

## 1.0 INTRODUCTION

### 1.1 Background

#### 1.1.1 PURPOSE OF THE PLAN

This Water supply Asset Management Plan (WAMP) details how the water supply infrastructure assets that are owned by the community will be managed in a conscientious manner to cost effectively meet the needs of the community.

Council manages approximately \$133 million dollars of water supply infrastructure assets on behalf of the community. These assets are summarized in asset data section. The value of assets is at August 2017.

Taupo District Council is responsible for managing a range of community owned assets such as the Water supply network. To ensure all these assets are managed in an efficient and affordable way asset management plans are required.

The size of the water supply network investment and importance of water supply services to the community and legislation demands excellence in the management of these assets. The community expects that the water supply network to be managed optimally and therefore the costs are minimised while providing the secured and safe water with agreed levels of service.

The overall purpose of asset management (AM) planning is:

“To meet a required level of service in the most cost effective way (through the creation, operation, maintenance, renewal and disposal of assets) to provide for existing and future customers”.

This asset management plan (AMP) is the tool for combining management, financial, engineering and technical practices to ensure that the level of service required by customers is provided at the lowest long term cost to the community. The plan is intended to demonstrate that Council is managing the assets responsibly and that customers will be regularly consulted over the price/quality trade-offs resulting from alternative levels of service.

AMP's are therefore concerned with outlining optimal life cycle management strategies and providing details of the associated costs. This identification of future needs, management options and cash flows provides the ability to even out peak funding demands and account for asset depreciation loss of service potential.

The main benefits derived from AM planning are:

- Improved understanding of service level options and standards.
- Minimum lifecycle (long term) costs are identified for an agreed level of service.
- Better understanding and forecasting of asset related management options and costs.
- Managed risk of asset failure.
- Improved decision making based on costs and benefits of alternatives.
- Clear justification of forward works programmes and funding requirements.
- Improved accountability over the use of public resources.
- Improved customer satisfaction and organisational image.

A fundamental objective throughout the preparation (and future review) of this plan will be to identify potential opportunities for reductions in asset lifecycle costs.

The overall responsibility for asset management with TDC sits with the Asset Manager (AM) and the cost efficient operation of treatment plants, implementation of maintenance / renewal works and programmes lie with the relevant operations / project teams. For the management of each scheme, Lifecycle management plans are updated by AM based on the compliance status and also the consent conditions. Councillor involvement is through the approval of the LTP and annual plan process. All AMPs are to be formally updated on a 3 yearly basis, which coincides with the LTP review cycle.

This Asset Management Plan has been updated internally by the Infrastructure team building on the existing 2015 AMP document. Data has been collated and updated by engineering officers using the AMS and recent asset valuation data. Contributions for this plan have also been made from relevant asset managers/engineering officers within Infrastructure division and financial updates via the Management Accountant.

### 1.1.2 LEGISLATIVE REQUIREMENTS FOR ASSET MANAGEMENT PLANNING

The recent focus on AM planning, results from the Local Government Amendment Act 2002, November 2013 amendment and subsequent amendments. This Act places an emphasis on strategic financial planning and requires local authorities to:

- Prepare and adopt a Long Term Plan (LTP) with a 10 year planning horizon every three years, taking into account asset creation, realisation, and loss of asset service potential.
- In determining their long term financial strategy, consider all relevant information and assess the cost/benefit of options.
- Manage assets prudently, in the interests of the district and its inhabitants and ratepayers.
- Clearly identify significant forecasting assumptions and risks underlying financial estimates.
- Identify any significant negative effects that any activity within the group of activities may have on the social, economic, environmental, or cultural well-being of the local community.

The preparation and implementation of an AMP from which long term financial strategies will be developed, is a means of TDC complying with these requirements.

### 1.1.3 LEGISLATIVE DOCUMENTS

The key legislative documents relating to the management of wastewater service assets are listed in the following table.

Local Government Act 2002 and Amendments	The LGA empowers local authorities to carry out various water works, but does not require them to do so. The Act requires public consultation.
Health Act 1956	Requires Council to: <ul style="list-style-type: none"> <li>• provide 'sanitary works', the definition of which includes wastewater disposal and includes all lands, buildings, machinery, reservoirs, dams, tanks, pipes and appliances used in connection with any such works.</li> <li>• ensure the provision in any dwelling house of an adequate and convenient method for the disposal of wastewater.</li> </ul>
Health (Drinking Water) Amendment Act 2007	The summary of the activities required by council under HDWAA as below: <ul style="list-style-type: none"> <li>• Register drinking water supplies operated by the Council. Ensure details on register are kept up to date. (Includes networked supplies and community purpose self-supplied buildings.)</li> <li>• Take all practicable steps to ensure each supply provides an adequate supply of water to each point of supply.</li> <li>• Take reasonable steps to protect source water.</li> <li>• Take all practicable steps to comply with the drinking water standards including:</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Ensuring MAVs are not exceeded</li> <li>▪ Monitoring water in accordance with the standards</li> <li>▪ Ensuring samples are analysed by a MoH recognised laboratory</li> <li>▪ Identifying required level of protozoa treatment</li> <li>▪ Undertaking a catchment survey</li> <li>▪ Issuing plumbosolvency notices</li> <li>▪ Keeping records</li> <li>▪ Take action if standards are breached</li> <li>• Prepare a public health risk management plan which: <ul style="list-style-type: none"> <li>▪ Identifies risks in each water supply</li> <li>▪ Identifies the critical points in each water supply</li> <li>▪ Identifies ways to prevent, reduce and eliminate risks</li> <li>▪ Provides information about the costs and benefits of preventing, reducing and eliminating risks</li> <li>▪ Includes a timetable for managing the public health risks identified in the supply</li> </ul> </li> <li>• Implement the public health risk management plan.</li> <li>• Keep records to indicate compliance with the Act (and standards).</li> <li>• Investigate complaints about the quality (including wholesomeness) of water provided and record outcomes.</li> <li>• Provide assistance to drinking water assessors.</li> <li>• Assess water supplies serving self-supplied buildings if the territorial authority is advised by MOH of poor quality drinking water at the building, warn users of the building and take any other action to remedy the situation.</li> <li>• Where the water supplier considers there is a risk of backflow, install a backflow device or require the owner of the property to install a backflow device.</li> <li>• Ensure each backflow device is tested annually.</li> <li>• Ensure any person taking water from a fire hydrant (except the fire service) has written approval and has been assessed as competent to do so.</li> </ul>
Resource Management Act 1991	<p>Requires Councils to:</p> <ul style="list-style-type: none"> <li>▪ sustain the potential of natural and physical resources to meet the reasonable foreseeable needs of future generation</li> <li>▪ comply with District and Regional Plans</li> <li>▪ avoid, remedy or mitigate any adverse effect on the environment.</li> <li>▪ take into account the principles of the Treaty of Waitangi in exercising functions and powers under the Act relating to the use, development, and protection of natural and physical resources</li> <li>▪ Comply with resource consents issued by the Waikato Regional Council for abstraction of water, protecting &amp; maintaining source structure and maintain daily volume of water taken as per variation 6.</li> </ul>
Other Acts and Regulations	<ul style="list-style-type: none"> <li>• Hazardous Substances and New Organisms Act 1996</li> <li>• Building Act 2004</li> <li>• Food Act 1981</li> <li>• Public Works Act 1981</li> <li>• Health &amp; Safety in Employment Act 1999</li> <li>• Civil Defence Emergency Act 2002</li> <li>• Public Bodies Contracts Act 1959</li> <li>• TDC water Bylaw 2009</li> <li>• NZ Firefighting Water supplies CoP SNZ PAS 4509:2008</li> </ul>

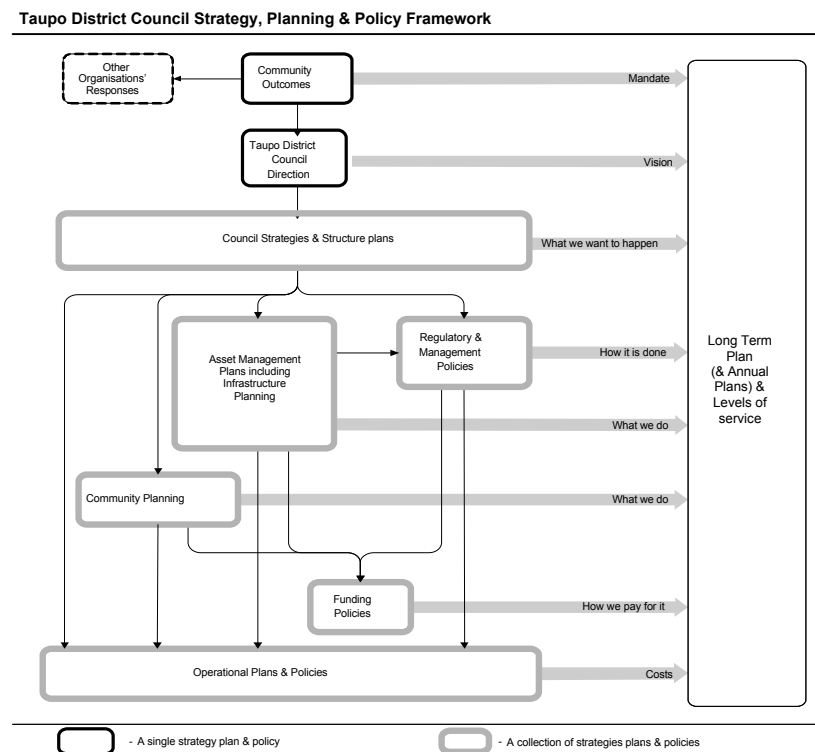
**Table 1-1: Relevant Legislation**

### 1.1.3.1 Water and Sanitary Assessment

A Water and Sanitary Assessment was undertaken in 2008 and 2017. This document identified capital works projects that needed to be undertaken. Since this assessment the predicted growth has not occurred in the Taupō District. For this reason some projects identified in the Water and Sanitary Assessment has been removed from the capital works programme because council has developed Water Safety Plans (formerly PHRMP) based on catchment and sanitary inspection reports approved by DWA to meet HDWAA. The implementations of WSP are timely audited by DWA.

### 1.1.4 RELATIONSHIP WITH PLANNING AND STRATEGIC DOCUMENTS

The way in which asset management planning links the strategic planning process with operations and annual plans is illustrated below.



**Figure 1: Council Planning**

AMP's are tactical plans for achieving strategies resulting from the strategic planning process. AMP's are a key component of the council planning process linking with the following documents.

**LTP:** LTP sets the strategic direction for the Council and is the overarching planning tool which describes the activities the Council will undertake to deliver. It identifies the outcomes the community would like to achieve. It also contains the financial forecast for the next 30 years. This financial forecast is drawn from the AMP.

**Annual Plan:** This is prepared for year two and three of the LTP period and sets out how Council will undertake its strategic goals and details the specific activities and functions. The works identified in the AMP should automatically become the basis on which future LTP's and annual plans are prepared.

**District Plan:** The District plan incorporates policies and objectives for land use in Taupō district and is an implementation tool used to protect values and outcomes important to the

community. This plan provides a policy framework to guide where and how the future growth should occur. The water supply network is essential services and people into, out of and through the District and provides for the economic and physical wellbeing of the community. The water supply network and treatment plants including boosting pump stations provide the principal water infrastructure for the District and are physical resources of strategic importance which need to be protected from activities which may have an adverse effect on their safe and efficient operation.

Business/Activity Plans: The service levels policies, processes and budgets defined in AMPs are incorporated into business plans as activity budgets, management strategies and performance measures.

Contracts: The service levels, strategies and information requirements contained in AMPs are translated into contract specifications and reporting requirements.

Legislation: The AMP must comply with all relevant legislation and provide the means of meeting legislative requirements.

Bylaws, standards and policies: These tools for asset creation and subsequent management are needed to support AM tactics.

Waikato Regional Council Policy: These references give the policy framework and give effect to the preferred strategic direction for implementation of Resource consent conditions and what level of water demand management plan the region wants, in meeting RMA objectives. Other consent conditions such as screen sizes at source and monitoring of source water abstraction rates and volumes are linked also. The Waikato Regional Council prepared and notified a variation to the Waikato Regional Plan to manage the allocation and use of freshwater over the entire Waikato region. The impact of variation 6 on council would result in more complex conditions for reporting to demonstrate the efficient allocation and use of water, so that WRC can manage water shortage conditions fairly in entire region. The regulation requires to take continuous measurement and also keep daily records of water take in auditable format. The data provided to WRC should be in a form suitable for electronic storage.

Water Supply Strategy: Council has a Water Supply Strategy (2008) however this strategy requires review and update. An Infrastructure Strategy document has since been developed at it makes sense to include water supply strategy into this document. The water supply strategy provides policy guidance and strategic direction for the supply and management of potable water throughout Taupo district. Council recognises that local water demand can be affected by local conditions and hence Water Demand Management Plan was reviewed in 2016, to meet the resource consent conditions. Council also has prepared Water Safety Plans for water supply and these plans outline the upgrades required for each scheme to meet the drinking water standards.

Stormwater and Wastewater Asset Management Plan: The Stormwater and wastewater assets are vaguely interlink with water assets. The boundary between these assets types are clearly defined within the respective asset management plan. Water intake pump station soak pits and leads are considered to be water assets. All costs associated with those catch-pits and leads, e.g. operational costs of cleaning sediment from pump station soak pits are included in the Water AMP. Catch-pits and leads in except those close to water treatment plant are included within the Stormwater AMP, whereas the backflow preventors installed at WWTP and or sewer intake well are the water asset.

Parks and open space Asset Management Plan: Community facilities have three areas where assets overlap and these are: reticulation pipes / valves; reservoirs; and pump stations on reserve land.

**Growth Management Strategy 2050:** At the core of Taupo District 2050 are 12 Strategic directions. These provide the framework of interrelated policies that guide decision making and growth related issues. Strategic direction 4.5 and 8 relate to Water AMP (refer page 5,6 & 7 of GMS). The growth model has been updated for the 2018 LTP. Council has also developed a 'demographic snapshot' to improve our understanding of our future demands and forward planning.

**Structure Plans:** Adopted and proposed structure plans outline how growth is to be managed within areas - Taupo Urban Structure Plan (TUSP), Taupo Town Centre Structure Plan (TTCSP), Commercial Industrial Structure plan (CISP), Kinloch Community Structure Plan (KCSP), Mapara Valley Structure Plan and Southern Structure Plan.

## 1.2 Key Stakeholders

This AMP recognises the following as key stakeholders:

<b>External</b>	<b>Internal</b>
<ul style="list-style-type: none"> <li>• The community, including citizens, ratepayers and Iwi</li> <li>• Residential, commercial and industrial wastewater service users</li> <li>• Septage collection contractors</li> <li>• Waikato Regional Council</li> <li>• Ministry of Health</li> <li>• District Health Board (DWA)</li> <li>• New Zealand Fire Service</li> <li>• Rural Fire Service</li> <li>• After hours response contractor</li> <li>• Government agencies (e.g. Ministry for the Environment, Audit NZ, Department of Conservation)</li> <li>• Tangata Whenua, Tuwharetoa Maori Trust Board, Taupo Nui-a-Tia Management Board</li> <li>• Lakes and Waterways Action Group</li> <li>• Water NZ</li> <li>• IPWEA</li> </ul>	<ul style="list-style-type: none"> <li>• Councillors and community boards</li> <li>• Senior Leadership Group</li> <li>• Asset Management staff</li> <li>• Treatment plant Operations staff</li> <li>• Senior compliance officer</li> <li>• Maintenance contractors</li> <li>• Development Engineer</li> <li>• Corporate Finance Team including rates staff</li> <li>• Policy staff</li> <li>• Roothing/ Transportation staff</li> <li>• Facilities management staff</li> <li>• Parks and reserve staff</li> <li>• Information Technology Team</li> <li>• Strategic Relationships Manager</li> <li>• Corporate Communication Team</li> <li>• Internal auditor</li> <li>• Council consultants/ professional service providers</li> </ul>

**Table 2: Key Stakeholders**

## 1.3 Purpose of Ownership

One of the biggest contributors to public health is having a clean reliable supply of water for drinking and cleaning purposes. Water supply is a core council service, and TDC has historically developed and taken ownership of water supply assets to meet the public health outcomes desired by the community and or legislation. More details of the historical ownership of water supply assets are included in the life cycle section of this WAMP.

In addition to the public health benefit, the water supply assets also provide the NZ Fire Service with a source of water for fire fighting, thereby improving public safety and minimizing property damage as a result of fire. The fire classification is continually assessed and reviewed based on the cost to service.

The water supply assets are owned by the community they serve. The Local Government Act 2002 (LGA) has clearly signaled that such an ownership arrangement should be retained for the foreseeable future. Comprehensive statutory processes have been prescribed by the LGA for communities that wish to move away from asset ownership.



### 1.3.1 LINKS OR ORGANISATIONS VISION, MISSION, OBJECTIVES, GOALS

The Water AMP aims to meet the following Community Outcomes:

#### Economy

Our communities prosper in a thriving local economy with a diverse range of rewarding employment opportunities

#### Environment

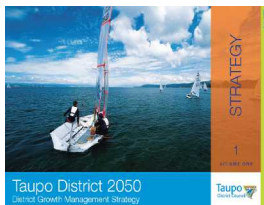
A shared responsibility for places we are proud of

#### Engagement

Council is connected with its communities, advocating for their social and cultural well-being

- Recognising the special cultural relationship Ngati Tuwharetoa and its hapu have with land and water
- Respecting, understanding and managing natural resources and looking after water source and intake structure at lakes, rivers and streams
- Balancing growth and keeping the special character of our district by ensuring that infrastructure and services keep pace with growth.
- Providing access to affordable, quality facilities and services
- Acknowledging the diverse communities which make up our district and their needs
- Safe and Secure supply of water.
- Healthy People, Healthy Communities
- Community Outcomes and legislation requirements are taken into account when determining life cycle strategies, levels of service, etc.

Council's response to the Community Outcomes acknowledged that managing growth is one of the biggest issues for TDC over the next 10 years, and in June 2006 published TD2050.



TD2050 provides a policy framework to guide where and how future growth should occur and identifies a series of actions to achieve this desired pattern of urban growth. At the core of TD2050 are the 12 Strategic Directions. These provide the framework of interrelated policies that guide decision making on growth related issues. Over time they will be achieved by putting into effect identified policies and undertaking the specific actions identified in TD2050.

Growth review summary October 2014 has seen Taupo's population grow by 2% since 2006. Taupo's population is likely to continue to grow with it peaking at 2035. Taupo is continuing to see a drop in the ages between 20-35 years of age as this group leaves the district to pursue education and other opportunities. Taupo is seeing an aging population that has a significant impact on the levels of service required. This occurrence is likely to see the need for smaller houses with less people per dwelling.

The Strategic Directions, policies and actions out of Taupo 2050 specifically relevant to the water supply activity are:

- Encourage all users to meet best practice approaches in minimising water use and using water efficiently.
- Strong, Safe & Healthy Communities: Identify and plan for social and community infrastructure needs in advance of development.

- Include agreed growth assumptions in all Asset Management Plans
- Ensure Asset Management Plans support the patterns of development defined by Taupo 2050 are aligned with the LTP, proposed District Plan and funding policies.
- Review Water Asset Management Plan to ensure that it is consistent with the variation to the Regional Plan regarding water allocation.

### **Strong Communities - Strategic Direction 5:**

Identify and plan for social and community infrastructure needs in advance of development (Policy 5.2).

### **Sustainable Economy – Strategic Direction 7:**

Ensure that economic activities reflect the need to preserve the natural environment that sustains the district's economy (Policy 7.1).

### **Integrating Land Use, Infrastructure & Funding – Strategic Direction 8:**

Manage the sequence of development in growth areas so that services are available from inception of new or expanding communities. (Policy 8.1).

### **Water Resources – Strategic Direction 10:**

Consider a range of alternatives for water treatment or source and selective abstraction of water managing on-site filter backwash and or high turbidity water. (Policy 10.2).

#### **Action – A 8.2**

Include agreed growth assumptions in all Asset Management Plans.

#### **Action – A 8.3**

Ensure Asset Management Plans support the patterns of development defined by TD2050 are aligned with the LTP, proposed District Plan and funding policies.

#### **Action – A 10.1**

In conjunction with Environmental Waikato take an integrated approach to management of water abstraction rate and quantity

- by installing flow meters to reads continuously and
- disposal of filter backwash water without any chemicals

#### **Action – A 10.3**

Provide for in the LTP for Community water upgrades and reticulation particularly in respect of Compliance with DWSNZ. Council has committed to upgrading our water supplies to meet the DWSNZ by developing Water Safety Plans and committing budgets in the 2015 and 2018 LTPs.

### 1.3.2 ASSET MANAGEMENT'S CONTRIBUTION TO CORPORATE OBJECTIVES

Council's goal, as set out in the LTP relating to the water supply scheme is to provide safe, cost effective, sustainable and reliable drinking water, which is compliant with DWSNZ.



## 1.4 Assumptions

### 1.4.1 FINANCIAL

The following financial assumptions have been made. Further information can be found in the LTP document.

Assumption	Potential risk	Mitigation measure
1. Asset valuations used throughout are as at August 2017.	Time between AMP completion and last revaluation	Council undertakes an annual price variance assumption report
2. The revenue received from Rates meets the expectation. Investment Returns eventuate as predicted.	Not the required funds to undertake capital works	Councils LTP and annual plan spend can be adjusted annually to meet Councils revenue and finance policy
3. Interest Rate on borrowings remains as predicted within the financial model.	Not the required funds to undertake capital works	Councils LTP and annual plan spend can be adjusted annually to meet Councils revenue and finance policy
4. Expenditure of capital projects occurs and estimated debt levels are as predicted	Potential under performance in capital spend reflected in Council revenue	Councils LTP and annual plan spend can be adjusted annually to meet Councils revenue and finance policy
5. No allowance has been made for inflation adjustment within this AMP. The source of funds for the future replacement of significant assets is stated in the revenue and Financing Policy.	Under funding of cost centre	Finance team make allowances for GST and inflation in funding plan and policy
6. The useful lives of significant assets are as per the accounting policies documented in the TYP. Depreciation is charged at 50% for the first year and 100% in subsequent years.	Asset lives have been incorrectly calculated meaning a funding shortfall	Council has asset depreciation checked externally. Asset lives are compared to the latest asset information nationally
7. Levels of service and funding has been based on historic data	The community desires changes to level of service which are not reflected in this document.	Council undertakes three yearly satisfaction surveys. Council undertakes pre LTP consultation to gauge the community for different service level needs. Council undertakes consultation with the community as part of the development of this

Assumption	Potential risk	Mitigation measure
		LTP document
8. Allowance has been made for vested assets	The level of allowance for vested assets is incorrect.	Councils LTP and annual plan spend can be adjusted annually to meet Councils revenue and finance policy
9. Assume that the revenue received from Rates is as per expected.	A shortfall in rates funding	Councils LTP and annual plan spend can be adjusted annually to meet Councils revenue and finance policy
10. Assume no costs associated with infrastructures on the lake bed	An increase in unbudgeted operational cost	Councils LTP and annual plan spend can be adjusted annually to meet Councils revenue and finance policy.
11. Development Contributions will continue to be collected.		

- There will be no central government funding (subsidy) for water treatment plant quality upgrades to meet DWSNZ, except for Waitahanui, where the application is already approved..

#### 1.4.2 NON FINANCIAL

Assumption	Potential risk	Mitigation measure
1. Assume that growth is going to occur (creation of dwellings) as per the Growth Model predictions.	Changes in growth will impact capital and operational spending	Councils LTP and annual plan spend can be adjusted annually to meet Councils revenue and finance policy
2. The Water abstraction volumes requirements will remain within the framework of the resource consent conditions. TDC shall be successful in environment Court hearings process to provide adequate water to all users of Municipal water supplies, including securing capacity for growth in commercial and industrial sectors. In general RPV6 will not impact on our ability to supply for all users of the Municipal Supply network	Changes to abstraction volumes through the resource consent will require an increase in operational and capital expenditure	Councils LTP and annual plan spend can be adjusted annually to meet Councils revenue and finance policy
3. Contractors will be	A shortage on contractors	Council can extend tender

Assumption	Potential risk	Mitigation measure
available for the development and construction of projects.	for project completion will mean an increase in project cost	periods to enable contractors more time to schedule in works.
4. There will be continued growth in public participation in the democratic process and Council will need to respond to this growth.	Increased growth in participation could result in changes in levels of service delivery.	Councils LTP and annual plan spend can be adjusted annually to meet Councils revenue and finance policy
5. There will be no unforeseen legislative changes or central government policy changes that will affect this asset.	Changes in legislation could impact on the funding levels	Changes in legislation have an implementation period to enable Councils to plan
6. Economic and labour market constraints may have a direct effect on recruitment.	If Council is unable to recruit to the required level to complete the works program for the year this could have impact on Councils credibility	Council may have to hire consultants to provide support; this could increase the cost of service delivery which will need to be funded through the annual plan process.
7. That Councils resource consents for its activities will be renewed as required.	The renewal of resource consents will depend on Councils prior performance in meeting the conditions of the existing consent and any changes in legislation	Council works closely with the Regional council to achieve consent compliance. Compliance is also a staff performance criteria, so Council is focused on consent compliance and it is considered that any consent related issues can be resolved.

- Each of the members of the Joint Management Group will fund and implement their respective actions as outlined in the "2020 Taupo-Nui-a-Tia Action Plan".

## 1.5 Significant Negative Effects to Providing the Water Service

In general providing safe drinking water to the community has both public health and environmental benefits.

There is however negative effects in providing this service, these include;

- The risk of contamination and or sustainability of water source.
- Risk of water abstraction volumes getting reduced and difficulty in managing the implementation of demand management plan.
- The cost of providing the service on rate payers, especially smaller communities.
- The cost of keeping up with DWSNZ requiring significant capital investment.

To mitigate significant negative effects council has undertaken proactive planning approach to carry out conditions assessment of above ground asset and for a few suspected underground asset including fire hydrant testing and water loss.

## 1.6 Asset Management Plan Complexity

### 1.6.1 OUTLINE OF APPROACH

Basic / Core asset management functions are those which produce an AMP based on providing current levels of service and meet minimum legislative requirements by supporting a long term (10 year plus) cash flow forecast and accounting for changes in the service potential of assets. Basic AMPs define existing levels of service and identify costs based on renewal accounting principles. In general a core AMP is based upon the following:

- A lifecycle approach
- Best available information and random condition/performance information
- Simple risk assessment to identify critical assets
- Cash flow predictions for ten years based on local knowledge and options for meeting current level of service.

Advanced AMP's identify processes to optimise lifecycle AM strategies and provide a greater degree of confidence in the resulting cash flow predictions. Advanced AM functions include predictive modelling, risk management, optimised renewal decision making (ORDM) and service level reviews.

- Future demand is predicted
- High knowledge of asset owned including condition assessment and performance
- Knowledge of current utilisation and ultimate capacity:
  - Taupo town utilises more than 57 % of the water used in entire district. The existing InfoWorks water supply network model has been recalibrated by AWT (Now Mott McDonald) along with future scenarios for the network and storage requirements.
  - The implementation of Water safety Plans (PHRMP) for all water supply schemes is completed by DWA. This document covers all risk associated with the water supply and proposed capital and operational improvements. These Water safety Plans for few schemes are due for updating during 2014/15.
- Ability to predict failure modes:
  - AWT has undertaken extensive network modelling including model calibration for the Taupo town to identify the future renewal and capital project required to meet the LOS and compliance.
  - The existing maintenance contract provides monthly summary of the various reactive maintenance and or capacity / LOS issues. It is noted that based on the recommendations / input of the network operations team and age, failure break/burst and burst records from
- Ability to analyse alternative options
- Ability to optimise maintenance and operational activities.

The Water Asset Management Plan 2018 follows the IIMM framework and it has been developed and collated internally by the Infrastructure team. Based on recent review of the PHRMP for water supply schemes undertaken by Drinking Water Assessor, it has been considered to reflect an "Intermediate" level of development; however areas such as Risk Management and Levels of Service are considered to be advanced.

### 1.6.2 AMP REVIEW BY COUNCIL

The involvement by councillors, including the reviewing and approving of the AMPs is briefly outlined below:

- Workshops are held with the council for group of activities including AMPs which gives them following information (refer objective link A1342951)
  - What we do
  - Key issues
  - The service(s) we provide
  - Levels of service, performance measures and targets
  - Key projects over the next three years
  - Who pays
  - Fees and charges
  - Financials
    - Capital expenditure (including renewals)
    - Operating expenditure
- Draft AMPs are provided to councillors to view
- Council finally adopts the AMP

### 1.6.3 LIMITATIONS OF THIS AMP

As it currently stands, this AM Plan has limitations in the following areas:

- Level of Service requires detailed consultation to make the information more current.
- Asset condition and performance assessment, particularly for underground assets, need to be verified through investigations and the renewal programme modelled using condition rating data.

## 1.7 Organisational Structure

Taupo District Council has a flat organisational structure and is structured in order to deliver the key strategic directions of the Ten Year Plan.

This being:

- Economy
- Environment
- Financial Prudence

Water activities come under the all these strategic direction. The Asset Managers within the Finance, Regulatory and Infrastructure Group manages all TDC's core assets. The aim of the council is:

"To manage and maintain the assets within the Taupo District to an acceptable level of community safety and satisfaction and within the constraints of funding provided."

The Council has four groups to manage overall organisation goal;

- The Infrastructure team fulfils technical and legislative responsibilities, preparation of strategies and plan for the districts future asset needs. The team also manages capital projects, which includes detail engineering design, procurement, water safety plans, demand management and service delivery (network operation and maintenance contract).
- Treatment Plant operation team, which is responsible for day-today operation and management of WTP, pump station and reservoir to maintain the level of service.
- Strategic Business Development Group is responsible for timely execution of significant build and commissioning within the budgeted funds.
- The Strategic Community Risk and Relationship Group is responsible for assisting council to analyse business risk and liaison with iwi.

These teams report to their respective Group Manager. All Group Managers report to the CEO.

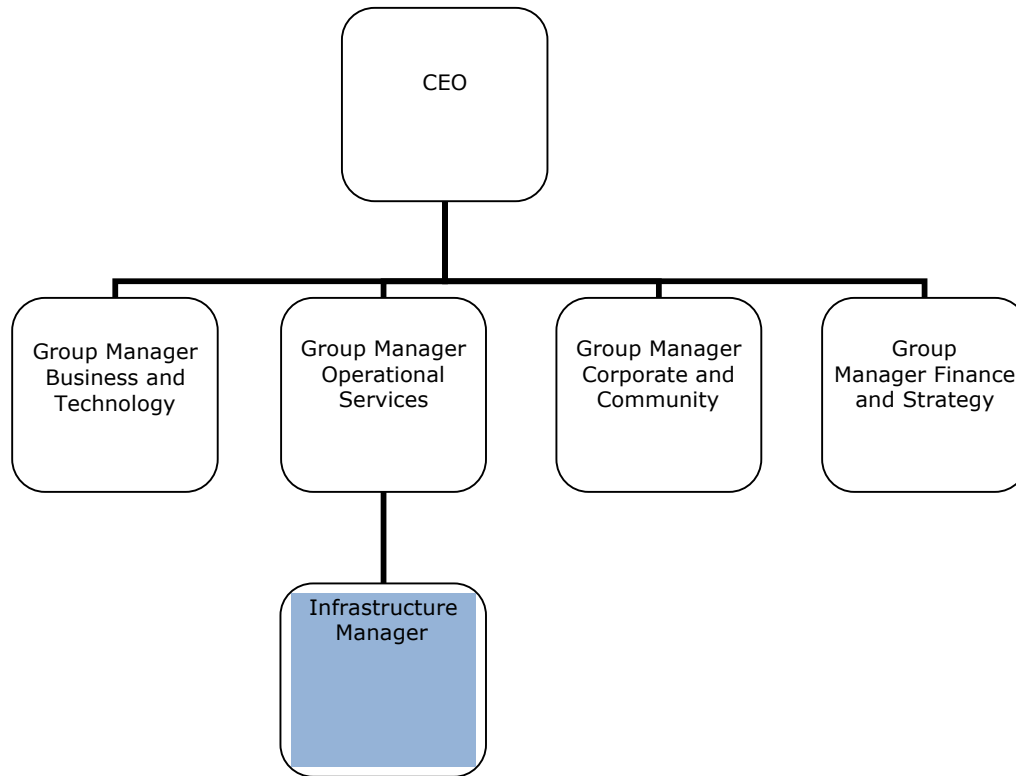
The water services in the District are managed as follows:

- The Infrastructure Manager has overall responsibility of the Three Water's Asset Management in the District and reports to the Group Manager-Operational Services.
- The Asset Manager is responsible for the strategic planning, asset management, policy planning, service delivery contracts including wastewater pump stations and network maintenance, review and improvement planning for meeting the compliance with legislation for the service.
- The Manager-Water & Wastewater Treatment has responsibility for operation and maintenance of treatment plants, water pump stations and reservoirs in the district. Developing and reviewing operational management plans are also part of responsibility.
- The Network Engineer(s) is responsible for the monitoring KPI of maintenance contractor(s) and responding to service requests and maintenance queries. The responsibility extends from the treatment plant outlet to the connection point.
- Development Engineer manages approval process for all connections to the Three Water's asset network and ensures all vested asset including pump station conforms to TDC's Code of Practice. Development Engineer also manages the delivery of engineering advice information to internal and external customers.
- The Senior Monitoring and Compliance officer is responsible for collating all operational and analytical data required for reporting to District Health Board and Waikato Regional Council to demonstrate compliance for three waters, in consultation with treatment plant operation team and Asset Manager.

In addition to the 'Treatment Plant Team members, the activity is able to utilize the following in-house resources:

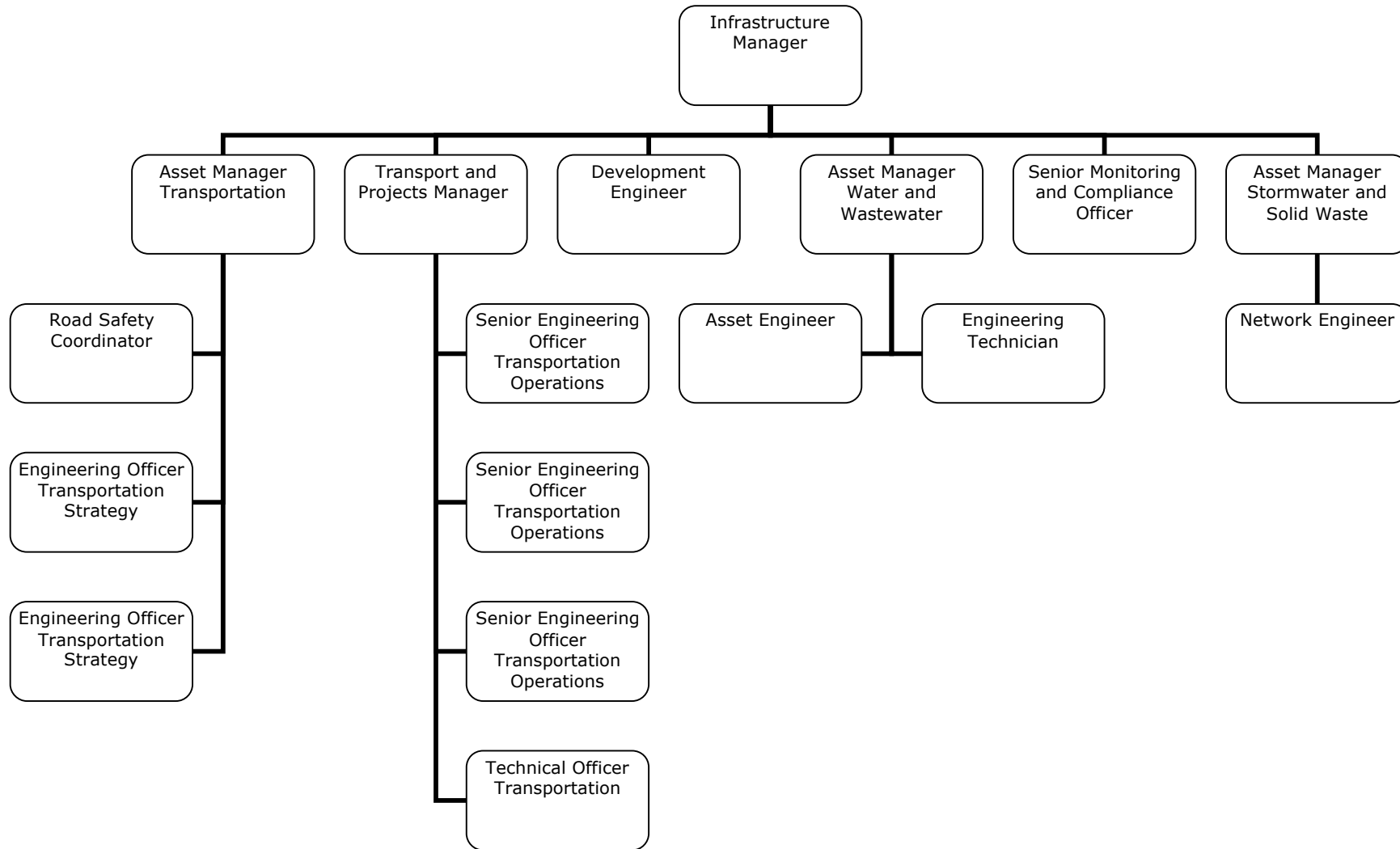
- The Finance Team assists with the development of Asset Management Plan financials;
- IT Team for assisting with development, management & maintenance of communication and database systems.

The organisational structure and Infrastructure Operations structure is illustrated in the following figures.

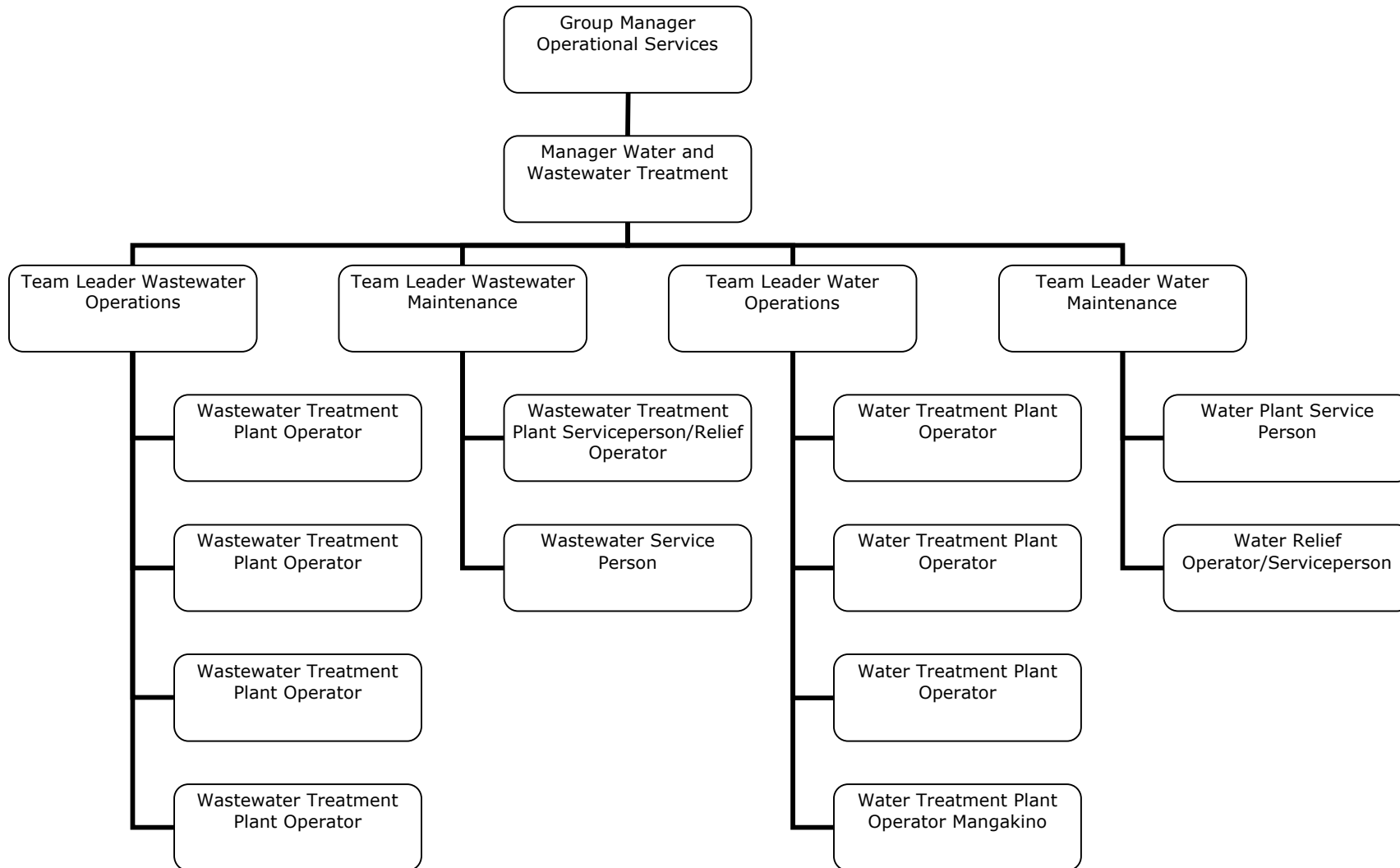


**Figure 1: TDC Organisational Structure as at Nov 2017**





**Figure 2: Infrastructure Team Organisational Structure (i.e. who does the work and how it's managed)**



**Figure 3: The Treatment Plant Team Organisational Structure (i.e. who does the work and how it's managed)**