

### Quantity

The adequacy of existing facilities such as septic soakage levels is unclear due to the lack of information regarding the performance of septic tanks.

GWRC are at present preparing a database of existing septic tanks characteristics. Also the MfE is looking at introducing septic tank “warrants of fitness” legislation. This will require Council to investigate and understand the problems of septic tanks.

## 5.6 Wastewater Risks

Council is aware that buried infrastructure has inherent risks associated with it. However it is not just the buried infrastructure as there are inherent risks associated with natural events, such as earthquakes and rainfall. A risk assessment for the wastewater asset is covered in the Sewerage (Wastewater) AMP (2004). Council has an Emergency Management Plan to deal with the risks of service failure associated with earthquakes, extreme weather and other events. These Plans formulate controls and procedures to deal with these risks. This section is an overview of the predominant risks.

### 5.6.1 Reticulated

Quantity	Level of Risk
Asset failure resulting in overflows	Moderate
Uncontrolled trade waste discharges	Moderate
Treatment plants overloaded- unable to manage inflow	Moderate
Increases in I/I	Moderate

The risk of overloading the wastewater system is being mitigated through:

- Drainage Rehabilitation Strategy (1993) based on the approach of the authoritative United Kingdom Water Research Centre. This includes the Critical Drain Strategy and underpins the maintenance strategy and the decision process for renewals and upgrades

- Trade Waste Bylaw 2004 working toward meeting the requirements of the New Zealand Waste Strategy by decreasing the quantity and pollutant load in trade waste and to ensure that the polluter pays for its treatment
- The SPE project calls for considerable works to be carried out on the wastewater system. The results to date have markedly improved water quality
- The Liquid Waste Management Plan taking into consideration the influences of I&I on wastewater
- Asset Management Planning. Robust asset planning and financial management subject to review by Audit New Zealand ensures best practice when managing wastewater assets
- The implementation of standards for development proposals and works supervision. e.g. ensuring cross connections do not occur.

Quality	Level of Risk
Environmental pollution resulting from overflows	Moderate
Inadequate treatment processes	Low
Lack of regulatory controls	Low
Exposure to untreated wastewater or its products may result in a number of illnesses	Moderate
Heavy metals and public health	Low

The risk of poor quality wastewater and resultant environmental degradation is being responded to by:

- The Liquid Waste Management Plan will take into consideration the influence of wastewater on stormwater and acceptable quality standards for both
- The Moa Point and Western Treatment Plants resource consents require wastewater to be treated to a stipulated standard. These consents include investigation into ways to reduce I/I rates

- The Trade Waste Bylaw, where Council require holders of trade waste permits to have a waste management and minimisation programme in place
- Resource Consent Compliance; Due diligence in ensuring compliance mitigates the chances of poor water quality reaching and leaving the Treatment Plants
- Compliance with the Resource Management Act 1991 for the treatment of all wastewater.
- The SPE project which calls for considerable works to improve water quality in the wastewater system.

Risks of not providing a wastewater service	Level of Risk
Environmental pollution	High
Illness due to contact with wastewater contaminated waters	High
Risk of groundwater contamination	High
Loss of recreational amenities	High

The risk of an inadequate wastewater system is minimised via;

- The SPE project which calls for considerable works to improve water quality thus avoiding environmental damage
- Regular monitoring by United Water International (UWI) and Council ensure that the service provided is highly effective
- Drainage Rehabilitation Strategy and other Council policies carried out under the AMP ensure the risk of contamination is at a minimum.
- Compliance with the RMA 1991 for the treatment of wastewater.

Risks of providing wastewater treatment;	Level of Risk
Failure to comply with resource consents	Low
Loss of reputation	Moderate
Odour from treatment process	Moderate
Environmental degradation from plant failures	Low
Loss of recreational amenities	Moderate
Creation of secondary contaminants (Biosolids)	High

To minimise the risks resultant of providing the wastewater treatment service;

- The Clearwater Project ensures diligence in relation to resource consent compliance
- Councils Best Practice Standards and Service Level agreements ensure a continual high level of service provision
- Council currently contracts Living Earth Limited to beneficially reuse wastewater sludge to produce high-grade garden compost.

#### 5.6.2 Non-reticulated Risks

Risks presented by septic tanks;	Level of Risk
Effluent disposal create a risk to humans or surrounding environment	High
There are health risks associated here with poorly maintained tanks i.e. ingestion of contaminated water	Moderate
Odour from failed tanks process	Low

To minimise risks:

- Monitoring and maintenance standards will need to be determined and implemented to ensure the safe working of individual on-site wastewater treatment processes
- Resource Consents are required for installation of septic tanks, however there is no requirement for monitoring after this
- A close working relationship is required with GWRC staff to determine knowledge, actual effects and best solutions for the septic tank failure
- Regular water quality monitoring and compliance with relevant MfE and Public Health guidelines on freshwater quality

The individual household management of on-site systems has come under increasing scrutiny by agencies (MfE, MoH) concerned about public health. It is common to find that septic tanks and other on-site systems are poorly maintained and operated. There are often consequential problems with discharges on to land and waterways, i.e. the contamination of the water supply. The cause of failure is lack of information about, and absence of incentives for, owners to operate and maintain the systems.

Failure to maintain an on-site system can mean its 'life' is drastically reduced. The homeowner may save money in the short term, but the system may have to be replaced earlier than normal. More scrutiny is likely to force communities who are otherwise comfortable with their on-site systems to review the situation.

## 5.7 The Future and Risk Mitigation

### Reticulated

#### Asset Planning

AMP's are continuously improving by carrying out various investigations and undertaking grassroots consultation to explore level of service options. AMP's also detail the likely future demands for service and how demands can be met or managed.

#### Liquid Waste Management Plan

Council has adopted a Liquid Waste Management Plan to comply with its obligations under the LGA 2002. This plan addresses wastewater and stormwater issues and impinges on water and solid waste issues.