greater WELLINGTON
REGIONAL COUNCIL

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Committee	Economic Wellbeing
Author	Ranjan Cyril, Area Engineer Southern

Lower Wairarapa Valley Development Scheme – Shifting of Tobin Stopbank

1. Purpose

To seek approval to reconstruct the Tobin stopbank, including the purchase of necessary property, in the Pukio area within the Lower Wairarapa Valley Development Scheme.

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

As a result of the flood event on 5 September 2010 the river bank adjacent to the Tobin property has slumped, and is now seriously threatening the integrity of the adjacent stopbank. Resolving the problem will require a strategic long term approach to ensure any future works are not undermined. The work involved is substantial. It is proposed to undertake the work as part of the capital development programme currently being implemented with the cost spread over several years.

During the review of the Lower Wairarapa Valley Scheme (LWVS), this reach was identified as a high risk area due to the narrow width of the channel and the stopbanks being too close to the river edge. At that stage it was decided to rock line the most vulnerable places. However, provision was made in the "Stopbank Designation" to shift the stopbanks in this reach as and when required.

Although the work is proposed to be done as a capital development project, it has become very urgent due to the flood event. As the stopbank is damaged and vulnerable to future floods it is considered that construction works should

be commenced within the 2010/11 period. Approval for this project is, therefore, urgent.

The work includes the purchase of a property and compensation to two other landowners. The Council's property consultants (Jozsef Bognar – Jigsaw Property Consultancy Ltd) have been engaged to investigate these matters. The estimates provided below include compensation costs. However, final costs may be amended following assessments by Jigsaw Property Consultants Ltd.

4. The options

Three options for reinstatement have been considered as follows:

Option I - Protection of the Right Bank edge with Boulders, shifting of the lower Tobin stopbank and removal of the overburden on the left bank berm – refer drawing No. 2A/150/298/1

This option involves:

1. Extending the rock lining 300m to cover the whole length of this reach.
2. Shifting 220m of the lower part of Tobin stopbank.
3. Removing trees and overburden from the opposite berm.

Due to the narrowness of the channel in this reach and the stopbanks close proximity to the river edge, the rock lining will only be an interim solution and is likely to require additional and ongoing maintenance work in the longer term.

The estimated cost of this option is $498,000.

Option II - Partial shifting of stopbanks on the right bank and the removal of the overburden on the left bank berm – refer drawing No. 2A/150/298/2

1. Shifting the lower and middle portions of the stopbank, 420m on the right bank, inland by 17m.
2. Creating a wider berm at a lower level to reduce the risk of slumping.
3. Removing trees and overburden on the left bank.

Slumping of the right bank at the bottom end has occurred near the sharp bend. Some boulder groynes have been constructed immediately upstream of the slumping area, however, this boulder protection cannot be extended further downstream as it would put pressure on the opposite bank. Therefore, at this site the stopbank needs to be shifted and the berm lowered so that it will stabilise the right bank and also reduce pressure on the opposite bank.

The estimated cost of this option is $474,000.

Option III- Shifting the entire stopbank (in stages) on the right bank from below section 78 to cross section 73 (Tobin's property) to give

a consistent berm width, and the removal of the overburden on the left bank berm - refer drawing No.2A/150/298/3

This option involves:

1. Shifting approximately 1,100m of stopbank on the right bank from the end of the Pukio stopbank to Tobin's property by about 30m inland in 3 stages.
2. Create a wider berm at a lower level and provide a waterway width consistent with the rest of the river in this reach.
3. Remove trees and overburden on the left bank berm to ease pressure on the right bank.

This is the best technical solution to create long term bank stability and satisfactory waterway width. To undertake this option the following issues need to be resolved:

- About 125m of the sealed road at the end of Pahautea Road needs to be shifted, and the corresponding land has to be acquired or an easement taken over this strip of land.

- The stopbank will go through three private properties and approximately 2.15 ha of land will be required. The first property is a small holding and is currently for sale. The property owner is very reluctant to sell part of the land as it will adversely affect the value of his property. Therefore, this property will have to be purchased in full. After construction of the works resale of the balance of the property, including house and sheds will be possible, but at a reduced price. Compensation for the loss of land will have to be paid to the other two property owners.

- There will be considerable impact on all the properties during construction and, therefore, there may be compensation costs.

- It is proposed to complete the work in stages, thereby ensuring all works can be completed under the existing LWVDS Global Consent.

- The cost of this option is the major factor, but the work could be loan funded and the financial impact on the scheme reduced.

The estimated cost of this option is $1,000,000 including an allowance for the resale of the property.

The LWVDS Advisory Committee discussed these options at its meeting on 17 December 2010. The Advisory Committee endorsed Option III as the best option.

5. Discussion of Options

Option I provides an immediate solution. However, due to the narrowness of the channel and stopbanks being too close to the river edge, any protection

provided will be temporary and ongoing work will be necessary. Furthermore, the narrow channel will create higher velocities which will affect the sharp bend immediately downstream.

As the stopbank is very close to the river edge, there is a high risk of the stopbank failing in a major flood event and flooding properties outside the floodway and the land surrounding Lake Wairarapa. Therefore, this option is not recommended.

Option II is relatively straight forward to execute in terms of cost and landowner agreement. Disruption to landowners is minimal and could be carried out within the terms of the existing Global Resource Consent. All the affected landowners have agreed to this option without claiming any compensation. However, there will be ongoing maintenance issues as the channel width is narrow and high velocities will be experienced. The option still relies on vegetation as edge protection.

When the long term maintenance costs and the ongoing risks are taken into consideration, staff consider that option II may not give the best outcome and the best investment of ratepayer funds.

Option III is the best technical solution in the long term. Under this option the stopbanks will be sited well away from the edge of the river (about 30 metres) and provide a channel width consistent with the rest of the river in this reach. It will reduce channel velocities and the risk of slumping significantly reduced due to the lower berm.

Generally it is not easy to obtain land for shifting of stopbanks as land in the Wairarapa is highly developed to the edge of the stopbanks. Compulsory acquisition can be both time consuming and costly. In this case, the affected property is currently for sale, providing an ideal opportunity to negotiate a suitable land purchase agreement.

Funding is the major issue for this option. The Advisory Committee debated this issue at length at its December meeting and agreed to support Option III provided it could be loan funded through the current 10 year Development Works Programme currently underway and Council approval obtained to purchase the affected property.

6. Funding Requirements

The estimated cost of all three options and their funding requirements are provided in the table below:

Option	Total estimated cost	Funds required in 2010/11	Funds required in 2011/12	Funds required in 2012/13	Funds required in 2013/14

I	$ 498,000	$ 250,000	$ 157,000	$ 91,000	
II	$ 474,000	$ 258,000	$ 199,500	$ 16,500	
III	$ 1,000,000	$ 358,000	$485,000	$317,000	($160,000)

Note: The estimate of Option III includes the resale of property after construction of stopbanks.

The Lower Wairarapa Valley Development Scheme has an approved capital works programme totalling $7.8 million, spread over 10 years. The programme started in 2007/08 and has an annual budget allocation of $780,000. This is the fourth year of the programme.

As the stabilization of the Tobin stopbank is critical, the most urgent part of the work will be carried out within the 2010/11 development work budget by deferring other works up to a total of $358,000.

7. Approvals Requested

As stated earlier the necessity to do this work occurred as a result of the floods on 5 September 2010. Part of the work (shown in red on drawing No.2A/150/298/3) is urgent and should be carried out during the 2010/11 construction season. A major flood event during the 2011 winter or spring will create a very high risk of stopbank failure unless repairs are undertaken now.

The timeframe to construct the stopbank and get grass cover established before winter is critical due to the necessary preliminary work involved such as gaining Council approval, purchase of property, and shifting of the power lines.

Our intention is to fund the works within the current approvals for the 10 year development programme. We will be undertaking a review of the overall programme later this year and if there was any need to adjust the overall funding we would come back to Council as part of the LTP process to seek any financial approval.

8. Recommendations

That the Committee:

1. ***Receives*** *the report.*

2. ***Notes*** *the contents of the report.*

3. ***Approves*** *Option III, to purchase the affected property and construct the stopbank system as shown on drawing No.2A/150/298/3 at an estimated cost of $1,000,000.*

Report prepared by:	Report endorsed by:	Report approved by:	Report approved by:
Ranjan Cyril	Mike Longworth	Graeme Campbell	Wayne O'Donnell
Area Engineer, Southern	Section Leader Operations Delivery Eastern	Manager, Flood Protection	General Manager, Catchment Management Group

Attachments:

Option I	-	**No. 2A/150/298/1**
Option II	-	**No. 2A/150/298/2**
Option III	-	**No. 2A/150/298/3**