BEFORE THE HEARING PANEL

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of an application for a proposed Private Plan Change (Private Plan Change 28) by CCKV Maitai Dev Co LP and Bayview Nelson Limited to the Nelson City Council associated with the rezoning of approximately 287-hectares of land located within Kaka Valley, along Botanical Hill and Malvern Hill on land at 7 Ralphine Way, Maitai Valley and Bayview Road as detailed within the application.

S42A ADDENDUM REPORT TO THE COMMISSIONERS

MR GREG HILL (CHAIR), MS SHEENA TEPANIA, MS GILLIAN WRATT, AND MR NIGEL MARK-BROWN

SECTION 42A ADDENDUM REPORT OF GRAEME RIDLEY – EROSION AND SEDIMENT CONTROL SPECIALIST, RIDLEY DUNPHY ENVIRONMENTAL LIMITED, ON BEHALF OF THE NELSON CITY COUNCIL

23rd June 2022

A. INTRODUCTION

Qualification and experience

1. My name is Graeme John Ridley.

2. I am a Director of Ridley Dunphy Environmental Limited (RDE), an environmental consultancy that specialises in environmental management of development sites and, in particular, construction water management including erosion and sediment control.

Purpose of this addendum

3. In addition to my section 42A report dated 20th May 2022, I have prepared this addendum on the consideration of earthworks and erosion and sediment control in response to matters arising from the applicants' statements, in particular the statement of evidence of Mr Michael Parsonson provided on 15 June 2022 for the Private Plan Change 28 (PPC28). I have also responded to one matter raised in Mr Mark Lile's evidence.

Code of conduct

4. I have read the Code of Conduct for Expert Witnesses as contained in the Environment Court's Consolidated Practice Note (2014), and I agree to comply with it as if this hearing were before the Environment Court. My qualifications are set out as previously. I confirm that the issues addressed in this brief of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

B. ASSESSMENT

Earthwork locations

5. In paragraph 72 of his evidence Mr Parsonson provides some explanation of the potential location of future earthworks. He states "*The revision proposes a reduction in residential zoned area and the deletion of the Rural – Small Holdings Area (formerly 35.4ha). The overall zoned land that could be subject to development is now approximately 108ha, including the area within the Bayview ridge that falls directly to Nelson Haven. The area of potential development within the Kākā Valley will be about 70ha*"

6. This statement provides minimal clarity about earthwork locations and appears to not address all earthworks that will be required to occur. From the information provided and the site visit undertaken, it is clear some of the residential zones are very steep and will need assessment as to suitability of earthworks activity occurring. In addition, the Open Space Recreation Zone will be subject to earthworks as per the Stormwater Management Plan which illustrates stormwater attenuation areas and wetland treatment locations directly within this zone which will require substantial construction activities. These earthworks, if they eventuate, are assessed as high risk irrespective of the nature of the erosion and sediment controls implemented. In my view, the suitability of these earthworks needs to be assessed at this PPC28 level.

7. I refer to the Nelson Tasman Erosion and Sediment Control Guidelines. This Guideline is drafted to be a key reference document when designing specific erosion and sediment controls as part of consent and permitted activity earthworks. Importantly this Guideline also mentions that it "*incorporates recommended principles for consideration during design and planning phases to help minimise sediment generation"*[1].

[1] *Chapter 1, Page 4 of Guideline*

8. In Section 6.2.2 of the Guideline, I confirm that one of the driving principles of erosion and sediment control is set out as follows: "*Fit earthworks, construction techniques and methodologies to site conditions, constraints and opportunities land sensitivity. This may be difficult depending on the development approach and where space is limited, but the concept should always be considered. Some parts of a site should never be worked, and others need very careful working. Watch out for and, if practicable, avoid areas that are wet (streams, wetlands and springs), have steep or fragile/vulnerable soils, or are conservation or outstanding landscape sites or features. Utilise a minimum earthworks strategy where possible and practical*".

9. In the absence of the knowledge and assessment of earthwork locations and associated sediment yields and risk assessment, PPC28 ignores this principle and bypasses a fundamental element of assessment of the overall feasibility of the earthworks themselves. If earthworks are undertaken in these higher risk locations, or areas where they are not suitable, irrespective of the nature of the erosion and sediment control best practice measures implemented, there will be unnecessary earthworks activity with potentially adverse effects resulting. These elements require confirmation at this PPC28 level to ensure that zoning and development form is reflective of all considerations.

10. In paragraph 183 of Mr Lile's evidence, it notes "*The reality is quite different to what Mr Ridley assesses it to be. Quite simply, until such time as Council is satisfied with the manner in which earthworks are to be managed, and until the Council is satisfied that the actual and potential effects are avoided, remedied or mitigated to become less than minor, consents are not forthcoming. There is essentially full discretion available within the process for all the appropriate measures to be volunteered or imposed*"

11. I strongly disagree with this statement. It is not solely the manner in which the earthworks are to be managed but it is also the fundamental question of if earthworks should even occur in some locations or not. This applies to steep areas, geotechnically unstable areas, flood plains and stream corridors (including stream realignments) and a full assessment of the suitability or otherwise of these locations with supporting sediment yield information.

12. The fundamental missing piece of information to allow this full assessment to occur remains as the earthwork locations, extent and sediment yield risk assessment.

Geotechnical assessment

13. In paragraph 34 of his evidence Mr Parsonson refers to the Tonkin & Taylor Geology and Geotechnical Hazards Report and confirms "*Section 3 of the Geology and Geotechnical Report Hazards Report summarises the site's geological and geotechnical environment as follows. The basement rock is highly weathered and moderately closely jointed in track cut batters formed across the PPCA. The weathered and closely jointed rock is susceptible to small, localised instability."*

14. I refer to paragraph 16 of my original section 42A report and wish to again highlight some aspects, as repeated below, which confirms the steep nature and erosion potential of parts of the site. This assists with reinforcing the importance of undertaking earthworks in appropriate locations only.

- *Indicates land that is especially sensitive to activities that cause erosion and sedimentation, particularly vegetation clearance, soil disturbance and earthworks. The Overlay comprises mostly the land in Land Management Zone C in the NCC Land Disturbance Regional Plan, which is to be replaced by this Plan.*

- *However, we note that the steeper slopes (particularly those generally in excess of 30 degrees) may be susceptible to gully and sheet erosion if stripped of topsoil*.

Erosion and sediment control principles and plan provisions

15. In paragraph 16 of his evidence Mr Parsonson states "*In my opinion, those combined provisions will provide sufficient certainty in the consenting of earthworks to ensure that potential sediment related effects can be acceptable minimised. Under those provisions and as necessary for any given application, Nelson City Council (NCC) will have scope to require best practice erosion and sediment control methods, sediment yield modelling, staging, adaptive management and any other method that is considered necessary to achieve that outcome. All such measures are well understood and proven within the local and national context*"

16. My assessment remains as previous whereby while I agree that erosion and sediment control measures are well understood, there is no demonstration within the applicant's proposal that the proposed earthworks are actually feasible and can be undertaken without impacting on downstream water quality and values. This is primarily due to the lack of any information, including plans, of indicative earthwork locations and extent and with this an understanding of associated sediment yields.

17. In paragraph 54 of his evidence Mr Parsonson confirms that "*A new Schedule is proposed that explicitly requires the adoption of seven key sediment management principles under the following policy purpose - To ensure that that development within the Structure Plan area acceptably minimises adverse sediment effects, and is consistent with the relevant ecology, water quality and recreation provisions of the NRMP and NPSFW, the following principles shall be adopted during the design, consenting and implementation of earthworks. These principles are complimentary to, and shall be adopted in conjunction with, the permitted standards, matters of control and discretion listed in Rules REr.60.2, REr.60.3, REr.61.2 and REr.61.3.*"

18. I have reviewed these principles as documented in X.12 (Evidence of Mr Mark Lile - Requested Changes to the Nelson Resource Management Plan Amendments) and confirm that these outline in a generic fashion high-level aspirations for earthwork activities. While I support the intent of the principles, no specificity is observed.

19. As principles, the weight that future consenting must apply to them is also unclear. I assess that such principles should be redrafted to provide more specific earthwork requirements and that these should also be directly referenced within a new earthworks rule and as matters of discretion for the consenting phase of future earthworks in the PPC28.

Secondary earthworks

20. In paragraph 58 of his evidence Mr Parsonson notes "*I also agree with his suggestion that provisions could be added to strengthen the identification of best practice erosion and sediment control for these secondary earthworks that do not require a resource consent*".

21. While I agree with this statement, as per paragraphs 47 and 48 of my original s42A report, I am not aware of any provisions that the applicant has drafted in this regard.

Adaptive management

22. With respect to adaptive management, in paragraph 65 of his evidence Mr Parsonson states "*I do not agree that this approach is an accepted practice on "the majority of earthworks activities" but it is a management component of some consented earthworks, typically for significant projects and development areas, or higher risk sites. It may well be deemed appropriate and necessary during the consenting of earthworks for the PPC28 area and can be considered and required through the existing and proposed provisions, which now proposes include specific recognition of adaptive management as a tool to be considered on a case-by-case basis*"

23. While the principles specified in X.12, which as noted above in paragraphs 17 to 19 require more specificity and should be matters of discretion, include adaptive management methodologies I also confirm that adaptive monitoring and management where you plan, do, check and then act is a provision that must be applied to all earthworks with the scale of this reflective of the risk of the associated areas of works. PPC28 must include provisions for this to provide certainty. It is a provision that allows for informed understanding of the effectiveness of the erosion and sediment control approach adopted and then the informed adaption of erosion and sediment control structural and non-structural measures.

C. CONCLUSION

24. My conclusions from my original section 42A report remain valid as follows.

25. To achieve the certainty and allow for an informed assessment of the earthworks and erosion and sediment control, the following information must be provided:

- expected earthworks locations and extent.
- sediment modelling to determine sediment yields, comparative analysis with current land use yields and the areas of higher sediment yield risk.

26. PPC28 must contain matters of discretion, rules or standards:

- that specify an open area limitation for earthworks that is determined based on the sediment yield modelling.
- that specifies completed and/or inactive earthwork areas be stabilised as soon as practicable with a specific matter of discretion allowing future consents to specify such a period.
- that commit to maximising the use of highly efficient chemically treatment sediment retention ponds, over design of dirty and clean water diversions and a detailed adaptive monitoring programme.

27. The key principles must be expanded to include reference to erosion and sediment control for both bulk and secondary earthworks.

DATED this 23rd day of June 2022

G.J. Ridley

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Graeme Ridley