

Wastewater Systems for Rural Schools

Innoflow Provides a Suitable, Scalable and Cost-Effective Solution



Because of intermittent usage, wastewater systems must be specifically designed to cope with fluctuating loads, as well as being robust, low risk and be easily scalable for future school roll growth.

Innoflow Technologies NZ Ltd are specialists in the design, construction, and maintenance on site of AdvanTex® onsite wastewater treatment systems and have been in the industry for decades working exclusively in this space.

The AdvanTex® wastewater treatment plants provide a number of key benefits school users, including;

- simple in design and resilient to fluctuating usage
- scalable, allowing system to be expanded easily for future school growth
- easy retrofit options for sites with existing septic tanks or wastewater infrastructure
- low ongoing operating costs
- high quality components with long warranties

- minimal visual impact and no noise
- produces consistently high-quality treated effluent for effective reuse and land irrigation

This document shows a few examples of the many systems we have installed at rural schools around the country.

For more information, contact Innoflow on +64 9 426 1027 or info@innoflow.co.nz



Waiheke School's AdvanTex® Wastewater Treatment System

Occupancy and Volume

Students and staff from Te Huruhi Primary School, Waiheke School, Kindergarten, Creche as well as occupants from the Community Hall, Caretakers Residence, 5 dwellings; 44,000 L/day.

Required Effluent Quality:

cBOD5 <15 mg/L,
TSS < 15 mg/L, E.Coli:
<200 cfu/100mL

Wastewater Engineering Consultant

Gareth Williams, Gareth Williams Engineering Consultants, Auckland

Waiheke School, Auckland, New Zealand

A mixture of increasing school and community facility usage, old infrastructure and poor soil conditions meant that Waiheke School needed to upgrade their wastewater system with one that is both big enough for the school as well as robust enough to perform all year round to the required treatment levels.

Innoflow was awarded the contract to supply, install and operate the wastewater system on the merits of presenting a proposal that was suitably designed for the school, had the greatest relevant track record, was most cost effective in the long run where S3 Ltd, Innoflow's servicing company, continues to provide ongoing maintenance for the school, ensuring the system is operating smoothly, and consenting compliance is maintained.



Orenco's® AdvanTeX® Wastewater Treatment System was installed at Okatu School, where highly treated effluent is discharged to the schools playing field via sub-surface pressure compensating dripline

Occupancy and Volume

400 Students & Staff; 8,000 L/day

Required Effluent Quality:

cBOD5 <20 mg/L

TSS < 30 mg/L

E.Coli: <200 cfu/100mL

Wastewater Engineering Consultant

Dave Miller, Dave Miller Environmental Engineer,
Palmerston North

Okatu School, Taranaki, New Zealand

Okatu school has a school roll of 400 students, and also provides the meeting place for civil defense emergencies. The school's existing system, which consisted of septic tanks and trenches needed to be upgraded to treat a peak of 8,000 L/day.

Due to the school and community use of the system, and with only the playing field available to apply treated effluent to, Innoflow proposed an AdvanTex® onsite wastewater system which is designed to produce highly treated effluent quality consistently and reliably. A self-cleaning UV unit was also installed to provide tertiary disinfection prior to discharge of treated effluent to the school field, where dripline was laid 300mm below the grounds surface.

As shown in the photo, the final system layout allowed the school to maintain valuable sport field space whilst providing a high-quality treatment system to its students, staff and community. S3 Ltd, Innoflow's servicing company, provides the ongoing maintenance for the school, ensuring the system is operating as designed and performing as required.



A number of septic tanks with An Orenco® ProSTEP™ screened pumping kit were installed around the school and discharged to conventional beds at the perimeters of the school field.

Occupancy and Volume

150 Students, Staff and Visitors; 3,000 L/day

Required Effluent Quality:

Primary treated wastewater discharged to conventional beds

Wastewater Engineering Consultant

Richard Rollins, WSP-OPUS, New Plymouth

Pembroke School, New Plymouth, New Zealand

Pembroke School has a roll of 120 students, twice the number that the existing wastewater system was designed for.

Due to a combination of increased usage, aging infrastructure and limited budget, the school required a modest wastewater system to cater for their needs.

Innoflow supplied and installed a primary treatment system that consisted of new septic tanks fitted with an Orenco® ProSTEP™ effluent pumping kit which retains solids in the tanks via its Biotube Effluent Filter (which screens any solids greater than 3mm in diameter) and pumps treated effluent to conventional beds located at the school's playing field.

The passive nature of this primary treatment system, with its small motor pumps mean that the overall upgrade was both low risk for the school as well as being highly cost effective.

S3 Ltd, Innoflow's servicing company, provides the ongoing maintenance for the school, ensuring the system is operating as designed and performing as required.