Sensitivity: General

BEFORE THE HEARING PANEL

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of Proposed Plan Change 29 to the Nelson Resource Management Plan

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REPLY TO 'MEMORANDUM FOR THE COMMISSIONERS' DATED 11 DECEMBER 2024
DAN CHAMBEROSE – DATED 20 DECEMBER 2024

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1. INTRODUCTION

1.1 The purpose of this document is to respond to matters raised in the 'Memorandum for the Commissioners' dated 11 December 2024, produced by Mr Nigel McFadden (Mr McFadden's Memorandum) as part of Plan Change 29 (PC29).

2. GENERAL COMMENTARY ON MEMO

2.1 It may assist the panel to give some general commentary on the content of Mr McFadden's Memorandum, and to respond to all items raised in turn.

2.2 In short, my position has not changed from that presented in my Statement of Reply dated 27 November 2024).

2.3 The items raised in Mr McFadden's Memorandum have negligible consequence on the spatial extent of the revised slope overlays presented in my Statement of Reply. The memo attempts to challenge the accuracy of the information used to inform the creation of the overlays (in particular the geomorphic mapping), in an attempt to discredit and cloud the overall intent of the slope overlays. The fact is, the intent of the slope overlays is to meet Councils requirements under the RMA to identify land potentially susceptible to natural hazards and act as a high-level flag to trigger a requirement for further geotechnical assessment at a site. The purpose of that further geotechnical assessment is to complete detailed assessment of slope instability risk at a site to give Council confidence that slope instability is being appropriately considered during land development. If the overlays were so fundamentally flawed or inaccurate as Mr McFadden's Memorandum implies, significant amendments to the slope overlay extents in the limited areas reviewed by Mr Lines and Dr Hargraves would be required. As I have provided in Appendix A of my Statement of Reply (dated 27 November 2024), this is clearly not the case. I strongly refute that the overlays are inaccurate, and I reiterate that the methodology is fit for purpose as it stands, and that the overlays are sufficiently accurate for their intended purpose.

2.4 Further to this, in my opinion if an independent reputable company with suitable experience in slope instability was to complete this type of regional scale susceptibility mapping using the methodology and datasets used by Beca, being mindful of the intent of the overlays, I believe they would produce similar slope overlay extents to those currently presented. In my opinion, the results are reproducible, and the overlays produced by Beca are appropriate for their intended purpose.

2.5 I have acknowledged in my Statement of Reply (at paragraphs 5.24 and 5.27) that lower slope angles of larger landslides and areas downslope of geological faults could warrant inclusion. Ms Carter has said in the Council's reply – this is something that the Council could consider as a future plan change.

2.6 Mr McFadden's Memorandum attempts to discredit the robustness of the overlays by stating a number of times that the assessment lacks a scientific method due to lack of documentation of some elements used to create the overlays (i.e. some geomorphic features not shown in the inventory; and undocumented SI-TAG information, use of published geology and in-house knowledge). I disagree as the overlays have been created using a robust scientific methodology developed to align with Australian Geomechanics Society (AGS, 2007) guidance which was reviewed by the Slope Instability Technical Advisory Group (SI-TAG), a local cohort of independent geo-professionals (refer section 6 of my Statement of Reply). The methodology broadly captures where slope instability may potentially occur in Nelson (noting potential future inclusion of lower slope angles of larger landslides and land downslope of faults – refer Statement of Reply paragraphs 5.23 to 5.27 and paragraph 2.5 above). I do agree that clearer documentation of some elements (discussed under section 3 below) could have been undertaken, but this does not equate to the 'unscientific approach' suggested in Mr McFadden's Memorandum. The assessment follows a robust methodology, and the extents of the overlay adequately cover areas

potentially susceptible to instability, thereby fulfilling the intent of the slope overlays.

3. SPECIFIC RESPONSES TO MEMO BULLET POINTS

3.1 The below paragraphs address specific responses to each paragraph in Mr McFadden's Memorandum.

3.2 Referring to Paragraph 3.1, as I have mentioned in paragraph 2.3 above and in my Statement of Reply at paragraphs 5.13 to 5.18, minor changes made during this expert conferring process do not fundamentally change the coverage of the slope overlays. Therefore, I disagree that the geomorphic mapping needs to be revisited.

3.3 In response to Paragraph 3.2, I can confirm that all information recorded in these geomorphic mapping layers was provided to Dr Hargraves and Mr Lines, directly from the Beca GIS system, noting commentary from my Statement of Reply (paragraphs 5.13 to 5.18) relating to the geomorphic mapping, specifically the Beca slope instability inventory, how this was developed and its intent.

3.4 In further response to Paragraph 3.2, I acknowledge that the use of the more recent geological map (Johnston et al, 2021[1]) is not clearly referenced in the Beca reporting. To clarify, the Johnston et al, 2021 map is referenced in the references section of the 9 December 2021 Beca report, but not in the body of the text. As stated in paragraph 5.22 of my Statement of Reply, it is entirely appropriate to use this relevant information to inform the extents of the slope overlays.

3.5 In response to Paragraph 3.3, considering the overlays are intended to identify where slope instability may potentially occur, it is entirely reasonable for people preparing these overlays to use 'in-house knowledge' of areas of known instability. Once the knowledge is available, it simply cannot be ignored, therefore it is used to inform overlay extents.

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[1] *Johnston M. R., Ghisetti, F. C. & Wopereis, P. 2021. Revised Geological Map of the Nelson-Richmond Urban Area. V2. (https://nelson-richmond-geolmap.github.io/RGMap/).*

3.6 In response to Paragraph 3.4, refer to my Statement of Reply at paragraphs 5.13 to 5.18 and Appendix A - A8 and A24. The minutes from the SI-TAG meeting dated 13 April 2023 specifically mention this area of the Bishopdale saddle and why the group agreed it should be categorised as Tier 2 at the time and included in the slope overlays. Therefore, this information was documented, and it is appropriate to have these areas included in the slope overlays.

3.7 In response to Paragraph 3.5, my position on these issues are documented in paragraphs 2.3, 2.4, 2.6, 3.4, 3.5 and 3.6 above.

3.8 In response to Paragraph 3.6, there is no commentary shown on A9 of the 22 November 2024 letter (attached to JWS of the 25 November 2024) from Dr Hargraves and Mr Lines that relates to deep seated instability, and it appears that this is incorrectly referenced. Therefore, I have no further comment.

3.9 In response to Paragraph 3.7, refer paragraphs 5.13 to 5.18, Appendix A of my Statement of Reply and paragraph 2.3 above that covers my position on this. Further, it is of no consequence to the extent of the slope overlays.

3.10 In response to Paragraph 3.8, the area referred to is an engineered slope. I can clarify that this area meets the criteria for inclusion because it is between 20-30 degrees and is adjacent to an area of instability, even though it may be engineered.

3.11 In response to Paragraph 3.9, I clarify that the points raised have not been missed. They are the reason I have acknowledged that they should be considered further due to the complexity of assessing which areas around faults might warrant inclusion into a slope overlay to capture slope instability susceptibility and that this could be an area for future consideration by the Council.

3.12 In response to Paragraph 3.10, my position has not changed from my statements in paragraphs 5.13 to 5.18 of my Statement of Reply and paragraph 2.3 above, and I reconfirm the mapping is sufficient to achieve the intent of the slope overlays.

3.13 At Paragraph 3.11, the memo discusses Stage 15 of Bayview subdivision meeting the requirements of CELF land. I have reviewed this and confirm this does meet the CELF area requirements and I consider the area presented in Appendix A below is suitable for CELF consideration. Unfortunately, this was not identified by me when creating these areas which is why it was not initially included. However, I note the CELF extent for Bayview presented in my Statement of Reply has been with submitters experts since 4th November 2024 and discussed at expert conferencing on the 6 November and 25 November 2024. This is the first time this area has been questioned as to why it was not included.

3.14 In response to Paragraph 3.12, I have commented on the review process that has been completed on the methodology, slope overlays and information used to create them in paragraphs 5.2 to 5.4 and 6.1 to 6.3 of my Statement of Reply. In my opinion, the 2020 peer review completed by CGW holds weight as a number of those methodology items, in principle, remain the same as the PC29 methodology (with the inclusion of the August 2022 findings). Regardless of this, the methodology aligns with the AGS (2007) guidance, and review and agreement of the PC29 methodology by a group of independent local practitioners (SI-TAG) is sufficient to support the current slope overlays presented.

3.15 In response to Paragraph 3.13, I have provided commentary in my Statement of Reply at paragraph 5.23 and 5.24 on why lower slope angles of landslides have been excluded. In relation to comments around areas that show no geomorphic evidence of previous instability, I refer to inclusion of areas adjacent to previous areas of instability at paragraph 5.10 of my Statement of Reply.

Dan Chamberose
20 December 2024

List of Appendices:

- **Appendix A: Revised Bayview extent that qualifies as Certified Earthworks Landform area**

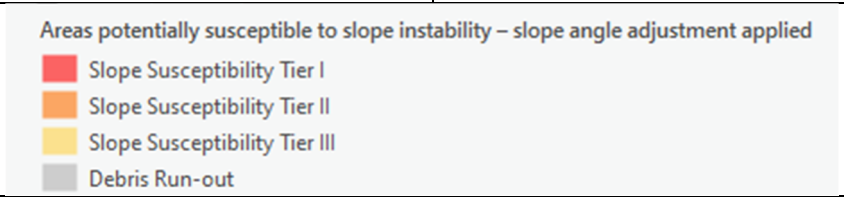
Appendix A: Revised Bayview extent that qualifies as Certified Earthworks Landform area



Bayview – Slope overlay coverage following remapping



Bayview - Slope Overlay exclusion or overlay extent (hatched green) that qualifies as Certified Earthworks Landform area. Stage 15 addition shown with red outline



Legend for Bayview and Bishopdale subdivisions