

## Welcome to the October Edition of Imprint

In this edition we feature another successful Stormwater and Sediment Field Day, have the results of our chemical treatment field study and include an update on enforcement action. There is also an update on the changes to Chapter 7 of the Proposed Auckland Regional Plan: Air, Land and Water. We are also pleased to welcome to the sediment team, Monica Stoinescu, a soil and water specialist.

## Chemical treatment: field study

Using chemicals to flocculate sediment ponds and encourage the settlement of sediment prior to discharge is now common practice on earthwork sites.

The ARC in 2007 commissioned the National Institute of Water & Atmospheric Research Ltd (NIWA) to undertake a study to assess the performance of the commonly used chemical Polyaluminium Chloride (PAC).

As part of the study between March and December 2007 NIWA monitored the discharge from two sediment retention ponds (SRP) built specifically for the study at the ALPURT B2 motorway project – one pond was treated with PAC and the other left untreated. The hydrology and composition of discharge from each pond was evaluated for the effectiveness of PAC during normal rain events and storm events.

The study indicates that using PAC increases the efficiency of sediment removal by 38 per cent compared to a non-treated pond, and that the chemical is effective for particle sizes commonly found on earthwork sites in our region. However, the biggest advantage for using PAC seems to be evident during larger storm events. During a monitored storm event the sediment load was

reduced by over four tonnes compared to the untreated pond.

The study also assessed the amount of residual dissolved aluminium in the discharge of each pond.

Generally the results indicated that the addition of PAC had not caused an increase in aluminium levels. However, on a number of occasions the discharge from both ponds had aluminium levels that exceeded ANZECC limits. The peaks appeared to have occurred during the early to mid part of each storm event, and the treated pond discharge generally had higher concentrations of aluminium than the untreated pond.

The study suggests that the use of PAC does help with the removal of sediment. The draft NIWA report, which will become a technical publication, will be available on the ARC website in the future.

### Features in this issue:

- Chemical Treatment: Field Study
- Stormwater & Sediment: Field Day 2008
- Enforcement
- Chapter Seven



The humble flocculation shed, an increasingly common feature at earthworks sites.

For more information on the use of chemical treatment see our fact sheet – **Chemical Treatment Guideline June 2008** available on our website [www.arc.govt.nz](http://www.arc.govt.nz).

# Stormwater and Sediment: field day 2008



Matt Byrne (Babington & Associates) measures the depth to ensure the raingarden is to TP10 standards. The raingarden was constructed courtesy of HEB Construction, Hynds Environmental, Hippo Environmental Services and Living Earth. It will remain as a permanent stormwater treatment device for the adjacent carpark.



One of the two decanting earth bunds which Hick Bros Civil constructed at the Auckland Botanic Gardens for this year's field day. Hick Bros Civil gave 'decanting' demonstrations on the day.



Carl Reller of NZ Transport Agency (formerly Transit NZ) addresses a packed marquee during the stormwater and sediment field day. Mr Reller spoke about NZTA's requirements for planning and construction to manage a range of environmental effects.

A record 300 people attended our annual stormwater and sediment field day on 30 September. Held at the Auckland Botanic Gardens in Manurewa the day was a huge success.

This year's theme was – 'small footprints – minimising the impact'. We thought it was a fitting theme as current discussion on environmental issues is about reducing our impact on the planet.

Many of the presenters spoke about how even small changes to methodology and attention to detail can help minimise the impact development has on our environment.

Presenters included Derrick Adams (Hebs Construction), John Gardiner (Wood & Partners), Carl Reller (NZ Transport Agency), Martin Neale (ARC's fresh water ecologist), Shane Chaplin (The Diggerman) and Jack Hobbs (Auckland Botanic Gardens).

Dr Neale spoke about the Stream Ecological Valuation (SEV) methodology, a robust system to derive a numeric value for the aquatic health of our streams. The SEV has many advantages over less scientific methods.



Holding the event at the Botanic Gardens allowed us to showcase a number of modern stormwater and sediment management devices. We were particularly pleased to showcase decanting earth bunds and to be able to construct onsite a new raingarden to treat water from the adjoining carpark. It meant that we even had a stream where we could show how the SEV methodology works.

Thanks to our presenters and our eighteen sponsors, and to everyone who came along. **If you have a comment about the field day or a suggestion for next year's event please email [ind\\_dev@arc.govt.nz](mailto:ind_dev@arc.govt.nz).**



Sponsors' displays in the main marquee attracted a lot of interest.

If your company would like to sponsor next year's event please contact us at [ind\\_dev@arc.govt.nz](mailto:ind_dev@arc.govt.nz).

Permitted activity rules have become more specific to the activity proposed.

Please become familiar with these amendments prior to undertaking works within, on, under or over a lake, river or stream.

The ARC continues to work with forestry industry representatives to prepare an operators manual for the forestry guidelines (TP223).

## Enforcement

In Imprint we usually celebrate industry successes but unfortunately there are still some companies and individuals who aren't meeting the high standards generally set by those in the stormwater and sediment industries.

Between August 2007 and August 2008 the Auckland Regional Council (ARC) issued 35 abatement notices and 63 infringement notices to 42 individuals or companies.

The abatement notices were issued for unauthorised discharges, unauthorised earthworks and filling in the floodplain, and non-compliance with consent conditions. In some instances the ARC had to issue four notices to the same site.

While the general level of resource consent compliance is improving, it's up to all of us to make sure that the reputation of the stormwater and sediment industries is not tainted by the few companies and individuals who flout the rules.

## Revised Chapter 7 of the Proposed Auckland Regional Plan: Air, Land & Water

Chapter seven of the Proposed Auckland Regional Plan: Air, Land & Water has been signed-off by the Environment Court (on July 11 2008).

Through the approval process, the permitted activity rules have been adapted to address specific activities undertaken within, on, under or over a lake, river or stream.

Although a few parts of the new rules still need to be finalised through the appeal process, the majority of the rules are now operative and supersede the Transitional Regional Plan (TRP).

Any new applications lodged will be assessed against the new rules. All amendments to the Air, Land & Water Plan can be viewed on the ARC website:

[www.arc.govt.nz/plans/regional-policy-and-plans/proposed-auckland-regional-plan-air-land-and-water/proposed-auckland-regional-plan-air-land-and-water\\_home.cfm](http://www.arc.govt.nz/plans/regional-policy-and-plans/proposed-auckland-regional-plan-air-land-and-water/proposed-auckland-regional-plan-air-land-and-water_home.cfm)



A temporary stream diversion was put in place at Orere Point this year.

### Future Industry Liaison Group meetings

- Sediment – scheduled for beginning November
- Stormwater – scheduled for late November
- Forestry – another meeting will be held in the next few months

Imprint aims to keep industry (consultants and contractors) and other stakeholders informed about recent developments relating to sediment, stream and stormwater management.

If you have any comments regarding our newsletter, any of the articles or information about our courses, please don't hesitate to contact [ind\\_dev@arc.govt.nz](mailto:ind_dev@arc.govt.nz)