

#### 4. UPPER VALLEY ROAD STREAM PIPING AT NO 90A AND 100 DYERS PASS ROAD

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##### BACKGROUND

The purpose of this report is to inform the Council of the results of a detailed investigation of the catchment contributing to the waterway which flows past Mr J M Hamilton's house at No 90A Dyers Pass Road. Mr Hamilton made a submission to the annual plan regarding the increase in flow down the waterway he experienced after new sumps were installed on Dyers Pass Road above his house.

##### PREVIOUS RESOLUTIONS

The detailed report was prepared as a result of a report to the Community Board on the 9th July 2003 and an adopted recommendation from the Parks and Gardens Committee to Council on 24 July 2003:

1. "That in the short term to reduce the immediate flood risk a lightweight pipe be installed beside the dwelling at 90A Dyers Pass Road to carry storm water flows past the dwelling.
2. That the owner of 100 Dyers Pass Road be requested to delay sealing his drive (currently under construction) in case a new pipeline is required down this drive.
3. That a catchment wide comprehensive investigation be initiated to consider the catchment augmentation, possible catchment splitting of existing stormwater systems and the best option for long term stormwater disposal for the catchment."

##### EXECUTIVE SUMMARY

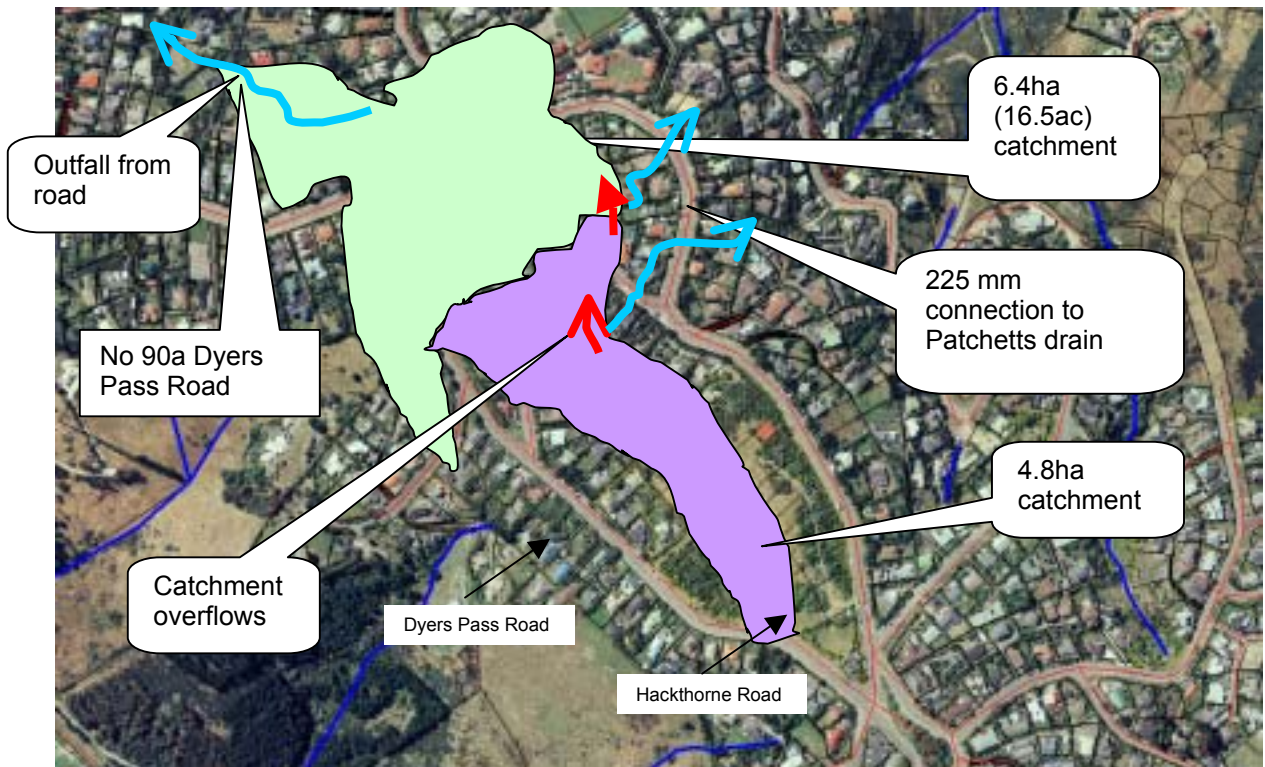
Recent work on new intakes on Dyers Pass Road have increased the flow down the valley past Mr Hamilton's house. This has highlighted deficiencies in the watercourse and renewal and improvements are recommended to protect against erosion.

A detailed inspection of the old 300 mm pipeline has discovered damage from roots and cracks likely to cause under runners. The pipeline has bends instead of manholes and is laid under large trees, (report attached).

Survey and design work have begun in order to be able to carry out the work before winter. It is therefore recommended that the old line be renewed along the valley floor, for an estimated cost of \$125,000 (Option 2 ).

##### LEGISLATION

Resource Management Act	Sustainable management of natural and physical waterway resources.
Local Government Act	Assess provision of stormwater services and extent to which drainage works are provided. Asset and financial management of infrastructure.



**OPTIONS**

1. Do nothing.
2. Renew along the valley floor and improve the inadequate parts of the system.
3. Pipe along alignment proposed by Mr Hamilton and improve the inadequate parts of the system.



**1. Do nothing**

The existing discharge from the piped system above Mr Hamilton’s house cannot be relied on to convey all the flow under Mr Hamilton’s drive so surface flows over the drive and down his pathway will continue. If the system is left as it is the house will be flooded more frequently than before. Subsequent owners are likely to complain whenever the watercourse overflows.

**2. Renew and improve the inadequate parts of the system**

This involves extending the piping from the existing manhole in No 121B downhill across Mr Hamilton’s driveway past his house to the bend in the watercourse at the north corner of his house. At this point, a new dissipation structure would direct flows down the watercourse. The watercourse is close to bedrock and pipe laying will require rock removal in order to provide sufficient cover for the pipe. Restoration beside the house should include lowering of the footpath past the lower bedroom to ensure that the secondary flow does not enter the house.

The old 300 mm earthenware piping below Dyers Pass Road to No 125 Hackthorne Road is at the end of its life and should be renewed as this could fail at any time resulting in damage to several houses built too close to the secondary flow path.

**3. Pipe along alignment proposed by Mr Hamilton**

This option involves piping from a manhole in No 125 Hackthorne Road on the recent 375 mm piping, through plants and shrubs, across Mr Hamilton’s drive and garden to his north boundary. Part of this route would duplicate the existing 375 mm piping and open waterway which Mr Hamilton proposes to be left for secondary flow. The route would cause significant disruption to No 125 Hackthorne Road, which gets no benefit from the work. Although the piping would remove most of the low flow from the open watercourse, it is not in the secondary flow path and this still needs to be protected from further encroachment by buildings.

**COSTED OPTIONS**

<b>Option 1 Do Nothing</b>	<b>Rate/m</b>	<b>Distance</b>	<b>Extension</b>	<b>Total Cost</b>
Ongoing complaints	\$3,000	1	\$3,000	<b>\$3,000</b>
<b>Option 2 Renew in valley floor</b>				
Survey of easement for piping and waterway	\$2,000	1	\$2,000	
375mm piping	\$500	28	\$14,000	
Rock breaking m3	\$500	14	\$7,000	
Purchase of easement for piping in No125 (\$100/m2)	\$500	7	\$3,500	
Break into manhole and make good	\$2,000	1	\$2,000	
Dissipation structure	\$6,000	1	\$6,000	
Restoration including lowered path	\$250	28	\$7,000	
375mm pipe bursting	\$800	90	\$72,000	
Restoration of entry points	\$3,000	4	\$12,000	
				<b>\$125,500</b>
<b>Option 3 Pipe along route proposed by Mr Hamilton</b>				
Survey of easement for piping and waterway	\$2,000	2	\$4,000	
375mm piping	\$500	65	\$32,500	
Rock breaking m3	\$500	32	\$16,000	
Purchase of easement for piping in No125 (\$100/m2)	\$500	14.5	\$7,250	
Break into manhole and make good	\$2,000	1	\$2,000	
New manhole	\$3,000	1	\$3,000	
Dissipation drop structure	\$6,000	1	\$6,000	
Restoration including lowered path	\$250	65	\$16,250	
375mm pipe bursting	\$800	90	\$72,000	
Restoration of entry points	\$3,000	4	\$12,000	
				<b>\$171,000</b>

## **CONCLUSION**

Both the old 300 mm piping between No 125 Hackthorne Road and Dyers Pass Road and the drainage near Mr Hamilton's property will continue to be a risk to houses in the valley.

Should Mr Hamilton sell the house it is probable that the new owner could claim the Council was at fault for allowing such a poor drainage system to evolve.

Option 2 (\$125,000) i.e. piping along the line of the secondary flow in the valley floor, is the best option.

## **FUNDING**

This work can be funded from the Utilities Protection budget. Capital funds are available within the 2003/2004 financial year. Easements to protect the new piping and the watercourse will be required before the work is started.

### **Staff**

**Recommendation:** That the Board approve the following work to be undertaken:

1. Pipe the valley floor from the downstream manhole in No 125 Hackthorne Road to north of Mr Hamilton's house (option 2, \$125,000).
2. Obtain easements that prevent any further encroachment on the waterway and keep clear the secondary flow path.
3. Renew the 300mm piping with 375mm after the piping at Mr Hamilton's property is installed.
4. Improve the sump intakes near Westenra Terrace if the gullies they discharge to are adequate.

### **Chairman's**

**Recommendation:** For discussion.