



Report 09.406  
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Committee Hutt River Advisory Subcommittee  
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## **Boulcott Hutt Project: proposed river channel improvements**

### **1. Purpose**

- To update the Advisory Subcommittee on the status of the river channel improvements associated with the Boulcott / Hutt project.
- To seek the endorsement of the Advisory Subcommittee to continue further consultation on a preferred river channel improvement option.

### **2. Significance of the decision**

The matters for decision in this report do not trigger the significance policy of the Council or otherwise trigger section 76(3)(b) of the Local Government Act 2002.

### **3. Background**

The Hutt River Floodplain Management Plan (HRFMP) recommends river channel improvements between the Kennedy Good and Melling Bridges. The improvements widen the existing river channel, in the vicinity of the Transpower substation, from 50 m to 70 m.

As part of the feasibility stage of the Boulcott /Hutt stopbank, a number of river channel improvement options were shown to improve channel conditions, significantly increase river channel capacity, and reduce the design height of the proposed stopbank.

### **4. Existing situation**

The Hutt River, in the Boulcott reach, is characterised by two main features:

- The floodway narrows in width from approximately 600 metres through the Hutt Golf course to 150 metres at the Transpower substation.

- The river changes in grade and the river channel decreases in width from approximately 100 m at the Kennedy Good Bridge to 50 m at the Transpower substation.

Combined, these two features result in increased flood levels upstream of the Transpower substation, high velocities in the vicinity of the Transpower substation (where the floodway and river channel reduces in width) and an increase in the erosion potential of the river.

## **5. River channel improvements investigations**

### **5.1 HRFMP design channel**

The HRFMP recommends a design channel width of 100 m at the Kennedy Good Bridge reducing to 70 m mid way through the reach, and a 30 m vegetation buffer width as the erosion protection measure to maintain the design channel.

### **5.2 Proposed design channel**

Investigations undertaken to refine the proposed design channel show that the constriction on flood flows can be reduced (in large flood events) by shifting the design channel transition point (where the channel reduces in width) downstream and lengthening this transition point. This improves channel conditions, increases river channel capacity, and reduces the design height of the proposed stopbank.

A number of different transition point locations and lengths were developed and evaluated, and an optimum design channel determined. The width of the proposed design channel is 100 m at the Kennedy Good Bridge extending to approximately 200 m upstream of the Transpower substation. The width of the design channel from this point then reduces to 70 m over a length of approximately 600 metres.

In determining the alignment of the proposed design channel, options were limited to those that retreated one bank edge only, due to:

- Maintaining the design meander pattern of the river through this reach;
- Minimising the loss of established vegetation;
- The relative straightness of the existing river channel;
- The value of assets adjoining the river; and
- Space limitations.

In summary, the alignment of the design channel focused primarily on retreat of the right bank rather than the left bank of the river.

A vegetation buffer width of 30 m is still considered appropriate as the erosion protection measure to maintain the proposed design channel.

The HRFMP and proposed design channels are shown on the plan in **Attachment 1**.

### **5.3 Impacts of river channel improvement**

Work to achieve the proposed river channel improvements will involve substantial excavations on both banks of the river to widen the river channel and lower the berm. Given that more of the right bank is being retreated, this will reduce the available open space on the right berm.

The right berm is well used for recreation. Given this, and the principles outlined in the Hutt River Environmental Strategy (HRES) (refer **Attachment 2**), the HRFMP vegetation buffer width of 30 m was reduced to a minimum 20 m. Initial consultation also highlighted that as well as maintaining the open space on the right berm, being able to see and connect with the river is important to the community. Considering this, a number of alternative erosion protection options were developed that would allow visibility of, and interaction with, the river.

### **5.4 Alternative erosion protection options**

All erosion protection options feature the proposed design channel width and alignment noted in section 5.2. Quantities and rough order costings were calculated for the following:

- A 20 m vegetation buffer strengthened with a series of debris fences (some of the debris fences would have rock heads);
- A series of rock groynes; and
- A rocklining.

### **5.5 Consultation**

We have discussed these options with key stakeholders, including the Department of Conservation, Fish and Game New Zealand Limited, the Hutt City Rotary Club and Iwi. The following comments were received on what the chosen option should achieve:

- Minimise the need for continued instream works;
- Provide instream habitat;
- Allow for a wide riparian buffer; and
- Provide for recreation; and
- Allow for access to, and interaction, with the river.

### **5.6 Preferred erosion protection option**

To determine a preferred erosion protection option, staff considered:

- The HRFMP recommendation that, in the context of the overall river environment, a vegetative approach is applied to this reach.

- The HRES, which looks at improving the visual connection with the river by creating openings in the vegetation.
- The cost of the work.
- Comments received from our key stakeholders.

Through our consultation it was apparent that a rocklining was not acceptable in terms of retaining instream habitat. The cost to construct this work is also high. Rock groynes and vegetation strengthened with debris fences would also have fulfilled the requirements of those consulted, but like the rocklining, the cost to construct these works is high. Furthermore, these forms of erosion protection do not align with the principles outlined in the HRFMP for this reach. Considering these points, the preferred option for erosion protection is a 20 m vegetation buffer width. The proposed design channel and extent of the buffer width is shown in **Attachment 1**.

It is recognised that this option will require further refinement. Further consultation with stakeholders will occur.

## 6. Communication

Key stakeholders will be informed of Greater Wellington's preferred option and will be further consulted with to refine this option.

## 7. Recommendations

*That the Subcommittee:*

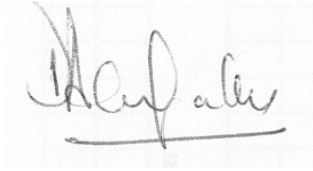
1. *Receives the report.*
2. *Notes the content of the report.*
3. *Notes that the 20 m vegetation buffer is the preferred erosion protection option for the proposed design channel.*
4. *Endorses further consultation on the basis of the preferred option.*

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Report prepared by:



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Report approved by:



**Graeme Campbell**  
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Report approved by:



**Wayne O'Donnell**  
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**Attachment 1: Plan of Boulcott Reach showing current and proposed design channel and 20 m vegetation buffer.**

**Attachment 2: Extract from the Hutt River Environmental Strategy**