

**BEFORE A HEARING PANEL
CONSTITUTED BY NELSON CITY COUNCIL**

IN THE MATTER

of an application by **CCKV Maitahi Development Co LP** and **Bayview Nelson Limited** for a change to the Nelson Resource Management Plan (Plan Change 28)

IN THE MATTER

of Part 5 and Schedule 1 of the Resource Management Act 1991

**STATEMENT OF REBUTTAL EVIDENCE OF JOSHUA ANDREW
MARKHAM (FRESHWATER ECOLOGY)**

Applicants' Consultant:

Landmark Lile Limited
PO Box 343
Nelson 7040
Attention: Mark Lile
Email: mark@landmarklile.co.nz
Tel: 027 244 3388

Counsel acting:

John Maassen
— BARRISTER —

✉ john@johnmaassen.com
🌐 johnmaassen.com
☎ 04 914 1050
📠 04 473 3179

Table of Contents

Name, qualifications, experience, and code of conduct	3
Reference documents	3
Scope of Rebuttal Evidence	3
Rebuttal to the Section 42a addendum reporting	3

Name, qualifications, experience, and code of conduct

1. My full name is Joshua Andrew Markham. I hold the position of Principal Ecologist at Tonkin and Taylor Ltd. My qualifications and experience are set out in my statement of evidence. I can confirm I continue to abide by the Code of Conduct for Expert Witnesses.

Reference documents

2. I prepared a Statement of Evidence with respect to freshwater ecology as part of the PPC28 application. I have since been provided with and read the following documents:
 - a) Section 42a addendum evidence by Ms. Gina Sweetman titled “Section 42a Addendum Report of Gina Sweetman – Planning, Sweetman Planning Services, on Behalf of Nelson City Council” (dated 29 June 2022).
 - b) Section 42a addendum evidence by Ms. Tanya Blakely “*PPC28 S42A Report Ecology Addendum*” (dated 24 June 2022).

Scope of Rebuttal Evidence

3. I note that the Section 42a Planning Addendum evidence prepared by Ms. Gina Sweetman agrees with the technical memoranda prepared by Tanya Blakely, and therefore the focus of my rebuttal evidence is on the Section 42a technical evidence.
4. Matters relating to the assessment of freshwater ecology in terms of the riparian margin and proposed realignment of the lower Kākā Stream.
5. The scope of my rebuttal evidence covers significant matters in contention arising from submissions or any matters of disagreement between experts.

Rebuttal to the Section 42a addendum reporting

6. In her addendum evidence under paragraph 10 and 11, Ms. Tanya Blakely makes further comment on the appropriateness of the riparian margin and

the additional information provide by Mr. Tony Milnes evidence. I have previously provided information on the riparian width “proposed green-blue corridor” along Kākā Stream in paragraph 35 and 36 of my evidence. Furthermore, Mr. Tony Milne has provided an Indicative Masterplan with his rebuttal evidence that further depicts what is envisaged through the proposed PPC28. In my opinion, I’m unsure what resolution that Ms. Tanya Blakely is seeking as all information has been previously provided, which I consider technically appropriate from a freshwater ecological perspective. The appropriateness of the treatment of the riparian margin is further supported in the Indicative Master Plan provided.

7. In her addendum evidence under paragraph 20, Ms. Tanya Blakely recommends that wetlands, streams and overland flow paths should be added to the proposed PPC28 Landscape Overlay. I believe that this has already been done and I refer to the evidence of Mr. Tony Milne (landscape).

8. In her addendum evidence under paragraph 27, Ms. Tanya Blakely states that:

“although I do not consider realignment necessary to achieve ecological enhancement of the waterway, this is not to say that ecological enhancement could not also be achieved by a realignment”

and

“...depend on this realignment being done correctly to provide for an ecologically functioning stream channel, a stream corridor of sufficient width to provide for an appropriate channel design and ecologically functioning riparian margin”.

9. I agree with the above statement from Ms. Tanya Blakely that the lower Kākā Stream could be ecologically enhanced in situ or via the proposed realignment. However, as per the PPC28 proposal and as detailed within my evidence, the realignment of the lower Kākā Stream has been proposed to achieve an integrated approach between water sensitive design in an urban context while maximising the positive freshwater, ecological and biodiversity outcomes. This has also been addressed in the rebuttal of Mr. Stuart Farrant (paragraph 10) in terms of Water Sensitive Design (WSD) which provides

further commentary of these positive freshwater, ecological and biodiversity outcomes.

10. In her addendum evidence under paragraph 26, Ms. Tanya Blakely references uncertainty of evidence that was used to determine the proposed realignment of the Kākā Stream. On the western edge of the lower Kākā Stream floodplain, a series of dry channels exist. It is likely that these are either historic / relic channels of the Kākā Stream or could potentially be a relic / historic channel of Maitahi/Mahitahi River. The identification of these channels was an outcome of site investigations and by the professional judgement from a freshwater ecologist and geologist of potential movement of this landform by either the Kākā Stream or Maitahi/Mahitahi River. In summary, the realignment lower Kākā Stream utilises an historic / relic which aims to match as much as possible a natural channel pattern within the landscape.
11. As detailed in my evidence (paragraph 35, 36, 39 and 40) and captured within Schedule X.9, PPC28 provides sufficient confidence that the proposed realignment of the lower Kākā Stream and future design can achieve the outcomes sought by Tanya Blakely in paragraph 27 of her addendum evidence. This is further supported by the integrated approach taken as outlined in the Stormwater Management Plan (SMP) which was attached to the evidence of Mr. Maurice Mills. Inputs into this SMP were from Urban Design, Landscape, Ecology, Water Sensitive Design and Flooding.
12. In her addendum evidence under paragraph 30, Ms. Tanya Blakely references the need to “*demonstrate adherence with best practice channel design guidelines*” as outlined in Schedule X.9 and within my evidence and then cautions the need to reference a specific guideline within Schedule X.9. The specific guideline has been referenced to help provide confidence that future design can achieve the outcomes sought by Schedule X.9. It is my opinion that this is solely a reference to the principles outlined in Schedule X.9 which sets out a framework for the future planning pathway for any resource consent sought for the proposed realignment. I note that Ms. Tanya Blakely does not provide any further comment of design principles in Schedule X.9, therefore I take this as acknowledgement that they are correct in the current wording.

13. In her addendum memorandum under paragraph 31, Ms. Tanya Blakely references:

“from an ecological perspective, placement of attenuation areas within the waterway could have significant adverse effects on freshwater ecology values if not appropriately designed, installed and managed”

and under paragraph 32

“...should only be located in stream corridor if a best practical options process has been followed ...locating detention with the stream corridor should be avoided if possible”.

14. Due to the integrated approach taken stormwater treatment devices will be located within the riparian margin as this is the best practicable option as addressed in paragraph 18 of Mr. Maurice Mills rebuttal evidence. It is my opinion that these devices should be offline and adjacent to the stream channel which is further supported in paragraph 13 to 15 in Mr. Stuart Farrant’s rebuttal evidence. The final detailed design and location of these devices will be investigated in future resource consent phases and should incorporate planting palette that ties into the design of the riparian margin. Due to the risk slope failure resulting in planting deep rooted vegetation on engineered slopes of the detention devices, it is considered appropriate to set these devices back, but still within the out riparian margin from the naturalised stream channel. This will allow tall stature vegetation to be planted as close as possible to the naturalised stream channel providing shade. My interpretation of paragraph 31, 32 and 33 of Ms. Tanya Blakely’s addendum evidence is that the current integrated approach of the general location of stormwater treatment devices is appropriate as complete avoidance is not possible (see Mr. Maurice Mills rebuttal evidence). These matters will all be considered in detail in the subsequent resource consent phases of subdivision and development.
15. In conclusion, I consider the PPC28 proposal in combination of further evidence and rebuttal evidence provided by technical experts provides sufficient information to understand the potential freshwater ecological effects for the Kākā Stream realignment and the wider PPC28 area.

Information contained in the updated PPC28 proposal, in evidence and rebuttal evidence of Mr. Tony Milne (landscape), Mr. Stuart Farrant (water sensitive design), Mr. Maurice Mills (stormwater) and Mr. Ben Robertson, combined with the framework of rules set out in Schedule X.9 and supporting provisions provides sufficient information for the proposed plan change. I believe comments within Ms. Tanya Blakely's addendum evidence have been addressed and that any matters of disagreement are very close to being resolved if not resolved already.

Dated 7 July 2022



Joshua Andrew Markham