10.0 ASSET MANAGEMENT PRACTICES

10.1 Current Asset Management Practices

This section outlines the decision making tools Taupo District Council (TDC) currently uses to determine long term maintenance, renewal and creation expenditure for wastewater assets.

Council has had a consultant undertake a review of the three waters asset management plans, this review has enabled asset managers to identify particular areas in the AMP that need to be refined. The refinement process has been placed into the improvement section of the AMP. Also an Asset management Team has been established to provide group support to the development of AMPs going forward. The AMP Team collectively identify any changes/updates required to the main text and comments are made via spreadsheet before any changes are made to individual AMPS. Any changes to the text are made using track changes this is so for auditing purposes, the changes made can be easily seen between the draft and final documents. These are saved in Council's Objective filing system.

Asset Management Plans are compiled by individual asset managers responsible for their assets. Asset Managers are also part of the Asset Management Team who work together to ensure quality outcomes. The team has key relationships with the policy division to make sure that customer expectations are understood as well as key outcomes are achieved. The Finance team also assist in the preparation of finance section. Project information as well as overall budgeting is then passed to senior management to enable further analysis as well as support. Asset management plans are then presented to Council where further prioritisation occurs.

AM practices fall under three broad headings:

Processes: The necessary processes, analysis and evaluation techniques needed for life cycle asset management.

Information Systems: The information support systems used to store and manipulate the data. The Council now seeks a solution and planning to replace the existing AMS system that can meet needs of today and future proof asset management in the future.

Data: Data available for manipulation by information systems to produce the required outputs.

10.2 Asset Management Processes

10.2.1 ATTRIBUTE DATA COLLECTION AND VALIDATION

Data collection is completed by:

- Treatment Plant operations staff
- Wastewater maintenance contractors and Network Engineer(s) providing updated asset information as maintenance works are completed.
- Contractors supplying data where an asset is renewed or installed
- As built data from new subdivision works

Validation is completed by way of TDC auditing a number of contractor’s work sheets.

10.2.2 NEW DEVELOPMENT APPROVALS/AS-BUILT RECORDS

The Development Engineer approves completed works and ensures that the following people are issued a copy of all final documents, e.g. plans, pipe and manhole testing results.

- GIS – via the GIS help desk email address
- Utility Asset Officer (who will discuss any issues with the Asset Manager if required).

10.2.3 PROCUREMENT

Council is currently in the process of developing a Procurement Manual for IPG. This document provides instruction regarding Council procurement and tender evaluation methods.

10.2.4 LEVEL OF SERVICE CONSULTATION

The level of service consultation provides feedback from residents and ratepayers of the Taupo District. The responses from this consultation provide input into how the asset is managed. More information can be found in section 5.

10.2.5 INFORMATION FROM CONTRACTORS

Processes for collection of data (maintenance, condition, new assets, renewals, performance etc) clearly defined and efficiently administered through asset maintenance contracts.

10.2.6 STANDARD OPERATING PROCEDURES

Standard Operating Procedures are being developed to assist in the operation and maintenance of assets. This process is ongoing with new procedures being developed as the need arises and updates being made as required.

10.2.7 ASSET MANAGEMENT ACCOUNTING AND ECONOMICS

Council uses a renewal accounting system. The asset management renewal and capital expenditure policy is included as Appendix A.

Infrastructure assets are those public facilities which provide for the delivery of services and sustained standard of living. They primarily comprise the Council's fixed utility systems including roads, streets and footpaths, the water and sewerage reticulation systems, the stormwater system, bridges and culverts.

Infrastructure assets are deemed to have the following attributes:

- they are large networks constructed over several generations;
- they have very long useful economic lives;
- they have a high initial cost;
- they provide a benefit and/or a social service rather than a commercial service, i.e. the assets are used by or for the community as a whole, servicing all the City's residents and visitors The assets are not usually capable of subdivision for ready disposal, because of legal or other restrictions, and consequently are not readily disposable within the commercial marketplace;
- assets are not normally depleted as their service capability is fully maintained in perpetuity, i.e. they are expected to have an indefinite life if adequately maintained although portions of the network will be replaced from time to time.

Assets are systematically evaluated as required, approximately every three years.

Depreciated replacement cost is calculated having regard to an allowance for the expired portion of the expected useful economic life for each category of infrastructure asset.

TDC uses the principles of accrual accounting to measure costs of services provided and recognise revenues.

Renewal accounting treats all upgrading, reconstruction, renewal and renovation work which does not increase the capacity or service potential of assets as operating expenditure.

Operating expenditure can be divided into two broad categories; normal ongoing day to day routine maintenance works, and those other more infrequent larger projects that upgrade or renew the asset to its previous service potential.

Creation expenditure involves increases in an asset's service potential or the creation of new assets.

All expenditure on infrastructure assets will therefore fall into one of three categories:

10.2.7.1 Routine Maintenance Expenditure

Routine maintenance projects can be expected to display some or all of the following characteristics:

- regular and ongoing annual expenditure necessary to keep the assets at their required service potential,
- day to day and/or general upkeep works designed to keep the assets operating at required levels of service,
- works which provide for the normal care and attention of the asset including repairs and minor replacements,
- minor response type remedial works i.e., isolated failures requiring immediate repair to make the asset operational again.

10.2.7.2 Renewal Expenditure

Work displaying one or more of the following attributes, can be classified as renewal expenditure.

- works which do not increase the capacity or service potential of the asset, i.e. works which upgrade and enhance the assets restoring them to their original size, condition, capacity etc,
- the replacement component of augmentation works which increase the capacity of the asset, i.e. that portion of the work which restores the assets to their original size, condition, capacity etc.,
- the replacement component of a new work which replaces the redundant element of an existing asset,
- reconstruction or rehabilitation components of works involving improvements, realignment and re-grading,
- renewal and/or renovation of existing assets, i.e., restoring the assets to a new or fresh condition.

10.2.7.3 New Works Expenditure

New works expenditure projects displaying one or more of the following characteristics:

- Construction works which create a new asset that did not previously exist in any shape or form,

- Expenditure which purchases or creates a new asset (not a replacement) or in any way improves an asset beyond its original design capacity,
- Upgrade works which increase the capacity of the asset,
- Construction works designed to produce an improvement in the standard and operation of the asset beyond its current capacity.

To the extent that a project results in replacement of an asset caused by physical deterioration, and also provides capacity for increased demand, proportions should be allocated to both creation and renewals on the basis of marginal cost.

It is recommended that the split between creation and renewal expenditure is based on marginal cost. This recognises the full cost of renewing the existing asset to its original service potential is an expense as this expenditure cost does not contribute to improving the asset beyond its original design capacity.

10.2.8 THE LONG TERM PLAN PROCESS

The Long Term Plan (LTP) formerly known as the Long Term Council Community Planning (LTCCP) process considers the community outcomes, statutory requirements, the headline indicators and external pressures to determine what Council can or should be doing to help the community work towards its desired future.

The LTP also contains an action plan that sets out how Council will undertake its strategic goals and details the specific activities, functions and initiatives undertaken in the short term (three years) and long term (10 years).

The LTP draws on information from other documents including the Asset Management Plans and models it in financial terms over a ten year horizon.

The LTP is updated every three years with the next LTP being currently developed for the 2018 to 2028 period.

10.2.9 THE ANNUAL PLAN PROCESS

The Annual Plan is an action plan that sets out how Council will undertake its strategic goals and details the specific activities, functions and initiatives undertaken. It is produced in the years when a LTP is not. It will also outline deviations from the LTP.

10.2.10 STANDARDS AND GUIDELINES

In all wastewater works there are standards and guidelines that are available to ensure that Council is following 'best practice'. This includes national standards on pipe laying, onsite wastewater treatment, subdivision and development and the TDC Code of Practice for Land Development.

Whereas Acts and Regulations determine minimum levels of service, standards and guidelines provide the means of compliance with specific levels of service.

10.3 Asset Management Information Systems

10.3.1 ASSET MANAGEMENT SYSTEM

Council used Asset Finda Asset Management System that contains the data for Three waters (Water, Wastewater and Stormwater) Assets. This is a new system for TDC and asset data is being transferred into the system over time from various other sources.

10.3.2 TRACK 24

Track 24 is a project management software. The programme allows data to be entered on a project from initial conception through to final completion. All the data for the project is stored in one location. All project payments and project sign off procedures are completed using this system.

10.3.3 GIS

The GIS stores all the spatial data relating to the assets. The data is taken from the AMS.

10.3.4 SERVICE REQUEST SYSTEM

This is the system used by Council to record customer complaints, comments or compliments. The information is entered into the system when a customer calls and the call will be categorised depending the issue. Predetermined Council Staff are tasked with completing these requests in a predetermined timeframe.

10.3.5 ASSET VALIDATION BY CONTRACTORS

Data is collected on a daily basis by maintenance and capital works contractors. This information is then updated in the AMS.

10.3.6 SPM (DEVELOPMENT CONTRIBUTION CALCULATIONS)

Capital works project costing are inputted into SPM along with their respective breakdowns of cost e.g. proportion of the project that is growth, backlog or renewal. The level of Development Contribution (DC's) is then calculated for forward financial planning and income projections.

10.3.7 COUNCIL LABORATORY DATABASE

All results from Council laboratory are stored into one central laboratory database. This database is updated by Laboratory staff and includes data from in-house testing as well as testing carried out by external laboratories. Relevant data can be extracted as required.

10.3.8 PROMAPP

Promapp is a procedure development programme that is being used to develop standard operating procedures for all Council business.

10.3.9 OBJECTIVE

Objective is Council's electronic document management system. All information relating to Council business is saved in this system for easy retrieval when required. This includes incoming and outgoing correspondence especially emails and letters.

10.3.10 HISTORIAN

Historian is a data management programme that allows viewing of operational data such as daily flows or plant measurements.

10.4 Data

10.4.1 ACCOUNTING COST DATA

Cost data for the asset groups are identified in the accounting records.

The work category type (maintenance, renewals, and new works) is identified. Marginal costs are only separately identified for significant works. Minor asset expenditure (traffic controls, service lanes) may not be separately identified.

Visual inspection to verify quantities for payment for routine maintenance and renewal tasks is done by the professional services business unit.

10.4.2 GROWTH MODEL

The growth model is updated on an annual basis to reflect changes in development patterns. This model predicts the spread and level of growth within the Taupo District Council Area. This model assists Asset Managers in planning forward works for their respective assets.

10.4.3 ASSET VALUATION

The asset valuation provides a three yearly update of the value of the Wastewater Asset. The asset valuation for the wastewater assets is undertaken every 3 years. New assets or disposal of assets are taken into account at this time. The valuation process is performed in accordance with generally accepted accounting standards and with NZ local authority asset management practice (NAMS). The process also takes into account reviewing the useful lives of each asset type.

10.4.4 CONDITION ASSESSMENT

Condition assessments are carried out by both contractors and council staff. This process is both formal and informal. Currently all condition assessment information for the wastewater treatment plants is stored in objective as an excel file. Reticulation conditional information is contained within contractor reports that are also saved in objective.

10.4.5 OPERATIONAL DATA

Operational data is available on objective, on site and through Historian.

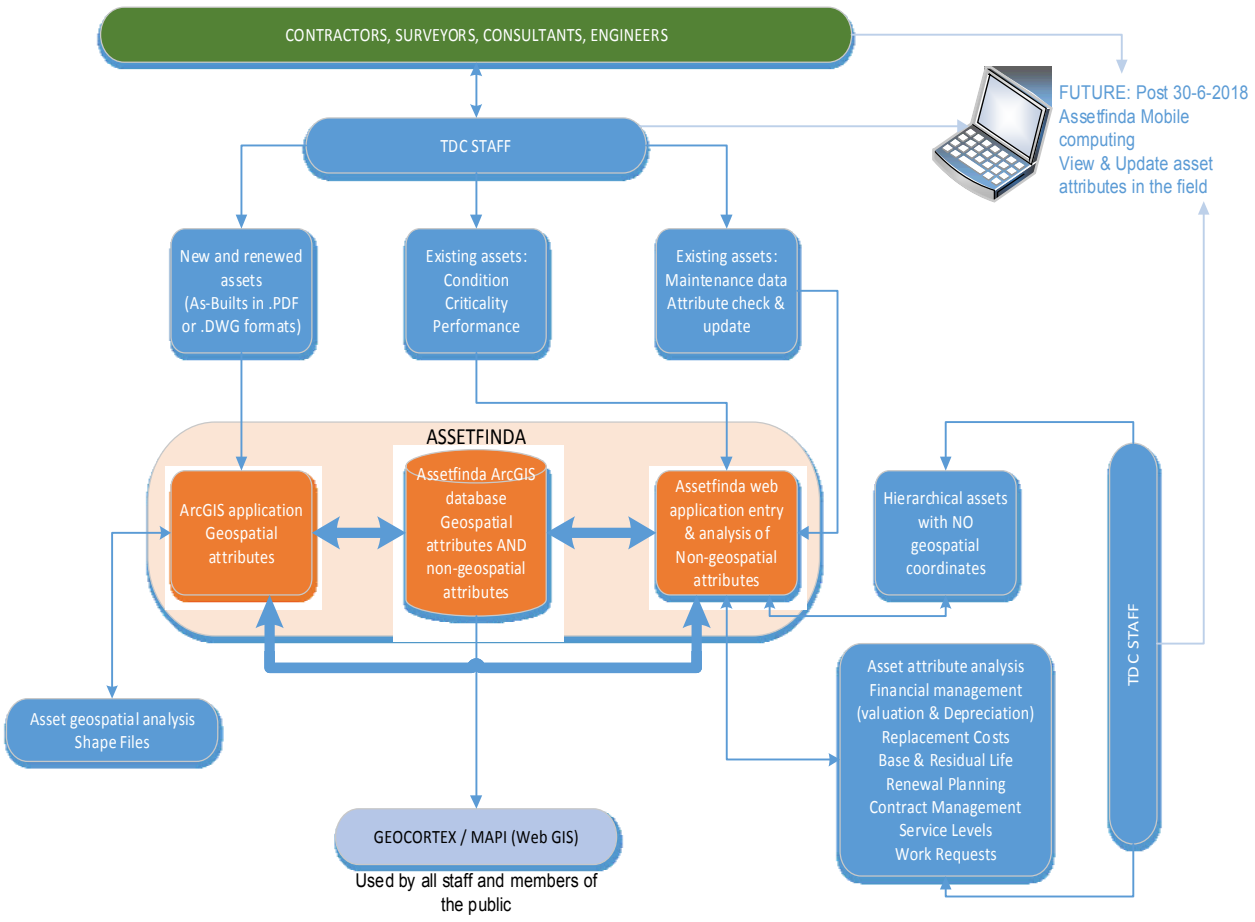

Figure 10-1: Asset Management System / GIS Data Recording Flow

10.4.6 DATA QUALITY ASSURANCE

The following are quality assurance regimes:

- Data Collection:
  - The contractor is responsible for GPS data collection following council standards (council doesn't accept any data with more than 0.3 m error in GPS coordinates).
  - TDC staff is continuously collecting data for historical assets which are updated after verification.
  - Project management team provides as built and field data and advice AMS team to update the information in asset register and or GIS.

- Data entry: Currently council is doing manual entry of the data using ArcGIS import capabilities CAD files and PDF files.

- Data maintenance: This is partially done by council staff whenever the contractor finds any variance in existing data and physical asset in the ground. As regards to the WWTP and pump stations operating staff and contractors staff are continuously validating and updating the conditions of the asset and informing the AMS team. In future it is envisaged that some efficiency will be developed with upgrade of AssetFinda and field staff will be able to update asset attributes directly and it will be validated using quality assurance protocol developed at that time.