Resource Consent Applications for subdivision and land use for a rural lifestyle development at Horahora Road, Lake Karapiro

K & L Tylee

Applicant

South Waikato District Council

Consent Authority

STATEMENT OF EVIDENCE OF GERARDUS HENRICUS ANTHONIUS KESSELS ON BEHALF OF K & L TYLEE

ECOLOGY

Dated: 7 October 2026

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1. Witness Introduction, qualifications, experience

1.1 My full name is Gerardus (Gerry) Henricus Anthonius Kessels.

1.2 I have 36 years of experience as an ecologist. I am currently Principal Ecologist/Director of Kessels & Associates Ltd (trading as Bluewattle Ecology), a position I have held since 1999.

1.3 I hold a Bachelor of Science degree majoring in zoology (completed in 1988) and a Master of Resource and Environmental Planning (1st Class Honours, focusing on wetland ecology, completed in 1999), both from Massey University. I am an accredited Independent Hearings Commissioner certified by the Ministry for the Environment and Local Government New Zealand.

1.4 I am a member of the New Zealand Ecological Society, the Ornithological Society of New Zealand, the Waikato Botanical Society, and an associate member of the New Zealand Planning Institute. I am certified with 'Bat Competency' by the Department of Conservation (DOC) as being suitably qualified to undertake and analyse data for bioacoustic surveys (using acoustic bat monitors), identify long-tailed bat roosts, and capture and handle long-tailed bats.

1.5 I have undertaken ecological impact assessments and assisted with policy development pertaining to indigenous flora and fauna and their habitats and biodiversity under the Resource Management Act 1991 (RMA) for a wide variety of development and biodiversity enhancement projects. I have undertaken this work for various organisations including Waka Kotahi (NZTA), DOC, territorial authorities, rural landowners, rural and residential subdivision companies, non-profit conservation organisations, and infrastructure companies.

1.6 I have appeared as an expert witness before Council hearings, the Environment Court, and Boards of Inquiry in relation to consent applications and plan changes for infrastructure and rural residential developments throughout the Waikato Region, including South Waikato

District. Of particular relevance to this application, I have been engaged in the following roles:

- Expert witness on ecological matters for Hamilton City Council for Proposed Plan Change 5 – Peacocke Structure Plan, and expert ecological advisor to Hamilton City Council for the Amberfield subdivision hearing and Environment Court proceedings.
- Bat-related inputs to the assessment of effects for a number of renewable energy proposals, including the Southland Wind Farm application under the Fast Track legislation.
- Bat assessments and long-term monitoring for infrastructure projects in the Waikato Region, including as lead or peer review ecologist for all sections of the realignment of State Highway 1 between Meremere and Piarere Junction.
- Ecological advice and evidence, particularly relating to bats and their habitat, for Plan Change 14 and Plan Change 20 – Waipā District Plan.
- Ecological evidence for the J & T Quigley Ltd Private Plan Change at 1861 Ongaroto Road, Whakamaru, before South Waikato District Council's Independent Hearing Commissioners in 2025.
- Numerous ecological assessments and restoration plans for development proposals throughout the Waikato Region, including the South Waikato District, over the last 25 years.

2. Description of ecological reports I have prepared

2.1 I have advised the applicants on ecological matters relating to the subdivision since 2022, when I designed and undertook the long-tailed bat survey of the property. I am co-author (with Brenda Bartels of Awa Ecology) and the lead and reviewing ecologist for the following reports prepared by Bluewattle Ecology:

- Ecological assessment of potential bat habitat at 597 Horahora Road (Final 7, 13 August 2025) (the Bat Report);
- Assessment of Ecological Effects for a subdivision at 597 Horahora Road (Final 1.2, 8 August 2025, and as updated for the amended proposal) (the **EcIA**), which appends the Awa Ecology Wetland Results Report dated 22 September 2022 (the **Wetland Report**); and

- The Ecological Management Plan for the Horahora Subdivision, updated 2 July 2026 and most recently revised as Final Version 4 dated 17 September 2026 (the **EMP**).

2.2 I visited the site in March 2022 and on August 2026

3. Code of Conduct for expert witnesses

3.1 I have read the Code of Conduct for expert witnesses in the Environment Court Practice Note 2023. In preparation of this evidence I have complied with, and in the course of these court proceedings I will comply with, that Code of Conduct. My evidence is within my area of expertise except where I am relying on the evidence of another witness, as stated in my evidence. I have not omitted to consider any material fact known to me that might alter or detract from any opinion expressed.

4. Scope of evidence

4.1 I have been engaged by the applicant (Kevin & Lynn Tylee) to provide expert ecological oversight, peer review, and evidence in relation to the proposed subdivision and land use consent application at 597 Horahora Road, Arapuni (RM240115).

4.2 In preparing my evidence I have relied on the Bat Report, the EcIA, the Wetland Report and the EMP, together with:

- The Landscape and Visual Assessment (updated 2 July 2026) and Landscape Masterplan prepared by Boffa Miskell;
- The Stormwater Management Plan and addendum prepared by Te Miro Water; and
- The Assessment of Environmental Effects and addendum prepared by Cogswell Surveys Limited, and Scheme Plan reference 5237, Revision I, dated 18 June 2026.

4.3 I have also read:

- The Wildlands peer review of the Bat Report (dated 2 April 2025, received by Council 17 April 2025), the Wildlands review of the revised development plan (10 August 2026) and the Wildlands review of EMP version 4 (24 September 2026);

- Council's response to the post-notification amendments (4 August 2026) and Council's landscape peer review by Mansergh Graham Landscape Architects;
- The final section 42A report dated 30 September 2026 prepared by Ms Eloise Lonnberg-Shaw of EnviroPlanning Limited (the s42A report), including recommended conditions 79–95 and 137; and

4.4 The submissions and the further responses from submitters, insofar as they relate to ecology, as well as the evidence on behalf of the applicant, particularly that of David Moule (planning) and Rebecca Ryder (landscape and amenity). In my evidence I will:

- Describe the assessment methodology;
- Describe the site, the amended proposal and the existing ecological values;
- Assess the effects of the proposal on ecological values;
- Describe the EMP and how it integrates with the landscape and planning provisions;
- Assess the proposal against the relevant statutory framework;
- Respond to submissions on ecological matters;
- Respond to the Wildlands reviews and the s42A report, including the recommended conditions; and
- Provide a concluding statement.

4.5 I do not repeat the contents of the EcIA, Bat Report and EMP in detail; rather, I summarise their key findings and the solutions proposed.

Summary of matters addressed in the reports I have prepared

4.6 The application site comprises approximately 597 Horahora Road, Arapuni, situated on the eastern banks of the lower Waikato River catchment, downstream of the Arapuni Dam and upstream of Lake Karapiro.

4.7 From a regional ecological perspective, the site occupies a landscape that has been heavily transformed by historical vegetation clearing, agricultural conversion, and plantation forestry. However, the property borders a critical aquatic and ecological landscape feature: The Waikato Awa mainstem / Lake Karapiro ecosystem, which serves as a major ecological

corridor connecting remnant indigenous forest fragments across the Central Volcanic Plateau and Waikato Ecological Regions.

4.8 The key features contributing to the ecological values of the locality are the Waikato Awa (here, Lake Karapiro (Upper)), its riparian margins and the gullies draining to it, which form an important ecological corridor. Lake Karapiro (Upper), adjacent to, but outside the property boundary, is mapped as a Significant Natural Area (SNA) in the South Waikato District Plan (SWDP). No SNA is located within the site.

Terrestrial Vegetation and Habitats

4.9 Six vegetation types were mapped (EcIA Figures 3 and 4), plus the wetland mosaic:

- Grazed ryegrass/white clover pasture, covering most of the site (negligible value);
- Gorse/exotic pasture grassland on steep sidlings (negligible);
- Rank exotic grassland in fenced areas (low, but potential copper skink habitat);
- Poplar forest with an exotic understorey along the awa, mostly outside the boundary. It contains infrequent indigenous species such as cabbage tree, wheki, tōtara, māpou, karamū and mamaku, and is important bat habitat;
- Exotic shrubland with young pines (low); and
- The stream link gully: poplar-lined, with rank grass, Carex secta and wheki along the stream.

Avifauna

4.10 At least 49 bird species have been recorded nearby (Little Waipa Reserve). Common indigenous birds, including tūī, grey warbler, fantail, kererū, harrier, welcome swallow and pūkeko, use the trees and open grassland. Black shag ((kāruhiruhi) - At Risk – Relict) was observed in the awa riparian zone outside the boundary, and pied shag, little black shag and white-faced heron are also present along the river.

4.11 The Waikato Awa margins, however, support a higher diversity of indigenous waterbirds, including At-Risk species such as kāruhiruhi, pied

cormorant, and little black cormorant. Field observations indicate that while these species forage along open water margins, the subject site itself lacks suitable roosting, nesting, or specialised foraging habitat for At-Risk avifauna.

Lizards

4.12 No lizards were found in the on-site surveys. Copper skink (At Risk – Declining) may be present in rank grass, logs and riparian vegetation along the awa and the tributary, but unlikely in the actively grazed pasture areas. Native geckos are unlikely given the modified habitats and historic predation.

Long-Tailed Bats

4.13 The 2022 survey detected bats at all four ABMs, with a moderate to high level of activity: 4,684 passes over 18 nights, averaging 65 passes per ABM per night. Detector 'BW08', near the awa and gully, recorded bats on all but one night and averaged 104 passes per night. Dawn activity (141 passes between 6:30 and 7:30 am at BW03) and strong early-evening activity (7:30–9:30 pm) suggest roosts nearby. However, the activity pattern lacked a bimodal shape, indicating most passes were bats commuting to other locations.

4.14 Bats are likely to use the whole property for foraging and commuting, and the taller trees for roosting. The most important habitats are the trees along the Waikato Awa, the 20–30 m pasture margins alongside them, and the stream link gully. Several potential roost trees were identified along the awa margin, most of them outside the site. Wildlands' review found the bat survey, habitat assessment and assessment of ecological value satisfactory.

Freshwater Habitats and Wetland Delineation.

4.15 The Waikato Awa supports around 20 indigenous fish species. Records for Lake Karapiro include longfin eel (At Risk – Declining), shortfin eel, common bully and kōura. The unnamed tributary is narrow (c. 0.6 m wide, 7–10 cm deep), clear and swift, with sand and gravel substrates and a well-shaded riparian margin about 15 m wide. It scored 71/100 on the Rapid

Habitat Assessment and is likely to support eels, common bully and possibly kōura. The perched culvert under Horahora Road is a barrier to fish passage.

4.16 In accordance with the National Policy Statement for Freshwater Management (NPS-FM)/ National Environmental Standards for Freshwater (NES-F) protocols, gully bottoms, seepages, and overland flow paths were surveyed to delineate potential 'natural wetlands'. The primary gully contains ephemeral flow paths and localised sedge/rush-dominated damp seepages. The protection and restoration of these features form a core component of the site ecological management strategy (I refer to the draft EMP and Scheme Plan).

4.17 The 2022 Wetland Report identified three potential wetland areas. Area A lies more than 10 m outside the site. Area B, a depression behind a cattle crossing, was dominated by annual water pepper seedlings; when re-assessed in 2025 it failed the vegetation tests and had non-hydric soils (topsoil over sand), so it is not a natural inland wetland. Area C, a mosaic of seasonally ponded depressions on the low terrace beside the awa, with water pepper, spearwort, creeping bent, Carex sp. and Yorkshire fog, was confirmed in 2025 as a natural inland wetland. It is the only natural wetland within the property and lies within the proposed Recreation Reserve (Lot 37).

Ecological values assessment

4.18 **Table 1 summarises my assessment of ecological values using the EIANZ criteria**[1].

Feature / species	Threat status	Presence	Ecological value
Grazed pasture, gorse, exotic shrubland	–	Most of site	Negligible
Poplar forest and stream link gully	–	River margin, gully	Moderate (High for bats)
Natural wetland mosaic (Area C)	–	Lot 37	Moderate
Waikato Awa and tributary stream	–	Adjacent / on site	High
Long-tailed bat	Threatened – Nationally Critical	Present	Very high
Common indigenous birds	Not Threatened	Present	Low
Black shag and other waterbirds	At Risk	Awa margin	Moderate–High
Copper skink	At Risk – Declining	Possible	High (habitat low quality)
Longfin eel	At Risk – Declining	Likely in stream	High

4.19 There are no Significant Natural Areas mapped in the South-Waikato District Plan directly affected by this proposal.

4.20 However, when the criteria for determining areas of significant indigenous biodiversity in the Waikato Regional Policy Statement[2] professional judgement is required, particularly when evaluating use by highly mobile fauna. In my opinion the open grazed pasture is not significant bat habitat, while the river-margin trees (generally outside of the property), the adjoining 20–25 m margins and the stream link gully are, and the proposal protects them.

4.21 In addition, long-tailed bats are listed as a 'highly mobile fauna' species in the National Policy Statement for Indigenous Biodiversity (NPS-IB)[3], which

[1] Roper-Lindsay, J., Fuller S.A., Hooson, S., Sanders, M.D., Ussher, G.T. 2018. Ecological impact assessment. EIANZ guidelines for use in New Zealand: terrestrial and freshwater ecosystems. 2nd edition.
[2] WRPS : Section 11A (Table 11-1) and detailed in Appendix 3.
[3] NPS-IB: Policy 15, Clause 1.3(2)(b), Appendix 2 (Specified Highly Mobile Fauna)

requires areas outside SNAs that support them to be identified and managed to maintain their populations.

5. Amendments to the Applicant's proposal since those reports were prepared.

Evolution of Scheme Design

5.1 Following the initial lodgement of consent application RM240115, detailed peer review feedback was received from Council officers and Wildlands. Concerns focused on potential landform modification within the primary central gully, the proximity of earthworks to gully margins, overall lot density earlier 83-lot down to 73 residential lots), and long-term land management arrangements. In response, the Applicant prepared a formal Application Addendum (dated 19 June 2026), incorporating substantial structural and spatial layout revisions which subsequently reduced the ecological effects of the proposal.

Key Scheme Improvements in Revised Layout

5.2 Stage 3 Gully Earthworks Redesign: The most significant ecological enhancement in the Addendum relates to Stage 3. Under the original design, Stage 3 involved substantial earthworks cut-and-fill within the upper reaches of the primary central gully to create flat building platforms. The revised Addendum completely eliminated major gully earthworks in Stage 3:

- The steep, natural landform contours of the primary gully are retained in their natural state.
- Building platforms have been relocated onto stable, upper terrace landforms.
- Soil disturbance, sediment generation risks, and slope instability concerns within the gully catchment are effectively eliminated.

5.3 Expanded Protected Gully Corridors: Retaining the natural landform allowed for the expansion of dedicated indigenous restoration corridors within the primary gully and along the Karapiro Stream margin.

5.4 Private Lot Title Management vs. Public Vesting: Rather than vesting steep, narrow gully segments as public local purpose reserve—which frequently results in underfunded municipal weed management and edge degradation—the revised scheme incorporates the gully habitats within the boundaries of adjacent private residential lots.

5.5 Long-term protection is to be secured by registering binding Consent Notices on private titles under Section 221 of the RMA. These covenants mandate permanent stock exclusion, prohibit vegetation removal, enforce weed control obligations, and restrict built structures, placing clear, legally enforceable stewardship duties directly on landowners.

6. Assessment of the current proposal.

Summary of Potential Effects

6.1 Without appropriate avoidance, remediation, and mitigation measures, rural residential development on this site could potentially give rise to adverse ecological effects, including:

- Vegetation and habitat loss through clearance and earthworks;
- Mortality or injury of birds (nests, eggs and fledglings), roosting bats and lizards during clearance;
- Sediment runoff to the tributary, the wetland and the awa; and
- Noise, vibration, dust and construction lighting at habitat edges.

The potential long-term effects are:

- Artificial light spill and headlight glare into bat commuting and foraging habitat;
- Fragmentation of commuting routes and loss of roost trees;
- Increased predation by cats, rats and mustelids associated with residential occupation;
- Edge effects, weeds and human disturbance in the riparian margin; and
- Contaminated stormwater from roads and hard surfaces.

6.2 In reality, as long as the Waikato Awa and its tributary streams and wetlands are protected, and habitat for threatened fauna also protected, this highly modified site with little indigenous vegetation, and the reduced

density of the amended proposal, creates an opportunity for a net biodiversity gain through restoration of the gully, wetland and river-margin habitats.

Vegetation and wetlands.

6.3 Very little, tall, non-pasture vegetation will be cleared, and virtually no indigenous vegetation. Clearance is limited to some trees near the road needed for sight distances and access. The poplar forest and gully vegetation in Areas D, E, F, G, H, AI, O and AH will be retained and legally protected, and the greater proposed area of indigenous restoration planting more than offsets the minor vegetation loss. Given this, I assess the overall un-mitigated effect as very low, becoming a net gain with implementation of the proposed mitigation measures.

6.4 No natural wetland will be lost or drained. Vegetation clearance and earthworks will be more than 10 m from the wetland edge, no stormwater will discharge to it, and it will benefit from permanent stock exclusion and c. 0.71 ha of restoration planting within the Recreation Reserve. This is consistent with the NES-F and NPS-FM Policy 6, and the s42A report (paragraphs 141 and 225) agrees.

Long-tailed bats

6.5 Bats are the value most sensitive to the proposal. Research in Hamilton shows that bat activity declines as streetlight and road density increase. However, long-tailed bats show some tolerance and plasticity towards development where the right habitat features are retained. The proposal provides those features by :

- Connectivity: the stream link bat corridor (Area AH, Lot 63, 1.05 ha) and the additional gully linkage (Areas BA–BC, Lots 29, 48 and 58, c.f. 1.44 ha) create continuous commuting flyways from Horahora Road to the awa;
- Lighting: light spill must not exceed 0.3 lux at the outer edge of the bat buffer setback from the Waikato Awa, using downward-directed, shielded luminaires of a colour warmth no more than 2,700 K that are switched off when not needed. Construction security lighting must be kept more than 40 m from the awa and below 0.1 lux above natural levels;

- Roosts: any potential roost tree must be felled in accordance with the current Department of Conservation (DOC) Bat Roost Protocols (2024)[4] (or updated version), under the supervision of a DOC authorised and competent bat ecologist, and outside the bat torpor period (1 May–1 October);
- Compensation: at least four bat boxes must be installed for each confirmed occupied roost removed, with predator banding, sited in suitable retained trees within 50 m of the awa, and installed in accordance with the NZ Bat Recovery Group advice note on artificial roosts (October 2023)[5]. Cavity-forming canopy species will be planted to provide future roosts; and
- Predation: domestic cats will be banned and ongoing pest animal control will be undertaken.

6.6 In their peer review Wildlands queried the effect of vehicle headlights. The internal roads are well away from the awa, the density is low, and the traffic conditions require headlight screening at specific accesses. In my opinion occasional headlight glare will have a negligible effect on bat use of the river corridor. On 0.3 lux, I confirm that this is a limit on light spill at the edge of the bat habitat setback, not on the brightness of the luminaires themselves.

With these measures, I consider the effect on bats reduces from High (before mitigation) to Low.

Birds and lizards

6.7 The site provided limited habitat for indigenous bird species. Where several mature exotic trees are proposed to be cleared, nest checks should be conducted before felling within the bird breeding season, and active nests for indigenous bird species will be left until the chicks have fledged. These requirements will be included in the EMP. The overall

[4] https://www.doc.govt.nz/globalassets/documents/conservation/native-animals/bats/bat-recovery/protocols-minimising-risk-felling-occupied-bat-roosts.pdf

[5] https://www.doc.govt.nz/globalassets/documents/conservation/native-animals/bats/bat-recovery/artificial-bat-roosts-advice-notes.pdf

effect on birds is thus negligible, and after habitat enhancement occurs on site, there will be a net gain of indigenous bird habitat.

6.8 Copper skink is the only native lizard recorded near the site. The site would once have supported several gecko and skink species, but its original vegetation has long since been cleared. The site, outside of the protected areas, is intensively managed pasture with virtually no lizard habitat. Thus, because the likelihood of finding skinks is so low, I consider that a pre-clearance survey is not required at this site.

Freshwater and water quality.

6.9 Lots and building platforms are set back from the awa, and the free-draining soils help to limit runoff. Earthworks will be managed under an erosion and sediment control plan designed to the relevant Waikato Regional Council guidelines[6], with bare ground stabilised promptly. I understand stormwater from roads and hard surfaces will be treated in a swale network that discharges to the awa and the tributary without entering the wetland. Provided these are designed and maintained according to best practice, the effect on freshwater habitats and biota will be low.

6.10 Under the EIANZ framework, these residual effects do not require offsetting or compensation. Even so, the restoration and long-term pest control will likely result in a net gain (refer to Table 2).

[6] https://www.waikatoregion.govt.nz/services/publications/tr200902/

Summary of effects management & Integration with landscape and planning

6.11 **Table 2 summarises the level of effect without and with mitigation in accordance with EIANZ Guidelines[7].**

Effect				Value
Vegetation clearance				Negligible–Moderate
Wetland loss or degradation				Moderate
Bats – roost loss and fragmentation				Very high
Bats – artificial lighting				Very high
Birds – clearance mortality				Low–High
Lizards – clearance mortality				Low
Predation (cats and pests)				High
Sediment and stormwater				High

6.12 The EMP gives effect to the EcIA recommendations. Its key components are:

(a) Protected areas: Areas AH, BA–BC, D, E, F, G, H, AI and O, and the wetland in Lot 37, totalling c. 3.07 ha of restoration, plus the retained poplar forest. These are to be marked or fenced before construction of each stage starts, and contractors are to be inducted;

(b) Bat management: potential bat roost tree risk classification (high, moderate and low), pre-felling ABM monitoring, quality assurance, notification and harm minimisation procedures, and bat boxes as described above;

(c) Lighting effects: the operational and construction lighting standards described in paragraph 6.5 above;

(d) Bird nesting and lizard protocols: Check for nesting indigenous birds before clearance, incidental find protocols for lizards;

(e) Pest animal control: humane kill traps and bait stations, with rat traps at two per hectare, possum and mustelid traps at one per hectare, and/or regular pulsed baiting, and live capture of feral cats;

(f) Pest plant control: priority species, with checks every 3–6 months until canopy cover is achieved;

[7] https://www.eianz.org/document/item/4447

(g) Planting: eco-sourced indigenous species, cavity-forming canopy trees for future bat roosts, and myrtle rust precautions; and

(h) Domestic cat ban: secured as a consent condition.

6.13 The restoration areas also form the core of the Boffa Miskell Landscape Masterplan. The same gully and river-margin planting that integrates the development into the Horahora Outstanding Natural Landscape also creates bat flyways, buffers the wetland and the awa, and screens light from the river corridor. Ecology and landscape outcomes are therefore mutually reinforcing. Proposed Condition 81(c) requires the EMP to be consistent with the Landscape Master Plan. I recommend that within the buffer, landscape planting is kept low or open so that open flyways for bats are maintained beside the tall edge vegetation. In addition, restoration planting should be completed as soon as possible, and ideally before each subdivision stage commences.

Statutory and non-statutory farmwork check

6.14 Te Ture Whaimana o Te Awa o Waikato requires betterment proportionate to the scale of the activity. Protecting and restoring the river margin, gullies and wetland, together with stormwater treatment and the esplanade strip, will contribute to restoring the health and wellbeing of the awa. I defer to mana whenua on cultural matters.

6.15 NPS-FM and NES-F: there is no loss of extent of any natural inland wetland or stream, their values are protected and their restoration is promoted, consistent with Policy 6 and Te Mana o te Wai.

6.16 NPS-IB: no SNA is affected. Habitat of highly mobile fauna outside SNAs is managed to maintain long-tailed bat populations (clause 3.20), effects are managed through the effects management hierarchy, and restoration is promoted (clause 3.21).

6.17 WRPS: the proposal maintains and enhances indigenous biodiversity and protects significant habitat (criterion 3 bat habitat), consistent with Objective 3.19 and Policies 11.1 and 11.2.

6.18 SWDP: I agree with the s42A assessment that the proposal is consistent with the relevant ecological, natural character and Waikato River provisions.

6.19 Tai Tumu Tai Pari Tai Ao (Waikato-Tainui Environmental Plan) and Te Rautaki Taiao a Raukawa: the ecological outcomes support the integrity of the aquatic and terrestrial ecosystems that these plans seek to protect.

7. Responses to submission points relevant to this evidence;

7.1 I have read the submissions and the further responses received after the amendments were circulated. The s42A report (paragraph 137) records submitter concerns about effects on indigenous vegetation, gullies, wetlands, river-margin habitat and indigenous fauna, particularly long-tailed bats. Specific concerns were vegetation clearance, artificial lighting, increased residential activity, and whether the restoration and protection measures would be effective over the long term. I respond to each below.

7.2 Vegetation clearance: very little vegetation will be cleared, and none of the clearance is significant indigenous vegetation. The gully and wetland habitats are retained. In addition, the amended proposal substantially reduces Stage 3 earthworks while increasing restoration planting areas.

7.3 Long-tailed bats and lighting: I agree that bats are highly sensitive to artificial light. The 20 m bat buffer from the river and 5 setback, the 0.3 lux and 2,700 K lighting limits are very conservative given this is a rural residential subdivision and hence emissions of artificial light will less than urban residential developments. In addition, the application of protected flyways, the roost protocols and bat boxes, and the cat ban follow current best practice.

7.4 Increased residential activity: the cat ban and animal pest control address the most significant risk that residential development poses to indigenous fauna. Covenants prohibit buildings, storage, dumping and domestic activities within the protected areas.

7.5 Long-term effectiveness: proposed conditions 79–93 require measurable targets (including 80% canopy closure), monitoring and reporting, a

named responsible entity, and covenants and consent notices in perpetuity. In my opinion this answers the concern that benefits are 'not automatic'.

7.6 Waikato River and iwi: Raukawa and Ngati Koroki Kahukura emphasise the health of the awa and its margins. The ecological protection of the river margin, gullies and wetland, the stormwater treatment and the esplanade strip contribute directly to that health. I respectfully acknowledge that Mātauranga Māori and Kaitiakitanga are for mana whenua to speak to. My opinions relate to best practice scientific evidence and conservation management aspects only.

8. Responses to s42A report issues relevant to this evidence;

Wildlands reviews of 10 August and 24 September 2026

8.1 I have read Wildlands' recommendations. I respond as follows:

a) Covenants: I agree that all protection and restoration areas should be legally protected, but the method to give effect to this is a planning matter. I do note, however, that in my experience having a convent and a consent notice protecting a natural feature pertaining to subdivision consents is most unusual, (condition 92).

b) Bat setbacks around future habitat: The 20 m bat protection buffer, and additional 5 m building set back should apply the Waikato Awa, which was my intention when I made this recommendation. Given the relative low development intensity of this rural-residential subdivision I do not consider that a bat protection buffer aside from the river margin is required. Notably I do not consider a bat protection buffer is required around the relevant parts of Areas D and AI, and Areas BA, BB and BC (condition 85). To do so for this proposal is considered excessive and unnecessary protect bat use of the restored areas. Even when recommending setbacks to protect bat habitat during the Plan Change 5 hearings (Hamilton City Council)[8], myself and two other bat experts did not recommend a 20 m bat habitat setback for high-density urban residential lots adjacent– rather we deemed a 5 m building setback and

[8] https://hamilton.govt.nz/property-rates-and-building/district-plan/plan-changes/plan-change-5

lighting standards at the bat habitat outer edge was sufficient (refer to my Figure 1 below).

c) Pest plant and animal control: the EMP will provide detailed guidance for landowners on plant pest management requirements in perpetuity. .

d) River-margin pest animal control: parts of the river margin lie outside the property, within the esplanade strip or on adjoining hydro and Council land. I understand that, apart from Lot 37, animal pest control will be the responsibility of the future individual landowners. I assume any river margin pest control outside of the property will be managed by Council, Mercury or Waikato Regional Council.

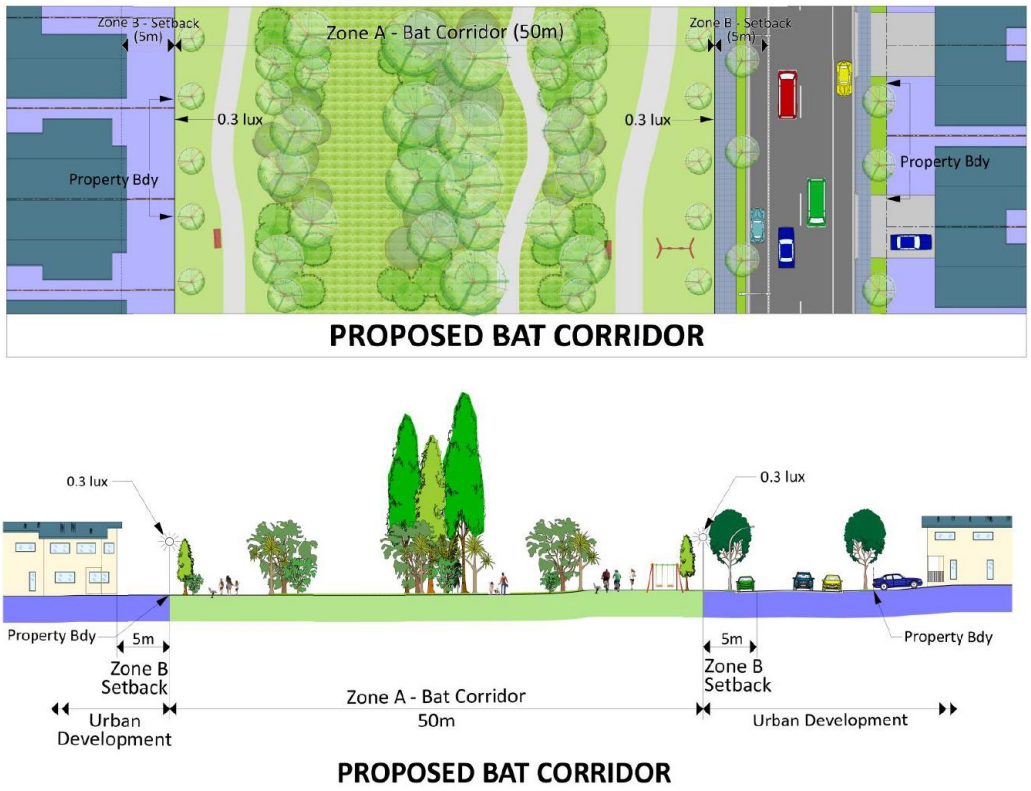
e) Lighting condition: please refer to my comment below and the evidence of Mr Moule.

f) Bat boxes: I confirm it is proposed that at least four boxes per confirmed occupied roost, with predator-exclusion banding, and installation in accordance with the NZ Bat Recovery Group advice note. This will be included in the final EMP.

g) Lizards: Copper skink is the only native lizard recorded near the site. The site would once have supported several gecko and skink species, but its original vegetation has long since been cleared. The site is intensively managed pasture with virtually no lizard habitat at all. Lizards can be difficult to detect. Thus, because the likelihood of finding is so low, I consider a pre-clearance survey (and a Wildlife Act authority) are not needed at this site. Rather, I recommend a Lizard Accidental Discovery Response Protocol to be included in the EMP instead. Under the protocol, work stops within 20 m of any find, the Project Ecologist and the Department of Conservation are notified, and relocation, salvage and record-keeping follow as directed. With the protocol in place, the residual effects on native lizards will be negligible.

8.2 Planting: the final EMP will include gap planting in the poplar areas in its schedule and table. It will also plant supplementary canopy species at the time of initial planting rather than as a later stage, use 0.75 m spacing only in wetland areas (sedges and harakeke) and 1.5 m centres in dry areas, plant only in the May–September season, and adopt an average canopy-closure target of 80%.

8.3 **Figure 1: Proposed setback and lighting standards – Plan Change 5, Hamilton City**[9]



Section 42A report and recommended conditions

8.4 I generally support conditions 79–84, 89, 90,92,93 and 137, but do suggest the following refinements:

a) Condition 85: No updated scheme is required because the Waikato Awa bat habitat setback will remain as they are in accordance with my recommendations above, and do not need to cover the internal restored areas (refer to my paragraph 8.1 b) above).

b) I note that Condition 81 includes certification of the EMP requiring demonstration of consistency with a range of matters including the recommendations of Council's ecological reviewer dated 10 August 2026. I do not agree with all the Wildlands 10 August 2026 recommendations (see paragraphs 81 – 8.3 above) and thus suggest

9 https://hamilton.govt.nz/assets/Uploads/Documents/Content-Documents/Property-Rates-and-Building/PC5-Peacocke-Structure-Plan/Rebuttal-evidence/Rebuttal-statement-of-evidence-of-Gerry-Kessels-Ecology.pdf

this requirement be deleted, and rather be based on the alternative recommendations outlined in my evidence and that of Mr Moule.

c) Condition 86, 87 and 88 are requirements of the EMP and I understand cannot be satisfied prior to s224, so these conditions seem redundant to me. I defer to the evidence of Mr Moule on how this can be achieved.

d) Condition 86: This will be addressed with an updated EMP;

e) Condition 88: I recommended that a Lizard Accidental Discovery Response Protocol to be included in the EMP instead of the condition as proposed in the s42 report.

f) Condition 91: Animal pest control details will be included in the updated EMP.

g) Condition 92. I defer to the evidence of Mr Moule.

h) Condition 95(d): In my mind, this condition is not practical and needs to be addressed at the building consent stage as exact location and design will not be known until that point in time. Notwithstanding, if performance standards of Condition 95 are met then Condition 95 (e) is superfluous;

9. Conclusions

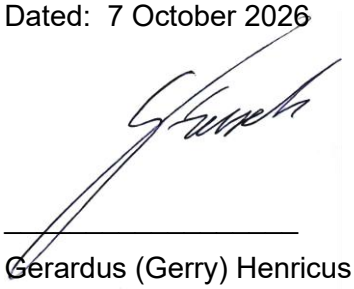
9.1 The site is mostly low-value pasture. It's notable ecological values as such are long-tailed bat habitat along the awa and the gully, the wetland mosaic, the tributary stream and the river margins habitat for a range of indigenous fauna and flora. All of these areas are avoided as part of the Scheme Plan, legally protected in perpetuity and enhanced as detailed in the draft EMP.

9.2 The proposal is consistent with the relevant policies of Te Ture Whaimana, the NPS-IB, the NPS-FM and NES-F, the WRPS and the Operative South Waikato District Plan as they relate to ecology.

9.3 With c.f. 3.07 ha of indigenous restoration, a connected bat corridor from the road to the river, bat-sensitive lighting standards to protect the river corridor, and a cat ban, I expect this rural residential proposal to deliver a net gain for indigenous biodiversity on this reach of the Waikato Awa.

9.4 I conclude that any potential adverse ecological effects will be mitigated to a low or negligible overall residual level, while delivering net positive gains for local biodiversity values. I thus support the amended 73-lot proposed subdivision at 597 Horahora Road, subject to amendments for the final EMP and the recommended ecology conditions which I recommend in my evidence, and as further detailed in the evidence of Mr Moule.

Dated: 7 October 2026



Gerardus (Gerry) Henricus Anthonius Kessels