

## 4.0 Managing our assets

### 4.1 Asset management model

The asset management planning process implemented by the Council is shown in Figure 12.

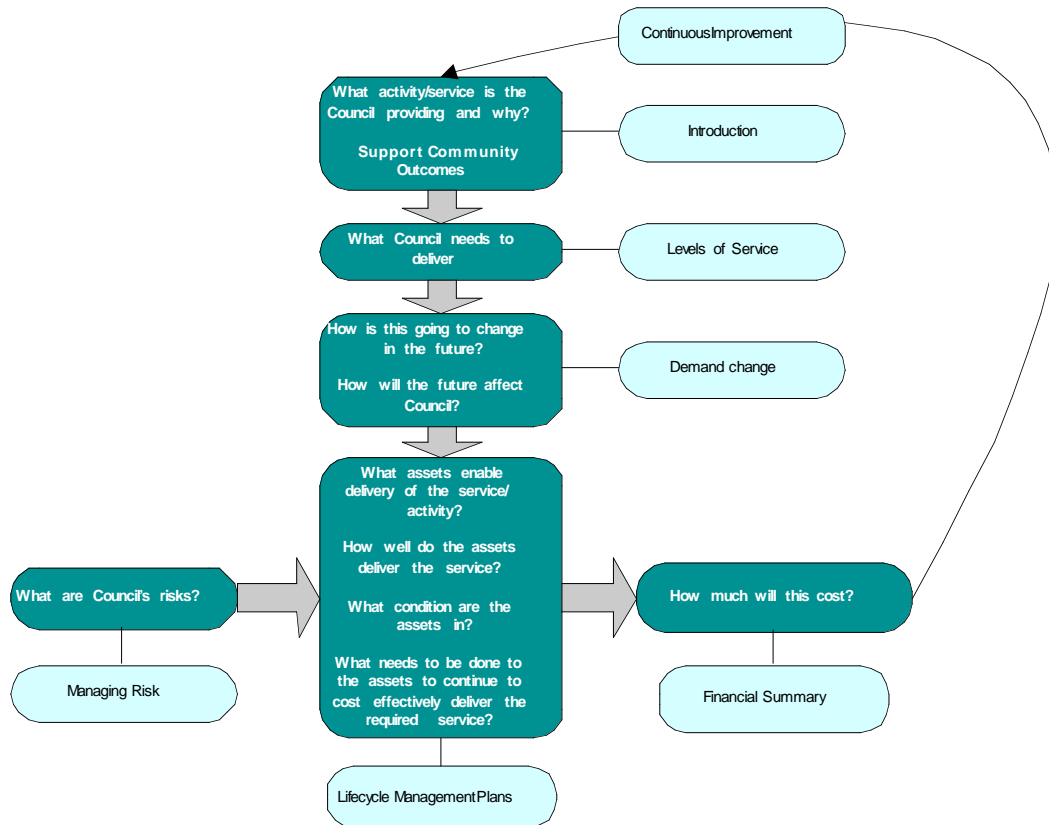


Figure 12 – Asset management planning model

### 4.2 Risk management

Risk management is an important part of the Council's overall water supply management approach. Management of risk associated with service levels, environmental and demand are dealt with through the strategies outlined in sections two and three and this section.

The Council's current approach to risk management can be summarised as:

- Address known high and extreme risks with new management and operational strategies and a forward programme of remedial works, with priorities based on a risk matrix system.
- Manage the current known lesser risks within the existing strategies and work programmes.
- Where risks are unknown, develop a plan to better identify and/or quantify the risks prior to implementation of risk mitigation measures.

The Council is improving its understanding of risk which includes programmes to improve asset knowledge. Works activities and associated expenditure requirements are being reviewed constantly as knowledge of these assets improves. **Error! Reference source not found.** shows management actions planned for the highest identified risks.

### **4.3 Operating and maintaining the assets**

The operations and maintenance strategy is intended to maintain the current levels of service, mitigate risk and minimise costs by implementing a balanced programme of planned and reactive works.

Operating and maintaining the network includes responding to customer enquiries and requests for service, fixing leaks and other faults, regular flushing of the pipes and cleaning of the reservoirs. Pumping station and reservoir operations are remotely monitored using SCADA technology, and water quality is continuously monitored to ensure it meets national standards. Asset management planning, assisted by computer modelling is undertaken to better understand network performance and identify opportunities to improve this.

The risk analysis has highlighted six risks associated with managing the water supply activity, and operating and maintaining the network. Specific improvement projects have been identified to address these risks and have been programmed for implementation.

Although the Council's maintenance strategy for pipelines is mainly reactive based on the number of water service faults calls received, we operate an asset condition monitoring programme. Proactive monitoring and inspection work is performed across all pumping stations, dams, fire hydrants, and reservoirs to maintain the current level of service provided by the asset. Pipe bursts are recorded as part of a programme to improve information gathering and analysis on the pipe network's condition. Service fault notifications are monitored and analysed, and network performance reports are extracted from a SCADA system. Condition and performance information is logged on the Council asset management system (CONFIRM and Arcview - GIS) and is used for analysis to determine capacity and prioritise replacement or upgrade options. A comprehensive emergency management plan is in place for safety measures and new technologies are continuously investigated.

### **4.4 Asset investment and growth**

The Council aims to enhance the capability and integrity of our assets at lowest long term cost and ensure inter-generational equity.

In terms of asset investment, this is largely driven by the closure of identified service gaps such as capacity shortfalls or drinking water quality issues. The Council has developed a robust framework to ensure that focus is placed on the best value projects that deliver the highest benefits per dollar spent, and that the project option chosen to close these service gaps is the best practicable option.

#### **4.4.1 Asset renewals**

Longer term asset renewal needs are identified through analysis of "desk-top" condition assessments. More detailed, shorter term prioritised programmes are developed using a priority matrix considering failure history and risk assessment (including consideration of financial, environmental and social implications of failure).

Galvanised rider mains and service connections, and unlined cast iron and steel pipes are targeted for replacement as they are identified. In the case of reservoirs, dams and pumping stations, visual condition assessments and site inspection information are used.

#### **4.4.2 Asset development**

Upgrade works required to close service gaps are primarily identified as a result of risk assessments (undertaken as part of the public health risk assessment and water services assessment), targeted performance investigations and analysis of options to mitigate identified risks. Identified upgrade works include the construction of new assets (pipes, reservoirs and pump stations), increase in the size of existing assets, and the installation of water meters to enhance the Council's ability to control and manage the network.

We use a computer model to comprehensively evaluate the capacity and performance of the existing network and the effectiveness and value of proposed remedial actions. We will apply the model outputs into our planning, design and works activities to improve the present system's performance and help identify actions required to ensure the agreed level of service meets changing future demand in the most cost-effective way.

Pipelines no longer required to transport drinking water and are not being physically replaced are marked as "disused" on records. These pipes are kept intact where possible as the Council or others may use these again in the future.