m wide) towards the middle of the area and a water recycling pond towards the north. Graded sand will be stockpiled around the plant area. The southwestern portion of the plant area will contain an office and breakroom building, maintenance workshop, car parking, weighbridge, and wheel wash facility.

Excavations of the pit area will begin 10–15m from the Karapiro Stream and move towards Newcombe Road.

The Project activities are expected to have a range of effects on ecological values, and the cultural values and interest of mana whenua, primarily being Ngaati Korokii-Kahukura and Ngaati Hauaa Iwi Trust (Ngaati Hauaa). Key terrestrial and wetland ecological values at the site include:

- Long-tailed bats (pekapeka);
- Presence or potential presence of nationally 'Threatened' or 'At Risk' bird species, including NZ falcon (kārearea), pipit (pīhoihoi), Australasian bittern (matuku hūrepo), spotless crane ((pūweto), kākā, and black shag (kawau pū);
- Likely presence of copper skink (mokomoko); and
- Gully seepage wetlands.

While permanent and intermittent streams are present onsite, direct loss of these stream habitat have been avoided and impacts are assessed as low.

Potential ecological effects on these values are described in the Assessment of Ecological Effects Report (Alliance Ecology, 2023) and the Long-Tailed Bat Report (Bluewattle Ecology, 2023). The relevant effects management protocols are described further in the individual management plans following this section.

Legal protection of all ecological restoration and habitat enhancement sites will be provided through covenants as required by consent conditions.

1.1 Status of the EMP

This draft version of the EMP will be reviewed and updated to reflect resource consent conditions and as required over the course of the Project following discussions with Waikato Regional Council (WRC), Waipā District Council (Waipā DC) the Department of Conservation (DOC), Ngaati Korokii-Kahukura and and Ngaati Hauaa Iwi Trust (Ngaati Hauaa).

DRAFT

1.2 Purpose and objectives of the EMP

The management plans within this EMP set out procedures to address the effects of the sand quarry on terrestrial and wetland ecological values. The plans also set out the monitoring and review processes to be undertaken before, during and after construction.

The EMP sets out methods to be adopted to address adverse effects on ecological and biodiversity values, including:

- Vegetation and habitat loss
- Bats
- Avifauna
- Lizards

1.3 Responsibilities and competencies

The roles and responsibilities for implementing this EMP are set out in the various management plans below. The site manager holds overall accountability for implementation of and compliance with this plan.

1.4 EMP structure

Following this introduction, sections 2-5 comprise a suite of stand-alone management plans that describe the measures to be implemented during and following construction to avoid, minimise and remedy effects on ecological values. Namely:

- Section 2 – Vegetation Management Plan (VMP)
- Section 3 – Avifauna Management Plan (AMP)
- Section 4 – Lizard Management Plan (LMP)
- Appendix B – Long tailed Bat Management Plan (LBMP)
- Section 5 – the Habitat Restoration and Enhancement Plan (HREP), addresses the management of residual adverse effects on ecology values.

1.5 Wildlife Act Authority requirements

'Wildlife Act Authorisation' (WAA) permissions must be obtained from the Department of Conservation in accordance with the relevant provisions of the Wildlife Act 1953. WAA permits will be sought to allow enactment of the fauna management measures provided in this EMP including capturing, handling, interacting with and relocating wildlife. The LMP will support the application for wildlife permits.

1.6 Mana whenua /cultural matters

The cultural values of the site are described in the Cultural Impact Assessment (Te Hira Consultant Ltd, 2023)(Appendix Q of the AEE).

[Placeholder for iwi to include specifically the cultural context and values they would like presented in this EMP. Expect will include broader cultural context and specific reference to fauna/flora/ecosystem values of cultural importance]

1.7 Relationship with other plans

Other management plans required for the Project that are directly relevant to this EMP include:

- Erosion and Sediment Control Plan (ESCP)
- Quarry Management Plan
- Dust Management Plan.

2 Vegetation Management Plan

2.1 Introduction

2.1.1 Plan purpose

This Vegetation Management Plan (VMP) set out the methods that will be used to avoid, remedy or mitigate adverse ecological effects on vegetation and associated terrestrial and wetland habitats for flora and fauna during the construction phase of the sand quarry.

Table 2.1: Purpose, specific objectives, performance measures and monitoring relevant to the VMP [Placeholder – to be updated based on wording of approved consent conditions].

Purpose	This VMP outlines how the earthworks and associated vegetation clearance and rehabilitation methods to be used during the Project will meet the requirements of resource consent conditions.
Specific Objectives	The objective of this VMP is to achieve the standard set out in consent conditions and to avoid or minimise or rehabilitate adverse ecological effects on vegetation and associated habitats for flora and fauna. [Placeholder: Additional objectives as considered relevant and appropriate by iwi in the application of mātauranga Māori and exercise of kaitiakitanga.]
Performance Outcomes	A Vegetation Management Plan (VMP) shall be submitted to Council for certification at least XX months prior to the Construction Commencement Date. Certification shall be against the conditions of this consent, the objective(s) set out above and by reference to the draft VMP dated XXX referred to in the decision granting consent to the Project. The VMP shall be prepared by an appropriately qualified ecologist(s) and shall address native forest and wetland protection and effects avoidance, minimisation or rehabilitation measures, including: (a) Vegetation clearance protocols to protect surrounding habitat and to avoid intrusion of construction works beyond the construction area, such as the physical delineation of areas and individual significant or high value large trees that are close to but outside the Project footprint, directional felling of trees or sediment controls around wetlands; (b) Adherence to bat roost tree protocols (detailed in the LBMP);

	(c) Avoidance of vegetation clearance within tall stature exotic forest or pine forest during peak breeding season (September to December inclusive) (d) Proposed measures to avoid vegetation clearance within 50m of nests for Threatened and At Risk species, or within 25m for other indigenous species until chicks have fledged (detailed in the AMP); (e) Salvaging of lizards (detailed in the LMP); (f) Relocation of coarse wood (detailed in the HREP); and (g) Post quarrying rehabilitation into pasture grassland.
Monitoring	Inspection monitoring to confirm that requirements of consent conditions have been adhered to before, during and after vegetation clearance.
Reporting	Incident based reporting will be provided to Council within five working days of an unforeseen event occurring. A compliance monitoring report will be submitted to Council following completion of vegetation clearance by September of each year that vegetation clearance is undertaken (excluding improved pasture vegetation).

2.1.2 Consent Condition Scope

This VMP has been developed in accordance with [placeholder consent reference].

These conditions of consent will be addressed through the implementation, monitoring and reporting procedures set out in this VMP and interlinking plans. The term 'vegetation clearance' in this VMP refers to all vegetation clearance proposed to enable earthworks and land disturbance associated with the Project. The following plans are also relevant to the VMP [placeholder TBC]:

- The long-tailed bat, avifauna and lizard management plans within this EMP);
- Habitat Restoration and Enhancement Plan (HREP) within this EMP which provides detail on the location, type and magnitude of native habitat restoration and enhancement measures that are proposed to compensate for residual adverse ecological effects associated with this Project; and
- The Erosion and Sediment Control Plan (ESCP), which provides detail on erosion and sediment control effects and mitigation protocols.

2.1.3 Responsibilities and competencies

[placeholder – to be updated. Intent for Mana Whenua to provide input to identify roles].

Delivery of, and compliance with, the VMP will be the responsibility of the site manager who will liaise with an appropriately qualified and experienced Project ecologist(s) Project and vegetation clearance and earthworks contractors as required.

The responsibilities of the site manager include, but are not limited to:

- Reading and understanding the VMP and taking ecological advice when necessary;

- Facilitating a Project start-up meeting with the lead bat ecologist and herpetologist, site engineers, and vegetation clearance and earthworks contractors before vegetation clearance and earthworks commence for each stage of the Project. The objective of this meeting will be to determine habitats scheduled for clearance each season, enabling forward planning and avoiding delays in the construction and extraction schedule;
- Contacting the lead bat ecologist and lead herpetologist a minimum of 6 months before any non-pasture habitat is scheduled for clearance;
- Maintaining clear lines of communication with the Project ecologists, site manager and vegetation and earthworks contractors regarding changes in the works schedule;
- Briefing new personnel about the contractor's responsibilities under this plan; and
- Inviting iwi to participate in and support any vegetation or habitat salvaging and relocation as deemed necessary, to ensure appropriate exercise of kaitiakitanga responsibilities and that cultural concerns are addressed.

All personnel working on site are responsible for alerting the Project ecologists and the site manager to the discovery of any 'At Risk' or 'Threatened' flora and fauna not otherwise identified in this management plan.

The Project ecologist is responsible for reporting the discovery of 'At Risk' or 'Threatened' flora and fauna to the DOC Local Area Manager and for maintaining a database with an incident register and file log of actions taken for each such discovery.

2.1.4 Plan structure

This VMP is set out as follows:

- Section 2.1 – Introduction (this section);
- Section 2.2 – Summary of ecological effects and effects management;
- Section 2.3 – Protocols for managing effects of vegetation clearance, including pre-clearance, clearance, and site remediation protocols; and
- Section 2.4 – Compliance monitoring and reporting requirements.

2.2 Effects and effects management summary

2.2.1 Effects on vegetation/habitat

The Project is expected to result in the permanent loss of approximately 7.89 ha of variable quality habitat for terrestrial and wetland biodiversity values. Additionally, there will be a temporary loss of 19.63 ha of pasture habitat.

The actual and potential impacts of the Project associated with vegetation clearance are described in the AEcE (Alliance Ecology 2023) and the associated Long-tail bat report (Bluewattle 2023), and in summary include:

- Vegetation and habitat loss through vegetation clearance, earthworks and land disturbance, and potential changes to wetland hydrology;
 - Mortality or injury to species during vegetation clearance or earthworks;
 - Creation of habitat edge effects, altering the composition and health of adjacent vegetation, which may affect habitat suitability for flora and fauna; and
-

- Discharge of sediment to aquatic receiving environments that may affect the quality of wetland and stream habitats.

2.2.2 Effects management

A range of measures will be undertaken during construction to avoid and minimise adverse effects on vegetation/habitats and associated 'Threatened' or 'At Risk' species. These measures include:

- Vegetation management protocols (Section 2.3);
- Bat roost tree felling protocol;
- Bird nest surveys;
- Salvaging and relocation of lizards and lizard habitat (coarse wood) (Sections 4.3.1 and 2.3.3.1); and
- Site remediation to rehabilitate temporary loss of pasture habitat.

Additionally, residual effects will be compensated for via habitat restoration measures as set out in the Habitat Restoration and Enhancement Plan (Section 5).

2.3 Protocols for managing effects of vegetation clearance

Set out below are the management processes and protocols to avoid, remedy and mitigate adverse effects on vegetation clearance.

In the first instance, vegetation clearance will be avoided, where possible, during cooler months (May to September inclusive) to:

- minimise impacts on roosting bats; and
- minimise impacts on lizards by salvaging when these fauna are more active (and readily detected) and more likely to survive relocation.

Table 2.2 below summarises the vegetation management measures along with consent conditions, roles and management plans that relate to each vegetation management measure. Each measure is described in the section below.

Table 2.2: Summary of vegetation clearance measures and associated consent condition(s), roles and responsibilities and management plans relevant to each [placeholder – to be linked to specific conditions of consent].

Vegetation clearance management measures	Relevant consent conditions	Primary responsibility and relevant roles	Primary management plan (s)
Before vegetation clearance (section 2.3.1)			
Engage, report to, and seek feedback from Iwi	X	TBC and the Lead Project ecologist	Not applicable
Physical delineation	X	Project ecologist(s) in consultation site	VMP

Vegetation clearance management measures	Relevant consent conditions	Primary responsibility and relevant roles	Primary management plan (s)
		manager and vegetation clearance contractors	
Bat roost tree protocols	X	Lead bat ecologist in consultation with Project ecologist, construction engineer(s), arborist and vegetation clearance contractors	LBMP
Avifauna nest checks	X	Project ecologist in consultation with site manager and vegetation clearance contractors	AMP
Salvaging of lizards	X	Project ecologist/lead herpetologist in consultation with site manager and vegetation clearance contractors	LMP
During vegetation clearance (section 2.3.2)			
Ecological oversight of vegetation clearance and clearance management measures	X	Project ecologist and lead bat ecologist in consultation with site manager and vegetation clearance contractors	VMP, AMP, LBMP, LMP
Construction assisted lizard salvaging in select high value habitats	X	Project ecologist/lead herpetologist in consultation with site manager and vegetation clearance and earthworks contractors	VMP + LMP
Stockpiling coarse wood for relocation - TBC	X	Project ecologist/lead herpetologist in consultation with site manager and vegetation clearance contractors	VMP + HREP
Post vegetation clearance (section 2.3.3)			
Mitigation plantings	X	XX	
Rehabilitation of habitat back into pasture post mining	X	Site manager in consultation with contractor	VMP

Vegetation clearance management measures	Relevant consent conditions	Primary responsibility and relevant roles	Primary management plan (s)
Relocation of coarse wood – TBC	X	Project ecologist/lead herpetologist in consultation with site manager and earthworks contractors	VMP + HREP

The vegetation clearance management measures are provided below in order of occurrence i.e. before (section 2.3.1), during (section 2.3.2) and after clearance (section 2.3.3).

2.3.1 Pre-clearance protocol

2.3.1.1 Physical delineation

The Project footprint will be physically delineated to minimise potential for incidental vegetation/habitat loss outside the footprint. Individual mature native trees or bat roost trees located near to, but outside, the Project footprint will also be identified by the lead bat ecologist and marked by flagging tape or fencing to avoid inadvertent clearance and to minimise potential damage to branches and roots.

2.3.1.2 Sediment and erosion control

Prior to vegetation clearance, sediment control measures will be undertaken to avoid or minimise effects on aquatic species due to effects on water quality. Procedures for minimising the area and duration of soil exposure from vegetation clearance will be undertaken in accordance with the ESCP.

2.3.1.3 Fauna surveys and salvaging

Procedures to avoid or minimise impacts to bats, birds and lizards prior to vegetation clearance are summarised in Table 2.3 below and addressed in detail in the respective plans. DOC permits allowing species-specific salvaging and relocation operations will apply.

Table 2.3: Fauna management surveys and salvaging required prior to vegetation clearance (TBC)

Taxa	Pre- vegetation surveys and salvaging	Management Plan reference
Bats	Pre-vegetation clearance bat monitoring and implementation of tree-felling protocol for potential bat roost trees.	LBMP
Birds	Nest checks outside peak breeding season (clearance avoided during this time) but during the remaining bird	AMP

Taxa	Pre- vegetation surveys and salvaging	Management Plan reference
	breeding season (January to March inclusive in exotic forest and pine habitat (see Appendix A, Figure 1)	
Lizards	Deployment of Artificial Cover Objects (ACO) in all non-pasture habitat a minimum of 3 months prior to vegetation clearance	LMP

2.3.2 Clearance protocol

Vegetation removal will commence only after all pre-clearance management measures have been implemented and have been confirmed by the Project ecologist in consultation with the lead bat ecologist and lead herpetologist.

Vegetation will only be cleared immediately prior to construction works beginning in the Project footprint to reduce both habitat effects and the potential for erosion and sediment generation.

During vegetation clearance activities, maintenance of physical delineation barriers and erosion and sediment control measures as described in the ESCP will be ongoing.

As described in the LMP, machinery-assisted lizard salvaging will be undertaken during vegetation clearance.

Felled trees and already fallen logs (herein coarse wood) are ecologically important to forest regeneration processes and as habitat for a wide range of species. As such, coarse wood will be salvaged and stockpiled for the purposes of relocation into restoration and habitat enhancement sites. Coarse wood will be placed into small and compact windrows within defined areas with stockpile locations determined via consultation with the lead herpetologist site manager and vegetation clearance contractors.

Priority coarse wood for stockpiling includes large (> 50 cm diameter) felled logs or trunks of native (preferably) or exotic trees. These should be cut up into manageable portions (0.5 – 3 m sections). Enough coarse wood should be stockpiled across the footprint to allow for the relocation of 100m of coarse wood into habitat restoration and enhancement areas.

2.3.3 Post-clearance protocol

2.3.3.1 Relocation of coarse wood

Coarse wood will be relocated to restoration and habitat enhancement sites via machinery where-ever this can be undertaken without adverse effects on vegetation outside the Project footprint. Deployment is to be directed by the lead herpetologist in consultation with the site manager and vegetation and earthworks contractors.

2.3.3.2 Mitigation plantings

2.3.3.3 Mitigation plantings

To protect habitat restoration and enhancement plantings from potential disturbance associated with quarrying activities, native mitigation buffer plantings of approximately 0.837 ha (10m width x 837m length) will occur along the northern boundary of the Project footprint between the eastern edge of Gully A basin wetland and the head of Gully E (See Appendix A, Figure 2).

These mitigation buffer plantings, including the site preparation, planting specifications and maintenance regime will be identical to that proposed for terrestrial revegetation on slopes as set out in the HREP (Section 5, Table 5.4).

2.4 Compliance monitoring and reporting

Compliance or incident reports described in this section will be submitted to Waipā DC and WRC.

2.4.1 Incident monitoring and reporting

Incident-based reporting will be provided to Council as soon as practicable but no more than five working days after an unscheduled event associated with vegetation clearance. Such events include notable compliance failure that results in adverse ecological effects, or an event that causes vegetation damage on a scale that requires an urgent remedy according to the Project ecologist to return to compliance with any section of the EMP and planting programmes.

The incident-based report will include the following information:

- The causes of the incident, the emergency response measures (if applicable) and the response proposed to avoid a recurrence of the issue;
- An assessment undertaken by a suitably qualified ecologist which details any adverse effects of the exceedance; and
- Proposed, measures to avoid, remedy or mitigate effects or to offset or compensate for significant residual effects that cannot be avoided, remedied or mitigated.

All incidents will be tracked to resolution through the site's compliance management system.

2.4.2 Post-clearance

An annual post-clearance monitoring report shall be submitted to Council within three months following vegetation clearance (excluding improved pasture vegetation). The report shall include confirmation that the vegetation clearance protocols were adhered to in accordance with this VMP. This shall include:

- Maps illustrating areas of vegetation clearance undertaken during the previous clearance season.
 - Photos showing stockpiled coarse wood for deployment to enhance habitat in accordance with Section 2.3.3.1 above, and Section 5.3.2.5 of the HREP.
-

- Post-clearance reports relating to bat roost protocol and lizard plans will be required under the LBMP and LMP respectively.

3 Avifauna Management Plan

3.1 Introduction

3.1.1 Plan purpose

This Avifauna Management Plan (AMP) sets out the methods that will be used to avoid or minimise potential adverse effects on avifauna.

Legislation affords protection to native avifauna. Most native avifauna on site are protected by the Wildlife Act 1953 and the Resource Management Act 1991 (RMA) affords protection to significant habitats of indigenous fauna. Furthermore, several species identified on site are classified as 'Threatened' or 'At Risk' under the DOC National Threat Classification System (NZTCS).¹

Table 3.1: Purpose, specific objectives, performance measures and monitoring relevant to this AMP (placeholder – update with references to conditions of consent)

Purpose	This AMP outlines how avifauna management during Project construction and operation meets the requirements of condition XXX of the resource consent conditions dated XXXX.
Specific Objectives	The objective of this AMP is to achieve the standards set out in Condition XX and to avoid, remedy, minimise or mitigate the potential adverse effects of the Project on avifauna. [Placeholder: Additional objectives as considered relevant and appropriate by iwi in the application of mātauranga Māori and exercise of kaitiakitanga.]
Performance Outcomes	This AMP includes provisions for bird breeding protection and effects minimisation including: • Avoidance of vegetation clearance (excluding pasture habitat) during peak bird breeding season (September – December inclusive) • Indigenous bird nest survey and checks within any vegetation to be cleared during late breeding season (January – March inclusive). • Proposed controls for maintaining a 50 m setback of vegetation clearance from nests of 'Threatened' and 'At Risk' bird species during bird breeding season, until chicks have fledged; and • Proposed controls for maintaining a 25 m setback of vegetation clearance from nests of other indigenous bird species during bird breeding season, until chicks have fledged.

¹Robertson, H. A., Baird, J. E., Elliott, G. P., Hitchmough, R. A., McArthur, N. J., Makan, T. M., Miskelly, C. M., O' Donnell, C. J., Sagar, P. M., Scofield, P., Taylor, G. A. & Michel, P. (2021). *Conservation status of birds in Aotearoa New Zealand, 2021*. New Zealand Threat Classification Series 36. Department of Conservation, Wellington. 43 p.

Monitoring	Compliance monitoring to ensure that relevant consent conditions have been met and protocols set out in the AMP have been adhered to.
Reporting	- Incident based reporting will be provided to Waipā DC and WRC within five working days of an unforeseen event occurring. - An annual post-clearance compliance monitoring report will be submitted to Waipā DC and WRC in XXX following completion of vegetation clearance (as specified in the VMP).

3.1.2 Consent condition scope

[placeholder – update with specific conditions of consent]

The requirements of consent conditions for the proposed sand quarry will be addressed through the implementation, monitoring and reporting procedures set out in this AMP and the following interlinking plans. The term ‘vegetation clearance’ in this AMP refers to all vegetation clearance proposed to enable construction earthworks associated with the sand quarry.

Further measures to address effects on birds are detailed in the following plans:

- **The Vegetation Management Plan (VMP)** which provides detail on how adverse effects associated with vegetation clearance (including effects on breeding birds) will be avoided or minimised through vegetation clearance protocols.
- **The Erosion and Sediment Control Plan (ESCP)**, which provides detail on erosion and sediment control effects and mitigation protocols, which relate to the mitigation of sediment impacts on wetland bird habitat.
- **Habitat Restoration and Enhancement Plan (HREP)**, which provides detail on the location, magnitude and type of native habitat restoration and enhancement measures that are proposed to offset or compensate for significant residual effects on terrestrial ecological values, and adverse effects on natural inland wetland values affected by the sand quarry, including for avifauna.

3.1.3 Wildlife Act Authority Requirements

Most native avifauna on site are protected by the Wildlife Act (1953). If an activity is likely to disturb or kill protected wildlife or their eggs, then a Wildlife Act Authority (WAA permit) is needed from the Department of Conservation.

Handling of wildlife (whether injured or dead) is permitted only with a WAA. The WAA permit conditions must also be followed for accidental discovery (Section 3.5 below). Protocols for collecting bird carcasses are provided in Section 3.4 below.

This AMP shall be updated to achieve consistency with any authorisation given by the Director-General of Conservation under section 53 of the Wildlife Act 1953 where any such authorisation is required.

3.1.4 Responsibilities and competencies

[placeholder – to be updated. Intent for Mana Whenua to provide input to identify roles].

Delivery of, and compliance with, the AMP will be the responsibility of the site manager who will liaise with an appropriately qualified and experienced Project ecologist(s) and vegetation clearance and earthworks contractors as required.

The responsibilities of the site manager include but are not limited to:

- Reading and understanding the AMP;
- Facilitating a Project start-up meeting with the site engineer, lead ornithologist and the vegetation clearance contractors before vegetation clearance commences for each construction stage. The purpose of this meeting is to establish the areas scheduled for clearance to enable forward planning and avoid delays in the construction and excavation schedule;
- Contacting the project ecologist(s) a minimum of two weeks before vegetation clearance (excluding clearance of pasture);
- Inviting iwi to participate in and support any survey deemed necessary so that iwi can exercise kaitiakitanga responsibilities and so that cultural concerns are addressed; and
- Maintaining clear lines of communication with the project ecologist(s) and the vegetation clearance contractors regarding changes in the works schedule.

All personnel working on site are responsible for alerting the site manager and lead ornithologist to the discovery of any 'At Risk' or 'Threatened' birds not otherwise identified in this management plan.

The site manager in consultation with the lead ornithologist is responsible for reporting the discovery of 'At Risk' or 'Threatened' bird species to the Local Area Manager (DOC) and for maintaining a database with an incident register and file log of actions taken for each such discovery.

3.1.5 Plan structure

This AMP is set out as follows:

- Section 3.1 – Introduction (this section);
- Section 3.2 – Summary of effects and effects management;
- Section 3.3 – Protocols for managing vegetation clearance effects;
- Section 3.4 – Bird injury and mortality protocols;
- Section 3.5 – Accidental discovery protocol (at risk or threatened birds); and
- Section 3.6 – Compliance monitoring and reporting.

3.2 Summary of effects on avifauna and effects management

3.2.1 Effects on avifauna

Detailed information on potential effects on avifauna and proposed effects management is provided in the Ecology Report (Alliance Ecology 2023) and the associated bat report (Bluewattle Ecology 2023).

Potential adverse effects associated with the construction and operation of the sand quarry primarily include harm to eggs and chicks during breeding season and loss of terrestrial habitat.

3.2.2 Proposed effects management

In summary, these effects will be avoided, remedied or mitigated through:

- Avoidance of vegetation clearance in all habitats except managed pasture during peak breeding season (September – December inclusive)
- Nest surveys prior to vegetation clearance during late breeding season (January to March inclusive)
- Protocols for managing accidental bird injury and mortality
- Initiatives determined by iwi.

These measures are summarised in Table 3.2 below.

Additionally, the HREP address significant residual adverse effects on avifauna and other terrestrial biodiversity values that cannot be avoided, remedied or mitigated. This plan provides detail on the location, type and magnitude restoration and enhancement proposed to compensate for residual adverse effects on avifauna associated with the Project.

Table 3.2: Avifauna effects management summary.

Avifauna	Effect to be managed	Key timeframes	Effects management	Relevant Management plans
All native avifauna	Vegetation clearance (all habitats except managed pasture)	Peak bird breeding season (Sept – Dec inclusive)	Effects avoidance during peak bird breeding season (Sept – December)	AMP and VMP
	Pre-vegetation clearance surveys	Late bird breeding season (Jan – Mar inclusive)		AMP and VMP
	All significant residual effects that cannot be avoided, minimised or remedied.	All year	Habitat restoration and enhancement measures including removal of livestock and native revegetation of wetland and terrestrial habitats	HREP

3.3 Protocols for managing vegetation clearance effects on avifauna

Best practice measures to avoid or minimise potential adverse effects of the Project activities on indigenous bird species are set out below. These measures incorporate the use of mātauranga and tikanga Māori in collaboration with iwi TBC.

Non-pasture habitats are focal areas for managing effects on native birds.

Table 3.3 summarises the avifauna management measures along with and the relevant management plans that address each effect. Each measure is described in the section below.

Table 3.3: Summary of avifauna management associated consent condition(s), and primary management plans relevant to each section (placeholder – to be updated to reflect conditions of consent).

Avifauna management measures	Relevant consent conditions	Primary management plan(s)
Engage, report to, and seek feedback from iwi		
Avoidance of non-pasture vegetation clearance during peak breeding season		
Nest surveys during late breeding season (Jan – Mar inclusive)		AMP
Section 3.4 Bird injury and mortality protocol		AMP
Section 3.5: Accidental discovery protocol		AMP

3.3.1 Avoidance of vegetation clearance during peak breeding season

Vegetation clearance (excluding managed pasture) will be avoided during peak breeding season which includes the months of September to December inclusive.

3.3.2 Nest surveys during late breeding season

Within 48 hours prior to vegetation clearance during late bird breeding season (January to March inclusive nest surveys must be undertaken to confirm that no active nests of indigenous avifauna (nests with eggs or chicks present) are located within the area proposed for vegetation clearance.

In the event that active nests for indigenous avifauna are present, then a 50m buffer (threatened or at risk species) or 25 m buffer (non-threatened indigenous species) must be established and delineated with no vegetation allowed within these buffers until chicks have fledged (as confirmed by the lead ornithologist).

3.4 Bird Injury and Mortality Protocols

Handling of wildlife (whether dead or injured) requires a WAA from the Department of Conservation.

The location of any discovered injured bird or carcass must be recorded, the bird photographed at the location and an incident mortality data sheet filled out.

If an injured native bird is found during construction or operations, the following procedures will be implemented:

- Injured native birds will be taken immediately to a vet approved by DOC for assessment;
- Birds will be placed in a cool, dark, material-lined box/bag by or under the direction of a Project ecologist to ensure the bird is handled appropriately;
- The local DOC office or DOC hotline (if after hours) will be contacted no longer than two hours after the injured or dead bird is found. The DOC hotline is 0800 DOCHOTLINE (0800 362 468); and
- Contact information for approved contact in the event of native bird injury or mortality shall be advised by DOC.

Note: It is anticipated that mana whenua involvement will be through established protocols with DOC; however, a process for notifying iwi will also be confirmed.

DOC and veterinary advice shall be sought in conjunction with a suitably trained Project ecologist when considering the rehabilitation requirements of any injured native birds (for example, legislative requirements will need to be considered). Once the vet has made an assessment, the Project ornithologist will, taking into account the advice from the vet, determine any rehabilitation action required and the longer-term future for the bird/s. If the bird is euthanised by the vet, it must be taken to the local DOC office as soon as practicable.

3.5 Accidental discovery protocol (threatened species)

All personnel working on site are responsible for alerting the Project ecologist and the site manager of the discovery of any 'At Risk' or 'Threatened' avifauna not otherwise identified in this management plan on the same working day as the discovery.

Any 'At Risk' or 'Threatened' avifauna species not identified in this management plan will be reported to the DOC Local Area Manager and [Mana Whenua]. All such discoveries are to be recorded in a database with an incident register and log of actions taken for each discovery.

3.6 Compliance monitoring and reporting

Compliance or incident reports will be submitted to WRC and Waipā DC as set out below.

This report will be prepared by an appropriately qualified and experienced ecologist(s) certifying that the works have been carried out in accordance with the approved AMP and shall provide details of the outcomes of any bird nest checking, or instances of native bird mortality or injury.

In light of findings and results, all proposed changes in management approaches described in this AMP will be undertaken in consultation with Waipā DC and WRC. Specialist and expert advice will be sought as appropriate to improve the management approach as necessary.

Compliance reporting on restoration planting to address significant residual effects on indigenous avifauna is addressed in the HREP and AMP.

3.6.1.1 Incident monitoring and reporting during vegetation clearance

Incident-based reporting will be provided to Council, within 5 working days of an unforeseen event (e.g. notable compliance failure that results in adverse ecological effects), and will include the following information:

- The causes of the incident, the emergency response measures (if applicable) and the response proposed to prevent a recurrence of the issue;
- An assessment undertaken by a suitably qualified ecologist which details any adverse effects of the issue; and
- Proposed measures to avoid, remedy or mitigate effects or to offset or compensate for significant residual effects of the issue that cannot be avoided, remedied or mitigated.

DRAFT

4 Lizard Management Plan

4.1 Introduction

4.1.1 Plan purpose

All native lizards on site are protected by the Wildlife Act 1953 and the Resource Management Act 1991 (RMA) which affords protection to significant habitats of indigenous fauna.

The 'At Risk' (declining) copper skink (*Oligosoma aenea*) is expected to be present on site and the introduced plague skink is known to be present. No other species are expected to be present due to an absence of suitable habitat or habitat that is contiguous with suitable habitat.

The Lizard Management Plan (LMP) describes measures to reduce potential effects to copper skinks that will be impacted by the Project if present.

Table 4.1: Purpose, specific objectives, performance measures and monitoring relevant to this LMP (placeholder – to be updated to reflect conditions of consent).

Purpose	This LMP describes how measures to reduce potential effects to copper skink will be impacted by the Project meets the requirements of conditions [XX] of the resource consent conditions dated XXX.
Specific Objectives	The objective of this LMP is to achieve the standards set out in Condition XX, and to minimise any potential effects on copper skink within suitable habitat. [Placeholder: Additional objectives as considered relevant and appropriate by iwi in the application of mātauranga Māori and exercise of kaitiakitanga.]
Performance Outcomes	This LMP has been prepared by a suitably qualified and experienced herpetologist to include: (a) Timing of the works; (b) A description of salvaging methodology; and (c) A description of relocation methodology, including transfer methods, relocation site(s) selection and relocation site habitat enhancement measures.
Monitoring	Recording the sex, age class, snout to vent length, and location of capture and release of any salvaged copper skink [Placeholder: Additional monitoring that may be identified by iwi in relation to cultural matters]
Reporting	- A compliance monitoring report will be submitted annually during construction to Waipā DC and WRC within 20 working days of completion of salvaging and relocation operations for each earthworks season. - Relocation site log deployment and pest monitoring compliance (TBC)

	• Reporting requirements outlined in Wildlife Act Authority (Authorisation no. XXX-FAU) will be adhered to and submitted to DOC annually (by June 30th each year).

4.1.2 Consent condition scope

[Placeholder: This LMP has been developed in accordance with consent conditions [xx].

The requirements of these consent conditions will be addressed through the implementation, monitoring and reporting procedures set out in this LMP and the following interlinking plans. The term 'vegetation clearance' in this LMP refers to all vegetation clearance and habitat loss proposed to enable construction earthworks associated with the sand quarry. Further measures to address effects on lizards are detailed in the following plans:

- **The Vegetation Management Plan (VMP)**, which provides detail on how adverse effects associated with vegetation clearance (including effects on lizard habitat) will be avoided or minimised through vegetation clearance protocols. This includes the salvaging, felling, stockpiling and relocation of coarse wood into compensation sites to provide additional habitat for lizards (and invertebrates) in these locations.
- **Habitat Restoration and Enhancement Plan (HREP)**, which provides detail on the location, magnitude and type of native habitat restoration and enhancement measures that are proposed to offset or compensate for significant residual effects on ecological values affected by the sand quarry, including for lizards.

4.1.3 Wildlife Act Authority Requirements

All indigenous lizards are legally protected under the Wildlife Act 1953 (Wildlife Act).

This LMP will be used to support a Wildlife Act permit application to the Department of Conservation (DOC) to authorise the following:

- Handling of lizards (including non-threatened, 'At Risk' and 'Threatened' lizard species); and
- Capture, relocation and release of lizard species from the Project footprint; Inadvertent lizard injury and death; and Accidental discovery (threatened species).

WWA Permit reporting requirements will be adhered to as specified in Section 4.6.3 below.

4.1.4 Responsibilities and competencies

[placeholder – intent for Mana Whenua to provide input to identify roles].

Delivery of, and compliance with, the LMP will be the responsibility of the site manager who will liaise with an appropriately qualified and experienced Project ecologist(s) and vegetation clearance and earthworks contractors as required. The responsibilities of the site manager are to:

- Facilitate a Project start-up meeting with the lead herpetologist, site manager, site engineer(s) and vegetation clearance and earthworks contractors before the earthworks season commences to determine habitats scheduled for clearance to enable forward planning and avoid delays in the construction schedule;

- Contact the project ecologist(s) a minimum of 6 months before any of the areas outlined in the [x-ref constraints map] and Table 4.2 below are scheduled for clearance;
- Invite iwi to participate in and support any translocation deemed necessary, to ensure appropriate exercise of kaitiakitanga responsibilities and that cultural concerns are addressed;
- Maintain clear lines of communication with the lead herpetologist, site manager, site engineer(s) and vegetation clearance and earthworks contractors regarding changes in the works schedule; and,
- Brief new personnel about the vegetation clearance contractors responsibilities under this plan.

All personnel working on site are responsible for alerting the lead herpetologist, site engineer(s) and the site manager upon discovery of any 'At Risk' or 'Threatened' lizards not otherwise identified in this management plan.

The lead herpetologist is responsible for reporting the discovery of 'At Risk' or 'Threatened' lizards to the Local Area Manager (DOC) and for maintaining a database with an incident register and file log of actions taken for each discovery of an 'At Risk' or 'Threatened' lizard not otherwise identified in this management plan.

4.1.5 Plan Structure

This LMP is set out as follows:

- Section 4.1 – Introduction (this section);
- Section 4.2 – Summary of lizard values and effects;
- Section 4.3 – Protocols for effects avoidance, including salvaging protocols (section 4.3.1) and relocation protocols (section 4.3.3);
- Section 4.4 – Inadvertent injury or death;
- Section 4.5 – Accidental discovery protocol; and
- Section 4.6 – Monitoring and reporting requirements.

4.2 Effects and effects management summary

Detailed information on ecological values, effects and effects management is provided in the AEcE (Alliance Ecology 2023) and Assessment of Ecological Effects (Kinetic Environmental, 2023) and summarised below.

Copper skinks are expected to be directly and indirectly impacted by the loss of terrestrial vegetation within the footprint, which includes a total of 3.64 ha.

Potential adverse effects on lizards that are associated with the construction within the sand quarry Project footprint will primarily occur through habitat loss associated with vegetation clearance, earthworks. These effects will be avoided, remedied or mitigated through:

- Seasonal constraints on vegetation clearance (vegetation clearance only during earthworks season – during these warmer months lizards are more active and less cryptic) as detailed in the VMP;
- Vegetation clearance protocols to minimise the potential for effects outside the required Project footprint (detailed in the VMP); and
- Vegetation clearance salvage and relocation operations for copper skinks (as set out in this LMP).

To address residual adverse effects on copper skinks and other terrestrial biodiversity values that cannot be avoided, minimised or remedied, habitat restoration and enhancement measures are set out in the HREP (Section 5). This plan provides detail on the location, type and magnitude of restoration and enhancement proposed to compensate for residual adverse effects on lizards associated with the Project.

Table 4.2 Summary of measures to minimise effects on copper skinks, and associated consent condition(s) and management plans [placeholder: to be updated].

Salvaging and relocation protocols	Relevant consent conditions	Relevant management plan (s)
Engage, report to, and seek feedback from iwi		
Section 4.3.1: Salvaging protocol (ACO checks, manual day salvaging)		LMP
Section 4.3.3: Relocation protocol, including capture, handling and relocation site selection and release		LMP, HREP
Section 4.4: Accidental death or injury protocol		LMP
Section 4.5: Discovery of additional 'Threatened' or 'At Risk' species		LMP

4.3 Protocols for effects avoidance and minimisation

4.3.1 Salvaging protocol

The protocols for lizard salvaging and relocation specified below are consistent with standard methodologies from DOC's Inventory and Monitoring Toolbox: Herpetofauna² and are commonly used on many construction Projects. The methodologies have been adapted in this LMP for local site conditions at the sand quarry.

²Lettink, M. (2012). Department of Conservation Inventory and Monitoring Toolbox: Herpetofauna. Department of Conservation, Wellington

4.3.1.1 Salvaging footprint and timing

Lizard salvaging is proposed in all instances where the Project footprint includes potential lizard habitat to reduce mortality or injury during vegetation clearance and associated earthworks.

High-level assessment of lizard habitat has already been undertaken as outlined in the Ecology Report (Alliance Ecology, 2023), and habitat includes all cover objects and vegetation within the Project footprint (excluding managed pasture).

Salvage methodologies will only be undertaken during the period from 1 October to 30 April inclusive. Lizard salvage will be undertaken using methodologies described below. The specific salvage methodologies will be guided by the lead herpetologist (lizard ecologist) based on their assessment of the lizard habitat. The lead herpetologist has discretion to include or exclude salvage in certain areas based on the type and quality of habitat being cleared.

4.3.1.2 Pre-clearance salvaging

Pre-clearance salvaging will be undertaken only during the warmer months (October – April inclusive) when lizard species are more active and therefore more likely to be detected during salvaging operations.

For the purpose of this management plan, suitable weather is defined as minimum temperatures of 15°C for daytime salvaging, with light winds and fine weather.

Pre-clearance salvaging will involve the deployment of Artificial Cover Objects (ACOs) to capture native lizards within suitable habitat types as well as manual searching, which includes turning over cover objects.

A total of XX ACOs (ca. 30 ACOs per ha) will be deployed at least three months prior to vegetation clearance within the approximate XX ha area. Each ACO will be deployed in suitable microhabitat spaced at least 5 m apart within potential lizard habitat. Each ACO will consist of two stacked onduline sheets measuring approximately 450 mm x 400 mm.

Checking of ACOs will commence four weeks prior to vegetation clearance, continuing at two-week intervals up to and immediately prior to vegetation clearance (i.e. three checks per ACO). The ACO checks will be undertaken during weather conditions and timeframes deemed by the lead herpetologist to be suitable for ACO-based lizard capture.

4.3.1.3 Clearance salvaging

If copper skink are detected during pre-clearance salvaging, then systematic manual, destructive, and/or machine-assisted salvaging will be undertaken during vegetation clearance (excluding pasture habitat).

Manual salvaging on the same day as vegetation clearance will include:

- Turning over or pulling apart of all cover objects that can be feasibly searched (e.g. coarse woody debris or rocks);
 - Select habitat searches of low growing epiphytes, dense low-growing vegetation, loose tree bark, fern skirts and woody debris.
-

Construction (machinery) assisted salvaging during vegetation clearance activities will be undertaken in conjunction with:

- Habitat reduction of low stature non-woody vegetation using a mulching head or a scraping bucket to render habitat unsuitable and to facilitate detection/salvaging of lizards; and
- Turnover, checking and stockpiling of all large cover objects (e.g. large decomposing logs) that cannot be searched manually.

Manual salvaging immediately after vegetation clearance will be undertaken and will involve manual searching of the Project footprint immediately after vegetation clearance.

4.3.2 Data collection

Each individual copper skink will be assigned a number and the following information will be recorded:

- Date and time of capture and weather conditions;
- Capture methodology;
- Capture location (GPS coordinates), capture methodology, habitat type;
- Sex (reproductive status for females), age class, Snout to Vent Length (SVL) and tail status (regenerating versus original tail), and overall health and condition; and
- A minimum of one photograph of each captured lizard, including at least one photograph showing the dorsal surface clearly.

4.3.3 Relocation protocol

This section provides detail on the methods that will be used for lizard relocation.

4.3.3.1 Handling and release protocol

The following steps will be undertaken by the Project herpetologist to ensure appropriate handling of lizards occurs. The transportation of all lizards will comply with the Animal Welfare (Transport within New Zealand) Code of Welfare.³

Capture, handling and relocation of lizards will be undertaken in accordance with the following methodologies:

- All field equipment that indigenous lizards may come into contact with (e.g. plastic enclosures, collection bags, scales, etc.) will be sterilised;
- Hand sterilisation will be undertaken;
- Salvaged lizards will be placed in either cloth bags (only during salvage), or in suitable ventilated plastic containers (during transportation). Care will be taken so that the bags and containers will be kept at a constant ambient temperature. Vegetation/leaf litter will be added to plastic containers to shelter and protect lizards during transportation;

³ Ministry for Primary Industries (2018). Code of Welfare: Transport within New Zealand. MPI, Regulation and Assurance Branch, Wellington 6140

- Where practical, lizards will be placed into ventilated two-litre plastic containers for no longer than 8 hours for transportation and relocation to the relocation site; and
- Lizards will be released into appropriately prepared and protected habitat suitable for the species being relocated.

Upon release, the following information will be recorded for each lizard:

- Date and time of release and weather conditions;
- Release location (GPS coordinates) and habitat type; and
- Release photograph(s).

4.3.3.2 Relocation site requirements

Key aspects of the lizard relocation site(s) are that:

- It includes a diversity of adjoining habitats, namely rank grassland, regenerating exotic shrublands or forest, and is readily accessible.
- It lies immediately adjacent to the compensation area (see HREP and Map XX), which will be subject to the habitat restoration and enhancement measures that will also benefit relocated lizards, including:
 - Removal of livestock;
 - Deployment of felled coarse woody debris (decaying or felled logs) that have been salvaged from the Project footprint (specifics to be determined); and
 - Native revegetation.

4.4 Inadvertent lizard injury or death

The following steps will be implemented if any injured or dead lizards are found during lizard salvage as per Wildlife Act Authority Permit (Authorisation no. XXXX-FAU):

- The Project herpetologist will notify DOC at the earliest opportunity within 24 hours after an injured or dead lizard is found;
 - Any dead lizard of a Threatened, At Risk, or Data Deficient species shall be sent to XXX Wildlife Post Mortem Service for necropsy:
 - The body is to be chilled if it can be delivered within 24 hours, or frozen if longer than 24 hours to deliver.
 - Appropriate measures shall be undertaken to minimise further lizard deaths;
 - Injured lizards found during salvage will be taken to a suitably qualified vet as soon as possible for assessment and treatment. Injured lizards will be kept in an appropriate portable enclosure (i.e., a clean, well-ventilated plastic container) under the direction of the Project lizard ecologist to ensure the animal is handled appropriately until the lizard(s) can be assessed and treated;
 - Lizards assessed by the vet or alternative specialist as uninjured, or otherwise in suitable condition for release, will be transported to the lizard relocation site in the portable enclosure and released into habitat suitable for the species being relocated; and
 - Euthanasia of an injured lizard shall only be undertaken under direction from DOC.
-

4.5 Accidental discovery protocol (threatened species)

As part of site inductions, all contractors and staff will be made aware of the possibility of the 'Threatened' and 'At Risk' lizard species being present, and will be supplied with photographs so they know what they look like.

Contractors and staff will also be briefed regarding the accidental discovery protocol and all personnel will be made familiar with the lizard recovery and translocation protocols set out below.

Personnel are responsible for alerting the site manager in the discovery of any 'At Risk' or 'Threatened' herpetofauna on the same working day as the discovery who will in turn inform the lead herpetologist, who will inform the site manager.

Any 'At Risk' or 'Threatened' species will be reported to the DOC Local Area Manager and iwi by the lead Herpetologist. All discoveries are to be recorded in a database with an incident register and log of actions taken for each discovery.

If additional 'At Risk' or 'Threatened' species not addressed by this EMP are discovered at any stage in the lifetime of the Project, these species will be incorporated into this EMP.

Should any novel lizard species be recorded, an experienced herpetologist will be engaged to submit the record to the DOC Amphibian and Reptile Distribution Scheme (ARDS), to undertake a follow up survey and make recommendations (if any), and to review relevant aspects of this EMP accordingly.

4.6 Compliance reporting

4.6.1 Compliance monitoring report

A compliance monitoring report will be submitted annually during construction to Waipā DC and WRC. The compliance monitoring report will be submitted within 20 working days of completion of salvaging and relocation operations for each earthworks season. The annual report will also be provided concurrently to iwi.

This report shall include:

- Confirmation that lizard salvaging and relocation operations were undertaken in accordance with the LMP and associated consent conditions;
- Salvage and relocation results;
- Relocation site pest monitoring results to verify that pest reduction targets have been met and that pest control protocols have been adhered to for management of browsers; and
- Recommendations for potential changes to improve the effectiveness of lizard management in relation to the LMP scope.

Notable changes to salvage and relocation protocol will be undertaken in consultation with WRC, Waipā DC, DOC, iwi Project partners, and/or stakeholders (as required). Resulting changes and updates to the LMP, following consultations, will be effective upon confirmation with all respective groups.

The compliance monitoring report shall also include representative photos showing:

- The salvaging methodologies; and
- Captured lizards, including both salvage and relocation site photos.

Annual reporting will cease once lizard salvage has been completed and all captured lizards have been relocated to the release site. A final report summarising the outcomes of LMP implementation will then be prepared and submitted to Waipā DC and WRC within three months following final lizard release.

No post-monitoring of lizards is proposed within the relocation site to determine if relocation has been successful unless the triggers set out in Section 4.6.2 below are realised. This is due to the inherent difficulties associated with marking individuals and with obtaining and interpreting meaningful data on the expectation that the number of lizards salvaged will be low, the lizards are difficult to detect and absence of detection does not constitute confirmation of relocation failure (e.g. lizards may all survive but may disperse away from the relocation site and outside of the monitoring footprint).

[Placeholder – specifics dependent on conditions of consent].

4.6.2 Triggers for post-translocation monitoring (TBC)

Monitoring at the release area will be required 50 or more individuals are relocated.

If this requirement for monitoring is triggered, a five-year monitoring plan will be developed with guidance from DOC, and designed in accordance with numbers and species moved or known to be naturally present at the release site.

If a monitoring requirement is triggered, a brief annual report on the monitoring will be submitted to Waipā DC and WRC, the Department of Conservation and iwi.

4.6.3 Wildlife Act Authority Monitoring

Reporting requirements outlined in Wildlife Act Authority Permit (Authorisation no. XXX-FAU) will be adhered to. Lizard capture and relocation data will also be compiled, summarised and submitted to DOC's national data repository for lizard records (the Bioweb Herpetofauna database) annually (by 30 June each year). As a minimum, the report will include the following information:

- DOC Wildlife Act Authority number and Project name and location;
- A summary of the species, numbers and age/sex classes of lizards captured;
- Locations of lizards captured; and
- Summary of salvage methodologies, effort and success.

5 Habitat restoration and enhancement plan

5.1 Introduction

5.1.1 Plan Purpose

Collectively this HREP sets out procedures for how the sand quarry will compensate for residual adverse effects on terrestrial and wetland values and associated species.

5.1.2 Consent condition scope

This HREP has been developed in accordance with resource consent conditions for the sand quarry (Consent number XXX).

Table 5.1: Summary of habitat restoration and enhancement measures, associated consent conditions and inter-linking management plans (to be updated to reflect consent conditions)

Ecological enhancement and restoration plan protocols		Relevant consent conditions	Inter-linking plan(s)
Section 5.3: Ecological enhancement and restoration		[xx]	Not Applicable
Section 5.3.2 Site preparation	Section 5.3.2.2: Weed plant control	[xx]	Not Applicable
	Section 5.3.2.3: Pest animal (browser) control	[xx]	Not Applicable
	Section 5.3.2.4: Stock-proof fencing	[xx]	Not Applicable
	Section 5.3.2.5: Felled log deployment	[xx]	VMP, LMP
Section 5.3.3: Planting method, guidelines, and specifications		[xx]	Not Applicable
Section 5.3.4: Post-planting maintenance		[xx]	Not Applicable
Section 6.3.5: Artificial roost boxes		[xx]	LBMP
Section 5.3.6: Programme		[xx]	Not Applicable
Section 5.4 Monitoring and compliance reporting		[xx]	Not Applicable

[TBC whether all compensation sites will be protected in the form of covenants on the titles].

These consent conditions will be addressed through the implementation, monitoring and reporting procedures set out in this HREP and the interlinking plans including:

- The Vegetation Management Plan, Long-tailed Bat Management Plan (LBMP), Avifauna Management Plan (AMP); and Lizard Management Plan (LMP) and
- The ESCP which provides detail on how erosion and sediment effects will be managed.

Table 5.2: Purpose, specific objectives, performance measures and monitoring relevant to this HREP.

Purpose	The HREP outlines how residual effects on ecological values associated with the Project are managed in accordance with conditions.
Specific Objectives	The objective of the HREP is to achieve the standards set out in consent conditions to compensate for residual effects on terrestrial and wetland ecological values to achieve a net positive ecological outcome.
Performance Outcomes	This HREP has been prepared by a suitably qualified and experienced ecologist and includes: Timing of habitat restoration and enhancement works. Methods for restoring and enhancing ecological values. [Placeholder: Additional objectives as considered relevant and appropriate by iwi in the application of mātauranga Māori and exercise of kaitiakitanga.]
Monitoring	Compliance monitoring to verify that stated restoration and enhancement activities have been undertaken. [Placeholder: Additional monitoring that may be identified by iwi in relation to cultural matters]:
Reporting	A compliance monitoring report will be submitted annually during construction to Waipā DC and WRC within 20 working days of completion of habitat restoration and enhancement measures for each earthworks season.

5.1.3 Responsibilities and competencies

[placeholder – to be updated. Intent for iwi to have input to identify roles].

Delivery of, and compliance with, the VMP will be the responsibility of the site manager who will liaise with appropriately qualified and experienced Project ecologist(s) and, fencing, planting, weed and animal pest management contractors as required.

The site manager must read and understand the HREP so that the protocols are adhered to correctly during restoration and enhancement works.

The responsibilities of the site manager include but are not limited to:

- Reading and understanding the HREP;
- Advance communications with seed collectors and nursery contractors;
- Facilitating a Project start-up meeting with the lead restoration ecologist and relevant contractors prior to commencement of the respective habitat restoration and enhancement activities;

- Inviting iwi to participate in and support any relocation deemed necessary, to ensure appropriate exercise of kaitiakitanga responsibilities and that cultural concerns are addressed;
- Maintaining clear lines of communication with the lead ecologists and relevant contractors (eg, nursery, planting and weed management contractors) regarding changes in the works schedule; and,
- Briefing new personnel about their responsibilities under this plan.

5.1.4 Plan structure

The HREP is set out as follows:

- Section 5.1 – Introduction (this section);
- Section 5.2 – Residual effects and effects management summary;
- Section 5.3 – Habitat restoration and enhancement measures
- Section 5.4 – Compliance monitoring and reporting

5.2 Residual effects and effects management summary

Detailed information on ecological values, effects and effects management associated with the Project is provided in the AEcE (Alliance Ecology 2023), the Assessment of Ecological Effects Report (Kinetic Environmental 2023) and the Long-Tailed Bat Report (Bluewattle Ecology, 2023).

As set out in these reports, the type and quantum of restoration and habitat enhancement activities for addressing significant residual adverse effects was determined in accordance with offsetting and compensation principles set out in the Waikato Regional Policy Statement (RPS). To this end, the habitat restoration and enhancement activities set out in this plan primarily address the following residual effects:

- The permanent loss of approximately 3.64 ha of terrestrial vegetation/habitat and 0.17 ha of wetland habitat (gully seepages);
- The permanent loss of 7.87 ha of pekapeka/long-tailed bat habitat (which includes 4.09 ha of pasture as well as the loss of terrestrial vegetation and wetland habitat);
- Potential loss of up to 3.64 ha of habitat and/or harm to copper skink (if present).

The habitat restoration and enhancement actions undertaken to address the above residual effects will have broader benefits and are also expected to address those residual effects assessed as moderate or lower under the Ecological Impact Assessment Guidelines (EIANZ 2018).

Habitat restoration and enhancement of 14.34 ha includes the following:

- Revegetation and habitat enhancement of 10.69 ha of terrestrial habitat including:
 - 7.79 ha of forest revegetation on slopes.
 - 2.90 ha of floodplain forest revegetation in non-hydric soils
- Native revegetation and habitat enhancement of 3.69 ha of wetlands including:
 - 2.25 ha of floodplain swamp forest
 - 0.91 ha of carex wetland

- 0.307 ha of seepage wetland habitat
- 0.23 ha of raupo wetland

5.3 Habitat restoration and enhancement measures

The overarching objective of the proposed restoration and enhancement actions is to address significant residual effects on terrestrial and wetland biodiversity values in accordance with consent condition requirements. This centres on the requirement to achieve 'Net Positive' outcomes (compensation) in which ecological gains associated with restoration and habitat enhancement are expected to outweigh Project impacts.

5.3.1 Approach

To optimise ecological benefits associated with the proposed compensation activities, we have focused on the following ecological outcomes:

- Replacement or enhancement of all habitats, vegetation communities, plant species and native fauna habitat that have been affected by the Project;
- A substantial increase in the areal extent of native habitat types in the landscape (above and beyond what is currently present);
- Improved landscape/ecological connectivity through linking smaller habitat fragments to create larger contiguous habitat and through linking high value Significant Natural Areas (SNAs) and different habitat types (i.e. terrestrial, wetland, and freshwater streams);
- Providing ecological buffers to protect and enhance existing high value native habitat types;
- Improving the ecological integrity of existing habitats through the above measures coupled with livestock exclusion, weed management, deployment of coarse wood and artificial bat roost boxes;
- Long-term protection of sites proposed for habitat restoration and enhancement through covenants; and
- Providing opportunities to work collaboratively with iwi; to enhance cultural aspirations and outcomes, e.g. utilisation of vegetation and habitat types that support cultural values and practices.

Vegetation successional progress and trajectory is complex and determined by a wide range of interconnecting environmental factors such as soil types, microclimates, interspecies interactions, soil seedbanks, aerial seed sources, and mammalian browsing or seed predation. Correspondingly, the focus of restoration plantings is to include plant species that:

- Are representative of ecosystems types that would have been historically present prior to land use change; and
- Have a high chance of survival and establishment within planted areas.

The following sections describe restoration and enhancement activities that will compensate for residual effects. These activities will occur in existing pasture, exotic weed

dominated habitats and degraded wetland habitats within the site that are currently located between existing SNAs.

5.3.2 Site preparation

5.3.2.1 Overview

Site preparation inspections will be undertaken between December and February to inform the types of site preparation management actions required in preparation for restoration planting in the areas defined in Table XX. Site inspections will include a site visit to confirm and record the following:

- Locations for felled-log deployment;
- Planting locations of specific tree species suitable for bats;
- Locations for fencing alignments;
- The types and location of weed species to inform the necessary controls;
- The pest species (browsers) on site to inform the necessary controls; and
- Canopy gaps to inform necessary infill planting for wetlands and riparian margins along Karapiro Stream.

Prior to planting, sites will be subjected to deployment of logs (all sites excluding wetlands), stock exclusion fencing, weed control and animal pest control. Animal pest control will centre on the control of browsers such as rabbits, pukekos and possums as required to increase the likelihood of plant survival.

The addition of topsoil is not considered necessary as plantings will be planted into pasture and wetlands. Furthermore, mulching will not be used (despite reducing weed establishment) because mulching also suppresses the natural colonisation of native seedlings and reduces habitat suitability for ground-dwelling lizards and invertebrates.

5.3.2.2 Weed management

Pest and weed plants can smother and inhibit the growth of native species, typically by outcompeting for space and resources until the native planting is established and dominant. Pest and weed plants recorded on site have been identified as posing a threat to the health of the proposed enhancement and restoration plantings. A list of pest and weed plant controls is detailed in Table 5.3.

Table 5.3: Ecological pest and weed plant species to be controlled before and after enhancement and restoration planting efforts.

Species name	Common name	Control (until native plantings dominate)
<i>Cenchrus clandestinus</i>	Kikuyu grass	Spot spray around planting holes.

Species name	Common name	Control (until native plantings dominate)
<i>Cortaderia selloana</i>	Pampas	Grub out small plants or excavate large plants with digger. Spray during summer-autumn in dense sites where non-target damage is unlikely with glyphosate and penetrant.
<i>Delairea odorata</i>	German ivy	Hand pull or dig out scattered plants and seedlings. Cut and paint stems with glyphosate.
<i>Leycesteria formosa</i>	Himalayan honeysuckle	Dig out small plants. Cut and stump paint with glyphosate. Spray during summer with penetrant.
<i>Ligustrum lucidum</i>	Tree privet	Pull and dig seedlings. Cut and stump paint. Drill and poison with melsulfuron.
<i>Passiflora 'Tasconia' subgroup</i>	Banana passionfruit	Pull roots up. Cut off above ground or tie stems in air to prevent layering. Spray large masses on ground where roots cannot be pulled with glyphosate between spring- autumn.
<i>Rubus</i>	Blackberry	Dig out (small patches only). Dispose of root crowns and rhizomes. Spray metsulfuron-methyl or triclopyr at label application rates, in late summer to autumn. If spraying regrowth, ensure the stems are at least one metre long and have fully grown leaves to maximise chemical absorption.
<i>Salix fragilis</i>	Crack willow	Hand pull small plants, taking care to remove all parts and dispose appropriately. Cut or drill every 100 mm around trunk diameter and fill each cut/hole with glyphosate in summer- autumn.
<i>Selaginella kraussiana</i>	African clubmoss	Rake and hand pull small infestations areas. Spray larger infestations with glyphosate.
<i>Tradescantia fluminensis</i>	Tradescantia	Rake and hand pull small infestation areas from edge towards the centre of the infestation. Caution when disposing and transporting as dropped fragments spread. Spray larger areas with glyphosate to achieve over 90%.

Pest plants and weeds shall be controlled to a low level prior to planting. Spot spraying should be carried out in planting spots to remove kikuyu grass in planting areas and riparian margins to limit the use of chemicals around waterways. Manual release of plantings or weed trimming is recommended where appropriate, particularly in wetland planting areas.

All chemical control will be carried out by qualified contractors trained in chemical application for weed control and adhere to NZS 8409:2004 "Management of Agrichemicals" and rules in chapter 6.2 of the Waikato Regional Plan.

Removal of pest and exotic vegetation as part of weed and pest control along the riparian margin, wetland margin, within a wetland or stream may require a resource consent in accordance with the Waikato Regional Plan.

5.3.2.3 Animal pest management (browsers)

The site preparation inspection will inform which target species to control for each enhancement area. Hares (*Lepus europaeus*), rabbits (*Oryctolagus cuniculus*), possum (*Trichosurus vulpecula*), and pukeko (*Porphyrio melanotus*) are known or expected to be present on site and are likely to damage enhancement plantings. Pest animal control will include bait stations, kill traps, and/or pulse shootings. All pest animal control will be carried out by suitably qualified and certified contractors trained in pest control (e.g. use of poison).

This animal pest management programme designed to minimise pressure on native revegetation will form part of the broader animal pest management programme designed to benefit native biodiversity onsite as set out in Section

5.3.2.4 Stock-proof fencing

Livestock will be excluded from all revegetation enhancement and restoration sites, by constructing stock exclusion fencing that is fit for purpose. Setbacks of ≥ 1 m from plantings will be exercised to prevent livestock from grazing the planted edges and also enabling rank grassland to establish, which provides habitat for copper skink.

Fencing locations will be determined during site preparation inspections. In locations where fencing may interrupt and inhibit temporary access requirements, temporary fencing may be used. Temporary fences will be replaced with permanent, fit for purpose exclusion fences when initial planting efforts are completed.

5.3.2.5 Felled log deployment

Felled trees and fallen logs, in various states of decomposition, are ecologically important to forest regeneration processes and as habitat for a wide range of species. Felled and fallen logs provide critical habitat for decomposers, including invertebrates (e.g. peripatus), fungi and bacteria, and lizards (e.g. skinks) and are key sites for plant regeneration.

Felled native (preferably) or exotic log deployment into offset and compensation sites will be undertaken as detailed in the VMP. A minimum of 10 m / ha of cut up, stockpiled logs will be deployed into terrestrial compensation sites. Log material will be placed in locations where they are unable to be dislodged into streams.

5.3.3 Planting specifications (native revegetation and/or enrichment planting)

Planting detailed in this section has been developed in accordance with Council guidance^{4, 5} to promote successful establishment and long-term persistence of plantings.

To encourage planting success and survival, plant species will be eco-sourced from the Hamilton Ecological District, preferably from a nearby source to the site. Species will be selected in consultation with local hapu and iwi.

Terrestrial, wetland, and riparian margin planting will predominantly be carried out in the standard planting season between the months of April to October due to higher soil moisture. Wetland infill planting of wetland species that grow in standing water and boggy ground are proposed to be planted at the end of summer (i.e. when water levels are low).

Optimal plant stock will be used in the planting which have the following attributes:

- Healthy, vigorous, and free from obvious signs of disease and pests;
- Of at least average size for the specified pot/plastic bag size (i.e. PB 3-5);
- Well-developed root system with a high amount of new root growth;
- Not root bound; and
- Well-branched and symmetrically shaped.

Appropriate plants will be placed in specific areas based on the locality of the planting and the immediate in-situ conditions to ensure the success of the revegetation. Site specific factors that will be considered include:

- Slope topography (i.e. steepness affects establishment success);
- Soil characteristics (i.e. species grow in specific types of soil conditions);
- Wind (i.e. certain species have tolerance to wind);
- Aspect (i.e. direction of slope may affect the duration of sunlight and dryness of soil);
- Shading (i.e. certain species are adapted to grow in full sunlight, while other species are
- shade-tolerant and require establishment under a canopy);
- Moisture (i.e. certain species are adapted to grow in regularly wet soils, while other species
- require wet soils to survive); and
- Frost (i.e. tolerance to frost).

Plant holes shall be dug according to spacing requirements and each plant hole is to be dug deep and wide enough so the plant collar is approximately 1 cm below ground level. Grass will be cleared away from each planting hole to ensure the new plants get enough light and nutrients.

⁴ <https://www.waikatoregion.govt.nz/environment/biodiversity/planting-guides/what-to-plant-in-maungatautari-ecological-district/>

⁵ Waikato Region Wetland Planting Guide, Waikato Regional Council wetland factsheet series Updated July 2018 (5804).

Fertiliser tablets are to be placed in a planting hole before planting if not already included in the nursery root ball. The soil will be loosened at the bottom of the hole, to allow the roots to penetrate the soil more freely. The plant is to be secured in the ground by filling the space surrounding the roots with soil and then lightly compressing to fill any voids that might be present around the roots to avoid waterlogging.

Marking plants with bamboo stakes is recommended for ease of monitoring and maintenance purposes. Mulch or any other ground conditioning is not considered necessary for these sites.

5.3.3.1 Planting specifications

The native enhancement and restoration planting mix selected for each terrestrial and wetland habitat type are guided by species:

- Within ecosystem types that have been impacted by the Project footprint;
- That would naturally occur historically;
- That have been recorded in the surrounding SNA and/or non-SNA fragments/remnants;
- Within the Hamilton Ecological District;
- That offer food resources and refuge/shelter for a range of native fauna to help address fauna habitat that have been impacted by the Project; and
- That are selected after considering the views of cultural advisers.

Planting will be carried out in two phases. The first phase is aimed at allowing colonisation of pioneer plant species that are adapted to high sunlight, lower soil moisture content, and exposure to wind. Pioneer plant species will help to increase the diversity of a habitat, create more stable and fertile soils for other secondary successional species to establish. The second phase is aimed at enrichment planting and guiding succession by planting species that are adapted to secondary succession, such as shade tolerant and greater soil moisture.

Therefore, the starting crop species matrix for each enhancement site has been selected based on their tolerance of site-specific environmental stresses (e.g. shade intolerant species), location (e.g. riparian margin) and associated characteristics of ecosystem types. Enrichment planting species matrix has been selected based on secondary successional species associated with each of the ecosystem types that were historically present.

Additional considerations have been incorporated into the species selection for riparian margin planting. Riparian margins are being planted to improve aquatic ecosystem health and therefore species have been selected to provide shade, organic matter input, bank stability and overland flow filtering capability. Opportunities for mana whenua participation in species selection will be provided where possible.

Proposed plant spacings / densities for each habitat type are as follows:

- Podocarp/broadleaved forest revegetation on slopes and on mitigation buffer plantings at 1m spacings (Table 5.4)

- Floodplain forest terrestrial revegetation in non-hydric soils at 1.5m spacings (6,666 plants per ha)
- Floodplain forest wetland revegetation in hydric soils at 1.5m spacings
- Sedgeland wetland revegetation at 1m spacings – areas within sedgeland wetlands that already include native revegetation will be enriched as required
- Seepage wetland revegetation at 0.5m spacings (40,000 plants per ha) – areas within seepage wetlands that already include native revegetation will be enriched as required
- Raupō wetland at 1m spacings

Starting crop and enrichment species matrix for each terrestrial and wetland habitat type are set out in Tables 5.4 – 5.9 below.

Table 5.4: Podocarp/broadleaved forest revegetation on slopes (7.79 ha) and on mitigation buffer plantings (0.837 ha) as delineated in Appendix A, Figure 2 and 3

Common name	Scientific name	Relative abundance %	Planting phase
Cabbage tree	<i>Cordyline australis</i>	10	Starting crop
Fivefinger	<i>Psuedopanax laetus</i>	1.5	Year 5
Kahikatea	<i>Dacrycarpus dacrydioides</i>	2.5	Starting crop
Kamahi	<i>Weinmannia racemosa</i>	2.5	Year 5
Kānuka	<i>Kunzea robusta</i>	10	Starting crop
Karamu	<i>Coprosma robusta</i>	5	Starting crop
Kowhai	<i>Sophora microphylla</i>	5.5	Starting crop
Lacebark (houhere)	<i>Hoheria sexstylosa</i>	5	Starting crop
Lancewood/horeaka	<i>Psuedopanax crassifolius</i>	5	Starting crop
Mahoe	<i>Melicytus ramiflorus</i>	1.5	Year 5
Mamangi / tree coprosma	<i>Coprosma arborea</i>	1.5	Starting crop
Mangeao	<i>Litsea calicaris</i>	2.5	Year 5
Mānuka	<i>Leptospermum scoparium</i>	5	Starting crop
Matai	<i>Prumnopitys taxifolia</i>	2.5	Starting crop
Miro	<i>Prumnopiys ferruginea</i>	2.5	Year 5
Pate	<i>Schefflera digitata</i>	2.5	Year 5
Pigeonwood / porokaiwhiri	<i>Hedycarya arborea</i>	2.5	Year 5
Ribbonwood (lowland)	<i>Plagianthus regius</i>	5	Starting crop
Rimu	<i>Dacrydium cupressinum</i>	2.5	Year 5
Titoki	<i>Alectryon excelsus</i>	5	Year 5
Totara (lowland)	<i>Podocarpus totara</i>	10	Starting crop
Wineberry / makomako	<i>Aristotelia serrata</i>	10	Starting crop

Table 5.5: Floodplain forest revegetation in non-hydric soils as delineated in Appendix A, Figure 2 and 3 (2.90 ha)

Common name	Scientific name	Relative abundance %	Planting phase
Ribbonwood (lowland)	<i>Plagianthus regius</i>	2.5	Starting crop
Harakeke/Flax	<i>Phormium tenax</i>	25	Starting crop
Mānuka	<i>Leptospermum scoparium</i>	5	Starting crop
Cabbage tree	<i>Cordyline australis</i>	12	Starting crop
Karamu	<i>Coprosma robusta</i>	15	Starting crop
Lacebark	<i>Hoheria sexstylosa</i>	1.5	Starting crop
Tree fuchsia/ kotukutuku	<i>Fuchsia excorticata</i>	1.5	Year 5
Wineberry / makomako	<i>Aristotelia serrata</i>	20	Starting crop
Totara (lowland)	<i>Podocarpus totara</i>	2	Starting crop
Titoki	<i>Alectryon excelsus</i>	5	Year 5
Kaikomako	<i>Pennantia corymbosa</i>	2	Starting crop
Putaputaweta	<i>Carpodetus serratus</i>	1.5	Starting crop
Mahoe	<i>Melicytus ramiflorus</i>	1.5	Year 5
Kanono	<i>Coprosma grandifolia</i>	1.5	Year 5
Pate	<i>Schefflera digitata</i>	1.5	Year 5
Pigeonwood / Porokaiwhiri	<i>Hedycarya arborea</i>	2.5	Year 5

Table 5.6 Floodplain swamp forest native revegetation in hydric soils as delineated in Appendix A, Figure 2 and 3 (2.25 ha)

Common name	Scientific name	Relative abundance %	Planting phase
Harakeke/Flax	<i>Phormium tenax</i>	15	Starting crop
Mānuka	<i>Leptospermum scoparium</i>	15	Starting crop
Cabbage tree	<i>Cordyline australis</i>	10	Starting crop
Karamu	<i>Coprosma robusta</i>	10	Starting crop
Ribbonwood (lowland)	<i>Plagianthus regius</i>	2.5	Starting crop
Totara (lowland)	<i>Podocarpus totara</i>	1.5	Starting crop
Kahikatea	<i>Dacrycarpus dacrydioides</i>	15	Starting crop
Matai	<i>Prumnopitys taxifolia</i>	3	Starting crop
Kowhai	<i>Sophora microphylla</i>	3	Starting crop
Pukatea	<i>Laurelia novae-zelandia</i>	5	Year 5
Swamp maire	<i>Syzygium maire</i>	5	Year 5
	<i>Coprosma rotundifolia</i>	5	Starting crop
Mahoe	<i>Melicytus ramiflorus</i>	5	Year 5
Pigeonwood / Porokaiwhiri	<i>Hedycarya arborea</i>	5	Year 5

Table 5.7: Sedgeland wetland native revegetation and enrichment plantings as delineated in Appendix A, Figure 2 and 3 (0.91 ha)

Common name	Scientific name	Relative abundance %	Planting phase
Purei	<i>Carex secta</i>	20	Starting crop
Purei	<i>Carex virgata</i>	20	Starting crop
Cutty grass	<i>Carex geminata</i>	40	Starting crop
Sedge	<i>Ghania xanthocarpa</i>	10	Starting crop
Umbrella sedge	<i>Cyperus ustalatus</i>	10	Starting crop

Table 5.8: Wetland seepage native revegetation and enrichment plantings as delineated in Appendix A, Figure 2 and 3 (0.307 ha)

Common name	Scientific name	Relative abundance %	Planting phase
Cutty grass	<i>Carex geminata</i>	100%	Starting crop

Table 5.9: Raupō wetland native revegetation and enrichment plantings as delineated in Appendix A, Figure 2 and 3 (0.23 ha)

Common name	Scientific name	Relative abundance %	Planting phase
raupō	<i>Typha orientalis</i>	100%	Starting crop

5.3.4 Post-planting maintenance

5.3.4.1 Replacement planting

To ensure plantings are healthy and thriving, enhancement plantings will be inspected twice a year, once in spring and once in autumn, for the first three years.

Plants that do not survive are to be replaced with either the same species or an alternative appropriate species from the planting species matrix in the following planting season.

Replacement of plants which do not survive is important to ensure gaps are not created which could allow weeds to enter the planting area.

5.3.4.2 Weed plant control

Post-planting weed plant control is required to suppress the growth of weeds to ensure long-term persistence of plantings. Control actions will be carried out as detailed in section.

In the first three years after the initial planting has been carried out, chemical and/or manual weed control in the enhancement and restoration areas will be carried out twice a year, once in spring and once in autumn. This is aimed at reducing weed and pest plant pressure on the plantings and to deplete pest plant seedbank stores.

5.3.5 Artificial bat roosts

Artificial bat roosts will be installed in habitat suitable for bat roosting within the compensation sites, outside of the Project footprint at the density or spacing defined in the LBMP.

5.3.6 Programme

This HERP is based on the expectation that all habitat restoration and enhancement planting described in this HERP will be completed within 5 years of the initial construction and enabling works being completed.

Table 5.10: Seasonal staging for the implementation of enhancement and restoration activities detailed in this HEP. [Placeholder: table to include reference to Mātauranga Māori linkages to be identified in consultation with Ngaati Korokii-Kahukura and Ngaati Hauaa]

[illegible]

Phase 3– Maintenance												
Replacement planting (year 1-3)			✓	✓	✓				✓			
Weed plant control (year 1-20)			✓	✓	✓				✓	✓	✓	

5.3.7 Mammalian Pest control

The details of the animal pest control programme shall be included in an updated Bat Management Plan (presented before the hearing). The core attributes of the proposed animal pest control programme are outlined as follows with details set out in Table 5.11.

Objective: To control rats, mustelids, feral cats, possums and deer in accordance with industry best practice techniques.

Performance Standards:

- A multi-tool pest control operation shall be employed, which will include hunting, the use of bait-stations and targeted kill-traps. Pest control shall be on-going for the life of the operational quarry.
- Install and maintain all bait stations and trapping devices to industry best practice standards.
- Monitor and maintain pest control devices to ensure operation throughout the life of the operational sand mine.
- Pest management will be implemented throughout all mitigation areas until quarry closure in accordance with methods summarised in Table 4 and separately for deer.
- Pest control will be implemented by a suitably qualified independent pest control contractor or suitably qualified staff member.
- The pest management programme will be reviewed annually by the Project ecologist to ensure pest management is achieving targets as expected. Where necessary, the recommended management actions can be altered and implemented to improve pest management outcomes following approval from the Project ecologist.

Table 5.11 Mammalian pest management recommendations

Mammalian Pest	Management Action	Frequency / density
Rodents and hedgehogs	Protecta Ambush bait stations baited with Bromadiolone Or Philproof® bait station containing pindone, brodifacoum (Pestoff®) or cholecalciferol.	• Bait pulse four times per year (Aug, Nov, Jan, Apr). • Fill bait station on day 1, refill on day 5 and day 14, then remove bait at end of week four. • Bait stations shall be placed roughly 50m apart around and adjacent to the enhancement areas where the terrain allows, and 50m between lines.

Mammalian Pest	Management Action	Frequency / density
Possums	Philproof bait stations baited with pindone, brodifacoum (Pestoff®) or cholecalciferol And 25 AT220 auto traps. (Note these bait stations and traps will also target rats)	• Brodifacoum bait pulse four times per year (Aug, Nov, Jan, Apr). • Fill bait station on day 1, refill on day 5 and day 14, then remove bait at end of week four. • Increase efforts just before and during bird nesting season (Aug-Jan). • Bait stations should be roughly 100 m apart (i.e. one per hectare) and placed within the quarry site (aside from active mining areas), along the edges and within enhancement areas. • The AT 220 automated shall be strategically placed alongside or within the enhancement areas to be located by the Project ecologist. • AT220s shall be checked and serviced approximately every 6 months. The timing indicated in Table 5 is indicative and can be altered to suit the trapping regime for increased efficiency. • Service of AT220s should include changing the refillable lure pouch and changing the rechargeable batteries.
Mustelids	DOC 200 traps, baited with meat (such as rabbit) or egg.	• Trap spacing shall be one trap every 2 ha. • Check traps and replace egg/meat monthly from Oct – Apr, and bi-monthly from May – Sep.
Cats	Cage traps or kill traps recommended by DOC ⁶ , baited with fresh meat (e.g. rabbit). Steve Allen Mh2 (SA2) Kat traps are recommended kill traps. If there is potential for domestic cats, then live capture traps should be used. Live capture traps must be checked within 12 hours after sunrise in compliance with the Animal	• Traps spacing should be one per 5 ha within the enhancement areas. • Live capture traps need to be inspected within 12 hours of sunrise. • Live capture traps allow domestic cats to be returned to the owner, feral cats to be humanely killed. • Replace meat month from Oct – Apr, and bi-monthly from May – Sep for the kill traps.

⁶ 5 <https://www.doc.govt.nz/nature/pests-and-threats/predator-free-2050/community-trapping/trapping-and-toxins/animal-welfare-and-trapping/>

Mammalian Pest	Management Action	Frequency / density
	Welfare Act (1999) Section 36.	

Table 5. Annual pulses and trapping/baiting timings for pest animal management

Target Species	Trap type	Months											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rodents /hedgehogs	Protecta												
	DOC200												
Possums	Philproof												
	AT220												
Mustelids	DOC200												
Cats	Cage traps	*	*	*	*	*	*	*	*	*	*	*	*
	Kill traps												

Bait replenishment: fortnightly =orange, monthly=yellow. Service/bait pulse= maroon.

*must be checked within 12 hours of sunrise when active.

Deer

In recent years fallow deer have become widely established in the district and are significantly impacting understorey vegetation. Control of fallow deer is best achieved by hunting; they are most easily found at dawn and dusk when feeding, and during the rut in April to mid-May. Even if hunting forays are unsuccessful, an increased human presence in these relatively small areas may be sufficient to encourage the animals to relocate to neighbouring properties.

Professional hunting by experienced persons annually is the recommended method for control. The implementing contractor will undertake appropriate surveys to determine the extent of hunting, timings, and tracking methodology required.

Sign of fallow deer shall be monitored bi-monthly by visual assessment of vegetation and observations of any deer movement on the quarry site and within the enhancement areas. If deer and/or deer faecal deposition is observed within any of the protected areas, targeted control of deer shall be attempted no less than 1 week after the observation of deer sign using firearms (in accordance with relevant NZ statutes and best practice gun safety guidelines).

Evening shooting will also target rabbits and hares opportunistically during other hunting activities.

5.4 Compliance reporting

5.4.1 Compliance confirmation report

A compliance confirmation report will be submitted to Waipā DC and WRC within 30 days of completion of the restoration and enhancement activities to confirm that all enhancement and restoration planting activities have been completed in accordance with this HREP. The report shall include, but not be limited to, confirmation of:

- Planting species matrix and number of plants planted;
- Areal extent and location of plantings;
- Felled log deployment locations in compensation sites; and
- Proof of covenant/encumbrance and terms therein.

5.4.2 Incident reporting

Incident-based reporting will be provided to Waipā DC and WRC within 30 working days of an unscheduled event that causes ecological harm (e.g. flood, fire, and disease) or event that sets back an element of the restoration and habitat enhancement programme by a season or more.

Reporting will include the following information:

- The causes of the incident, the emergency response measures (if applicable) and the response proposed to avoid a recurrence of the issue;
- An assessment undertaken by a suitably qualified ecologist which details any adverse effects of the exceedance;
- Proposed, measures to compensate for residual effects; and
- Incident resolution will be tracked through the site's compliance management system.

5.4.3 Compliance monitoring report

Annual inspection surveys shall be undertaken during normal conditions (i.e. not during flooding events) to monitor the following:

- Identify weeds;
- Identify pest animal damage;
- Estimate planting survival and densities of facultative wetland species in wetlands and all terrestrial plants within compensation sites; and
- Estimate canopy coverage.

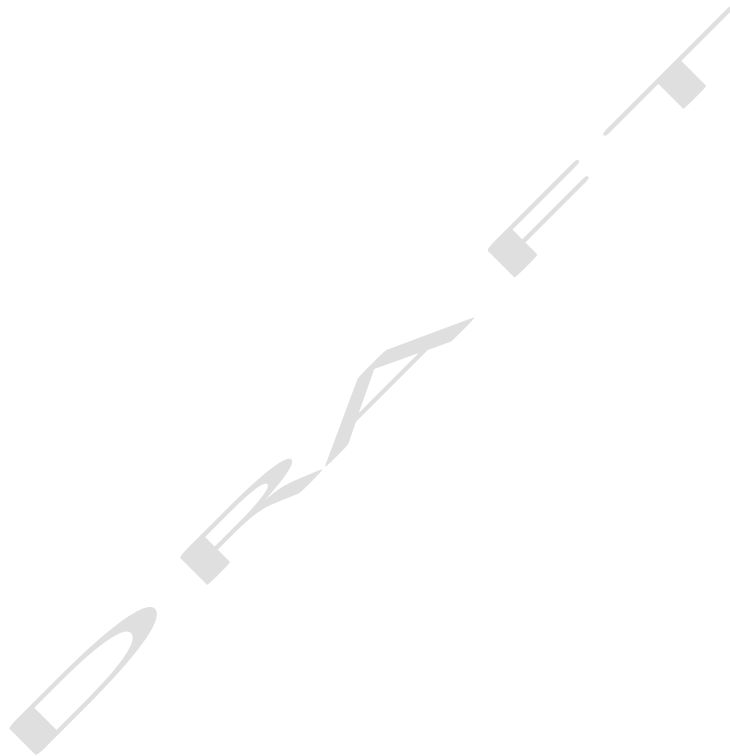
Findings will inform the types of weed and pest animal management requirements for the subsequent year.

Compliance monitoring reports will be submitted to Waipā DC and WRC every second year from the initial planting establishment until closure, i.e. once all plantings are 10 years in age and native canopy closure targets have been met. The monitoring report shall include:

- Representative photos showing progress of terrestrial, riparian and wetland revegetation, including photos of sites where plantings are 10 years in age and 90% canopy closure has been achieved (where applicable);
- Information/data on plant survival, infill planting, and progress towards 90% canopy closure;
- Reduction targets and requirements for weed management (Section 5.3.4.2) and control of browsers (e.g. rabbits, possums and pukeko). (Section 5.3.2.3); and
- Information on incidents and adaptive management responses.

DRAFT

Appendix A Site maps





APPROVED
Waipa District Council
Subject to the conditions of the
resource consent LU/0077/23

Legend

- Parcel boundary
- Permanent stream
- Ephemeral stream (likely)
- Indigenous wetland vegetation

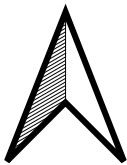
Habitat/Vegetation Type

- Gully seepage wetland
- Gully basin wetland
- Floodplain wetland
- Exotic plantation forestry
- Mixed exotic and native forest
- Exotic dominated forest
- Exotic dominated scrub

Figure 1. Newcombe Road Sand Quarry - Habitat/Vegetation Type Classifications

Date: 02/10/23 Scaled to A3: 09/05/24 Updated: 13/05/2025
Created by: Brenda Bartels for Alliance Ecology Ltd
Project: RS Sands Quarry
Data sourced from LINZ under Creative Commons Attribution 4.0 International

0 100 200 300 400 500 600 m



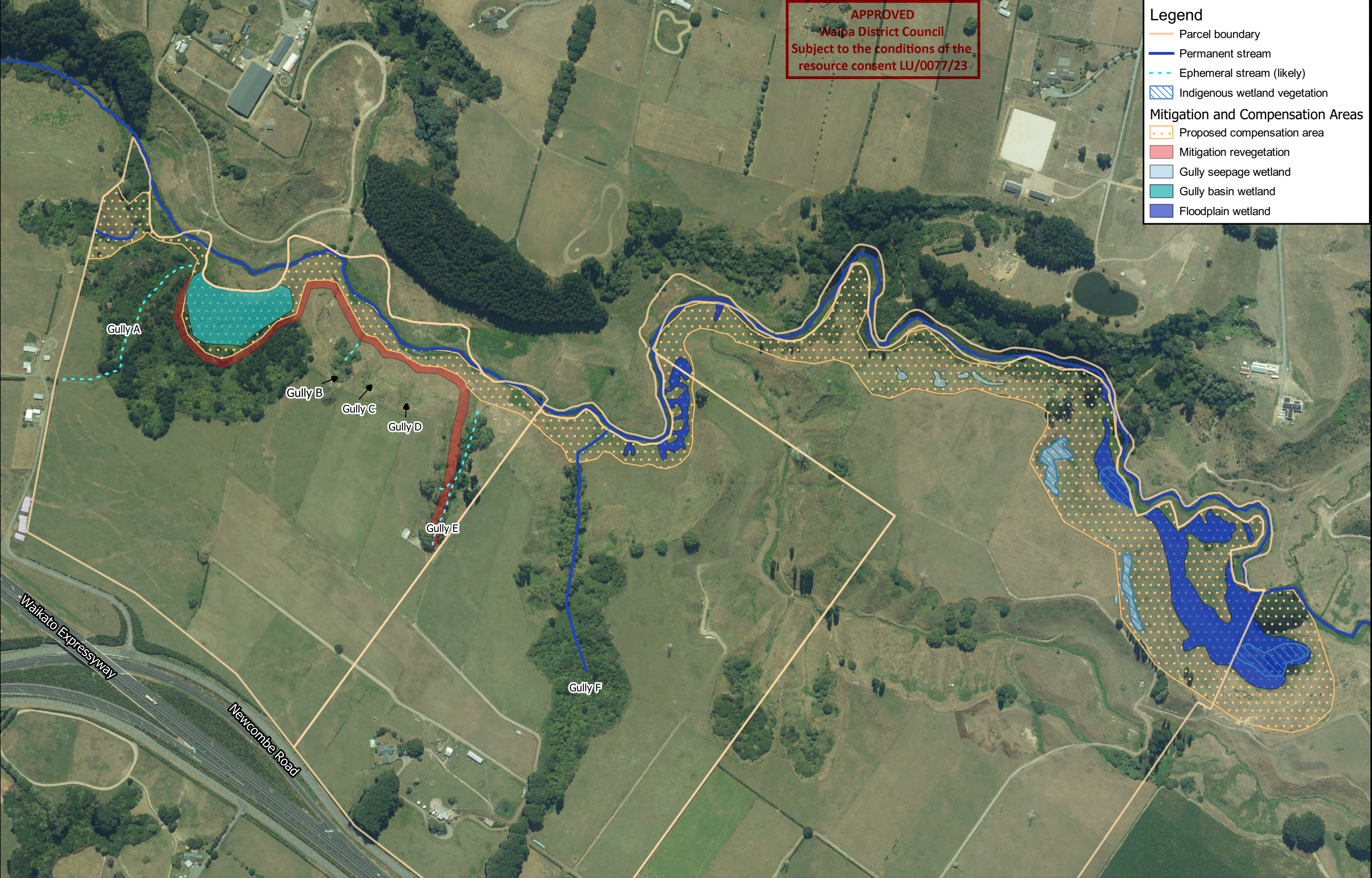
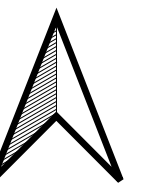


Figure 2. Newcombe Road Sand Quarry - Mitigation and Compensation Areas

Date: 02/10/23 Scaled to A3: 09/05/24 Updated: 13/05/25
Created by Brenda Bartels for Alliance Ecology Ltd
Project: RS Sands Quarry
Data sourced from LINZ under Creative Commons Attribution 4.0 International

0 200 400 600 800 1,000 m



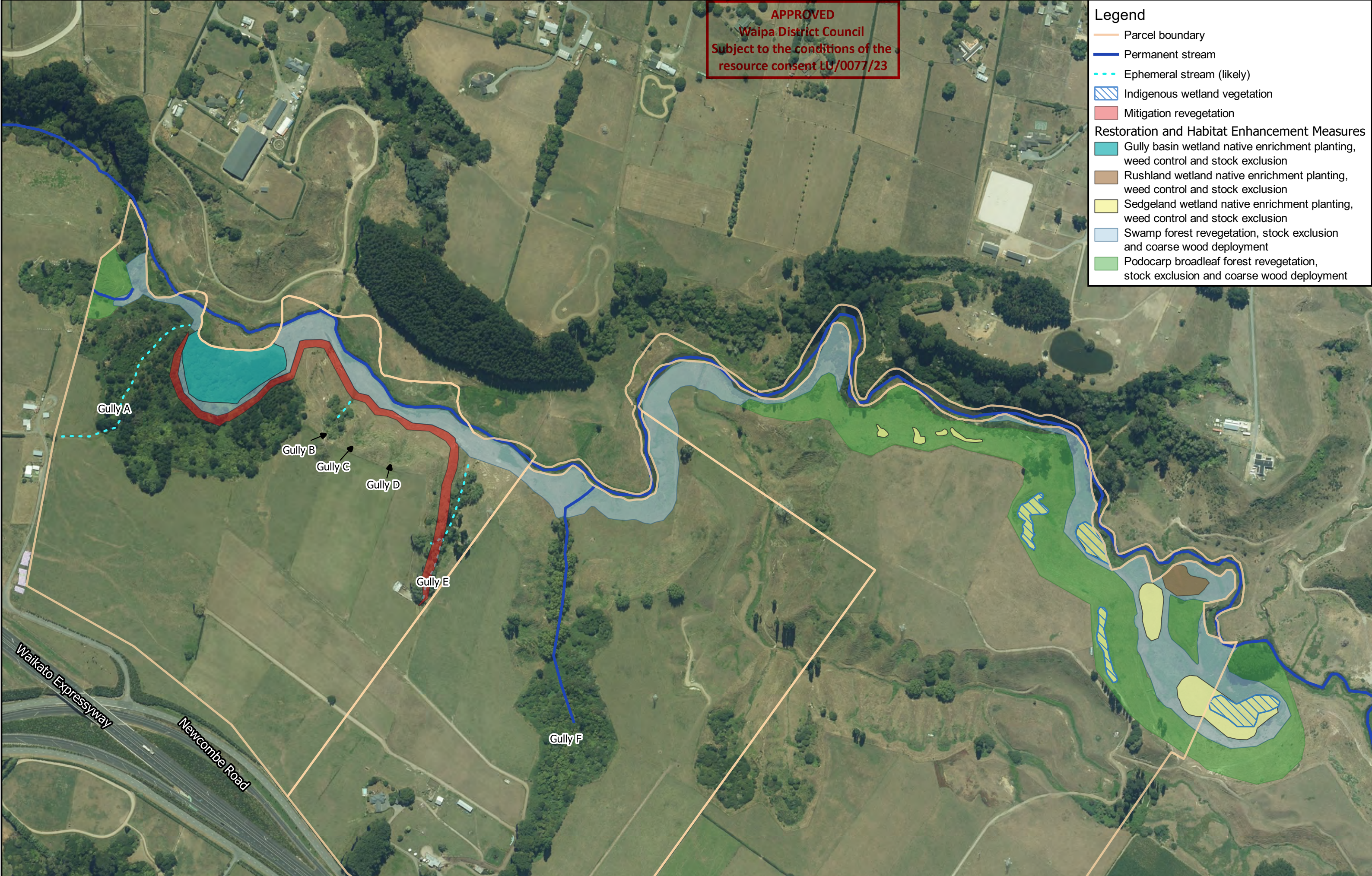
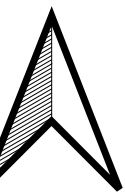


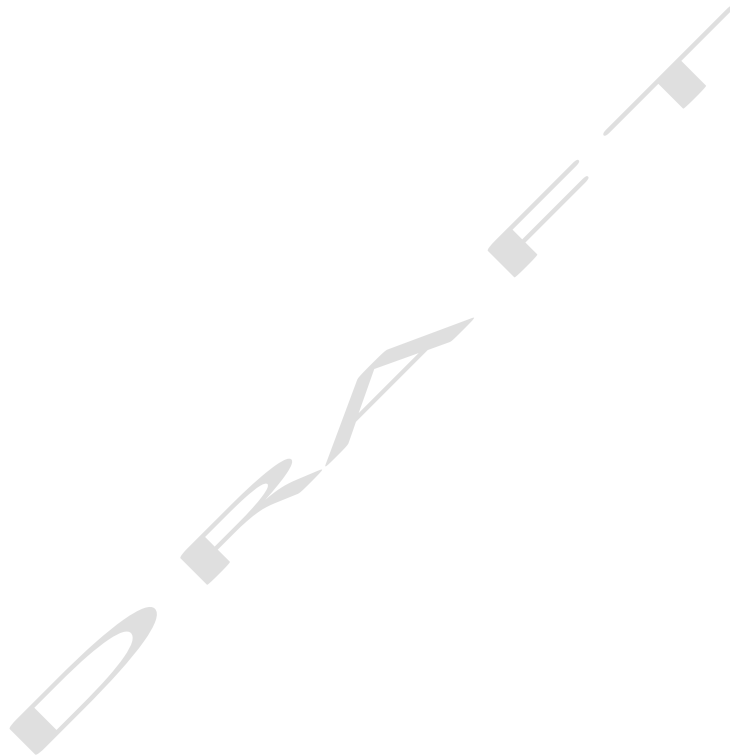
Figure 3. Newcombe Road Sand Quarry - Restoration and Habitat Enhancement within the Compensation Area

Date: 02/10/23 Scaled to A3: 09/05/24 Updated: 13/05/25
 Created by Brenda Bartels for Alliance Ecology Ltd
 Project: RS Sands Quarry
 Data sourced from LINZ under Creative Commons Attribution 4.0 International

0 200 400 600 800 1,000 m



Appendix B Long-tailed Bat Management Plan



RS Sands Ltd

Baseline long-tailed bat survey & preliminary effects assessment on bats of the proposed sand mine at Newcombe Road, Cambridge 2020, including potential tree roost assessment 2023



Bluewattle Ecology

APPROVED
Waipa District Council
Subject to the conditions of the
resource consent LU/0077/23

Table of Contents

Executive Summary	2
1 Introduction.....	3
1.1 Scope	3
1.2 Background	3
2 Methodology	4
2.1 Acoustic Surveys	4
2.2 Ecological Effects Assessment	5
2.3 Potential Roost Tree Assessment	5
3 Results	6
3.1 January Survey	6
3.2 May-June Survey	7
4 Preliminary effects assessment on bats & recommendations.....	10
4.1 Habitat Value	10
4.2 Preliminary ecological effects evaluation on bats	12
5 Conclusion & Recommendations	13
Appendix A: ABM coordinates for the 2020 Newcombe Road Quarry long-tailed bat survey	15
Appendix B: Weather data during the two survey periods	16
Appendix C: HAS for each individual detector and across all detectors	18
Appendix D: Interim report RS Sands Bat Roost tree assessment.....	22
6 Roost Tree Inspection.....	22
7 Recommendations	23

Prepared by: Eva Kessels¹ & Gerry Kessels²

Reviewed by: Dr Matt Baber³

Version: Final 041223 Amended 04 December 2023

PWF Ref: FUL.00601

Except for the purposes of individual study or fair review, for which the authors must be acknowledged, no part of this report may be copied, scanned, stored in any type of electronic file or retrieval system or published in any other form without the express written permission of Kessels & Associates Ltd (trading as Bluewattle Ecology).

© Kessels & Associates Ltd 2023

¹ Class A & B Bat Competency Certification – Department of Conservation

² Class A, B, C & D Bat Competency Certification – Department of Conservation

³ Alliance Ecology



Executive Summary

RS Sand Limited have engaged Bluewattle Ecology (via Fulton Hogan Ltd/Kinetic Environmental Ltd) to undertake investigative, baseline bat surveys at a farm at 77 Newcombe Road, south of Cambridge, to support resource consents for a proposed sand quarry at this location. Automatic bat monitors were placed in within likely key habitats on the property. Two baseline acoustic long-tailed bat surveys were conducted between the period of December 2019 and June 2020, at 77 Newcombe Road, Cambridge, New Zealand.

In the December - January survey 159 bat passes were recorded over a total of 21 monitoring nights. Total bat passes averaged 0.95 passes per detector per night, equating to a low level of bat activity. In the May - June survey, a total of 4,709 bat passes were recorded over 41 nights of surveying, averaging 14.4 bat passes per functional ABM per night. Levels of bat activity were considered low-moderate, although one site detected a high-level average of 177 bat passes per night, indicative of a potential bat roost site at this survey location.

The property at 77 Newcombe Road exhibits a variety of structural and ecosystem traits which provide functional habitat for bats, including mature linear stands of trees, deeply incised gullies and close proximity to a stream and river system – the Karapiro Stream and the Waikato River, where insects tend to aggregate at dusk and dawn, and mature trees with cavity bearing qualities for roost are situated in relative shelter from wind.

The most important habitat features are likely to be the gullies leading in the Karapiro Stream and the mature exotic trees left in clusters or rows. Pasture, while being utilised, is likely to be less important in this locality for bats as they are an edge adapted species, and open grassland is not preferred habitat.

Before suitable avoidance, remediation and mitigation measures are adopted, the preliminary level of adverse effects assessment on on long-tailed bats is summarised as follows :

- Loss of open pastureland for foraging and commuting habitat - Moderate level of effect on bats;
- Loss of of gully and shelterbelt and pastureland habitat within 25 m of shelterbelts and gully habitats - High level of effect on bats;
- Loss of occupied solitary roost trees and unoccupied potential roost tree habitat – High level of effects on bats; and
- Loss of occupied roost tree – Very High level of effect on bats.

In order to address these [potential adverse effects of the proposed Newcombe sand mine on long-tailed bats, the following measures are recommended:

- a) A survey and risk profile inventory of all potential bat roost trees is undertaken in accordance with best practice before sand extraction begins;
- b) A Bat Management Plan (BMP) should be prepared by a recognised bat expert and implemented across the site which will outline detailed protocols around potential bat roost tree removal and ongoing monitoring; and
- c) The loss of habitat of bats within the site is suitably mitigated, including appropriate offset measures such as buffer planting, animal pest control, erection of artificial bat roosts, habitat restoration, and long-term protection of high quality bat habitat areas. The type and quantum of any mitigation measures is best determined by biodiversity offset compensation or quantitative modelling.

Subject to review of the detailed sand extraction process and review of the full suite of avoidance, remediation, mitigation, offset and monitoring measures as broadly outlined above, the overall level of adverse effects on long-tailed bats as a consequence of this proposal is likely to be low.



1 Introduction

1.1 Scope

RS Sand Limited have engaged Bluewattle Ecology (via Fulton Hogan Ltd/Kinetic Environmental Ltd) to undertake investigative, baseline bat surveys at a farm at 77 Newcombe Road, south of Cambridge, to support resource consents for a proposed sand quarry at this location (Figure 1).

To gain an understanding of the habitat features that are of value to long-tailed bats it is necessary to monitor the site's key potential bat habitat features. Automatic bat monitors (ABMs) were placed within likely key habitats on the property that would provide suitable habitat for bat roosting, foraging and commuting.

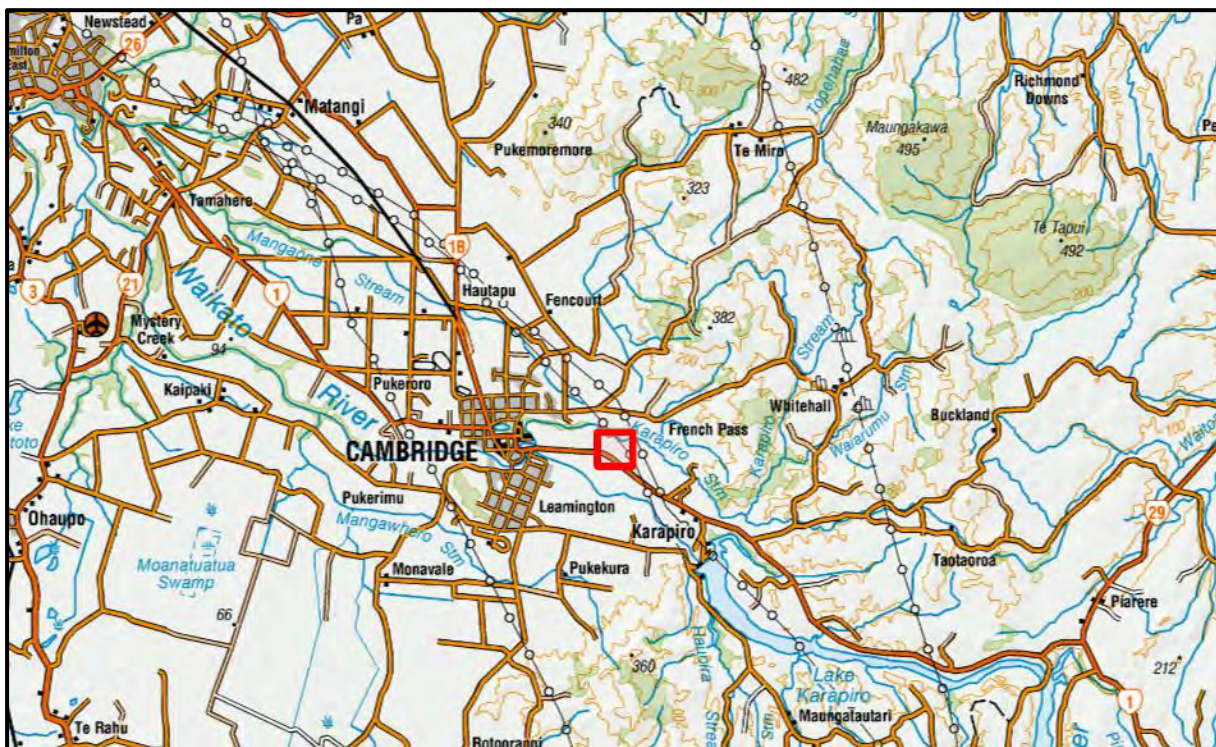


Figure 1: Location map of Newcombe Road sand quarry site

1.2 Background

Long-tailed bats (*Chalinolobus tuberculatus*, Threatened – Nationally Critical⁴ – O'Donnell 2018⁴) are distributed widely throughout modified agricultural landscapes within the Waikato region, including in the vicinity of Cambridge. Review of the Department of Conservation (DOC) Bat Distribution Database (supplied in November 2020⁵), as well as several studies in this area, confirm that this species is found within rural habitats alongside the Waikato River and Karapiro Stream gully system in this locality (Kessels & Blair 2013⁶; Connolly 2013⁷).

Despite being classified as Nationally Critically Endangered by DOC, the presence of long-tailed bats within this highly modified landscape demonstrates they are able to adapt to major landscape change

⁴ O'Donnell, C.F.J.; Borkin, K.M.; Christie, J.E.; Lloyd, B.; Parsons, S.; Hitchmough, R.A. 2018: Conservation status of New Zealand bats, 2017. New Zealand Threat Classification Series 21. Department of Conservation, Wellington. 4 p.

⁵ Data supplied by from Moira Pryde, Technical Advisor, Research and Development, Department of Conservation -Te Papa Atawhai

⁶ Kessels, G & Blair, J. 2013. Te Awa Lifecare Village Ltd. Assessment of Ecological Effects of the Te Awa Lifecare Village. Kessels Ecology.

⁷ Connolly, T. 2013. Waikato Expressway: Cambridge Section. Long-tailed Bat Surveys Summer 2012-13 Lloyd Property, Mellow Manor, Karapiro Gully. Opus International Consultants.



from indigenous vegetation to landscape dominated by almost 100% exotic vegetation over time. This is despite likely ongoing pressures from introduced animal competition and predation.

Nonetheless, it appears that several structural and functional habitat factors must be present or addressed, including the presence of mature and well-vegetated corridor pathways and habitats for commuting, foraging and roosting habitats key for maintaining the life cycle requirements of this species (Dekrout et al 2014)⁸. These structural features, be they exotic or indigenous vegetation, access to stream, river, wetland or lake ecosystems, and varied topographical characteristics are likely critical to maintain the presence of bats in a rural landscape (Davidson-Watts 2019)⁹.

The property at 77 Newcombe Road exhibits all of these structural and ecosystem traits likely to provide functional habitat for bats, including mature linear stands of trees, deeply incised gullies and proximity to a stream and river system – the Karapiro Stream and the Waikato River, where insects tend to aggregate at dusk and dawn, and mature trees with cavity bearing qualities for roost are situated in relative shelter from wind.

It is expected that the subject site is utilised throughout the year by long-tailed bats for commuting and foraging, as well as possibly roosting habitat. The most important habitat features are likely to be the gullies leading in the Karapiro Stream and the mature exotic trees left in clusters or rows. Pasture, while being utilised, is likely to be less important in this locality for bats as they are an edge adapted species, and open grassland is not preferred habitat (Parsons et al 1997).

2 Methodology

2.1 Acoustic Surveys

Two surveys were undertaken at the site – one from December 2019 to January 2020 and another from May until June 2020.

Omni-directional frequency compression monitors - “AR3” and “AR4” (also called automated bat monitors or ABMs), manufactured by DOC, were deployed to investigate the activity of long-tailed bats within the site according to best practice methodological protocols (Sedgeley 2012)¹⁰. The location of these detectors is shown in Figure 2 and coordinates and site descriptors detailed in Appendix A.

In the December - January survey, 12 ABMs were deployed with data collected from 8. The detectors were deployed on 19 December 2019 and retrieved 9 January 2020 (Table 1).

In the May survey, eight ABMs were placed near previously surveyed sites as in January 2020. The ABMs were deployed on 15 May 2020 and retrieved on 22 June 2020 (Table 1).

ABMs record any sound that may be a bat call or echolocation. When it is triggered by a potential bat pass it records one file for each pass. The recordings are prepared in a form of a compressed image of a spectrogram, and are saved onto an SD card in the form of bitmap format images. The images were viewed using BatSearch 3.12, software that was developed by DOC to help quickly view the files and create data from them. The frequency spectrum covered ranges from 0 Hz to 88 kHz and images represent 1-6 seconds of recording.

All detectors were calibrated to have the same time and date settings (NZST) and were pre-set to start monitoring one hour before sunset until one hour after sunrise. The distance between detectors of distinct monitoring locations was at least 50 m apart to increase the chance of independent bat

⁸ Dekrout, BD Clarkson & S Parsons (2014) Temporal and spatial distribution and habitat associations of an urban population of New Zealand long-tailed bats (*Chalinolobus tuberculatus*), New Zealand Journal of Zoology, 41:4, 285-295, DOI: 10.1080/03014223.2014.953551

⁹ Davidson-Watts Ecology Ltd. (2019). Long-tailed Bat Trapping and Radio Tracking Baseline Report 2018 and 2019 Southern Links, Hamilton. Prepared for AECOM.

¹⁰ Sedgeley J. 2012. Bats: roost occupancy and indices of bat activity—automatic bat detectors. Inventory and monitoring toolbox: bats DOCM-590899. Department of Conservation, wellington.



monitoring. The recorders were suspended at least 2 m above the ground to reduce superfluous detections caused by terrestrial insects (usually cicada species).



Figure 2: Location of detectors deployed at Newcombe Road proposed sand mine, 19/12/19 – 9/01/20; 15/05/20 – 22/06/20.

2.2 Ecological Effects Assessment

A preliminary effects assessment and management recommendations of the proposed sand extraction operation on long-tailed bats was undertaken in accordance with the Ecological Impact Assessment guidelines (EcIA) developed by the Ecological Institute of Australia and New Zealand (EIANZ)¹¹.

2.3 Potential Roost Tree Assessment

On 23 September 2023 a update memo regarding the potential removal of potentially affected areas were evaluated from a broad perspective to determine their suitability as bat habitats for foraging, commuting, or roosting. Specifically, trees that could serve as potential bat roosts were assessed to further inform the Bat Management Plan, as requested by the Waipa District Council peer review ecologist. This is memo is contained in Appendix D.

¹¹ Environment Institute of Australia and New Zealand Inc. (2018). Ecological Impact Assessment (EcIA). EIANZ guidelines for use in New Zealand: terrestrial and freshwater ecosystems. 2nd Edition.



3 Results

3.1 January Survey

A total of 159 bat passes were recorded over a total of 21 monitoring nights, averaging 0.95 passes per functional ABM per night. Bats were detected on 61% (13/21) of consecutive monitoring nights. Passes were recorded on 61% (8/13) of the detectors. Of these passes, 99% were classified as stereotypical search phase passes used for orientation and foraging; 1 (out of 159) of these search phase passes were coupled with 'social' calls recorded inadvertently on the 28 kHz channel.

Overall nightly activity trends showed that bat activity peaked at the second hour after sunset (8:45pm) with 115 of the total passes recorded. Average passes per night across all detectors = $159 / 21 = 7.57$ passes. Bat calls were obtained for every ABM. Note that BW04 recorded for 8 nights and ProSoc2 recorded for 4 nights

A summary of the results is shown in Table 2 and Figure 3a below, with detailed results for each ABM presented in Appendix B. '

Table 1: Corresponding detector number to site location of detectors deployed at Newcombe Road, 19/12/19 – 9/01/20; 15/05/20 – 22/06/20.

Site	Detector number	Deployment date
1	PRS1	19/12/19 – 9/01/20
2	PRS2	19/12/19 – 9/01/20
3	KB48	19/12/19 – 9/01/20
4	ProSoc2	19/12/19 – 9/01/20
5	PRS3	19/12/19 – 9/01/20
6	WEC2	19/12/19 – 9/01/20
7	WEC7	19/12/19 – 9/01/20
8	BW08	19/12/19 – 9/01/20
9	BW01	15/05/20 – 22/06/20
10	PRS4	15/05/20 – 22/06/20
11	BW04	15/05/20 – 22/06/20
12	PRS1	15/05/20 – 22/06/20
13	BW06	15/05/20 – 22/06/20
14	PRS2	15/05/20 – 22/06/20
15	BW05	15/05/20 – 22/06/20
16	KB48	15/05/20 – 22/06/20



Table 2: Distribution of total activity levels recorded at Newcombe Rd during the Dec 2019 -Jan 2020
(survey throughout the night at all locations including bat passes per night within 1-hour after sunset and bat passes per night within one hour before sunrise)

Site	Bat passes per night	Bat passes per night within 1-hour after sunset	Bat passes per night within one hour before sunrise
Site 1 – PRS1	2	0.09	0
Site 2 – PRS2	3.38	0.19	0
Site 3 – KB48	0.61	0	0
Site 4 – ProSoc2	0.24	0	0
Site 5 – PRS3	0.48	0	0
Site 6 – WEC2	0.24	0	0
Site 7 – WEC7	0.10	0	0
Site 8 – BW04	0.52	0.05	0

3.2 May-June Survey

Monitoring in May-June 2020 resulted in the detection of bat activity at all 8 different locations (Table 2). The average percentage of nights with bat passes across all detectors was 44%. A high level of bat activity was detected within the landscape during the survey. A total of 4,709 bat passes were recorded over 41 nights of surveying, averaging 14.4 bat passes per functional ABM per night. An overview of the bat activity results is shown in Figures 3-5. The graphs show activity levels expressed as average number of bat passes per night for all ABM deployed.

At total of 1,848 bat passes were detected in the first hour after sunset, across seven of the eight ABMs. No bat passes were detected in the first hour before sunrise by any of the eight of the ABMs (Table 2).

Detector BW06 (Site 13) detected a consistently high number of bat calls per night (average = 103.8), suggesting this site was likely an important foraging and/or commuting area during the survey period. BW06 reported 4,256 detections, or 90.4% of all calls which may be indicative of a roost site nearby. However, because no bat passes were detected 11-12 hours after sunset, suggest there may not be a roost present, or the bats may be returning via a different route if there was a local roost present.

Limited detection occurred in detector BW04 (7% of all nights) and in detector PRS1 (12%), most likely due to battery failure.

Over 70 feeding buzzes were captured by BW06 (Site 13) across the monitored nights. BW01, BW03 and BW04 each recorded one feeding buzz and PRS1 recorded three feeding buzzes.

Compared to the January survey, there was much greater bat activity detected in the May-June survey, predominantly due to the large number of positive passes detected at Site 13.



Table 3: Distribution of total activity levels at Newcombe Rd during the May-June survey 2020
 (recorded throughout the night at all locations including bat passes per night within 1-hour after sunset and bat passes per night within one hour before sunrise)

Site	Bat passes per night	Bat passes per night within 1-hour after sunset	Bat passes per night within one hour before sunrise
Site 9 - BW01	3.86	1.14	0
Site 10 - PRS4	0.68	0.22	0
Site 11 - BW04	5.22	12.67	0
Site 12 - PRS1	38.40	29	0
Site 13 - BW06	177.33	66.91	0
Site 14 - PRS2	0.36	0.18	0
Site 15 - BW05	4.25	1	0
Site 16 - KB48	0.08	0	0

- Based on all functional detector nights

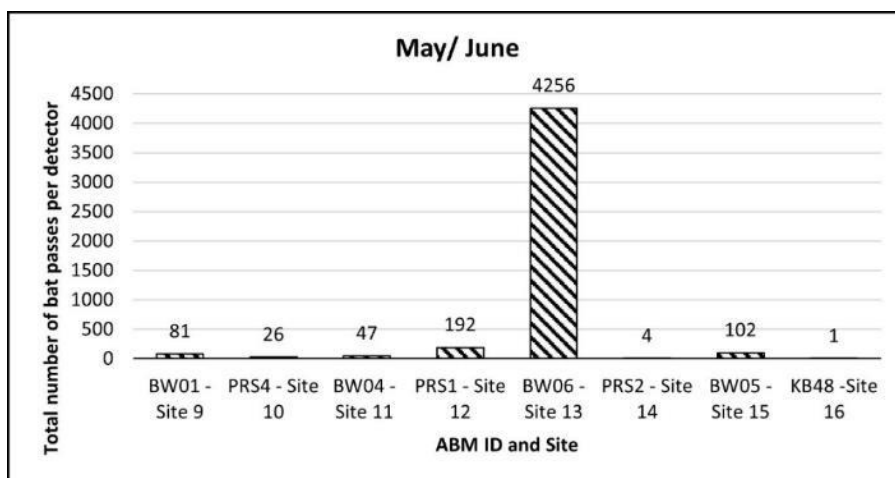
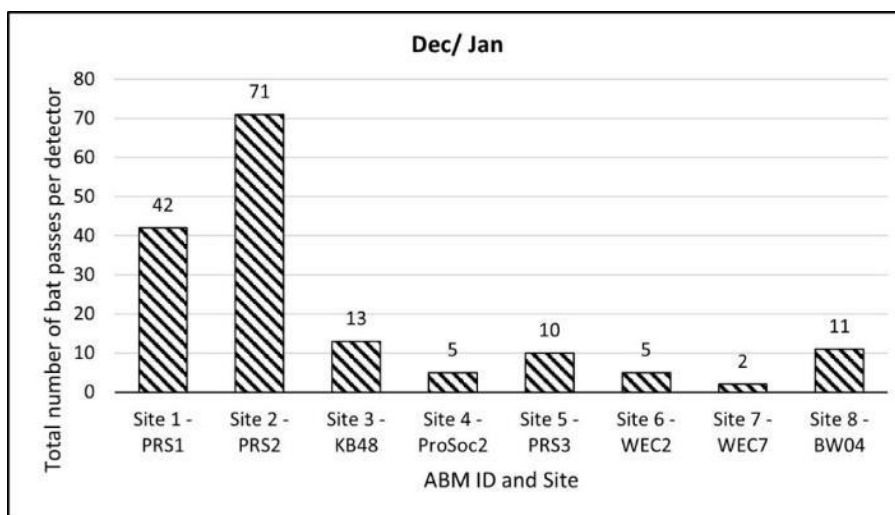


Figure 3a &b: Total bat passes for each ABM for both surveys at Newcombe Rd.



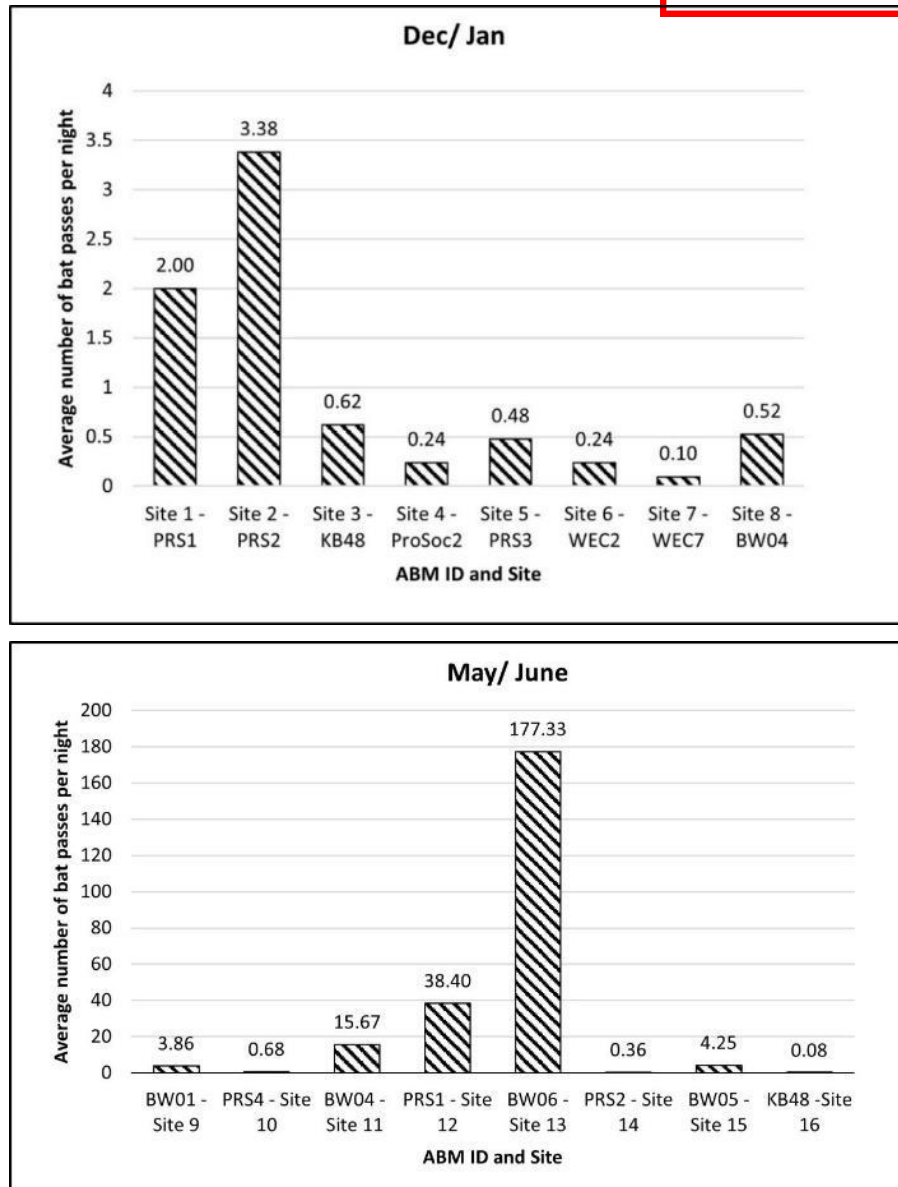


Figure 4a &b: Average bat passes per recorded night for each ABM for each survey at Newcombe Rd

Weather conditions during the entire Dec-Jan survey period were optimal for bat emergence (refer to Appendix B - Table B-1). Minimum temperatures at dusk for bat emergence are $>8^{\circ}\text{C}$, ideally $>10^{\circ}\text{C}$ (O'Donnell, 2000)¹². Dusk temperatures remained above 10°C during the entire survey period. Mean rainfall was low at 0.37 mm, with an average minimum temperature of 11°C . The lowest dusk temperature recorded during the survey was 14.6°C and the coldest temperature recorded during the survey was 5.9°C . Rainfall was present six times during the survey period. Wind conditions were mild and suitable across the survey period, with maximum wind gusts below 20 km/hr.

Weather conditions during the entire May-June survey period were reasonable for bat emergence (refer to Appendix B - Table B-2). Minimum temperatures at dusk for bat emergence are $>8^{\circ}\text{C}$, ideally $>10^{\circ}\text{C}$. Dusk temperatures remained above 10°C during the entire survey period, with the exception of the lowest dusk temperature recorded during the survey which was 7.4°C on one night only. The coldest temperature recorded during the survey was -1.9°C . Rainfall was present once during the survey period. Wind conditions were mild and suitable across the survey period, with maximum wind gusts below 13 km/hr. Mean rainfall was 2.1 mm, with an average minimum temperature of 5.62°C .

¹² O'Donnell, C. 2000. Influence of season, habitat, temperature, and invertebrate availability on nocturnal activity of the New Zealand long-tailed bat (*Chalinolobus tuberculatus*). New Zealand Journal of Zoology 27: 207-221.



4 Preliminary effects assessment on bats & recommendations

4.1 Habitat Value

Long-tailed bats are utilising the area of the Newcombe Road proposed sand mine and surrounding landscape features as commuting and foraging habitat.

Figure 5 shows the location of these habitats and known significant natural areas (Deichmann & Kessels 2013)¹³.

Due to the large number of feeding buzzes, social calls and general activity at Site 13 within Gully B, it is possible that the mature willow and poplar trees were being utilised as a roost site during the May-June survey. There was not evidence of roosting at any of the sites during the previous December – January survey, although ABM surveys are not generally able to definitely detect roosting habitats where social or bi-modal activity is not obvious. Further surveys employing dusk watches, or radiotracking would be required to establish roosts with a greater degree of certainty.

There are number of mature exotic trees on site which are suitable *potential* roosting habitat for bats. These are generally trees greater than 15 cm diameter at breast height (dbh), and which have cavities and crevasses which bats can crawl into (e.g. Figure 6). Generally, isolated tree in paddocks aren't used as roost trees because bats prefer groups of mature trees or double-lined shelter belts for roosting. Sometimes a solitary bat can use a tree for a temporary roost for a night or two though, and these can be difficult to locate without intensive radio tracking. Maternity or communal roosts, where female bats regularly occupy over the spring and summer months to raise their pups, are generally in sheltered areas with many mature trees. There is no evidence of a maternity site at Newcome Road at this point in time. While ABM surveys alone usually cannot determine roosts sites, high level activities over the spring-summer months, with bi-modal patterns of emergence/return activity patterns, can suggest a communal roost in the locality of the acoustic survey. These types of data were not found during the December-January surveys.

The location is being used for foraging and commuting though. As the data analysis show, commuting and feeding buzzes were found at many of the sites surveyed and detection rates ranged from low to high. Generally, bats are edge adapted animals, using the edges of forest as a guide to commuting within a landscape. They are opportunistic feeders of insects, but generally will return to areas, often over water or along side streams, rivers and lakes to feed on emerging flying insects. Bats can and do fly and forage over pasture but generally favour edge habitats.

The data therefore indicates that the Newcombe Road proposed sand mine site and its surrounding locality main habitats for long-tailed bats:

- Commuting habitat: The mature shelterbelt trees at the site access, all of Gully B and the margin of the Karapiro Stream are likely to be used as regular commuting corridors across and along this site. Bats are likely to fly over all of the site on a regular basis, but likely less often than the gullies and shelterbelts.
- Foraging habitat: The main foregoing habitats are likely to be with the stream of Gully B, the margins of the Karapiro Stream and the wetland areas at the top of Gully D alongside the Karapiro Stream. The open pastures are likely to be occasionally used for foraging but less often than these other habitats.
- Roosting habitat: The mature trees within Gully B are possibly used for roosting by solitary bats or as an occasional communal roost by bats. The mature trees within Gully C and Gully D are possibly used as roosting habitat. The mature trees found in the shelterbelts, as well as the isolated trees within the pastureland, are less likely to be used as communal roost trees, but roosting may still occur in these trees.

¹³ Deichmann, B & Kessels, G. 2013. Significant Natural Areas of the Waipa District: Terrestrial and Wetland Ecosystems. Kessels & Associates Ltd for Waikato Regional Council: Technical report 2013/16



Therefore, in accordance with the EciA guidelines for assessing ecological value the Newcombe Road site for bats is considered to be 'Very High'.¹⁴

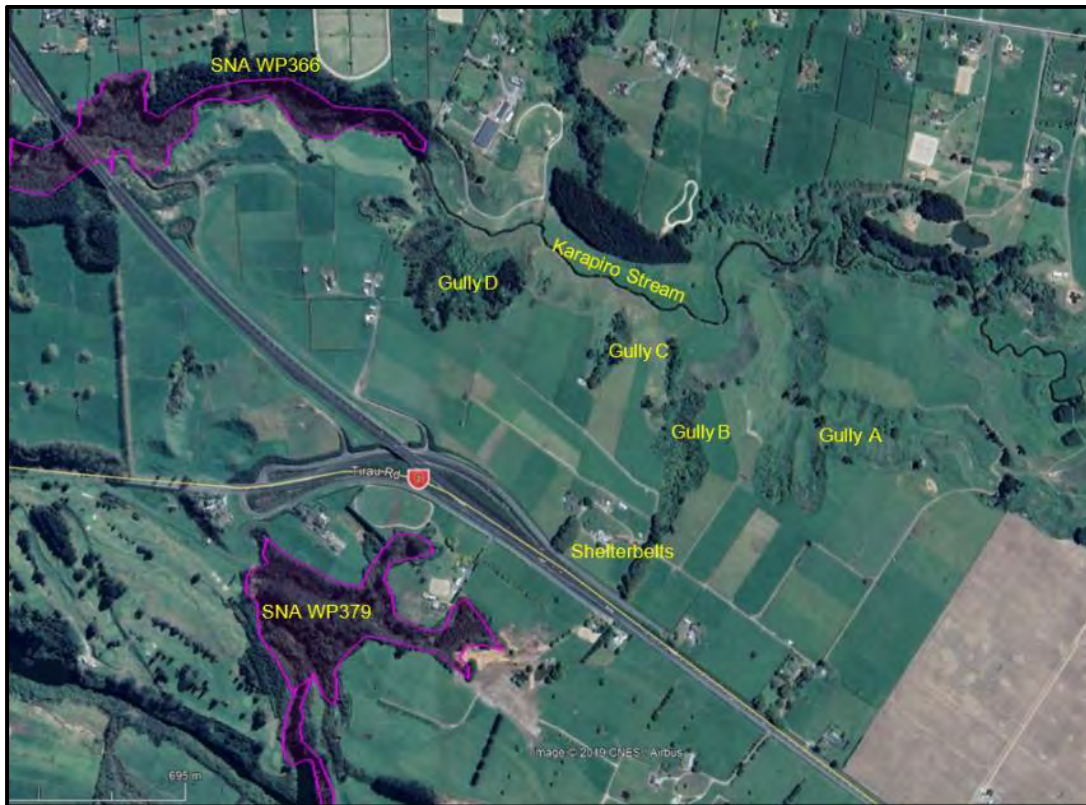


Figure 5: Location of key habitats for bats and WRC listed SNAs at Newcombe Road



Figure 6: Crevices within these poplars are examples of potential bat roost trees at Newcombe Road

¹⁴ Refer to Table 5 (p67 EciA guidelines): "Nationally Threatened species, found in the ZOI either permanently or seasonally"



4.2 Preliminary ecological effects evaluation on bats

The removal of pasture and portions of some of the gully areas associated with the sand mine operation will result in the temporary loss of foraging and commuting habitat for bats. This effect is likely to cause a short-term disruption to movement of bats across this property. However, in the context of habitat availability in the wider landscape, long-term adverse significant adverse effects are unlikely to be discernible. Jones et al (2019)¹⁵ suggest that long-tailed bats may be more resilient to development than the only other extant NZ bat species (short-tailed bat), because they appear less dependent on unmodified indigenous forest (due to their wide distribution throughout New Zealand), and because they are thought to be more flexible with their roost choice, as well as being edge-adapted (Borkin & Parsons, 2009; O'Donnell et al., 2006)¹⁶. There will, however, still be residual short to medium terms loss of habitat which will require mitigation. Opportunities for mitigation of lost foraging and commuting habitat require further consideration in the detailed ecological effects assessment for the project as a whole.

At this point in time there is no evidence that occupied bat roosts would be impacted by the proposed sand extraction operation. However, bats utilise a large number of trees as roosts throughout their home range and this can vary from year to year so that predicting roost tree usage within a bat population's home range without undertaking radio tracking is not possible. There are a number of trees on the site which could be utilised as bat roost trees which would be removed, or indirectly impacted, by the sand mine operation – these are termed potential bat roost trees. Trees that fit this category are not currently known to be occupied by bats but because they exhibit cavity bearing properties may be used by bats for roosting, although currently there is no evidence that they are occupied.

While any loss of an occupied roost tree can be considered to be a significant impact on a local population of bats, especially an occupied communal roost tree, the loss of potential roost trees is considered to be a lesser effect. However, given the uncertainty surrounding roost tree usage in rural Waikato landscapes, all potential roost trees should be checked immediately before felling to ensure they are not occupied, and if they are, a contingency strategy to avoid or offset these adverse effects should be put in place to address all scenarios, no matter how low the risk of one of those scenarios eventuating.

There may be a number of indirect and cumulative adverse effects of the sand mine extraction process on bats in this locality. For example, if night-time lighting is used on site this has potential to impact bat behaviour. Further effect assessment is required of each of these indirect and cumulative effects (such as lighting), in the detailed impact assessment reporting.

In accordance with the EclA guidelines the 'Magnitude of Effect' of loss of foraging and commuting habitats for long-tailed bats is considered to be 'Moderate' in the short to medium term (0 to 25 years) and 'Low' in the long-term).¹⁷ This is because the loss of the habitat in this locality is a small proportion of pastureland and exotic habitat for bats. Long-tailed bats are known to have a home range of

¹⁵ Jones C., Borkin K., Smith D. (2019). Roads and wildlife: the need for evidence-based decisions; New Zealand bats as a case study. New Zealand Journal of Ecology 43(2): 3376

¹⁶ Borkin K.M. and Parsons S. 2009: Long-tailed bats' use of a *Pinus radiata* stand in Kinleith Forest: recommendations for monitoring. New Zealand Journal of Forestry 53(4): 38-43; O'Donnell C.F.J., Christie J.E., and Simpson W. 2006: Habitat use and nocturnal activity of lesser short-tailed bats (*Mystacina tuberculata*) in comparison with long-tailed bats

¹⁷ Refer to Table 8 (p83) EclA guidelines: **Low**: Minor shift away from existing baseline conditions. Change arising from the loss/alteration will be discernible, but underlying character, composition and/or attributes of the existing baseline condition will be similar to pre-development circumstances or patterns; and/or Having a minor effect on the known population or range of the element/feature. **Moderate**: Loss or alteration to one or more key elements/features of the existing baseline conditions, such that the post-development character, composition and/or attributes will be partially changed; and/or Loss of a moderate proportion of the known population or range of the element/feature; **High**: Major loss or major alteration to key elements/features of the existing baseline conditions such that the post-development character, composition and/or attributes will be fundamentally changed; and/or Loss of a high proportion of the known population or range of the element/feature; **Very High**: Total loss of, or very major alteration to, key elements/features/ of the existing baseline conditions, such that the post-development character, composition and/or attributes will be fundamentally changed and may be lost from the site altogether; and/or Loss of a very high proportion of the known population or range of the element/feature.



hundreds of hectares (Dekrout et al 2014)¹⁸. In the long-term, as the site is rehabilitated and pasture and trees are established, bats will be able to re-enter and utilise this habitat for foraging and commuting.

In accordance with the EclA guidelines the 'Magnitude of Effect of the loss of any occupied roost tree could range from 'Very High' if a communal bat tree is removed to 'High' if a solitary bat roost tree is removed. Suitable measures are required for robust prefelling checks of potential bat roost trees to ensure these are not occupied before being felled. If potential roost trees are proposed to be removed, suitable consent conditions will be required to monitor all potential roost trees before felling, and to avoid removal of any occupied roost trees. If a known roost tree is to be removed, implementation of robust biodiversity offset or compensation measures will be required to address this significant potential impact. At this point in time there is a small risk of finding an occupied communal roost tree within the sand mine footprint, particularly if intrusion into the gullies and mature shelterbelt trees are limited to as minimal an extent as possible.

Combining the ecological value of habitat for bats with the Magnitude of Effects of the proposed sand mine on bats leads to the following EclA 'Level of Effects' thresholds for each habitat type associated with proposed sand mine at Newcombe Road before suitable avoidance, remediation and mitigation measures¹⁹:

- Loss of open pastureland for foraging and commuting habitat - Moderate level of effect on bats;
- Loss of of gully and shelterbelt and pastureland habitat within 25 m of shelterbelts and gully habitats - High level of effect on bats;
- Loss of occupied solitary roost trees and unoccupied potential roost tree habitat – High level of effects on bats; and
- Loss of occupied roost tree – Very High level of effect on bats.

5 Conclusion & Recommendations

The subject property provides foraging and commuting habitat for long-tailed bats. Some of the mature exotic trees in the gully systems may also provide roosting habitat for bats. The airspace above the open pastureland is likely being occupied by bats as they fly to and from key feeding and roosting habitats and for occasional foraging. However, the most significant habitats are likely to be the gully system, mature tree shelter belts and the riparian margins of the Karapiro River.

In order to address the effects of the proposed Newcombe sand mine on long-tailed bats, the following measures are recommended:

- d) A survey and inventory of all potential bat roost trees is undertaken in accordance with best practice before sand extraction begins;
- e) A Bat Management Plan (BMP) should be prepared by a recognised bat expert and implemented across the site which will outline detailed protocols around tree removal and ongoing monitoring; and
- f) The loss of habitat of bats within the site is suitably mitigated, including appropriate offset measures such as buffer planting, animal pest control, erection of artificial bat roosts, habitat restoration, and long-term protection of high quality bat habitat areas. The type and quantum of any mitigation measures is best determined by biodiversity offset compensation or quantitative modelling.

¹⁸ Dekrout, A.S., Clarkson, B.D. & Parsons, S. (2014). Temporal and spatial distribution and habitat associations of an urban population of New Zealand long-tailed bats (*Chalinolobus tuberculatus*), New Zealand Journal of Zoology, 41:4, 285-295, DOI: 10.1080/03014223.2014.953551

¹⁹ Refer to Table 10 (p84) EclA guidelines.



APPROVED
Waipa District Council
Subject to the conditions of the
resource consent LU/0077/23

Subject to review of the detailed sand extraction process and review of the full suite of avoidance, remediation, mitigation, offset and monitoring measures as broadly outlined above, the overall level of adverse effects on long-tailed bats because of this proposal is likely to be low.



Appendix A: ABM coordinates for the 2020 Newcombe Road Quarry long-tailed bat survey

Table A-1: Locations of ABMs for Dec 2019 – Jan 2020 survey

Site	January Survey	Latitude	Longitude
1	PRS1 (In Cabbage tree in large gully)	37°53'27.04"S	175°30'21.44"E
2	PRS2 (On cabbage tree near gate and stream)	37°53'27.51"S	175°30'23.37"E
3	KB48 (In large willow in gully)	37°53'37.56"S	175°30'43.05"E
4	ProSoC2 (Poplar at bottom of gully)	37°53'34.61"S	175°30'36.11"E
5	PRS3 (On oak tree next to track)	37°53'48.92"S	175°30'40.56"E
6	WEC2 (On fence post)	37°53'40.05"S	175°30'41.45"E
7	WEC7 (On driveway near road)	37°53'47.30"S	175°30'32.84"E
8	BW04 (On tree fork, side of gully)	37°53'33.84"S	175°30'37.01"E

Table A-2: Locations of ABMs for May-June 2020 survey

Site	May Survey	Latitude	Longitude
9	BW01 (South of small gully)	37°53'30.36"S	175°30'18.18"E
10	PRS4 (On pine tree branch)	37°53'31.25"S	175°30'22.07"E
11	BW04 (Cabbage tree 50m west of stream, below pylon)	37°53'25.58"S	175°30'23.15"E
12	PRS1 (On Poplar tree, top SE corner of gully)	37°53'34.11"S	175°30'37.60"E
13	BW06 (Bottom of gully, poplar tree branch)	37°53'38.07"S	175°30'42.61"E
14	PRS2 (Far NE end of paddock)	37°53'43.91"S	175°30'46.47"E
15	BW05 (At first poplar)	37°53'47.35"S	175°30'42.95"E
16	KB48 (On driveway)	37°53'48.38"S	175°30'33.29"E



Appendix B: Weather data during the two survey periods

Table B-1: Summary of January survey weather conditions during the survey period. Temperatures in °C, precipitation in mm and wind speed in m/s. Data obtained from NIWA CliFlo database, at 26117

Date	Maximum Temperature(C)	Minimum Temperature (C)	Precipitation (mm)	Maximum Wind speed (m/s)
19/12/19	19.3	9.5	0.8	10.8
20/12/19	20.3	11.9	0	16.5
21/12/19	21.4	8.3	4.6	9.8
22/12/19	21.3	7.8	0	9.3
23/12/19	24.2	11.6	0	9.3
24/12/19	25.3	16	0	8.2
25/12/19	25.9	13.4	0	7.2
26/12/19	22.3	10.6	0	6.7
27/12/19	25	11.2	0	10.8
28/12/19	22.3	10.5	0.4	14.9
29/12/19	20.5	5.9	0	12.9
30/12/19	20.4	14.1	0	12.4
31/12/19	23.4	10.6	0.2	8.8
1/01/20	26.5	10.3	0	9.8
2/01/20	22.7	7.5	0	10.8
3/01/20	24	14.4	0	13.9
4/01/20	22.5	14.5	0.6	17
5/01/20	19.5	12.4	0	12.4
6/01/20	19.8	14.3	1.2	18.5
7/01/20	19.9	12.5	0	13.9
8/01/20	19.8	6.7	0	9.8
9/01/20	21.1	7.5	0	12.4

Table B-2: Summary of May survey weather conditions during the survey period. Temperatures in °C, precipitation in mm and wind speed in m/s. Data obtained from NIWA CliFlo database, at 26117

Date	Maximum Temperature(C)	Minimum Temperature (C)	Precipitation (mm)	Wind max gusts (m/s)
15/05/2020	19.3	2.5	0	4.1
16/05/2020	19.3	8.8	0	5.7
17/05/2020	20.4	6.3	0	6.2
18/05/2020	20.4	3.8	0	5.7
19/05/2020	19	3.2	0	6.7
20/05/2020	18	1.1	0	4.6
21/05/2020	17.3	0	0	4.1
22/05/2020	16.7	1.6	0	4.1
23/05/2020	17.6	-1.9	0	4.6
24/05/2020	13.1	2.3	0	6.7
25/05/2020	19.7	11.3	9.6	9.8



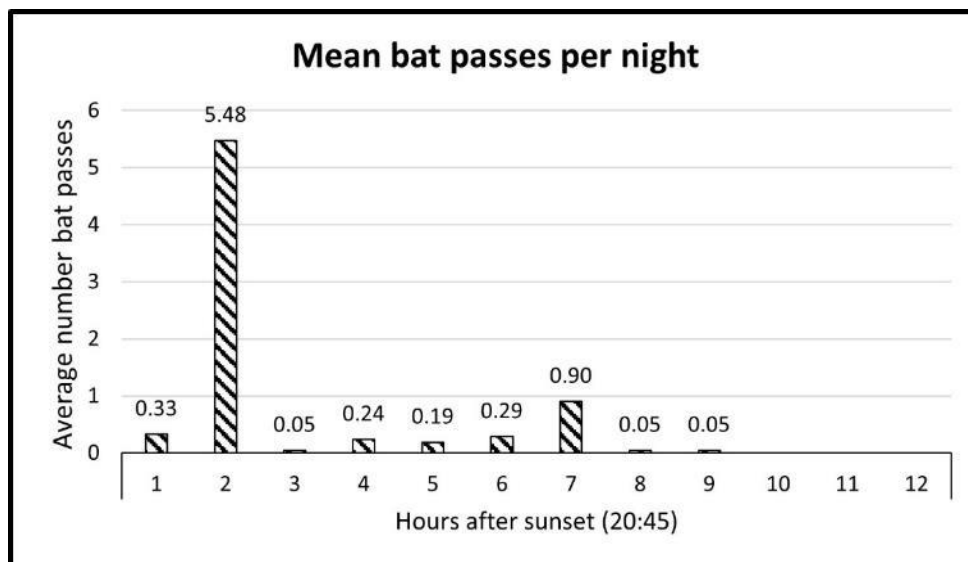
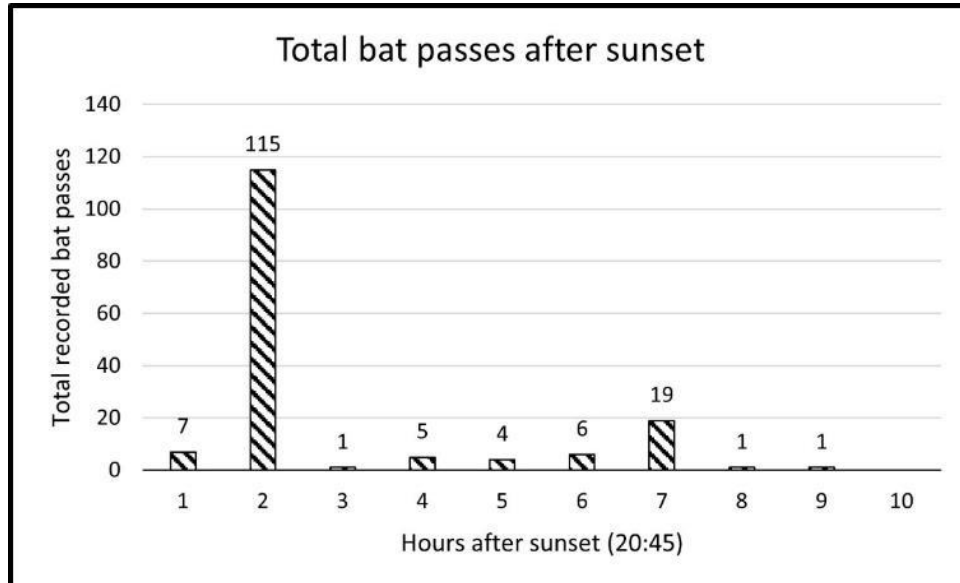
26/05/2020	19.7	11.1	4.8	5.1
27/05/2020	20	10.4	0	4.6
28/05/2020	14.7	2.3	0	2.6
29/05/2020	18	6.4	0	2.6
30/05/2020	15	8.7	3.4	5.7
31/05/2020	18.5	9.2	0.2	7.2
1/06/2020	16.7	10.8	4.2	8.8
2/06/2020	17.4	12.4	21	12.4
3/06/2020	18.6	4.8	0	8.8
4/06/2020	17.4	7.4	2.6	12.4
5/06/2020	18.6	7.1	1.6	7.2
6/06/2020	16.8	3.4	0.6	10.3
7/06/2020	16.5	6.2	1.2	10.8
8/06/2020	15.3	0.5	0	8.8
9/06/2020	16	1.1	0	11.3
10/06/2020	16.9	-0.1	0	3.6
11/06/2020	12.5	2.7	0.2	8.8
12/06/2020	17.1	5.9	0.2	8.2
13/06/2020	18.2	5.5	1.2	3.6
14/06/2020	16	6.8	0	3.6
15/06/2020	15.4	7.8	0	6.7
16/06/2020	16.2	5.3	0	3.1
17/06/2020	16	8	0	6.2
18/06/2020	18.4	8.1	0	11.8
19/06/2020	17	4.7	25.8	5.1
20/06/2020	17.6	4.6	0	5.1
21/06/2020	17.3	9.2	3.4	7.7
22/06/2020	18.8	9.9	0.6	8.8

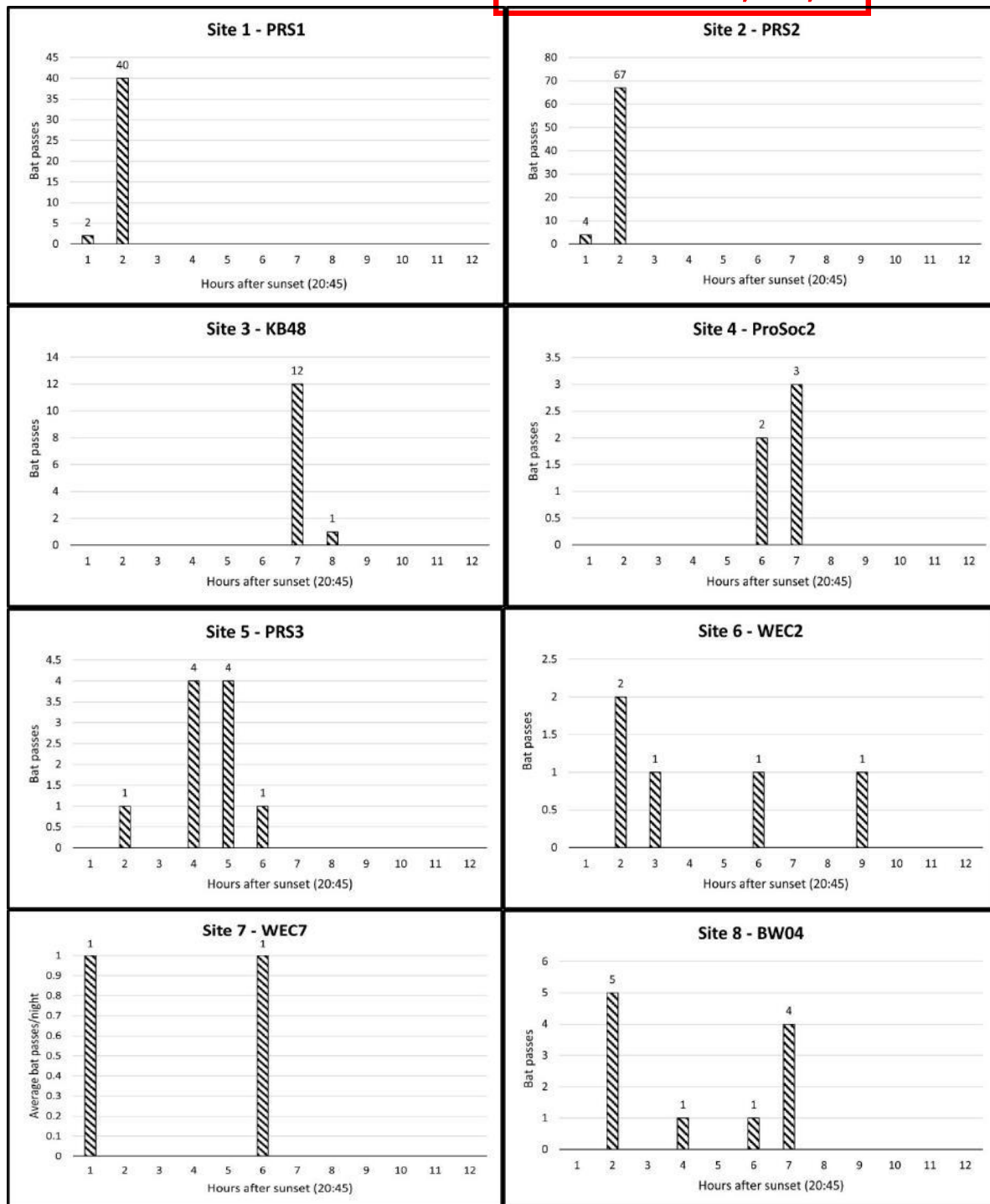


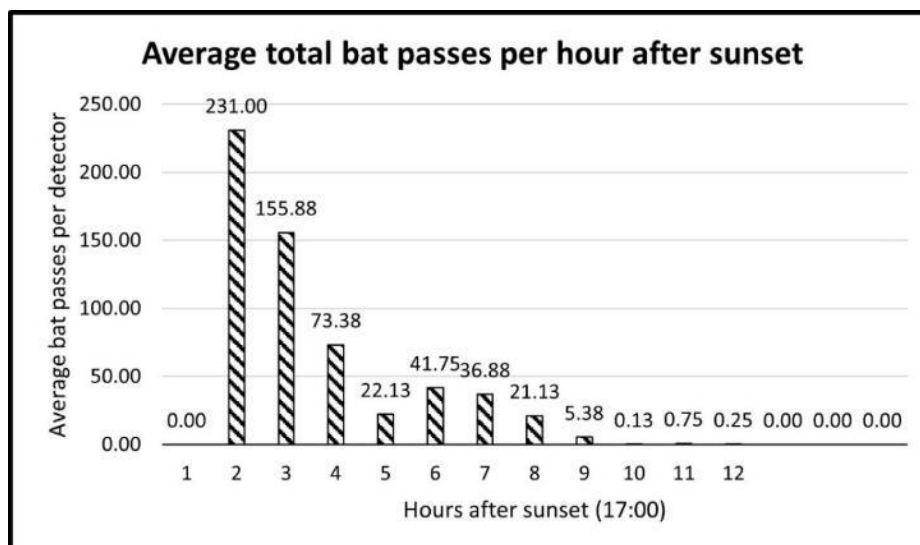
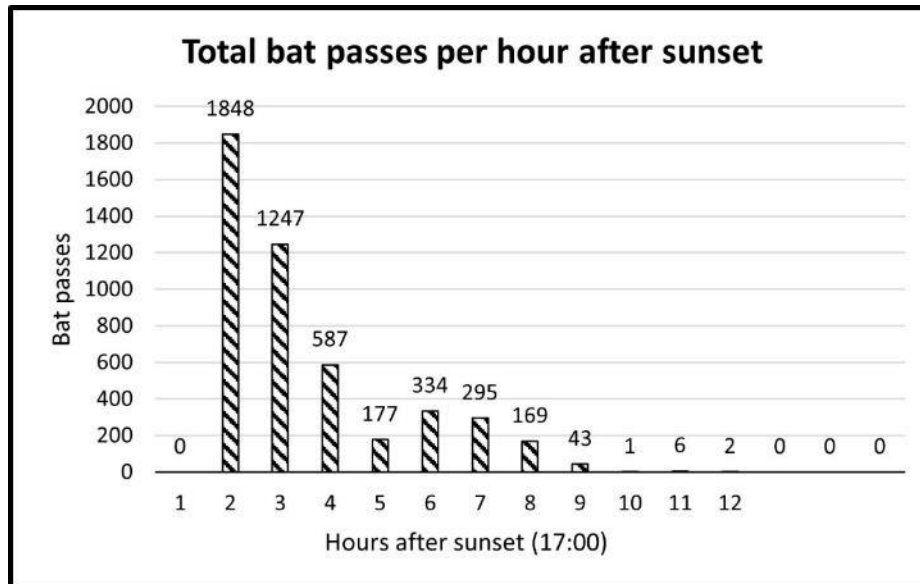
Appendix C: HAS for each individual detector and across all detectors

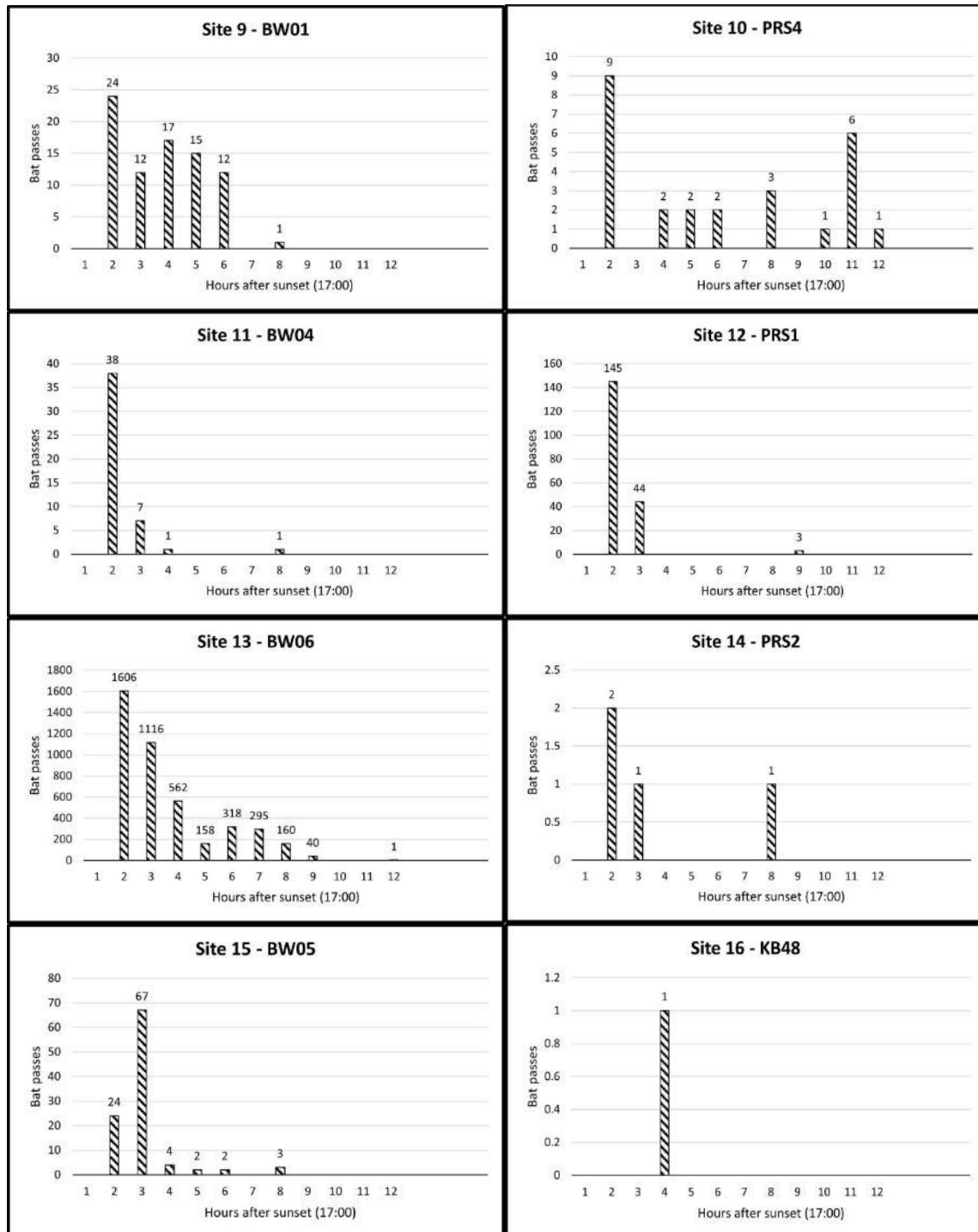
**Note a change of scale on the y axis*

December/January Survey data





May/ June Data

Bat passes per hour after sunset: May to June 2020

Appendix D: Interim report RS Sands Bat Roost tree assessment



KESSELS & ASSOCIATES LTD T/A BLUEWATTLE ECOLOGY
575 GROVE ROAD, RD5, HAMILTON 3285, NEW ZEALAND

To: Christian McDean
From: Titia Schamhart
CC: Arthur Fulton; Kurt Hine; Jo Young
Date: 24 September 2023
Re: Interim report RS Sands Bat Roost tree assessment

This memo serves as a preliminary update regarding my discoveries and suggestions concerning the potential removal of exotic and native trees, bush and affected wetlands at the Newcombe Road Sand Quarry in Cambridge. I conducted an examination of the trees slated for felling within the areas outlined on the provided maps on August 21, 2023.

6 Roost Tree Inspection

Potentially affected areas were evaluated from a broad perspective to determine their suitability as bat habitats for foraging, commuting, or roosting. Specifically, I assessed trees that could serve as potential bat roosts. The identification of roost features followed criteria derived from Smith et al. (2017) and involved a habitat assessment. Trees with a diameter greater than 15 cm at breast height (DBH) and displaying one or more of the following characteristics were considered as potential bat roosts:

- Cracks, crevices, cavities, fractured limbs, or deformities large enough to accommodate roosting bats.
- Portions of loose flaking bark of sufficient size to support roosting bats.
- Hollow trunks, stems, or branches.
- Deadwood within the canopy or stem, of appropriate dimensions to sustain roost cavities or hollows.

The map provided in Attachment 2 illustrates that the majority of the designated felling area consists of pines (Zone A) and gullies (Zone B, E, G), characterized by medium to large-sized structures and evident cavity-bearing attributes, which might serve as roosting habitat for long-tailed bats (Attachment 1, Photo 2 and 8). The pine forest (Zone A) shows a stand of trees and wetland species predominantly made up of exotics with regenerating natives. Along the bush edge there are natives regenerating with larger numbers of Toetoe and other self-seeded nursery crop species. In the lower wetland area (Zone C) it appears that the stand of willows has been effectively sprayed and self-seeded regenerating natives starting to emerge.

Roosting potential is primarily observed in the form of cracks and hollows within mature trees, as shown in the example photo 7. The East border on the map encompasses a collection of smaller trees situated in a



gully (Zone G), presenting a potentially low to medium roosting potential, while its wetland nature renders it valuable as foraging habitat. This area is high quality bat foraging habitat linking in with the high value (zone H) tree line so while it is has low to medium roost tree habitat, it has high value for commuting and foraging.

Due to the substantial bat activity across the property and the diverse quality levels of bat habitat, it's important to note that every tree within this property with a diameter exceeding 15 cm at breast height (DBH) must undergo inspection according to the tree felling protocol detailed in Attachment 3 before any felling activities.

7 Recommendations

1. **Preservation Priority:** Preservation of the old pines and minimizing any activities that may disturb these trees is preferable due to their high roost potential, but if found to be occupied as a maternity roost (unlikely but not zero probability), measures to preserve and buffer occupied maternity roost trees within the quarry footprint would be required.
2. **Supervised Tree Felling:** For other large trees with medium to high roost potential, work closely with a certified bat ecologist to supervise any tree felling activities. Ensure they follow approved tree felling protocols.
3. **Mitigation Measures:** Implement mitigation measures such as installing bat boxes (short term), providing alternative roosting sites by strategically planting and protecting cavity bearing exotic and native trees and restoring wetlands and riparian margin vegetation (long term) to compensate for any loss of roosting, commuting or foraging habitat.

Compliance and Reporting:

Titia Schamhart

Senior Ecologist



ATTACHMENT 1: PHOTOS OF BAT HABITAT ASSESSMENT

Photo 1: (Zone D) Eucalyptus with High Roost Potential, located directly East of the pine forest.



Photo 2: (Zone C) Wetland (Low Roost Potential but High Value Foraging Habitat) surrounding sprayed willows, at the edge of (Zone A) pine forest (Medium to High Roost Potential).



Photo 3: (Zone E) Exotic stand with Medium to High Roost Potential at the top of centrally located gully.



Photo 4: (Zone G) Gully to the East of the property, with overall Low Roost Potential, but with several standalone pines with Medium Roost Potential and overall High Value Foraging Habitat.





Photo 5: Stream running past the North boundary of the property, proving high foraging and commuting habitat.



Photo 6: (Zone E) Gully in the centre of the property, with several mature poplars with High Roost Potential.



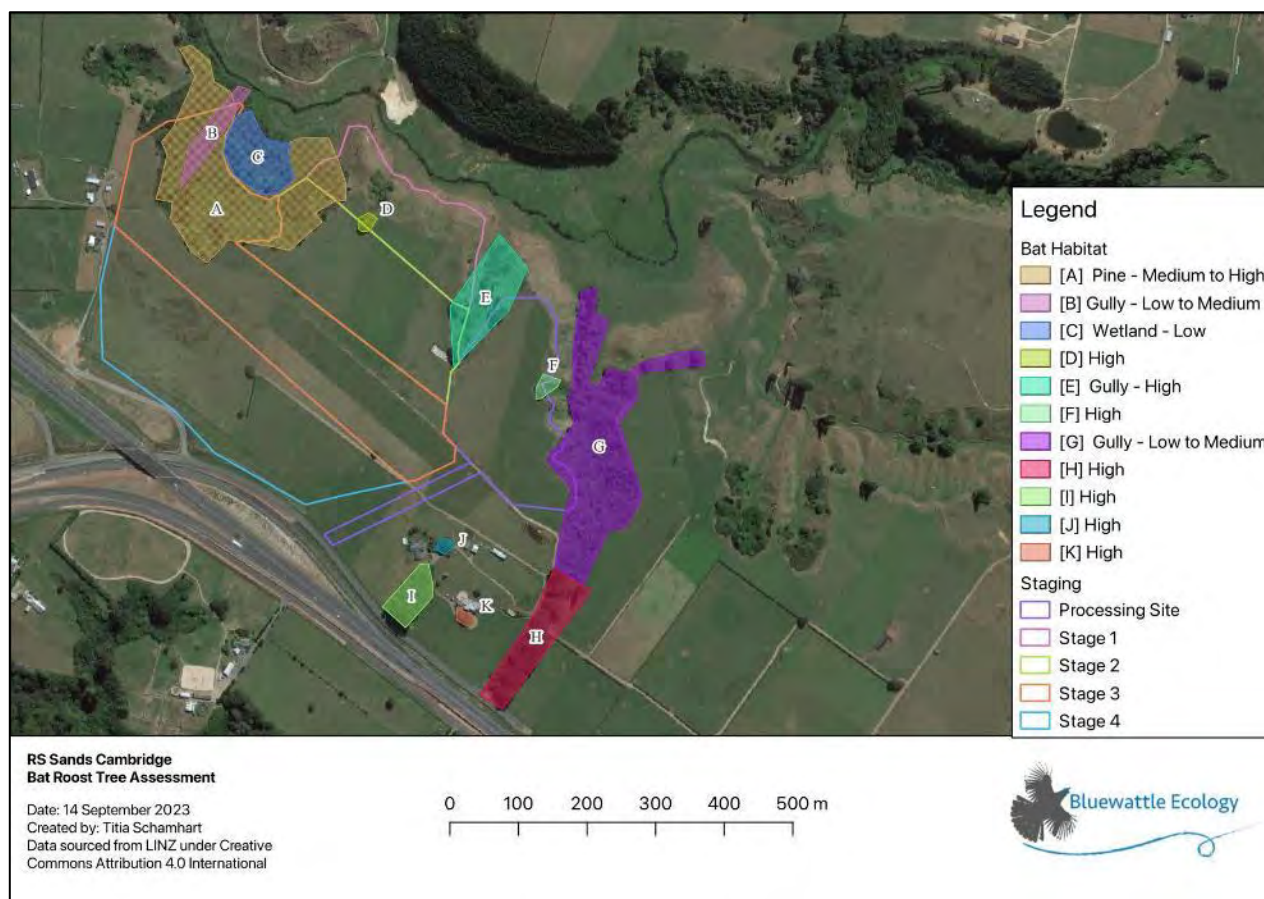
Photo 7: (Zone H) Clear hollow in plane tree with High Roost Potential (outside the staging zone)



Photo 8: (Zone F) Poplars on the edge of the Eastern gully with High Roost Potential (inside the borders of the Processing Site).



ATTACHMENT 2: POTENTIAL BAT ROOST TREE ASSESSMENT



*ATTACHMENT 3: TREE FELLING PROTOCOL***Protocols for minimising the risk of felling bat roosts****(Bat Roost Protocols (BRP))**

Version 2: October 2021 approved by the New Zealand Department of Conservation's Bat Recovery Group

The use of these protocols should be a final step in the avoid/remedy/mitigate hierarchy. Avoidance of felling bat roost trees should be the first step in any project.

Purposes of this document:

1. To outline why protection of roosts is important for the persistence of New Zealand bats and why removal of known and potential roosts should be avoided.
2. Where roost removal cannot be avoided, to set out the minimum requirements and protocols for removing trees in areas where bats are present, to minimise the risk of killing bats.

This protocol does not eliminate the risk to bats of death or injury because bats or active bat roosts can be missed. The best way to eliminate risk of felling an active roost is to avoid felling any known or potential roosts.

Context**The status of New Zealand bats**

New Zealand's two extant bat species (pekapeka) are classified as threatened.

Long-tailed bats are classified as 'Nationally Critical' because the species is likely to have a 70% decline in numbers within three generations.

Lesser short-tailed bats comprise three subspecies. The northern subspecies is classified as 'Nationally Vulnerable' because there are 1000-5000 mature individuals and the predicted decline in numbers is 10-50% within three generations. The central subspecies is 'Declining' because there are 20 000-100 000 mature individuals, and the predicted decline is 10-50% within three generations. The southern subspecies is 'Recovering' because there are 1000-5000 individuals, and the predicted increase is >10% within three generations.

Threats to bats

This document deals specifically with roost protection; however, roost protection is only part of the wider issue of habitat loss. Habitat loss through land clearance, habitat degradation, fragmentation and disturbance and loss of roosts reduces roosting, foraging and socialising areas. Individual bats and colonies are also threatened by the local felling of individual trees.

Bats have large home ranges which can include unprotected peri-urban habitat. Protecting habitat and maintaining connectivity of vegetation are crucial for bats being able to persist and flourish in the environment.

Predation and competition by introduced predators: mustelids, rats, cats, and possums have all been implicated in the decline of bats¹.

Roosts are critical to the survival of bats

Roosts are where bats gather to shelter during the day and at night. They are used to socialise, mate, give birth, and raise young. Bats have very specific requirements when they are choosing roosts and are not just choosing any

¹ O'Donnell CFJ; Christie JE; Hitchmough RA; Lloyd B; Parsons S 2010. The conservation status of New Zealand bats, 2009. New Zealand Journal of Zoology 37: 297– 311.



tree². The specialised features of roosts make them rare and almost irreplaceable in any landscape or habitat type except over very long-time frames. People sometimes falsely suggest that “bats can just move to another tree”. This is not the case, particularly where trees suitable as roosts are limited³.

Bats demonstrate high site fidelity to existing roosts and their specific roosting areas, and they move on a rotation among these. Because roost trees are likely to be rare, and are occupied to fulfil specialised requirements, felling breeding roost trees even when bats are absent will have a significant negative effect. If the number of suitable roosts and their surrounding habitat is reduced in the landscape, bats are forced to use roosts that are less thermally efficient. This means they will use more energy to survive, resulting in reductions in survival and lower reproductive success. In this way, roost removal is likely to result in higher risk of local extinction.

Bats can roost in native or exotic vegetation – therefore it should not be presumed that exotic species such as pine trees will not support bats. Roosts, including maternity roosts, have been found in many exotic species including, but not limited to, pine, poplar, oak, and acacia species, black locust, willow, eucalyptus and Tasmanian blackwoods.

Bats are at risk of being injured or killed when trees are felled

If a tree is felled with a bat in it, it is highly likely that the bat will be injured or killed, although this may not be apparent at the time because injuries, such as bruises and fractures, which would hinder bats’ ability to fly well, may take time to be obvious.

The highest risk of injuring or killing bats or trapping them within their roosts is when they are heavily pregnant, when young are still dependent on the roost (late November – February) and when bats are more likely to be in torpor (May – September). Heavily pregnant bats are slower and less agile, and young bats cannot fly, so their chances to escape are reduced when roost trees are felled. Also, it is possible that if the larger female-dominated maternity roosts are cut down when females are raising their young to independence (October-March), a whole colony of bats could be destroyed at one time.

During winter bats use torpor (a type of hibernation) more often than during other times of year, so if trees are cut down in winter, bats may be unable to rouse from torpor and to fly away in time to escape. Additionally, it is significantly harder, sometimes impossible, to detect bats roosting in trees during torpor. For these reasons, trees with potential bat roost features must not be cut down in winter. Bats also use torpor for short periods during summer, for example, if the weather gets cold, so the risk of killing or injuring bats that cannot escape falling trees exists at any time of the year.

Bat roost protocols and the RMA

The occurrence of bats and bat habitat is a matter of ‘significance’ under Section 6(c) of the Resource Management Act (RMA). Bat roost protocols have become a standard part of bat management plans that may be required under RMA consents. Where developments require consents, and bats (a threatened species) are present, the developments should ‘Avoid’ impacting bats and bat habitat. Bat roost protocols only attempt to minimise the number of bats killed by tree felling, therefore implementing bat roost protocols where bats are present should be considered a last resort after following the RMA hierarchy of “avoid, remedy, mitigate, offset, compensate”.

² Whilst we use the word tree frequently in this document, we acknowledge that bats also use non-tree vegetation as roosts and the terms tree and vegetation should be considered as interchangeable in the context of this document. We acknowledge that there are also non-vegetation roosts that are used and require protection. These include rocky bluffs, caves and occasionally buildings.

³ Many references available, for example, Borkin KM; Parsons S. 2011. Sex-specific roost selection by bats in clearfell harvested plantation forest: improved knowledge advises management. *Acta Chiropterologica* 13(2): 373-383; Borkin KM; O'Donnell CFJ; Parsons S. 2011. Bat colony size reduction coincides with clear-fell harvest operations and high rates of roost loss in plantation forest. *Biodiversity and Conservation* 30; Sedgeley JA; O'Donnell CFJ 1999b. Roost selection by the long-tailed bat, *Chalinolobus tuberculatus*, in temperate New Zealand rainforest and its implications for the conservation of bats in managed forests. *Biological Conservation* 88:261–276; Sedgeley JA; O'Donnell CFJ 2004. Roost use by long-tailed bats in South Canterbury: Testing predictions of roost site selection in a highly fragmented landscape. *New Zealand Journal of Ecology* 28:1-18.



This protocol has therefore been framed following the RMA hierarchy by first focusing on the avoidance of effects, helping to identify and avoid the removal of roost trees, and to minimise the risk to bats of death or injury if avoidance is not possible. This approach is usually informed by gathering data on bats in the local areas and seeking advice from a competent bat ecologist.

Identifying and protecting *both active and inactive (i.e., trees used by bats at other times of year) roosts* by avoiding their removal is an important step in supporting the survival and persistence of bats.

Bat roost protocols and the Wildlife Act 1953

NZ bats are absolutely protected species under the Wildlife Act 1953. It is an offence to catch alive or kill, hunt, possess, molest, or disturb bats under the Act. Any projects where tree or vegetation removal overlaps with the occurrence of bats, there is a risk of killing or injuring any bats that may be present. Following the bat roost protocols minimises the chance of killing or injuring bats.

Bat roost protocol

When and how to use the protocol

Whenever vegetation removal is proposed in areas where bats are potentially present and where their habitat may be impacted, follow the decision tree (Figure 1) below as a guide to what sort of action should be undertaken. The decision tree is designed firstly to avoid felling bat roost trees, secondarily aimed at moving roost trees, and only if unavoidable, felling roost trees (but only once vacated).

None of the methods of inspecting roosts described below eliminates the risk of failing to identify bats when they are present. Therefore, techniques such as filling in cavities with expandable foam are not supported as a tool. This is because there is a risk of trapping bats that have not been detected within cavities. In addition, this method removes roosts from the landscape that bats are dependent on.

Definitions

Competencies: a set of competencies developed by the NZ Bat Recovery Group⁴ to ensure that anyone working with bats is competent to do so. Contact bathandler@doc.govt.nz for a list of competencies and requirements to become an authorised competent bat worker.

Competencies referred to in this document:

- 2.1 Bagging storage, handling, measuring, weighing, sexing, aging, temporary marking and releasing appropriately:
 For long-tailed bats: 50 individuals
 For short-tailed bats: 50 individuals
3. High risk activities – Roost felling (all of these competencies include the understanding of what to do when bats are found during tree felling as per Appendix 6 of 'Initial veterinary care for New Zealand Bats' https://cdn.ymaws.com/www.nzva.org.nz/resource/resmgr/docs/other_resources/Initial_Vet_Care_NZ_Bats.pdf)
 - 3.1 Assessing roost tree use using Automatic Bat Monitors - Demonstrate correct timing, placement, and interpretation of data for 10+ times according to DOC's Tree Felling Protocols.
 - 3.2 Undertake roost watches/emergence counts at 10+ occupied roosts where the entrance is visible.
 - 3.3 In at least two different forest/habitat types, including the forest/habitat type where trees are going to be assessed: evaluate 10+ potential roost features in trees (e.g., cavities, peeling bark, epiphytes).

Authorised competent bat worker: A bat worker who has met the required ethical standards to be registered as a competent, authorised bat worker by the New Zealand Bat Recovery Group for the work which they are undertaking.

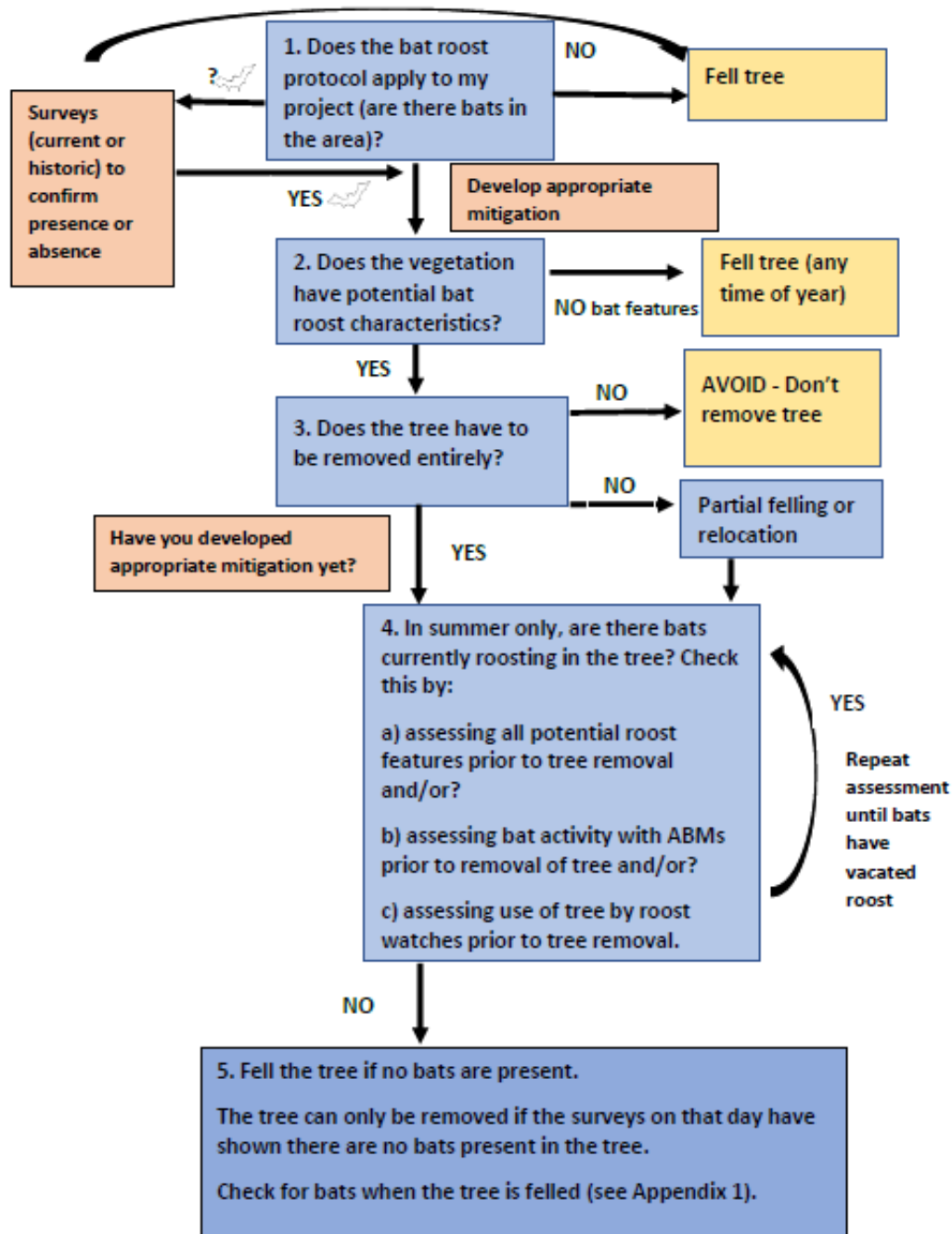
ABM: automated bat monitoring unit/detector

⁴ A group of bat specialists that advise on bat issues and assess bat competencies



Figure 1. Tree removal in bat areas flow chart

Each numbered step relates to a step in the Decision Tool for Tree Removal. Follow each step fully in the text to work through the process.



Mitigation/compensation

If trees are felled and habitat lost, then compensation measures should be considered to address the adverse effects. What these measures should be is beyond the scope of this document. Provision of artificial roosts in the short-term and planting for the long-term are some of the methods commonly used in development projects, but their effectiveness is untested and a future research need.



Step 3. Does the tree have to be removed entirely?	Response	Who can make this assessment?	When?
a) Is the only option to remove the tree entirely?	If yes, continue to step 4 If no, consider leaving the tree in place, cutting off specific limbs only or relocating the tree. If any felling, partial felling (where the part to be felled has potential bat roost features) or tree relocation takes place you MUST proceed to step 4. If a roost (active/inactive) is confirmed, then advice should be obtained at a project level in writing from DOC before proceeding.	Project leader	Any time

Notes for Step 3

Trees must only be relocated when bats are absent and when standard automated bat monitoring unit (ABM) weather conditions are met (see notes section 4b for appropriate weather conditions), and in consultation with an authorised bat ecologist with all competencies of level 3: 'High risk activities – Roost felling'.

Step 4. Are there bats currently roosting in the tree? (Follow a or b or c or a combination)	Response	Who can make this assessment?	When
a) Are potential features being used by roosting bats? A tree climber may be required to check all features (see notes for 4a below). If roost is occupied repeat 4a another day until roost is vacated.	If yes, THE TREE MUST NOT BE FELLED UNTIL BATS HAVE VACATED IT. If no, the tree can be removed on the day of the tree inspection following step 5. If bats continue to use the roost, then the tree must not be cut down until the bats leave the roost. At this point re-consider again	An approved person at Competency Level 3.3 or an experienced tree-climber (e.g., an arborist) working with an approved person at Competency Level 3.3. If the latter, the tree climber must provide information along with photographs or video footage, to the approved person at Competency Level 3.3 who assesses and decides whether the tree can be removed.	October 1st to April 30th when the temperature is 7°C or greater at official sunset in the South Island or 10 °C or greater in the North Island.

7

	whether this tree must be felled. Advice must be obtained at a project level in writing from DOC prior to felling the tree.	If roosts are known or confirmed through this process, then this information must be communicated to the nominated DOC bat ecologist for this project.	
b) Is bat activity recorded at any time during two consecutive, valid survey nights preceding tree felling¹³? At least two nights are required as it is possible for bats to enter or leave a roost without echolocating, or to not leave the roost for a night.	If yes (bats are detected), survey must continue on subsequent nights¹⁴ until no bat activity is recorded for two consecutive nights (to indicate bats have left the area) prior to felling. OR roost features of each tree must be visually assessed via climbing as in 3. If bat activity is consistent in the area and 2 nights with zero bat passes cannot be obtained, Go to 4c or 4a. If no bats are detected for two consecutive nights, the vegetation can be removed on the day immediately following the survey nights using the method in 5.	An approved person at Competency Level 3.1	October 1 st to April 30 th and when conditions meet the requirements for standard ABM weather conditions (see 4b notes).
c) Are bats observed entering the vegetation? This involves watching vegetation to identify bats returning to or exiting roosts. It should only be used in combination with previous ABM monitoring (4b) (see notes 4c for method). At	If yes (bats are seen at either watch) , it is a confirmed roost. Removal of a roost should be avoided to minimise effects	An approved person at Competency Level 3.2 ¹⁵ .	Between October 1 st and April 30 th only AND when weather parameters meet

¹³ Le Roux et al (2013) found that in and around Hamilton "The longest consecutive monitoring period without bat detections at each site was three nights during winter." Le Roux et al 2013. New Zealand Journal of Zoology (2013): Spatial and temporal variation in long-tailed bat echolocation activity in a New Zealand city, New Zealand Journal of Zoology, DOI: 10.1080/03014223.2013.827125.

¹⁴ Subsequent nights may be those immediately following bat detection or later dates.

¹⁵ If more than one person is required for a roost watch at a tree, a minimum of one approved person at Competency Level 3.2 must be present on site for the duration of the roost watch to supervise.



least two nights are required as it is possible for bats to enter or leave a roost without being detected, or to not leave the roost for a night.	of vegetation removal on bats. Techniques used previously to ensure previously active roosts are no longer active have included the following: Watches must continue on subsequent nights until no bats are observed entering or exiting the roost for two consecutive nights (to indicate the roost is no longer active) prior to felling. <u>If no bats are observed entering or exiting for two consecutive nights</u>, the vegetation can be removed on the day immediately following the survey nights using the method in 5.	the roost watch requirements.

Notes for Step 4.**4a) Tree climbing and inspection**

Care must be taken while climbing trees to avoid disturbing, removing or destroying tree features with bat roost potential such as sections of loose bark or cavities in dead wood. Using mobile elevated platforms can be a good option. Bats are less likely to be active over colder periods, so climbing to check whether bats are present in potential roost features must take place between October 1st to April 30th when the temperature is 7 °C¹⁶ (South Is) or 10 °C (North Is) or greater at official sunset on the night previous to inspection.

A tree climber may be required to check all potential bat roost features:

- Can bats be seen? An endoscopic camera should be available for this step and every possible corner of each potential roosting feature inspected, i.e., cavity/crack etc. Cracks, holes, and splits may lead to cavities or may be superficial. A cavity may be wet indicating no/low potential as a bat roost.

¹⁶ O'Donnell CFJ 2000. Influence of season, habitat, temperature and invertebrate availability on nocturnal activity of the New Zealand long-tailed bat (*Chalinolobus tuberculatus*). New Zealand Journal of Ecology 207-221.

9

- Can bats be heard? Search of tree features should be accompanied by use of a hand-held bat detector. If bats are present and not in torpor, then detection of presence listening at 25 kHz (for social calls) and 40 kHz (for echolocation calls) may help to determine if long-tailed bats are present. Short-tailed bat social calls are often audible or detected at 25-27 kHz.
- Is guano present or urine staining?

4b) ABM survey work

Bat activity is to be recorded using ABMs. Location of ABMs must provide sufficient coverage to be able to determine if bat roosts are present in one or more of the trees¹⁷. 'Valid' survey nights must have the following features:

- Begin one hour before official sunset and end one hour after official sunrise.
- Temperature 10°C or greater for the first four hours after official sunset time for the North Island and 7°C for the South Island¹⁸.
- Precipitation < 2.5 mm in the first 2 hours after official sunset, and < 5 mm in the first 4 hours after official sunset.

Prior to the commencement of surveys, ABMs must be checked for correct operation at a site where bat activity is known to be regular, or by using the DOC – Bat Recorder Tester (Tussock Innovation Ltd) phone app made for this and available from Google Play Store. Faulty or suspect ABMs must not be deployed, and ABMs must be redeployed if faults occur.

4c) Roost watches

The following weather conditions define a valid night for roost watches:

- Temperature greater than 10°C all night between official sunset and sunrise for the North Island and 7°C for the South Island.
- Precipitation < 2.5 mm for each two-hour period between official sunset and sunrise

Roost watches should include the deployment of ABMs and analysis of data for the night of the roost watch.

Emergence watches

- Each tree must be watched initially from sunset until it becomes too dark to see by sufficient people to observe all potential exit points. This must be supported by the use of handheld detectors. The aim of emergence watches is to identify potential roost locations within the vegetation. Infra-red and thermal imaging cameras may be useful in this process.

¹⁷ Department of Conservation-manufactured AR4 bat detectors are considered likely to detect long-tailed bats only over short distances i.e., up to 30-60 m distant from the detector (S. Cockburn, Department of Conservation, pers. Comm.). This is similar to detection distances of other detector types.

¹⁸ South Island temperatures are based upon O'Donnell (2000) as above. North Island temperatures are based on data collected in Kinleith plantation forest, centred around Tokoroa, Central North Island; Smith D, Borkin K. 2017. Appendix B: Influence of climate variables on long-tailed bat activity in an exotic conifer plantation forest in the central North Island. P 136-145. In: Smith, D, K Borkin, C Jones, S Lindberg, F Davies and G Eccles (2017). Effects of land transport activities on New Zealand's endemic bat populations: reviews of ecological and regulatory literature. NZ Transport Agency research report 623. 249pp.



Roost re-entry watches

The time when bats return to roosts can vary based on temperature and time of year.^{19,20}

- Observers must then return the next morning and watch the tree to determine whether bats return to the vegetation.
- Roost re-entry watch timing should be based on patterns of activity recorded onsite with ABMs, i.e., as a guide watches should begin two hours prior to when the last passes were recorded on the ABMs on previous nights and finish one hour after official sunrise time. Where this information is not available and at minimum, watches shall begin two hours prior to official sunrise until one hour after sunrise. Infra-red and/or thermal imaging cameras may be useful as a supplementary tool in this process.

The methods above (Climbing and inspecting; ABM use and roost watches) can be implemented as in steps 4.

If bats are sighted, or sign detected, or a roost (active/inactive) is confirmed, the approved bat ecologist, as soon as possible, shall:

- Call the tree felling supervisor to inform them which affected tree(s) cannot be felled due to detection of bat sign.
- Send an email to the site manager, and a bat ecologist representing the council and DOC detailing the results of the survey and outlining the measures for protection or relocating the roost tree.
- A record (including photos) of any vegetation containing bat roosts shall be kept detailing the date; size, location and species of tree or other vegetation; roost type, e.g., cavity, peeling bark, broken branch; detail outlining how presence of bats was confirmed; the number of bats present; and species present, if known.

Step 5. Fell the tree if no bats present	Response	Who can make this assessment?	When
NB: Vegetation removal must take place on the day of tree inspection or the day immediately following night surveys that confirm that there are no bats present.			
a) If you have undertaken a visual inspection of the vegetation (following step 4a, then the vegetation can be removed ONLY ON THE DAY OF INSPECTION and meets the valid weather conditions (defined in notes 4c) at official sunset the day prior to inspection. If you have undertaken ABM surveys or roost watches 4b or 4c the vegetation can be removed ONLY ON THE DAY IMMEDIATELY FOLLOWING SURVEY COMPLETION (i.e., if the survey ends in morning the tree can be felled the same day only).		People who are familiar with the document shown in footnote ²¹ , and physically able to check/inspect tree for signs of bats once felled.	When the inspection method chosen allows.
Trees must be inspected for signs of bats once felled and before removing from the site, if safe to do so.			
Follow Appendix 1 if bats are detected during vegetation removal.			

¹⁹ Dekrout AS 2009. Unpublished PhD thesis. University of Auckland, New Zealand Pp 168.

²⁰ Griffiths R. 2007. Activity patterns of long-tailed bats (*Chalinolobus tuberculatus*) in a rural landscape, South Canterbury, New Zealand. New Zealand Journal of Zoology, 34:3, 247-258, DOI: 10.1080/03014220709510083.

²¹ https://cdn.vrnawis.com/www.citva.org.nz/resource/resmgr/docs/other_resources/Bat_Care_Advice.pdf



Appendix 1. If bats are detected during tree relocation or removal

NB: Vegetation removal must take place on the day of tree inspection or the day roost watches or two consecutive nights of ABM data have confirmed that there are no bats present. If practical, trees are to be inspected for signs of bats once felled and before removing from site. People inspecting trees should be familiar with the Bat Care Advice document shown in footnote²² and able to check/inspect tree for signs of bats once felled.

If during the felling of a tree bats are detected, felling of that tree must stop immediately if safe to do so, and DOC and an approved bat ecologist at Competency Level 2.1 must be consulted.

If bats do not fly away or are potentially injured/found on the ground, felling can only re-start once permission has been obtained from DOC after consultation with an approved bat ecologist at Competency Level 2.1.

If bats are detected once the tree has been felled, all further work must stop, and DOC and an approved bat ecologist at Competency Level 2.1 must be contacted. The felled tree must be thoroughly inspected by the approved bat ecologist for further bats.

If any bats are found on the ground or in the tree once felled, place the bat in a cloth bag in a dark, quiet place at ambient (or slightly warmer) temperature and take to a veterinarian for assessment as soon as possible. A maximum of two bats should be kept in one bag. After delivering the bat to the vet, contact an approved bat ecologist at Competency Level 2.1 in consultation with the vet and DOC (0800 DOC HOT, 0800 362 468).

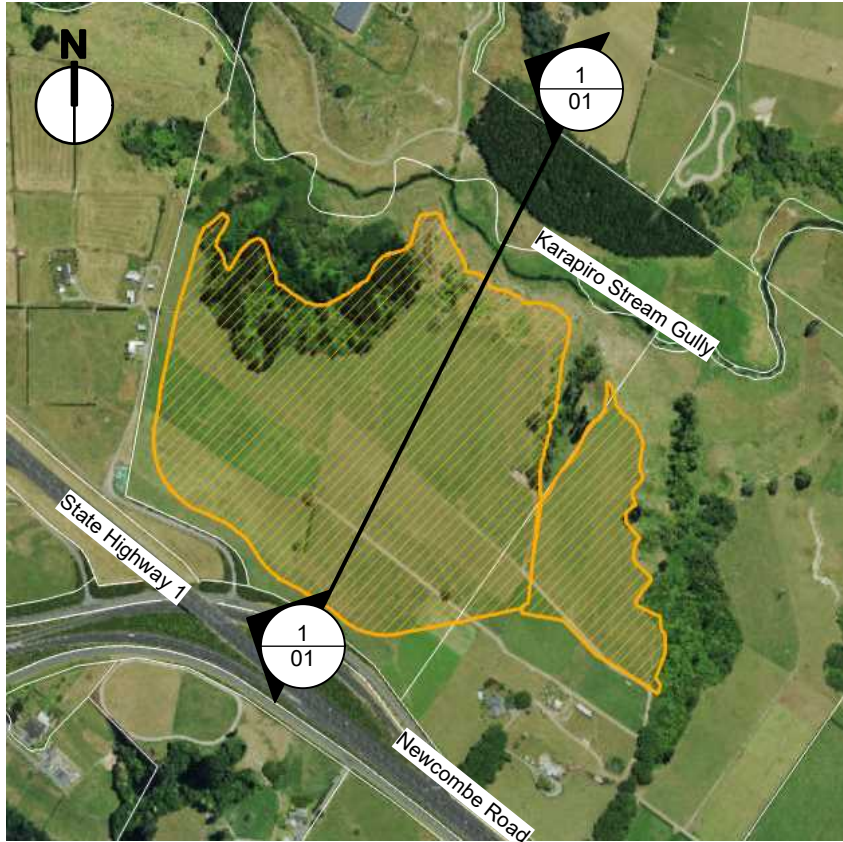
Bats must be kept for three days under observation and must be kept out of torpor for this time. Additional detail is found at the links provided in this footnote²³. Vets must euthanise bats whose injuries are causing suffering and are not likely to heal sufficiently to allow rehabilitation and return to the wild. The approved bat ecologist at Competency Level 2.1 and vet must consult with DOC to consider appropriate rehabilitation options where suffering is minimal and chances of return to the wild are high.

Euthanised bats or any dead bats (or bat parts) found must be handed to DOC.

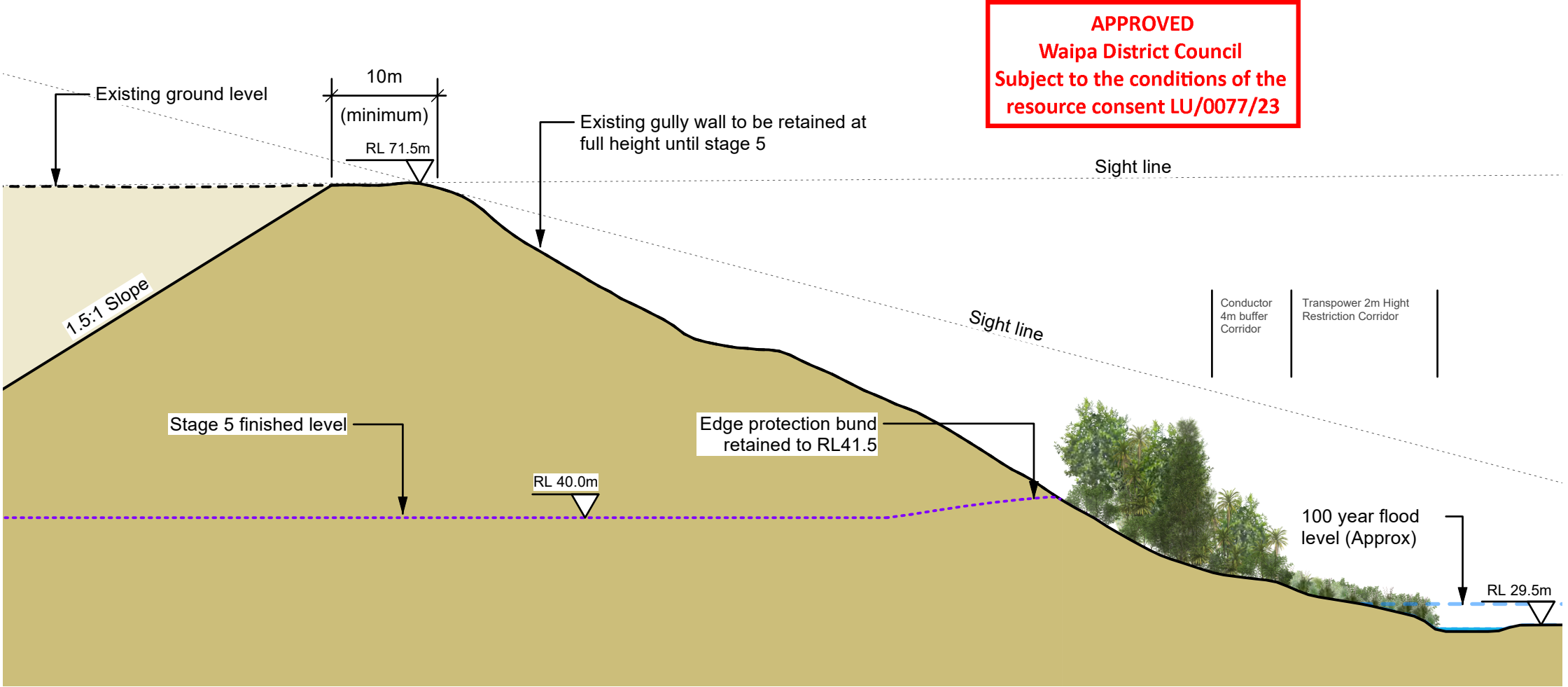
²² https://cdn.vmaaws.com/www.nzva.org.nz/resource/resmgr/docs/other_resources/Bat_Care_Advice.pdf

²³ https://cdn.vmaaws.com/www.nzva.org.nz/resource/resmgr/docs/other_resources/Initial_Vet_Care_NZ_Bats.pdf

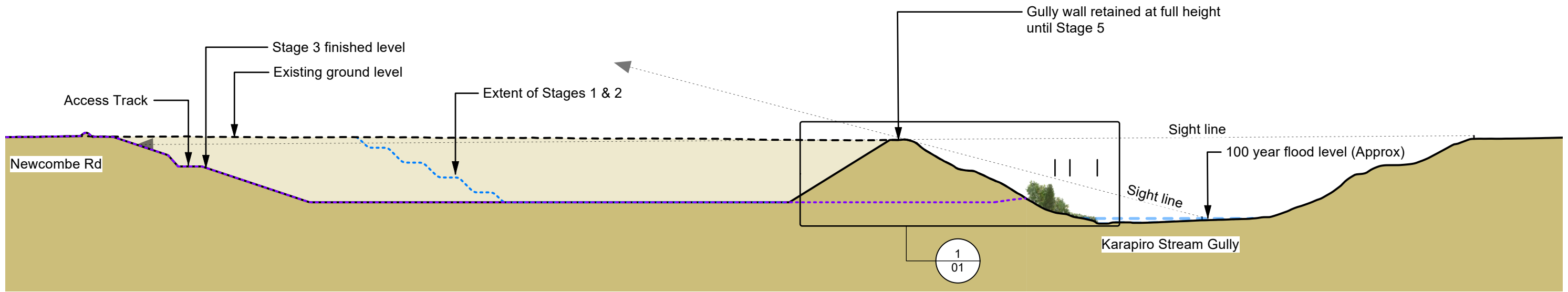




Section Location Plan (NTS)



1 Ground Level Stage 1 Detail
Scale: 1:500



2 Staged Ground Levels
Scale: 1:2000