



## WASTEWATER MANAGEMENT SOLUTIONS

### Don't throw the baby out with the bathwater

Wastewater is water that contains wastes from residential, commercial, and industrial processes. Community wastewater may contain sewage, grey water and industrial wastewater. Good wastewater management processes and infrastructure are required to ensure that wastewater is collected, treated, and returned safely to the environment.

Low Environmental Impact can assist with the development of sustainable solutions to manage wastewater on a small or large scale; from individual dwellings to reticulated communities. We oversee all aspects from the design and consenting through to the build, installation and commissioning. We'll work with you from the initial assessment of alternatives through to the implementation of the selected solutions, achieving your goals in a cost effective manner.

### LEI EXPERTISE AND SERVICES

LEI is a specialist science and engineering company that combines comprehensive knowledge with practical experience in the field. We can design your wastewater system and bridge the gap between individual property owners/developers, local or regional councils and civil engineers. We can offer wastewater management solutions tailored to your requirements and look beyond conventional approaches towards sustainable solutions such as combined land and water discharges.

LEI can provide the following services for wastewater management projects:

- Land treatment of municipal wastewater
- Subdivision wastewater option assessment, investigation, design and consenting
- Decentralised wastewater design and management
- Existing community environmental impact assessments
- Small community policy development
- Sampling and characterisation
- Site assessments
- Risk analyses
- Resource consent and assessment of environment effects
- Compliance applications
- Community consultation
- Management plans

## **REGULATORY REQUIREMENTS**

Wastewater producers and managing councils must comply with both the local and regional council regulations (e.g. TP 58) as well as national standards (e.g. AS/NZS 1547:2012; TP 58). It is important to have a good understanding of consent requirements and to be aware that in most cases a resource consent will be required.

## **COMMUNITY CONSULTATION**

Both the Local Government Act (2002) and the Resource Management Act (1991) recommend undertaking community consultation for large infrastructure projects such as wastewater management. LEI has developed a Community Consultation Strategy that is research based and grounded in industry best practice to help manage this often complex process.

## **DISPOSAL OR REUSE?**

Although disposal or reuse of wastewater occurs after treatment, it must be considered first. Since disposal or reuse are the objectives of wastewater treatment, disposal or reuse options are the basis for treatment decisions. Acceptable contaminant concentrations may vary with the type of use or location of disposal, and with the jurisdiction.

## **DECENTRALISED WASTEWATER DESIGN AND MANAGEMENT**

Our solutions provide a range of treatment options from onsite systems with simple, passive treatment and soil dispersal to more complex and mechanized approaches that collect and treat waste from multiple buildings and discharge to either surface waters or the soil.

## **MUNICIPAL WASTEWATER DESIGN AND MANAGEMENT**

There is a vast range of wastewater treatment technologies available including traditional small community options such as oxidation ponds and wetlands, through to tertiary treatment options

such as UV treatment or oxidation. The most appropriate treatment option depends on the disposal or re-use.

## **A VALUABLE RESOURCE – LAND TREATMENT OF WASTEWATER**

Direct discharge to surface water is the most common method of wastewater discharge in NZ. From a scientific and engineering perspective, waterway discharges can be technically feasible and operated with no adverse environmental effects. However, increasingly there are concerns with the quality of the water being discharged and, culturally, the impact that it may have on the mauri of the water.

Land treatment of wastewater is now a real alternative with combined land and water discharges becoming the way of the future.

Land treatment aims to beneficially use the applied 'waste' material for productive use, while using the environment to provide further treatment through nutrient sequestration and removal, evapo-transpirative uptake and atmospheric loss, and pathogen reduction.

Land treatment of wastewater has several significant advantages:

- Avoids water discharge during sensitive river periods
- Avoids irrigation when soil conditions are not ideal
- Can avoid WWTP upgrades
- Reduces storage requirements
- Irrigation benefits
- Fertiliser benefits
- Enhances water recreational values
- Irrigation and river discharge complementary
- Partially addresses cultural objectives

**Contact us to scope what is required and provide you with a proposal for your project**





