

## 2.0 Strategic context

### 2.1 Strategic framework

The Council has facilitated the identification and definition of Community Outcomes by the Wellington “community”. The Community Outcomes guided the development of the Council’s own City Outcomes which interpret the Community Outcomes over which the Council has direct influence. The Council has identified key strategy areas, and within each of these areas has developed strategies in order to deliver the City Outcomes. In turn, these strategies form a key input into the asset management plans, along with stakeholder and legislative requirements, current and future demand information, and risk issues.

Figure 1 indicates the links between the key legislation, planning and documents that guide the Council’s wastewater activity.

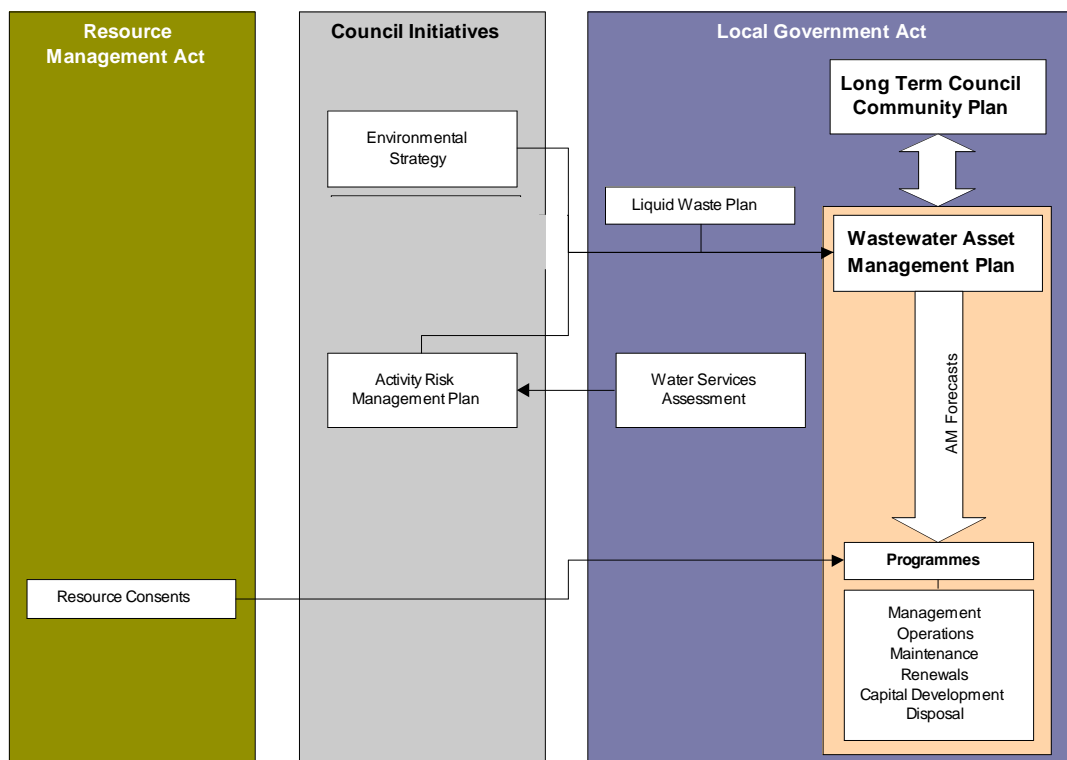


Figure 1 – Strategic framework

The wastewater activity contributes to the following Community Outcome  
'Wellington’s long-term environmental health will be protected by well-planned and well-maintained infrastructure’.

This plan gives effect to the high level strategies, Council and Community Outcomes by having specific plans and a detailed programme of works to support and encourage quality of life, enterprise and prosperity through the provision of wastewater collection and disposal services.

Figure 2 shows the linkages between the Community Outcomes defined in the Long Term Council Community Plan and the wastewater activity and the nature of the contribution.

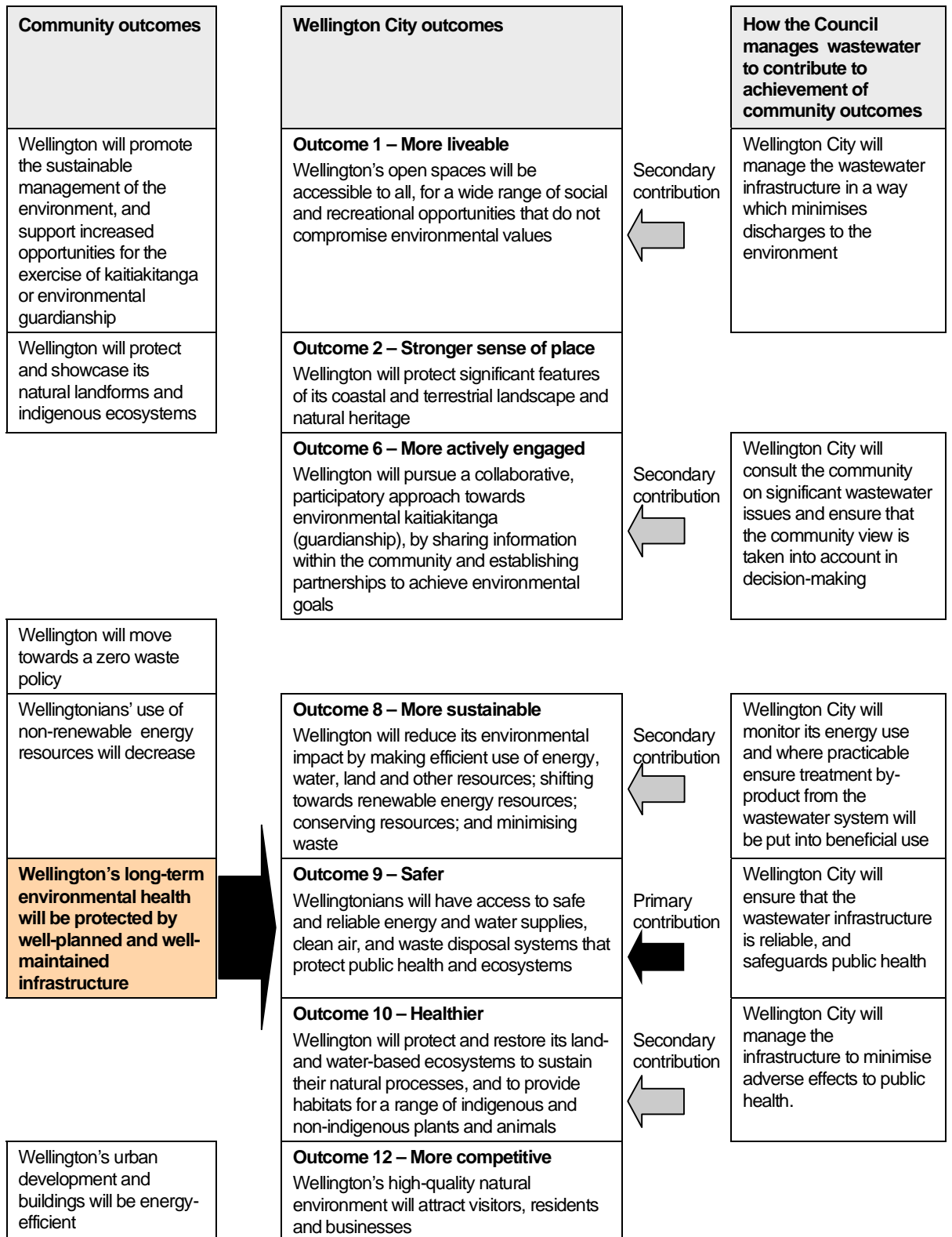


Figure 2- Community Outcomes, City Outcomes and strategies

### **2.1.1 Environmental Strategy and the Network Strategic Plan**

The Environmental Strategy adopted by the Council in 2006 provides a high-level statement of the Council's long-term environmental intentions for Wellington as well as shorter-term priority areas for action. The Network Strategic Plan, when completed, will identify the key strategic issues facing the wastewater network and set out our approach to managing these issues.

### **2.1.2 Resource consents**

The Council holds a number of resource consents for the operation of the Western Wastewater Treatment Plant, the Moa Point Wastewater Treatment Plant and the Southern Landfill Sludge Disposal Plant. The resource consents for the latter two facilities expire on 8 January 2008 and 16 February 2008 respectively. Applications for new consents have been lodged.

### **2.1.3 Waste Management Plan**

This plan was adopted by the Council in 2005 to meet the requirements set out in the Local Government Act 2002, the Waste Minimisation Act 2008 and the New Zealand Waste Strategy 2002. The plan states objectives, policies and actions relating to the sustainable management of stormwater and wastewater discharges which provide a framework for asset management planning. The goals of the Liquid Waste Plan are to:

- Lower the social costs and risks of waste.
- Reduce damage to the environment from waste generation and disposal.
- Increase economic benefit by more efficient use of materials.

## **2.2 Growth in demand**

### **2.2.1 Changing demand**

Factors which influence demand for the wastewater activity are:

- Growth
  - population change
  - sub-divisional activity and residential change
  - commercial and industrial change
- Stormwater inflow and infiltration
- Climate change
- Increasing customer expectations.

### **2.2.2 Key issues with changing demand**

Wastewater management is an activity that influences a range of outcomes, including environmental well-being, health, sustainability and economic development. The key issues for the wastewater activity related to the well-being of the city are outlined below.

#### **Social**

The expected growth rate in Wellington City is predicted to be approximately 0.7 per cent per year over the next 20 years<sup>1</sup> (an increase of approximately 27,000 residents). Further, the average number of people per dwelling is decreasing in Wellington, as it is elsewhere in New Zealand. Commercial premises are being converted into apartments within the

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<sup>1</sup> A slow down in growth is expected around 2030 in conjunction with an ageing population and projected slowing of world population growth

central business district, and housing needs are changing to smaller lot sizes. In line with declining household size, Wellington will need to provide approximately 24,000 additional dwellings between 2006 and 2026.

Increasing population implies increasing water demand, accentuated by the declining household size, and therefore increased wastewater flows with more buildings connected to the system. Further, development changes and changes in the local economy and growth of particular kinds of business will affect the volumes and type of wastewater generated. However, flows associated with this population growth and development is not anticipated to significantly affect total flows to the treatment facilities and subsequent generation of bio-solids within the planning period. Low density rural/residential development continues to be serviced with on-site disposal systems. Risks identified in non-reticulated areas are not sufficient for the Council to provide reticulation to service these communities.

Inflow from stormwater pipes and infiltration of groundwater has the largest effect on wastewater flows, and causes overflow of wastewater occasionally despite programmes to reduce and contain them. Climate change leading to higher intensity rainfall events could increase stormwater inflow to the wastewater system due to flooding around gully traps and manholes. Increased sea level increases continuous infiltration into low-lying pipes which may result in early rehabilitation requirements. The Council will continue to implement a range of strategies intended to reduce wet weather overloading and the potential for overflows from the wastewater systems, principally caused by inflow and infiltration where benefits exceed the costs.

Changes in growth and demand on the wastewater infrastructure affect:

- The capacity of the wastewater network to meet the increase of wastewater flows.
- The inflow from stormwater pipes into wastewater from urban areas.
- Residents adjacent to overflow locations, and the occasional flooding of habitable dwellings in extreme events.
- Awareness of public health safety issues, leading to a higher expectation of a safe and reliable wastewater network and continued improvement in wastewater receiving environments.

### **Environmental**

There is an increasing focus on the quality of the environment including water quality in watercourses and the coastal receiving waters. Overflows from the wastewater system are generally to the stormwater system through a series of constructed overflows, discharging diluted wastewater to watercourses and the sea. The Council has invested heavily in improving the water quality of harbour, sea and streams through assessment, monitoring and investigation projects, and implementation of physical works. The focus has been on reducing wastewater pollution from the city's stormwater system at 11 consented sites and other selected sites.

### **Cultural**

The discharge of stormwater contaminated with sewage to receiving waters is offensive to the Tangata Whenua. Asset management planning includes a range of strategies to identify and eliminate the causes of wastewater overflows to the stormwater system.

## **Economic**

An effective and reliable wastewater system supports economic activity in the city. Changes in the local economy and growth of particular kinds of business will affect the volumes and types of wastewater discharge. The strategies and funding policies in the asset management plan are focused on minimising the cost of services and ensuring the equitable allocation of costs while maintaining and improving the quality of the wastewater service.

## **2.3 Wastewater demand projections**

### **2.3.1 Flows to Moa Point treatment plant**

Approximately 85 per cent of wastewater generated in Wellington is conveyed to the Moa Point treatment facility. The Council is planning for an increase in average dry-weather wastewater flows in line with the predicted population increase of approximately 0.7 per cent per year over the next 20 years, and some increases in industrial and commercial waste discharges in some catchments. This is well below the facility's capability to fully treat 3000 l/s.

Assuming ongoing management of stormwater inflow and groundwater infiltration into the network, wet-weather flows are not forecast to exceed 4000 l/s (the capacity of the inlet pump station) over this planning period and beyond. However, full treatment capability is currently exceeded approximately three times a year (with an average overflow volume of 4915m<sup>3</sup>). The frequency of these overflows is projected to increase to approximately nine times per year. Proposals to address this issue include a provision to treat overflows, upgrades to the inlet pumping station and further work to reduce inflow and infiltration in the upstream catchments.

### **2.3.2 Flows to Western treatment plant**

Approximately 5 per cent of wastewater generated in Wellington is conveyed to the Western treatment facility. The Council is planning for an increase in average dry-weather flows in line with a 0.7 per cent per year population increase over the next 20 years. The facility has sufficient capability to fully treat these flows throughout the planning period and beyond.

Wet-weather overflows of diluted partially treated wastewater from this facility occur approximately once or twice a year. Forecasts indicate that current programmes should limit these occurrences, with future growth not playing a significant part. Further work to reduce inflow and infiltration in the upstream catchments would reduce wet-weather flows and decrease the frequency of overflows.

### **2.3.3 Flows to Porirua treatment plant**

This treatment plant is operated and managed by Porirua City Council. The Council currently exceeds its capacity allocation, and work is underway to better quantify future flows to this facility taking into account the expected growth in the northern suburbs.

## 2.4 Demand management

In addition to asset development works, the Council currently implements the following demand management techniques:

**Regulation** – This includes:

- trade waste management
- the sewage pollution elimination project, which allows the identification of inflows, the majority of which are on private property, and requires the householder to carry out corrective works.

**Charging practices** – volumetric charging for water supply for commercial and industrial users to reduce water consumption and subsequent wastewater generation.

**Education** – promotion of water conservation and sustainability initiatives to reduce wastewater generation.

**Changing technology** – the Council has used new technology to more effectively and efficiently handle the wastewater loads to optimise the utilisation of their assets, and therefore to minimise upgrading works required (e.g. treatment technology, rehabilitation of pipes to minimise infiltration, pump station co-ordination).