

BEFORE THE HEARINGS COMMITTEE

**IN THE MATTER of hearings on submissions
concerning the Proposed One Plan
notified by the Manawatu-Wanganui
Regional Council**

**SECTION 42A REPORT OF GREGORY ROBERT BEVIN
ON BEHALF OF HORIZONS REGIONAL COUNCIL**

INTRODUCTION

MY QUALIFICATIONS/EXPERIENCE

1. My full name is Gregory Robert Bevin. I have a Bachelor of Arts Degree in History and Geography, and a Bachelor of Science Degree (with Honours) in Earth Sciences from Victoria University. I am currently employed by Horizons Regional Council as a Senior Investigator.
2. I have worked in the field of environmental and resource management for 10 years.
3. During my previous employment with Environment Waikato (EW) I was involved in the processing and monitoring of resource consents for various earthworks and vegetation clearance activities.
4. During my current employment with Horizons Regional Council I have been involved in monitoring various resource consents, including resource consents that involve earthworks and vegetation clearance, and responding to complaints relating to sites subject to earthwork and vegetation clearance activities. I have also been involved, when applicable, in taking formal enforcement action against various persons¹ who have been involved in earthworks and vegetation clearance activities that have resulted in the unauthorised discharge of sediment into receiving waterways.
5. I have read the Environment Court's practice note 'Expert Witnesses – Code of Conduct' and agree to comply with it.

SCOPE OF EVIDENCE

6. This report is in response to the following questions developed to assist in addressing preliminary views of the Hearing Panel as expressed in the Chairperson's Minute No. 3.

With reference to Paragraph 34(iii) of the Minute:

- Have maintenance and upgrading of infrastructure activities been of concern, particularly adjacent to waterbodies?
- If yes, can you give examples?
- What, if any, controls should be in place around these activities?

With reference to Paragraph 47 of the Minute:

- Do large-scale earthworks outside the hill country cause concern for Horizons Regional Council compliance?
- Please describe the level of complaints, the action taken, and the effectiveness of current controls.
- What types of controls are required to manage the environmental effects of these earthworks?

7. In addition to the above questions I have also been asked to comment on the effectiveness of the current rule(s) in the Proposed Regional Plan (as notified) relating to earthworks.

¹ For the purpose of this report the definition of person as detailed in Section 2 (Interpretation) of the Resource Management Act 1991 applies. Section 2 defines a person as including *the Crown, a corporation sole, and also a body of persons, whether corporate or unincorporated.*

8. This report addresses these matters in the order that they are listed above.

EXECUTIVE SUMMARY OF EVIDENCE

9. **Have maintenance and upgrading of infrastructure activities been of concern, particularly adjacent to waterbodies?** In short the answer to this question is yes.
10. **If yes, can you give examples?** The most notable infrastructure project that has come to Horizons Regional Council's attention since December 2005, from an erosion and sediment control perspective, has been the earthworks undertaken in relation to the Transit New Zealand road re-alignment works in the vicinity of Tennent Drive and Old West Road.
11. Resource consents were sought and granted in January 2004 which authorised vegetation clearance and earthworks (Resource Consent 102926), installation of culverts (Resource Consent 102927) and the diversion of waterways (Resource Consent 102928) in association with the road re-alignment works.
12. I commenced monitoring compliance with these resource consents during early 2006. From the outset there were issues with the how the earthworks were being managed from an erosion and sediment control perspective, and the consequential effects on the unnamed tributaries of the Kahuterawa Stream.
13. The primary issues were the poor maintenance of current controls (such as the silt retention pond), the general lack of controls across the entire site, and the fact that the works were not approached in a staged manner making management of the site from a sediment control perspective problematic.
14. **What, if any, controls should be in place around these activities?** It is difficult to provide a specific answer to this question as the types of controls required depend on many factors, including the sensitivity of the receiving environment, climate (ie. rainfall intensities), soil type, slope angle and length of slope, groundcover, and the aerial extent of the works.
15. Nevertheless, it is my opinion the principles of erosion and sediment control as detailed in section 3 of the document titled document "Erosion and Sediment Control Guidelines for the Wellington Region, prepared by Greater Wellington Regional Council dated September 2002, are reflective of best practice and should be adopted to manage sediment release from earthwork sites and ensure the subsequent environmental effects are minimised.
16. It is my experience that earthworks associated with infrastructure projects generally employ a raft of measures which control erosion and sediment release. For example, it is common that for large project work there could be a combination of erosion controls utilised that may include: progressing the works in a staged manner, thereby limiting the size of the area exposed at any one time; utilising measures such as stormwater diversions, benched slopes, hydroseeding, mulching and geosynthetic erosion control systems such as geotextile matting.
17. Similarly, these projects also utilise various sediment control measures depending on the characteristics of the site. However, common controls include the use of decanting sediment retention ponds, decanting earth bunds, silt and super silt fences, hay bales and, where necessary, the use of chemical flocculation.

18. Regardless of the erosion and sediment control measures used the key objective is that sediment release from the site in question is minimised to a point where the effects on the environment are minimised.
19. **Do large scale earthworks outside the hill country cause a concern for Horizons Regional Council compliance?** In short the answer to this question is yes. For example, the recent industrial developments, ie. the North East Industrial development and the Progressive Enterprises site, in the vicinity of Railway Road Palmerston have been the subject of concern for Horizons Regional Council. Both sites are characterised by a relatively flat topography, but have had significant problems in managing the sediment discharges into an unnamed tributary of the Mangaone Stream.
20. Whilst the majority of the earthworks that have been of concern have been located in the Palmerston North area and typically related to subdivision or industrial development, there have been activities, such as land drainage, which have been cause for concern. One example was earthworks undertaken in association with land drainage on a farm located in the vicinity of Scotts Road, Palmerston North. During August 2006 Horizons Regional Council received a complaint that an unnamed tributary of the Kahuterawa Stream was, at times, severely discoloured. A subsequent investigation established the most likely cause was earthworks associated with minor land drainage works being undertaken on a farm located at the top of the stream catchment.
21. **Please describe the level of complaints, the action taken, and the effectiveness of current controls?** The following four paragraphs addresses the matters raised in this question.
22. A review of information contained on Council's database and incident files indicates the majority of the complaints relating to earthworks have occurred within the Palmerston North area. These complaints have related to activities that are consented² and unconsented.
23. The level of enforcement action taken has varied. The action has varied from advising the relevant person that the current management of the site from an earthworks perspective is unacceptable and setting timeframes for action to be taken, to issuing Abatement and Infringement Notices³.
24. Since December 2005 there has been an increased awareness amongst contractors and consultants of the need to manage earthwork activities in a manner that minimises the amount of sediment discharged into receiving waterbodies. In my opinion, this increased awareness is due to more robust compliance monitoring of earthwork activities by Horizons Regional Council and the training offered by Horizons Regional Council. In relation to the latter, Horizons Regional Council held its first erosion and sediment control workshop in June 2007. This was a three-day workshop specifically targeted at contractors and consultants.
25. Whilst there has been an increase in the use of erosion and sediment control measures on earthwork sites, the effectiveness of these controls are still, in my opinion, sub-standard. This is primarily due to the relative inexperience of contractors and

² For those works that have been consented the consents typically related to authorising the installation of structures within waterbodies. The consents themselves did not relate to undertaking earthworks on the site in question.

³ Abatement Notice number 216 was issued on North East Industrial Limited to cease The unauthorised discharge of stormwater onto or into land where it may enter water, namely an unnamed tributary of the Mangaone Stream. Infringement Notice 00156 was issued on Keegan Contractors Limited for the unauthorised discharge of stormwater from an earthworks site.

consultants in preparing erosion and sediment control plans and designing erosion and sediment control measures, a poor appreciation of site dynamics, and key erosion and sediment controls being poorly maintained. This could be improved if Horizons staff had an opportunity to engage with consultants and contractors prior to earthworks beginning to ensure that the erosion and sediment control plans they are developing are adequate.

26. **What types of controls are required to manage the environmental effects of these earthworks?** As stated in paragraph 16 there are a numerous control options available to those persons managing earthwork sites. As mentioned previously, what controls are utilised is determined by a variety of factors, including the sensitivity of the receiving environment, climate (ie. rainfall intensities), soil type, slope angle and length of slope, groundcover and the aerial extent of the works.
27. In my opinion, the resource consents issued by territorial authorities generally fail to adequately address earthworks and the associated discharge of sediment to waterbodies⁴. The primary reason being that this is not a focus of the consenting process for a territorial authority whose primary focus is largely on issues such as amenity and construction effects as opposed to the control of sediment release from the earthworks, and the consequential effects on the receiving environment.
28. The Hearing Panel has asked whether regulatory intervention in the proposed regional plan is required over and above the provisions contained in the district plans. In my opinion regulatory intervention is required in the proposed regional plan for the following reasons:
- Sections 30 (1)(c)(ii) and (iia) of the RMA places a specific statutory obligation on Horizons Regional Council to control the use of land for the purpose of maintaining and enhancing water quality in waterbodies and maintaining and enhancing ecosystems in waterbodies, respectively.
 - It will provide a level playing field across the Region. Devolving responsibility to the territorial authorities is very risky in that there is an assumption that territorial authorities will adequately address the issue of sediment release from earthwork sites and the subsequent effects on water quality and aquatic eco-systems. There is also the risk that there will be a fragmented approach to managing the water quality effects associated with earthwork activities. Rules in a regional plan will ensure there is, to a certain extent, a more holistic (or Region-wide) approach to managing earthwork activities and the associated water quality effects.
29. I understand the Hearing Panel has reviewed the Palmerston North City Council District Plan Proposed Plan Change 42: Earthworks. In relation to this matter I have reviewed the evidence of David Murphy (Palmerston North City Council) and the accompanying documents contained in Appendix 2 of this evidence.
30. It is my opinion, PC42 does not adequately address the primary issue relevant to Horizons Regional Council, being controlling earthwork activities to ensure adverse effects on receiving waterbodies is minimised. Section 6.3.3 (Objectives and Policies) of PC42 states the objective of PC42 is to provide for earthworks activities where the associated adverse effects are able to be avoided, remedied or mitigated. Whilst Policy 1.2 details that any adverse effect will be avoided, remedied or mitigated, it provides a list of those effects that are of primary concern to Palmerston North City Council, being visual effects, effects on natural landform, effects on adjoining properties, land stability and flooding. There is no clear direction for decision makers in

⁴ The only known exception to this is the Motorimu windfarm development, which had reasonably robust erosion and sediment controls measures in place.

the proposed policies of PC42 that water quality effects are to be considered when making a decision on resource consent applications.

31. **How effective are the proposed rules relating to earthworks?** Rule 12-1 (Vegetation Clearance and Land Disturbance not covered by other rules) classifies any vegetation clearance or land disturbance which is not regulated by any other rule in the proposed plan as a permitted activity, not requiring resource consent, subject to compliance with prescribed conditions. For the purpose of this report the key condition is condition (a) which states:

“For any land disturbance involving a volume of fill or excavation of more than 1000 m³/y per property, effective erosion and sediment control measures shall be installed and maintained during and following completion of works.”

32. In my opinion there are a few problems with this rule. The primary issue is the term “effective erosion and sediment control”. It is my opinion that from a compliance monitoring and enforcement perspective this wording is too vague to be enforceable as there is no guidance as to what Horizons Regional Council considers to be “effective erosion and sediment control measures”. I understand that this has been recognised in the initial s42A Planning Report.
33. The prosecution case of *‘Auckland Regional Council v Holmes Logging Limited & Kenneth Angus Holmes and Peter McMahon’* highlights the problems with enforcing rules worded in this manner. This case related to undertaking unauthorised earthworks and vegetation clearance. Rule 5.4.1.2 of the Auckland Regional Plan: Sediment Control (which became operative in 2001) set out the permitted activity conditions to be met, of which one was the implementation of “...effective erosion and sediment control measures”. There was an explanation for the rule stating the measures shall be implemented in accordance with Auckland Regional Council Technical Publication 90 (TP 90), which establishes guidelines for erosion and sediment control.
34. At paragraph 17 of the decision Judge Thomson stated the substantive rule only requires effective erosion and sediment control. Whilst the explanation referred to a guideline document, this is not compulsory. The issue here was that whilst Auckland Regional Council believed the controls were ineffective the defendant argued that because there was no evidence of damage to waterways or the inhabitants of the waterways their controls were effective, despite the controls not being implemented in accordance with the TP 90. Accordingly, Judge Thomson ruled that he was not satisfied beyond reasonable doubt the defendants had non-complied with Rule 5.4.1.2. Subsequently the charges for contravening Rule 5.4.1.2 were dismissed.
35. To avoid ambiguity and Horizons Regional Council facing a similar scenario I believe Rule 12-1 should be amended to incorporate reference to a guideline document. Currently Horizons Regional Council utilise the following document *Erosion and Sediment Control Guidelines for the Wellington Region (September 2002)* prepared by Greater Wellington Regional Council. I believe this plan should be referred to in the substantive part of the rule to ensure the guidelines and procedures (which reflect best practice) are enforceable. Additionally, the incorporation of this document and its principles into the rule will ensure there is an appropriate level of certainty as to what Horizons Regional Council considers to be effective erosion and sediment control.
36. The current rule refers to a volume of earthworks per year. Effectively the rule makes earthworks (which do not fall within the scope of Rules 12-2, 12-3, 12-4, 12-5 and 12-6) a permitted activity subject to compliance with the relevant performance standards.

37. I understand an area limit of 2500 square metres per year, per property has been proposed in the Horizons Regional Council submission (ie. proposed Rule 12-3(d)). Under this proposed rule any land disturbance that takes place on any land is a permitted activity if the volume of land disturbed is greater than 1000 cubic metres per year, per property or the area of land disturbed is greater than 2500 square metres per property, per year, subject to the land disturbance being undertaken in accordance with an Erosion and Sediment Control Plan.
38. In relation to the thresholds specified in proposed Rule 12-3 I believe an area threshold limit is more effective than a volume. Typically it is not the volume of earth disturbed that is problematic, but rather the spatial extent of the exposed earthworks area. Additionally, I believe by linking these thresholds to a per property basis will enable more effective control of earthwork activities in that it will help limit the occurrence of large areas being subject to earthwork activities without some form of controls being in place.
39. A comparison with the rules in the current operative Land and Water Regional Plan (September 2003) highlights this point. The relevant rules in the Land and Water Regional Plan are LM Rules 1-3. Of particular relevance to this evidence is LM Rule 2, which permits vegetation clearance, soil disturbance and cultivation activities subject to certain performance standards being met. The performance standards have no limits as to the either the volume of earth disturbed or the spatial extent of the works, nor is there a requirement for any erosion or sediment controls or that the works are undertaken in accordance with an erosion and sediment control plan.
40. I believe this is major loophole in the LM Rule 2 in that potentially large earthwork activities, that are not located close to waterbodies⁵ have occurred without any requirement for the person undertaking those works to ensure sediment release from the site is managed in a way that minimises adverse effects on water quality.
41. I also believe that a similar loop hole exists in the current version of the notified proposed regional plan in that Rules 12-2 to 12-6 do not capture those large, flat earthworks sites, which can also discharge significant amounts of sediment into receiving waterways.

Gregory Robert Bevin
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⁵ Sub-sections c and d of LM Rule 2 state:

- c no cultivation shall occur within 5 metres of the bank of any waterbody identified in Appendix 6 or within 3 metres of the bank of any other permanently flowing river, or any river with a bed width in excess of 2 metres, or any lake or any wetland unless bunding, silt traps, interception drains or other alternative methods⁵ to control runoff are installed prior to, and maintained during cultivation; and
- d no soil disturbance, except as provided for by condition c. above, shall occur within 5 metres of the bank of any permanently flowing river, or any river with a bed width in excess of 2 metres, or any lake or any wetland.