
LOWER MACQUARIE WATER UTILITIES ALLIANCE

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ALLIANCE**

ASSET MANAGEMENT POLICY

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Strategies for a water efficient future

Foreword

This document has been developed to provide direction and protocols for the eight (8) member Councils of the Lower Macquarie Water Utilities Alliance in the development and implementation of an Asset Management Plan.

The Councils of the Alliance are:

- Bogan Shire Council
- Bourke Shire Council
- Brewarrina Shire Council
- Cobar Shire Council
- Dubbo City Council
- Narromine Shire Council
- Warren Shire Council
- Wellington Shire Council.

Lower Macquarie Water Utilities Alliance
Asset Management Policy Register

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1. INTRODUCTION

There is a need for sound water supply and sewerage asset management, given the significant investment involved and the need to ensure ongoing cost effective and affordable provision of services.

Total Asset Management is a strategic approach to physical asset planning and management whereby a local water utility aligns its assets planning program with its service delivery priorities and strategies.

Preparation of a Total Asset Management Plan is a key part of a Council's Strategic Business Plan (as shown in Figure 1).

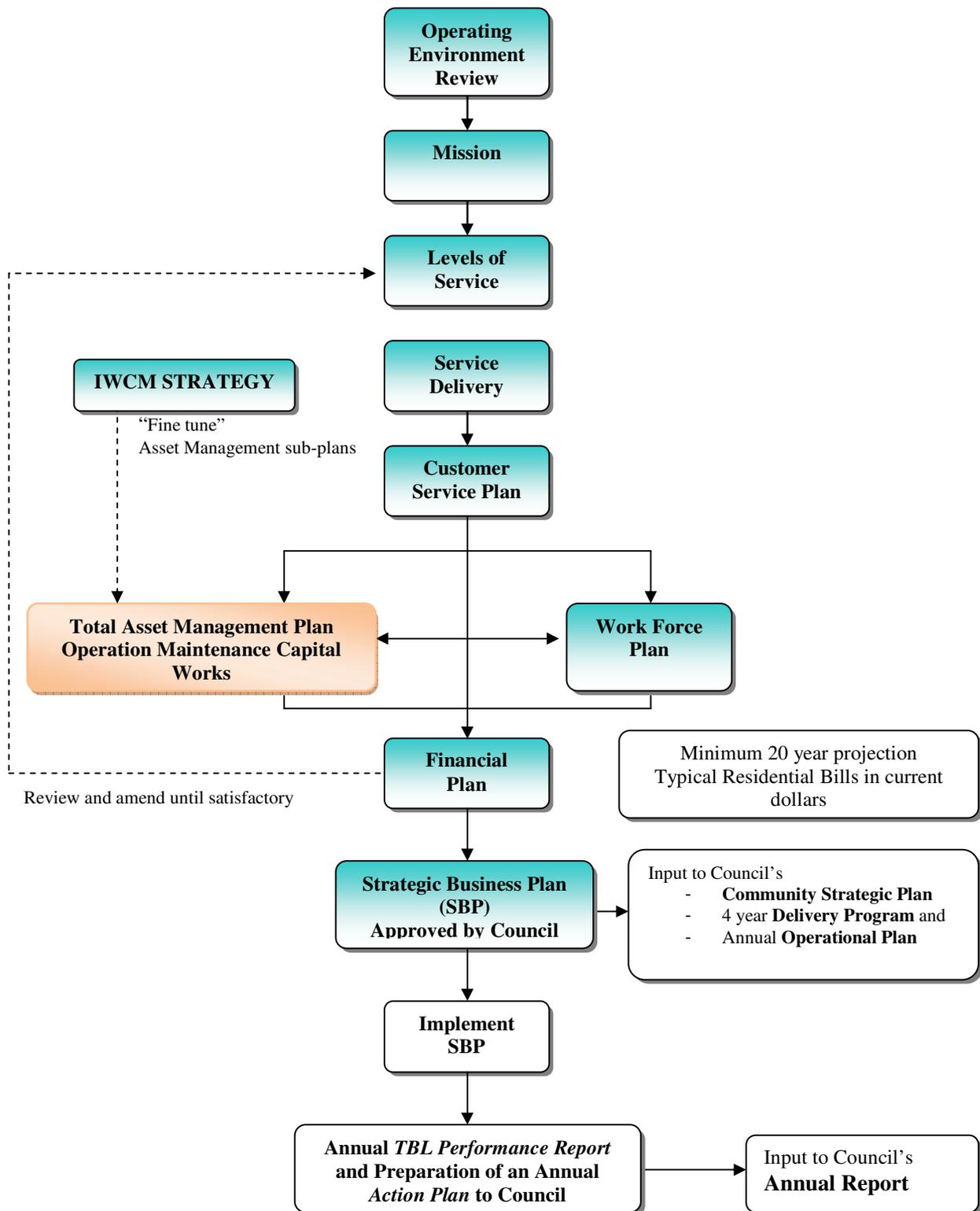
The Total Asset Management plan must be critically reviewed and updated as part of the 4-year update of the Strategic Business Plan.

Councils need to annually review and update their Total Asset Management Plan (operation, maintenance, capital works) in conjunction with a review of the TBL Performance Report and preparation of an annual Action Plan. The updated Total Asset Management Plan is a key input for the annual updating of Council's Financial Plan. In addition to recording and reviewing performance data, Councils also need to update their asset register at least annually.

Sound asset management is a key element of water and sewerage strategic business planning, which is required by the NSW Government's Best Practice Management of Water Supply and Sewerage Guidelines, 2007.

The NSW Water and Sewerage Asset Management Guidelines as prepared by the NSW Office of Water, will enable local water utilities to prepare and implement a sound total asset management plan for water supply and sewerage in accordance with the Best Practice Management Guidelines.

Figure 1: Strategic Business Planning Process for water and Sewerage



Definitions

Assets	<p>“Assets” refers to all civil, mechanical, electrical and chemical facilities and components making up water supply and sewerage systems (e.g. dams, pumping stations, treatment works, reservoirs, specific lengths of pipe, valves, etc). Intellectual property and human resources are excluded.</p> <p>The terms “assets” and “infrastructure” are interchangeable since in the area of water supply and sewerage they essentially mean the same thing.</p>
Asset Inventory	<p>A simple list of assets which includes their age, location, construction or purchase costs, current replacement costs and estimated life. Asset Inventories are mainly aimed at satisfying Financial Audit and Financial Management requirements rather than operational needs.</p>
Asset Management	<p>The creation/purchase, operation, maintenance, disposal, rehabilitation and replacement of the various physical facilities and components making up water supply and sewerage systems.</p>
Asset Management Strategy	<p>A strategy for management of water supply and sewerage assets covering, at a strategic level, the development and implementation of plans and programs for asset creation, operation, maintenance, rehabilitation/replacement, disposal, and performance monitoring to ensure that the desired levels of service and other operational objectives are achieved at least cost.</p>
Asset Registers (or Asset Management Database Systems)	<p>A listing of the various components of a water supply or sewerage system, including details of technical, operational, maintenance and financial aspects, capacity, condition, material, type, operating and maintenance costs, performance histories, date and cost of construction, estimated current replacement costs, etc.</p>

2. COMPONENTS OF ASSET MANAGEMENT

2.1 General

There are essentially five (5) elements of an Asset Management Strategy:

- Operation Planning
- Maintenance Planning
- Capital Works Planning
- Performance Monitoring and Reporting
- Data Collection and Management

2.2 Operation Planning

The purpose of operation planning is to ensure that:

- operational objectives (i.e. target levels of service, statutory requirements and obligations, etc) are achieved at least cost; and
- the impact of any breakdowns or outages on the achievement of operational objectives are minimised.

Operation planning leads to the development of an Operation Plan which comprises:

- **System Operating Rules** (to help the “system manager” operate the total water supply or sewerage system in the most effective manner during normal and breakdown conditions);
- **Operating Procedures** (to assist the operators of individual sub-systems and facilities to meet, at least cost, the requirements laid down by the “system manager”); and
- **A Due Diligence Program** as required under the NSW Protection of the Environment Operations Act 1997 (POEO).

Operational analysis plays an essential role in the operation planning process by identifying performance requirements (with respect to outputs, reliability and availability) from individual sub-systems and facilities making up water supply and sewerage systems. This provides the basis for maintenance planning and capital works planning.

It is important to ensure that the Operation Plan is adequately supported by appropriate documentation and work force training.

2.3 Maintenance Planning

The purpose of maintenance planning is to support the Operation Plan by ensuring that the actual outputs, reliability and availability of individual sub-systems, facilities and components are as specified in the Operation Plan, and that they are being achieved in the most cost-effective manner.

For example, if an Operation Plan specifies 85% reliability or availability for a particular facility or component it would be uneconomic for the maintenance effort to aim for 100% reliability or availability.

3A Maintenance Plan provides a comprehensive list of scheduled (or planned) maintenance tasks for the components subject to fixed-time or condition-based maintenance, and breakdown response plans and procedures for those components where scheduled maintenance is not necessary or not feasible.

The Maintenance Plan needs to be supported by appropriate maintenance documentation and manuals, spares and support equipment, and staff training.

2.4 Capital Works Planning

Capital investment commonly accounts for about 70% of the overall cost of a water supply or sewerage system. So, when capital investment is required, the cost as a proportion of your utility's total budget usually means that it has significant impact on the utility's overall finances. **The Capital Works Plan is therefore of crucial importance.**

A Capital Works Plan provides a detailed program of new works as well as the rehabilitation and replacement of existing works.

New works (extensions or augmentations for growth or for improved standards) may become necessary when the existing water supply or sewerage system does not have the capacity to meet the specified levels of service or other operational objectives.

Rehabilitation and replacement of existing works may become necessary because of their age and condition, and/or inadequate performance.

A Capital Works Plan needs to contain clearly articulated reasons for the proposed works, including an assessment of alternatives.

A Capital Works Plan may also include disposal of redundant assets which may have some residual market value. Because asset disposal is not a significant consideration in water supply and sewerage schemes, a separate Asset Disposal Plan would generally not be warranted.

2.5 Performance Monitoring and Reporting

The purpose of performance monitoring is to:

- assess how well the asset management strategy is achieving its objectives;
- identify areas where improvements may be warranted (now or in the future); and
- provide early warning of impending problems.

Performance monitoring and assessment is generally required at three levels:

- at the utility level;
- as the system level; and
- at the level of individual facilities and key components.

Specific performance indicators (or targets) are established at each of these levels against which the actual performance can be quantitatively measured.

Performance monitoring provides crucial information which, over time, enables performance histories and cost profiles to be built up for individual components. These can then be used to refine the Maintenance Plan and the Capital Works Plan.

2.6 Data Collection and Management

Comprehensive, accurate and reliable data about the assets and their performance are crucial to making effective operational and financial decisions.

Therefore, data collection and management plays a vital role in the development, implementation and review of the asset management strategy.

Establishment of asset registers containing essential information about water supply and sewerage systems is the first step in this process and enables a utility to undertake strategic and financial planning.

Basic asset registers can, over time, be expanded to include other asset management aspects such as, for example, maintenance management, operational analysis and system modeling, condition and performance monitoring, work scheduling and management, stores inventory and control.

Asset management databases can range from fairly simple asset registers (established on spreadsheets) to quite complex facilities and maintenance management systems where databases can be integrated with graphics, digital mapping and various CAD systems, to become a comprehensive Geographic Information System (GIS). Such systems are capable of assisting with system analysis and system simulation studies, and can be linked with telemetry to assist with the operation of certain facilities and functions within water supply and sewerage schemes.

To obtain the greatest value from an asset register (and other asset management database systems), the contained information must be both complete and current i.e. up-to-date). The data in an asset register should therefore be updated as changes to assets occur or, at least, on an annual basis. Financial data should be updated at least annually by indexation of the relevant costs in accordance with the NSW Reference Rates Manual.

Procedures and responsibilities should be established to ensure that data in the asset register is kept up-to-date. Key personnel should be trained in the operation of the asset management database system and responsibilities defined (and allocated) for its general upkeep. Procedures should also be established to ensure that any updates or changes are authorized and correctly recorded. These procedures should aim to integrate the operation and upkeep of any computerised information management system into the general management of Council's activities.

Maintaining data security is also a vital consideration and, as a general principle, data entries and changes should be carried out by the person responsible for generating the information, with the exception that updating certain core information about assets (e.g. creating or deleting an asset) should only be performed by a designated person operating in accordance with defined procedures.

3. POLICY POSITION

1. The eight Councils of the LMWUA commit to the preparation of a Strategic Business Plan for water supply and sewerage services.
2. As part of the development of their Strategic Business Plan, each Council commits to the preparation of a Total Asset Management Plan in accordance with the requirements of the NSW Officer of Water.
3. Each Council commits to ongoing updating of its Asset Register with an annual review of the Total Asset Management Plan (as part of the Annual Plan) prepared on the basis of a review of the TBL Performance Report.

[Note: The Strategic Business Plan and the Asset Management Plan must be critically reviewed and updated by water utilities every 4 years.

4. REFERENCES

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2. NSW Water and Sewerage Asset Management Guidelines, NSW Office of Water, 2011.
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8. Circular LWU 11 and Pricing Information Sheets 1 to 4, NSW Office of Water, March 2011.
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