

23 June 2006

Peter Carroll  
General Manager  
Hynds Environmental Systems Ltd  
PO Box 17 388  
Greenlane  
**Auckland**

Dear Peter

### **Acceptance of UpFlo Filter for capture of suspended sediment**

File Ref

This is in response to your letter of 14 June 2006 requesting acceptance of the Hynds UpFlo Filter for stormwater treatment.

We have reviewed the information that you have recently supplied, including:

- An Approval Application dated May 2006 containing a substantial body of technical details and laboratory and field tests
- Your simulation calculations for a year's rainfall record of bypass flows and flows through the filter, using a spreadsheet model.

For the record, we have also met with you a few times to discuss the information, including most recently 14 June and 22 June.

Please be advised that the Auckland Regional Council accepts the UpFlo filter device for use in the Region for the capture of 75% of suspended solids in stormwater, as meeting technical guidelines provided in Technical Publication No. 10, Stormwater Management Devices: Design Guidelines Manual. This acceptance is subject to the following conditions:

1. The design shall be in accordance with the design standard set out in your letter of 14 June. This is for an UpFlo filter fitted in a 1200mm manhole, treating the runoff from 850m<sup>2</sup> of impermeable area per module (with a maximum of 6 modules per unit).
2. The acceptance is for a filtration medium of sand substantially meeting the particle size specification contained in your Approval Application.
3. The acceptance is for general use where concentrations of dissolved contaminants such as heavy metals are not expected to be higher than average. Unless the ARC in writing accepts the UpFlo filter for a specific site, this excludes those high risk industrial sites identified in Schedule 3 of the Air Land and Water (ALW) Plan dated October 2001, and also excludes other industrial sites with high levels of dissolved contaminants and heavily trafficked roads (more than 20,000 vehicles per day).
4. Where possible and appropriate, the Upflo filter will be used in conjunction with swales or filter strips to enhance capture of metals.

We look forward to continuing to work with Hynds Environmental Systems Ltd on efforts to improve the quality of Auckland's aquatic environment.

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If you have any questions or comments, please do not hesitate to contact either the writer (on phone 366 2000 ext. 8079) or Graham Macky (ext. 8092).

Yours faithfully

Earl Shaver  
**Team Leader Stormwater Management**

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