

**BEFORE THE HEARINGS PANEL**

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

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**SECTION 42A REPORT OF MR ALLAN DAVID COOK  
(RE: ENVIRONMENTAL CODE OF PRACTICE FOR RIVER WORKS)  
ON BEHALF OF HORIZONS REGIONAL COUNCIL**

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## **1. INTRODUCTION**

### **Qualifications/Experience**

1. My name is Allan David Cook. I am the Group Manager - Operations for Horizons Regional Council (HRC). I am responsible for managing Horizons' river and drainage engineering functions.
2. I hold a New Zealand Certificate in Engineering (Civil) and a Diploma in Business Studies (Local Government Management). I am a Registered Engineering Associate.
3. I have more than 35 years experience in river engineering throughout Horizons' Region, at a practical, technical and managerial level.
4. I have carried out many investigations of river behaviour, have designed and supervised the construction of river engineering works, have managed many river scheme capital works and maintenance programmes, and have participated in the development and review of many river management plans. I have developed and led the public consultation programmes for a number of significant flood protection projects throughout the Region.

## **2. SCOPE OF EVIDENCE**

5. In my evidence, I will explain the background to the establishment of an Environmental Code of Practice for River Works (the Code) under the Proposed One Plan. I will set out the purpose of the Code and identify its key features.
6. I will provide some context to the application of the Code and explain the proposed areas of its application, modified following pre-hearing consultation with stakeholders.
7. I will provide some information in respect of those who will practice river and drainage engineering under the Code and demonstrate the genuine intent of the entire Operations Group to achieve greater operational transparency and improved environmental outcomes through implementation of the Code.
8. Finally, I will give a brief response to submissions to the Proposed One Plan (POP) in respect of Rule 16-13.

## Introduction

9. The Operations Group is responsible for the River and Drainage engineering function of Horizons. That involves designing and implementing river control, flood control and drainage works, both within the framework of 32 managed schemes, and as isolated works outside defined scheme areas and spread widely across the Region.
10. In the past, many of the works undertaken have been permitted activities under the Regional Plan for Beds of Rivers and Lakes (BRL Plan). However, a significant proportion of works, possibly 50%, have required resource consents. The Operations Group currently holds 155 active consents, 28 of which can be described as 'global' in that they provide for ongoing scheme-wide river management activities, as opposed to specific and finite works.
11. Obtaining those consents has become an increasingly onerous requirement, both in terms of staff resources and cost.
12. More importantly, Operations Group staff are currently required to comply with a plethora of conditions under existing consents, many of which differ subtly and unnecessarily. Accordingly, the difficulty of operating under those conditions is considerable and the likelihood of non-compliance is significant.
13. Multiple resource consents are required for similar activities in different locations, each containing conditions intended to achieve similar environmental outcomes, but being subtly different. This is considered to be extremely inefficient, not only for the Operations Group but for potentially affected parties. A process that avoids revisiting the same issues with the same stakeholders time and again has to be attractive to all concerned.
14. The advent of the Proposed One Plan has provided an opportunity to develop a Code of Practice to facilitate a substantial proportion of the Group's activities without the need to obtain resource consents. Accordingly, an Environmental Code of Practice for River Works (the Code) has been developed on the understanding that it will facilitate a more permissive approach to resource use than would be the case if the Group was to rely on resource consents under the provisions of the POP in the future, while still achieving environmental goals.
15. Resource consents will still be required under the POP for some activities, however it is envisaged that more than 90% of the activities undertaken will be permitted under the

Code, which will provide greater consistency and ease of application. The trade-off for the Operations Group is that, in order to enjoy the advantages of standard best practice guidelines for the majority of its activities, it will be accepting higher standards designed to safeguard instream values in respect of many of those activities, than would otherwise be required under the POP. For example, the Code does not allow the instream removal of woody debris unless it is an erosion or recreational hazard, whereas the POP allows, as a permitted activity, removal of debris over 2 m<sup>3</sup> in size. Many of the standards found in the Code are standards normally found in resource consents issued to the Operations Group.

16. It should be acknowledged that application of the Code will significantly 'raise the bar' above present permitted activity or consent conditions in respect of the overall river and drainage activity. This is a demonstration of good faith and commitment to the objective of improved environmental performance.
17. It is further anticipated that where consents are still required, most of the conditions will mirror the best practice standards in the Code, further avoiding confusion and compliance difficulty.

#### **Code development process**

18. The Code was substantially developed by a project team comprising all members of the Operations Group management team, including the Design and Investigations Manager, Assets and Environmental Engineer, four Area Engineers and the Group Manager. That group collectively possesses extensive and diverse experience across the full investigation, design, practitioner and supervisory spectrum of river engineering. The involvement of the full team was deliberate, with the objective of engendering ownership of the final product right across the Group's operational area. The use of consultants was discounted on the basis of previous experience with the preparation of a Drain Maintenance Code, where it was found that staff were slow to adopt guidelines to which they had not had any input and that lacked a practical basis.
19. Some detailed development work was undertaken by sub-groups, but in all cases that was critically reviewed by the full team in a workshop situation.
20. An initial draft of the Code was made available to other teams within Horizons, including the Science, Environmental Data, Consents and Compliance teams. They provided feedback in written format and suggested changes to the draft were then negotiated in

workshop settings. Some very valuable feedback was provided and a large number of changes to the original draft were made through this process. Many of these changes comprised significant concessions on the part of the Operations Group, in that they will impose limitations on the timing and scope of works activities that have traditionally been undertaken and potentially will result in increased risks and costs.

21. The amended Draft Code was then the subject of consultation with Fish and Game New Zealand, with whom constructive dialogue had frequently occurred in relation to consent applications over a period of many years. Fish and Game New Zealand supported the concept of the Code but very strongly advocated for generic standards around the preservation of morphological characteristics. Ultimately, a significant concession was agreed that involved the inclusion in the Code of a very detailed morphological characteristics standard. Any further concession would have seriously compromised the Operations Group's ability to deliver cost-effective and timely river and drainage management services to scheme stakeholders.
22. There was no consultation with iwi. It was understood at the outset that iwi interest would be at a generic level in terms of the overall POP. That approach was seen to recognise the practical difficulty of engaging in a meaningful manner with the large number of iwi groups that could have an interest in the many river and drainage systems covered by the Code.
23. There was no consultation with the Department of Conservation (DoC) in the Code development process. It was considered that the interests that would be represented by DoC were very well covered by Horizons' environmental scientists, who had a major input to the Code and in particular to the identification of Sites of Significance and the development of special conditions in relation to those. Nevertheless, discussions were subsequently held with DoC in an effort to address the matters raised in its submission to the POP.

#### **Purposes and features of the Code**

24. The purposes of the Code are to:
  - Establish consistent environmental standards of good practice that will apply to all river and drainage activities, regardless of whether an activity requires a consent or not.
  - Partner best practice measures and techniques with environmental standards that have been established through many years of consent processes.

- Streamline regulatory requirements ensuring more effective and efficient service delivery.

25. Specifically, the Code of Practice:

- Lists and describes the activities carried out by the Operations Group;
- Lists best practice standards to avoid, mitigate or minimise an activity's effect on the environment;
- Lists the principles that have been used to establish the standards for good practice for each activity;
- Lists the processes for consultation and notification, monitoring and reporting;
- Identifies a self-monitoring process; and
- Identifies special standards for sites of significance – aquatic, and thereby ensures that the values identified at those sites will not be compromised by river works. In this respect, the Code indicates when a consent is required.

### **Consolidation of decades of learning**

26. The methods and techniques described in the Code are tried and proven over decades and adapted over time to the region's river conditions and to the progressively changing environmental expectations. These techniques, although generally familiar to river and drainage engineering staff, have not previously been brought together into one readily accessible document.

27. I consider that the collation of all these activities into the Code will benefit not only those undertaking works but also many other stakeholders. Clearly, for all Operations staff and particularly new recruits, the well structured Code will provide essential training and operational material, and will ensure a consistency of approach that has been difficult to achieve in the past. Horizons' Consents, Science and Compliance teams have also had an input to the development of the Code and that has ensured that information relevant and important to them has been included, in a constructive and informative way that will assist them in their roles with respect to its implementation. Lastly, it is anticipated that external stakeholders will appreciate the transparency and consistency that the Code provides. In general, the Code will provide a much improved understanding of the respective roles and needs of all parties with an interest in river and drainage works activities.

28. Most importantly, the Code matches the various river works techniques to environmental standards and thence to the values those standards seek to safeguard. This has never

before been brought together into one document where cause and effect can be readily understood. Understanding that association will inevitably lead to more sustainable river and drainage networks, and the maintenance and improvement of environmental values. Previously, for Operations staff, knowledge and understanding of instream values, in particular, has been problematic. Usually, such information would only come to light during consent applications and negotiations. It would not be available for many activities carried out on a day-to-day basis. The Code has changed that, as accurate and relevant environmental information is incorporated, along with works techniques and environmental standards, in the one document. Operations field staff have commented that they now regularly consult the maps and schedules included in the Code that identify special standards for activities undertaken in sites of special environmental value. The information has been found to be of particular value at the time of preparing works programmes. Special conditions are often related to the timing of works and these can often be accommodated through good forward planning.

29. A small number (16 in total) of activity-specific standards are subject to practicability. There has been some suggestion that those standards therefore have little meaning. To the contrary, the easiest approach for the Code authors would have been to omit those conditional standards and ignore the temporary adverse environmental effect that might have arisen in each instance. My reading of the POP is that others would be able to undertake many if not most, of the activities concerned, outside of scheme areas, without conditions that reflect the 'subject to practicability standards' in the Code. However, it was acknowledged that in many instances it may be possible to modify work practices so as to reduce adverse effects – and the standards reflect that. This approach is yet another demonstration of good faith and commitment, on the part of the Operations Group, to the objective of improved environmental performance.

### **Putting the Code of Practice into context**

30. The Operations Group 'manages' and undertakes works on more than 70 rivers and more than 1,000 km of drains throughout the Region. Most of those activities come under the umbrella of 20 river control and 12 drainage schemes currently managed by the Council. The total cost of river and drainage services provided by the Operations Group over the five-year period from 2004 to 2008 was approximately \$72 million. In a separate S42A report, I have elaborated on the scope of the river and drainage schemes activity and in particular on its critical importance in terms of maintaining the safety and prosperity of the Region's various communities.



31. It needs to be stressed that over the years there have been very few incidents of non-compliance or expressions of concern about the Group's activities. This is despite the huge amount of work undertaken within river systems, the complexity and variability of resource consent and BRL Plan conditions, and the very real potential for non-compliance. There have been some unfortunate incidents where unacceptable environmental damage has occurred. In those rare instances, the group has used best endeavours to reinstate damage and, if possible, achieve site-specific environmental enhancement in the medium term. More importantly however, the Group has used those incidents as learning opportunities and accordingly, some long-term benefits have been derived to offset short-term damage. A common factor in the more recent incidents resulting in environmental damage has been confusion around the interpretation of the various documents (Code of Practice, POP, BRL Plan, consents) that may govern an activity. This is seen as a transitional problem that will be overcome with the final adoption of the One Plan and with staff training/experience.
32. It is not denied that the Group's activities do have adverse environmental effects in rivers – that is unavoidable. However, with very few exceptions those effects are minor and temporary, and are recognised as such by the vast majority of stakeholders. Indeed, the vast majority of stakeholders have been supportive and very often complimentary of the Group's activities, especially since the February 2004 floods and the resulting dramatic elevation of activity. Notwithstanding the Group's good record, it is accepted that there will always be room for improvement around environmental performance, and the advantages of moving to a new regime under the Code are recognised.
33. The Code defines 19 specific activities, and sets out standards for good practice that avoid, remedy or mitigate adverse environmental effects arising from these activities.
34. As I have indicated above, the Code would apply whether or not an activity requires a resource consent. A resource consent would generally only be required where an activity necessitated a greater degree of disturbance to a river channel than the Code would allow. The consent process would then facilitate a closer examination of the need for the activity, consideration of options for minimising adverse effects, and crafting of specific conditions. It follows that some of those conditions would be more permissive than the Code standards, in order that the particular river management objective could be achieved; however, in all other respects both the generic and activity-specific Good Practice Standards in the Code would be adhered to irrespective of whether or not they were more onerous than consent conditions. An example would be the periodic

requirement to extract gravel across the wetted perimeter of a river channel in order to lower the bed level and maintain channel capacity. That activity would not be permitted under the Code and a resource consent would be required. Nevertheless, while specific consent conditions may, for example, allow increased bed disturbance and associated sediment release, the generic and activity standards in the Code, such as those which ensure pool and riffle sequence is maintained and which require that site rehabilitation complements the existing landscape, aesthetic and amenity values, would be adhered to. This is a clear demonstration of the commitment of the Operations Group to improving its environmental performance.

### **Application of the Code of Practice**

35. The POP permits river and drainage activities to be undertaken in a scheme rating area only if in accordance with the Code. Activities that are undertaken outside of scheme rating areas, such as environmental grant works, must comply with the appropriate permitted activity rule in the One Plan or be undertaken under a resource consent.
36. However, pre-hearing discussions have identified some concern as to the breadth of application, since scheme rating areas can be very large relative to the associated works areas. As a result, it has been agreed that the Code apply only to defined scheme works areas. The trade-off for loss of Code application within the wider scheme rating areas where relatively minor and isolated environmental grant works are undertaken, is expected to be that in the event those works are not permitted under the One Plan, that a 'fast track' consent process will be available, with conditions largely based on the Code.
37. A variety of techniques have been used to define scheme works areas. For most river schemes, the works area is limited to easily defined lengths of river channel. However, the South East Ruahines Scheme is an exception in that it encompasses numerous small streams, making it more appropriate to define the works area on the basis of a 'water management zone'. While this permits works across a larger area than other river schemes, values to be safeguarded are well documented in the Code.
38. Similarly, for all flood detention schemes, works activities are undertaken on a large number of dams and associated stream channels within relatively compact catchment areas. Accordingly, water management zones are the most appropriate means of defining the respective scheme works areas.

39. In drainage schemes, intensive networks of drains extend throughout defined scheme rating areas and those areas remain the most appropriate means of defining the respective scheme works areas.
40. Maps defining the scheme works area for each of the 32 schemes currently managed by the Operations Group have been drawn according to the above techniques and have been recommended for inclusion in the Code, in the S42A report of Mr James Lambie. Maps and schedules defining the respective scheme works areas have been included in the Code Draft dated August 2009.
41. The opportunity has also been taken to include the works area for a new scheme established on the Lower Whanganui River since the Code was notified as part of the POP. The works undertaken within this scheme will comprise stopbank construction and maintenance, edge vegetation management and occasional debris clearance. While a consent has been granted in respect of stopbank construction and maintenance, there would be significant benefit in obtaining the protection of those assets from interference by others that follows from the identification of the scheme in the Code. It is also appropriate that edge vegetation work is undertaken in accordance with the generic and specific activity standards in the Code.

#### **Practitioner experience**

42. The Code of Practice states that all river and drainage activities undertaken within a scheme rating area shall be supervised by a suitably qualified or experienced Horizons engineer, as determined by either an Area Engineer or by the Group Manager Operations.
43. Horizons Operations Group staff have a proven track record for designing and implementing river and drainage engineering works. The group comprises a mix of professionally qualified engineers, tertiary qualified engineering technicians, and river engineering practitioners, who possess sound engineering expertise, together with asset and institutional knowledge, to maintain and manage Scheme assets. The Operations Group has a total of 420 years of experience in flood and drainage scheme activities. The 20 most senior staff have an average of 15 years of experience with Horizons or another Regional Council. Twenty percent of the Group's staff have more than 20 years experience.

44. These engineers have a history of consistently meeting the community's expectations for flood protection, erosion control and drainage levels of service, and enjoy continued support from the community for scheme activities.
45. Over many years, Horizons has demonstrated cost-effective, purposeful, sustainable and environmentally sound management of river and drainage schemes and has received unqualified audit reports annually on infrastructural asset management processes.
46. More recently, recognising the importance of meeting the environmental standards espoused in the Code, the Group has appointed a person with a strong environmental background to oversee its implementation.

### **Code of Practice monitoring and reporting**

47. The Code makes a comprehensive commitment to monitoring, reporting, and continuous improvement in performance. As mentioned previously, an example of this commitment is the appointment of a person with a strong environmental rather than engineering background, to provide education and support across the Group, to monitor performance against the Code, and to report to the Group Manager.
48. With respect to monitoring, a "works completion form" is required to be filled out on completion of each activity. Potential criticism and suspicion of a self-monitoring regime is understandable. However that suspicion in itself places a greater burden of compliance on the Operations Group. It is untenable that the Group fails to comply if our credibility around the Code is to be sustained. There are some built in safeguards as well. Firstly, the requirement for the provision of an annual works programme which specifies works to be done and their extent, provides the opportunity to match this with what actually happens. Secondly, there will always be the possibility of independent monitoring of activities by the Horizons Compliance Team, either in response to stakeholder complaint or by way of 'casual encounter'.

### **Issues raised by submitters to the POP and Operations Group responses**

49. Seven submissions were received on Rule 16-13. These were received from: Ruapehu, Rangitikei and Manawatu District Councils; Tanenuiarangi Manawatu Inc.; Horizons Regional Council; Fish and Game New Zealand; and the Department of Conservation (DoC).

50. The district councils' submissions are similar, all essentially asking that the Code be extended to provide coverage of their activities within (and beyond) river and drainage scheme rating areas. The change to scheme works areas as opposed to rating areas, for application of the Code, as discussed in paragraph 28 above, may significantly reduce the district councils' opportunities in this regard.
51. There are high risks associated with activities being undertaken within river schemes by those who either do not have responsibility for the effective performance of those schemes or who do not have a thorough understanding of river engineering principles and processes. I have referred to this matter in greater depth in my separate S42A report on the scope of the river and drainage schemes activity and its importance to the safety and prosperity of the Region's various communities.
52. The Code sets out good practice standards for river and drainage engineering activities undertaken within schemes. The Code is written for river engineering practitioners and does not address the types of activities undertaken by other authorities, such as bridge construction and maintenance, trenching and pipe/cable laying, water intake construction and maintenance and gravel extraction.
53. The Operations Group would have no objection to other authorities using the Code as a template and developing their own code covering their activities for inclusion in the POP. However, it needs to be stressed that scheme managers must retain a high degree of control over all activities undertaken within scheme areas. The best means of maintaining that control is for all activities undertaken within scheme works areas to be subject to the design approval and construction supervision of the respective scheme managers. That degree of approval and supervision should apply irrespective of whether or not the work undertaken by others was subject to resource consents or the provisions of an industry-specific code of practice.
54. Tanenuiarangi Manawatu Inc. (TMI) submits that Rules 16-14 and 16-13 contradict each other and that Rule 16-13 should be changed from permitted. TMI states that it has not been consulted over the formulation of the Code; questions the legality of a Code being included in the One Plan; and questions whether it is consistent with associated legislation and fulfills the required and accepted standard as a Code.
55. Rule 16-14 protects the flood, erosion and drainage infrastructural networks constructed by schemes, either from direct or indirect consequences of activities undertaken on

behalf of or by parties that are not part of Horizons. Therefore, Rule 16-14 does not contradict Rule 16-13.

56. The Code is considered to be entirely consistent with the objectives of the Resource Management Act.
57. It was the understanding of the Operations Group in developing the Code that consultation with iwi would be undertaken at a generic level in relation to the POP. There was no intention to exclude TMI from the development process. Indeed, the Operations Group has recently engaged with TMI in respect of various river management issues and has formally agreed a protocol in respect of the operation of a 'global' consent for the management of gravel in the Manawatu River. It is the Group's desire to further develop its relationship with TMI as opportunities arise.
58. Horizons' submission requests that the Code apply to activities undertaken by or on behalf of the Regional Council. The Proposed One Plan currently appears to only allow works carried out by Horizons Regional Council itself, however the majority of works are carried out by contractors and landowners on behalf of, but nevertheless under the direct supervision of, members of the Operations Group. An amendment is requested accordingly.
59. Horizons' submission requests that Rule 16-13(d) be amended to include weed or other material extracted from waterways and cleanfill, pursuant to s15 (1) RMA. Rule 16-13 presently refers specifically to activities including discharges of water or sediment. Discharges can also include cleanfill, weeds and other material extracted from waterways during drainage channel clearance operations. The Code covers any potential adverse effects on the environment arising from these discharges from drainage channels, and therefore Rule 16-13(d) should be amended accordingly.
60. Horizons' submission requests that Rule 16-13 Condition b (iii), which refers to Rule 16-4, be amended to exempt activities carried out in sites of significance, in accordance with the Code. Rule 16-4 regulates activities in water bodies that are valued for their natural state, and sites of significance aquatic and cultural. Activities in these sites may, however, be permitted if they are dealt with specifically in the Code.
61. Fish and Game NZ requests the inclusion of a standard, under Generic Good Practice Standards, that would address components of natural character (river morphology).

62. This request has been acknowledged and a standard has been developed in conjunction with Fish and Game NZ. The standard is included at clause 1.2, page 28 in the Code. The inclusion of this standard was a substantial concession on the part of the Operations Group. The Group remains adamant that its activities do not compromise the morphological characteristics of the rivers it manages and questions the imposition of significant costs on schemes in order to demonstrate that. We particularly note the absence of any demonstration of adverse effects in the form of loss of morphological character arising from our river management works. Nevertheless, the Group appreciates the potential value to be derived from working collaboratively with Fish and Game to test assumptions and seek opportunities for improved environmental performance in general, and has agreed to a compromise position accordingly. However, as I have previously stated, any further concession around the study of river morphology, would seriously compromise the Group's ability to deliver cost-effective and timely river and drainage management services to scheme stakeholders.
63. The Department of Conservation (DoC) requests that the Rule 16-13 be deleted.
64. The submission should be rejected. However, lengthy discussions have been held with DoC with a view to identifying any practicable measures that could be incorporated in the Code to satisfy their concerns. The outcome has been agreement to include two additional measures in respect of morphological characteristics under paragraph 1.2 of the Generic Good Practice Standards in the Code that can be recorded without significant additional cost. In addition, it has been agreed that another statement will be included in the Operations Group Pledge in the Code, to the effect that there is neither intention nor desire to narrow or straighten river reaches within any of the schemes managed by Horizons. Finally, some relatively minor wording changes have been agreed in respect of a number of the Good Practice Standards for Activities. All of these changes have been included in the Code of Practice Draft dated August 2009.

### **3. SUMMARY**

65. In managing 32 river and drainage schemes throughout Horizons' Region, and thereby enhancing the safety and economic wellbeing of the various communities, the Operations Group is required to regularly undertake programmed capital and maintenance and urgent asset damage reinstatement works within water courses. By largely obviating the need for separate consents with a plethora of different and confusing conditions, the Environmental Code of Practice for River Works facilitates the delivery of a more effective and efficient level of service to the community in undertaking those works. The Code establishes best practice standards to link river works activities

with environmental values. The consistent application of standards to all similar activities will avoid confusion and thereby significantly reduce the risk of non-compliance. I am confident that the Code will bring about improved understanding and trust between the various parties who have an interest in river and drainage engineering activities, and will significantly 'raise the bar' in terms of environmental outcomes.

A handwritten signature in black ink that reads "Allan Cook". The signature is written in a cursive, slightly slanted style.

Allan Cook

**GROUP MANAGER OPERATIONS**

August 2009