Kings Quarry Stage 2 – Terrestrial Ecology Review – Fast-track Approvals Act 2024 – Substantive Application

1. Application Summary

Project Name	Kings Quarry Stage Two Expansion
Applicant	Kings Quarry Limited
Site Address	306 Pebble Brook Road, Wainui, Auckland
Fast-track Reference Number	FTA#230
Types of approvals sought	Resource consents (land-use consent, water permit, discharge consent, streamworks permit), and wildlife approval
Council reference numbers	BUN60450001 (LUC60450002, WAT60450003, WAT60450004, DIS60450005 & LUS60450006)
Description of Proposal	Expand existing quarrying activities to enable the extraction and processing of up to approximately 500,000 tonnes per annum for 45 years.

1. Specialist Response Details

Author: Simon Chapman, Technical Director – Ecology, WSP New Zealand Limited

Specialist Area: Terrestrial Ecology

Date: 29/07/2025

2. Executive Summary

The Kings Quarry Stage Two Expansion Fast-track application included appropriate assessments of terrestrial ecological values and effects. Best practise desktop and infield assessment methodologies were applied by the applicant's ecologists, and the ecological management proposed in the ecological management plans will likely result in demonstrable net gains for terrestrial ecological values. The proposed conditions are clear and well-aligned with the intent and detail of the assessment recommendations and the submitted ecological management plans. The proposed residual effects management package provides biodiversity offsetting and compensation commensurate with the project's level of ecological effects and, on balance, I consider the proposal could be supported for granting from a terrestrial ecological perspective.

3. Introduction

3.1. Application details

The applicant (Kings Quarry Limited) is seeking consents/approvals under the Fast-track Approvals Act 2024 (FTAA) for Stage 2 of the Kings Quarry Expansion to extract approximately 500,000 tonnes of aggregate per year for a period of 45 years.

3.2. Role and credentials

My role on this project is to provide Auckland Council with terrestrial ecology expertise. I hold a Bachelor of Science degree and a Post-graduate Diploma in Applied Science and have 25 years of experience as a consultant ecologist specialising in assessing and managing the ecological effects of complex and large-scale projects. In addition to the many ecological assessments, management plans and peer reviews I have written, I have also provided expert evidence on ecological matters at numerous Council and Environment Court hearings. My experience includes the provision of peer review and expert witness inputs for applicants in some cases, and for consent processing authorities in others. Recent/relevant examples of projects I have provided terrestrial ecology expertise on include SH1 Cambridge to Piarere, Auckland Regional Landfill, SH3 Mt Messenger and Awakino Tunnel Bypasses, SH1 Southern and Northern Corridor Improvements. I was Auckland Council's terrestrial ecology peer reviewer for consenting Stage 1 of the Kings Quarry expansion, as well as the previous Stage 2 application under the Covid-19 Fast-track process.

3.3. Assessment Scope

The scope of this technical assessment is to undertake a technical review of the terrestrial ecological aspects of the assessment documentation (EcIA) submitted as part of the Kings Quarry Stage 2 Fast-track substantive application. As part of the review process, I attended a pre-application meeting with the applicant's planning and ecology teams on 21 March 2025 and visited both the quarry site and the off-site ecological offsetting site (Oldfield Road) on 23 June 2025 to conduct site walkovers.

4. Technical Assessment

4.1. Desktop investigations

The EcIA included desktop assessments that utilised a wide range of existing information including databases (e.g., DOC Bioweb), GIS and aerial imagery (e.g., GeoMaps), and previous relevant reports. I consider that appropriate existing data sources were used to inform the assessment.

4.2. Vegetation, Ecosystems and Habitats

The EcIA provides a robust assessment of the vegetation at the site and the associated ecosystems. Vegetation surveys and mapping were carried out in several phases from 2020 to 2025. Methodologies included site walkovers, observations from vantage points, and reviews of current and historic aerial imagery for the least accessible areas. RECCE plots were used to collect detailed data on vegetation communities, and wetland plots and delineation protocols were used to assess potential wetlands.

Several Nationally or Regionally At-risk or Threatened plant species are present (or were recorded historically), and some may be impacted by the project. One threatened ecosystem type is present (WF11) but the majority of the site's vegetation communities are characteristic of non-threatened ecosystems (VS2, VS5, and AVS1). No wetlands were identified on-site.

Overall, the EcIA provides adequate certainty on terrestrial vegetation to assess the level of effects on botanical and ecosystem ecological values appropriately.

4.3. Terrestrial Invertebrates

Appropriate desktop investigations and infield surveys were conducted to assess the potential presence of notable/protected terrestrial invertebrates such as wētā and carnivorous land snails. I agree with the conclusion in the EcIA that the overall ecological value for the site's invertebrate species assemblages is low.

4.4. Hochstetter's Frogs

As described in the EcIA, frog surveys targeted potential habitat for Hochstetter's frogs in first and second order bedrock, stony stream banks under forest canopy, with occasional small pools or waterfalls and gently sloping banks. Such streams are less prone to flooding than larger streams and have a high proportion of searchable habitat. Searches for Hochstetter frogs and habitat assessments were conducted over multiple field seasons. The most recent frog surveys were undertaken in December 2024 and January 2025. Marginal potential habitats were also searched and eDNA samples were collected from nine locations. No Hochstetter's frogs were detected during any of the surveys or in any of the eDNA samples collected.

I consider the applicant's Hochstetter's frog survey and assessment methodologies to be appropriate, and I agree with the ecological values assigned. Limited availability of frog habitat found on site and negative results from surveys and eDNA samples support the Ecological Assessment's conclusion that the project site is unlikely to support native frog populations.

4.5. Native lizards

Appropriate desktop and infield investigation methodologies were utilised to assess the site's lizard values and the project's effects on native lizards. Artificial Retreat (AR) surveys were conducted from November to December 2022 in areas where lizard encounters were most likely. Manual searches and nocturnal Visual Encounter Surveys (VES) searches were undertaken in March/April 2022. Previous nocturnal gecko surveys were completed in 2008 and 2009. Lizard survey methodologies followed best practice guidelines in accordance with the Department of Conservation (DOC) Biodiversity and Monitoring Toolbox. Maps provided of the surveyed areas are sufficient and adequately cover a range of suitable habitat respective of the project footprint. An appropriate level of level of effort was applied to desktop and infield assessments for lizards. I agree with the assessment of the ecological value for lizards as high.

4.6. Native birds

The bird assessment was based on desktop investigations, 5-minute bird counts, incidental observations and habitat assessments. I consider that an appropriate suite of methodologies was applied. I agree with the assessment that kiwi are unlikely to be present and that At-risk kākā are likely to visit the site occasionally. Overall, I agree with the EcIA's conclusion that the site's bird ecological value is moderate.

4.7. Bats

The EcIA describes the bat investigations including desktop investigations as well as acoustic surveys for bats undertaken in spring 2020, summer 2020-23, spring 2023, summer 2024, and summer 2025. Additional bat assessment methodologies included habitat assessments and roost risk assessments. Collectively, the bat assessment utilised an appropriate suite of methodologies. While only low levels of bat activity have been recorded at the site, given the threat status of long-tailed bats (Threatened – Nationally Critical), the EcIA appropriately assigned a high level of ecological value to bats. Given the lack of trees with features suitable for bat roosting, the site's ecological value for bats is primarily based on commuting and foraging usage.

4.8. Impact Assessment

The project's direct and indirect impacts on terrestrial ecological values are described in section 5.3 of the EcIA. The impact assessment followed the current version of the Ecological Impact Assessment Guidelines produced Environment Institute of Australia and New Zealand (EIANZ). The assessment followed the guidelines correctly. Threatened and At-risk species were highlighted appropriately. The project's magnitude and levels of effects are summarised in table 21 on page 97 of the EcIA. The summary table highlights that mitigation is required to manage effects on vegetation, lizards, birds and bats. No mitigation is required for terrestrial invertebrates or frogs. The EcIA highlights that the only residual effects after mitigation are moderate residual effects on vegetation, and specifically the VS2, VS5, and WF11 ecosystems. Residual effects are assessed in detail in an additional report submitted with the substantive application – the Terrestrial Residual Effects Analysis Report (TREAR). Overall, I agree with the conclusions on ecological value, magnitude of effect, level of effect and residual effects presented in the EcIA and the TREAR.

4.9. Effects Management

Section 6 of the EcIA includes appropriate recommendations for a suite of measures to avoid, minimise, remediate, offset and compensate the project's direct and indirect impacts on terrestrial ecological values in accordance with the EIANZ EcIA guidelines, the Auckland Unitary Plan, and the National Policy Statement – Indigenous Biodiversity (NPS-IB). The substantive application includes two management plans for the implementation of the recommendations: 1) Ecological Management Plan (EMP), and 2) Residual Effects Management Plan.

The submitted EMP describes a suite of management measures to avoid, minimise and remediate effects on vegetation, Threatened and At-risk plants, lizards, invertebrates, avifauna (birds) and bats. Additional ecological management described in the EMP includes kauri dieback protocols, edge effects and buffer management, and mammalian pest control. Overall, I consider the EMP to be appropriate for the project as it is well written, has clear objectives, and incorporates best practise methodologies and suitable monitoring and reporting requirements.

The applicant's proposed offsetting/compensation for residual effects on ecosystems is described in the Residual Effects Management Plan (REMP). Ecosystem losses and corresponding offset/compensation gains are quantified in table 1 on page 11 of the REMP. The

REMP goes on to set out the details of ecological management proposed to be carried out at the offset/compensation sites. I consider that the offsetting sites are appropriate for achieving the required quantum and type to manage the project's residual terrestrial ecological effects. While the Oldfield Road site is some distance from the quarry (approximately 28 km), that distance does not compromise the proposal's alignment with the principles of biodiversity offsetting or compensation set out in the NPS-IB.

The substantive application included a peer review of the terrestrial ecological aspects of the application documentation. The peer review was carried out by Dr Matt Baber, a reputable expert on assessing and managing residual effects, including the application of biodiversity offset and compensation modelling. Dr Baber concluded that appropriate ecological assessment and management methodologies have been used/proposed, and that the residual effects management approach will achieve net/positive biodiversity gains with a high degree of certainty. I agree with Dr Baber's conclusions.

5. Comments on the Proposed Conditions

I have reviewed the aspects of the applicant's draft consent conditions relevant to terrestrial ecology. The conditions are very closely aligned to the EcIA's recommendations and the details of the EMP and REMP. The certification, monitoring, and reporting requirements detailed in the management plans are mirrored appropriately in the conditions. A minor issue with the conditions is that the advice note at the end of land use condition 19 appears to be incomplete or poorly worded. Aside from that minor issue, the conditions address ecological management appropriately

6. Conclusion

The applicant's ecologists have applied best practise methodologies to assess the project's impacts on terrestrial ecological values. Robust ecological management has been recommended in the EcIA, described in detail in management plans, and captured accurately in the draft conditions. Demonstrable net gains for terrestrial ecological values are the most likely outcomes of the proposed ecological management therefore there are no residual terrestrial ecological impacts that could be considered to be out of proportion to the benefits of the project.