

## Waste Water Website Upgrade Information for Design Professionals

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### New Marae Sewage System a Winner

#### Kaitumutumu Marae – Huntly

When the Marae upgraded their facilities including a new kitchen, meeting house, ablution facilities and a Kohanga Reo their engineer advised them to contact Dave Miller for advice over sewage issues. The marae was located in heavy soils close to the Waikato River with high water table issues.

Dave undertook a feasibility study to analyse the soil, the effect of high ground water and the impact of high peak wastewater flows when up to 300 people attended the marae for 3 to 4 days at a time. His report recommended a unique design that minimised costs and land area required for effluent disposal. This was accepted by the marae committee and easily gained Council consent.

The recent upgrade of the website [www.davemiller.co.nz](http://www.davemiller.co.nz) contains samples and design philosophies for specific building requirements. [\(Click on blue underlined links below\) ...](#)

**[Lifestyle blocks:](#)** Why build a million dollar house and have an unpleasant smell up your nose? With Council tests (over 200 systems) showing 80% of them fail within 3 years, looking up Yellow Pages or relying on manufacturers glossy brochures may leave your client caught short.

**[Schools:](#)** Schools are where our most vulnerable citizens spend a considerable amount of time and the school grounds should not be a hazard to their health and wellbeing.

**[Rural Restaurants, Cafés:](#)** Mix bus loads of tourists (with the associated queues at the toilets), food preparation and washing up. A safe well managed sewage treatment and disposal system in this environment is a must.

**[Marae, Community and School Halls:](#)** Dave has engineered an extended treatment process that significantly reduces costs and the area of land required for treated effluent disposal.

These topics, and others, are found on the samples page at [www.davemiller.co.nz](http://www.davemiller.co.nz)

## RECENT PROJECTS

**Ngaere School – Taranaki:** When they transported a community hall to the school, the potential increased wastewater volume would have overloaded the existing septic tank and old disposal trenches. Dave was engaged to design and project manage the installation of a new sewage system to allow for future school expansion.

**Gravity Canyon Bungy and Café Upgrade – Mokai, Taihape:** On this very restricted site space is at a premium. With busloads of tourists arriving daily (and being scared of the pending jump) the ablution facilities get a real workout. Dave designed an advanced secondary treatment system with the effluent being trickle irrigated into the garden areas around the café.



# Research and Experience

Dave has over 35 years of practical and design experience in evaluating soil conditions (soil mechanics) and sewage treatment system processes and is able to advise on and design the most appropriate sewage treatment system for almost any site and conditions.

He is a leading authority on advanced septic tank, sewage treatment and effluent management systems. Dave's knowledge in this field has resulted in him being invited to address national conferences and assist Government departments.

He has been invited to present papers to:

- **2006 - LTC/NZWWA National Conference**  
– analysis of sewage system performance
- **2004 - NZWWA National Conference**  
– on community sewage systems
- **2002 - LTC National Conference** – on peak load storage and treatment systems (camping grounds, marae, school & community halls)

He has also worked with the following organisations on waste water issues, including -

- **Consumers' Institute**
- **Ministry for the Environment**
- **NZ Surveyor**
- **NZ School Trustees Association**
- **Horizons Regional Council, and various other councils.**



**NEW-AGE SEWAGE:** Environmental engineer Dave Miller with a bio-tube filter, part of the new sewage system at Hukarere Maori Girls College, Esk Valley.  
PHOTOGRAPH BY ANDREW LABRETT

## Top-shelf sewage system

MARTY SHARPE

The Ferrari equivalent of sewage treatment systems has arrived in Hawke's Bay.

A state-of-the-art biological packed-bed filter has been installed at Hukarere Maori Girls College in the Esk Valley by Palmerston North-based environmental engineer Dave Miller.

He was contracted by the college to design a system that would meet the high standards of Maori cultural concerns.

Mr Miller said that apart from treating effluent four to five times better than conventional systems, the new system had an estimated life of 125 years, compared to 15 to 20 years for other systems.

The treated effluent is of such high quality that it will be used to trickle-irrigate the school grounds without any health risk to the pupils, Mr Miller said.

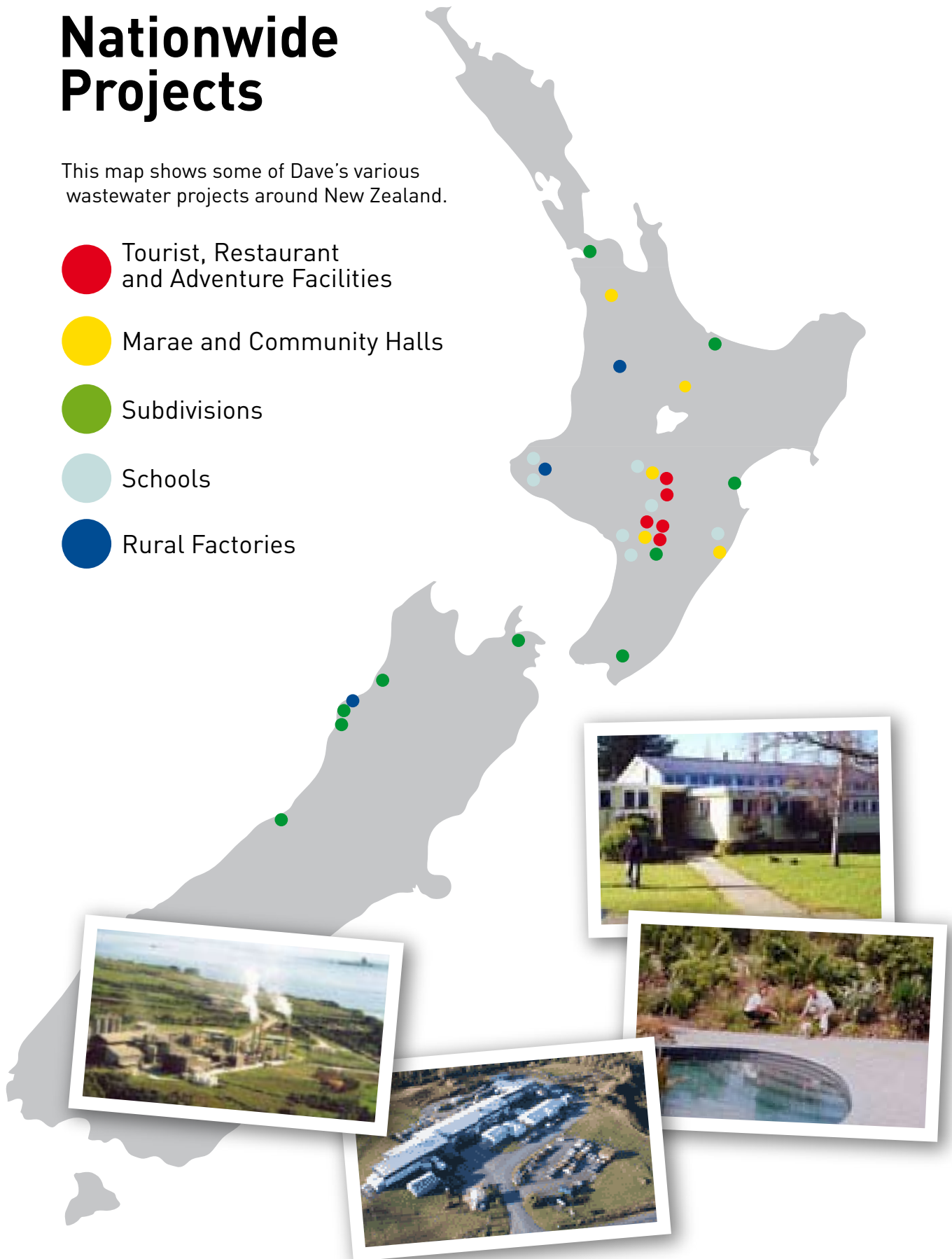
The system was also available for domestic use and could overcome the treatment problems rural home owners were experiencing with sewage systems.



# Nationwide Projects

This map shows some of Dave's various wastewater projects around New Zealand.

-  Tourist, Restaurant and Adventure Facilities
-  Marae and Community Halls
-  Subdivisions
-  Schools
-  Rural Factories



# Nationwide Projects

## Subdivisions

**Bombay:** 3 x 50-section cluster development

**Taranaki:** sewage upgrade assessment for 45-section subdivision

**Huinui:** 6-section subdivision

**Karamea:** 26-section eco subdivision

**Westport:** Cluster sewage system for 10 houses

**Cape Foulwind:** Sewage design concepts for 100-section subdivision

**Bay of Plenty:** 42-section Eco Village-sewage design concept

**Napier:** 7-section subdivision on beachfront

**Lake Wairarapa:** 5-section subdivision on lake edge

## Restaurants & Adventure Tourist Facilities

**Mokai Bungy: Taihape**  
Restaurant and facility

**River Valley: Rangitikei**  
Whitewater rafting.  
Lodge and restaurant

**Flat Hills: Rangitikei**  
Roadside bus stop restaurant

**Waterford Café: Manawatu**  
Pohangina Valley

## Marae & Community Halls

**Kaitumutumu Marae:** Huntly

**Te Tikanga Marae:** Halcombe, Manawatu

**Te Kauwhata Marae:** Manawatu

**Moawhango Marae:** Taihape

**Rongomaraeroa Marae:** Poraongoahau, Hawkes Bay

## Schools

**Apiti School:** Manawatu

**Aroua School:** Taranaki

**Ngaere School:** Taranaki

**Turakina School:** Wanganui

**Aokautere School:** Manawatu

**Whakarongo School:** Manawatu

**Hukarere College:** Hawkes Bay

**Flemington School:** Hawkes Bay

**St Joseph's School:** Taihape

**Newbury School:** Manawatu

## Rural Factories

**Fonterra:** Manaia, Taranaki

**Crusader Meats:** Bennydale, Te Kuiti

**Holcim Cement:** Westport



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