

## DON'T SPEND \$10,000+ ON A LEMON

### Health Risks of Failing Sewage Systems

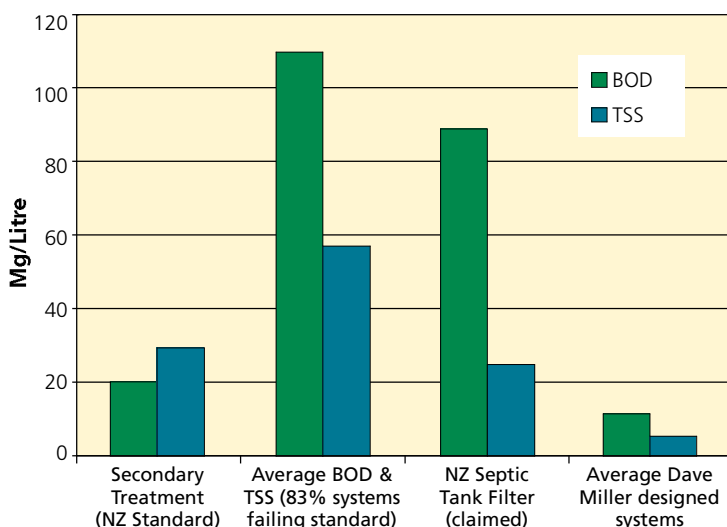
If you don't want sewage problems, don't buy a cheap sewage system. Test data from the Hawkes Bay Regional Council monitoring program revealed that only 17% of secondary sewage treatment systems actually produced secondary treated effluent.

The **average** effluent quality of the systems not meeting secondary treatment levels (83% of those tested) was 5 times the allowable level and the effluent quality from many systems was no better than from a filtered septic tank. Interestingly a filtered septic tank only costs \$1500.

#### Seek independent advice!

It would appear that some treatment plant manufacturers (and their agents) cannot be relied upon to accurately report the treated effluent quality their systems will produce and that the cheaper sewage systems are producing the worst results.

**Hawkes Bay Region Sewage System Comparison**  
{The lower the figure, the better the treatment}



Note: [BOD – Biochemical Oxygen Demand – is a measure of the amount of oxygen a pollutant sucks out of the ground (or water) in order to become treated. TSS – Total Suspended Solids – is a measure of the level of suspended matter (ie the degree of cloudiness) of the effluent. The lower the figure, the better the degree of treatment.]

Councils, engineers and the public need to exercise caution and independently verify system performance claims.

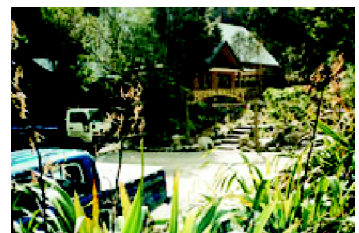
The best way to protect yourself, your family or your client from being landed with a suspect sewage treatment system is to obtain a feasibility report from an **independent** environmental engineer before purchase.

### CASES STUDIES

**Lactose New Zealand factory.** When the existing sewage system, serving the factory and its 150 workers failed (after only 4 years) Dave was contacted to quickly investigate and provide a solution. Dave was able to pin-point the problem, design and supervise the installation of a new system in record time.



**River Valley Tourist Lodge.** Situated on the banks of the pristine Rangitikei River, on a narrow metre strip between the river and the cliffs, River Valley Lodge caters for over 100 people per night. Given the limited area available for sewage system treatment and disposal the owners asked Dave Miller to carry out a feasibility study of sewage options available. Dave designed an advanced sewage treatment system which fully treats the effluent which is used to irrigate native planting areas around the chalet and lodge.



# NEW STATE OF THE ART SEWAGE SYSTEM FOR WHAKARONGO SCHOOL

Whakarongo School, situated in an idyllic rural setting between Palmerston North and Ashhurst, had recently doubled its roll and added a community hall capable of seating 375 people.

When the issue of where the additional wastewater (sewage effluent) would end up, the Ministry of Education engaged Dave Miller to conduct a review of the current sewage system and a feasibility report on the options available to accommodate the increased wastewater flow.

In addition to the regular flows from the school, the sewage system had to be able to accommodate the peak loads from the hall as well as future increases in the school roll.

As the school was already pushed for land area to accommodate the hall, extra classrooms, and still provide adequate play ground facilities, Dave designed a state of the art sewage treatment system to completely treat the sewage and make it virtually harmless.

The system also has a UV sterilizing unit and an automatic internet link to enable monitoring to be done remotely which saves costs and unnecessary service visits.

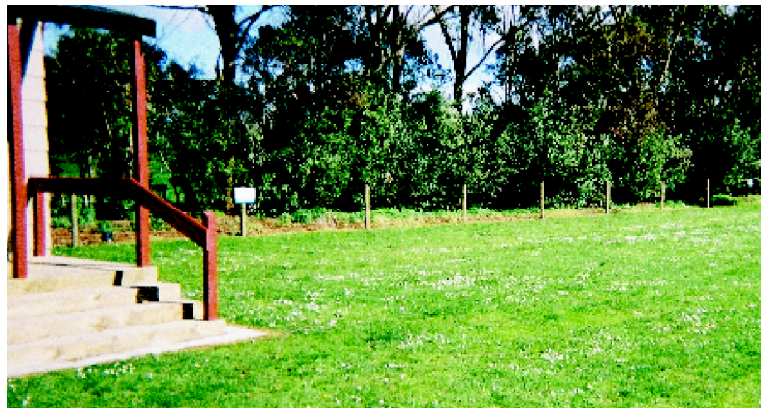
In view of the high rate of failure of the treatment system processes identified in the Hawkes Bay monitoring program the design of the recirculating textile Packed Bed Reactor (rtPBR) treatment process represented the most cost effective solution and protects the school from the dangers of inadequately treated sewage.

The sewage is treated to a quality 5 times better than required by the NZ Standards and 20 times better than the quality produced by 83% of the treatment systems tested in the Hawkes Bay Monitoring program.

Whakarongo School can rest assured that the new sewage system will provide a high level of treatment and protection for many years to come.



The Treatment Plant.



The treated effluent disposal area in shelter belt along fence line. (The effluent is treated to a quality 5 times better than required by the NZ Standards and 20 times better than the quality produced by 83% of the treatment systems tested in the Hawkes Bay Monitoring program).

## SEWAGE SYSTEMS DESIGNS - NATIONWIDE *Feasibility Reports Available*

No matter where your development is, I can provide a feasibility study to identify the most cost efficient sewage system option available.

If you are building in the country and need an on-site wastewater system for one house or a subdivision of 100 houses, there are advantages of getting me to prepare a report on the sewage treatment options available together with cost estimates.

These reports are proving very popular with architects, engineers and developers who can then advise their clients on the most effective, cost efficient sewage treatment options available.